

CHAPTER 4. CONSULTATION, COORDINATION, AND PUBLIC INVOLVEMENT

List of Preparers

The following Forest Service personnel assisted in preparation of this environmental impact statement:

INTERDISCIPLINARY TEAM (IDT) MEMBERS:

Name	Expertise	Education Degree	Years Experience
Linda Batten	District NEPA Coordinator, Flagtail Fire Recovery IDT Leader	BS	23
Cheryl Bradford	Archaeology	BS	19
Mike Burgett	Timber Sale Implementation, Timber Management Planning, Economics	AA	28
Dean Curtis	Range Management	BS	27
Perry Edwards	Fisheries Biology	BS	13
Nancy Hafer	Botany	BS & BA	27
Patrick Haynal	Archaeology	PhD	25
Elaine Kohrman	Social and Economic Impact Analysis	BS	18
Vicki Lundbom	Transportation Planning		20
Bryan Lynch	Visuals/Scenery	BS	31
Dee McConnell	GIS/Data Services	AA	13
Robert (Hersh) McNeil	Soil Science	PhD	13
Michelle Putz	Writer/Editor-Documentation	BS	12
Ken Schuetz	Wildlife Biology	BS & MF	17
Lori Stokes	Fuels Management	BS	13
Dick Stowers	Transportation Planning	AA	27
Mike Tatum	Ecology	BS	27
Roy Walker	Fuels Management	AA	21
Mary Lou Welby	Hydrology	MS	12
Shannon Winegar	Recreation	BS	19
Eric Wunz	Silviculture	BS	25

AA-Associate of Arts, BA-Bachelor of Arts, BS-Bachelor of Science, MF-Master of Forestry, MS-Master of Science, PhD-Doctorate

Contributors

The Forest Service consulted the following individuals, Federal, State, and local agencies, tribes, and non-Forest Service persons during the development of this environmental impact statement:

MANAGEMENT AND REVIEW:

Larry Bright - Threatened and Endangered Species Coordinator

Sue Burton - Range Specialist

Terry Corning-Sevey - GIS

Steve Cossette - Forest NEPA Coordinator

Jennifer Harris - Public Affairs, Tribal Relations

Donna Mattson –Forest Landscape Architect, Wallowa-Whitman National Forest

William McArthur – Former Forest Silviculturist

Mike Montgomery - Blue Mountain District Ranger

Roger Ogden - Regional Appeals Coordinator

FEDERAL, STATE, AND LOCAL AGENCIES:

National Oceanic and Atmospheric Administration-Fisheries (NOAA)

U.S. Fish and Wildlife Service

Oregon Department of Fish and Wildlife/Ken Rutherford

Oregon Department of Forestry/Russ Lane

Oregon Occupational Safety and Health Administration (OSHA)/L. Wenick

Grant County/Judge Dennis Reynolds

TRIBES:

Confederated Tribes of the Warm Springs Reservation

Confederated Tribes of the Umatilla Indian Reservation

Burns Paiute Tribe

Public Involvement Summary

The analysis of the Flagtail Fire Recovery Project began in October 2002. A Notice of Intent to prepare an Environmental Impact Statement (NOI) was published in the Federal Register on February 6, 2003 and a correction was published on February 26, 2003. The project was also listed in the Schedule of Proposed Activities (SOPA) starting in the Summer/Fall of 2002 and continuing through the Summer/Fall of 2003. A fire recovery open house was held at the Federal Building in John Day on February 13, 2003, and on February 14, 2003, the

agency mailed a scoping letter seeking public comment to approximately 130 groups, other agencies, and individuals who had previously shown interest in Malheur National Forest projects.

In response to these scoping efforts, written comments were received from 12 interested parties. In addition to comments supporting the project, the District received comments reflecting concerns related to potential adverse impacts on soils, wildlife and aquatic habitat, and economics. Public comments were used in the development of the reasonable range of alternatives and the identification of the significant issues.

In June 2003 the Flagtail Fire Recovery Project Draft Environmental Impact Statement was published by the Malheur National Forest, and a Notice of Availability (NOA) was published in the Federal Register by the Environmental Protection Agency on July 3, 2003. A news release announcing the availability of the DEIS was also published in the Blue Mountain Eagle on July 2, 2003. The DEIS was mailed to over 80 individuals, organizations, or agencies, as well as the Confederated Tribes of Warm Springs, the Confederated Tribes of the Umatilla Indian Reservation, and the Burns Paiute Tribe. The DEIS was made available to the public for a 45-day review and comment period which ran from July 3, 2003 through August 18, 2003. Fourteen written letters were received in response to the DEIS (see Table 4-1). Information received from these sources of public involvement was used by the Interdisciplinary Team (IDT) to help refine and develop this final EIS.

The IDT reviewed the 14 letters with comments on the DEIS and addressed each substantive comment provided. The 14 letters are disclosed in Comments Received on the Draft Environmental Impact Statement and Agency Responses section of this chapter. Comments received on the DEIS were assigned a number to track them through the review and response process. Table 4-1 lists those who commented and the tracking number assigned to their letter.

Table 4-1: Individuals who commented on the Flagtail DEIS

Letter Number	Commentor
1	Charlie O'Rorke
2	Thomas Partin-American Forest Resources Council
3	Charles Burley-American Forest Resources Council
4	James Johnston/Josh Laughlin-Cascadia Wildlands Project
5	Asante Riverwind-League of Wilderness Defenders/Blue Mtn. Biodiversity Project
6	Walt Gentis-Malheur Lumber Company
7	Steven Courtney-Malheur Lumber Company
8	Ken Evans-KLE Enterprises/Malheur Timber Operators, Inc.
9	Ken Evans-KLE Enterprises/Malheur Timber Operators, Inc.
10	Sarah Uhlemann-Northwest Environmental Defense Center
11	Doug Heiken-Oregon Natural Resources Council
12	Dan Bishop-Prairie Wood Products
13	Allison O'Brien/Preston Sleeper-USDI Office of Environmental Policy and Compliance
14	Judith Leckrone Lee/Mike Letourneau – US EPA, Region 10

Distribution of the Final Environmental Impact Statement

In addition to the public involvement described above, copies have been sent to the following Federal agencies, federally recognized tribes, State and local governments, and organizations representing a wide range of views regarding the project. This environmental impact statement has been distributed to individuals who specifically requested a copy of the document.

Individuals

Charlie O'Rorke

Organizations, Industry, and Local Agencies

Bryan Bird..... Sierra Club National Forest Campaign
 Dan Bishop..... Prairie Wood Products
 Charles Burley American Forest Resources Council
 Karen Coulter..... League of Wilderness Defenders/Blue Mtn. Biodiversity Project
 Steven Courtney..... Malheur Lumber Company
 Ken Evans KLE Enterprises/Malheur Timber Operators, Inc.
 William Gander..... Gander Ranch LLC
 Walt Gentis Malheur Lumber Company
 D. R. Johnson..... D. R. Johnson Lumber Company
 Doug Heiken Oregon Natural Resources Council
 Dave Horrax..... Columbia Helicopter
 Josh Laughlin Cascadia Wildlands Project
 Thomas Partin American Forest Resources Council
 Asante Riverwind..... League of Wilderness Defenders/Blue Mtn. Biodiversity Project
 Sarah Uhlemann..... Northwest Environmental Defense Center

Oregon State Agencies

Department of Fish and Wildlife/Habitat Division/Dave McAllister
 Planning and Development Section/Parks and Recreation Department
 Water Resources Department/Rick Bastasch
 Division of State Lands/John Lilly
 Department of Geology and Mineral Industries/Dennis Olmstead
 Department of Environmental Quality

Department of Land Conservation and Development/Jim Knight
Rural Development Section/Bill Campbell
Executive Department/State Economist/Paul Warner
Oregon Department of Forestry

Tribal Contacts

Burns Paiute Tribe/Tribal Chairman/Dean Adams
Burns Paiute Tribe/Cultural Res. Program/Charisse Snapp
Conf. Tribes of the Umatilla Indian Reservation/Chairman, Board of Trustees/Gary Burke
Conf. Tribes of the Umatilla Indian Reservation/Program Mgr., Env. Planning and Rights Protection/Rick George
Conf. Tribes of Warm Springs/Tribal Council Chairman/Olney Patt, Jr.
Conf. Tribes of the Umatilla Indian Reservation/Princ. Investigator/THPO, Cult. Res. Prog. Mgr./Manfred Jaehnig
Conf. Tribes of the Umatilla Indian Reservation/Natural Res. Policy Analyst/Harold Shepard
Conf. Tribes of the Umatilla Indian Reservation/Jim Webster
Conf. Tribes of the Umatilla Indian Reservation/Heritage/Shawn Steinmetz
Conf. Tribes of the Warm Springs Reservation/Cultural Res. Program Mgr./Sally Bird
Conf. Tribes of the Warm Springs Reservation /Fara Ann Currim
Conf. Tribes of the Warm Springs Reservation /Fish & Wildlife Mgr./Terry Luther
Conf. Tribes of the Warm Springs Reservation /Clay Penhollow
Conf. Tribes of the Warm Springs Reservation /Cultural Heritage Committee

Federal Agencies

U.S. Department of Agriculture

National Agricultural Library (3)

OPA Publication Stockroom

Director, Environmental Coordination (Chief 1950) (3)

USDA Forest Service, Region 6/Environmental Coordination

Policy and Planning Division

Natural Resource Conservation Service/ Environmental Coordinator of Ecological Sciences Division

USDA APHIS TDP/EAD

U.S. Department of Commerce

Northwest Regional Unit, (Portland, OR) of NOAA Fisheries

U.S. Department of the Interior

Director, Office of Environmental Policy and Compliance (9)

U.S. Environmental Protection Agency (EPA)

Office of Environmental Review (5)

Region 10 EIS Review Coordinator, Seattle (2)

U. S. Department of Defense

U. S. Army Engineer, North Pacific, CENPD

Naval Oceanography Division, U.S. Naval Observatory

U. S. Department of Energy

Office of Environmental Compliance/Director

Northwest Power Planning Council

U. S. Department of Transportation

Federal Aviation Administration, Northwest Region

Federal Highway Administration, Western Resource Center

Federal Energy Regulatory Commission/Advisor on Environmental Quality

Surface Transportation Board/Chief, Energy and Environment

Advisory Council on Historic Preservation

Western Office of Review

General Services Administration/Office of Planning & Analysis

Federal, State, and Local Officials

Senator Gordon Smith

Senator Ron Wyden

Representative Greg Walden

Governor Ted Kulongoski

Governor's Forest Advisor

State Representative Ted Ferrioli

Grant County Judge Dennis Reynolds

Comments Received on the Draft Environmental Impact Statement and Agency Responses _____

The following pages display written comments received on the *Flagtail Fire Recovery Project DEIS*. Letters included on the following pages are displayed verbatim though some letters received electronically were reformatted to allow them to be displayed here. A letter number and comment number were assigned for tracking purposes. Each individual letter is followed by the Agency's response. Some of the comments received were the same or very similar to other comments received. Where an IDT member determined comments, and therefore, responses were similar, the response generally follows the first place that a comment is displayed; similar responses refer to the location where the comment was discussed. In other cases, readers may be directed to the letter, comment number, and response where the commentor's issue was most fully discussed. Comments received both a letter number and a comment number; if a response refers to 10-21, that response can be found under Letter #10, Comment 10-21.

Many of the following responses refer readers back to section headings in the Flagtail Fire Recovery Project Draft Environmental Impact Statement (DEIS). Those section heading references are meant to help the reader find the discussion in the DEIS as well as the FEIS. Section headings provide the best locating device in the FEIS. Please see the Table of Contents in this FEIS to assist you in locating information referred to in the following responses.

Letter #1

S-13-03

Linda Batten
IDT Leader
Blue Mountain ranger District

Leaving 1/2 of the merchantable volume to fall down and rot on the Flagtail Fire is the wrong alternative. Trying to appease the enviros is a waste of time, they are going to sue to stop removal of any volume of timber. Proof of this is their actions regarding 133, 2195, 865, etc. Do the right thing: practice good forestry, remove burnt timber, replant and defend your decision, it is the right thing to do.

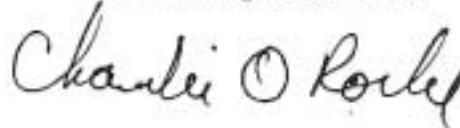
Leaving 17 Million board feet of merchantable timber uncut costs the county and schools 3-4 million dollars, puts one shift out of work for one year and would keep two logging companies working for one year. This is too much waste, the county economy needs this material and jobs created by it. There is no way leaving 17 million board feet of timber to rot benefits the forest more than salvaging it benefits the county and its citizens. Leaving this much volume only creates a fire hazard for the next fire. The forest plan, which is the guide for snags, calls for less than 3 per acre not 11-13, this is political science.

1-1
1-2

Do the right thing for our forest, county, schools, mills and citizens select alternative # 2 which is the Proposed Action as the preferred alternative. How did you select alternative # 3 as preferred when # 2 was selected as Proposed Action??????

1-3

Thank You for allowing me to comment



FS Response to Letter #1 – Charlie O’Rorke

1-1. The potential future fuel loading will affect future fire behavior. In general, higher fuel loading result in higher fire severity. These effects were disclosed in the Fire and Fuels section of Chapter 3 in the DEIS and updated in this FEIS.

1-2. Recent research (Mellon et al. 2003) suggests that minimum Forest Plan standards may not be sufficient in post-fire habitats to assure use by all cavity excavator species. This FEIS considers a broad range of alternatives and snag retention levels (Chapter 2, Alternatives Considered in Detail). Alternative 2 prescribes snag levels at the current Forest Plan standard. Alternatives 3 and 4 consider alternative snag densities and sizes based on DecAID (Mellon et al. 2003).

Alternative 5 has been added to this FEIS to consider an additional snag strategy. This alternative was designed to more closely mimic snag distributions expected in dry forest types. Both the snag inventory and woodpecker use data in DecAID were considered in designing this alternative (see FEIS, Chapter 2, for alternative description). This FEIS updates the effects discussion on dead wood habitats and associated wildlife species (see FEIS, Chapter 3, Terrestrial Wildlife, Primary Cavity Excavators).

1-3. Alternative 2, the Proposed Action, was developed early in the NEPA process. After additional scoping and evaluating additional analysis, the decision maker identified Alternative 5 as the Preferred Alternative in this FEIS.

Letter #2



August 12, 2003

Linda Batten, Flagtail IDT Leader
Blue Mountain Ranger District
PO Box 909
John Day, OR 97845

RE: Flagtail Fire Recovery Project DEIS

Dear Ms. Batten:

Thank you for this opportunity to present comments on the Flagtail Fire Recovery Project Draft Environmental Impact Statement (DEIS). These comments are on behalf of the members of the American Forest Resource Council (AFRC). AFRC represents nearly 80 forest product businesses and forest landowners in twelve states. Our mission is to create a favorable operating environment for the forest products industry, ensure a reliable timber supply from public and private lands, and promote sustainable management of forests by improving federal laws, regulations, policies and decisions that determine or influence the management of all lands.

AFRC agrees with the stated Purpose and Need for Action—particularly reducing future fuel loadings and capturing economic value of fire-killed trees. We also fully support the selection of Alternative 2—the Proposed Action because it best meets the stated Purpose and Need. Alternative 2 treats 5,010 acres (70% of the burned area) and best provides for much needed timber for local jobs.

All the other alternatives don't come close to meeting these important objectives. Alternative 3 treats only 54% of the burned area but produces about ½ the volume of Alternative 2. Alternative 4 doesn't produce any commercial volume at all.

Oregon is one of the highest, if not the highest, state in the country for unemployment. According to the July 2003 Eastern Oregon Labor Trends (Oregon Employment Department), Grant County's May unemployment rate was 11.6%. This was the State's second highest rate that month and 2.5 percentage points above May 2002.

Given the local economy and the pattern of land ownership, it's incumbent upon the Forest Service to provide natural resources for local consumption.

2-1 Obviously the No Action Alternative is unacceptable because none of the stated Purpose and Needs would be met. Likewise, Alternative 4 is unacceptable because it does not propose any commercial harvest.

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- 2-2** Alternative 3 is simply a biologist's dream-come-true. To develop an alternative designed to leave higher levels of snag habitat simply defies logic. With all the dead and dying forest, not only in the immediate vicinity of the Flagtail Fire, but across the boarder landscape, it's unconscionable to think you actually contemplated this. Of course, this is not to mention the fact that a snag level more than five times the Forest Plan standard would require a significant amendment to the forest plan. The area within and surrounding the Flagtail Fire includes significant holdings of private timberlands. The alternative you select must take into
- 2-3** consideration future forest health conditions for both forest service and adjacent private property forests; therefore the consideration of leaving extra snags to harbor insects and disease and increase the fuels loading is just not an acceptable option.

The use of the DecAID tool in developing Alternative 3 snag retention levels raises serious concerns. First and foremost is the fact that DecAID has not been day lighted prior to this DEIS. That is we, and the general public to the best of our knowledge, have not had the benefit of reviewing this model. I defer for more specific comments regarding the DecAID tool to the comments on this DEIS submitted by the Malheur Timber Operators.

With respect to Alternative 2, though we fully support and encourage you to select this alternative, there are two specific concerns.

The snag level, according to Chapter 2, page 46, is "snags 21 inches DBH or greater would be retained at the Forest Plan standard of 2.39 snags per acre to provide habitat for cavity dependent species. If snags greater than 21-inch DBH are not available, an appropriate number of snags of the largest representative diameter class would be retained."

- 2-4** Unless the Plan has been amended, the actual standard is:

"Manage dead tree (snag) habitat to provide for at least 40% of the potential populations of primary excavator species throughout stand rotations (Wildlife Habitat in Managed Forests, 1979)."

Page IV-29, Land and Resource Management Plan, Malheur National Forest, 1990.

At the 40% level, this would be, according to the Plan, 0.9 snags per acre 12" DBH and 0.05 snags per acre 20" DBH for a total of 0.95 snags per acre. At the 100% level, it's 2.25 snags per acre 12" DBH and 0.14 snags per acre 20" DBH for a total of 2.39 snags per acre.

So in Alternative 2, saying all 2.39 snags per acre must be over 21" DBH not only is inconsistent with the Plan, but it's making up new rules—that is using 21" instead of the 12" and 20" diameter breaks in the Plan.

It's also our experience, particularly on the Malheur National Forest, that snags retained seem to be the biggest and best trees. We have no problem with the need to provide for cavity-dwelling habitat but we simply ask that you take a more landscape approach, stay within the standards of the Plan, and don't always mark the most valuable, in this case burnt, trees to leave for snags.

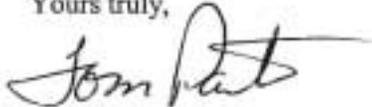
Therefore, AFRC suggests Alternative 2 be modified so it's consistent with the standards, including the 40-acre clumping, as specified in pages IV-29 through 30 of the Plan.

2-5

Last, AFRC objects to the non-significant amendment creating a new DOG 220 and converting the old DOG to a ROG. Designated old growth stands, because of their hands-off management, are controversial. AFRC has never supported this approach to management and the heavy fuel buildup and resultant catastrophic fires bears evidence for this position. Granted it's unfortunate the DOG 220 burned but that's part of the cycle of life. Shifting the DOG area elsewhere simply shifts the same problems to another piece of ground and will likely result in the same outcome.

Again, thank you for this opportunity to present these comments. If you have any questions, please call Chuck Burley at 541-389-2306.

Yours truly,



Thomas L. Partin
President

- cc: Bob Messinger
- Steve Courtney
- Dan Bishop
- Ed Pearson
- John Morgan

FS Response to Letter #2 – AFRC, Aug. 12

2-1. The No Action alternative is required by NEPA and was fully analyzed. Although Alternative 4 does not propose commercial harvest, it would provide local employment through fuel treatment in the project area.

2-2. The use of DecAID in this project does not require a non-significant amendment, nor does it require a significant Forest Plan amendment. See Response to Letter #8, Comment 8-6.

2-3. The effects of leaving dead trees on the future forest health of National Forest and private timberlands are discussed in this FEIS, Chapter 3, Forest Vegetation, under Living Trees.

2-4. The Forest Plan has been amended. Regional Forester's Eastside Forest Plans Amendment #2 (1995) increased standards for snag retention. The direction states that snags will be left to provide for 100% of the potential populations of primary excavator species. Snags are to be 21 inches DBH or greater.

Alternative 2 is consistent with Forest Plan standards for wildlife snags (see FEIS Chapter 2, Alternatives Considered in Detail for a description of Alternative 2).

2-5. Forest Plan, Management Area 13 provides direction for designating, refining and managing Dedicated Old Growth (DOG) and Replacement Old Growth (ROG) areas (Forest Plan, pp. IV-105 to IV-107). The direction recommends making changes to DOGs and ROGs in conjunction with the timber sale planning process. To harvest in the DOG/ROGs that burned, there is a need to designate new DOG/ROGs. This FEIS refines the language used in the DEIS (Chapter 1, Management Area 13 – Old Growth), clarifying the connection between Management Area direction in the Forest Plan and old growth designation proposed in the Flagtail EIS.

Letter #3



August 14, 2003

Linda Batten
Flagtail IDT Leader
Blue Mountain Ranger District
PO Box 909
John Day, OR 97845

RE: Flagtail Fire Recovery Project DEIS

Dear Ms. Batten:

You will receive, if you haven't already gotten them, comments from the American Forest Resource Council under separate cover signed by Tom Partin.

I'm sending these addition comments to include work done after that mailing.

Attached please find a report prepared by Mr. Rick Gerhardt, a wildlife biologist, on the DEIS and snag levels. Mr. Gerhardt has extensive practical experience in biology and worked with us on the Summit Fire EIS several years ago.

By way of this letter, I'd like to submit Mr. Gerhardt's comments as part of AFRC's.

Thank you and if you have any questions, please feel free to call me.

Sincerely,

Charles H. Burley

Enc.

Charles H. Burley
Consultant
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Email: cburley@afrc.ws

11 August 2003

Chuck Burley
Burley & Associates, LLC
chuck@burleyandassociates.com

Chuck:

At your request, I reviewed the Flagtail Fire DEIS and the DecAID model (though I did not read entirely through either with the time allotted, but focused on the snag retention guidelines and justification). You asked me to comment upon the DecAid model, its applicability to eastside forests, and the way it was applied to this DEIS. Here are my thoughts.

DecAID appears to be a good resource for wildlife biologists and foresters. In that it brings together all of the available research, it provides a useful tool for answering *appropriate* questions about the expected behavior of forests and the wildlife inhabiting them. I trust the program will be updated as new research becomes available.

I believe the DecAID program is particularly strong in its applicability to eastside forests. Indeed, many of the studies cited were conducted in dry, pine and mixed conifer forests of the intermountain region. This is especially true of the bird-related research, and I have a high regard for the researchers involved.

Having said all of that, I have two or three problems with this program and its use in assessing management options for the Flagtail Fire area. The first is philosophical, and I'm not sure that it will be of much use to you. Nonetheless, I'll state it briefly.

A weakness of the DecAID program and of the Flagtail DEIS is that their assumptions reflect an outdated, mechanistic view of nature that is at odds with research of the past several decades. Such research has shown that change, rather than stasis, is the norm for natural systems regardless of time scale. The DEIS reflects the old view that nature (in this case, an eastside coniferous forest and its biotic and abiotic associations) is stable and static, quick to recover from stochastic events (such as fire) and tending always toward the same climax stage with the same plant and animal species components. As ecologists/managers/forest planners, we can take the best available data (though even that is almost always from some other *unique* locale), input it into the best computer models, and fail utterly to accurately predict the future growth of a system. That another fire or other catastrophe could confound our predictions is perhaps obvious. In the same way, bird populations may not use the snags we leave for them, and that for any number of reasons associated with the complexity of the ecological system. I believe that those who put together the DecAID model and those who have tried to apply it to this DEIS have done an excellent job given the suite of assumptions under which they operate and the questions they ask. I have every reason to believe, however, that those assumptions underestimate the dynamic nature of these forests and overestimate our ability to predict their future. (Regarding the merits of Alternative 2 vs. Alternative 3, this argument may

cut both ways, and foresters are as unwilling as ecologists to let go of long-held assumptions about ecosystem/forest growth. Nonetheless, predicting tree growth is a much less inexact science than predicting the behavior of an entire ecosystem.)

Setting aside that whole issue, and assuming that the model is accurate, that the studies do apply to the Flagtail area, and that we do have the tools to manage this area exactly the way we wish, I question the trade-off analysis that results in Alt. 3 as the preferred alternative. As I understand it, the only substantive difference between Alt. 2 and Alt. 3 is the acreage to be treated and the resulting number of snags to be left available to wildlife. The preferred alternative allows for salvage of fewer acres so that more snags remain. The justification for this preference deals with wildlife species that use snags.

Obviously, one assessment of the trade-offs between Alternatives 2 and 3 deals with economic considerations vs. wildlife, specifically snag-utilizing wildlife. And we are told that 66 bird and mammal species in the project area are known to use cavities in snags. A closer look, however, reveals that the argument is not really economics vs. 66 species of wildlife. Rather, far fewer species are strongly associated with snags in *post-fire* habitats. Accordingly, the trade-offs involve not only economics vs. a handful of wildlife species but, I would argue, a handful of wildlife species vs. the many other species of wildlife (those that use cavities and those that don't) that would be better served by expediting regrowth of a green forest.

The document explains that not one of the Endangered, Threatened, or Sensitive Species of wildlife is negatively affected under either alternative (with the possible exception of the Cascades Frog, which is not expected to be affected differently by the two alternatives). The focus of the wildlife discussion then shifts to 11 birds that are primary cavity excavators (woodpeckers). Of these, only five are strongly associated with post-fire habitats; they are Black-backed, Three-toed, Lewis', and Hairy Woodpeckers, and Northern Flickers. The latter two are ubiquitous species, whose population persistence should in no way enter into a discussion of management considerations. (Though they strongly associate with forest habitats recently burned, they do quite well in many other situations, and can in no way be considered to specialize on this habitat type.) The other three species are certainly less numerous, though no research is cited to justify concerns about their conservation status. Black-backed and Three-toed Woodpeckers have been shown to select recently burned areas, nesting and foraging in such areas primarily for the first few years following the fire. Lewis' Woodpeckers are slower to use such an area, as they apparently need the wood to grow soft before excavating their nest cavities.

3-1

In summary, though the DEIS discusses any number of wildlife species, the justification for leaving a greater number of snags (preferring Alt. 3 over Alt. 2) distills down to the hypothetical benefits to five woodpecker species, only three of which might even be considered to specialize in post-fire forests. To me, this is a poor benefit compared to the salvageable lumber, the jobs associated with salvage harvest, and the potential benefit to the majority of the native wildlife of salvaging and replanting a greater portion of the burned area.

Please feel free to contact me if you have any questions about these comments.

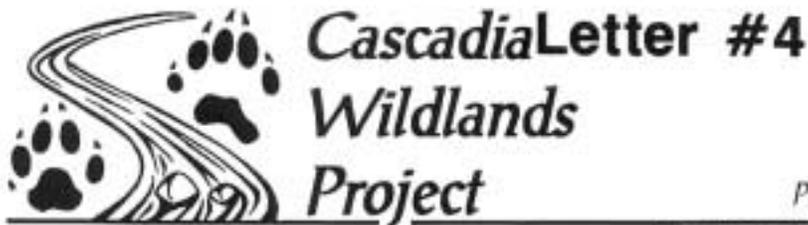
Respectfully submitted,

Rick Gerhardt
Wildlife Biologist
Sage Science
319 SE Woodside Ct.
Madras, OR 97741
541-475-4330
rgerhardt@madras.net

FS Response to Letter #3 – AFRC, Aug. 14

3-1. The DEIS and FEIS consider a broad range of snag prescriptions (see DEIS and FEIS Chapter 2, Alternatives Considered in Detail). Alternative 2 prescribes snag levels at the current Forest Plan standard. Alternatives 3 and 4 consider alternative snag densities and sizes based on DecAID (Mellon et al., 2003). Alternative 5 has been added to this FEIS to consider an additional snag strategy (see FEIS, Chapter 2, for alternative description).

The DEIS and FEIS, Chapter 3, disclose the effects of snag retention on wildlife species and socio-economics. The Decision Maker will discuss the tradeoffs between alternatives in the Record of Decision.



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Roger Williams
Malheur Forest Supervisor
c/o Linda Batten, ID team leader
PO Box 909
John Day OR 97845

DATE: 16 Aug 2003

RE: Flagtail Fire Recovery Project DEIS comments

Dear Roger Williams,

The following are comments from the Cascadia Wildlands Project (CWP) concerning Flagtail Fire Recovery Project DEIS. The Cascadia Wildlands Project is a conservation organization based in Eugene, Oregon, which works to restore degraded landscapes and ensure protection for wild lands and species. The Malheur National Forest is an area that many of our members spend considerable time recreating in — fishing, hunting, hiking and boating. The Flagtail Fire Recovery Project DEIS presents many problems to our organization and membership.

In general, we oppose the concept of salvage logging. We do support genuine fuels reduction and restoration forestry, especially around the wildland-urban interface and in young managed stands. We spend considerable time working with Congressional members to find adequate funding for this type of silviculture. Alternative four, in its current stage, fits a model we support. It would reduce future fuel loading by focusing treatment on all stems under 8" dbh and would provide local restoration employment on close to 5,000 acres. But salvage logging and regeneration harvest of the burned landscape as proposed has no direct benefits to the land or species. After reviewing the EIS, the Flagtail Project sadly aims to achieve one thing only: capturing commercial value through aggressive logging. Below are a few concerns the EIS presents:

Salvage logging increases fire risk

4-1

The first goal under the Purpose and Need section is to "reduce future fuel loadings to be consistent with the National Fire Plan." The Forest Service has difficulty understanding that large diameter trees act as a natural fire retardant and cool high intensity fires. The Flagtail proposal is to remove the large diameter dead and "dying" trees and replant with fire prone, even-aged trees. Plantations, loaded with resinous material, provide an ideal environment for future, high-intensity fire. After salvage logging operations,

accumulations of large volumes of fine slash on the ground will again create a climate ripe for future high intensity fire to return.

4-2

The dead and dying trees from the fire will soon naturally become large downed material that provide important shade structures that obstruct solar radiation and surface winds. Large downed logs can also reduce the speed and variability of surface winds, which inhibits extreme or erratic fire behavior. Thus, the ability of large downed logs to store water and provide shade from the sun and wind can function to lower the fire intensity and rate of spread on those specific sites.

Old growth

The CWP recognizes the effort made in the Flagtail EIS to reestablish new replacement old-growth groves for the ones that were burned in the fire event. This makes logical sense, as the severely burned old growth, in the short term, might not provide old-growth habitat for species associated with these living forests types. Our organization supports any effort to set aside old-growth reserves from commercial extraction. Many species associated with Eastside old-growth forests have been on the decline and populations continue to suffer as remaining old-growth pockets are targeted for commodity production.

4-3

But the proposal to create new old-growth groves in exchange for salvage logging the burned groves is a bad idea. Burned old-growth forests provide habitat and foraging opportunities for a host of species. Allowing salvage logging on 277 acres of the 325-acre replacement ROG 220, is not acceptable Likewise on existing DOG/ROG 221. Converting these burned, old-growth groves into General Forest is not consistent with the Forest Plan and would require amending it. All remaining old-growth on the Malheur NF should be set aside to recover old-growth dependent species, many continuing to teeter on the brink of extinction which the EIS recognizes.

Salvage of “dying” trees in dedicated and replacement old-growth groves will violate the 21-inch diameter limit set in place. The Regional Forester’s Plan Amendment #2 known as the “eastside screens” requires that:

4-4

“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.”

Amendment #2 also says we should be working toward creating more old growth habitat from mid-seral stands. Salvage logging “dying” mid-seral stands contradicts the amendment.

Beschta Report and science

Salvage logging is extremely controversial and has been the center of extensive scientific debate for years. The National Forest Management Act (NFMA) planning regulations give a prominent role to science. The Forest Service is required to ensure “that the best available science is considered in planning.” 36 C.F.R. § 219.2(a). In particular, the requirement to consider the best available science applies to all project decisions implementing current forest plans. 36 C.F.R. § 219.35(a).

“[I]nsure that environmental information is available to public officials and citizens before decisions are made and before actions are taken. *The information must be of high quality.* Accurate scientific analysis, expert agency comments and public scrutiny are essential.” 40 CFR 1500.1(b).

The EIS spends considerable time discrediting the Beschta Report (1995), which the courts have consistently found offers some of the best current science surrounding treatment of post-fire landscapes. Why does the agency go through the report point by point to say why it is wrong and salvage logging at the Flagtail planning area is right? This is inconsistent with the NFMA planning regulations.

4-5

There simply is no scientific literature in support of salvage logging as an ecologically beneficial activity, but there is substantial literature explaining the negative impacts of such logging. The Beschta Report advances several recommendations, nearly all of which are in direct opposition to various aspects of the Flagtail Fire Recovery Project. These recommendations include:

- ✓ Prohibition of salvage logging in severely burned sites, and other areas susceptible to extreme erosion;
- ✓ No tractors and skidders in all salvage areas because of the exacerbated soil compaction and erosion problems they create on sensitive soils;
- ✓ No road building;
- ✓ Retention of at least 50% of all snags in all size classes;
- ✓ Retention of all snags greater than 20 inches or older than 150 years;
- ✓ Presumption against reseeded; and,
- ✓ General recommendation to allow burned areas to recover naturally rather than resorting to human intervention.

The full report can be found at www.fire-ecology.org/science/Beschta_Report.pdf.

Roads

4-6

The Forest Service should take this opportunity to close roads in the Flagtail planning area. Roads are one of the primary reason noxious weeds are so prolific in the area. The EIS mentions close to one dozen problem species that continue to spread throughout the forest. The preferred alternative calls for building over four miles of new “temporary” roads” and .3 miles of new roads. Besides encouraging the movement of noxious weeds, roads and new roading have an adverse effect on a host of species. Roads and

accompanying human interaction have all but extirpated species like wolverine, lynx and the wolf which all need large block of relatively undisturbed habitat to survive. If we are trying to recover these species and avoid ESA listing, we should be closing roads and re-wilding degraded landscapes, not degrading them further through new road construction and ensuing salvage logging.

Roadless areas

4-7

The DEIS on page 312 states there are no roadless areas in the planning area. This is false. According to the Oregon Natural Resource Council's roadless mapping project of the state, there are two roadless areas larger than 1,500 acres in the Flagtail project area. The first is located in the northeast portion of the project area (around the designated old-growth grove). The second is located in the west end of the project area (around the replacement old-growth grove).

4-8

Although not RARE I or II-listed roadless areas, these two locations should at least be recognized as there is considerable public interest in roadless area greater than 1,000 acres as recorded in Roadless Area Rule comment period. Any blocks of habitat greater than 1,000 acres that still exist on the degraded Malheur National Forest should be protected. Many species, including the gray wolf, pine marten and wolverine need contiguous expanses of habitat to survive. Salvage logging in these areas would do nothing to help recover these species that continue to teeter on the brink of extinction.

Snags

On a landscape sale, wildfires create patches of highly attractive habitat for a myriad of wildlife species. Increased abundance of certain insects in burned stands attracts insectivorous birds. One consequence of changes in food composition and breeding habitat is that burned forests support different bird communities, with many species dependent on stand-replacement fires (McIver and Starr 2000 pp. 8-9). To maintain healthy populations of these species over the landscape, burned patches of forest should be managed with great care.

4-9

The Flagtail EIS recognizes 11 primary cavity excavators as "management indicator species" (p. 135), including the black-backed woodpecker (*Picoides arcticus*) and three-toed woodpecker (*P. tridactylus*). Post-fire logging changes these bird species composition in burned forests, reflecting effects of large woody debris removal on foraging and nesting habitat of cavity-nesting species. For example, a study by Caton (1996) showed negative responses to post-fire logging, with significantly more nests found in unlogged sites.

Fish

4-10

Although no threatened or endangered fish reside in watersheds in the planning area, the proposed action will have serious implications for the species that do reside there. Many of these species continue to struggle as habitat continues to be compromised. The

sensitive red band trout and mottled sculpin reside in planning area waterways. Salvage logging will increase the likelihood of sediment loading into rearing habitat. Although clearcutting is not proposed in INFISH RCHA's it is inevitable sedimentation will occur. New roading, yarding and tree felling will contribute to soil erosion and aquatic habitat degradation.

Wildlife

4-11 The Biological Evaluation claims there will be "No Effect" to threatened and endangered species in the project area. It is wrong to assume that this is the case. Bald eagles, gray wolf and Canada lynx all use or could potentially use this area for recovery. Salvage logging 5,000 acres of potential habitat could be detrimental to their populations. The EIS even discusses eagle nests that will be disturbed when, logging, yarding and hauling occur.

4-12 The State of Oregon is currently drafting a gray wolf recovery plan. It would make sense to not further degrade their habitat, but to be proactive and begin to close roads and re-wild areas. This will lead to successful recovery of a species returning to Oregon.

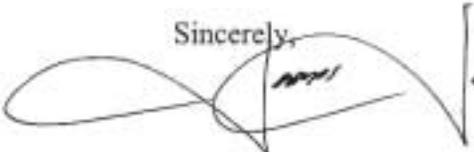
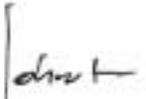
4-13 The EIS and the Biological Evaluation for state and federally listed species recognizes that habitat for a host of species has been compromised through years of intensive management (grazing and logging). Why then would the EIS propose to regenerate harvest in the planning area? Salvage logging is going to continue to compromise this already degraded landscape. Keep in mind, many of these species have evolved with fire for thousands of years and can adapt to naturally burned landscapes.

Insects

4-14 The NEPA document failed to consider the beneficial effects of insects and instead calls them pests on numerous occasions. Insect outbreaks are natural in post-fire landscapes.

Thank you for considering our comments. We look forward to working with you during the planning process to ensure this project is environmentally sound and will not further degrade the landscape.

Sincerely,

Josh Laughlin
Campaign Coordinator
Cascadia Wildlands Project

James Johnston
-For-

FS Response to Letter #4 – Cascadia Wildlands Project

4-1. No evidence was provided that supports the claim that large diameter trees act as natural fire retardant and cool high intensity fires. Further, we aren't aware of any evidence that supports this claim. The Flagtail fire area had large diameter trees within the fire perimeter. Post fire conditions illustrate that the large diameter trees did not act as natural fire retardant and cool this fire. See response to Letter # 10, Comment 10-6.

See response to Letter #11, Comment 11-5 for disclosure on fine fuels.

There were three plantations within the Flagtail Fire, none of them burned with enough intensity to kill more than just a few of the small trees in small patches within the plantations. The plantations are still considered stocked and no replanting is necessary. This is site-specific evidence that plantations do not provide an ideal environment for high intensity fire in the Flagtail area.

See response to Letter #11, Comment 11-5 for disclosure on fine fuels.

4-2. See response to Letter # 10, Comment 10-6.

4-3. Selection of any of the action alternatives would require a non-significant Forest Plan Amendment to re-designate Dedicated Old Growth (DOG) and Replacement Old Growth (ROG) areas (see FEIS, Chapter 2, Alternatives Considered in Detail, under Forest Plan Amendments). Alternative 5 in this FEIS will also require a non-significant Forest Plan amendment.

The DEIS and FEIS consider a broad range of snag prescriptions, including those proposed in the existing DOG/ROGs (see DEIS and FEIS Chapter 2, Alternatives Considered in Detail). The DEIS and FEIS describe the post-fire condition of old growth habitat and the effects of alternatives (see Chapter 3, Terrestrial Wildlife, Old Growth Forest). The DEIS and FEIS discuss the effects of snag reduction on wildlife (see Chapter 3, Terrestrial Wildlife, Primary Cavity Excavator Species). Changes in snag levels were analyzed at the stand/unit level; however, discussion was primarily at the project-area level. This FEIS updates the Chapter 3, Old Growth Forest section to provide more site-specific information on snag habitat within the existing DOG/ROGs.

The letter raises the issue of old growth protection. The DEIS and FEIS, Chapter 1, page 12, reference the Regional Forester's Forest Plans Amendment #2 (1995), which amended Forest Plan direction for managing old growth. The Flagtail Fire essentially destroyed all the old growth in the project area. The DEIS and FEIS, Chapter 3, Terrestrial Wildlife, Old Growth Forest section, discuss proposed management activities and how they promote development of future old growth.

The commenter disagrees with the proposal to convert burned MA-13 Old Growth to MA-1 General Forest. Between DEIS and FEIS, the Flagtail interdisciplinary team (IDT) considered the alternative to maintain the current MA-13 designation in DOG/ROG 221, but eliminated it from detailed study (see FEIS, Chapter 2, Alternatives Considered but Eliminated from Detailed Study). This alternative was eliminated because DOG/ROG 221 no longer provides sufficient live trees to manage it as a ROG, and because a substantial increase in MA-13 acres would require a significant Forest Plan Amendment. See response to Letter #10, Comments 10-19, 10-22, and 10-70.

4-4. The Regional Forester's Eastside Forest Plans Amendment #2 (1995) requires that snags and green tree replacements be maintained at levels that meet the 100% potential population levels of primary cavity excavators. All alternatives would meet or exceed this standard (see FEIS Chapter 3, Terrestrial Wildlife, Primary Cavity Excavator Species).

The DEIS and FEIS considered new research on dead wood habitats. The DecAID tool (Mellen 2003) synthesizes published literature, research data, wildlife databases, inventory data, and expert judgment and experience. Chapter 3, Terrestrial Wildlife, Primary Cavity Excavator Species section, and Chapter 5, Bibliography in this FEIS cite additional dead wood research considered. The DEIS developed a broad range of alternatives and snag retention levels (DEIS, Chapter 2, Alternatives Considered in Detail). Alternative 5 has been added to this FEIS to consider an additional snag strategy. This FEIS updates the effects discussion on dead wood habitats and associated wildlife species (see FEIS, Chapter 3, Terrestrial Wildlife, Primary Cavity Excavator Species).

The Regional Forester's Eastside Forest Plans Amendment #2 (1995) directs the Eastside Forests to manage mid-seral stands towards old growth. In the Flagtail fire area, stands that burned with low severity would be the first stands to provide old growth characteristics. Old growth development is expected to take about 50 years. The absence of large diameter, live trees is considered the most limiting factor in these stands, not the level of snags (see FEIS, Chapter 3, Forest Vegetation, Stand Structural Stages, and Terrestrial Wildlife, Old Growth).

4-5. The DEIS considered and discusses the Beschta Report on pp. 307-314. This discussion was modified in this FEIS; the modified discussion is included in Chapter 3 under Other Disclosures. In addition, an alternative that would manage burned forest similar to the management recommendations in the Beschta Report (1995) was considered by the IDT between Draft and Final EIS, though it was eliminated from detailed study (see FEIS, Chapter 2, Alternatives Considered but Eliminated from Detailed Study for a discussion of the reason it was eliminated from further study).

4-6. Roads proposed for construction in this project are either temporary (and will be decommissioned) or a road segment that replaces a degraded road in an RHCA. Substantially more road is proposed for closure or decommissioning than is proposed for construction in all of the action alternatives (FEIS, Table 2-1).

In terms of noxious weeds, this FEIS discloses weed existence and potential for spread, and discloses the effect of road/access proposals-both road construction and road closure/decommissioning-on noxious weeds (Chapter 3, Botany).

4-7. The Flagtail IDT has examined the areas identified by ONRC as unroaded and has determined that these areas do not have the characteristics associated with roadless areas. A further discussion of these areas can be found in this FEIS in Chapter 3 under Other Disclosures, and in the Flagtail Project Record.

4-8. See response to Letter #4, Comment 4-7.

4-9. The DEIS disclosed the effects of alternatives on snag habitats and associated species (DEIS Chapter 3, Terrestrial Wildlife, Primary Cavity Excavator Species). This FEIS updates the primary cavity excavator effects section.

4-10. The direct, indirect and cumulative effects of salvage logging and road building to fish and fish habitat of Alternatives 1 through 4 are disclosed in the DEIS and FEIS (Chapter 3, Fisheries, Environmental Consequences). Effects of activities on sediment production are

disclosed in Chapter 3 of the DEIS and FEIS in Watershed, Environmental Consequences. The sediment discussion was expanded in FEIS based on additional information provided by the soils scientist between DEIS and FEIS. The effects of Alternative 5 have been added to Chapter 3 of this FEIS.

The application of Management Requirements, Constraints, and Mitigation Measures (listed in Chapter 2) are expected to control sediment transport from units, under less than 5-year storm events, and from roads; no measurable effect on fish or fish habitat is expected (see Chapter 3 of this FEIS).

The activities most likely to put sediment in streams are road decommissioning, reconstruction and culvert removal or replacement. The effects would be short-term, highly localized, possibly affecting individual fish, but a long term benefit to fish populations and habitat and these are discussed in Chapter 3 of this FEIS.

4-11. This FEIS and Wildlife Biological Evaluation disclose effects to threatened, endangered and sensitive (TES) species (see FEIS, Chapter 3, Terrestrial Wildlife, TES Species and Appendix D, Wildlife Biological Evaluation). Mitigation for bald eagle was updated in this FEIS for all action alternatives (see FEIS, Chapter 2, Management Requirements, Constraints, and Mitigation Measures).

4-12. This FEIS discloses effects to the gray wolf (see FEIS, Chapter 3, Terrestrial Wildlife, Threatened or Endangered Species – Gray Wolf, and Appendix D, Wildlife Biological Evaluation).

4-13. The DEIS recognized that salvage logging can have impacts on wildlife species and their habitats. The DEIS, Chapter 2, Alternatives Considered in Detail, considered a broad range of alternatives to help discuss wildlife effects. The DEIS, Chapter 3, Terrestrial Wildlife section and Appendix D, Wildlife Biological Evaluation disclose wildlife effects. This FEIS updates the wildlife effects disclosure, providing additional discussion on cavity excavators and other landbirds.

4-14. This project is not being planned to reduce the insect populations or to prevent outbreaks. The time necessary to complete the NEPA analysis for this project is too long to be able to respond quickly enough to have much effect on insect populations. Both the positive (providing food/forage to primary cavity excavator species) and negative impacts (additional tree mortality) of insects are addressed in this FEIS (see Chapter 3, Terrestrial Wildlife, Primary Cavity Excavator Species and Chapter 3, Forest Vegetation, Living Trees). Also see response to Letter #11, Comment 11-97.

Letter #5

*League Of Wilderness Defenders-
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Flagtail Fire Recovery Project DEIS Comments

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Our organizations have reviewed the Flagtail “Fire recovery” DEIS post-fire project. Our organizations have the following comments, concerns, suggestions, and issues pertaining to the Flagtail DEIS NEPA process, and the proposed action alternatives for this project:

Agency Claims & Reality

Among the most egregious, consistent violations of federal laws (NEPA, NFMA, False Claims Act (FCA), and APA) are the many discrepancies, obfuscations, inaccuracies, “mistakes” and apparent outright blatant lies between what the USFS public NEPA documents claim and what the actual reality is within the forests of proposed projects’ analysis areas. The Malheur National Forest has consistently been among the worst agency forests in this regard, and the Flagtail DEIS is no exception to this failure of honesty and lack of agency integrity. Our ongoing surveys of each and every “unit” contained within the proposed Flagtail project have revealed a litany of discrepancies between agency claims and the reality of what is marked and planned upon the ground. Specific, photo documented, examples of this from very recent surveys are:

Unit #13: This unit is surrounded by unit 14 on three sides. It is located upslope of 14, not visible from the road as it is within a little hollow. Here the fire burned primarily as a beneficial under-burn, much as an agency “prescribed fire” would hopefully under-burn at its best—taking out many of the dense understory thickets, and small young fir trees, while leaving alive all the large trees, with full green crowns. Fuel loading within this unit is consequently very minimal in the aftermath of the fire. However, the manner in which the agency has marked this unit is a complete violation of the public trust—and the statements within their DEIS that “only fire-killed trees or trees expected to die of fire injury would be removed” (DEIS S-2). This unit is marked as a “leave tree unit” wherein all trees not slated for logging are supposedly marked with orange paint for retention. Most of the trees within unit 13, while healthy and vibrant with life, including numerous mature and old growth ponderosa pines and firs, are not marked to be retained. Among the many trees slated to be logged, in violation of DEIS pretensions, federal laws, and public trust are a 44.5” dbh Doug fir, with a full green crown, which is amongst the largest fir trees our

5-1

5-1 Cont.

project's numerous surveys have yet recorded on the Malheur NF. Numerous live old growth ponderosa pines ranging in the 30" to 35" dbh range are also among the trees slated to be logged, as well as most of the many live trees within this unit. While unit 14 is marked—and visible from the road—unit 13 is really only close to accurately marked in the southern portion where it is also visible from the road. This unit is in the Northern portion of the sale, and all adjacent units are marked, as are portions of 13. Our project was told by Linda Batten that the marking crews were moving from the North to the South of the sale, so this unit would have been among the first to be fully marked, and it appears that the crews did indeed go through the unit—but apparently intentionally failed to mark most of its live healthy trees for retention. It appears that this failure was deliberately done in a deceptive manner wherein that portion of the unit in view of the road is marked, and the majority of the unit—hidden from view—was left to be logged off. Our discovery of this deception is consistent with surveys done by our project in earlier years as well, where we discovered numerous trees well over the dbh upper limit of 21" marked for cutting in portions of the JOBs sales, and an entire unit in the SF Deer II sale which was not disclosed within any of the NEPA documents of public maps, where many old growth live trees—well over 21" dbh—were marked to be logged. Similar fraudulent logging and marking of live old growth trees occurred in the Reed sale, and in many of the so-called "salvage" sales of healthy green ancient forests during the "salvage rider" years (much of which we have ample irrefutable photographic and survey documentation of). Such illegal unethical marking calls into serious question the integrity of not only the marking crew, but of the agency officials ultimately responsible for this sale. We herein notify the district that our project will field survey and document the entire sale—every part of every unit—and will expose all such lies we find, including if necessary, in a court of law. Officials and agency personnel responsible for such illegal behavior must be held accountable, and not only must this illegal, ill-conceived sale be halted—but those behind this deceptive marking should be fired as well as face criminal prosecution. Other examples of such unethical illegal marking abound throughout the sale area:

5-2

Unit # 14: this unit is primarily a stand replacement fire area, with small pockets of trees with green tops—many of which are not marked for retention. Not much ground cover exists, as soils have been burned down to mineral soils in much of the unit where there are steep erosive slopes up to 30 to 40 degrees. An enormous old growth pine tree was found which must have been felled relatively recently—after the fire was well past—as it had no charring on the stump, and was surrounded with still yellow sawdust. This tree is not located near the road nor along a fire line—but instead is within the middle of the unit, felled as if someone was having "fun with a chainsaw"—and violating federal laws and NEPA policy regarding such illegal felling.

5-3

Unit #102: Contains live trees, with up to 90 to 100% of their green crown intact, which are not marked to leave.

5-4

Unit #20: This unit has very steep slopes up to 35 to 45 degrees, including sections within the marked riparian buffer where there are no trees to hold the unit's burned erosive soils. The riparian buffers have not been adjusted to protect from the obvious high potential for erosion and sedimentation which would occur from logging.

5-5

Unit #22: Black-backed woodpecker within unit 22 near its boundary with 20. This badly high-graded (past logging) unit is highly defoliated from the fire, except within the lower drainage where green trees are located. Elk within unit. Contains steep slopes up to 35 to 40 degrees with high potential for serious erosion, ash soils and little vegetation to hold the soils. The area has noxious weeds near the road, with high potential for these to be spread through both the proposed logging and road use, including knapweed, thistles, mullein, and wiregrass.

5-6

Unit #52: Soil impacts from the fire are severe (as also in units 22 and 20). Much of the unit has only mineral soils, rocks, gravels, and ash soils, including area of red and black burned soils. This is a steep sloped helicopter logging unit with a high potential for erosion due to logging removal of its trees. The unit contains some ceonothus, arnica, and a rocky mountain maple, but plant cover is very sparse. The unit also contains knapweed, which would spread with logging disturbance.

5-7

Unit #44: Contains many healthy mature green trees, with 75 to 95% green crowns, which are not marked to be saved (again within a leave tree marked unit) including a 32" dbh live ponderosa pine. A Goshawk was sighted in a contiguous green forest area just outside of this unit (confirmed sighting). The area has 10 to 30 degree slopes to the drainage, and erosive ash soils which are up to 3" of pure ash.

Unit #25: Active black-backed and other woodpeckers within unit, including recent pileated foraging signs (including the sighting of an adult male black-backed woodpecker). Hawk sighted, and unit contains ample evidence of use by numerous elk and deer. The North side of this unit is a mixed conifer forest of lodgepole pine, larch, grand fir, and doug fir, and the South side of ponderosa pine and doug fir. Slopes are up to 25 to 30% near the top of the unit. On the South and SW sides of the unit the fire burned primarily as an underburn thinning, taking out the small and up to medium dbh trees in a beneficial underburn in this mixed conifer forest area which left the big trees alive. Plants are re-establishing throughout the area, including nitrogen-fixing ceonothus, fireweed, and arnica. This unit contains an unbuffered side drainage on an obvious intermittent stream.

5-8

Unit #88: Contains a 10 to 35 degree slope to the drainage, with a high potential for erosion and sedimentation.

5-9

Unit # 30: Contains a running stream with only a 50 foot buffer—which crosses over the drainage just upstream of a spring, with the upper portion of the drainage left unbuffered. Hills within the unit have up to 35 degree slopes. Contains large healthy Doug firs up to 100% green which are not marked to leave.

5-10

Unit #10: Pileated woodpeckers in the area, with fresh foraging evidence and one within the unit during the survey. Deer in the unit also. The unit has been planted with naturally mixed-conifer seedlings which would be destroyed by logging. Many native plants are re-vegetating the area—which would also be lost to the proposed logging on these recovering soils. Contains steep slopes up to 30 to 40 degrees, with a high risk of erosion, sedimentation, and landslide into the flowing creek below. Also contains very swampy riparian areas and meadows.

5-11

Unit #12: Two black-backed woodpeckers seen on a ponderosa pine snag. A pileated woodpecker was also heard drumming and calling within the unit. Slopes are 20 to 25 degrees with pitches up to 45 degrees above the steep buffer to the creek below, with highly erosive ash soils from the fire. The unit is marked for a near clear-cut, and has live old growth trees between 40% to 80% defoliated from the fire which are marked to be cut in clear abuse of the "dying trees" definition. Unit also contains a lot of old growth p. pine and d. fir snags, and is a mixed conifer forest of (in order of dominance) grand fir, p. pine, d. fir, and western larch. Plants are re-vegetating the area, including arnica, Oregon grape, dogbane, elk sedge, lupine, and some exotic grasses—many of which would be lost to logging—which also would likely spread the exotic grasses within the area (as past logging impacts evidence has proven occurs).

5-12

Unit #18: This nearly 100% fire defoliated unit contains many young spindly trees with old growth snags. Two black-backed woodpeckers were sighted within the unit, actively foraging. The fine fuels within this burned unit are mostly gone. Contains a riparian meadow, with potential sedimentation to both spring and creek possible.

5-13

Unit #24: Mature and old growth Doug fir and Ponderosa Pine, 21" dbh, 34" dbh, and 37" dbh--up to 50 to 95% green--are not marked to be left (leave tree marked unit). Many three-toed woodpeckers, and a hairy woodpecker, were sighted within the unit, and a Pileated woodpecker was heard. Contains slopes up to 35 degrees, with a landslide off one slope into the drainage below with lots of downed logs.

5-14**5-15**

Unit #102: Live trees with 90 to 100% green crowns are again not marked to leave.

5-16

General observations:

1. Many sightings of black-backed, pileated, northern three-toed, and hairy woodpeckers, including foraging signs and calls (pileated wp).
2. Helicopter units have very steep slopes with 35 to 45 degree pitches in stand replacement fire areas where soils are highly fire damaged (mineral and ash soils) and prone to severe erosion.
3. Skyline logging areas have up to 45 degree pitches, again on highly erosive soils.
4. Tractor logging is located on moderate to level slopes in areas with both severe soil damage, as well as areas where re-vegetating plants and tree seedlings would be destroyed by logging.

5-16 Cont.

5. Riparian buffering: intermittent streams are often unbuffered. Many buffers are insufficient to address the steep slopes and highly erosive soils, and would result in severe sedimentation and in some cases additional landslides.
6. The agency is proposing an unwarranted stand conversion of the area's historically mixed conifer forests to ponderosa pine stands.
7. Areas which were beneficially underburned are fraudulently slated for logging which would destroy these fire restored green forests.
8. Fuel loading throughout much of the area is very minimal in the aftermath of the fire, which burned off much of the fine flash fuels, including thicket areas and the branches of trees.
9. Many live trees, and live old growth trees would be logged contrary to agency DEIS statements that these are to be retained.

5-17

10. Additionally, during our unit surveys of the area, we also checked the consequences of what actually transpired during the so-called "hazard tree" logging earlier this year under the Flagtail Hazard Tree CE before our lawsuit stopped this group of illegal timber sales. Our survey crews have documented and photographed a series of violations of federal policy laws which occurred under the guise of these sales. Among what we found (which did also include some legitimate hazard tree cutting) were: the unethical logging of many trees which were located on downhill slopes below area roads—where the trees were very unlikely to have fallen towards the roads. We found many trees that were logged which were not even along legitimate roads, but were located along skid trails from prior logging. One of the larger old growth ponderosa pine trees taken still had pitch oozing from its stump, indicating that it was likely alive when it was felled as a "hazard tree." In many cases sawdust was still existent and yellow, evidencing that some of these trees had been felled and hauled away more recently, in violation of court order halting these sales. We herein request that the USFS send ethical professional independent investigators from outside of the Malheur NF to fully investigate the many violations of federal laws associated with the Flagtail DEIS sale markings and "hazard tree" sales. We offer to work with them, both within the forest "units" and in sharing our survey information and documentation of the numerous illegalities which we have discovered.

Our project's surveyors met in the forests with a long-term—5th generation--local rancher who lives within the area.

Among the historical information he offered was:

5-18

- A. The Bald Hills were so named for the large open ponderosa pine forests, which had been kept open by centuries of native ignited fires.
- B. Most of the deer and antelope had been hunted out of the area by the 1930's, and have returned since that time.
- C. The mixed conifer portions of the area's forests are all naturally mixed conifer stands.
- D. Logging of the area began in earnest in 1939.
- E. The Flagtail fire was ignited by a lightning strike. The fire was initially surrounded by fire fighting crews, but instead of allowing them to contain it, the Forest service called them off at the end of the work day, apparently intentionally allowing the fire to spread beyond control (perhaps in anticipation of creating this larger "salvage" logging sale?).
- F. The fire was overly severe in large part due to the extent and severity of the area' past logging, which removed many of the large fire-resistant trees.
- G. A large portion of the fire's severely burned area resulted from an intentionally set back-burn by the agency, which burned from along one side of road 24 running along a ridge top.

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Our project's surveys and documentation within the Flagtail project area are ongoing. We are willing to take agency responsible officials out to the units with issues cited above, in efforts to remedy these illegalities and ecological problems. However, the level of illegal and ecologically harmful marking is highly systemic throughout this destructive sale, and the agency has evidenced little regard or responsibility for compliance with its own DEIS assertions or federal laws. We recommend that such

unethical planning not be rewarded, that agency personnel involved within this fraud be held accountable—and either retrained (and diligently supervised), or fired (and in some cases prosecuted for criminal violations of federal laws and professional ethics). We feel it is clear, due to the years-long consistent patterns of violations of federal laws by Malheur NF personnel, that unless the agency takes responsible, strong and meaningful measures to reclaim both its professional integrity and lawful duty, this pattern of abuse and criminal planning by the agency will continue—necessitating further litigation and expenditure of public and agency resources which could be avoided with simple agency compliance with existent federal environmental policy laws.

Many other legal and ecological issues exist with this sale as well. These follow below.

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Purpose & Need

1. The purported “purpose and need” for this proposed project, is to:
 - a. “Reduce fuel loadings to be consistent with the National Fire Plan,”
 - b. “Capture the economic value of the fire-killed and damaged trees expected to die,”
 - c. “Provide safe and adequate roaded access in the fire area,”
 - d. “Reduce the effects of roads on wildlife and water quality,”
 - e. “Re-establish upland vegetation, and”
 - f. “Designate suitable Dedicated and Replacement Old growth areas to replace those degraded by the fire.”

This deceptively Orwellian “Purpose and Need” fails to both incorporate the abundant relevant science regarding post-fire area management, including wildlife as well as ecological needs in burned forest ecosystems, as well as disclose the truth of what the agency is actually planning in the Flagtail area.

The short-term, timber-industry profit-motivated, myopic “planning” disguised within the Flagtail DEIS, including its pretentious and benign sounding “purpose and need,” and the proposed project’s unit marking (as noted above) are part of a tragically long, pathetically negligent management pattern on the part of your agency. This proposed project represents a serious abrogation of the responsibilities entrusted to your agency to represent the best interests and needs of the public, the wildlife, and the area’s ecosystems—the natural heritage of us all. We herein ask that this “purpose and need” be either re-written to remove the Orwellian hyper-bole, and honestly describe the full intentions and impacts of this ecologically destructive logging project, or—better yet—that such deception be relegated to the trash bins of your agency’s archaic and unlawful past. A new “purpose and need” must be developed, rooted firmly in sound, credible ecological science, and the true needs of the area’s wildlife, and ecosystems. The above quoted “Purpose and Need,” its deceptive “analysis” and planning, as well as the actual marking of this project upon the ground, violates NEPA’s requirements for site-specific accuracy, expert professional advice and high quality science, and as such is both fraudulent as well as arbitrary and capricious in violation of federal policy laws. The many specific problems, ecological concerns, and legal issues with this Purpose and Need, the DEIS, and the proposed Flagtail project are addressed in detail, both in the survey information contained above, and by issue below. Among perhaps the most egregious parts of this purpose and need is “b” above, concerning the capturing of “economic value.” This inclusion sabotages the agency’s ability to include ecological restoration within the Flagtail project (as is evidenced throughout the DEIS and addressed in detail below—see “Post Fire Management and Credible Science” section among others). Inclusion of this clause as part of the purpose and need violates both the NEPA and federal case-laws, prohibiting the arbitrary and capricious predisposition of an EIS towards the selection of a logging alternative. Indeed, given this clause, the agency should not have included alternatives 1 nor 4 at all, as they do not provide for the agency’s interpretation of what constitutes the “capture” of “economic value”—leading one to question whether the reason these were included at all is simply a shallow attempt by the agency to “lawsuit-proof” this DEIS from challenge with the pretense of considering all options. Unfortunately for the DEIS authors, your pathetic intentions ooze like sap from

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the stump of a fallen old growth tree, and spew like sawdust from ceaseless saws throughout this illegal DEIS, making such “lawsuit-proofing” attempts too pathetically obvious to be likely of judicial review success. Far better would be to withdraw this illegal DEIS and conduct a new EIS which complies with federal laws and credible conservation science, as well as the true restoration needs of the land, wildlife, and fish.

Restoration

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Much of the more ecologically and scientifically sound portions of the “purpose and need” for this project can all easily be accomplished as part of a comprehensive restoration plan, without utilizing any commercial logging at all. Needed restoration work can also help benefit the local community economy by providing employment for area residents. Accompanying these comments is our “Minimum Mandatory Guidelines for All Projects Purporting to be Restoration, Forest Health, and/or Recovery Projects in Interior Northwest Forests.” We herein ask the agency to uphold the requirements of the NEPA in developing the Flagtail EIS; utilizing high quality expert science and site specific conditions, and develop a legal, credible, scientifically sound and ecologically beneficial conservation-science based “purpose and need” with a series of comprehensive restoration alternatives--none of which utilize any commercial logging (as credible science recommends)--to meet the ecological needs of the Flagtail area.

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The current DEIS proposes a series of action alternatives, of which both 2 and 3 would seriously harm area forests, fish, and wildlife, and violate numerous federal laws (including the CWA, NFMA, MBTA, and the ESA). Alternative 4, while including many restoration based actions, does not go far enough to fully address the many needs within the area, and the DEIS upon which it is based is illegally deficient in pertinent information to adequately support alternative 4 or seriously address the many important issues which should be included within a true “fire-recovery” project. We encourage the agency to uphold conservation science as well as ecosystem and wildlife needs by developing a new EIS which proposes restoration only activities for this area. We remain willing to assist the agency in these efforts.

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Aquatic Species and Riparian Habitat

The Silvies watershed and Flagtail area creeks are on the Oregon State 303(d) list as fish bearing watersheds which are water quality limited, with both temperature and sedimentation problems due to past and ongoing detrimental management. The Flagtail DEIS fails to disclose any plans, either short or long-term, which will fully address bringing listed redband trout, and species of concern Malheur mottled sculpin, resident fish species populations to viability levels within their HRV. Instead, action alternatives 2 and 3 would further damage already degraded aquatic habitat for these species and continue management trends which will likely result in the need for upgrading the ESA status of redband trout from sensitive to threatened over time, and cause the listing of the Malheur mottled sculpin as well. It is likely numerous individuals of redband trout and Malheur mottled sculpin would die, and their imperiled area populations be further diminished, by the implementation of either of these commercial logging ‘alternatives.’ The DEIS’s other alternatives, that of No Action, and its limited “restoration” alternative 4, would not do enough of the serious significant restoration work necessary to comprehensively address the many issues and needs associated with restoring the area’s management degraded and fire damaged watersheds’ fisheries habitat.

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Roads

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There are far too many roads per square mile in the Flagtail area already. Many of these roads need to be closed and obliterated—restoring the former road bed to natural slope contours and native forest vegetation. Along the remaining open roads, true “hazard tree” cutting can be conducted where really needed. Keeping the many impacts of commercial logging operations out of this recovering forest—including off haul road routes—can also best help “reduce the effects of roads on wildlife and water quality,” as can removing excess roads.

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5-30 The actual road density (per square mile) of the project area, includes all existing roads within this area—among these are roads, and portions of roads, which are not depicted upon the fireman’s map, roads which are gated or bermed closed—but which still exist upon the terrain, those which are slated to be obliterated—but which yet exist at this time, and the many logging skid trails which exist throughout the project area—and ecologically detrimentally function in many ways as roads as well. Given the actual very high road density of the Flagtail area, absolutely no new, temporary, or re-constructed roads should be proposed for this area. Alternatives 2 and 3, while pretending to “reduce area road density, actually would introduce roads into presently unroaded portions of the project area, further degrading and fragmenting an already damaged ecosystem which is in violation of Forest Plan standards. These road building “alternatives” are in contravention to federal policies regarding roads, the Forest Plan, credible scientific research, wildlife and fisheries needs, the Clean Water Act, the ESA, and conservation biology. The DEIS fails to adequately disclose or analyze the full and actual impacts of these alternative’s proposed road building, including the further fragmentation of the area’s scant remaining unroaded ridges. As such this DEIS fails the requirements of the NEPA and must be withdrawn and redone. We herein emphatically state that absolutely no new roads of any kind, including so-called “temporary roads” as well as logging skid trails, skyline routes, or other management openings which further fragment the area forests (including helicopter landing decks) can be constructed within this severely fragmented forest area. The new DEIS for this project must accurately address, disclose, and analyze the full extent of fragmentation existent within this area, the full impacts to forest ecological functioning, wildlife, and fish due to this, and develop alternatives which remedy these problems and restore this recovering area.

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Post Fire Management & Credible Science

5-35 Similar to the NEPA documentation for other post-fire timber sales which are occurring across the region’s forests in the aftermath of last year’s fires, the USFS in a systematic and cunning effort to avoid adherence to the credible science of studies such as the Beschta Report, has again alluded to the agency created fiction of a “scientific controversy” concerning post-fire management and so-called “salvage” logging. The logging alternatives 2 and 3 within this DEIS should have never been proposed, as such logging is in contravention to the true restoration portions of the Purpose & Need goals as well as credible, conservation biology science and proven restoration methods and needs. The DEIS violates the NEPA by failing to fully disclose in an unbiased and professional manner the abundant credible science and research pertaining to detrimental impacts of post-fire logging. The DEIS violates the professional ethics, impartiality, and high quality science required by the NEPA with their cunningly crafted illusion of a “scientific controversy” concerning both the Beschta Report and post-fire logging impacts and advisability. That the majority of the scientists cited by the agency in this created “controversy” are employed by the federal government, including agency “scientists,” and thus have a professional conflict of interest predisposing them towards unprofessional bias in favor of agency political and bureaucratic positions is not disclosed anywhere within the public NEPA documentation for this flawed project, again violating the stringent requirements of the NEPA. The DEIS also fails to disclose the scientific training and credentials of the agency “scientists” involved in the intentional creation of this fictional “controversy.” The authors of the Beschta Report are trained professional independent scientists, many – if not all—with PhD degrees in their fields, and have no vested interest in slanting the outcome of their research to fit political, agency, or industry agendas.

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In the new EIS which must be conducted to correct the legal deficiencies of this DEIS, wherever conflicting scientific reports concerning post-fire “salvage” proposals are juxtaposed, we ask that the experience, training, and background of these reports’ authors be disclosed to both the decision maker and the public as necessary supportive information which can assist in weighing the relevance, accuracy, and applicability of apparent conflicting information.

The new EIS must be conducted in concurrence with conservation biology and credible ecological science (Beschta Report, etc.). Only needed, beneficial, restoration projects should be proposed for this

- 5-38** post-fire area, and no commercial logging of any trees greater than 12” dbh should be proposed at all, in any action “alternative” as such post-fire logging is unsupported by all relevant credible science. Merely publishing or citing a full bibliography of all scientific reports reviewed by the agency for this NEPA
- 5-39** process, while failing to incorporate the ecologically restorative recommendations of these reports does not constitute compliance with NEPA’s requirements concerning the utilization of credible high quality science in the development of action alternatives. Within the new EIS, wherever conflicting reports
- 5-40** concerning post-fire “salvage” proposals are juxtaposed, we ask that the experience, training, and background of these reports’ authors be disclosed to both the decision maker and the public as necessary supportive information which can assist in weighing the relevance, accuracy, and applicability of apparent conflicting information.
- 5-41** The Flagtail DEIS’s pathetic attempts to gut the credibility and applicability of the Beschta Report are found both within the DEIS’s many inaccurate assertions and grouped together beginning on page 307 in a special section, apparently added as an afterthought due to likely agency concerns over the 9th Circuit Court’s decision upholding our organization’s lawsuit against the Big Tower post-fire logging project which was located on the Umatilla NF. The onslaught of shallowly obvious attempts to present the Beschta Report information in a thoroughly pro-commercially logging-biased manner begin with the DEIS’s admission that the agency ID Team chose to selectively utilize agency “scientists” McIver and Starr to review and interpret the reports rather than incorporate the reports directly. The DEIS opens its biased disclosure of the Beschta report by stating “Authors of the Beschta report, who are mostly scientists, provided their opinions...” (DEIS, Chapter 3, page 307) What does the agency mean by stating that these PhD scientists are “mostly scientists”—are the DEIS’s crafty authors intending to imply to the readers and decision-maker that some of the authors are lacking scientific credentials? Written true to the tainted style of “yellow journalism” the implications of such insinuations are never addressed and the actual credentials of these authors, or of the agency scientists for that matter, are never disclosed. This section continues on to state that the report’s “suggested policy principles” are “not focused on the specific ecological, social, and economic characteristics of the post-fire conditions of the Flagtail Fire Recovery area or the Malheur National Forest.” Yet the report indeed is focused on the ecological restoration needs of areas such as the Flagtail Fire, and was written in large part for such a purpose, as
- 5-42** the authors recently reiterated in a published letter to the agency and the scientific community updating and emphasizing the importance and applicability of their report (which the agency has chosen not to disclose nor incorporate within this DEIS despite its essential content). Among the many failures of this DEIS is the agency’s attempt to replace the real restorative needs of the area’s forests, wildlife and fish, and the long-term needs of the area’s human communities, with the short-term, ecologically destructive and short-sighted myopic economic goals of the profit motivated timber industry located within the John Day area. By again lumping together inaccurately perceived economic and social “characteristics” (the true nature of which is addressed herein in our Economics section as well as the Purpose and Need section), the DEIS’s authors have attempted to toss aside the very real applicability of this study to the
- 5-43** Flagtail projects, again violating the professional and impartial requirements of the NEPA. Interestingly,
- 5-44** the agency also fails to disclose the decades long harmful consequences of this pattern of management, which was exposed in Nancy Langstroms PhD dissertation, and later published book “Forest Dreams, Forest Nightmares.” This book exposed the USFS, and Malheur NF in particular, long pattern of consistently sacrificing true ecological and community needs to the unsustainable avarice of the timber industry in the region. Failure to disclose or incorporate this published dissertation (of which the agency is well aware from previous timber sale comments, appeals and lawsuits by our organization) both here, in the purpose and need, and in the economics section, while utilizing such distorted economic claims, violates the NEPA as well. The agency also selectively chooses to not incorporate or disclose the
- 5-45** information within the economics report by Talberth and Moskowitz (addressed in detail in our economics section) of which the agency is also aware.

This section goes on to supposedly address the Beschta Report’s “recommendations,” continuing in a logging slanted manner that is far from NEPA’s required impartiality and professionalism, and is fraught with inaccurate claims, among which are:

5-46 *“harvest activities will not permanently impair the productivity of the land or irreversibly damage soil or other watershed conditions” (DEIS page 311)*—actually the agency fails to disclose or analyze several studies regarding logging’s known detrimental impacts to soils—including a study by David Perry in which he concludes that logging damage to forest soils, which have taken thousands of years to form, may take three centuries or more to fully recover. Other studies such as those by Elaine Ingham address the damage to forest soils by both logging and grass seeding, adversely impacting the ability of tree seedlings to survive. Numerous irrefutable evidentiary studies exist spanning centuries and continents showing the long-term harmful impacts to soils and forest health by logging. Some of these studies are by agency scientists as well, including reports based upon eastside ecosystems such as Flagtail, and by authors including Scott, addressing detrimental impacts to forest health and seedling survival by logging disruption of forest soil microbial communities. Yet the agency has failed to disclose or incorporate any of these pertinent studies, choosing instead to simply dismiss such credible scientific research with blatantly deceptive, inaccurate statements such as the above.

5-47 *“All trees which have a reasonable chance of surviving will be retained” (DEIS page 312)* As addressed in our first section above “Agency Claims and Reality” this is an outright and criminally prosecutable lie.

5-48 The DEIS claims that it is managing the Flagtail project logging units to maintain sufficient snags to provide for *“100 percent population levels of primary cavity excavators” (DEIS, page 312)*. This assertion, addressed elsewhere within as well, is patently false. Even agency studies note that the potential for high population levels of cavity excavators, such as forest-dependent woodpeckers, is inextricably tied to many factors. Among these are the increasing number of woodpeckers utilizing an area in correspondence to the number of snags within an area. Areas with high snag density, and canopy-closure (including the cover snags provide in burned forest areas) have a higher population level of cavity excavators—and fledgling survival rates—in direct proportion to the number of snags left within an area. Logging removal of snag levels will naturally lessen both the population levels of cavity nesters within the area, as well as harm the survival rates of their fledgling young—which need cover from snags and remaining green trees to survive. The paltry levels of snags the agency proposes to retain within its logging units, including the supposedly woodpecker friendly 13 snags per acre, are not sufficient to adequately provide for compliance with the purported goals of the agency’s Regional Forester’s Amendment directive #2. The DEIS violates the NEPA by failing to disclose the full scientific research and habitat components required by cavity nesters to meet this stated directive’s goals.

5-49 The DEIS dismisses the Beschta Report in part because: *“Leaving all big trees would result in a loss of economic viability for salvage operations, loss of commercial forest product value and associated benefits to the local economy, thus conflicting with some of the Purpose and Needs” (DEIS page 313)*

5-50 Such rationale illustrates the intentional manipulation of the arbitrary and capricious Purpose and Need, and the predisposed nature of this illegal DEIS towards a logging decision. This violates both the NEPA and numerous federal court case-law rulings, and underscores the true intentions of the agency to again sacrifice ecological needs to the insatiable demands of timber corporation profits. Both the purpose and need and this dismissal are illegal and the DEIS needs to be withdrawn and a legally compliant EIS produced.

5-51 Numerous other examples exist both within this section as well as throughout the DEIS of illegal and logging biased assertions and selective disclosure and distortions of science, however it would take a much longer comment time period to begin to sufficiently address them all. Those cited herein, and elsewhere within these comments are amply sufficient to demonstrate the illegality of the Flagtail DEIS and the need for a new, legally compliant EIS for true restoration projects in the Flagtail area.

Terrestrial Wildlife

Surveys

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The EIS must disclose the habitat quality, forest stand composition(s), wildlife species utilizing the area, listed and proposed listed species known or suspected to be within the area, as well as aquatic species both within and downstream from the area. Post-fire surveys concerning all the above must be disclosed, as well as surveys before the area burned. The EIS must disclose if sufficient acres of viable habitat for these and other species exists within the adjacent/surrounding forest area, including connective contiguous forests with the forests of the Flagtail fire area..

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Both pre-fire, and post-fire, botanical surveys must be disclosed for the project area. Within a severe burn area such as Flagtail, all listed, and proposed listed, plant species and their habitat—including especially soils and soil moisture retention capacity--must be protected. Recovery of the area depends in large part on the ability of the soils, and standing snags as well as downed logs, to retain moisture within the area during the dry summer seasons and during drought periods. All rare forest plant species and species of concern within the area, as well as all rare invertebrate and other species associated with these plants, such as rare lepidoptera, fungi, or birds must be protected as well to ensure the ecological recovery of the area from the fire. These many species, and their interwoven ecological dependences must be disclosed within the EIS, which the DEIS has failed to address.

Simply dismissing the likely adverse impacts of the proposed Flagtail logging projects upon numerous flora, fauna, and fish species without conducting the necessary surveys to verify these species potential and likely use of the project area, or without addressing recovering the area for viable use by the many species which historically have been found within its forests, violates federal laws including NFMA, NEPA, federal case-laws, and the ESA.

Post-fire habitat is preferred habitat for a number of species of concern, including Oregon State listed Black-backed woodpeckers, as well as several neo-tropical migrant bird species, among others. The EIS for this proposed project must disclose the results of surveys for these species, their habitat requirements, current population trends, as well as plans for their recovery—including habitat requirement protections and provisions. The absence of these surveys requires that the proposed project be withdrawn until the agency complies with its obligation to adequately survey this area, and analyze the necessary information required to protect, and provide for the NFMA and ESA mandated viability of these many forest-dependent and aquatic species.

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The DEIS conducts a woefully inadequate review of impacts to wildlife from the proposed commercial logging. First, it appears as though the Forest did not survey adequately for Threatened, Endangered, or Sensitive species, nor did the agency address their habitat needs or these species likely use of the proposed logging areas. This is problematic for several reasons. First, it is impossible for the agency to suggest that there will be no significant impacts to listed or proposed species when it fails to analyze the project in terms of potential and likely impacts to these species. Such failures do not uphold the agency's duties under the Endangered Species Act. Endangered Species Act of 1973, 16 U.S.C. §§ 1531-1544 (1994).

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Second, the Endangered Species Act (ESA) requires the USFS to use the best available scientific and commercial data in assessing the impacts to species, which includes surveying for them. 16 U.S.C. § 1536(a)(2). Since population studies are lacking for the DEIS planning area, the USFS is precluded from determining that the project is not likely to adversely affect the listed species under section 7 of the ESA. *Id.* § 1536(b). Basing the DEIS's action proposals on such "non-information" is unreasonable and violates the Administrative Procedure Act (APA). 5 U.S.C. § 706.

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Third, the DEIS fails to conduct an adequate cumulative impacts analysis for wildlife species and their habitat. The DEIS fails to disclose the current habitat quality for a variety of species, addressing both the fire's impacts and the cumulative impacts throughout the district's forests, as well as on adjacent private lands. Based upon on-the-ground surveys, the habitat quality for all species is in poor condition from poor historic management activities--coupled with the impacts from the Flagtail fire and exacerbated by the

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illegal and harmful logging which has occurred under the CE guise of “hazard tree” removal (see above “Agency Claims and Reality”). Because species *are* using poorer quality habitat, removing that habitat has an even more significant impact on species than the removal of high quality habitat: because there is no more “fall back” (i.e., poorer quality) habitat available for these species to utilize when higher quality habitat is removed, it is unclear how wildlife species will be affected in the meantime. It is logical to assume that once the poor quality habitat is removed through this project, sensitive and interior forest-dependent wildlife in the planning area will be extirpated from the area, a result clearly unacceptable under NFMA.

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Fourth, impacts to wildlife species in the short and midterm are not insignificant, but the agency failed to assess what these impacts would be. Because extensive good quality habitat will not be available for many years until much of the burned and logged areas of the planning area recover, it is unclear how wildlife species will be affected in the meantime—especially if some of the scant remaining green forest habitat available is logged--as well as the logging of the majority of the standing large snags-- resulting in further degradation and loss of closed canopy and snag, soil holding, habitat. NFMA does not recognize this outcome as legally acceptable.

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The project’s proposed logging would cause nonlisted species to trend towards listing, and listed species to trend toward jeopardy. Northern goshawk (which our surveys have sighted within the area), Pileated woodpecker, Blackbacked woodpecker, Whiteheaded woodpecker, American marten, Lynx, Pygmy and Flammulated owls, numerous forest-dependent neotropical migrant and native birds (Band-tailed Pigeon, Rufous Hummingbird, Olive-sided Flycatcher, Winter Wren, Golden-crowned Kinglet, Solitary Vireo, Song Sparrow, and Pine Siskin among others), and California wolverine are species about which the agency lacks adequate information to conclude that the proposed project would not make their populations trend towards listing in violation of the ESA. *Sierra Club v. Martin*, 168 F.3d 1 (11th Cir. 1999). Despite the lack of information on these and other species, the DEIS erroneously concludes that they will be relatively unaffected by the proposed project. There is no evidence to support the conclusion that removing what remains of suitable habitat for wildlife species will not affect them. Indeed, the facts suggest that these species will be adversely affected in both the short and long term.

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Even though much of their habitat has been removed, it is clear that many species both utilize the area, and are beginning to recolonize the area, and that it is currently very susceptible to human intervention. Because there is no need to change the characteristics of the forest by removing viable habitat, there is no need to implement the commercial timber sales.

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Threatened, Endangered, and Sensitive species.

It is the stated policy of Congress that all Federal departments and agencies “shall seek to conserve endangered species and threatened species and shall utilize their authorities in furtherance of [this] purpose.” Endangered Species Act of 1973, 16 U.S.C. § 1531(c)(1). The Supreme Court has clearly restated congressional policy stating that, “The plain intent of Congress in enacting this statute was to halt and reverse the trend toward species extinction, whatever the cost.” *Tennessee Valley Authority v. Hill*, 437 U.S. 153, 184 (1978). The USFS’s apparent plans to proceed with the Flagtail DEIS’s commercial timber sales and related road construction is inconsistent with the Congressional mandate of the ESA.

Under the ESA, the Forest Service has the responsibility to “insure that any action authorized, funded, or carried out by such agency is not likely to jeopardize the continued existence of any endangered species or threatened species or result in the destruction or adverse modification of habitat of such species.” 16 U.S.C. § 1536. As described *infra*, the record does not support the finding that the proposed sale would not likely adversely affect bald eagles, lynx, redband trout, Malheur mottled sculpin and other listed species. The proposed sale would significantly exacerbate the degraded habitat conditions for these species that already exists on the Forest. The near absence of any information from surveys or monitoring (including instream sedimentation and water quality monitoring post-fire) for many of these listed species makes a reasonable analysis--of how this project itself, and in combination with other actions within the area, will cumulatively affect these species-- impossible.

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The failure to make a population-based analysis, combined with the failure to complete current surveys for listed species, creates a significant level of uncertainty regarding the level of impact that this project will have on listed species in the planning area. NEPA requires that when data is not available an agency should recognize the lack of data and explain why obtaining it was not feasible. 40 C.F.R. § 1502.22. The ESA prohibits the Forest Service from going forward with the proposed sale without ensuring that the project will not result in jeopardy to the species. In light of this, the DEIS is deficient of the necessary information required to reasonably support its logging action alternatives, requiring that a new EIS must be prepared that addresses population trends in relation to the proposed Flagtail Fire projects, including the proposed timber sale(s).

Management Indicator Species.

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NFMA requires the Forest Service to provide animal and plant diversity in the national forests. 16 U.S.C. § 1604(g)(3)(B). USFS regulations implementing this requirement direct the Service to manage forests for viable populations of native vertebrate and desired non-native species. 36 C.F.R. § 219.19. The regulations define viable populations as a population that has “the estimated numbers and distribution of reproductive individuals to insure its continued existence is well distributed in the planning area.” *Id.*

To ensure that viable populations are maintained, the Forest Service regulations also require that the Service identify management indicator species (MIS) and that “[p]opulation trends of the management indicator species will be monitored and relationships to habitat change determined.” 36 C.F.R. § 219.19(a)(6). This monitoring is “essential to verify and, if necessary, modify the forest plan’s assumptions about the effects of timber harvesting and other management activities on wildlife...In order to meet the monitoring requirement, planners will need to obtain adequate inventories of wildlife populations and distribution.” Charles F. Wilkinson and H. Michael Anderson, *Land and Resource Planning in the National Forests*, 304 (1987).

The Ninth Circuit has stated that the duty to ensure viable or self-sustaining populations “applies with special force to “sensitive” species.” *Inland Empire Public Lands Council v. United States Forest Serv.*, 88 F.3d 754 (9th Cir. 1996) citing *Oregon Natural Resources Council v. Lowe*, 836 F.Supp 727, 733 (D.Or. 1993). NFMA clearly directs the Forest Service to create regulations to “insure research on and (based on continuous monitoring and assessment in the field) evaluation of the effects of each management system to the end that it will not produce substantial and permanent impairment of the productivity of the land.” 16 U.S.C. § 1604(g)(3)(C); *Sierra Club v. Martin*, 168 F.3d 1 (11th Cir. 1999).

In light of this direction, NFMA’s regulations require inventorying and monitoring on the National Forests under 36 C.F.R. §§ 219.12(d) and (k) as well as 36 C.F.R. §§ 219.19(a)(6), 219.26, and 219.19(a)(2). The regulations state “each Forest Supervisor shall obtain and keep current inventory data appropriate for planning and managing the resources under his or her administrative jurisdiction.” *Id.* § 219.12(d). The regulations further require that “at intervals established in the plan, implementation shall be evaluated on a sample basis to determine how well objectives have been met and how closely management standards and guidelines have been applied.” *Id.* § 219.12(k). To ensure biological diversity, the regulations specifically require that “[i]nventories shall include quantitative data making possible the evaluation of diversity in terms of its prior and present condition.” *Id.* § 219.26.

Although NFMA clearly requires the monitoring of MIS populations, the Forest Service has traditionally relied upon the availability of suitable MIS habitat, rather than population surveys, to meet NFMA’s viable populations requirement. *Inland Empire Public Lands Council v. United States Forest Serv.*, 88 F.3d 754 (9th Cir. 1996). Recently, however, the Ninth Circuit has revisited its holding in *Inland Empire*, and held that if the Forest Service utilizes a “proxy-on-proxy” approach to meeting the agency’s NFMA obligations, any habitat models must be grounded in fact and field verified. *Idaho Sporting Congress v. Rittenhouse*, 2002 U.S. App. LEXIS 19108 (9th Cir. 2002). The court also acknowledged that other courts have expressly disavowed the holding in *Inland Empire*, casting additional doubt on the validity of that case. *See generally, Sierra Club v. Martin*, 168 F.3d 1 (11th Cir. 1999), *Utah*

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Environmental Congress v. Zieroth, 190 F. Supp. 2d 1265, 1272 (D. Utah 2002) (holding that § 219.19 unambiguously requires collection of population data), *Forest Guardians v. U.S. Forest Service*, 180 F. Supp. 2d 1273 (D.N.M. 2001) (same).

Given this developing reinterpretation of the legal requirements attendant to management indicator species, it is clear that the multiple mandates in NFMA and its implementing regulations requiring population monitoring and surveying are not being even minimally met for the Flagtail Fire projects.

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Pileated Woodpecker, Black-backed woodpeckers and other cavity excavators.

Our organizations are very concerned that the planning area does not currently support viable populations of Pileated and other woodpeckers. The DEIS fails to indicate any credible surveys, or comprehensive science, upon which it could reasonably base its false claim that the planning area is meeting 100% of the potential population for Pileated and other woodpeckers within the Flagtail planning area, as required by the MFP and regional agency directive. The failure substantiate such claims violates the NEPA, and the failure to meet forest plan standards violates NFMA. 16 U.S.C § 1604(i); 36 C.F.R. § 219.10(e).

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It is well known that logging significant areas of interior, multi-canopied, old growth and mature forest, including recovering burned forests, will adversely affect Pileated and other woodpeckers. Given the fact that a great deal of timber harvest has taken place throughout the district and within this watershed, that the fire has had severe impacts upon the availability of these species needed habitat, and that habitat elements either do not exist or are largely marginal quality at best, it is entirely feasible that these birds are in decline. Further, removing canopy cover through commercial logging will have a significant detrimental impact on Pileated, black-backed, and other woodpeckers that is not adequately addressed or disclosed within the DEIS. As noted previously, when population trends show a downward trend, the agency must act in order to stop the decline. 36 C.F.R. § 219.19. The proposed commercial logging in the Flagtail area's burned, recovering forests, including the illegal logging off of some of the only viable green forest habitat with some level of canopy closure (see "Agency Claims and Reality" section above), including the large-scale removal of canopy in the area's recovering burned mature and old growth forest stands, will further exacerbate the problem, and certainly will not stop the downward population trend.

The snag retention formula utilized by the agency fails to account for the canopy closure or adjacent snag density requirements needed to maintain even minimum habitat viability for primary cavity excavators as well as known cavity nesters which utilize burned habitats. The EIS needs to address and acknowledge the known utilization (and preference) of burned habitat by Black-backed Woodpeckers, and to provide for the full habitat requirements of these (Oregon State listed) species. Such planning and disclosures are necessary to meet the requirements of both the NEPA and the NFMA as well.

Lynx

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Among our many concerns is that of this proposed project's effect on lynx. Based on data from the U.S. Fish and Wildlife Service's (USFWS) Portland office, there have been several sightings of lynx in the Blue Mountains region. Historic evidence of lynx in these areas include positive occurrence records, lynx bounty claims, and Forest Service Wildlife Statistical Reports. Positive reports of lynx occur as far south as Modoc County, California, so it would be reasonable to assume that lynx would occur in the project area, and did occur within the area historically. This likelihood is further augmented by a recent confirmed sighting in the adjacent Ochoco NF, as well as by comments made by the Prairie City RD wildlife biologist a few years ago, who grew up within the area's forests and commented that lynx sightings in the Malheur's forests were frequent during his younger years. As this is the case, then the project area is likely important to lynx recovery. It is plausible that lynx are rare in the project area (and in Oregon on the whole) due to bounties, aerial poisonings, and other efforts to eliminate them (and other predators) that were performed systematically for decades, and not due to a lack of habitat, as is the current situation with wolves as well.

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The USFS should have addressed how further fragmentation of the planning area will affect lynx. It is clear that lynx habitat is very fragmented, and that large blocks of intact forest are required to maintain viable populations of the species. Without these large blocks, lynx may need larger ranges to survive. The proposed logging in the planning area will adversely affect whatever lynx recovery is occurring, as lynx may use portions of this area for both nocturnal foraging as well as migratory and dispersal routes and refuge. Continuing to squeeze lynx out of their habitat range by intensively managing the land runs afoul of NFMA's requirement that the agency maintain viable populations of wildlife that are well distributed across the landscape. 36 C.F.R. § 219.19. The USFS has an obligation to accurately assess the impacts of its project on lynx.

Next, it is clear that data is lacking on the food habits of lynx in Oregon's forests, which represents a critical research need. Ruggiero, 1999b; Aubry, 1999. It is well accepted that lynx are dependant on snowshoe hares as a prey base, but in the southern portions of lynx range squirrels, other rabbits, small rodents, birds and other wildlife may always be an important part of lynx diet. It is critical to understanding how this project may impact lynx to examine how it will impact lynx prey.

Snowshoe hares, squirrels, and other mammals have different habitat needs, but many of these species could be negatively impacted by the fragmentation, logging, roadbuilding, and other actions associated with this project. Most of these prey species require adequate cover (USFWS, 1999), especially conifer cover in winter (GTR-RM-254), and foliage that is accessible during winter snowpack conditions. Hares, squirrels, and forest-dependent species are typically associated with dense forest cover, including shrubs and "dog hair" thickets of small trees. McKelevey, 1999a.

Different timber harvest methods can have detrimental impacts on many of these species, including squirrels, rabbits, rodents, and birds, as well as snowshoe hares. Koehler and Brittell (1988) predict that it may take up to seven years after clear cutting an area for hares to recolonize the site and up to 25 years before they reach their highest densities. Bull (1999) examined the results of a variety of harvest prescriptions on hares and found that in lodgepole stands, the number of snowshoe hares decreased in all types of harvest. She reports that mixed conifer stands appear to be "no longer suitable for hares after harvesting." This same is also true for many of the other forest-dependent species which comprise the lynx's diet.

Squirrels have different habitat needs than snowshoe hares and are associated with mature, cone-producing forests. Ruggiero, 1999a; Buskirk, 1999b; McKelvey, 1999a. They tend to reach their highest densities in late-successional, closed-canopy forests with substantial quantities of course woody debris. The DEIS fails to address potential impacts this project may have on squirrels, and ignores an important component of lynx diet. The outright lies regarding the discrepancy of the DEIS's assertions, and the marking on the ground in the sale's planned units, further underscores the failure of the DEIS to adequately disclose and analyze this important issue.

The DEIS failed to provide a thorough examination of how the project will impact both hares and squirrels, as well as other wildlife species which are potential lynx prey. Without complete analysis of how these prey species will be impacted, it is impossible to quantify and qualify the impacts to lynx. The DEIS should analyze the cumulative impacts of this project on lynx prey in association with other projects on the District, Forest, and surrounding lands.

In sum, The Lynx Conservation Assessment and Strategy (LCAS) clearly asks that the Forest Service perform project specific analysis for each project. The lack of project specific analysis has been a long-standing problem with the Forest Service. The USDA Office of the Inspector General in its January 1999 report (No. 088001-10-At.) tries to correct this problem but the Forest Service has ignored the recommendations of this report. The LCAS executive summary states:

Plans that incorporate the conservation measures, and projects that implement them, are not generally expected to have adverse effects on lynx.... However, because it is impossible to provide standards and guidelines that will address all possible actions, in all locations across the broad range of the lynx, project specific analysis must be completed.

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It is clear that the Forest Service has not completed such analysis and therefore is in violation of the LCAS, as well as the ESA and NFMA. Thus far the agency has failed to supply consultation agencies, in particular the FWS, with the necessary information to make a comprehensive determination regarding this proposed project's impacts to lynx and other listed species, rendering any potential FWS's "signing off" on this proposed project not in compliance with federal laws, and thus illegal.

Wolverine

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It is suspected that wolverine may use the planning area as part of their seasonal and nocturnal foraging and territorial wandering patterns. Winter season surveys by our organization over the past decade have found likely wolverine snow tracks within nearby forest areas in both the former Bear Valley and the Burns Ranger Districts. It is also well known that human disturbance related to the proposed activities is likely to alter the movement patterns of wolverine and other wildlife species. Failing to adequately address the likely impacts to wolverine by the proposed projects, given the large home ranges of these animals (approximately a 150 square mile winter range), and the sightings of wolverines in the area, violates both NEPA and NFMA.

Nevertheless, the DEIS fails to adequately analyze how the wolverine will be affected by the proposed project. Because it is probable that the species utilizes the planning area for some life cycle needs, the USFS is required to accurately address how the commercial logging and road building projects will affect those needs and the species itself. The DEIS's failure to do so, and its shallowly irresponsible dismissal of the proposed project's likely adverse impacts to wolverine, including the project's likely incremental role in ongoing trends pushing this species towards uplisting under the ESA, violates NEPA and NFMA. 40 C.F.R. § 1502.16 (environmental consequences); 36 C.F.R. § 219.19 (fish and wildlife resources).

Given the sensitive nature of this species, it is likely that the proposed project will decrease Wolverine viability through the actual loss of connective travel, nocturnal, and seasonal foraging habitat, and possible loss of individuals. This is inconsistent with the Forest Plan as amended and NFMA because the project would contribute incrementally to Wolverine populations trend towards listing, 36 C.F.R. § 219.19.

Wolverine are already listed as "Sensitive" in Oregon by the Oregon Department of Fish and Wildlife, however the Forest Service fails to disclose this within the DEIS or disclose any consultation with ODF&W regarding wolverine, in violation of the requirements of the NEPA, and in contravention to the necessary cooperative interagency efforts which are sorely needed to begin the recovery of this species and its required habitat.

Northern Goshawk

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We have several concerns regarding Northern Goshawk. Our surveys within the proposed sale units, conducted during mid-August of 2003, sighted a confirmed Goshawk within the live forests just outside of proposed unit #44. It is known that Goshawks have historically utilized the forests of the Flagtail and surrounding areas for nesting, fledgling, and foraging. It is also known that Goshawks, similarly to many predatory species, rotate their nesting and foraging territories over time, so as to not deplete their prey species populations and thus maintain their viability over the long-term. As such, to ascertain potential Goshawk use, agency surveys must be conducted seasonally each year to determine the rotational patterns of Goshawks for the Flagtail and adjacent area forests. Goshawks also have an extensive foraging territory. It is likely that nesting pairs may utilize both or either underburned portions of the Flagtail area as well as adjacent older green forest areas. It is also likely that burned, open-forest edge areas within the proposed logging units may be utilized as additional occasional foraging territory by this species. The DEIS fails to address impacts to this species such as how logging removal of remaining canopy cover, and further fragmentation of the area's forests, will affect adult and juvenile Goshawks, or other direct, indirect, or cumulative effects to the species. The DEIS fails to disclose if there are any Goshawk nesting

- 5-66** areas, including historic nesting areas, within or adjacent to the proposed Flagtail logging “units.” The DEIS also fails to disclose if the burned DOG and ROG areas may have contained nesting habitat for Goshawks either historically or in the recent pre-fire past. Several scientific studies exist regarding significantly detrimental logging impacts to Goshawks due to logging within or near Goshawk PFA’s, as well as from fragmentation of natural forest habitat. (Quotes from some of these studies are included herein as part of the attached exhibits: Reynolds et al, 1982, 1989, 1991; Moore and Henry, 1983; Fleming, 1987; Hall, 1984; Saunders, 1982; Crocker Bedford et al, 1988, 1990, 1991; Patla, 1991; Hayward and Escano, 1989; Kennedy, 1988; Shuster, 1980; Speiser and Bosakoski, 1987; Woodbridge et al, 1988; Bendire, 1892, Bull, 1988; Hargis et al, 1991; Bryan and Forsman, 1987; Andeson and Shommer; among others). Additionally, some of these studies were conducted for the agency. However the DEIS violates the NEPA by failing to disclose or assess the information, or even the existence of these pertinent studies, and the agency fails to uphold its responsibility to address these issues thoroughly as required by both the NEPA and the NFMA. Because of the lack of discussion in the DEIS regarding this species, we have several additional questions. How long will it take the planning area—after the proposed logging—to get to the point that the area is capable of being utilized as either (or both) additional foraging, corridor, and/or nesting habitat by Goshawk? Will the portions of the planning area which are currently being utilized by Goshawk still be “suitable habitat” immediately post-project? If not, what type of habitat will be available for Goshawk use? Moreover, the DEIS fails to address the cumulative impacts of the proposed project along with past, present, and reasonably foreseeable future actions, in violation of NEPA, 40 C.F.R. § 1508.7. The DEIS also is criminally fraudulent in failing to disclose the marking within the units which would log off many of the live old growth trees which currently provide viable goshawk nesting, foraging, connective, and dispersal habitat.
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- 5-68** We are concerned about the affect of the planned transformation of the commercial logging units from burned multi-storied snag forests, to open near barren terrain where the scant remaining snags (either 2.39 or 13 snags per acre—or worse if the agency’s current illegal markings are retained!) are completely incapable of providing for any semblance of the forest-cover which is necessary for continued goshawk use of this area. It is also highly likely that most of the “leave-tree snags” will be wind-fallen soon after logging, as the increased wind exposure which such logging creates will seriously adversely impact their ability to remain long-standing. It is known that nearby suitable goshawk habitat containing a mix of dense multi-storied stands for nesting exists, and that many of the burned open stands within the Flagtail area are likely necessary for Goshawk foraging. It appears that the Flagtail project may remove necessary foraging habitat, which may result in the loss of potential Goshawk nesting habitat, as these two features are inextricably linked within the greater Goshawk territory, thus resulting in fewer pairs of nesting birds within the area, or a loss of either or both fledgling juveniles and/or adults to predation or other mortality associated with increased edge effect habitat due to logging impacts. Within much of the burn area, and surrounding forests, open non-forest or young forest habitat is abundant already far beyond the area’s historic mixed-conifer old growth stands, including burned naturally recovering forest stands—due to the adverse cumulative impacts from past logging coupled with the fire. The proposed logging would only exacerbate the loss of Goshawk habitat, further compounding the lack of nesting and foraging habitat problems in the area. Further, the DEIS fails to state whether any future logging activities would occur in historic mixed conifer nesting stands elsewhere within the district or adjacent districts and forests. Flagtail’s tree re-planting also would harm current and historic mixed conifer habitat needed by this species, calling for extensive shifting of these forest stands to the false, agency formula-concocted, “historic” levels of open single-storied forest. This would further reduce potential nesting habitat and thus violate NFMA’s requirement to maintain viable populations of these and many other forest canopy-dependent species, 36 C.F.R. § 219.19. Further, not disclosing that the planned agency replanting would shift this area away from historic dense multi-storied stands, resulting in impacts which may significantly adversely affect goshawk habitat, now and in the future, is in strict violation of NEPA’s disclosure requirements. (Additionally, as stated herein, the agency’s misuse of forest stand formulas violates
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NEPA's site-specific and scientifically accurate requirements.) It is clear that the agency must prepare a new EIS to deal with this issue legally and adequately.

Neotropical Migrant and Native Birds

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. Neo-tropical migrant and native forest-dependent birds (as well as numerous other forest species) are in serious decades-long population declines due to the adverse cumulative impacts from over a century of commercial logging in Oregon (see "Avian Population Trends" by Brian Sharp). The DEIS for this proposed project fails to fully and adequately disclose the current population status and trends of native forest dependent Neotropical migrant and native avian species within the Flagtail analysis area and adjacent forest. Compliance with both the NFMA and the MBTA requires that all alternatives presented within the DEIS must be capable of protecting forest habitat for these many native forest species, and of reversing any current downward population trends. Such a course of proactive protective action is also required by the ESA and the NEPA, Presidential and USFS directives, and the Migratory Bird treaty Act, as well as credible conservation science and ethical integrity. However, in violation of these legal and ethical requirements, the Flagtail DEIS presents two action alternatives (2 and 3) which would severely imperil neotropical and native avian species populations, resulting in both individual mortality to these species as well as irreparable harm to already seriously impaired habitat.

The proposed timber sales would significantly impact migratory birds in violation of the Migratory Bird Treaty Act, 16 U.S.C. §§ 703—712 (1994). It is well known amongst the conservation-science community that many migratory birds which are currently experiencing severe population decline trends are "strongly associated" with forested habitat, and this has also been noted in other timber sale environmental documents. The proposed commercial post-fire salvage sales would likely directly kill nesting and fledgling migratory birds. The proposed logging would further seriously reduce existing forest-dependent migratory bird habitat, which has already been significantly diminished due to the cumulative impacts of past management and the resultant severity of the Flagtail fire. The proposed logging "units" would also irreparably fragment migratory bird habitat. Areas that were not logged would also be negatively impacted by generalist bird species favored by the environmental conditions created in highly fragmented logged-over forests. The impact these abundant and highly competitive bird species would have on sensitive bird species dependent on natural fire recovery and less fragmented forests should have been disclosed and evaluated in the DEIS. The adverse impacts that the proposed logging would have on migratory birds are supported by multiple scientific studies.

Forest fragmentation, including loss of viable nesting habitat within eastern Oregon's national forests, is considered to be a primary cause behind declines observed in many forest songbird species. Further loss or fragmentation of habitat could lead to a collapse of regional populations of some forest birds (Robinson *et al.* 1995). As landscapes become increasingly fragmented, regional declines of migrant populations may result (*Id.*). In the Pacific Northwest, researchers have found that old growth forests and natural forest processes (including natural fire-recovery) are integral to the survival of migratory birds. The past and continuing logging-oriented management of the forests of Oregon and Washington, which provide nesting and fledgling habitat for numerous migratory birds, has resulted in severe ongoing population declines in forest canopy-dependent migratory and native birds. (*reference: "Avian Population Trends in the Pacific Northwest" by Brian Sharp*). Among the many avian species experiencing population declines due to Forest Service logging projects are: band-tailed pigeon, rufous hummingbird, olive-sided flycatcher, winter wren, song sparrow, golden-crowned kinglet, pine siskin, solitary vireo, willow flycatcher, tree swallow, red-eyed vireo, yellow warbler, yellow-breasted chat, and others as well. This information was not adequately addressed in the DEIS despite the obvious direct adverse impacts to many migratory and native bird species from the removal of forest canopy cover and forest structural continuity which would occur with the implementation of this project. Failure to disclose and comprehensively analyze this pertinent, essential, scientific information violates provisions of the NEPA. Implementation of this project would violate both NFMA and the Migratory Bird Treaty Act. As such the commercial logging portion of

this project must either be withdrawn from the proposed alternatives, or a new EIS must be prepared which addresses these issues, before the FEIS and ROD may be issued.

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In August 1999, the FWS outlined what it perceived to be the agency's legal obligation in terms of migratory birds and timber harvest. FWS stated that agencies should take "an extremely cautious position with respect to the intentional take of migratory birds by federal agencies." *Letter from Acting Director, United States Fish and Wildlife Service, to Regional Directors, Regions 1-7 and Assistant Director, Refuges and Wildlife (August 17, 1999)*, 3. FWS also cautioned that "the Service should not assert in any communication or correspondence that federal agencies are not covered by the prohibitions of the MBTA [Migratory Bird Treaty Act]." *Id.*

In July 2000, the Eighth Circuit Court of Appeals held that federal agencies are required to obtain a take permit from FWS prior to implementing any project that will result in take of migratory birds. *Humane Soc'y of the United States v. Glickman*, 217 F.3d 882 (8th Cir. 2000). Due to this litigation, the FWS is operating under the assumption that the Migratory Bird Treaty Act applies to the Forest Service and its activities. 16 U.S.C. § 703 et seq. The Act states that "it shall be unlawful at any time, by any means or in any manner, to pursue, hunt, take, capture, kill, attempt to take, capture, or kill . . . any migratory bird." 16 U.S.C. § 703.

In January 2001, President Clinton signed Executive Order 13,186 that outlined the federal government's responsibility to comply with the Migratory Bird Treaty Act. Exec. Order No. 13,186, 66 Fed. Reg. 3,853 (2001). President Bush has not rescinded this Order. Recent legal analysis confirms that the Forest Service must actively prevent the take of migratory birds, or obtain a permit for incidental take of individual species. *Helen M. Kim, Chopping Down the Birds: Logging and the Migratory Bird Treaty Act*, 31 *ENVTL. L.* 125 (2001).

The Forest Service has completely ignored these legal and scientific obligations. Until the agency can demonstrate that it has complied with the requirements of the Migratory Bird Treaty Act, the timber sale(s) alternatives associated with this proposed project must be withdrawn and/or a new EIS must be prepared.

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Further, the DEIS did not deal with the direct, indirect and cumulative impacts that the project would have on migratory birds. The USFS has on record a study by Brian Sharp ("Avian Population Trends in the Pacific Northwest" as cited above), which concludes that commercial logging in public forest lands in Oregon plays a significant role in the continuing population declines of several neotropical migrant bird species. The failure to disclose the full conclusions and implications of this study in the DEIS is particularly egregious in that the study was done for Region 6 of the Forest Service specifically on Eastern Oregon forests. The lack of adequate scientific assessment of this study fails to meet NEPA's requirement for high quality scientific analysis that would satisfy the "hard look" standard. *Robertson v. Methow Valley Citizens Council*, 490 U.S. 332, 353 (1989); *Blue Mountains Biodiversity Project v. Blackwood*, 161 F.3d 1208 (9th Cir. 1998) *cert. denied*, *Ochoco Lumber Co. v. Blue Mountains Biodiversity Project*, 119 S.Ct. 2337 (1999).

Soils

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Area watershed conditions and quality, and soil conditions and quality, including the potential for erosion and compaction, must be disclosed within the EIS for this project. These disclosures should include area cumulative impacts from past and ongoing management activities, including livestock

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grazing. Plans to eliminate livestock grazing from the fire area to allow the area to recover must be a part of this proposed project, including going beyond the limited current formula-driven plans to allow livestock grazing within this degraded area again as early as two years from now. As mentioned above,

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the EIS must not only just disclose the Oregon State listed status for all area watersheds, including their listing on Oregon's 303(d) list as water quality impaired. The EIS needs to include plans to restore these areas and bring them into compliance with the Clean Water Act and historical ecological functioning.

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Ground based logging equipment should not be utilized in post-fire areas—especially in areas which experienced severe burns. Burned soils are highly susceptible to disturbance degradation, including erosion and compaction. Recovery of native vegetation is significantly set-back and impaired by logging in these areas. Additional concerns regarding soils are addressed in our section on “Post-fire Management and Credible Science” above.

Cumulative Impacts

Public lands

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Cumulative impacts from past and ongoing management on both public and private lands within the area (including the adjacent areas) must be disclosed. Included in this are: past, current, and planned logging, livestock grazing, mining, roading, and development on both public and private area lands. Cumulative impacts associated with the recent fire on area lands, including adjacent private lands, burned in the Flagtail area fire complex must be disclosed (included among these are other post-fire “salvage” activities on both public and private lands, as well as available viable wildlife and fisheries habitat, and impacts to area habitat quality from both the fire and post-fire management activities –again including private lands as well as public).

If there are any other planned management activities within Flagtail area watersheds and the adjacent watershed areas, such as timber sales, etc., then these proposed projects must be analyzed and disclosed within an EIS for the entire area. The extent of logging impacts across the region’s forests must be addressed, including impacts to, and loss of habitat of, far ranging historical wildlife species. Connective corridors and territorial and viability needs for the many forest-dependent wildlife species need to be addressed. Population trends for these species need to be disclosed, and plans incorporated within all action alternatives to restore these species habitat and viability, and reverse any downward population trends for native wildlife and fish species.

Fire Suppression

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Impacts of fire fighting activities within and adjacent to the project area must be disclosed: extent and types of fire lines, amount and extent of fire retardant applied, acres and numbers of trees cut during suppression efforts, number and extent of riparian area crossings by fire lines, and other related impacts, etc. These impacts must be addressed in both the cumulative impacts section, restoration plans, road impacts, and long-term impacts to the area’s forests, fish, and wildlife.

Fuels and Fuels Reduction

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Concerning fuel loading reduction, including the potential for a re-burn: fire areas are generally considered to be “fire-proofed” for at least the time period of the area’s historic fire return interval. Re-burn danger is initially greatly reduced, especially during the first couple of years after a fire. In time, fuel loads begin to build, with falling flash fuels such as small branches mixed with small and medium diameter fallen snags. However, re-burns at this time-period are generally low-intensity ground fires, consuming accumulated small and medium diameter ground fuels but very rarely becoming a canopy fire. The greatest risk these largely beneficial fires pose is that of causing the mortality of some of the seedling trees reforesting the burned area. Such risk can be significantly reduced without the ravages of commercial logging. Controlled spot re-burns three to six years after a fire can alleviate much of this risk without damaging the majority of the seedlings. Limited firewood sales programs can also help accomplish this goal. Ecological benefits include: retention of large, commercial logging size, snags and downed logs as wildlife habitat, erosions controls, and soil replenishing sources of nutrients, minerals, and beneficial fungal habitat—all of which are essential for a healthy, recovering forest.

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Within the Flagtail fire however, our surveys have noted a remarkable lack of flash and small diameter fuels. Even the limbs of many burned trees and snags within the fire area were consumed by the fire.

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What has been left has been largely medium to large diameter limbs, trees, snags, and logs. These have been clearly shown in scientific research to not only not be a fuel loading problem, contrary to the Flagtail DEIS's false assertions and ridiculous formulas, but instead medium and large diameter logs and snags act as moisture reservoirs for many years after drought and wildfire. This has been well proven in a study by MP Amaranthus, DS Parrish, and DA Perry entitled "*Decaying Logs as Moisture Reservoirs After Drought and Wildfire*" which was published by the USFS in "*Proceedings of a Watershed '89*" on pages 191-194. The failure of the DEIS authors, and ID Team to disclose the existence of this agency published study (which has been around long enough for ignorance of its existence to not be excusable—especially as it was published by the agency itself!), and instead to utilize false "fuel load" formulas which contradict forest reality and scientifically credible studies, again constitutes intentional fraud on the part of the Malheur staff, and violates the requirements of the NEPA. The utilization of fuel load formulas based upon "tons per acre" which fail to differentiate between the real ignition and fire-spread prone flash fuels of small diameter limbs and wood--and the much larger (and in a "tons per acre" formula system—much heavier as well), inherently moisture retaining and fire resistant, limbs, logs, and standing medium to large diameter snags, is tantamount to intentionally misinforming both the public and the decision-maker concerning the actual fuel loads within the forest, and its potential for re-burn. This intentional fraud, wherein logs which retain enough moisture through extended summer periods of no rainfall—enough so that water can be squeezed out of their rotting, fungi-laden moist woody fibers—are categorized and presented as "fuel load hazards" is not only in violation of NEPA's professional, and scientific quality requirements, it too constitutes criminal intentional violations of federal laws and requirements. The much heavier nature of large logs, limbs, and snags quickly inflates the exaggerated and patently false "fuel load" totals utilized throughout the Flagtail DEIS to justify their destructive and illegal post-fire logging plans. The DEIS for this fraudulent project must be withdrawn, a new scientifically and legally compliant EIS conducted, and the USFS personnel responsible for this and other intentional criminal fraud connected with this DEIS, including its on the ground marking, investigated, held accountable for their illegal actions and fired, as well as prosecuted in federal court.

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Insects, Drought, & Other Natural Integral Forest Ecosystem Phenomena

The forests of the Malheur evolved with fire, insects, drought, and disease as integral, essential components of the forest ecosystem. Nature has evolved many natural checks and balances which prevent insects from destroying vast tracts of forests. Among these are many species which predate upon insects such as bark beetles as well as tree defoliators. Black-backed woodpeckers are one of the keystone species which help post-fire forests survive. This species prefers burned forest habitat and adjacent green forest edge areas for nesting, roosting, and foraging. Numerous other species, including neotropical and native birds, also nest and forage within intact (unlogged) burned forests. If habitat provisions are maintained for these many species, the fabled ravages and spread of insect population "outbreaks" are minimal and well within the range of historic natural variability. However, black-backed woodpeckers, and many other species which select for burned areas, depend upon the "fire-killed and fire-damaged" trees throughout the fire area as habitat, both for their foraging and nesting potential as well as the remaining canopy closure these give—as protection against predators for themselves and their fledgling young. As has been the case in many national forest areas this past century, when burned areas are commercially logged, among the many harmful impacts is the loss of viable habitat for black-backed woodpeckers and other post-fire associated species. Among the significant irreparable harms caused by such logging, are: 1. the loss of species in the area which predate upon bark beetles and other insects, 2. serious continuing population declines of black-backed woodpeckers (Oregon State listed as Sensitive) and forest dependent neo-tropical migrant birds, and 3. significant increases in the adverse impacts of unchecked bark beetle populations. Additionally, as the Forest Service concluded in its study (Crater Lake) on decades of attempting to utilize commercial "salvage" logging to control—or minimize—the spread and adverse impacts of bark beetles, such a method is doomed to failure, as it would require the logging destruction of

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the very forests they were attempting to “save.” By eschewing ecologically damaging logging, and instead working with nature; protecting the essential habitat for the many native forest species which both help keep insect populations in check as well as help post-fire forests to recover, the Flagtail area has the best chance for recovery. Failure of the DEIS to disclose these pertinent facts and the scientific studies which have documented them violates the NEPA, and again underscores the rampant intentional fraud committed by the agency in its efforts to push through this destructive and illegal sale.

Economic Analysis & Issues

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Forests, especially post-fire ecologically sensitive recovering forests, have far more intrinsic economic value standing than they do as horizontal board feet for short-term private timber-industry profits. The true long-term economic, social, and cultural costs of restoring forest ecological functions from the many adverse impacts resultant in commercially logged post-fire forests far outweigh the small pittance garnered by the profits of private timber industry owners (including the short-term wages of laborers they may employ).

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The EIS for this proposed project needs to accurately and fully assess and disclose the true cost/benefit ratios involved with this proposed project. When actual costs are fully assessed, including: a. necessary restoration, b. long-term soil and ecological damage, c. loss of viable wildlife habitat—and consequent continued wildlife species-of-concern population declines, d. potential spread of invasive exotic weeds into the project area, e. needed mitigations, f. “big game” and gopher control, g. re-vegetation of the project area, h. the time to prepare the NEPA documents for this project, i. as well as the costs of any consequent appeals and litigation, etc.—it is likely that the ‘purpose and need’s’ recovery of economic value would be far less than the actual comprehensive costs of this proposed project. As such, this proposed project amounts to little more than publicly subsidized welfare for any purchasing timber corporation—at the expense of the heritage of the greater public, the wildlife, and the ecosystem. Again, we ask that only credible restoration-only alternatives—in compliance with federal laws and credible science—be developed for this burned, recovering area.

The DEIS is incomplete because they do not provide an adequate economic analysis of the proposed project. NEPA requires the agency to “identify and develop methods and procedures . . . which will insure that presently unquantified environmental amenities and values may be given appropriate consideration in decision-making along with economic and technical considerations.” 42 U.S.C. § 4332(2)(B). The regulation implementing this statutory section states that while a cost benefit analysis is not required for a project, if it is “relevant to the choice among environmentally different alternatives is being considered for the proposed action, it shall be incorporated by reference or appended to the statement as an aid in evaluating the environmental consequences.” 40 C.F.R. § 1502.23 (emphasis added).

The DEIS fails to contain an adequate economic analysis of the project as a whole and does not include all costs incurred by the proposed project. The DEIS does not analyze or disclose expenditures such as the cost to prepare the project (including administrative overhead, publication costs, survey costs, tree marking costs, etc.), nor does it include expenditures such as reforestation, aquatic, and terrestrial mitigation measures.

5-89

Moreover, the General Accounting Office has recently remarked that the accounting system of the Forest Service is essentially worthless because it cannot accurately account for expenses and incomes. (See: *GAO Financial Management Report*). In this report, the GAO stated that the Forest Service has been unable to clearly identify the costs of the federal timber sale program, and that the timber sale program is likely losing money. The Malheur National Forest has not demonstrated that it has overcome this deficiency. Given this situation, we question the rationale to propose such a large-scale, and clearly illegal (as demonstrated *infra*) project that will have known detrimental impacts on the resources in the planning area as well as likely detrimental impacts upon the public treasury.

5-90

While timbering is still an important sector of the economy, the communities in the Blue Mountains region are no longer timber-dependant: that is, timber production and milling, while still important sources of income, are no longer the primary source of income for most of these localities. PACIFIC NORTHWEST RESEARCH STATION, *County Portraits of Oregon and Northern California* (September 1996), 76-87. Fishing, government support, and tourism now provide greater revenue to these counties than the forest products industry. *Id.*

5-91

Evidence suggests that the proposed project will not result in positive income. Notably, the price for timber has dropped dramatically, especially for eastside forest products as noted in the report: *United States Forest Service, Sold and Harvest Reports*. Timber prices are extremely low, and show no signs of increasing. There is no indication that there is any demand for the trees that would be logged under the Flagtail projects. While some may claim to fully understand the impetus for national forests to meet probable sale quantity targets (which are merely targets, not volume output requirements—and which should also be disclosed within the DEIS for this project), choosing to attempt to get some of this total from an area as severely impacted by prior logging, compounded with severe fire, and then attempting to disguise this logging as “recovery” is not only unethical, it is tantamount to intentional fraud, unsubstantiated by any credible science.

5-92

Finally, even if this ill conceived sale(s) is sold – a dubious assumption at best, given the falling prices of timber and the low quality of timber in the planning area – there is no support in the DEIS that the timber will be milled in the counties from which it is harvested, or that the project will result in a positive return to the United States Treasury. Indeed, the experience with several other timber sale projects, among them the Hash Rock sale (Ochoco NF), Mule sale (Malheur NF), Crane Prairie sale (Deschutes NF), Big Tower sale (Umatilla NF), Timber Basin sale (BLM), and Jobs timber sales (Malheur NF), among others – which resulted in the federal government litigating and eventually paying attorney costs and fees to defend illegal timber projects – suggest that the USFS has failed to consider the economic effects of litigation in preparing these timber sale projects. This is especially glaring in that this sale is similar to the original “Big Tower” fire sales—under the “Big Tower EA”—which were stopped in federal court, resulting in the USFS and US treasury having to pay tens of thousands of dollars in attorneys fees and untold many thousands in their own litigation costs. Again, failure to disclose this is a serious violation of the NEPA. Without a complete disclosure of the economic consideration of the proposed project, the DEIS is incomplete, and the agency is without adequate information to issue a FEIS or ROD, 40 C.F.R. § 1502.23 (requiring a cost-benefit analysis in analogous situations). A new EIS must be conducted to disclose and analyze this important information.

5-93

In proposing the Flagtail Fire DEIS timber sales, the Forest Service failed to meet NEPA’s requirements to fully disclose the direct, indirect, and cumulative economic impacts of the timber sale program and to give appropriate consideration to environmental amenities in the NEPA process by failing to incorporate important natural resource benefits and externalized costs into the DEIS. 42 U.S.C. §§ 4332(C), 4332(B). By failing to utilize appropriate professional expertise, such as that found in the ECONorthwest and Talberth & Moskowitz studies, that are capable of disclosing all natural resource benefits and externalized costs, the Forest Service is in violation of NEPA’s mandate to rely upon a systematic and interdisciplinary approach to decision making. *Id.* § 4332(A). By ignoring important natural resource benefits and externalized costs, the Forest Service also runs afoul of regulations implementing NEPA that require full disclosure of direct, indirect, and cumulative economic impacts, identification of environmental effects and values in adequate detail so that they can be compared with economic and technical analyses, rigorous analysis of the benefits of implementing the “no action” alternative in timber sales, and use of appropriate professional expertise. 40 C.F.R. §§ 1501.2(a); 1501.2(b); 1502.6; 1502.16; 1502.24; 1507.2(a); 1507.2(b); 1508.7; 1508.8; 1508.27.

5-94

Second, the National Forest Management Act (NFMA) imposes additional requirements on the Forest Service in terms of conducting an economic analysis for timber sales. The regulations implementing this statute state that Land and Resource Management Plans (LRMPs) “shall provide for multiple use and sustained yield of goods and services from the National Forest System in a way that maximizes long term

5-94
Cont.

net public benefits in an environmentally sound manner.” 36 C.F.R. § 219.1(a). In turn, the regulations define “net public benefit” as

an expression used to signify the overall long-term value to the nation of all outputs and positive (benefits) less all associated inputs and negative effects (costs) *whether they can be quantitatively valued or not. Net public benefits are measured by both qualitative and quantitative criteria rather than a single measure or index.*

Id. § 219.3 (emphasis added). Although these regulations refer to LRMPs specifically, because site-specific projects must comply with larger land management plans, the requirement that LRMPs must incorporate values such as recreation and watershed health into a cost-benefit analysis is equally applicable to site-specific project. *Id.* § 219.10(e); 16 U.S.C. § 1604(i).

NFMA regulations go on to explain that land management plans must be implemented through site-specific projects that are sensitive to changing economic realities. They state that national forest lands must be managed “in a manner that is sensitive to economic efficiency,” and that managers must be responsive “to changing conditions in land and other resources and to changing social and economic demands of the American people.” 36 C.F.R. §§ 219.1(b)(13), (b)(14). As the ECONorthwest and Talberth & Moskowitz studies indicate, there are in fact ways to calculate the economic value of standing forests, which denotes a change in the way that the American public demands that their public lands are managed. The Forest Service has failed to address these studies or the methodologies cited in them.

The Forest and Rangeland Renewable Resource Planning Act (RPA), as amended by the National Forest Management Act, imposes similar requirements on the Forest Service. 16 U.S.C. §§ 1600–1614 (2000). The RPA requires the agency to: incorporate natural resource benefits and externalized costs into decisions affecting the national forests; secure the maximum benefits of multiple use sustained yield management; conduct comprehensive economic assessments of all National Forest resources; identify all costs and all benefits associated with RPA Program outputs; ensure consideration of the economic aspects of renewable resource management; improve Forest Service accountability when it prepares annual budgets and reports to Congress on the costs and benefits of its programs; and conserve forests and promote the use of recycled products. 16 U.S.C. §§ 1600(7); 1601(d)(1); 1600(3); 1602(2); 1604(g)(3); 1606(a); 1606(b); 1606(c); 1606(d). Regulations implementing both NFMA and the RPA require the Forest Service to maximize net public benefits, evaluate the relative values of all National Forest resources, consider all market and non-market costs and all benefits of management decisions, and assign monetary values to goods and services to the extent that they can be assigned. 36 C.F.R. §§ 219.1; 219.4(a)(1); 219.4(b)(1)(ii); 219.12; 219.13; 219.14. In this case, the Forest Service doesn’t mention these statutes and regulations, and the DEIS does not comply with these requirements of federal laws.

Third, the Forest Service violated the Multiple Use, Sustained Yield Act (MUSYA) by failing to incorporate important natural resource benefits and externalized costs into the DEIS and its timber sales. 16 U.S.C. § 528–531 (2000). Without incorporating natural resource benefits and externalized costs into these decisions, the Forest Service cannot meet MUSYA’s requirements to administer National Forests for all of their resources, to maximize public benefits, and to give due consideration to the relative resource values of all National Forest resources. 16 U.S.C. §§ 528, 529, 531.

5-95

Fourth, the Flagtail timber sales would violate the Global Climate Change Prevention Act. 7 U.S.C. § 6701 (2000). Logging national forests (especially as Flagtail is actually marked) exacerbates adverse changes in the global climate by reducing the carbon absorption function of national forests and by releasing carbon stored by these forests into the atmosphere. The adverse ecological and economic effects of increases in atmospheric carbon caused by national forest timber sales has not been disclosed nor incorporated into the DEIS by the Forest Service when it proposed and authored the Flagtail Fire Recovery Projects DEIS timber sales. This failure is a violation of the Global Climate Change Prevention Act.

5-96

Finally, other federal guidance explains the types of factors that should be considered in any cost-benefit analysis undertaken for a federal project. The Office of Management and Budget has stated that cost-benefit analyses

should include comprehensive estimates of the expected benefits and costs to *society* based on established definitions and practices for program and policy evaluation. Social net benefits, and not the benefits and costs to the Federal Government, should be the basis for evaluating government programs or policies that have effects on private citizens or other levels of government. Social benefits and costs can differ from private benefits and costs as measured in the marketplace because of imperfections arising from: (i) *external economies or diseconomies* where actions by one party impose benefits or costs on other groups that are not compensated in the market place; (ii) monopoly power that distorts the relationship between marginal costs and market prices; and (iii) taxes or subsidies.

OFFICE OF MANAGEMENT AND BUDGET, CIRCULAR A-94 § 6 (1992) (emphasis in original). As applied to the management of the timber sale program, this guidance clearly indicates the need not only for analysis of the socioeconomic benefits of unlogged forests in areas where logging is contemplated, but also an analysis of the rate of return that could be achieved if timber sale monies were spent on other projects such as recreation, wildlife, or watershed restoration.

While not binding to the same extent as statutes and regulations, the Forest Service Handbook and Forest Service Manual also provide guidance regarding conducting an adequate economics analysis for timber sales. The agency's Economic and Social Analysis Handbook requires the Forest Service to maximize net public benefits and fully account for all market and non-market benefits and costs in the context of market studies, economic efficiency analysis, and economic impact assessments of its plans and programs. FSH 1909.17.11.1; 1909.17.14.1; 1909.17.14.11; 1909.17.14.6; 1909.17.23. The Forest Service's Timber Sale Preparation Handbook requires the agency to address all marketed and non-marketed costs and benefits in analyses of the financial and economic efficiency of individual timber sales and the timber sale program as a whole. FSH 2409.18.13.1; 2409.18.32. Similarly, the Forest Service Manual requires the Forest Service to: manage the timber sale program so that total benefits exceed total costs; account for non-timber economic effects in its timber sale analyses; ensure that economic values used in economic efficiency and economic impact assessments adequately reflect biological, economic, and social conditions; and base its decisions on the economic and social impacts and costs and benefits. FSM 2403.4; 2403.5; 1971.5; 1970.1(1), (2), (3); 1970.2; 1970.3(1), (5). The DEIS and associated Flagtail documents neither mention nor comply with these recommendations.

In sum, these studies, statutes, regulations, and other guidance indicate that the economics analysis conducted for the Flagtail Fire Recovery Projects DEIS is inadequate. The analysis in the DEIS fails to consider the economic value of standing forests. Had the Forest Service conducted the economics analysis required by law, the agency should have disclosed that the value of the planning area in its natural state far outweighs commercially logging it. It would also have been apparent to the agency that the time, and financial resources, which have been needlessly wasted in the preparation and design of the Flagtail DEIS's commercial logging and hazard tree sales, would have been far better spent on developing true restoration projects, including some of those which have been eliminated in the DEIS for this project. The DEIS for this proposed project fails the requirements of the NEPA, and its so-called economics "analysis" as well as its inclusion of false economic provisions within its Purpose and Need is arbitrary and capricious and violates the Administrative Procedure Act. 5 U.S.C. § 706(2)(A).

Roadless Areas

5-97

Contrary to the statement on page 312 of the DEIS, there are two roadless areas larger than 1,500 acres in the Flagtail project area. One in the NE portion of the project area (in the vicinity of the designated old

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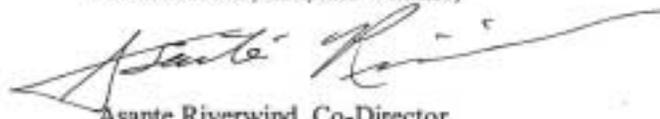
growth) and one in the west end of the project area (in the vicinity of the replacement old growth). We herein reference the map regarding this provided by ONRC in their comments. Roadless areas greater than about 1,000 acres, whether they have been inventoried or not provide valuable natural resource attributes that must be protected. These include: water quality; healthy soils; fish and wildlife refugia; centers for dispersal, recolonization, and restoration of adjacent disturbed sites; reference sites for research; non-motorized, low-impact recreation; carbon sequestration; refugia that are relatively less at-risk from noxious weeds and other invasive non-native species, and many other significant values. See Forest Service Roadless Area Conservation FEIS, November 2000. This project involves activities in such unroaded areas. The NEPA analysis for this project does not adequately discuss the impacts of proposed activities on all the many significant values of roadless areas. A new EIS must be conducted which discloses the unroaded condition of these areas within the Flagtail projects, and the full range of science regarding roadless areas. For the USFS to intentionally obfuscate the roadless nature of two areas within its proposed project boundaries which are both greater than 1500 acres in size violates the NEPA, necessitates the withdrawal of this illegal DEIS, and the preparation of a new legally compliant EIS, and again underscores the need for a thorough investigation of the lack of agency integrity and professional and scientific ethics in the preparation and proposal of this DEIS and timber sale.



*Conclusion***5-98**

It is clear that this illegally conducted DEIS, and the Flagtail project as proposed, must be withdrawn, as noted throughout these lengthy comments. Our organization remains willing to assist the Malheur NF and the USFS, including its independent investigators, in both developing true recovery projects which uphold the needs of the land, fish, and wildlife, comply with federal environmental policy laws and credible conservation biology science, as well as the true long-term interests of the region's communities --and, additionally, in holding legally and professionally accountable the USFS personnel responsible for the illegal and apparent intentionally criminal fraud found throughout the DEIS and the unit markings for the Flagtail projects. We again request that the agency stop abusing credible science, the area's ecosystems, wasting both their and our time and resources, and begin to sincerely conduct the necessary efforts to regain agency integrity and comply with numerous federal laws—as is the minimum requirements of the duties and responsibilities entrusted to them. We herein serve notice that we will work to stop this illegal and destructive proposed logging project to the fullest extent of the laws of this nation, and that we also look forward to a time when such efforts are no longer necessary, and the integrity and restoration of the area's natural ecosystems becomes the priority for the agency which it should so clearly be.

For the forests, fish, and wildlife,



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Attachments to the League Of Wilderness Defenders-Blue Mountains Biodiversity Project et al Comments on the Flagtail Fire Recovery Project DEIS Aug. 17, 2003

1. Minimum Mandatory Guidelines for All Projects Purporting to be Restoration, Forest Health, and/or Recovery Projects within the Interior Pacific Northwest Forests; Asante Riverwind et al, June 2002

2. Forest Health Issues and Facts: Wildlife and Forest Health

- a. Goshawk
- b. Pileated Woodpecker
- c. Black-backed Woodpecker
- d. White-headed Woodpecker
- e. Northern Three-toed Woodpecker
- f. Pine Marten
- g. Green Tree Snag Replacement
- h. Pocket Gophers
- i. Soils & Logging in Eastern Oregon
- j. Fire & Salvage in Eastside Forests
- k. Forest Health
- l. Wildlife, Fire, and Forests
- m. The Beschta Report

3. "Ponderosa Pine Poster Child" by Keith Hammer, August 2000

4. "Decaying Logs as Moisture Reservoirs After Drought and Wildfire" by Amaranthus et al 1989.

5. Exhibits sent separately by Karen Coulter-survey sheets, and photo exhibits.

FS Response to Letter #5 – League of Wilderness Defenders-Blue Mountain Biodiversity Project

5-1. As described in the DEIS and FEIS (Chapter 2, Alternative Development Process) it is not the IDT or the Responsible Official's intent to harvest live trees (trees that would survive the effects of the fire and post fire agents, such as bark beetle attacks). At the time the Draft EIS came out, the marking of trees to be retained, and marking the ephemeral draw buffers was not completed. In addition, in some locations where live trees were marked for retention, some live trees had been inadvertently missed. Based on your information, further fieldwork was conducted. Marking crews received more training from the Area Entomologists (Don Scott and Lea Spiegel) and used this training to check and fix live-tree marking. Marking crews returned to all Flagtail units with green trees to check live-tree marking; they chopped into numerous tree roots to verify the condition of trees, and marked additional live trees (for retention). The accuracy of live-tree marking has been improved and is expected to now meet the intent of this project.

For more information on the development, refinement, and application of the mortality rating guide for tree marking see Appendix B of this FEIS and the responses to Comment 5-47 in this letter and Letter #10, Comment 10-93.

5-2. The DEIS and FEIS disclose that Unit 14 has severe burn (Figure 2, Map Section) and moderate to high soil erodibility (Figure 15, FEIS Map Section, and Table SO-1). This FEIS discloses effects of helicopter harvest (Chapter 3, Soil, Environmental Consequences). Topographic maps and limited field reconnaissance indicates slopes over 65% (33°) are rare or absent. See also response to Letter #5, Comment 5-16 (5).

5-3. See response to Letter #5, Comment 5-1.

5-4. The District soils specialist examined Unit 20 and found the steepest slope to be 50% (27°), with no landslide prone areas. The DEIS and FEIS disclose that Unit 20 has severe burn (Figure 2, Map Section) and moderate to high soil erodibility (Figure 15, FEIS Map Section, and Table SO-1). This FEIS discloses effects of helicopter harvest (Chapter 3, Soil, Environmental Consequences).

RHCAs or ephemeral draw buffers are prescribed in the EIS to protect the stream network (in Chapter 2 under Management Requirements, Constraints, and Mitigation Measures); 300 feet (INFISH RHCA) on either side of the Silvies River is sufficient to trap any sediment leaving Unit 20 under most probable weather events. The valley bottom is low gradient and was unburned by the fire leaving grasses, sedges and rushes available to capture any sediment.

5-5. The District soils specialist examined Unit 22 and found the steepest slope to be 65% (33°), with no landslide prone areas. The DEIS and FEIS disclose that Unit 22 has severe burn (Figure 2, Map Section) and moderate to high soil erodibility, with some volcanic ash (Figure 15, FEIS Map Section, and Table SO-1). This FEIS discloses effects of skyline harvest (Chapter 3, Soil, Environmental Consequences).

The DEIS and FEIS recognize the risk of weed spread in Chapter 1, Other Analysis Issues and Chapter 3, Botany, Invasive Species. This FEIS discusses effects (Chapter 3, Botany, Invasive Species), and the mitigation measures that will occur if other occurrences are found (Chapter 2, Management Requirements, Constraints, and Mitigation Measures); it also discusses Forest

treatments and monitoring. A mitigation measure was added to Chapter 2 of this FEIS that treats noxious weeds areas to remove the seed source to reduce limit the spread of weeds.

During September 2003 Forest Service employees completed BAER (Burned Area Emergency Rehabilitation) monitoring for noxious weeds presence within the fire boundary. Forty-six locations were documented. This information has been included in this FEIS, and this updated information has been considered in the analysis.

5-6. The DEIS and FEIS disclose that Unit 52 has severe burn (Figure 2, Map Section) and moderate to high soil erodibility, with some volcanic ash (Figure 15, FEIS Map Section, and Table SO-1). This FEIS discloses effects of helicopter harvest (Chapter 3, Soil, Environmental Consequences). See also response to Letter #5, 5-5.

5-7. The DEIS and FEIS disclose that Unit 44 has low to high burn severity (Figure 2, Map Section) and moderate to high soil erodibility with some volcanic ash (Figure 15, FEIS Map Section, and Table SO-1). This FEIS discloses effects of skyline harvest (Chapter 3, Soil, Environmental Consequences). See also response to Letter #5, 5-1.

5-8. RHCAs and ephemeral draw buffers are prescribed in the EIS to protect the stream network. The drainage referred to in Unit 25 is most likely an ephemeral draw tributary to a stream (protected by an RHCA). Ephemeral buffers would be marked during timber sale marking, not during preliminary layout; this drainage may not have been visible during preliminary layout.

5-9. The DEIS and FEIS disclose that Unit 88 has severe burn (Figure 2, Map Section) and moderate to high soil erodibility (Figure 15, FEIS Map Section, and Table SO-1). This FEIS discloses effects of helicopter harvest (Chapter 3, Soil, Environmental Consequences).

5-10. The feature described in Unit 30 is considered a seep with a short segment of running water within it, which is not unusual on the Malheur. The RHCA prescribed is appropriate and adequate under the most likely (80%) of runoff events. See also response to Letter #5, 5-1.

5-11. Experience planting fire killed stands before salvage harvest has been very successful on the Reed and Summit Fires, resulting in well stocked stands with no need for replanting after logging. There are some losses of seedlings, especially in tractor skid roads or skyline corridors, but these are relatively narrow and overall the result is satisfactory. Prompt planting is desirable to get ahead of the regrowth of the ground vegetation, reducing the need for control of competing vegetation.

The DEIS and FEIS disclose that Unit 10 has moderate to high burn severity (Figure 2, Map Section) and moderate to high soil erodibility (Figure 15, FEIS Map Section, and Table SO-1). This FEIS discloses effects of helicopter harvest, and that effects on mass movement are negligible (Chapter 3, Soil, Environmental Consequences). The District soils specialist examined the steep slope in Unit 10 above Cold Creek, and found a maximum 62% (32°) slope, with no landslide-prone areas. See also response to Letter #5, Comment 5-16 (5).

Riparian meadows and seeps in Unit 10 were prescribed RHCAs consistent with INFISH and were marked during preliminary layout according to the marking crew.

5-12. The DEIS and FEIS disclose that Unit 12 has low to moderate burn severity (Figure 2, Map Section) and moderate to high soil erodibility (Figure 15, FEIS Map Section, and Table SO-1). This FEIS discloses effects of tractor harvest (Chapter 3, Soil, Environmental Consequences). Topographic maps and limited field reconnaissance indicates slopes over 45%

(24°) are rare or absent. The closest Unit 12 gets to the Silvies River is about 670 feet. See also responses to Letter #5, Comments 5-1 and 5-16 (5).

It is unlikely that activities would cause plants to disappear. Native plant seed and reproductive structures are stored in the ground and will increase over the next few years (DEIS and FEIS, Chapter 3, Botany, Upland Forest Understory Vegetation). Logging disturbance could kill above ground portions of some plants; however, these plants depend upon disturbance to create favorable growing conditions. By removing trees, conditions favorable for sprouting and seed production would still exist.

Exotic, non-persistent grasses would be used to seed disturbed ground in harvest areas if native grass seed is unavailable when seed is needed. Although these species are not native to the area, they are not invasive because they do not spread by underground parts and do not survive higher elevation climate for more than a few years. Mitigation measures require seeding disturbed areas with a non-persistent, grass seed mix (Mitigation Measures, Chapter 2) and monitoring a sample of the seeded areas to confirm their duration. Exotic species that are considered invasive (quick to spread) will not be used: these include species such as Kentucky bluegrass (*Poa pratensis*), common timothy (*Phleum pratense*), orchardgrass (*Dactylis gomerata*), and intermediate wheatgrass (*Thinopyrum intermedium*).

5-13. RHCAs were prescribed for the spring and associated meadow in the lower part of the drainage. The upper portion was buffered as an ephemeral draw by the marking crew. This work may not have been complete at the time the commenter visited the unit.

5-14. The DEIS and FEIS disclose the effects of helicopter harvest, and that effects on mass movement are negligible (Chapter 3, Soil, Environmental Consequences). The District soils specialist examined Unit 24 and found no conclusive evidence of a landslide (such as downed logs in the drainage below or other clear sign of a landslide). Although there is a small 70° (35°) slope, no landslide-prone areas were found. In terms of live trees, see response to Letter #5, 5-1.

5-15. See response to Letter #5, Comment 5-1.

5-16. (1) The commenter has provided information on wildlife sightings that his organization made during field reviews of the fire area (see Letter #5, Comments 5-1 through 5-30). Many of the commenter's documented observations match observations being made by the District wildlife biologist and other Forest Service personnel working in the fire area. The wildlife observations made by Blue Mountains Biodiversity Project have been added to the Project Record. In particular, the District wildlife biologist and other Forest Service personnel have observed the elevated woodpecker use. The increased use is certainly the result of the increased snag habitat created by the fire.

(2) See response to Letter #5, Comments 5-2, 5-4, and 5-11.

(3) See response to Letter #5, Comments 5-2 and 5-5.

(4) See response to Letter #5, Comment 5-12.

(5) The INFISH definition of intermittent streams was used. Commonly ephemeral draws in this area show signs of scour (but not annual scour) due to past degradation. Since the desired condition is to have unchanneled ephemeral draw, these areas were treated as such and rehabilitative activities proposed in Activities Outside this EIS. Ephemeral draw buffers were prescribed under MA3A of the Forest Plan, not INFISH which does not cover ephemeral draws. Prescribed buffers are sufficient to sediment originating in the most probable events which occur about 80% of the time. Effects displayed in the Water Quality – Sediment section of this

FEIS. Ephemeral draw buffers are usually marked on the ground during the timber mark, not during preliminary layout and were prescribed based on RHCA condition, adjacent slopes, and proposed logging systems.

The DEIS discloses soil erosion, DEIS 182-185. This FEIS has been expanded and now discloses erosion more quantitatively, using the Water Erosion Prediction Project (WEPP) model. Most of the logging on steep slopes, and on soils with erodibility ratings moderate to high, is by skyline or helicopter, which would produce a negligible amount of erosion. Tractors would operate only on short pitches of slopes steeper than 35%, where there are inclusions of steeper slopes in areas with slopes generally less than 35%. For landslides, see responses to Letter #5, Comments 5-11 and 5-14.

(6) Reforestation is to be with species that are adapted to each of the biophysical environments. Ponderosa pine on Hot Dry sites, a mix of ponderosa pine, Douglas-fir, and western larch on Warm Dry sites, and a mix of ponderosa pine, western larch, and western white pine on Cool Dry sites. The species mix is designed to replicate the historical forests composed of early seral species that existed before the forests were converted to more late seral species by fire exclusion and high-grade logging. Documented on page 83 of the DEIS.

(7) The Flagtail Fire burned during very dry conditions with high temperatures. Stands that appeared to have underburned with low mortality, in fact have variable mortality due to long residual burning times at the root collar. Some areas burned hot enough to kill the cambium, girdling the tree although the crowns were not scorched. A portion of the “underburned” stands are planned for salvage, but others are not to be salvaged as tree survival is expected to be better in those areas. For information on how the decision is being made to retain trees, refer to response to Letter #10, Comment 10-93.

(8) Fuel loadings are low throughout much of the area and these are disclosed on page 100 of the DEIS.

(9) See response to Letter #10, Comment 10-93 and Letter #11, Comment 11-11.

5-17. The Flagtail roadside hazard tree removal CE was not part of the Flagtail Fire Recovery project. Felling and removal of hazard trees was considered a past action (see Appendix J) and is part of the Roads/Access existing condition, as well as other resources cumulative effects, Chapter 3. The Blue Mountain Ranger District has fully complied with the orders of the Court.

5-18. A. The area also has shallow, unproductive soils that may contribute to its name.

B. The Oregon Department of Fish and Wildlife confirm that big game species populations have increased since the 1930's.

C. The mixed conifer forests that were in the Flagtail Fire area were not all present historically, the area has been subjected to over 60 years of logging (some of which was high-graded) and fire exclusion for a longer time. This converted many of the open ponderosa pine forests to mixed species.

D. The “Bear Valley” timber sale to Hines Lumber Co. started in the 30s, so it is likely that logging in the Flagtail area began in or near 1939.

E. The fire was ignited by lightning and initial attacked that day. The crews were pulled off the line that night for safety reasons to meet work/rest guidelines. Crews were out early the next day and did get a line around the fire. In the afternoon the winds picked up significantly resulting in spotting across the line and the fire made a major run. The full context of the communications between the Incident Commander and the Malheur National Forest can be found in the Flagtail Individual Wildland Fire Report with attached dispatch records available in the Supervisor's Office.

F. The severity was due in part to the past logging practices as well as fire exclusion which had resulted in over-stocked stands and fire intolerant species as described in this FEIS Chapter 3, Pre-Fire Stand Conditions.

G. Of the approximately 8,000 acres within the fire perimeter, no more than 500 acres were due to burn out activity (Rob Batten, Russ Reimers, Pers. Com.).

5-19. The Flagtail EIS complies with The National Environmental Policy Act, The National Forest Management Act, The Multiple-Use Sustained-Yield Act, and numerous other laws and regulations as listed in Chapter 1, and disclosed in Chapter 3. The marking crew is following a vegetation treatment prescription written by a certified silviculturist (see Appendix B); the crew's marking is being monitored for compliance.

5-20. The purposes and needs were developed from the differences between current conditions and desired conditions and approved by the Deciding Official.

5-21. Restoration is a component of all the action alternatives and includes activities such as reforestation, and road decommissioning. Additionally, Alternative 4 was developed to reduce fuel loadings and provide local employment without commercial harvest.

5-22. The EIS discloses that the direct, indirect and cumulative effects of action alternatives on forests, fish and wildlife (Chapter 3). The project is consistent with all federal laws; these disclosures are found in the resource sections of Chapter 3.

5-23. Alternative 4 was developed to accomplish some restoration activities without commercial harvest. Many other restoration activities occur under associated CE's listed in Chapter 1, Background, and Actions Outside of this EIS to Address Recovery Needs, and reiterated in Appendix J.

5-24. Only Snow Creek in the Flagtail project area is included on the Oregon State 303(d) list; Scotty Creek in the Upper Silvies Watershed, outside the Flagtail project area, is also listed. Snow Creek and Scotty Creek are listed for summer temperature only. Scotty Creek is not influenced by conditions in the Flagtail project area as its confluence with the Silvies is located downstream of Jack Creek whose confluence with the Silvies is the lowest among the streams draining the Flagtail project area. No streams in the Upper Silvies Watershed are on the State 303(d) List for sediment.

5-25. The DEIS disclosed direct and indirect effects of alternatives 1-4 on redband trout and Malheur mottled sculpin, both listed as Sensitive species in Region 6 (Chapter 3, Fisheries, Environmental Consequences). Cumulative effects include past, present and foreseeable activities in and around the project area and the results on fish and fish habitat. This FEIS discloses direct, indirect and cumulative effects of Alternative 5 and expands discussions of other alternatives. The Biological Evaluation (Appendix G) lists effects determinations on redband trout and Malheur mottled sculpin for Alternatives 1-4; this FEIS BE incorporates the effects determination for Alternative 5.

5-26. See response to Letter #5, Comment 5-22 and 5-25. See also response to Letter #5, Comment 5-27.

5-27. The effects of the proposed activities are disclosed in Chapter 3 of the DEIS (Chapter 3, Fisheries, Environmental Consequences) and have been expanded in this FEIS. A reasonable range of alternatives, including alternatives considered but not developed in detail (Chapter 2, DEIS and FEIS), was developed to meet purpose and need statements in the Flagtail Project area as required by NEPA. Alternatives differ in the degree to which they move the landscape

toward Desired Conditions for different resources such as fish, wildlife, fuels, and access. Much of the restoration work is occurring or has occurred through Categorical Exclusions (see Chapter 1 Background, Additional Fire Recovery Projects Ongoing or Completed, and Actions Outside of this EIS to Address Recovery Needs, also Appendix J). Effects of these activities are disclosed in the Cumulative Effects section of Chapter 3.

5-28. Alternatives 2, 3, 4, and 5 close or decommission roads in the project area, although miles vary (FEIS, Comparison of Alternatives).

5-29. The use of roads as haul routes affects multiple resources. The effects of road use were disclosed in the DEIS and were expanded in the watershed, fisheries, and wildlife portions of this FEIS (Chapter 3). Management Requirements, Constraints, and Mitigation Measures in Chapter 2 will limit the impact on these and other resources.

5-30. Road density calculations for this analysis were based on classified roads, including roads proposed for decommissioning or closure and currently closed roads – either gated or bermed. Road density does not include unclassified roads or wheel tracks, or skid roads or trails. These features and their effects on resources are included in the relevant existing condition sections as supplemental descriptions to the classified road densities.

5-31. Existing road densities are displayed in Table WS-10 in the Watershed section of the DEIS and FEIS by subwatershed. All new and reconstructed roads are proposed to reduce adverse impacts on aquatic resources; effects are disclosed in Watershed and Fisheries sections in Chapter 3 of the EIS. Temporary roads are needed to implement harvest activities and to avoid the construction of permanent roads that would require ongoing maintenance and be permanently located on the landscape. Effects of temporary roads are disclosed in the Environmental Consequences section of this FEIS. In combination with road decommissioning and closures, new, reconstructed, and temporary roads will not increase post-project road density

5-32. Temporary roads, which would be obliterated after use, would not impact fisheries because sediment would not reach streams, due to low gradient landscape and distance from streams. The permanent construction of 0.3 miles located outside of RHCA on Snow Creek would replace over 1 mile of road currently inside the RHCA (within 100 feet), including a stream crossing. These effects are disclosed in the Fisheries section in Chapter 3 of the EIS.

Temporary road construction is proposed under Alternatives 2, 3, and 5. Temporary roads are not included in road density calculations because they are not part of the permanent road system. The effects of temporary roads are analyzed separately from the permanent road system. Because they are decommissioned by the end of the timber sale, the full effects of the temporary road last for generally less than three years. The effects of the decommissioned temporary road last for up to 50 years. The total adverse effects of temporary roads are substantially less than the total beneficial effects of decommissioning of about 13.1 miles of permanent road under Alternatives 2, 3, and 5. Additionally, temporary roads are located mid-slope or higher where effects on streams are unlikely and about 4.3 miles the proposed decommissioning are located within 100 ft. of streams. Effects on fragmentation of the ecosystem have been disclosed in the Watershed Consequences section of this FEIS; See also response to Letter #10, Comment 10-21. The benefits of new construction and corresponding decommissioning are discussed

The Flagtail IDT has examined the areas identified by ONRC as unroaded and has determined that these areas do not have the characteristics associated with roadless areas. A further discussion of these areas can be found in this FEIS in Chapter 3 under Other Disclosures, Unroaded, and in the Flagtail Project Record.

5-33. Reconstruction, new road building, and temporary roads proposed for Alternatives 2 and 3, as well as 5, are consistent with the Clean Water Act because 1) the proposed reconstruction would relocate about a mile of road away from Snow Creek and eliminate a source of sediment while maintaining access; 2) temporary roads are not expected to have an effects on water quality due to their location away from streams; 3) road reconstruction will improve a road segment which is currently a sediment source; and 4) there would be no measurable effects on summer temperature, the parameter for which Snow Creek is included on the 303(d) List.

5-34. The effects of the proposed activities are discussed in Chapter 3 of the DEIS and have been expanded in this FEIS. A reasonable range of alternatives, including alternatives considered but not developed in detail (Chapter 2, DEIS and FEIS), was developed to meet purpose and need statements in the Flagtail Project area as required by NEPA. Alternatives differ in the degree to which they move the landscape toward Desired Conditions for different resources such as fish, wildlife, fuels, and access. See also response to Letter #5, Comment 5-32.

5-35. The IDT looked at the recommendations suggested in the Beschta report and, between Draft and Final EIS, considered an alternative that would meet these recommendations. The results showed that after units were eliminated due to burn severity and steepness, and leave tree and logging systems were modified, that the remaining portion of the fire area available for harvest would not support a commercial sale and would be similar to Alternative 4 (see Chapter 2, Alternatives Considered but Eliminated from Detailed Study).

5-36. Information regarding preparers of this document has been added to Chapter 4 of this FEIS.

5-37. At this time, there are no plans to write a new EIS.

5-38. Each resource specialist reviewed all available literature and applied relevant science to the alternatives.

5-39. See Response to Letter#5, Comment 5-38

5-40. See Response to Letter#5, Comment 5-37

5-41. The DEIS considered and discussed the Beschta Report in Chapter 3, Other Disclosures. This discussion was modified in this FEIS (Chapter 3, Other Disclosures). An alternative was considered between DEIS and FEIS which included the recommendations of the Beschta report but eliminated from detailed study; it has been added to Chapter 2 (Alternatives Considered but Eliminated from Detailed Study). See also Response to Letter #5, Comment 5-35.

5-42. Direct, indirect and cumulative effects (including short term and long term) of all alternatives on vegetation, fish and wildlife habitat and populations were disclosed in the DEIS, Chapter 3, and have been expanded in this FEIS (Chapter 3, and Appendices D, G, and I).

5-43. The economic analysis for the Flagtail Fire Recovery Project EIS was conducted using Forest Service Handbook 2409.18 which provides direction to analyze financial efficiency and, if needed, economic efficiency to identify the most efficient alternative that achieves the desired

objectives of the project. The economic analysis for this project is based on the standard analysis method, using TEA-ECON. See also responses to Letter #5, Comments 5-94 and 5-96.

5-44. Chapter 3 of this FEIS discloses existing conditions including discussions of historical and pre-fire conditions as well as post-fire conditions. Cumulative effects sections in Chapter 3 also incorporate effects of past actions. Several specialists on the IDT have read Nancy Langstrom's book and use it as a general information source. General information sources are not cited in the Bibliography (Chapter 5) because no specific reference has been made to these sources.

5-45. See response to Letter #5, Comment 5-94.

5-46. A fuller explanation of legal requirements has been added to this FEIS, Chapter 3, Soil, Regulatory Framework. The DEIS and FEIS disclose substantive and often quantitative evidence showing soil conditions would be maintained within standards, and thus that the alternatives will not cause serious and irreversible harm to soils or land productivity (Chapter 3, Soil, Environmental Consequences).

With no specific scientific literature citation, the IDT cannot know what the studies say, or their applicability to the Flagtail area. Resource specialists prepared prescriptions based on the science most applicable to the Flagtail Fire Area. Many of these scientific reports are referenced in Chapter 5 of the EIS. Many other reports are reviewed before determining which are most applicable to the area of analysis.

The DEIS (and FEIS) discloses "Decreased productivity due to severe displacement and erosion can last hundreds of years." The DEIS and FEIS disclose effects on soil in Chapter 3, Soil, Environmental Consequences.

This FEIS discloses no scientific data on soil foodweb impacts are applicable to the alternatives. See response to Letter #11, Comment 11-46.

The DEIS and FEIS disclose soil conditions, including the potential for erosion, and the cumulative impacts from past activities (Chapter 3, Soil, Existing Conditions). Compactability is discussed in this FEIS. See also response to Letter #10, Comment 10-48.

5-47. The objective of the Flagtail Recovery Project is to leave the trees expected to live. The Forest Service recognizes that determining if a tree will live or not is subject to error, thus wording has been changed in the FEIS to recognize this fact. To reduce the chances of mistakenly harvesting trees that may live, Scott, Schmitt, and Spiegel (USFS Blue Mountain Zone entomologists and pathologists) reviewed the most recent and applicable research and developed a post-fire mortality rating guide for the Blue and Wallowa Mtns. (Scott, et al, 2002). This was shown in Appendix B of the DEIS and it has been revised based on additional fieldwork in 2003. This rating guide was used as a basis for developing the Flagtail Fire Marking Guide now shown in Appendix B of this FEIS. The marking guide describes how the rating guide is to be used by the marking crew and adds criteria for chopping into the cambium at the base of the "borderline" trees to reach a final determination if the tree is likely to live or not. See response the Letter #10, Comment 10-93 for more information on the application of the rating guide for tree marking.

5-48. Alternatives would meet or exceed Forest Plan standards, i.e., 2.39 snags per acre, 21" DBH or greater, where available, providing for 100% of potential population levels of primary cavity excavators (see FEIS, Chapter 3, Terrestrial Wildlife, Primary Cavity Excavator Species).

The DEIS and FEIS consider multiple sources of information on dead wood habitats, including DecAID (Mellen 2003). The DEIS and FEIS, Chapter 3, Terrestrial Wildlife, Primary Cavity Excavator Species section, and the Chapter 5 Bibliography cite additional dead wood research considered.

The DEIS developed a broad range of alternatives and snag retention levels (See DEIS Chapter 2, Alternatives Considered in Detail). Alternative 5 has been added to this FEIS to consider an additional snag strategy. This FEIS updates the effects discussion on dead wood habitats and associated wildlife species (see FEIS, Chapter 3, Terrestrial Wildlife, Primary Cavity Excavators).

5-49. Alternatives meet the wildlife standards in Regional Forester's Amendment #2 (see DEIS and FEIS, Chapter 3, Forest Vegetation, Consistency with Direction and Regulations). The FEIS, Chapter 3, Terrestrial Wildlife Section has updated the section on Consistency with Direction and Regulations for snag habitats.

5-50. See response to Letter #5, Comment 5-35.

5-51. The DEIS and FEIS include information and analysis that fulfill legal requirements under NEPA.

5-52. The DEIS and FEIS, Chapter 3, Terrestrial Wildlife, Analysis Methods and Landbirds sections, identify the threatened, endangered, and sensitive species (TES), management indicator species (MIS), featured wildlife species, and a variety of landbird species known or suspected to be within the fire area. Species presence/absence determinations were based on habitat presence, wildlife surveys, recorded wildlife sightings, observations made during fire reconnaissance, non-Forest Service databases, and status/trend and source habitat trend documented for the Interior Columbia Basin (see DEIS and FEIS, Chapter 3, Terrestrial Wildlife, Analysis Methods). Formal wildlife surveys were not conducted for most species; rather, habitat and observational data served as the primary source for determining species presence. The Chapter 3, Terrestrial Wildlife section, and Appendix D Wildlife Biological Evaluation describe the existing habitat conditions for known and suspected species. Wildlife discussions address habitat both within and adjacent to the fire area. This FEIS discloses where and when formal surveys have been conducted. In this FEIS, Chapter 3, Terrestrial Wildlife section, the Management Indicator Species discussions have been updated with population status/trend and source habitat trend information.

The fisheries existing condition section of the Flagtail DEIS and FEIS (Chapter 3) describe the results of Hanken and Reeves Level 2 stream surveys. These surveys delineate fish habitat and include biological data, describing fish species and populations present. Additional monitoring was completed between DEIS and FEIS publication. Stream habitat parameters such as pool:riffle ratios do not appear to have been modified by the fire. There was no evidence of ash/sediment concentrations in stream channels.

5-53. Surveys for plants on the Region 6, Regional Foresters' Sensitive Plant Species List were completed before the fire as disclosed in the DEIS and FEIS, Chapter 3, Botany, Sensitive Plant Species – Existing Conditions. These were populations located during previous NEPA analyses. Surveys for additional species or new locations were completed during July and August of 2003 and a Biological Evaluation for the Flagtail Fire area was completed and signed on August 21, 2003; it is included in the FEIS in Appendix I.

About soil moisture, see response to Letter #5, Comment 5-84. For fish, see response to Letter #5, Comment 5-52. For wildlife, see response to Letter #5, Comment 5-52.

5-54. The EIS is consistent with the 1973 Endangered Species Act (DEIS and FEIS, Chapter 3, Terrestrial Wildlife, and the Wildlife Biological Evaluation in Appendix D). See also response to Letter #5, Comment 5-52.

5-55. See response to Letter #5, Comment 5-52.

5-56. This FEIS updates the cumulative effects discussions for terrestrial wildlife species (see FEIS, Chapter 3, Terrestrial Wildlife, and the Wildlife Biological Evaluation in Appendix D) and refers to the cumulative effects appendix (Appendix J).

5-57. The DEIS and FEIS disclose effects to wildlife species (DEIS and FEIS, Chapter 3, Terrestrial Wildlife, and the Wildlife Biological Evaluation in Appendix D).

5-58. Most of the wildlife species listed have been addressed in the DEIS and FEIS, either in Chapter 3, Terrestrial Wildlife, and/or in the Wildlife Biological Evaluation in Appendix D. Several avian species listed were not specifically assessed in the DEIS. The Landbird section in Chapter 3, Terrestrial Wildlife, discusses avian species not addressed in the Forest Plan. These species are discussed in terms of priority habitats and associated focal species. Focal species are used much like management indicator species. Habitat requirements are presumed to represent those of a larger group of wildlife species, and act as a barometer for the health of various habitats. In this FEIS, effects to these “missed” species have been assessed in the context of priority habitats.

5-59. The DEIS and FEIS disclose effects to wildlife species (DEIS and FEIS, Chapter 3, Terrestrial Wildlife, and the Wildlife Biological Evaluation in Appendix D).

5-60. MNF LRMP evaluates fish habitat quality based on habitat requirements of Sensitive and Management Indicator Species (MIS). Redband trout and Malheur mottled sculpin are found in the Flagtail project area; both are listed in the *Region 6 Sensitive Species List*. See response to Letter # 5, Comment 5-52 for survey information. Direct, indirect and cumulative effects of all alternatives are disclosed in the DEIS and FEIS that support the summary findings for Sensitive species listed in Chapter 3, Fisheries. The Biological Evaluation for Threatened, Endangered and Sensitive Fish Species (Flagtail DEIS and FEIS Appendix G) discloses effects as they relate to each standard and guideline for MA 3A and makes “Effects Determinations” for redband trout and Malheur mottled sculpin. Conditions are unknown on private land downstream and the Forest Service has no ability to manage these areas.

For wildlife, see responses to Letter #5, Comments 5-52 and 5-57.

5-61. The MNF LRMP evaluates fish habitat quality based on habitat requirements of Sensitive and Management Indicator Species (MIS). Redband are the MIS species in the project area on the Malheur National Forest. See response to Letter #5, Comment 5-52 for survey information. Direct, indirect and cumulative effects of all alternatives are disclosed for MIS fish species and habitat in the DEIS and FEIS (Chapter 3, Fisheries, Environmental Consequences). Conditions are unknown on private land downstream and the Forest Service has no ability to manage these areas.

For wildlife, see response to Letter #5, Comment 5-52.

5-62. The reference in the DEIS to meeting 100% of potential population levels for primary cavity excavators discloses how well snag levels meets Forest Plan standards (DEIS and FEIS,

Chapter 3, Terrestrial Wildlife, Primary Cavity Excavator Species). Alternatives would meet or exceed Forest Plan standards, i.e., 2.39 snags per acre, 21" DBH or greater, where available. The DEIS also states that data in DecAID suggests that snag and down logs levels for some primary cavity excavator species may need to be greater than those required by the standards (DEIS and FEIS, Chapter 3, Terrestrial Wildlife, Primary Cavity Excavator Species). Discussions of potential population levels focuses on snag and down log needs; however, dead wood habitats are not the only habitat component that effects use by primary cavity excavators. For example, pileated woodpeckers prefer stands with high canopy cover for nesting. The FEIS, Chapter 3, Terrestrial Wildlife, Primary Cavity Excavators, has been updated to discuss the effects of all alternatives on dead wood habitats and associated species. Also, see Letter #11, Response 11-1.

Species presence/absence determinations were based on habitat presence, wildlife surveys, recorded wildlife sightings, observations made during fire reconnaissance, non-Forest Service databases, and status/trend and source habitat trend data documented for the Interior Columbia Basin (see FEIS Chapter 3, Terrestrial Wildlife, Analysis Methods). Formal surveys were not conducted for most species; rather, habitat and observational data served as the primary source for determining species presence. Also see Letter #5, Comment 5-52.

5-63. The DEIS developed a broad range of alternatives and snag retention levels (DEIS and FEIS, Chapter 2, Alternatives Considered in Detail). Alternative 5 has been added to this FEIS to consider an additional snag strategy. This FEIS updates the effects discussion on dead wood habitats and associated wildlife species (see FEIS, Chapter 3, Primary Cavity Excavators).

5-64. The DEIS and FEIS disclose effects to the Canada lynx. See DEIS and FEIS, Chapter 3, Terrestrial Wildlife, Threatened or Endangered Species – Canada Lynx, and Appendix D, Wildlife Biological Evaluation.

5-65. The DEIS and FEIS disclose effects to the California wolverine. See DEIS and FEIS, Chapter 3, Terrestrial Wildlife, Threatened or Endangered Species – California wolverine, and Appendix D, Wildlife Biological Evaluation. The status of the wolverine in Oregon State is threatened; this status is disclosed in the Biological Evaluation. ODFW was consulted during preparation of the EIS, and ODFW received a copy of the DEIS for comment. ODFW provided no comments on this species.

5-66. The DEIS and FEIS disclose effects to northern goshawks in Chapter 3, Terrestrial Wildlife, Northern Goshawk. In 2003, goshawk surveys were conducted in suitable nesting habitat located in and adjacent to the Flagtail project area. No nesting goshawks were identified. Forest Service personnel have observed goshawks foraging in the post-fire environment. This FEIS has been updated with this survey information. The Flagtail area will continue to be monitored annually for goshawks. This FEIS has updated estimates of pre-fire potential nesting habitat.

5-67. See Response Letter #5, Comment 5-66.

5-68. See Response Letter #5, Comment 5-47.

5-69. Harvest does raise the risk of blowdown of residual snags. Alternatives leave a varying mix of snag densities. Snags will be distributed in larger, non-harvested blocks, small patches or dispersed. Even Alternative 2, the most aggressive salvage alternative, leaves a percentage of the landscape untreated. Blowdown risk is reduced when snags are left in untreated patches. In the light severity burn areas, snags are intermingled with live trees, reducing the risk of

blowdown as well. Estimated snag fall down rates in the FEIS have considered losses expected from blowdown (see Chapter 3, Terrestrial Wildlife, Primary Cavity Excavators). The FEIS discloses effects to goshawk foraging habitat; see Response Letter #5, Comment 5-66.

5-70. Nesting habitat, not foraging habitat, is considered the constraining habitat component in the Flagtail area. The DEIS and FEIS disclose effects to foraging habitat. See Response Letter #5, Comment 5-66.

5-71. Direction in Regional Forester's Eastside Forest Plans Amendment #2 directs Forest Service managers to return forest stands to a condition that is more like historical conditions, as the historical conditions are more resilient to periodic disturbances and are more likely to provide appropriate habitat for species that had adapted to those conditions. The Flagtail project area contains approximately 3% Hot Dry and 80% Warm Dry Plant Association Groups. The Hot Dry areas were generally composed of large ponderosa pine trees with open understories. The Warm Dry areas were similar, with Douglas-fir, western larch, and grand fir also present in minor numbers. Historically, dense, multi-storied stands were more of a rarity, because of the frequent low-intensity fires that occurred in these biophysical environments. In the FEIS, Chapter 3, Forest Vegetation, Structural Stages, Table FV-4 estimates that 5% to 20% of the Dry Plant Association Types classified as old forest multiple strata. Species to be planted varies by the biophysical environment (see DEIS and FEIS, Chapter 3, Forest Vegetation, Reforestation of Burned Forestland) and the silvicultural prescription also varies the planting spacing by biophysical environment in order to more closely mimic historical conditions.

Goshawks prefer closed canopy forests for both nesting and foraging. Implementing direction in Regional Forester's Eastside Forest Plans Amendment #2 would likely shift forested landscapes away from multiple strata stands to more open park-like stands, possibly to the detriment of goshawks. Historical conditions, as described previously, could still support multi-stratum conditions on 5% to 20% of the area for nesting. Northern slopes and riparian areas would likely support the most favorable conditions for nesting goshawks because they tend to support higher tree densities and canopy levels. The more open ponderosa pine stands could still provide quality foraging habitat, as preferred prey habitat is comprised of forests of large trees with open understories and landscapes with a variety of structural stage classes (Reynolds et al. 1992 and Marshall 1992). Actions proposed under Flagtail do not preclude future management options for goshawks.

5-72. See response to Letter #5, Comment 5-71.

5-73. See Letter #5, Response 5-58.

5-74. See Letter #5, Response 5-58.

5-75. See Letter #5, Response 5-58.

5-76. The DEIS and FEIS disclose soil conditions, including the potential for erosion, and the cumulative impacts from past activities (Chapter 3, Soil, Existing Condition). Compactability is discussed in this FEIS. See also response to Letter #10, Comment 10-47.

5-77. The DEIS and FEIS disclose the cumulative impact on soil of re-introducing cattle grazing, Chapter 3, Soil, Cumulative Effects.

5-78. Existing conditions are described and 303(d) status was disclosed for subwatersheds and streams within the planning area. The Purpose and Need in Chapter 1 of the DEIS and FEIS includes limited watershed restoration (decommissioning roads) which is a step toward full

watershed restoration. The Purpose and Need did not include full watershed restoration. Other ongoing and foreseeable projects, outside of this EIS, improve watershed health and fish habitat. One alternative considered but dropped (Chapter 2) included these projects, but was dropped from further consideration because they are being addressed through ongoing projects or future analysis as discussed in Chapter 1, Background and Actions Outside of this EIS to Address Recovery Needs. The State of Oregon is responsible for preparing Total Maximum Daily Loads (TMDL) for impaired waters; the TMDL completion for the Silvies River is scheduled for 2007.

5-79. The DEIS and FEIS discloses effects on soil (Chapter 3, Soil, Environmental Consequences).

5-80. An appendix has been added to this FEIS (Appendix J) that displays past, ongoing, and reasonably foreseeable projects that, when combined with activities proposed in this project, could have cumulative effects on resources. Resource specialists used this list to assure that all activities were considered and analyzed for cumulative effects. Cumulative effects of activities on resources are described by alternative in Chapter 3 of the DEIS, and have been expanded in this FEIS. These include effects from activities on public and private land.

5-81. Fire suppression activities were disclosed in Chapter 1 of the DEIS under Background, and have been expanded in this FEIS. These activities were also added to Appendix J (Cumulative Effects), and were considered by each resource in their analysis of cumulative effects.

5-82. The Fuel Loading and Fire Behavior section of the DEIS and FEIS, Chapter 3, Fire and Fuels section, disclose potential fire intensity and severity for the next 10 years within the Flagtail Fire.

5-83. As your surveys indicated, there is a lack of fine fuels throughout much of fire area. Controlled spot re-burns three to six years after a fire would reduce fine fuels only within those spot areas. Planted trees at this time would not have developed sufficiently thick bark to resist low intensity burning. This would not reduce the larger fuel component that contributes to future fire severity. In addition, resistance-to-control is also influenced by the large woody fuel which affects suppression capabilities. See also response to Letter #11, 11-32, under nutrient cycling and soil fertility.

5-84. The Amaranthus, Parrish & Perry (1989) study did not demonstrate that water retained in decaying dead or buried logs enters the hydrologic system. In fact, late summer conditions are such that if water retained by decaying logs entered the soil, it would likely be used locally in photosynthesis or evaporate from the soil (depending on depth) before reaching the stream system since water is the limiting growth factor in these soils. The fact that water was in the decaying logs in October, indicates the water was not in a "reservoir" for plant growth or stream flow. That is, if the water had not been released from the "reservoir" by October, it was not going to be released before the rains began. In addition, this study was conducted in a moister area than Flagtail fire, and similar results probably would not be obtained in the Flagtail fire area.

5-85. The method used to determine potential fuel loadings is science based, has been used for many years, and is documented by Brown (1980). The fuels concern addressed in the DEIS was both the influence of fine fuels and coarse woody debris on future fire intensity and severity. See the fire and fuels discussion in Chapter 3 of this FEIS. See also response to Letter #5

Comment 5-84, and Letter #10, Comment 10-6 for additional information on moisture retention in large woody material.

5-86. This project does not seek to control insect populations by salvage logging, see response to Letter #4, Comment 4-14. The DEIS and FEIS disclose effects to woodpecker species in Chapter 3, Terrestrial Wildlife, Primary Cavity Excavators. The DEIS and FEIS disclose effects to neotropical migratory species in Chapter 3, Terrestrial Wildlife, Landbirds. See also response to Letter #11, 11-97 and Letter #4, 4-14.

5-87. See response to Letter #5, 5-88.

5-88. The analysis process for comparing alternatives was conducted as directed in Forest Service Handbook 2409.18. The handbook requires the use of the Transaction Evidence Appraisal (TEAECON) that adequately accounts for direct quantifiable costs and revenues associated with the project on the Malheur National Forest. Documentation of the appraisal is located on spreadsheets in the analysis file. The economic efficiency analysis in the DEIS and FEIS (Chapter 3, Economics/Social, Economic Efficiency) is based on dollar-quantified benefits and costs that were measurable and quantifiable at the project level including costs to administer the sale and other activities by alternative. Potential economic values of existing uses and functions of the area including hunting, fishing, and recreation use and potential external costs such as damage to soils from harvest operations in tractor units were acknowledged and addressed qualitatively in the analysis. These ecosystem services were not dollar quantified due to lack of well-defined production relationships between ecosystem functions and services needed at the project level to assess a relative change in economic value. Economic efficiency was not the sole criterion for comparison between alternatives.

The qualitative and quantitative economic effects of the alternatives were assessed in conjunction with the environmental effects to ecosystem values addressed in the effects to ecological resources such as vegetation, terrestrial, soils and for social aspects such as scenery and recreation (FEIS, Chapter 3).

5-89. The DEIS analysis of present net costs (DEIS pg. 298) include the direct costs to the Forest Service for preparing and administering the timber sales, and implementing other restoration activities including reforestation, decommissioning, and rehabilitating skid trails. Planning costs associated with the project such as administrative overhead, publication costs, and survey costs that were included in the DEIS appraisal were not included in the final appraisal for this FEIS. These are treated as “sunk costs” which have already been incurred regardless of the alternative and are not included.

Restoration and mitigation costs are included in the analysis by alternative as displayed in the DEIS and FEIS, Table EC-2 in Chapter 3, Economics/Social. These costs include reforestation, road closure/obliteration, and skid trail restoration.

5-90. The DEIS and FEIS, Chapter 3, Economics/Social, Employment section, acknowledges that local government, retail trade, and services employ the most people in Grant and Harney Counties, and discusses the contribution of recreation-based industries.

5-91. With the inclusion of restoration costs which include road decommissioning, fuel reduction, and reforestation expenses not associated with harvest proposals, Present Net Values (PNVs) are negative in all action alternatives. However, all timber harvest proposals show a positive income on their own. In recent timber sales (2004) sold on the Malheur National Forest, advertised bid rates were bid up by 61-334%, showing a strong demand for timber

products. The DEIS and FEIS analysis of the economic viability of timber harvest demonstrates in Alternatives 2 and 3, as well as Alternative 5 in this FEIS, that harvested timber would produce positive bid rates (\$/ccf) indicating that the project would provide a viable harvest proposal for potential purchasers (Chapter 3, Economics/Social). The viability analysis is based on tentative advertised bid rates that reflect the most current volume, price, and cost estimates for the area. This estimate was based on estimates of volume, species, amount of sawtimber material, logging systems costs, haul costs, road maintenance costs, contractual costs, erosion control and other developmental costs, temporary road costs, and specified road reconstruction costs, and the value of timber proposed for removal. The preliminary value of the timber was based on the prices for the same species and material of all sales actually sold within Appraisal Zone 3 (primarily Blue Mountain forests) within the last 12 months. The DEIS and FEIS acknowledge (Chapter 3, Economics/Social, Viability of Timber Harvest) that changes in price would likely occur in the future depending on actual market conditions at the time of appraisal.

5-92. The DEIS and FEIS acknowledge that the overall employment and income effects to communities would depend on the location of the timber purchaser awarded the sale, the availability of equipment, skills, and the location and availability of related wood processing facilities and infrastructure (Chapter 3, Economics/Social, Employment). The mills in the John Day/Prairie City area utilize larger diameter wood (greater than 12 inches diameter at breast height) which would be available in various amounts from the action alternatives. The financial viability of timber sale proposals would influence whether potential purchasers closest to the project area could be competitive with other purchasers, to acquire the majority of the wood supply. Other factors such as market conditions, quality and quantity of the volume offered for sale, timing of the offerings, and financial conditions of local firms will also affect whether the timber will be milled within the County. As the EIS points out, the effect would depend on where the purchaser is located, what mill receives the logs and the actual price at the time of harvesting (Chapter 3, Economics/Social, Employment). The action alternatives would have the potential to benefit local communities in terms of supporting wood products manufacturing component of the economic base depending on these factors.

5-93. The concern around the decision to prepare two NEPA documents and associated costs with appeals and litigation is outside the scope of the analysis

5-94. The economic analysis acknowledges the importance of the economic value of ecosystem services or environmental amenities in the overall effects analysis. The costs or benefits of ecosystem services are not well defined at the project level in terms that provide comparison of commensurate dollar-quantified values (Chapter 3, Economics/Social, Economic Efficiency). Contingent valuation methods for determining economic values of ecosystem services consist of extensive primary data collection that is expensive and generally undertaken for broad-scale, landscape decisions such as for basin-wide planning efforts. The economic analysis provides one aspect of the overall comparison of the direct, indirect and cumulative effects of the (Chapter 3, Economics/Social, Economic Efficiency).

Other natural resource benefits or environmental amenities are considered in the DEIS and FEIS (Chapter 3, Economics/Social, Economic Efficiency) such as changes to the diversity, quality and quantity of wildlife habitat for both game and non-game terrestrial species. The economic value of big-game hunting would depend on changes in population levels, spatial distribution of game animals, or the quality or intensity of the hunting experience that could change the corresponding economic impacts from hunting-related expenditures.

Other opportunity or externalized costs are acknowledged in the DEIS and FEIS (Chapter 3, Economics/Social, Economic Efficiency) such as potential damage to soils from harvest operations and subsequent losses in long-term soil productivity. Because these costs are not well defined or measurable at the project level in terms that provide comparison of commensurate dollar values, the direct, indirect, and cumulative effects of the other environmental consequences sections in the DEIS and FEIS provide a relative comparison between alternatives.

The ecosystem benefits and environmental effects of no-action (Alternative 1) are addressed in the environmental consequences section of the DEIS and FEIS for ecological resources such as vegetation, wildlife, soils and for social aspects such as visuals and recreation.

5-95. Potential changes in the physical and chemical nature of the earth's climate are likely to have impacts on the Nation's agriculture, forest, and related ecosystems. The extent and magnitude of these changes are uncertain at this time. There is a lack of sufficient information to predict and detect changes in health, diversity, and productivity of these systems due to global climatic change. The Department of Agriculture and Forest Service are researching issues of global climate change, and the implications for forest management activities (USDA Forest Service, PSRS 2003). NEPA disclosure documents at the regional or project level are not the appropriate means for addressing the global climate change issues. See also response to letter #11, 11-93.

5-96. The economic analysis was conducted using Forest Service Handbook 2409.18 which provides direction to analyze financial efficiency and, if needed, economic efficiency to identify the most efficient alternative that achieves the desired objectives of the project. Consideration of the proposal that maximizes net public benefits is an important consideration of the decision-making process (DEIS and FEIS, Chapter 3, Economics/Social, Economic Efficiency), however, NEPA does not require a monetary benefit-cost analysis. Such an analysis may be incorporated as an aid to evaluating environmental consequences, to weigh the merits and drawbacks of the alternatives, but should not be the sole criterion for decision making where there are important qualitative considerations (40 CFR 1502.23).

Analysis of social and economic impacts to determine maximum net public benefits (36 CFR 219.12) was completed at the forest planning level where the mix of activities across a large landscape were assessed and measured, refer to the Malheur National Forest Land and Resource Management Plan, FEIS, Appendix B.

An economic efficiency analysis was completed for the Flagtail Fire Recovery Project ((DEIS and FEIS, Chapter 3, Economics/Social, Economic Efficiency), that focused on identifiable and quantifiable ecosystem benefits and costs for each alternative in terms of the present net value (benefits minus costs) to assess which alternative comes nearest to maximizing net public benefits (36 CFR 219.3). The project level economic analysis discloses the dollar-quantified benefits and costs that were measurable and quantifiable at the project level and discloses the potential qualitative effects (DEIS and FEIS, Chapter 3, Economics/Social, Economic Efficiency). These effects were considered in conjunction with other potential qualitative and quantitative impacts to forest vegetation, fuels/fire, sensitive plants, noxious weeds, soils, aquatics, wildlife, recreation, visuals, cultural resources, range, and roads/access in Chapter 3 of the DEIS and FEIS.

The analysis of the decision to proceed with the Flagtail Fire Recovery Project is outside the scope of this EIS as previously stated in the response to Letter #5, Comment 5-89. As described

above analysis was conducted in accordance with appropriate Forest Service direction in line with the references cited. The economic costs and benefits used in the economic efficiency analysis (DEIS and FEIS, Chapter 3, Economics/Social) provides an adequate comparison of the relative differences between the alternatives based on the dollar-quantified benefits and costs that were measurable and quantifiable at the project level. The potential qualitative effects are acknowledged (DEIS and FEIS, Chapter 3, Economics/Social, Economic Efficiency) such as the value of standing forests and quantitatively and qualitatively disclosed in the DEIS and FEIS.

5-97. The Flagtail IDT has examined the areas identified by ONRC as unroaded and has determined that these areas do not have the characteristics associated with roadless areas. A further discussion of these areas can be found in the FEIS in Chapter 3 under Other Disclosures, and in the Flagtail Project Record.

5-98. The Forest Service has prepared this Environmental Impact Statement in compliance with the National Environmental Policy Act (NEPA) and other relevant Federal and State laws and regulations as disclosed in Chapter 1.

5-99. The following attachments were provided as background information and were considered as such by the IDT. The attachments have not been published here.

Letter #6*Linda Patten*

Malheur Lumber Company
 P.O. Box 160 • John Day, Oregon 97845
 (541) 575-2054 FAX 575-2057

JUL 14 2003

Roger Williams, Forest Supervisor
 Malheur National Forest
 Po Box 909
 John Day, OR 97845

July 8, 2003

Re: Comments, Flagtail DEIS

Roger:

Of the three proposed action alternatives, *Alternative Two* would receive my support. I feel that there are a few areas in alternative two that could be tweaked to improve the economic out come for the Forest Service and purchaser of these fire salvage sales.

6-1 By the time these sales are advertised and sold, the value of the timber is going to be greatly reduced, especially in the Ponderosa Pine component of the volume offered. The value could be reduces as much as 50 to 60% due to Blue Stain and Wormholes. We are currently experiencing a very low market value for Ponderosa Pine lumber, therefore the advertised dates that the Forest Service uses must reflect the lower value of the Pine volume.

6-2 Also I encourage you to keep the helicopter logging acres and volume as low as possible due to the cost of logging with this system.

6-3 I also encourage you to keep the top diameters of logs to be sold as saw logs to eight inches on the pine, and seven inches on Doug Fir, White Fir and Lodgepole. By the time these sales sell, a lot of the tops will be cracked, therefore the larger top diameters are desirable. The top diameters could be left flexible in the timber sale contracts to reflect the deterioration and cracking of the top logs.

6-4 Concerning Fuel Treatment, I encourage you to use more tractor piling, instead of grapple piling. First of all it is much more economical and the second benefit is that the brush rake on a tractor will break up the ash layer much ~~better~~ which allows better regeneration of trees and other plant species.

Snag Retention for Wildlife :

- 6-5** Snag retention needs to be kept to a minimum in the areas to be logged. Riparian corridors and other areas not logged will go a long way in providing habitat for cavity nesters.

The tendency in the past on snag retention is if you need three snags per acre, save ten snags. This mentality needs to be kept in check.

Dedicated Old Growth and Replacement Old Growth :

- 6-6** I do not agree with taking a block of old growth out of General Forest to replace designated old growth that was burned in the Flagtail fire. If these D. O. G.'s had been managed they most likely would not have had the mortality they suffered. If you create a new old growth area, how long before it burns and will need replacing again? A much better plan is to manage old growth areas to keep them healthy and fire proof and still provide the needs of wildlife.

I **do not** support Alternatives One and Three as they do not properly address the needs of a area that has been devastated by fire.

Sincerely



Walt Gentis

FS Response to Letter #6 – Malheur Lumber Company, July 8

6-1. Prior to advertisement an appraisal will be completed using the current index with an adjustment made for blue stained pine and volume loss from Flat-headed wood borers. All log values in the DEIS and FEIS, used to run the Transaction Evidence Appraisal (TEAECON), for all alternatives, were adjusted to show a value loss due to blue stain.

6-2. It is recognized that helicopter yarding is a very costly logging system. The interdisciplinary team considered an alternative using skyline and tractor systems on the entire Flagtail Fire project area but eliminated it from detailed study, DEIS and FEIS under Alternatives Considered but Eliminated from Detailed Study. That analysis of ground based skidding showed that an additional 9 miles of new road construction would be needed to implement this proposal. That was not consistent with the direction in the Project Initiation Letter that said to minimize the construction of roads and reduce road density.

6-3. For analysis purposes, the merchantability standards in helicopter units for all saw-log dead trees is 12 inches DBH. The merchantability standard for tractor and skyline harvest units is 8 inches DBH for all species of saw-logs except ponderosa pine which is 10 inches DBH. Top diameter for all species is 6 inches in diameter. This information was added to this FEIS. For analysis purposes 8" was used, but this may change at the time of implementation due to the rapid deterioration of smaller diameter fire-killed trees. Saw-logs with tops attached will be required to be removed from the project area, except in helicopter logging areas where removal of tops is not required. Tops from tractor and skyline units may be left in designated areas or on landings as approved by the Forest Service. In the four units proposed for post and pole harvest, lodgepole down to 3 inches DBH, and all other species down to 5 inches DBH would be removed.

6-4. Tractor piling likely would cause more soil compaction than grapple piling, because tractors must travel over more land than grapple piling machines to pile an equivalent amount of fuels (the boom allows a grapple piling machine to reach some fuels without additional vehicle travel). Thus, tractor piling would not keep detrimental soil impacts to a practical minimum (FEIS Chapter 1, Desired Condition). No evidence exists to indicate an ash layer should be broken up to allow better regeneration - for instance, the Summit Fire area was successfully regenerated without breaking up an ash layer.

6-5. The DEIS considered a broad range of snag prescriptions (See DEIS Chapter 2, Alternatives Considered in Detail). Alternative 2 prescribes snag levels at the current Forest Plan standard. Alternatives 3 and 4 consider alternative snag densities and sizes based on DecAID (Mellon et al., 2003). Alternative 5 has been added to this FEIS to consider an additional snag strategy (see FEIS, Chapter 2, for alternative description). The DEIS and FEIS, Chapter 3, disclose the effects of snag retention on wildlife species and socio-economics.

6-6. Forest Plan, Management Area 13 provides direction for designating, refining and managing Dedicated Old Growth (DOG) and Replacement Old Growth (ROG) areas (Forest Plan, pp. IV-105 to IV-107). The direction recommends making changes to DOGs and ROGs in conjunction with the timber sale planning process. This FEIS refines language in the DEIS (Chapter 1, Management Areas and Objectives, Section on Management Area 13 – Old Growth), clarifying the connection between Management Area direction in the Forest Plan and

old growth designation proposed in the Flagtail EIS. To harvest in the DOG/ROGs that burned, we need to designate new DOG/ROGs elsewhere.

Letter #7



Malheur Lumber Company
P.O. Box 160 • John Day, Oregon 97845
(541) 575-2054 FAX 575-2057

August 14, 2003

Mike Montgomery, District Ranger
Blue Mountain Ranger Dist.
P.O. Box 909
John Day, OR 97845

RE: Flagtail Fire Recovery Project

Dear Mr. Montgomery,

Thank you for the opportunity to comment on the Flagtail Fire Recovery Project. Malheur Lumber Co. and its associated employees work and recreate in the area of the Flagtail fire and therefore have a tremendous interest in its restoration. We hope you will implement a full restoration strategy as soon as possible.

In reviewing the alternatives, Alternative 2 appears the only choice for restoring the most of the area, supplying jobs to the local economy, and utilizing most of the timber destroyed in the fire. None of the other alternatives come close. They all choose retaining potential habitat for species that may not use them over allowing people to utilize the resource for their livelihood.

7-1

The most prominent problem with alternatives other than Alternative 2 is the use of the DecAID model. This model is currently being developed (chap. 3, pg. 136) yet it is being used as fact in this analysis with no regard to the assumptions made in the model. We do not believe the tremendous amount of value associated with at least 14 million board feet should be lost based on the output of an experimental model. Especially when the most aggressive alternative only treats 70 percent of the area.

7-2

In addition to the loss of volume due to the DecAID model, there are 2.2 million board feet of timber lost for the *preferred* habitat of the black backed woodpecker. This appears to be an awful lot value for a species not on the sensitive, threatened, or endangered list. With 880 acres of prime habitat being left in the riparian areas and the knowledge that many trees will become snags in and around the fire after salvage, the question becomes, is another 300 acres of snags really necessary? Particularly when it is preferred, not required habitat.

Another concern of ours is the possibility that stands in sections 17, 19, and 20 may not be treated. Mountain pine beetle and pine engraver beetles have been active in this area

7-3

for the past decade. As a landowner within two miles of this area we have been thinning and taking the necessary steps on our property to try and prevent major insect damage. If the area is not salvaged, insect populations will build causing problems for all of the landowners in the area. Treating the pine stands in this area would be greatly appreciated.

7-4

The access management plan in this EIS will cause tremendous disappointment for those who recreate in this area. Many people who use this area only get to every other year or every third year due to the big game tag system in Oregon. Therefore they won't have any knowledge of the closed roads until they intend to use them to access their favorite camping spot or hunt. One example would be the 2400-133 road from road 2400-134 to 2400-033. Closing this road will make access to the dispersed campsite near the junction of the 2400-033 very difficult with a camp trailer. It would be prudent to ensure the resource concerns are worth the annoyance to the public and their resulting comments to you.

Thank you for your consideration of these comments. Please contact me if you have any questions.

Sincerely,



Steven J. Courtney, CF
Operations Forester

No text on this page.

FS Response to Letter #7 – Malheur Lumber Company, August 14

7-1. The DEIS and FEIS consider multiple sources of information on dead wood habitats, including DecAID (Mellen 2003). The DEIS and FEIS, Chapter 3, Terrestrial Wildlife, Primary Cavity Excavator Species section, and the Chapter 5 Bibliography cite additional dead wood research considered. The DecAID tool is currently one of the best sources of information on dead wood habitats because it synthesizes published literature, research data, wildlife databases, inventory data, and expert judgment and experience. DecAID identifies assumptions, caveats and cautions that need to be addressed when using the tool; these aspects were considered when developing snag strategies in the DEIS and FEIS. The Chapter 3, Terrestrial Wildlife, Primary Cavity Excavators section was updated in this FEIS to better disclose the assumptions used.

The DEIS developed a broad range of alternatives and snag retention levels (See DEIS Chapter 2, Alternatives Considered in Detail). Alternative 5 has been added to this FEIS to consider an additional snag strategy. This FEIS updates the effects discussion on dead wood habitats and associated wildlife species (see FEIS, Chapter 3, Terrestrial Wildlife, Primary Cavity Excavators).

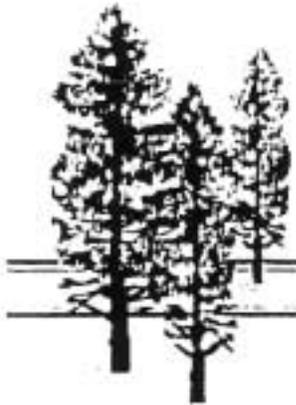
The DEIS and FEIS, Chapter 3, disclose the effects of snag retention on wildlife species and socio-economics. The Decision Maker will discuss the tradeoffs between alternatives in the Record of Decision.

7-2. In the Forest Plan, Forest-wide standard # 61 directs Forest managers to provide habitat requirements for management indicator species (MIS) including the black-backed woodpecker (see the Malheur Forest Plan, p. IV-32). Black-backed woodpeckers tend to select nest sites with the highest snag densities and the least amount of logging (Hutto 1995, Saab and Dudley 1997, Haggard and Gaines 2001, Saab, et. al 2002). Minimum management requirements for this species suggest establishing habitat areas of 75 acres for every 2,000 to 2,500 acres (USDA 1986). Snag surveys in the Flagtail area determined that many of the riparian areas do not provide snags at sufficient densities to support this species and areas that do support appropriate densities are small and fragmented. The DEIS and FEIS developed a broad range of alternatives and snag retention levels (DEIS and FEIS Chapter 2, Alternatives Considered in Detail). The DEIS, Chapter 3, Primary Cavity Excavators disclosed the effects of snag retention on black-backed woodpeckers. This FEIS updates the effects discussion on dead wood habitats and associated wildlife species (see FEIS, Chapter 3, Terrestrial Wildlife, Primary Cavity Excavators).

7-3. Alternatives 2, 3, and 5 in the FEIS salvage dead and dying trees in these areas, which can have a slight effect of reducing future insect outbreaks. As discussed in Chapter 3, Forest Vegetation, Living Trees, due to the time to complete the NEPA process for this EIS, the Forest Service does not have the ability to rapidly respond to the threat of insect outbreaks.

7-4. Closure of portions of FR 133 will have limited impacts on dispersed camping or recreation. The portion of FR 133 that is being closed does not have any dispersed camps. Because FR 033 is being left open, recreationists have this road (FR 033) as an alternate access into this campsite that is located at the junction of FR133 and FR 033. Since the 133 would be closed at the junctions of 133 and 033 it will not affect the dispersed camp site that is there and recreationist can continue to use the area.

On FR 048 there is one big camp at the junctions of 050 and 048. By closing the 048 at the 050 junctions, the camp can still be used (close the road at the camp site) by doing this it will preserve the camp and recreationist can continue to use this site. The rest of the road would be closed to vehicle use. INFISH RM-2 states to adjust recreation practices that retard or prevent attainment of riparian management objectives or adversely affect inland native fish. In this case the adjustment measure is to close the road and consequently all the dispersed camps in RHCA and along Jack Creek. Also the FP states to limit use as necessary to protect and/or rehabilitate riparian areas. The camp sites along Jack Creek are in locations that the Forest would want to rehabilitate. These effects to dispersed camping have been added to the Recreation section of this FEIS.



Letter #8

MALHEUR

Timber Operators, Inc.

P.O. Box 928 • John Day, OR 97845 • (541) 575-2711 • FAX (541) 575-2808

July 9, 2003

Linda Batten
IDT Team Leader
Blue Mountain Ranger District
Box 909
John Day, OR 97845

RE: Flagtail Fire Recovery Project, Draft Environmental Impact Statement

Dear Ms. Batten:

Malheur Timber Operators, Inc. offers the following comments concerning the referenced DEIS. These initial comments are preliminary and may be supplemented by more detailed and development before the August 18, 2003 deadline. These are substantive comments submitted for consideration by the Responsible Official. This preliminary effort of submitting early and some what generalized comments is a good faith effort to help expedite the completion of this EIS. It is our belief that once the Responsible Official is aware of our concerns changes will be considered and initiated before our final comments are submitted. Hopefully this will help expedite the issuance of the ROD.

8-1

We concur that the Purpose of and Need for Action represents the conditions on the ground. However, we take exception that reducing the effects of roads not associated with salvage harvest and the replacement of Old Growth Areas are connected action and they should not be included in the EIS.

The two broad categories of purpose for the project are correctly disclosed and the analysis in the DEIS needs to focus on the acceleration of commodity extraction, reforestation, and the acceleration of ecosystem restoration through the reduction of fuel loading.

8-2 Even under the direction to increase active management, this DEIS continues to misuse and misrepresent of the definition and function of ephemeral draws. We have repeatedly commented on the lack of proper management of ephemeral draws. This is best shown by a carefully worded statement by the Responsible Official on page R-18 in the Summit Fire Recovery ROD and page G-57 in the FSEIS. (Copies attached).

8-3 Because it is not a connected action it would be best to keep grazing out of the analysis unless it relates to the establishment of regeneration.

8-4 The analysis needs to more clearly reflect and state that INFISH "...interim standards and guidelines replace existing conflicting direction described in the 22 Forest Plans, in the affected National Forests , and replaces the interim riparian Standards established May 20, 1994 by Regional Forester John E. Lowe ..." (INFISH Decision Notice, 7/28/95).

8-5 The Forest continues to not recognize the proper interpretation of standards regarding maintaining enough snags to support a cavity nester potential population level of 100%. We have repeatedly submitted comments and explained the proper interpretation of Regional Forester Amendment # 2 during the period when "passive management" was the direction provided by the Chief. Under the current direction of "active management" it is even more important to properly interoperate Amendment #2. This amendment merely raised the potential population level to 100% on all Eastside Forests. In the case of the Malheur N.F. it raised the level from 40% to 100%. To obtain 100% cavity nester potential population level current Forest Plan Standards require snags 12"+ dbh @ 2.25/ac and 20"+ @ .14/ac. for a total of 2.39 snags /ac. This means that snags 20"+ went from .05 to .14/acre. We may again develop this in more detail.

8-6 Alternative 3 is developed around the use of the DecAid Tool. This has created several problems connected with the development of this alternative. Our concerns are:

1. The alternative does not support the Purpose and Need.
2. The alternative is not Issue driven.
3. The DecAid Tool is not supported by line direction.
4. The "caveats" presented in the DecAid Tool are not addressed.
5. Freedom to use the DecAid Tool without a Forest Plan amendment is not permitted by Forest-Wide Standards, because it significantly changes outputs and effects on other resources. (Forest Plan page IV – 24 attached.).
6. As shown by Alternative 3 the use of the DecAid Tool has resulted in a significant action affecting the Purpose and Need for the project, the ecological health in the project area, and Chief's direction to implement "active management". The significant results of the actions curtailing "active management" resulting from the use of the DecAid Tool are clearly documented in the DEIS on pages 27, 28, 66, 67, 102, 103, 104, 105, 106, 110, 294, 295, 298, 300, 301, and elsewhere in the DEIS.
7. We submit that the use of the DecAid Tool will require a significant Forest Plan Amendment.

We will do further study of the DEIS before the end of the comment period and may submit additional comments and detail to these comments to insure that they meet the test of being substantive comments. We hope that this early input will help expedite the implementation of this project. We request that Alternative 2 be selected as the preferred alternative.

Our contact is KLE Enterprises Inc., Atten. Ken Evans, P.O. Box 653, 575-0447, kleent@centurytel.net.

Sincerely,

Malheur Timber Operators, Inc.



Ken Evans CF
Certified Forester

cc:
roger williams
mike montgomery

attachments (3)

FS Response to Letter #8 – Malheur Timber Operators, July 9

8-1. Proposed road management activities are within the project area and ripe for decision. S-1 of Flagtail DEIS states, "...needs for Proposed Action are derived from the differences between current and desired conditions." Desired conditions are based on Forest Plan Direction and Management Objectives and Standards. The MNF LRMP states that road density concerns will be addressed through the access management plan by integrated land management analysis and will be an open process with public involvement, meeting the full intent of NEPA (MNF LRMP ROD p. 23). Also in chapter IV-23 of the MNF LRMP it states, "Manage the transportation network to reduce the cost and impact of roads, to provide road access to developed sites to a service level comparable with their development level, to correct chronic sediment sources and prevent fish barriers, and to provide dispersed recreation and wilderness access." Finally, Forest-wide standard #122 listed on page IV-40 states, "Rehabilitate disturbed areas that could contribute sediment to perennial streams."

Proposed old growth designation is also ripe for decision in this EIS. Forest Plan, Management Area 13 provides direction for designating, refining and managing Dedicated Old Growth (DOG) and Replacement Old Growth (ROG) areas (Forest Plan, pp. IV-105 to IV-107). The direction recommends making changes to DOGs and ROGs in conjunction with the timber sale planning process. Several DOGs and ROGs were burned in the Flagtail Fire. To harvest in the DOG/ROGs that burned, there is a need to designate new DOG/ROGs. This FEIS refines language in the DEIS (Chapter 1, Management Areas and Objectives, Section on Management Area 13 – Old Growth), clarifying the connection between Management Area direction in the Forest Plan and old growth designation proposed in the Flagtail EIS.

8-2. The range of buffer widths described in Chapter 2, Management Requirements, Constraints, and Mitigation Measures of the DEIS and FEIS reflects site-specific conditions in Flagtail area and are narrower than those proposed in Summit. Buffers prescribed for ephemeral draws in the Flagtail area range from 10 to 50 feet on each side (not 100 feet) so there is no attempt to prescribe a standard buffer of 100 feet on either side and thus no need for a Forest Plan amendment. FP standards are minimums and do not preclude decisions to provide additional protection at the project level.

8-3. Grazing is considered as an on-going activity in the fire area. The decision to allow or to adjust grazing is outside the scope of the Flagtail Fire Recovery Project. The decision of when to allow grazing to continue is an administrative decision based on the Post-Fire Grazing Interim Guidelines (Appendix H) and will not be made with this EIS.

8-4. The INFISH Decision Notice, as Corrected (1995) replaced direction regarding default RHCA widths from the Eastside screens (LRMP Regional Forester's Amendment 2). This was identified in Chapter 1 of the DEIS and FEIS and the Watershed Regulatory Framework in the DEIS, and has been added to the Fisheries Regulatory Framework in this FEIS.

8-5. The Forest Plan has been amended. Regional Forester's Eastside Forest Plans Amendment #2 (1995) increased standards for snag retention. The direction states that snags will be left to provide for 100% of the potential populations of primary excavator species. Snags are to be 21 inches DBH or greater.

- 8-6. 1.** The activities proposed in Alternative 3 do meet the Purpose and Need for this project. Alternative 3 would reduce fuel loadings on most of the fire area, capture the economic value of fire-killed trees through salvage harvest, provide safe and adequate road access in part by felling hazard trees, re-establish upland vegetation through reforestation, and designate suitable DOGs and ROGs (DEIS and FEIS, Chapter 2, Alternatives Considered in Detail, Alternative 3 description).
2. Alternative 3 was developed specifically to respond to Key Issue #2 – Wildlife (DEIS and FEIS Chapter 1, Key Issues, Key Issue #2 Wildlife).
3. On June 11, 2003, Linda Goodman, Region 6 Regional Forester, updated Eastside Screen direction in a letter to the eastside National Forests (USDA Forest Service, Pacific Northwest Region 2003). This letter directed Forest managers to consider recent science findings on dead wood habitats, including the DecAID tool, to develop silvicultural prescriptions.
4. DecAID (Mellen 2003) identifies assumptions, caveats and cautions that need to be addressed when using the tool; these aspects were considered when developing snag strategies in the DEIS. This FEIS updates Chapter 3, Primary Cavity Excavators to better disclose the assumptions used.
5. A Forest Plan amendment is not required to apply science in DecAID to this project, nor to elevate snag levels beyond the Forest Plan standard of 2.39 snags per acre. The standards in the Forest Plan are minimums; they may be exceeded and still meet the standards (see Forest Plan, Forest-wide standards, p. IV-24). The snag levels usually left during forest management actions assume the widespread availability of live trees, which can develop into or be used to create future snags. Following a high intensity fire, adequate numbers of live trees may not be available. Retention of additional snags today is appropriate to help maintain snags over a longer period of time. In addition, post-fire habitats provide opportunities to retain dead wood components that may be deficient at the larger landscape level. In this site-specific case, leaving additional snags is fully consistent with the Forest Plan.

The DEIS and FEIS consider multiple sources of information on dead wood habitats, including DecAID (Mellen 2003). The DEIS and FEIS, Chapter 3, Terrestrial Wildlife, Primary Cavity Excavator Species section, and the Chapter 5 Bibliography cite additional dead wood research considered. The DecAID tool is currently one of the best sources of information on dead wood habitats because it synthesizes published literature, research data, wildlife databases, inventory data, and expert judgment and experience. All resource specialists are charged with using the best and most up-to-date science available. It is unlikely that application of information in DecAID will lead to a blanket snag strategy applied uniformly over all projects. In some scenarios, the best science may suggest that the snag standards in the Forest Plan should be lower.

Timber outputs are calculated at the Forest level. The Flagtail Fire area comprises less than 1% of the lands identified as tentatively suitable for timber production in the LRMP FEIS. In a live, green tree situation, regeneration harvest requires that we leave 12 to 20 trees per acre for future snag replacements; therefore, the retention of 13 snags per acre in Alternative 3 is well within the parameters of standard silvicultural prescriptions. Retention of additional snags in the Flagtail Fire area does not generate a significant change to the potential timber output of other services for the Malheur National Forest.

The effects of retaining snags above the amended Forest Plan minimums are disclosed in the DEIS and FEIS, Chapter 3, Fire and Fuels, Chapter 3, Terrestrial Wildlife, Primary Cavity Excavators, and Chapter 3, Economics/Social; these effects are not considered significant.

6. Application of science in DecAID has not eliminated the Malheur National Forest's ability to meet this project's Purpose and Need, improve ecological health, or implement active management (see Response 8-6, #1 and #5).

7. A Forest Plan amendment is not needed to implement Alternative 3. See Response to Letter #8, Comment 8-6, #5.

Letter #9



MALHEUR

Timber Operators, Inc.

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July 31, 2003

Linda Batten
IDT Team Leader
Blue Mountain Ranger District
Box 909
John Day, OR 97845

RE: Flagtail Fire Recovery Project, Draft Environmental Impact Statement

Dear Ms. Batten:

Malheur Timber Operators, Inc. offers the following substantive comments concerning the referenced DEIS. This letter is in addition to our letter of July 9, 2003 and expands on the issues and concerns we listed in our initial comments.

Since our initial input the policy, direction, and guidance letter from the Regional Forester dated June 11, 2003 has come to our attention. This letter contains references to Forest Plan Amendments, snags, DecAID and other significant management items. The letter does not contain any guidance to the significance of applying DecAID in green stands or burn areas. We consider the enclosure as part of the letter. (Copies of the letters of June 11, 2003, w/Enclosure; October 2, and December 23, 1997 are attached).

9-1

Alternative 3 is developed around the use of the DecAID Tool. This has created several problems connected with the development of the alternative and discloses the need for a Significant Forest Plan Amendment. The following is in addition to and an expansion of our substantive comments in our July 9 letter.

1. The alternative does not support the Purpose and Need.
2. The alternative is not Issue driven.
3. The use of the DecAID Tool is not supported by line direction.

9-1 Cont.

4. The "caveats and cautions" presented in the DecAid Tool are not addressed.
5. Freedom to use the DecAID Tool without a Forest Plan amendment is not permitted by Forest-Wide Standards, because it significantly changes outputs and effects on other resources. (Forest Plan page IV – 24 attached.)
6. As shown by Alternative 3 the use of the DecAID Tool has resulted in a significant action modifying the Purpose and Need for the project, the ecological health in the project area, and Chief's direction to implement "active management". The significant results of the actions curtailing "active management" resulting from the use of the DecAid Tool are clearly documented in the DEIS on pages 27, 28, 66, 67, 102, 103, 104, 105, 106, 110, 294, 295, 298, 300, 301, and elsewhere in the DEIS.
7. We submit that the use of the DecAid Tool will require a significant Forest Plan Amendment.

Purpose and Need: As stated in our letter of July 9, we concur with the purpose and need except for the projects that are not connected actions.

9-2

Only alternatives that meet the underlying need, at least in part, should be included in the EIS, and only those alternatives that meet the stated purpose are considered in detail. Needs justify the proposed action and alternative courses of action; needs are the legal basis for Federal agencies to take action. (USDA – OGC – 4/4/94). Alternative 3 was designed to leave higher levels of snag habitat. These higher levels of snag habitat result in not capturing approximately one-half the economic value of fire killed and damaged trees and leaving fuel in excess of the Forest Plan and Fire Management Plan standards.(DEIS at 103, 110)

9-3

Issue Driven Alternative: Alternative 3 is issue driven by Key Issue #2 to the extent that one of the measurements references DecAID. The introduction to Key Issues leaves it uncertain if the Responsible Official approved the significant issues because only the ID Team is referenced. (EIS at 27 & 28) (FSH 1909.15.12.3b).

DecAID Wood Advisor: The following substantive comments are an expansion of the preliminary substantive comments we submitted in our July 9 letter.

9-4

Since our letter of July 9 the Regional Foresters 2430, 2600 letter of June 11, 2003 has been released. We note that the Flagtail DEIS released on June 5 prior to the Regional Foresters letter. However, we have been informed by the District Ranger that Regional Office Wildlife Staff were consulted and reviewed the application of DecAID and are in concurrence with its application in this DEIS. The Regional endorsement of using DecAID and the release of the June 11 letter further document the need for a Significant Forest Plan Amendment.

The *What Is the DecAID Advisor?* section states that DecAID is not:

- a forest stand growth simulator
- a snag and down wood decay simulator or recruitment model
- a wildlife population simulator or analysis of wildlife population viability
- a substitute for making professional decisions based on experience

9-5 We submit that the above four factors have not been adequately recognized and disclosed in the development of Alternative 3.

9-6 *Factors Supporting the Need for a Significant Forest Plan Amendment:* The use of the DecAID Wood Advisor as demonstrated in the development of Alternative 3 in this DEIS and the references to new species and species requirements in the Regional Foresters letter of June 11 clearly disclose the need for a Significant Forest Plan Amendment. FSH 1909.12.5.32 provides the direction for amending a Forest Plan. As previously stated we believe that a Significant Forest Plan Amendment is required if the DecAID Wood Advisory is used to develop Alternative 3 as described in the DEIS. We believe that a Significant Forest Plan Amendment is needed to address and clarify the question of species requirements and the number of snags in green and burn areas and the impact on other resources and outputs. The only reference to burned areas and snags in the DecAID Advisor is in the **“caveats and cautions – A MUST READ”** section (pg. 3) where it suggests that in burned forests with no further recruitment of snags, numbers of both primary cavity excavator species and secondary cavity-nesting species are limited by snag abundance as snag numbers decline in about year 20. This suggests that a burn area only provides short term habitat. It also supports the increased fuel loading disclosures in the DEIS. Also, it discloses that the lost economic value of \$1.49 million for cavity-nesting species habitat benefits will be amortized, and the increased costs and risks associated with excessive fuel loading will need to be addressed. A clear disclosure of how the **“caveats and cautions – A MUST READ”** section was used needs to be disclosed.

The factors shown in FSH 1909.12.5.32, §5.32(3) provides the direction for determining if a Forest Plan Amendment is significant. We submit that the following substantive comments support and confirm the need for a Significant Forest Plan Amendment if DecAID is continued to be used and Alternative 3 is selected as the preferred alternative.

- a. Timing. Changes in Forest Plan Standards will take place immediately if Alternative 3 is selected as the preferred alternative when the ROD is signed. Alternative 3 has been identified as the preferred alternative in the DEIS. The Regional Foresters letter of June 11 modifies the guidance for implementing the Screens that have been in effect for the last 9 years. The enclosure gives credence to the interpretation that DecAID is now part of this interim direction. Such actions only further the need for a significant Forest Plan Amendment. If DecAID is not to be considered as part of the Screens, additional restrictive interim direction on “active management” outside of NEPA is not acceptable. The

9-6 Cont.

Screens and the use of DecAID are now linked to the revision of the Forest Plans for which new planning regulations are still pending and historical knowledge tells us that it will five years or more before Forest Plans will be revised. Clearly the direction regarding “timing” shows that a Significant Forest Plan Amendment is required.

- b. Location and size. 3,860 acres of the 7,120 acre Flagtail Fire area is affected in this DEIS. The Forest Plan covers about 1.5 million acres. The rationale to use size as an insignificant factor is not realistic. This means that piecemeal significant actions will soon cover the whole Forest as green and fire killed timber is harvested.
- c. Goals, Objectives, and Outputs. It is included in the Forest Plan Introduction to Forest-Wide Standards that “under some circumstances more restrictive standards may be applied provided changes in outputs or effects on other resources do not occur. This Introduction in itself establishes the need for a Forest Plan amendment.

The Forest Plan Objective of meeting population levels of primary cavity excavators is not recognized in DecAID because it does not model biological potential or population viability. (What is the DecAID Advisor?, page 3; DEIS at 137). *There is no direct relationship between tolerances, snags densities and size used in DecAID and snag densities and size that measures potential population levels. (DEIS at 136,137).* The DEIS recognizes that the use of DecAID changes an Objective of the Forest Plan. (DEIS at 136, 137). The rationale disclosed in the DEIS for increasing the number of snags is to better meet the habitat needs of woodpeckers and other primary cavity excavators. This rationale and effect on other resources and outputs needs to be subjected to the NEPA and Forest Planning test for a Significant Forest Plan Amendment. The use of DecAID forgoes the opportunity to obtain the planned outputs in later years.

Alternative 3 significantly reduces outputs and discloses the impacts on other resources when DecAID is applied. It needs to be recognized that the fall-down in harvest acres, salvage volume and related values between Alternative 2 & 3 is conservative. Our letter of July 9 develop the substantive comment that Alternative 2 was developed using an inflated dbh and snag retention numbers because of the improper interpretation of Regional Forester’s Forest Plan Amendment No. 2.

The following eight items show the magnitude of the impact of Alternative 3 on Goals, Objectives, and Outputs as present in the Forest Plan:

- 1) Harvest is reduced by 1,150 ac. from 5,010 ac. to 3,860 ac. or 23%.
- 2) Salvage harvest volume is reduced by 16 MMBF from 33 MMBF to 17 MMBF or 48%.

9-6 Cont.

- 3) Natural regeneration is 300 ac. which is the same as Alternative 2. However, site prep for natural regeneration resulting from logging disturbance is reduced by 1,150 ac.
- 4) Harvest value is reduced by \$1.49 million from \$3.45 million to \$1.96 million or 57%.
- 5) Jobs provided are reduced by 177 from 272 to 155 or 57%.
- 6) Timber-harvest related employment income is reduced \$3.31 million from \$7.73 to \$4.42 million or 42%.
- 7) Counties 25% payments were reduced by \$370,000 from \$860,000 to \$490,000 or 43%.
- 8) Alternative 3 is not responsive to Forest Plan and Fire Management Plan fuels objectives and standards on 1,150 ac.

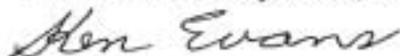
d. Management Prescriptions. We submit that it is the intent of the Forest Service to apply the DecAID Tool on all future decisions through the planning area. This is based on the Regional Foresters letter of June 11, involvement of Regional Office Wildlife Staff, application of DecAID on the Ochoco N.F. and Wallowa-Whitman N.F., and the DecAID Tool discussion on pages 136 and 137 of this DEIS. Application of the DecAID Tool clearly alters the desired future condition of the land and resources as described in the Forest Plan.

Summary: The continued use of DecAID to develop Alternative 3 requires a Significant Forest Plan Amendment. The application of DecAID clearly shows the impact it has on the Goals, Objectives, and Outputs of the existing Forest Plan. Guided by the June 11, letter from the Regional Forester and the discussion in the DEIS at 136 and 137, it can only be expected to see DecAID to appear in every EA and EIS that contains either or both green and fire killed timber to be harvested.

We have carefully shown that all substantive comments are within the scope of this EIS.

Sincerely,

Malheur Timber Operators, Inc.



Ken Evans CF
Certified Forester

cc:
roger williams
mike montgomery

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FS Response to Letter #9 – Malheur Timber Operators, July 31

9-1. A Forest Plan amendment is not required to apply science in DecAID. See Response to Letter #8, Comment 8-6.

9-2. All action alternatives meet the purpose and needs discussed in the DEIS and FEIS, Chapter 1. The alternatives vary in the degree to which they meet each of these needs (see DEIS and FEIS, Chapter 2, Alternatives Considered in Detail, and Comparison of Alternatives).

9-3. The Responsible Official approved all key issues. This is clarified in Chapter 1 of the FEIS under Key Issues.

9-4. A Forest Plan amendment is not required to apply science in DecAID to this project. See Response to Letter #8, Comment 8-6.

9-5. DecAID identifies assumptions, caveats and cautions that need to be addressed when using the tool; these aspects were considered when developing snag strategies in the DEIS. This FEIS updates Chapter 3, Primary Cavity Excavators to better disclose the assumptions used.

9-6. The use of DecAID in this project does not require a non-significant amendment much less a significant Forest Plan amendment. See Response to Letter #8, Comment 8-6.

Letter #10



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August 18, 2003

RE: Comments on the Flagtail Salvage Sale Draft Environmental Impact Statement

Dear Mr. Williams,

10-1

The Northwest Environmental Defense Center (NEDC) has numerous concerns related to the proposed actions described in the Flagtail Salvage Sale Draft Environmental Impact Statement (Flagtail DEIS). The DEIS often ignores or fails to utilize best available science and contains numerous questionable assumptions, unsubstantiated conclusions, and unsupported recommendations. We do not believe it provides an adequate basis for management within the Flagtail Fire area and is simply used to justify additional logging in sensitive and impaired watersheds on the Malheur National Forest (MNF).

Current fuel loading is low in most of the high severity burned stands in the project area and will only begin to increase after ten years or more. Until and after that time, the snags and logs in burned stands play vital roles in natural recovery processes. Imposing the severe disturbance of salvage logging as proposed would put recovery processes at risk and cause damage to multiple ecosystem components. There is absolutely no valid ecological reason to log right now for the sake of fuels reduction. The rush to log in burned stands is strictly an economic matter of trying to extract the maximum timber value. The Forest Service readily admits that there is no ecological reason to salvage harvest the postfire area. *Flagtail DEIS*, 28.

We conclude that the proposed actions will not achieve the projects' stated goals and objectives but will instead likely cause unacceptable environmental impacts and increase the risk of catastrophic fire rather than decrease it. Therefore, we object to the proposed actions outlined in the Flagtail DEIS and urge you to develop a management plan for the area based on restoring natural fire processes and watershed function while reducing fire risk adjacent to communities. The DEIS must develop and analyze an alternative that will adequately protect the Flagtail Fire landscape, actively restore some parts of the landscape, allow passive restoration to occur on the rest of the area, reduce risk of fire-related injury and damage to private property, and be fiscally responsible.

The Forest Service cannot ignore its role as trustee, responsible for managing the nation's natural resources. 42 U.S.C. § 4331(b)(1). This duty includes managing natural resources

10-1 Cont.

“without degradation, risk to health or safety, or other undesirable and unintended consequences.” *Id.* at § 4331(b)(3). The Forest Service is also responsible for carrying out Congress’ promise of providing aesthetically pleasing surroundings for all Americans. *Id.* at § 4331(b)(2). Moreover, each person at the Forest Service is responsible for contributing to the preservation and enhancement of the environment. *Id.* at § 4331(c). Consequently, forest managers must balance these goals with the Malheur National Forest Land and Resource Management Plan (MLRMP) objectives. Critical analysis, necessary to ensure that these Congressional policies are met, is lacking in the Flagtail Salvage Sale Draft Environmental Impact Statement. As a result, the following issues arise.

I. The Flagtail Salvage Sale does not meet the stated purpose and need of the project.

10-2

The Flagtail Fire Recovery Project (Flagtail Salvage Sale) Draft Environmental Impact Statement (DEIS) lists six needs for the proposed action. They include: reducing fuel loading to be consistent with the National Fire Plan; capturing the economic value of fire-killed trees; providing safe road access; reducing the effect of roads on water quality and wildlife; re-establishing upland vegetation; and designating suitable old growth Management Areas to replace burned areas. *Flagtail Fire Recovery Project Draft Environmental Impact Statement (Flagtail DEIS)*, 1. Implementation of Alternative 2 or preferred Alternative 3 of the Flagtail Salvage Sale will not achieve desired future conditions. Therefore, we recommend the implementation of the restoration alternative, Alternative 4, amended to include all road decommissioning and culvert replacement proposed in Alternative 3.

A. MNF fails to demonstrate a viable need for the proposed action to reduce the risk of reburn.

The Forest Service admits that current fire risk is low in the project area but claims that post-fire logging and plantation establishment in the Flagtail Fire Salvage would reduce fire hazard:

Current fuel loads have been reduced significantly from pre-fire levels. In all biophysical environments with moderate to high severity, the current fuel loads are from 0 to 5 tons/acre with little or no latter fuels. The fire intensity and severity in these areas is expected to be low for the next 1-10 years... Within 10-20 years the majority of fire-killed trees will have fallen onto a bed of grass and shrubs interspersed with conifer seedlings and saplings. Fire behavior predictions indicate that this fuel bed would support a fast moving, high intensity fire. *Flagtail DEIS*, 100-101.

10-3

The Forest Service predicts that future fuel loads will be dangerously high if not salvaged to remove all “dead and dying” trees now. The DEIS provides no objective data or scientific analysis to support its assumption that commercial logging in the severely burned areas will somehow decrease the risk or intensity of a future fire. In addition, the DEIS fails to address the considerable scientific evidence that directly contradicts the projects’ assumptions. The Forest Service fails to even acknowledge the scientific controversy surrounding the question of whether post-fire logging can in fact reduce future fire risk.

10-3 Cont.

First, the Forest Service fails to present any scientific evidence that the risk of reburn increases in the fire area or that post-fire logging decreases the threat or intensity of future fire. In January, 2000, the Forest Service's Pacific Northwest Research Station reviewed all available post-fire logging studies and prepared a comprehensive literature review, titled "Environmental Effects of Postfire Logging: Literature Review and Annotated Bibliography." McIver & Starr 2000. This review found no studies documenting a reduction in fire intensity in a stand that had previously burned and then been logged. *Id.* The Forest Service review considered the 1995 report prepared by a team of prominent university and agency scientists headed by Dr. Robert Beschta titled "Wildfire and Salvage Logging: Recommendations for Ecologically Sound Post-Fire Salvage Management and Other Post-Fire Treatments On Federal Lands in the West." Beschta et al. 1995. The authors of the Beschta Report were also "aware of no evidence supporting the contention that leaving large dead woody material significantly increases the probability of reburn." *Id.* at 10.

As recognized by the Beschta Report, fine fuels carry fire, not the large trees that the Forest Service targets for logging. The Pacific Northwest Research Station's literature review also considered the Forest Service's response to the Beschta Report, prepared by Forest Service scientist Richard Everett and others. The Everett Report agreed that "[t]here is no support in the scientific literature that the probability for reburn is greater in post-fire tree retention areas than in salvage logged sites" and "[t]he [Beschta] authors are correct that the intense reburn concept is not reported in the literature." Everett et. al. 1999. In fact, according to the Everett Report, current research suggests that salvage logged areas may have elevated fire hazard compared to unlogged sites for the first 20 years. Although the DEIS acknowledges the Beschta Report, the agency blatantly ignores the reports suggestions. Instead the agency claims human intervention is necessary because the Flagtail fire created high future fuel loads. *DEIS*, 310.

The agency does not explain why or how the high threat of reburn will result just ten years after the Flagtail fire. The agency completely fails to acknowledge the Everett Report, the McIver and Starr literature review, and other scientific evidence that runs counter to the Flagtail Salvage Sale proposal. These scientific reports indicate that the Flagtail Salvage Sale purpose and need is unsupported by fact. According to the available literature, there is no evidence that commercial logging in the wake of an intense wildfire will decrease the possibility of reburn. The DEIS failed to disclose or address the fact that there is no scientific evidence to support its future reburn theory.

10-4

Furthermore, the agency fails to acknowledge that post-fire logging itself *increases* risk of reburn. Forest Service's own scientific study demonstrates that post-fire salvage logging substantially increases fire severity unless the slash is piled and burned or removed. *See* Scott Stephens, "Evaluation of the Effects of Silvicultural and Fuels Treatments on Potential Fire Behavior in Sierra Nevada Mixed Conifer Forests", U.S. Forest Service, Pacific Southwest Research Station, Table 7 (1998). Salvage logging without slash treatment or landscape fuel treatment increased subsequent fire intensity by 29% relative to no action (621.37 kW/m versus 481.67 kW/m). Even if salvage logging was accompanied by piling and burning of slash, subsequent fire intensity remained virtually unchanged because the smallest diameter surface fuels remained. *Id.* Fire intensity was only reduced significantly after prescribed fire was used.

10-4 Cont.

Id. In fact, salvage logging without slash treatment resulted in subsequent fire intensity 16 times greater than prescribed fire alone. Id.

10-5

Second, the Forest Service's proposed need contradicts to scientific opinion because it incorrectly assumes that all woody biomass will be available fuel for combustion and large burned trees will contribute to a severe fire over time. *See generally* Agee 1993, Amaranthus & others 1989, Borchert & Odion 1995, Brown & others in press, Countryman 1955, McIver & Starr 2000, and Rothermel 1991. None of these relevant scientific studies were addressed or considered by the Forest Service. The Forest Service fails to provide scientific support for the contention that standing large trees on the landscape increase fire risk.

Fire scientists use the "available fuel" concept to identify biomass that may be consumed by fire. The availability of fuel to combustion, particularly flaming combustion, is inversely proportional to the size of fuel particles. Agee 1993. In general, the contribution of very large logs to fire severity and intensity is almost negligible. Brown et al. in press. When large trees do burn, it is the presence of smaller fuels that ignite and sustain combustion. Logs burn mainly by smoldering combustion, which is not even considered in scientific calculations of fire intensity. Borchert and Odion 1995; Rothermel 1991.

It is contrary to principles of wildland fire science to consider the least available fuel (tree boles) to be the paramount issue in terms of fire intensity because they are generally not consumed by fire. When tree boles are consumed, it is mainly by smoldering combustion, which does not contribute to fire intensity, as it is scientifically defined. The Forest Service never cites to a single scientific study to support its contention that large diameter logs pose a fire hazard. NEPA requires the Forest Service to "make explicit reference by footnote to the scientific and other sources relied upon for conclusions" in the environmental document. 40 C.F.R. § 1502.24. Until the agency supplies this information, the Flagtail DEIS is inadequate and should not be implemented.

10-6

Site-specific conditions like fuel moisture levels, which can differ according to stage of decay, season of the year, and prevailing weather conditions, can further diminish the flammability of large diameter snags and downed logs. Downed logs can store large amounts of water, especially if they lay directly on the ground surface. Forest Service research on hot, dry forest sites in the Klamath region revealed that even after prolonged drought and high intensity fire events, tremendous amounts of water can still be found in the interior of logs. Amaranthus et al. 1989. Indeed, the centers of large logs can actually be cool and moist even when the outer shell of a log is on fire. Consequently, large logs can provide vital "fire shelters" that enable a number of wildlife species, as well as mycorrhizal fungi and other micro-flora and fauna essential to post-fire natural recovery, to survive fires. Over a typical fire season, this stored water in the interior of logs is slowly released in the form of water vapor. This water release, coupled with the shade that snags and downed logs provide, can raise the relative humidity of micro-sites, which in turn can decrease the rate of evapotranspiration of adjacent live vegetation, and promotes greater moisture retention in adjacent dead fine fuels. These microclimatic effects make local sites adjacent to downed logs moister and "greener" compared to sites devoid of large downed logs. With significant amounts of stored interior water, large diameter downed logs can function like "heat sinks" because significant heat energy is required for fire to evaporate the

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Cont.**

water and ignite the biomass. In effect, large downed logs with stored interior water function like natural fire extinguishers that can retard fire intensity and rate of spread. *Id.*

Large downed logs can also provide important shade structures that obstruct solar radiation and surface winds. These microclimate influences can result in lower ground surface temperatures and reduced surface wind speeds, which translate into higher live and dead fuel moisture levels compared to areas cleared of shade from standing or downed trees. Large downed logs can also reduce the speed and variability of surface winds, which inhibits extreme or erratic fire behavior. Thus, the ability of large downed logs to store water and provide shade from the sun and wind can function to lower the fire intensity and rate of spread. Countryman 1955. The Forest Service failed to calculate the moisture retention, shade contribution, and other factors related to large downed logs in determining the purpose and need of the Flagtail project.

10-7

Third, the Forest Service proffers the unsubstantiated claim that without post-fire logging, standing burned trees will fall to the ground in 10 to 20 years and increase the fire hazard. This assertion is not based on available scientific data describing surface fuel accumulation and tree fall rates. The Forest Service's projection that burned trees will fall to the ground within 20 years assumes unnaturally high fall rates. The authorized action would leave behind the smaller trees that will most likely fall soonest but remove the vast majority of larger trees that otherwise will remain standing the longest.

Forest Service research, which the Malheur National Forest fails to apply, clearly shows that small fire killed conifers fall most rapidly and larger trees stand increasingly longer with greater size. Everett et al. 1999. Larger trees may remain standing and unavailable to combustion far longer than 30 years after a fire. For example, Everett and others (1999) studied burned forests in the eastern Washington Cascades and determined that 79 percent of ponderosa pine trees larger than 41 centimeters (16.1 inches) in diameter still stood after having been killed by fire 60 years earlier. There are thousands of trees larger than 16 inch DBH proposed for removal in the Flagtail Salvage Project.

Other Forest Service research finds that 84% of killed conifers still standing after 25 years. Lowery 1950; Mielke, 1950. Other research found only 28% of snags falling after 20 years. Hinds et al 1965. It is clear that most snags under 8 inches in diameter fall within the first decade, but also that larger snags may stand indefinitely. Lyon 1977. Thus, the FEIS's assumptions about fall rate of "merchantable" snags (i.e., large snags) is likely to be inaccurate, meaning that far FEWER tons of surface fuel in the larger size classes will occur in future decades than predicted. The Forest Service fails to acknowledge that the predicted fall rates are grossly overestimated, fails to provide a scientific basis for the assertion, and accordingly makes an arbitrary and capricious decision to implement the project. 5 U.S.C. § 706(2)(A).

10-8

Finally, the Flagtail DEIS fails to consider the influence of fuel accumulation relative to other important factors in the Flagtail Fire. The MNF asserts that vegetation change resulting from human-caused fire suppression is a primary factor in explaining the size and behavior of the Biscuit Fire. *Flagtail DEIS*, 5. This approach neglects to consider the complex interaction of the many temporal and spatial factors that are known to influence fire regimes as well as the behavior of individual fire events. Of these factors, short-term weather, climate, topography and

10-8 Cont.

the fire-fighting actions themselves are all likely to have played an influential role in why the Biscuit Fire burned as it did. In a detailed analysis of the 1987 fires on the Klamath National Forest, Odion et al. (in review) found no significant relationship between high severity fire effects and long absence of fire, suggesting that factors other than fuels are more strongly linked to extreme fire behavior in the region's forests.

Large, intense crown fires are typically generated and driven by the forcing mechanism of extreme fire weather. Johnson et al. 2001, Keeley & Fotheringham 2001, Moritz 1997, Agee 1997, Bessie & Johnson 1995. The Flagtail Fire appears to be a prime example of this general pattern. The DEIS does not address the extreme drought conditions of 2000-2002, combined with record-breaking 100 degree temperatures that set the stage for unusually large and intense fires.

10-9

The DEIS discloses the computer models used to analyze fuel models and predict fire behavior. *Flagtail DEIS*, 99. However, the BEHAVE model used in this analysis cannot make any predictions beyond the dynamics of surface fires burning through fine fuels. There are a number of newer, better models available (e.g. FOFEM, FARSITE, NEXUS), and the agency should take advantage of the analytical superiority of these models, especially FARSITE and NEXUS, in its analysis of fire risk assessments and effects of fuels treatment alternatives. The use of the "best available science" (including computerized fire simulation models) is yet another mandate of the Federal Fire Management Policy, and the agency needs to implement this part of the Policy in the Flagtail DEIS.

10-10

The Forest Service must provide the public with an explanation of the purpose and need of the proposed project. NEPA's implementing regulations require the agency to "briefly specify the underlying purpose and need to which the agency is responding in proposing the alternatives including the proposed action." 40 C.F.R. § 1502.13. The agency may not create a false need for the project in order to justify its implementation. In addition, NEPA requires the Forest Service to "make explicit reference by footnote to the scientific and other sources relied upon for conclusions" in the environmental document. *Id.* at § 1502.24. The Forest Service failed to support its "purpose and need" conclusions with any evidence whatsoever. Thus, the statement of need for the Flagtail Salvage Sale is premised on unsupported conclusions and the DEIS violates NEPA and the statute's implementing regulations. *Id.* at § 1502.13.

B. MNF fails to ensure professional and scientific integrity in discussing the proffered need for the project.

10-11

As noted *supra*, the Forest Service failed to support the purpose and need of the project with scientific information and failed discuss contradictory information available to the agency. In fact, the Forest Service's basic assumptions of fire spread and available fuel are contradictory to recent research. NEPA requires the agency to ensure scientific integrity in environmental analyses. 40 C.F.R. § 1502.24. By ignoring abundant research contrary to the agency's analysis, the Forest Service fails to ensure scientific integrity of the research used.

Specifically, the Forest Service failed to analyze and disclose the factors that mitigate the flammability of large fuels. The agency also failed to analyze the full range of adverse effects on

10-11 Cont.

wildlife, vegetation, and natural recovery processes (such as elimination of refugia during future fire events) that would result from salvage logging the large-diameter snags and logs. Accordingly, the analysis of tradeoffs between removing or retaining the large-diameter snags and logs is incomplete, ignores countervailing scientific opinion within the Forest Service, and fails to ensure professional and scientific integrity. 40 C.F.R. § 1502.24

10-12

NEPA's disclosure goals are two-fold: (1) to insure that the agency has carefully and fully contemplated the environmental effects of its action, and (2) "to insure that the public has sufficient information to challenge the agency." Idaho Sporting Congress v. Thomas, 137 F.3d 1146, 1151 (9th Cir. 1998); Robertson v. Methow Valley Citizens, 490 U.S. 332, 349 (1989). By focusing the agency's action on the environmental consequences of its proposed action, NEPA "ensures that important effects will not be overlooked or underestimated only to be discovered after resources have been committed." Robertson, 490 U.S. at 349.

10-13

The Flagtail DEIS fails to disclose important information that contradicts the Forest Service's proposed action. NEPA requires that the Forest Service "disclose responsible scientific opinion in opposition to the proposed action, and make a good faith, reasoned response to it." Seattle Audobon Society v. Lyons, 871 F.Supp. 1291, 1318 (W.D. Wash. 1994). The DEIS does not provide enough information for the public and the decision-maker to make a carefully and fully contemplated decision. Nor can the public be assured that the scientific quality of the information used to make this decision is of high quality, as required by NEPA. 40 C.F.R. § 1500.1(a). Consequently, the proposed action violates NEPA, and the decision to implement the Flagtail Salvage Project is arbitrary and capricious. 5 U.S.C. § 706(2)(A).

C. Implementation of the Flagtail Salvage Sale will not meet the purpose and need of the project.

1. The Flagtail Salvage Sale will not further the goals of the National Fire Plan.

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The DEIS identifies the need to reduce fuel loading to be consistent with the National Fire Plan. *Flagtail DEIS*, 1. The National Fire Plan states: "[t]he Administration's wildland fire policy does not rely on commercial logging or new road building to reduce fire risks and can be implemented under its current forest and land management polices. The removal of large, merchantable trees from forests does not reduce fire risk and may, in fact, increase such risk. Fire ecologists note that large trees are 'insurance for the future – they are critical to ecosystem resilience.' Targeting smaller trees and leaving both large trees and snags standing addresses the core of the fuels problem." *Managing the Impact of Wildfires on Communities and the Environment - A Report to the President in Response to the Wildfires of 2000*. Reinforcing this position, the Forest Service Cohesive Strategy states: "In most cases, any receipts associated with treatments will not be significant due to the need to reduce the disproportionately large number of small, non-merchantable trees, brush, and shrubs that dominate short interval fire-adapted ecosystems and leave standing the larger, fire-tolerant trees." *Protecting People and Sustaining Resources in Fire-Adapted Ecosystems – A Cohesive Strategy*, 2000. The proposed logging outlined in the DEIS relies primarily on the removal of large diameter timber to achieve the stated objectives. As such, the Flagtail Salvage Sale will not meet the proffered need to reduce fuel loading to be consistent with the National Fire Plan. *Flagtail DEIS*, 1.

2. *Wildland logging far from homes and communities will not reduce the threat of the loss of private structures.*

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The Forest Service claims that salvage logging the burnt areas will reduce fire hazard. *Flagtail DEIS*, 105. As noted *supra*, scientific findings dispute claims that post-fire logging reduces fire hazard. Recent empirical data compares fire severity where post-fire logging occurred and where it had not occurred. Researchers found that 68 percent of salvage logged areas reburned at high severity. Only 26 percent reburned at high severity where no logging had occurred. Harma and Morrison 2002. Other researchers studied an 247,000 acre area in the Klamath National Forest that burned in 1987 and found that the greatest fire severity occurred in an area previously burned, logged and planted in 1977. Odion and others in press. The burn severity in this area was more than five times that found in unlogged forests and twice that in shrublands. Based on this scientific background, it is unlikely the Flagtail Salvage project will meet the purported purpose and need of the project. Additionally, the Forest Service failed to support its conclusions with scientific data, resulting in an arbitrary and capricious decision by the agency. 5 U.S.C. § 706(2)(A).

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It is also evident that effective fuel reduction provides greater benefit the closer the treatment occurs to the community the Forest Service wants to “protect.” Thus, the entire premise of the MNF’s approach - salvage logging in burned stands in locations far from communities - will provide little to no protection to the communities in the area. It appears that the proposed management strategy and recommended actions are focused primarily on continued logging and fire suppression in remote, rugged wildlands rather than on the protection of communities where it counts. Substantial changes to the proposed project will be necessary in order to achieve these goals.

The proposed actions are likely to be inefficient and ineffective for community protection because wildland fuel reduction on public lands does not effectively reduce home ignitability on private lands. The Malheur NF has not demonstrated that logging in remote, rugged locations far away from communities will be effective in protecting those communities. Home ignitability, rather than wildland fuels, has been determined to be the principal cause of home losses during wildland/urban interface fires. For example, Forest Service fire researcher Jack Cohen recently concluded that: “SIAM modeling, crown fire experiments, and wildland-urban interface fire case studies show that effective fuel modification for reducing potential wildland-urban interface fire losses need only occur within a few tens of meters from a home, not hundreds of meters or more from a home.” (Cohen, 1999). This research indicates that mitigation efforts on the structure and its immediate surroundings can effectively reduce home losses. Those characteristics of a structure's materials and design and the surrounding flammables that determine the potential for a home to ignite during wildland fires (or any fires outside the home) can be referred to as home ignitability.

The evidence suggests that wildland fuel reduction for reducing home losses may be inefficient and ineffective: inefficient because wildland fuel reduction for several 100 meters or more around homes is greater than necessary for reducing ignitions from flames; ineffective because it does not sufficiently reduce firebrand ignitions. To be effective, given no modification

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of home ignition characteristics, wildland vegetation management would have to significantly reduce firebrand production and potentially extend for several kilometers away from homes. Cohen 1999. Therefore, to most effectively protect communities at risk, fuels reduction efforts must be focused adjacent to structures and communities, not in remote locations miles from any structure. The Flagtail Salvage Sale will not meet the need to protect homes and communities.

Indeed, in order for a forest fire to ignite a house without reaching it directly, the fire must provide sufficient radiant heat for long enough to raise the temperature of the surface of the house to its ignition point. Studies and modeling have shown that partial removal of trees within 40 meters (132 feet) of the house protects it against radiant ignition from the flames of a forest fire that is torching and crowning. Cohen and Butler 1998; Cohen 2000a. These studies assumed severe conditions, and lesser distances may suffice. Another study (Davis, 1990) found a precipitous drop in structural ignition with a distance of only 20 meters between the house and forest vegetation. Increasing the home site treatment to 60 meters (200 feet) would provide an extra margin of safety in areas with extreme slopes or extremely tall trees and would protect against scorching of exterior walls under extreme conditions.

Not only is there no scientific evidence to support the contention that wildland logging in burned forests is necessary to mitigate wildfire near homes, but the research indicates that no more than 200 feet is necessary to create a defensible space for wildfire suppression near homes and communities. Clearly, claiming that salvage logging to reduce the threat of wildfire to homes and communities is not based in fact. Instead, the best available science indicates that a space of approximately 200 feet is more than adequate to create a safe zone to protect homes. Moreover, it is 200 feet around homes *on private land* that has been shown to reduce the threat of wildfire to homes, not federal land miles from private structures.

II. The Flagtail DEIS violates the National Environmental Policy Act, the National Forest Management Act, and the Administrative Procedure Act.

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The Flagtail Salvage Sale DEIS violates the National Environmental Policy Act and its implementing regulations. National Environmental Policy Act of 1969, 42 U.S.C. §§ 4321–4370d (1994 & Supp. III 1997); 40 C.F.R. § 1500–1508.28 (1998). The Flagtail Salvage Sale violates required assurances and environmental considerations required by the National Forest Management Act, as well as the Malheur Land and Resource Management Plan. National Forest Management Act of 1976, 16 U.S.C. §§ 1600–1614. The DEIS is arbitrary and capricious in violation of the Administrative Procedure Act. Administrative Procedure Act, 5 U.S.C. §§ 551–559, 701–706, 1305, 3105, 3344 (1994 & Supp. III 1997).

A. The Flagtail Salvage Sale DEIS does not adequately consider a reasonable range of alternatives.

NEPA mandates that an agency “shall to the fullest extent possible: use the NEPA process to identify and assess the reasonable alternatives to proposed actions that will avoid or minimize adverse effects of these action upon the quality of the human environment.” 40 C.F.R. § 1500.2(e). NEPA also requires the Forest Service to “study, develop, and describe appropriate alternatives to the recommended courses of action in any proposal which involves unresolved

conflicts concerning alternative uses available resources as provided by section 102(2)(E) of 40 C.F.R. § 1501.2 (c).” *Id.*

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The Flagtail DEIS, however, fails to give a meaningful evaluation of alternatives to the proposed action. NEDC commends the Forest Service for proposing a restoration-only alternative to the salvage project, thereby providing a reasonable range of alternatives for at least of portion of the project as required by NEPA. 42 U.S.C. §§ 4331, 4332(2)(E); 40 C.F.R. § 1508.9(b). Although this is an excellent step towards a lawful analysis of environmental effects, the agency nonetheless fails to adequately assess both the positive *and* negative consequences of the restoration-only alternative. Instead, the USFS only assesses the “negative” effects of the restoration project, or those effects that will not treat as many acres as aggressively as the proposed action. Similarly, the agency further fails to propose any alternatives to the plan amendment redesignating old-growth areas.

10-19

Environmental analysis documents must “[r]igorously explore and objectively evaluate all reasonable alternatives” to the project. 40 C.F.R. § 1502.14(a). A decisionmaker must explore alternatives in sufficient enough detail to “sharply defin[e] the issues and provid[e] a clear basis for choice among options by the decisionmaker and the public.” *Id.* § 1502.14. All reasonable alternatives must receive a rigorous exploration and objective evaluation “of environmental effects *and values.*” *Id.* § 1501.2(b) (emphasis added).

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In order to comply with NEPA, “the discussion of alternatives ‘must go beyond mere assertions’ and provide sufficient data and reasoning to enable a reader to evaluate the analysis and conclusions and to comment on the EIS.” *Citizens Against Toxic Sprays v. Bergland*, 428 F. Supp. 908, 933 (D. Or. 1977). A detailed and careful analysis of the relative merits and demerits of the proposed action and possible alternatives is of such importance in the NEPA scheme that it has been described as the “linchpin” of the environmental analysis. For this reason, the discussion of alternatives must be undertaken in good faith; it is not to be employed to justify a decision already reached. *Id.*

NEDC concedes that NEPA “does not mandate particular results,” but “simply provides the necessary process” to ensure that federal agencies take a “hard look” at the environmental consequences of their actions. *Robertson v. Methow Valley Citizens Council*, 490 U.S. 332, 350 (1989). This “hard look” requires the agency to provide a good faith consideration of the proposed alternatives. In discussing Alternative 4, the restoration-only alternative, the Forest Service repeatedly dismisses the alternative because it does not provide the same degree of fuels reduction and road decommissioning that Alternatives 2 and 3 provide. *Flagtail DEIS*, 212 (Alternative 4 would result in less positive effects on riparian areas because less road decommissioning and skid trail remediation would occur), 222 (Stream temperature and sediment delivery would be improved less under Alternative 4 than under Alternatives 2 and 3 because fewer roads would be treated). The agency must discuss the merits of a restoration-only alternative, not just identify how such an alternative does not provide the same level of road maintenance. 40 C.F.R. § 1501.2(b). Restoration without commercial timber harvest reduces potential sedimentation, compaction, water quantity fluctuations, fragmentation, and effects on wildlife because prescriptions are lighter. The agency should also acknowledge that a

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restoration-only alternative would be supported by the public, thus allowing the project to be completed unhindered by appeals and litigation.

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Second, as part of all of the action alternatives, the MNF proposes an amendment to its Forest Plan. *Flagtail DEIS*, 123. The purpose of this amendment is to redesignate much of the old-growth areas (MA-13) that were affected by the fire as general forest (MA-1) and to create new old-growth areas to replace areas lost by the fire. *Id.* However, only one alternative is examined. NEPA requires the MNF to “[r]igorously explore and objectively evaluate all reasonable alternatives” to the project. 40 C.F.R. § 1502.14(a). The MNF plainly failed to comply with this regulation with respect to the proposed plan amendment.

There are multiple reasonable alternatives to the proposed amendment. For example, a reasonable alternative would be to designate new Dedicated Old Growth areas but to manage all of the old-growth areas affected by the fire as Replacement Old Growth rather than general forest. This alternative would provide more continuity to the management of the forest. Fires will continue to occur within this ecosystem. *See Flagtail DEIS*, 72 (“[t]he vegetation has evolved with the periodic disturbances of the region and is adapted to surviving them.”). Therefore, to ensure continuous and effective management, if Designated Old Growth is no longer functioning as old growth habitat, it should be managed as Replacement Old Growth until it regains old growth characteristics. Another alternative would be to establish larger Designated Old Growth areas. Larger areas managed for old growth would ensure that even as the natural fire cycle returns there will be sufficient functioning old growth habitat in the Forest to support viable populations of old growth dependent species.

There are many reasonable Forest Plan amendments that could be used to achieve the goals of the MNF. However, the Flagtail DEIS fails to examine a single one of these alternatives. Therefore, because the MNF has failed to consider an adequate range of alternatives, the Flagtail DEIS is inadequate and violates NEPA. 40 C.F.R. § 1502.14(a).

B. The Flagtail Salvage Sale DEIS does not adequately consider the impacts of this project.

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The Flagtail DEIS does not provide enough information to determine the extent of indirect, direct, or cumulative environmental impacts associated with the Flagtail Salvage Project. Moreover, the DEIS does not furnish substantive and quantitative evidence showing this project will not cause serious and irreversible damage to soils, forest productivity, plant diversity, water quality, and wildlife habitat. In fact, the evidence strongly suggests that the project will cause significant impacts to these resources that preclude the implementation of the proposed project.

1. The Flagtail DEIS does not provide adequate data to support its findings.

The goal of NEPA is two-fold: (1) to ensure the agency will have detailed information on significant environmental impacts when it makes its decisions; and (2) to guarantee that this information will be available to a larger audience. *Inland Empire Public Lands v. U.S. Forest Service*, 88 F.3d 754, 758 (9th Cir. 1996). NEPA requires the Forest

10-23 Cont.

Service to take a “hard look” at the impacts of proposed projects. Neighbors of Cuddy Mountain v. United States Forest Serv., 137 F.3d 1372, 1380 (9th Cir. 1998). The Forest Service failed to ensure the public that it took a “hard look” at the impacts of the proposed Flagtail Salvage Project. Failure to provide this information constitutes a violation of NEPA and shows the agency’s decision is arbitrary and capricious. 5 U.S.C. § 706(2)(A).

- a. The Flagtail DEIS is inadequate because it fails to provide sufficient information regarding watershed effects.

10-24

The DEIS does not indicate the extent of impairment of water quality and fails to disclose the direct impacts of the sale. The Ninth Circuit has held that “general statements about ‘possible’ effects and ‘some risk’ do not constitute a ‘hard look’ absent a justification regarding why more definitive information could not be provided.” Neighbors of Cuddy Mountain v. United States Forest Serv., 137 F.3d 1372, 1380 (9th Cir. 1998). The Forest Service acknowledges the sedimentation, water quality, water quantity, and stream channel modification have occurred as a result of previous tractor harvests. *Flagtail DEIS*, 199; 202. The agency has not yet monitored the effects of fire suppression and rehabilitation activities. *Id.* Without an appropriate baseline, the agency cannot legitimately claim there are no negative effects of this project on watershed condition. NEPA also requires the agency to obtain missing information. 40 C.F.R. § 1502.22

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The Flagtail DEIS fails to adequately address water quantity effects. The DEIS acknowledges that the fire increased hydrologic openings to over 55 percent in two watersheds. *DEIS*, 204. The agency references research that an increase of 60 percent may create water quantity effects. *Id.* at 203. Using this as a baseline, the agency concludes that the project will not have any measurable effect on water yield, peak flows, or flow minimums because the removal of dead and dying trees, incidental green trees, and construction of a temporary road will not further increase openings. *Id.* at 214.

A number of problems arise from this explanation. First, the agency cannot use the fire effects as a baseline, concluding that all of the trees are dead, so removing them will have no effect. The agency should provide a natural pre-fire baseline to compare the effects of the fire and the project. Under the agency’s logic, if the project does not increase hydrologic openings 60 percent beyond the openings already created by the fire and previous harvest activities, the effects are not measurable. NEPA requires the agency to document the cumulative effect on the environment from past, present, and future actions. 40 C.F.R. § 1508.7. It is not possible for the agency or the public to understand the effects of the project on water quantity if the proper water yield of the watershed is unclear.

Second, NEPA requires the agency provide high quality science to support an environmental analysis. 40 C.F.R. § 1502.24. The mortality guidelines used by the agency are questionable, as discussed *infra*. By basing the water quantity effects on dead and dying trees that may actually survive, the agency ignores the effects of removing these trees from the landscape. Additionally, the agency does not provide research showing that removal of “dead and dying” trees has no effects on water yield. The agency cites a study that provides contradictory information to the research used by the agency to show no effect. The Troendle

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and Leaf study found that harvesting 20 to 30 percent of a watershed results in substantial change to water quantity. Although the agency acknowledges the contradictory nature of these studies, it does not elaborate as to how the conclusions would be different if the agency had used Troendle and Leaf analysis. The agency does not explain why it chose one study over the other. NEPA requires that the Forest Service “disclose responsible scientific opinion in opposition to the proposed action, and make a good faith, reasoned response to it.” Seattle Audobon Society v. Lyons, 871 F.Supp. 1291, 1318 (W.D. Wash. 1994). The Flagtail DEIS lacks a reasoned discussion of scientific disagreements as required by NEPA. *See* Seattle Audobon Society v. Mosely, 798 F.Supp. 1473, 1482 (W.D. Wash. 1992), *affirmed*, 998 F.2d 699 (9th Cir. 1993). The NEPA document must meaningfully address uncertainties surrounding the relevant scientific evidence concerning post-fire forest conditions. *See* Seattle Audobon Society v. Espy, 998 F.2d 699, 704 (9th Cir. 1993).

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The DEIS also fails to adequately discuss impacts from sedimentation. The Forest Service admits that background sediment levels are naturally high due to fine sandy and silty soils. As a result, stream channels are sensitive to local disturbance and increased sediment inputs. *DEIS*, 206. Despite this sensitivity, the agency fails to quantify sediment input. The agency claims that Best Management Practices (BMPs) and ephemeral stream buffers will “prevent sediment and concentrations of water from concentrating and leaving units.” *Id.* at 218. BMPs permit up to one cubic yard of sediment to enter the stream from culvert replacements and road reconstruction, but the DEIS fails to acknowledge that any sediment increase would occur from the harvest. *DEIS*, 219.

The Clean Water Act (CWA) Section 313 requires that all federal agencies “shall comply with all Federal, State, interstate, and local requirements, administrative authority, and process and sanctions respecting the control and abatement of water pollution, and federal actors must comply with all record keeping, recording and permitting requirements” 33 U.S.C. § 1323(a). The Ninth Circuit has interpreted this provision to mean that the U.S. Forest Service must comply with all state water quality standards when carrying out its road-building and logging activities Northwest Indian Cemetery Protective Ass’n v. Peterson, 795 F.2d 688 (9th Cir. 1986). The Forest Service cannot claim that the agency's own policies and regulations supersede state water quality standards. In Peterson, the Forest Service claimed that BMPs were the only water quality standards applicable *Id.* at 697. The Ninth Circuit held that adherence to BMPs did not automatically ensure that state water quality standards were met. The Ninth Circuit recently reiterated this standard Blue Mountains Biodiversity Project v. Blackwood, 161 F.3d 1208, 1214 (9th Cir. 1998), *cert. denied*, Ochoco Lumber Co. v. Blue Mountains Biodiversity Project, 119 S.Ct. 2337 (1999).

Accordingly, the Forest Service must describe how the selected alternative for the Flagtail Salvage Sale complies with Oregon’s water quality standards. The DEIS does nothing to indicate how post-fire logging and road reconstruction in the Flagtail planning area – in addition to logging and road building in on private lands in the area – will meet water quality standards. The Forest Service then claims that after logging an additional 3,860 acres of a severely burned landscape, there will be no negative cumulative (not to mention direct and/or indirect) impacts to the watershed or its tributaries. This conclusion defies logic, and is unsupported by the administrative record. 5 U.S.C. § 706(2)(A). Further, the MNF acknowledges

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that BMPs are not fully effective or implemented. *Flagtail DEIS*, 194. The Forest Service cannot rely on ineffective mitigation measures to claim that the action will not have an environmental impact. See Northwest Indian Cemetery Protective Ass'n v. Peterson, 795 F.2d 688 (9th Cir. 1986).

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Snow Creek and the lower 20 miles of Silvies River are 303(d) listed for temperature and dissolved oxygen. *DEIS*, 206. Despite that streams in the planning area already do not meet Oregon standards, the Forest Service nonetheless offers a project that will exacerbate the current conditions. Neither the Malheur nor post-fire salvage logging is exempt from the Clean Water Act. Data to support the conclusion in the *DEIS* that water quality is *not* a problem in the planning area are unavailable. Therefore, Flagtail Salvage Project should be withdrawn until data is available that shows this project will not further degrade the water quality in the planning area. 40 C.F.R. § 1500.1(b); 36 C.F.R. § 219.14(2).

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Additionally, the Forest Service claims that water quality will be improved in the long term from this project because of road decommissioning. Although NEDC supports road decommissioning, the Clean Water Act does not permit “short term” degradations of water quality, and that any project that proposes such degradations is unlawful. The MNF’s claim that decommissioning will decrease sedimentation is further weakened by the fact that the MNF has a poor record implementing road closure and decommissioning. The *Flagtail DEIS* admits that roads intended to be “temporary” were not decommissioned or removed. *Flagtail DEIS S-3*. The Forest Service fails to analyze the road closures in detail, acknowledge the likelihood that road closures will not occur, or explain how effective the measures would as required by NEPA. 40 C.F.R. § 1502.16(h); Northwest Indian Cemetery Protective Ass'n v. Peterson, 764 F.2d 581 (9th Cir. 1985).

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Furthermore, the Forest Service’s claim that the initial increase of sediment caused by the proposed action will be followed by a greater decrease over current levels after the project is completed is pure speculation. Neither the Forest Service nor the state of Oregon has established TMDLs for the planning area. Presently, there is no baseline to determine whether sediment from the proposed action will impact water quality. Without knowing what the TMDL limits are for the adjacent creeks and rivers, the Forest Service cannot know whether sediment from road building and logging operations will be irreversible or insignificant. Consider the following:

The Forest Service argues that the initial increase caused by the Project will be followed by a greater decrease over current levels after the Project is completed. That may or may not be true. However, the Forest Service is working by speculation here because neither it nor the State of Montana has established Total Maximum Daily Loads. By the Forest Service’s own estimates, fish are likely to be threatened. Before the Forest Service decides to do anything that will increase sedimentation, even if the proposed action should ultimately decrease long-term sedimentation, the Forest Service must know how much the stream can carry away. Without a baseline, there is no way but speculation to determine how the sediment impacts water quality, adversely or beneficially. The Best Management Practices employed in the Project are not sufficiently reasonable under Mont. Code Ann. 75-5-703(10)(b), because it is possible that even perfect compliance with the best practices would not be enough. The Forest Service simply does not know.

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By deciding to carry out this project in watersheds with already compromised streams, without knowing the exact condition and capacity to cope of those streams, the approval of the Lolo Post-Burn Project is arbitrary and capricious within the terms of the APA... Consequently, sales impacting these streams segments cannot proceed until TMDL's are established.

Sierra Club v. Austin, No. CV-03-22-M-SWM, slip op. at 18 – 19 (D. Mont. Apr. 30, 2003).

The Flagtail project is analogous to the situation in *Austin*. This case makes it clear that timber harvest that will exacerbate degraded conditions may not go forward absent a TMDL for the listed waterways. Because the streams in the planning area are at risk or are not properly functioning according to Oregon State standards, the Forest Service will violate the Clean Water Act and NFMA if the Flagtail project is implemented. 36 C.F.R. § 219.23(d). By proposing to carry out this project in watersheds with already compromised streams, without knowing the exact condition and capacity to cope of those streams, approval of the Flagtail DEIS is arbitrary and capricious under the Administrative Procedure Act. 5 U.S.C. § 706(2)(A).

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There is a general lack of sufficient information surrounding the water quality in the planning area. A recent General Accounting Office (GAO) study indicates that federal and state land management decisions are limited by the lack of information about the aquatic systems at issue. *Key EPA and State Decisions Limited by Inconsistent and Incomplete Data* (available at <http://www.gao.gov/archive/2000/rc00054.pdf>). There is no indication that the Malheur National Forest has assessed the implications of this report or changed its management practices so as to comply with the recommendations in the GAO report.

- b. The Flagtail DEIS is inadequate because it fails to provide sufficient information regarding the impact of roads.

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The Flagtail DEIS fails to adequately disclose the impact of the proposed road construction. Although the MNF plans to decommission temporary roads that are constructed as part of this sale, the proposed temporary roads will several impacts on the environment including sedimentation, compaction, fragmentation, and soil displacement. These impacts must be disclosed in the Flagtail DEIS. 40 C.F.R. § 1500.1(b).

- c. The Flagtail DEIS is inadequate because it fails to provide sufficient information regarding the impact of the proposed plan amendment

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Although each of the action alternatives propose to amend the Forest Plan (*Flagtail DEIS*, 123), the MNF has failed to disclose the environmental impact of designating ROG 221 and DOG 221 as general forest (MA-1). Under the general forest designation, the areas will be managed “to emphasize timber production on a sustained yield basis while providing for other resources and values.” *Flagtail DEIS*, 247. Managing these areas as general forest instead of old growth will have an impact on the soils, watersheds, and wildlife of the Forest; impacts that were not considered when the Plan was adopted. The Flagtail DEIS should, therefore, disclose the environmental impact of this management change. 40 C.F.R. § 1500.1(b).

- d. The Flagtail DEIS is inadequate because it fails to provide sufficient information regarding effects on wildlife.

10-37

The Forest Service completely failed to survey for Management Indicator Species, Sensitive species, or Threatened and Endangered species. As discussed in the NFMA viability section *infra* (p.18), the Forest Service failed to provide enough information to determine whether the project “maintain[s] species viability” as required by NFMA. 36 C.F.R. § 219.19. Again, one of NEPA’s goals is provide the public with enough information to be able to challenge the agency’s action. Idaho Sporting Congress v. Thomas, 137 F.3d at 1151. The Forest Service fails to provide sufficient information regarding terrestrial wildlife species.

- e. The Flagtail DEIS is inadequate because it fails to provide sufficient information regarding effects from grazing.

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Although the DEIS provides information regarding the Flagtail Salvage Sale’s impact on grazing, the Forest Service fails to fully analyze the effect of grazing on the on the pre- and post-salvage landscape. The DEIS does not discuss impacts of grazing because no grazing will be allowed for at least two years. *Flagtail DEIS*, 106. NEDC commends the Forest Service for acknowledging that cows can affect the post-salvage landscape but question why two years is the appropriate time to withdraw the land from grazing. Bestcha et al. (1995) states that grazing on post-fire landscapes is inappropriate because the animals increase compaction and erosion of already sensitive soils, as well as the spread of invasive weeds. The Forest Service fails to analyze the effects of grazing, even though the effects are indeed “foreseeable future actions.” 40 C.F.R. § 1508.7. In the short term (at least 5 years), grazing must be eliminated to allow recovery of plants, soil, and to protect water quality. In the long term, grazing must be eliminated if the agency is sincere about re-establishing natural fire regimes which depend on natural fuel profiles, which are seriously adversely affected by livestock grazing.

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- f. The Flagtail DEIS is inadequate because it fails to provide sufficient information regarding effects to roadless areas.

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Contrary to the statement in the DEIS, there are two roadless areas larger than 1,500 acres in the Flagtail project area. *Flagtail DEIS*, 312. One is located in the northeastern portion of the project area, near the designated old growth, and the other is in the west end of the project area, near the replacement old growth. Roadless areas greater than about 1,000 acres, whether inventoried or not, provide valuable natural resource attributes that must be protected. These include: water quality; healthy soils; fish and wildlife refugia; centers for dispersal, recolonization, and restoration of adjacent disturbed sites; reference sites for research; non-motorized, low-impact recreation; carbon sequestration; refugia that are relatively less at-risk from noxious weeds and other invasive non-native species, and many other significant values. *See* Forest Service Roadless Area Conservation FEIS, November 2000. This project involves activities in such unroaded areas. The NEPA analysis for this project does not adequately discuss the impacts of proposed activities on the many significant values of roadless areas.

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

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well as sources of high quality water. Henjum, Karr, Bottom, Perry, Bednarz, Wright, Beckwitt and Beckwitt 1994; Interim Protection for Late-Successional Forests, Fisheries, and Watersheds: National Forests East of the Cascade Crest, Oregon and Washington- A Report to the Congress and President of the United States. Rhodes, McCullough, and Espinosa 1994; A Coarse Screening Process for Potential Application in ESA Consultations- Technical Report 94-4. Prepared for National Marine Fisheries Service.

NEPA analysis must acknowledge and discuss impacts on roadless areas. The NEPA process can be used to validate roadless area boundaries. Currently, only arbitrary Forest Service designation, outside of any public appeal opportunity, set these boundaries. An action does not have to occur inside a RARE II boundary to affect a roadless area. *California v. Block* held that actions affecting wilderness status could not rely on RARE II. RARE II did not comply with NEPA and “was inadequate to support the non-wilderness designations of the disputed areas and therefore violated NEPA.” 690 F.2d 753, 767 (9th Cir. 1982). In the present case, the Forest Service is relying on an illegitimate RARE II boundary of this roadless area to support its contention that logging may occur in de facto roadless land without affecting future wilderness designation. Further, the Forest Service Washington Office ruled in its appeal decision of the Idaho Panhandle Forest Plan Appeal that roadless areas must be evaluated individually when logging is to occur in them.

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The agency must consider the significant environmental impacts of proposed activities in roadless areas. The agency should consider the effects of this project on uninventoried roadless areas like the Rogue River National Forest considered unroaded areas in the recent Mill Creek DEIS. Although the Rogue River National Forest should be commended for considering uninventoried roadless areas in an EIS and for developing an alternative that deferred entry into unroaded and old-growth areas, they did not adequately analyze the impact of the proposed project on the values embodied by the uninventoried roadless areas.

While the Forest Service does not have an explicit legal obligation to protect these uninventoried areas, the agency does have a legal obligation pursuant to NEPA to describe the environmental consequences of logging and road building in ecologically significant areas. The Forest Service Roadless EIS described several qualities of roadless areas that are not limited to those over 5,000 acres and that happen to have been inventoried in the RARE process. The Forest Service should not rely on the arbitrary roadless boundaries drawn as part of RARE. To fulfill NEPA’s mandate, the agency must look at the ecological limits of roadlessness.

2. The Flagtail DEIS fails to adequately consider the cumulative environmental impacts of the proposed project and past, present, and future Forest Service and private activities.

10-42

The Flagtail DEIS fails to identify and evaluate the cumulative impacts of the project. Cumulative impacts are defined as “the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions” on both public and private lands. 40 C.F.R. § 1508.7. The Forest Service fails to discuss any concurrent or future projects occurring near the project area. The agency only mentions small proposed rehabilitation projects located in the project area and admits the lack of knowledge of private land actions. *Flagtail DEIS*, 194.

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The agency makes no effort to discover the impacts of actions on private lands, even though 1,080 acres of private land are in the planning area. The DEIS also fails to indicate the severity or consequences of actions on private lands have on the environment. The DEIS does not assess the cumulative effects of the Monument or Easy fires that burned during the same fire season and in the same vicinity. Nor does the EIS include a discussion of proposed salvage harvest in those planning areas. The DEIS does not indicate whether the Forest Service is planning future green timber sales in or near the project area. The Forest Service on the MNF did not assess the cumulative impacts of the Flagtail Salvage Sale. Because there is no indication that the agency assessed the nature of the cumulative impacts to species, soil, and aquatic resources within the planning area, the Flagtail Salvage Sale DEIS must be withdrawn. Id.

Examples of failure to adequately assess cumulative impacts include:

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- 1) In the vegetation discussion, the Flagtail DEIS only notes that the agency did a Categorical Exclusion (CE) to replant trees, plans to implement a hazard tree project along roadsides, and that private lands will have to be replanted to meet state requirements. *Flagtail DEIS*, 83, 87. The Forest Service fails to discuss the effects of nearby fires and future green timber sale projects on forest stands and old forest structures. The agency also overlooks the fact that this CE was held unlawful by the Oregon Federal District Court, and that the USFS violated NEPA in failing to assess the environmental consequences of the roadside salvage.

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- 2) In the air quality discussion, the Forest Service fails to address any cumulative impacts of proposed prescribed burns. *Flagtail DEIS*, 111. The DEIS further fails to address the cumulative impacts of the Easy and Monument Salvage projects, both of which will likely contain prescribed burns.

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- 3) In the terrestrial wildlife discussion, the Forest Service fails to provide information or adequately analyze and disclose potential impacts to Sensitive and Management Indicator Species (MIS), and fails to ensure their viability, in violation of NFMA. 36 C.F.R. § 219.19. The cursory discussion of cumulative effects in the DEIS hardly constitutes the “hard look” and substantive analysis of cumulative effects that is required by NEPA. Neighbors of Cuddy Mountain v. United States Forest Serv., 137 F.3d at 1380; *Flagtail DEIS*, 117-126. It cannot form the basis for a viability determination for wildlife species of concern. No mention is made of the acreage or habitat affected by the proposed action as well as other past, present, and foreseeable future actions. Nor does it provide any information in population trends or viability.

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- 4) In the watershed discussion, the Forest Service finds no cumulative impacts to the watershed because the agency fails to even mention concurrent federal or private land projects. The agency only notes a cumulative improvement of watershed as a result of the road decommissioning. *Flagtail DEIS*, 212. The agency completely fails to discuss the impacts of grazing on water quality. The agency admits that after two years the grazing allotments may be used. The Flagtail EIS does not analyze grazing or its impacts on water quality. NEPA simply does not allow the agency to forgo a cumulative impacts analysis. 40 C.F.R. § 1502.16, 1508.7.

- 10-48** 5) In the soils discussion, the MNF fails to consider the impact all of the past, present and future impacts in combination with the impact of the proposed action. The cumulative impact analysis of the project on the Forest's soil fails to consider the impacts of past, present and future green timber harvest, road building, fire suppression, salvage logging, and grazing. Moreover, the Flagtail DEIS fails to consider impacts that exist outside of the fire perimeter on both public and private land.
- 10-49** 6) In the roads discussion, the MNF fails to consider the impact of proposed road activities (e.g., road construction, road decommissioning, temporary road construction) in combination with all past, present and future road activities. The Flagtail DEIS acknowledges extensive road degradation, but fails to consider cumulative impacts upon the watershed that existing road conditions would have. The existing condition states, "most roads, the roadway surface is either rutted or has rill erosion, or both, which is caused by water running down the roadway or rutting made by the passage of a vehicle." Flagtail DEIS, 113. Considering the fact that 63 miles of eroding roads already exist in the Flagtail area, it is unreasonable to avoid consideration of their impacts to the watershed. Roads did cause, are causing, and will continue to cause severe impacts.¹ Specifically, they cause "sedimentation to filter into adjacent streams." Future maintenance cannot be a substitute for the cumulative effects analysis of past and current road conditions effects. Nor can the DEIS ignore cumulative impacts to the environment that roads used for the proposed activity will have. Furthermore, the MNF must establish a sediment budget to determine cumulative impacts from the roads, road construction, and road maintenance.
- 10-50** 7) The *Flagtail DEIS* must analyze the direct, indirect, and cumulative impacts associated suppression and emergency rehabilitation. This includes approximately 23.3 miles of fire line built with dozers for fire suppression. *Flagtail DEIS*, 3. NEDC contends that the impacts associated with fire suppression efforts and emergency rehabilitation activities were on par with the effects the wildfire itself. The destruction of thousands of acres of forest from burnout operations, firelines, chemical retardants, and other suppression actions must be included as cumulative effects. The *DEIS* must analyze the direct, indirect, and cumulative impacts associated with these actions in combination with other past, present, and reasonably foreseeable future actions.

¹ The Flagtail DEIS recognizes the following problematic roads: "Use by fire fighting equipment degraded conditions further. For example, on road 2400048 (Figure 9, Map Section), drainage structures that were previously constructed, drainage dips, grade sags, cross ditches or waterbars, are now in need of reshaping. Another example is road 2400133. The road is in the bottom of the draw and becomes wet and muddy when used under wet conditions. It also has an undersized culvert. Other roads only need blading to reshape the surface. There are also areas where rock will need to be placed to create a surface that will be resistant to rutting during the wet times of the year, to protect the roadbed and to prevent any sedimentation going into streams (e.g. road 2400033). One road in particular is in need of decommissioning. Road 2400205 crosses Snow Creek over a log culvert which is not in good shape." *Flagtail DEIS*, 7.

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- 8) Roads did cause, are causing, and will continue to cause severe impacts. Specifically, they cause “sedimentation to filter into adjacent streams.” Flagtail DEIS, 113. Before any salvage action is taken, the MNF must establish a sediment budget to determine cumulative impacts from the roads, road construction, and road maintenance.

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- 9) In its discussion of the proposed Forest Plan amendment, the Flagtail DEIS fails to consider the cumulative impacts of re-designating old growth areas (MA-13) as general forest (MA-1). Areas within the MA-1 designation are managed “to emphasize timber production on a sustained yield basis while providing for other resources and values.” *Flagtail DEIS*, 247. The Flagtail DEIS fails examine the cumulative impact this management change will have when combined with all past, future and reasonably foreseeable future impacts (e.g., road building, fire suppression, salvage logging, future timber harvest). For example, because the MNF is proposing to manage these areas (ROG 221 & DOG 221) as general forest future timber harvests are not only reasonably foreseeable but inevitable. This fact notwithstanding, the Flagtail DEIS fails to consider the cumulative impact of future activities. Further, the agency fails to acknowledge the cumulative impact of “insignificant” plan amendments made in nearly every other proposed action. As the Malheur National Forest amends the MLRMP piece-by-piece, the cumulative effect will be a completely different Forest Plan as a whole.

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In each area of discussion throughout the DEIS, the Forest Service fails to mention any concurrent federal or private project or acknowledge any cumulative effect whatsoever. The brief attention given to the cumulative impacts of the Flagtail Salvage Sale is inadequate and fails to meet NEPA’s requirement for high quality scientific analysis that would satisfy the “hard look” standard. Robertson v. Methow Valley Citizens Council, 490 U.S. 332, 353 (1989); Blue Mountains Biodiversity Project v. Blackwood, 161 F.3d 1208 (9th Cir. 1998) *cert. denied*, Ochoco Lumber Co. v. Blue Mountains Biodiversity Project, 119 S.Ct. 2337 (1999). Failure to conduct a cumulative impacts analysis is fatal to a project. Neighbors of Cuddy Mountain v. United States Forest Serv., 137 F.3d 1372 (9th Cir. 1998); Idaho Sporting Congress v. Thomas, 137 F.3d 1146 (9th Cir. 1998); Muckleshoot Indian Tribe v. U.S. Forest Serv., 177 F.3d 800 (9th Cir. 1999).

C. The Flagtail Salvage Sale DEIS fails to provide required assurances and environmental considerations mandated by the National Forest Management Act.

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The National Forest Management Act (NFMA) provides the MNF with the responsibility to ensure resource conservation management that will meet the requirements of out people in perpetuity. 16 § U.S.C. 1600(6). Even though NFMA allows salvage sales in management areas not suited for timber harvest (NFMA §1604 (k)), the Act directs land managers to avoid harvesting areas if it would cause irreversible damage to the watershed, soil, or slope conditions. Although the Forest Service may harvest for salvage purposes, the timber harvest is not exempt from meeting environmental considerations. Thus, the salvage timber harvest must not irreversibly damage the soil, slope, or watershed. The following NFMA mandates are not met by the Flagtail DEIS:

1. *Forest management decisions were not made in light of multiple uses such as*

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recreation, range, watershed, wildlife, and fish. 16 U.S.C. § 1604(e)(1)-(2).

The proposed action removes a significant portion of the forest in an area that is already impaired by fire and land management activity. For example, the salvage alternatives fail to consider the proposed actions effect on road densities, poor stream health, eroded banks, 303(d) water quality limited streams, fire dependant wildlife, and sensitive soils *during* the activity. *Post* harvest activity mitigation cannot substitute as the effects analysis to these vital resources. Harvest impacts to the majority of multiple uses are largely ignored. NFMA's precautionary principle requires that decisions to harvest be made *in light of* multiple uses, not in spite of them. The following multiple uses were not adequately considered in the Flagtail DEIS:

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a. Recreation will be significantly impaired. For example, loss of the visual quality from remnant stumps, skid trails, and a logged landscape will impede the ability to recreate. Recreation, scenic and aesthetic values are important ones that should be carefully considered in the Flagtail area. Recreation is a driving force for the local, state, and regional economy and is closely tied to the above values. Also, quality of life issues are important to local residents and are also closely tied to those values. Throughout the fire area, the scenic vistas, both fore, middle, and background, should be retained in a natural state. Of particular concern are the travelways that are often used and lead to recreation sites and trailheads. The Illinois River Road (4103), Eight Dollar Mountain Road (4201), Lone Mountain Road (4402), Galice Access/ Bear Camp Road (2300), Burnt Ridge Road (2308), Vulcan Peak Access (1909) are roads critical to recreational infrastructure. NEDC expects that the driving experience for Forest visitors be pleasant and scenic. More and more, recreationists want to see not just natural vistas, but also a natural ecosystem in the scientific sense. What they do not want to see are logged areas. Keep the vistas natural.

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b. Post-fire dependent species needing old growth will be impaired by massive salvage harvest;

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c. Fisheries and wildlife will be further displaced by salvage sale activity that further encroaches and impairs habitat;

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d. Soil health will be significantly impaired by the salvage activity;

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e. Water quality will be impaired, especially in down stream areas that are already 303(d) listed; and

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f. Range will be significantly impaired by soil compacting salvage activities.

2. *The Flagtail DEIS fails to "Provide for diversity of plant and animal communities based on suitability and capability of specific land area in order to meet overall multiple-use objectives."* 16 U.S.C. § 1604 (g)(B).

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While admitting that impacts will occur to Sensitive and MIS species such as the pileated woodpecker, northern goshawk, and pine marten, the Flagtail DEIS fails to provide any analysis or data for populations of these species to support the conclusion that viability of these species will be maintained and that the project is not likely to result in a trend toward federal listing or loss in viability of species as required by NFMA and the MLRMP. Instead, the DEIS relies on Replacement Old Growth Habitat to fix conditions that: (1) cannot be ameliorated through salvage logging; (2) cannot by itself remediate habitat loss; and (3) cannot replace the value of

10-61 Cont.

current Old Growth habitat, but only supplement it. A *future* Old Growth stand is beneficial to species, but it cannot replace the values and wildlife needs of today.

The 1982 regulations implementing NFMA require that “Fish and wildlife habitat shall be managed to maintain viable populations of existing native and desired non-native vertebrate species in the planning area.” 36 C.F.R. § 219.19. Further, the Ninth Circuit recently held “using old growth habitat as a proxy for population monitoring of the management indicator species was arbitrary and capricious.” *Idaho Sporting Congress, Inc. v. Rittenhouse*, 305 F.3d 957, 974 (9th Cir. 2002). The Forest Service’s use of habitat as a proxy of for management indicator species surveys does not ensure species viability as required by NFMA. *Id.*; 36 C.F.R. § 219.19.

Despite this clear direction contained in the LRMP, as well as direction provided by NFMA itself, the DEIS fails provide data on population trends for MIS or sensitive species impacted by this project. Instead, the MNF admits that “species populations and distributions are not discussed in depth, as little quantitative data is available for most species.” *Flagtail DEIS*, 118. It is not clear that the Malheur National Forest has even conducted systematic species surveys at the Forest level to estimate population numbers or trends for most MIS species in the Forest, including those impacted by the proposed project. Failure to conduct surveys for the project logically implies that the Forest Service did not and cannot adequately evaluate the impacts to sensitive and MIS species. Therefore, the Flagtail DEIS fails to demonstrate that the project will not threaten the viability of these species, in violation of the NFMA (36 C.F.R. § 219.19), the Malheur National Forest LRMP, the Endangered Species Act and its implementing regulations (16 U.S.C. § 1536(a)(2); 50 C.F.R. § 402.12(g)(3)), and NEPA (40 C.F.R. §§ 1508; 1502.16, 1508.25(a)).

In addition, surveys for Management Indicator Species were based on “suitable habitat.” The Flagtail DEIS admits that “effects on habitats are discussed with the assumption that *if appropriate habitat is available* for a species, then that species occupies or could occupy the habitat.” *Flagtail DEIS*, 118. This is not sufficient. Obviously, the Forest Service is not required to look for fish out of water. However, a thorough survey of each proposed unit is necessary for reliable scientific information to support the conclusions reached in the DEIS. Without surveying each unit, one could not know if suitable habitat exists

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Although fires can cause mortality of individual animals, in general, wildlife populations respond positively to fires and in fact are attracted to burns for the vibrant flush of nutrients and new vegetation, and the pulse of new snags and logs, that result from fire. Gorte 1995. The MNF recognizes the fact that fire can increase some wildlife habitats. *Flagtail DEIS*, 8. Cavity-nesting species are prime beneficiaries of fires, and 62 species of birds and mammals use snags, broken-topped, diseased or otherwise “defective” trees for roosting, denning, foraging, or other life functions. Thomas, et al. 1979. Woodpeckers are an especially important species, for they excavate cavities essential for non-excavating species such as bats and squirrels; however, recent studies indicate that current management guidelines for maintaining snag density may be too low to provide for desired population levels of woodpeckers because the guidelines only focus on their nesting requirements. Bate et al. 1999; Bull et al. 1997. In fact, “snag levels are now greatly elevated, maximizing habitat for many woodpecker species; black-backed woodpeckers in particular respond positively to post-fire habitats.” *Flagtail DEIS*, 8.

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Larger-diameter trees (e.g. greater than 20 inches DBH) are not only more utilized by cavity-nesting wildlife, but they also stand longer and have greater longevity as downed logs than smaller-diameter trees. Morrison and Raphael 1993; Bull, et al. 1997. Large-diameter trees enable bigger cavities for larger-sized animals, and the deep furrows of their bark provide greater food supply of insects. Cline et al. 1980; Bate, et al. 1999. However, salvage logging primarily targets larger-diameter trees because these comprise the most commercial value for logging companies. In addition to snags, large-diameter logs are utilized for feeding, shelter, and reproduction by a number of mammals, reptiles, amphibians, and insects. Brown et al. 2001. Additionally, the Forest Service's discussion of snag retention is focused on cavity excavators and fails to address the many other values (structure, function, and process) of snags and decayed wood as presented in Rose, C.L., Marcot, B.G., Mellen, T.K., Ohmann, J.L., Waddell, K.L., Lindely, D.L., and B. Schrieber. 2001. 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)

10-64**10-65**

The density and distribution of snags and logs in Douglas-fir forest ecosystems greatly influences the density and distribution of snag/log-dependent wildlife. Cline et al. 1980. Empirical studies have found that the range of snag diameters, and average length and frequency of downed logs in streams was greatest in unmanaged old-growth stands compared to salvage-logged areas. Sedel et al. 1988; Cline et al. 1980. In fact, forest managers are finding it difficult to meet the number, density, size, and condition of snags required by their Forest Plans due to past salvage logging and old-growth clearcutting that removed snags. Bate et al. 1999; Parks et al. 1999. Far from being a "wasted resource," large-diameter snags and logs play critical structural and functional roles in maintaining healthy, diverse wildlife populations. Harmon et al. 1986; Maser and Trappe 1984. Indeed, an ecologist could argue that a dead tree sustains more wildlife than a live tree.

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Even though the Flagtail DEIS recognizes fire's natural role in the ecosystem, it fails to analyze and consider fire's necessary function of promoting plant and animal diversity. Post fire ecosystems are important in maintaining biodiversity of a healthy forest. This stage of forest development is required by fire dependent species such as aspen and wood peckers. The proposed action fails to consider this essential life stage of western forest ecology.

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Even if it were demonstrated that the risks associated with a possible re-burn justify removing some of the trees killed by the Flagtail Fire, the trees appropriately removed for this reason would be the smaller trees most likely to ignite and to carry a fire, not the larger trees typically salvage logged to capture economic value. Larger trees provide critical habitat for many species of wildlife, as well as coarse woody debris essential to long-term soil productivity, aquatic habitat quality, and natural post-fire recovery. Beschta et al. 1995; Henjum et al. 1994. In addition, large trees are the least flammable fuels and are the most important for recovery processes within burned areas. Franklin et al. 2001; Beschta et al. 1995; Perry & Amaranthus 1997.

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Finally, there is no evidence to support the Forest Service's claim that proposed logging will maintain habitat capability for these species or accelerate the development of large, old trees, and mature forest conditions.

3. *The Flagtail DEIS fails to "insure that timber will be harvested from National Forest System Lands only where – soil, slope, or other watershed conditions will not be irreversibly damaged."* 16 U.S.C. § 1604 (g)(3)(E)(i).

- a. Irreversible Damage to Watershed Conditions

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Salvage logging in Designated Old Growth causes irreversible watershed damage, in violation of NFMA. The proposed activities harvest Old Growth from an impaired watershed, thereby further decreasing structural diversity, harming essential wildlife habitat, and impairing water quality.

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We commend the MNF for adding Replacement Old Growth stands to the Forest. However, the new designation cannot replace the DOG but should merely supplement it while the forest regenerates. To act otherwise is unreasonable risk to watershed health. The MNF admits that "replacement" stands "may not have all the characteristics of old growth, but are managed to achieve those characteristics." *Flagtail DEIS*, 119. Since burnt Old Growth retains its structure, and will likely regenerate before the "Replacement Old Growth" resembles an Old Growth forest, it is unreasonable to assume that ROG can immediately replace necessary watershed functions provided by an Old Growth forest. Replacing Designated Old Growth with areas that are simply not Old Growth, while logging the strongest portions of the watershed harms the structural integrity of the ecosystem. Following this management practice means that all areas of Designated Old Growth are vulnerable to logging post fire, and thus are not really a protected under the current management scheme. Allowing the MNF to harvest DOG means these stands will be logged until there are no more areas retaining these characteristics left – only Re-designated areas that will have old growth "some day." This is a significant impact that violates NFMA. 16 U.S.C. § 1604 (g)(3)(E)(i).

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- b. Irreversible Damage to Soil

The MNF is required by law to avoid ground disturbance. NEDC is concerned about the impacts of salvage logging on burned soils, particularly soil productivity, nutrient cycling, and recovery processes, especially from multiple entries in an area. Overall, intense wildfire tends to increase the sensitivity of sites to further soil disturbance. Helvey 1980; Morris and Moses 1987. Skid trails formed in post-fire stands can influence productivity of trees growing directly on them. Smith and Wass 1980. Logging activities should be prohibited in severely burned areas (areas with low amounts of litter), on erosive sites (e.g. granitics), on fragile soils, in roadless areas (inventoried and non-inventoried), in riparian areas, on steep slopes, or on any site where accelerated erosion is possible. The DEIS does not provide any measures to ensure that these areas will be adequately protected during the proposed actions. The Forest Service must address sensitive soil protection.

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The erosive nature of the post fire soil is problematic. This is illustrated by the replanting projects that occurred immediately after the fire. *Flagtail DEIS*, 4. Yet, the Flagtail DEIS is completely devoid of any meaningful information or analysis of effects on soils and long-term site productivity in the project area, even though this is fundamental to the long-term health and productivity of the forest affected by the timber sale. The DEIS does not analyze potential soil compaction, displacement, erosion, or mass wasting from the proposed logging, road construction, or landing construction and use.

Fires can cause short-term adverse effects on soils, such as increasing erosion from removal of vegetative cover that exposes soils to rain and snowfall and subsequent runoff. These impacts vary depending on a number of environmental factors, including the severity of the fire, the steepness of slopes, natural erodibility of soil parent material, precipitation events, and other factors, but in general, burned soils are highly vulnerable to additional disturbance. Beschta, et al., 1995: 7; McIver and Starr, 2000: 10; Helvey, 1980; Swanson, et al. 1989. Salvage logging displaces soil by felling and dragging large-diameter trees across the exposed ground surface, thereby directly initiating erosion. One of the natural recovery processes initiated by fires is that when large-diameter snags fall to the ground across the slope contour, they serve as natural check-dams that slow runoff and retain soil, which is especially important on steep slopes Maser, et al., 1988b: 34; Brown, et al., 2001: 3. Thus, salvage logging also indirectly facilitates erosion through removal of large snags and logs that would naturally slow overland flow and retain soil.

In a study that compared five different post-fire salvage logging methods on ponderosa pine sites in eastern Washington, conventional tractor-based systems disturbed nearly 75 percent of the area and caused erosion on over 30 percent of the area, but even helicopter logging caused soil disturbance on 12% of the area. Klock, Glen. 1975: 78-81. In addition to erosion, salvage logging is also known to cause soil compaction. Beschta, et al., 1995: 6; Sexton, 1994: 12.. This also adversely impacts post-fire recovery and long-term site productivity by eliminating pore spaces in soil that retain air, water, and facilitate spread of fine roots. The result of decreased water infiltration and retention is increased surface runoff, sheetwash erosion, and subsequent sedimentation in streams.

Salvage logging also causes nutrient losses not only directly through removal of topsoil, but indirectly through the removal of snags and logs that function as a major source of soil organic matter and a long-lasting reservoir of essential nutrients for microorganisms, plants, and animals. Maser, et al., 1988b: 34-35. In fact, in Douglas-fir ecosystems of the Cascades, up to 30 percent or more of upper soil layers are composed of old decayed logs. Harmon, et al., 1986. It can take several centuries, even millennia, for forest soil to develop the capacity to grow big, old trees. Thus, the problem with soil displacement, compaction, and erosion is that once topsoil has been removed from the ecosystem, it constitutes an irreplaceable loss of fertility and productivity, at least in human timescales. Beschta, et al., 1995: 7. Consequently, protection of the topsoil is a primary requisite for aiding post-fire recovery and maintaining long-term forest ecosystem health. Amaranthus, et al. 1989:193.

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In addition, The DEIS fails to provide site-specific analysis of potential soils impacts, instead relying on “representative sampling.” This is inadequate. Site-specific information is necessary for the public and the decision maker to be able to analyze potential impacts. Idaho

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Sporting Congress v. Thomas, 137 F.3d at 1151. Without specifically analyzing each unit, neither the decision-maker, nor the public, can fully understand and evaluate the potential impacts of the Flagtail project.

Thus, the DEIS fails to ensure that each timber harvest unit will comply with LRMP standards and guidelines and other applicable laws. 16 U.S.C § 1604(i); 36 C.F.R. § 219.10(e). The DEIS also fails to analyze the effects from the proposed logging on long term organic debris input into soil, in violation of NFMA, NEPA, and the Malheur National Forest LRMP.

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Failure to address the direct, indirect, and cumulative impacts associated with the proposed activities results in the Forest Service’s inability to ensure that timber will be harvested only where soils will not be irreversibly damaged. In addition, the DEIS fails to identify and disclose technology and mitigation measures necessary to prevent irreversible damage to soils and site productivity from the proposed activities. Because the DEIS does not adequately analyze impacts on soils and long-term productivity, it fails to ensure compliance with the LRMP for the Malheur National Forest, which requires the Forest to maintain soil productivity.

c. Irreversible Damage to Slope

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The Forest Service must closely analyze and take a hard look at the impacts of the proposed action to this impaired watershed’s slopes. The Flagtail Fire area is impaired due to high road density, fire, and timber harvest. *Flagtail DEIS*, 8-9. Yet, the MNF asserts that the recommended actions will *avoid* unstable lands, avoid constructing new roads, and avoid erosion. Proposing to harvest timber in an impaired watershed with eroded roads and cut-banks is not avoiding significant impacts to slope by any stretch of the imagination.

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The DEIS must rigorously discuss and analyze the numerous known adverse environmental impacts that have been documented with respect to post-fire logging. One of the most important revelations in forest science over the past several decades has been recognition of the importance of standing dead trees and logs in maintaining ecosystem function (e.g. Lindenmayer and Franklin 2002 for review). The critical importance of dead trees challenges the traditional forestry model that treats these biological legacies simply as wood fiber, fire hazards, and mechanical impediments. To move away from outdated approaches, the Forest Service must provide a sound scientific basis for post-fire management actions, particularly those (i.e. salvage logging) that have the most potential to adversely and cumulatively affect water quality, wildlife, soils, and other key biological resources. Aber et al. 2000.

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The most comprehensive review of the environmental effects of post-fire logging was prepared by McIver & Starr (2000). As noted *supra*, the authors, from the Forest Service’s Pacific Northwest Research Station, found no scientific evidence supporting the claim that removal of dead trees will decrease the intensity of future fire on a site (referred to as the “reburn hypothesis”). Instead, recent scientific research advises limited activity in sensitive postfire areas.

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In their review, McIver & Starr (2000) highlight a the Beschta Report (1995). The eight authors of the Beschta report collectively represent many decades of scientific research and land

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management experience, and as such their recommendations are particularly significant in light of the paucity of empirical, peer-reviewed research on the effects of post-fire logging. Two primary findings of the Beschta Report are that: (1) there is no ecological need for immediate intervention after fire, and (2) post-fire logging is likely to result in significant adverse impacts on the environment:

Ecologically speaking, fires do not require a rapid human response. We should not talk about a "fire crisis" but rather of managing the landscape with the anticipation that fire will eventually occur. Given the high degree of variability and high uncertainty about the impacts of post-fire responses, a conservative approach is warranted, particularly on sites susceptible to on-site erosion.

As a result of these findings, Beschta et al. (1995) recommend that all post-fire logging be prohibited in sensitive areas, including severely burned sites, erosive sites, fragile sites, roadless areas, riparian areas, *steep slopes or any site where accelerated erosion is possible*. *Id.* (emphasis added). Thus, according to the best available science, the commercial activity proposed by the MNF will cause irreversible damage to the natural resources protected by the NFMA.

4. *The DEIS construes the NFMA forest restocking provision incorrectly.* NFMA § 1604(g)(3)(ii).

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Contrary to MNF's assertion in the Flagtail DEIS, the No Action Alternative does comply with NFMA's goal of reforesting "as soon as possible" even though this alternative is not required to do so. The No Action alternative is not required to "reforest as soon as possible" because this provision pertains to the reforestation of *salvaged parcels*. *Flagtail DEIS*, 82. Similarly, NFMA mandates land managers to allow timber harvests only where that *harvested* area can be adequately reforested in five years. 16 § 1604(g)(3)(ii). Read in context, this section of NFMA and The Emergency Timber Salvage Program require land managers to apply a precautionary principle before permitting timber harvest. Where there is no timber harvest, there is no need to mandate such precautions. Thus this the directive only applies to the *Action* Alternatives which harvest timber and not the No Action Alternative.

In the Flagtail DEIS, the MNF argues that post-fire salvage logging is desirable because it will facilitate more rapid recovery and establishment of conifer forests than if the fire-affected area is left unlogged. *Flagtail DEIS*, 100-101. Apparently, the agency's line of reasoning is that logging will allow for more effective tree planting efforts while also inhibiting the regeneration of resprouting hardwoods and shrubs that compete with conifer seedlings. NEPA requires that the agency present any scientific evidence in support of these assertions. 40 C.F.R. § 1502.24

Even if the No Action Alternative should "reforest areas as soon as possible" for ecological purposes, the assertion that the No Action Alternative cannot do this is false and not supported by the agency's findings. *Flagtail DEIS*, 93; *Consistency with Direction and Regulations, NFMA, Regional Forester's Letter of Nov. 19, 2002*. The No Action Alternative follows NFMA's reforestation policy for the following reasons:

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First, according to Forest Service's estimates, almost the entire Flagtail area will reforest naturally within 0-20 years under the No Action Alternative. This follows NFMA reforestation goals to "reforest as soon as possible" since this alternative will reforest the Flagtail area in the "short term." Short term as defined by the DEIS is 0-20 years. Moreover, natural reforestation is far less impacting to outdoor recreation, watershed, wildlife, and fish, all of required assurances under NFMA. 16 U.S.C. § 1604(e)(1)

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Second, the assertion that the No Action Alternative does not follow NFMA directives is false because it is based on erroneous data. The DEIS states that "The total area expected to naturally reforest within 2 decades totals 4300 acres." *Flagtail DEIS*, 82. This represents 95% of the acreage considered in need of reforestation.² Thus, only 5% of the area may not meet NFMA's reforestation goal. This fact was not presented to the public. Instead, the Forest Service arbitrarily based its NFMA reforestation determination for the entire No Action alternative on a 22% inability to regenerate. As noted above, the 22% estimate is based on inaccurate acreage. Somehow, the 220 acres unable to regenerate naturally turned into 1200 acres. Adding about 1000 acres to the equation has the effect of seriously skewing the picture by making it appear that the area will take much longer to reforest than it actually will. Deflating the areas natural reforestation ability throughout Flagtail by falsifying numbers is unprofessional and unethical. The agency's finding deceptively misleads the public. Moreover, reasonable management decisions cannot be made on such gross misrepresentations.

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Third, post-fire salvage logging is likely to adversely affect reforestation by reducing or eliminating the shade cast by dead trees, which, while obviously less than that of live trees, significantly moderates the harsh microclimate of severely burned areas by shading the forest floor during hot summer weather and preventing excessive heat loss during cold nights. Shelter provided by standing dead trees and down logs reduces the use of water by conifer seedlings growing beneath them, and can significantly improve the survival of tree seedlings under droughty conditions characteristic of much of the Flagtail area. Perry 1994.

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Fourth, in addition to mitigating environmental extremes, snags and logs provide enriched soil microsites for seedling establishment, in part because they are centers of biological activity for mycorrhizal fungi and nitrogen-fixing bacteria (Maser & Trappe 1984), reduce erosion by acting as physical barriers to soil movement (Franklin et al. 1985), provide cover for small mammals that disseminate mycorrhizal spores into disturbed areas (Maser et al. 1978, Tallmon & Mills 1994), and exhibit higher water-holding capacity that aids seedling survival during drought (Harvey et al. 1989, Amaranthus et al. 1989a). The DEIS must incorporate and analyze these considerations.

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Fifth, the DEIS must also disclose available scientific evidence which refutes the notion that salvage logging would aid in reforestation by inhibiting resprouting hardwoods, which can compete with conifer seedlings, such as Grifantini (1990), Grifantini et al. (1992) and Stuart et

² The total area considered to require reforestation totals 4520 acres and does not include the 380 acres being reforested under a separate 2003 NEPA document. These estimates correct the Forests Service's gross miscalculation which appear in the Effects of Natural Reforestation -No Action Alternative- which miraculously added 1000 acres to the project area out of thin air. *Flagtail DEIS*, 82.

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al. (1993) (more vigorous hardwood regeneration in their post-fire logged and burned treatments, relative to post-fire unlogged controls; and that the higher cover of hardwoods in logged areas was found to inhibit establishment and growth of Douglas-fir seedlings).

The DEIS must disclose and analyze available scientific evidence which shows that conifers benefit – both directly or indirectly – from the regeneration of shrubs and hardwoods in recently burned areas. Because sprouting hardwood and shrub species recover quickly after fire, they help minimize loss of soil carbon and nutrients that facilitate reestablishment of later-arriving plants, maintain critical elements of soil structure, and provide critical habitats for soil organisms that depend on plants for their continued survival. Amaranthus & Perry 1989b, Borchers & Perry 1990, Perry et al. 1989, Conrad et al. 1985, Perry 1994, Amaranthus et al. 1987, Perry et al. 1987, Horton et al. 1999, Amaranthus & Perry 1989a,b; Amaranthus et al. 1990; Borchers & Perry 1990, Wilson 1982.

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Furthermore, allowing natural reforestation provides sustainable forestry practices while also ensuring the protection of human and environmental health. Since no additional planting would occur in the No Action Alternative, there would be no manual, mechanical, or herbicide control methods, and thus no health or safety risks to forest workers or the public. *Flagtail DEIS*, 84. The DEIS must analyze alternatives to planting seedlings, such as aerial seeding and natural seeding in its action alternatives. Where natural reforestation is not possible in the short term, aerial seeding is an option. It could be done without site prep and without salvage logging. Additionally, this method would have less safety concerns, and costs less.

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5. The Flagtail DEIS fails to “insure that timber will be harvested from National Forest System Lands only where protection is provided for streams, streambanks, shorelines, lakes, wetlands and other bodies of water from detrimental changes in water temperature, blockages of water courses, and deposits of sediment, where harvests are likely to seriously and adversely affect water conditions or fish habitat.” 16 U.S.C. § 1604 (g)(3)(E)(iii).

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NEDC recognizes the efforts to protect stream using riparian buffers. This is an important component to protecting streams. However, in the context of salvage operations, more must be done to ensure water quality. As the DEIS states, road conditions in the sale area are in a state of disrepair, stream quality is low due to past management activities. In fact, conditions of the proposed area pre-fire exhibited an inability to maintain water quality. This illustrates the failure of Best Management Practices (BMPs).

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The proposed action anticipates the “temporary” addition of skid trails, roads, and yarders, all which cause erosion and input significant amounts of sediment into 303(d) impaired water bodies. The proposed activity only exacerbates the sedimentation caused by “open road densities in the Jack, Snow and Hog subwatersheds in excess of Forest Plan standards.” *Flagtail DEIS*, 7. Without a sediment load budget (determined by TMDL), this proposed action fails to insure protection of the water bodies. Even though the sediment loads from the proposed activity are not quantified, we are supposed to believe that it will be insignificant because mitigation will have long term benefits. Yet, decommissioning roads five to ten years *after* the activity cannot prevent massive sediment loads from entering impaired water bodies *during* the activity. In light

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of the fact that adjacent water bodies are already impaired, there is no way the Forest can insure their protection through the preferred alternative. Thus, *future* mitigation cannot insure water protection. The DEIS does not adequately analyze the potential impacts from the proposed temporary road and landing construction. The DEIS fails to provide site-specific information in the proposed roads, such as specific location, size, soils, slopes, and proximity to stream and riparian reserves. Idaho Sporting Congress v. Thomas, 137 F.3d at 1151.

III. The Flagtail Salvage Sale violates the Eastside Screens and the National Forest Management Act.

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In 1994, the Region 6 Regional Forester adopted the Eastside Forest Plan Amendment Number 2 to guide timber proposals on the Colville, Deschutes, Malheur, Ochoco, Umatilla, Wallowa-Whitman, Wenatchee-Okanogan, and Winema-Fremont National Forests. This plan became known as the Eastside screens. Although initially adopted as interim standards until the Forest Service proposed ICBEMP, the screens continue to be in effect and are incorporated into the Malheur National Forest's Land and Resource Management Plan (MLRMP). The direction applies to all timber, qualified by a number of exceptions. The Eastside Screens require timber sales to incorporate three sets of standards: riparian, ecosystem, and wildlife. The MNF's Flagtail Salvage proposal violates all three of these standards.

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First, the Flagtail Salvage Sale DEIS contravenes the riparian standards required by the Eastside screens. The riparian standards set specific buffers for fish bearing (at least 300 feet on each side of the stream), non-fish bearing perennial streams (at least 150 feet from each side of the stream), non-fish bearing intermittent streams (at least 100 feet), and ponds, lakes, and reservoirs (at least 150 feet). Regional Forester's Eastside Forest Plan Amendment Number 2 (Eastside screens), p. 2. The screens prohibit green and salvage timber sales in the riparian areas. Id. The Flagtail DEIS proposes riparian buffers of 50 feet around non-fishbearing intermittent streams. *Flagtail DEIS*, 225. These buffers are only half of the required width. Harvesting within 100 feet of intermittent non-bearing streams violates the Eastside screens. NFMA requires that site-specific proposals be consistent with the forest wide LRMPs. 36 C.F.R. § 219.10(e). As the Eastside screens are incorporated into the MLRMP, the Flagtail Salvage Sale proposal must be consistent with the Eastside screens or violate NFMA. Id.

10-89

Second, the Flagtail Salvage Sale DEIS violates the Eastside screens wildlife standards. Although the agency acknowledges the wildlife standards apply and even list two pertinent provisions of the wildlife standards (no net loss of Late and Old Structural stages (LOS) and manipulate vegetation not currently LOS towards LOS conditions), the Forest Service fails to discuss how they will satisfy these requirements. *Flagtail DEIS*, 70. The project area is highly deficient in LOS, significantly below the Historic Range of Variability (HRV) for all Plant Association Groups. Id. at 90. When current conditions are below HRV for LOS, the wildlife standards require no net loss of LOS. The Forest Service claims that the Flagtail Salvage Sale meets the Eastside screen wildlife standards because live trees are not harvested, so harvesting does not decrease LOS. Id. at 93.

The Forest Service misinterprets the direction of the wildlife standards. The Eastside screens do not define LOS based on an individual tree standard; instead the screens define LOS on a stand by stand basis. For example, the definition of single-stratum LOS is: "A single stratum

10-89 Cont.

of later trees is present. Large trees are common. Young trees are absent or few in the understory. Park-like conditions may exist.” The description provided is: “The single dominant canopy stratum consists of medium sized or large trees. One of more cohorts of trees may be present. An understory may be absent or consists of sparse or clumpy seedlings. Grasses, forbs?, or shrubs may be present in the understory.” A stand with a light to moderate burn severity in which only *some* were trees killed by the fire may still fall under this expansive definition of LOS. The agency is thereby prohibited from removing any tree, even dead trees, from within the LOS.

NEPA’s disclosure goals are two-fold: (1) to insure that the agency has carefully and fully contemplated the environmental effects of its action, and (2) “to insure that the public has sufficient information to challenge the agency.” Idaho Sporting Congress v. Thomas, 137 F.3d 1146, 1151 (9th Cir. 1998); Robertson v. Methow Valley Citizens, 490 U.S. 332, 349 (1989). The agency did not provide the public with adequate information to evaluate whether harvest is prescribed in LOS. If the MNF permits harvest in the LOS, the agency violates the Eastside screens, the MLRMP, and NFMA. 36 C.F.R. § 219.10(e). The wildlife standards further require connectivity corridors that are 400 feet wide, protective areas around goshawk nests, 100 percent snag retention, and prohibit harvest in non-LOS that is surrounded by LOS. The MNF fails to provide documentation that these requirements have been followed in accordance with the Eastside screens. Id.

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The MNF wrongly claims the agency is not required to provide a Historic Range of Variability analysis (HRV analysis). Flagtail DEIS, 89. Although we acknowledge the Eastside screens exempt salvage from the ecosystem standards, the agency must still analyze the HRV for three reasons. First, the ecosystem standards require a comprehensive HRV analysis and comparison to current conditions. The ecosystem standards also require the agency to identify areas “outside HRV condition” to determine potential treatment areas. Eastside screens, p.4. As noted *infra*, the wildlife standards prohibit harvesting in LOS stands if the current condition of stands is below HRV for LOS. To be able to determine whether the prohibition applies, logically the Forest Service must compare HRV and current conditions. This requires a comprehensive HRV analysis. Simply because the agency proposes to salvage dead trees, the agency is not exempt from the HRV analysis requirement. The agency is only exempt from having to determine potential treatment areas based on the HRV analysis. Failure to provide an HRV analysis and comparison to current conditions violates the Eastside screens, the MLRMP, and NFMA. 36 C.F.R. § 219.10(e).

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Second, the screens provide a number of exemptions to the standards. Four types of sales are exempt from only the ecosystem standards but still must apply riparian and wildlife standards. They include: precommercial thins, sales of material sold as fiber, sales of dead material less than 7-inch dbh, salvage sales with incidental green trees *located outside currently mapped old growth*, and commercial thinning and understory removal outside mapped old growth. Eastside screens, p.2. The Forest Service must show the agency plans salvage harvest “outside mapped old growth areas” for the salvage exemption to apply. The Forest Service does not indicate where “mapped old growth areas” are located or whether salvage occurs within those areas. If the salvage is within the mapped old growth, ecosystem standards apply, so the project areas must be chosen using comparisons of HRV and current conditions. Id. at 4. The Forest Service fails to provide the public with adequate information to be able to challenge the

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agency. Idaho Sporting Congress v. Thomas, 137 F.3d at 1151. If the Forest Service proposes any type of harvest in “mapped old growth,” the agency violates the Eastside screens, forest plans, and NFMA. 36 C.F.R. § 219.10(e).

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Finally, as the current conditions are below HRV, the wildlife standards require that the agency “maintain all remnant late and old seral and/or structural live trees [greater than or equal to] 21” dbh in stands outside the LOS. *Flagtail DEIS*, 70; Eastside screens, p.10. As discussed *supra*, the agency’s analysis of mortality is not supported by science. The agency cannot be sure whether these large trees will be “live” when removed in the salvage sale. Harvesting live trees greater than 21 inches violates the Eastside screens, the MLRMP, and NFMA. 36 C.F.R. § 219.10(e). Failure to provide strong science is a violation of NEPA. 40 C.F.R. § 1502.24.

IV. The Flagtail DEIS fails to provide adequate scientific support for tree mortality guidelines.

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The Forest Service claims it will only harvest dead trees. *Flagtail DEIS*, 89, 176. The agency claims it will determine mortality following recommendations in “Factors Affecting Survival of Fire Injured Trees: A Rating System for Determining Relative Probability of Survival of Conifers in the Blue Mountain and Wallowa Mountains,” Scott, et al. 2002, provided in the Appendix. *Flagtail DEIS*, 75. This document has not been used by the Forest Service to determine mortality before, has not been scrutinized by peer review, and the agency does not provide an estimate of how effective the system is in actually predicting mortality. As a result, the Forest Service cannot ensure that no live trees will be harvested.

As noted *infra*, the Eastside screens contain a salvage exemption to the ecosystem standards. Eastside screens, p.2. Although the screens do not provide a definition of “salvage,” other guidance frameworks, like the Sierra Nevada Framework, define salvage as only “dead” trees. For the salvage exception to apply, the Forest Service must ensure only dead trees are salvaged. The wildlife standards also prohibit harvest of “live” trees greater than 21 inches in diameter. Eastside screens, p.10. If the Forest Service harvests *any* live trees greater than 21 inches in diameter, the agency violates the Eastside screens.

The Forest Service acknowledges that determining survival and marking trees accordingly is difficult and complex in the rating system guidelines. Factors Affecting Survival of Fire Injured Trees: A Rating System for Determining Relative Probability of Survival of Conifers in the Blue Mountain and Wallowa Mountains, Scott, et al. 2002, p.1.

The Forest Service does not discuss how the mortality guide provided will consider all of the factors that influence mortality. According to Forest Service research, site-specific factors including elevation, wind exposure, slope aspect, soil depth, site moisture, bark thickness, burn severity and seasonality of disturbance all influence tree mortality and decay rates. Lowell and others 1992. The Malheur National Forest failed to account for site-specific factors that affect tree mortality and decay rates, despite the clear recommendation of relevant scientific research:

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Good estimates of loss of timber volume and value over time are necessary for each of the alternatives listed in the impact statement and to help in the planning and decision-

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making process... The one goal for determining the rate of deterioration is to be able to apply the information to the appraisal of fire-killed and fire-damaged timber... The conditions of each sale must be carefully evaluated for all factors influencing the rate of deterioration and selling values adjusted accordingly. Lowell and others 1992, p. 23.

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Stephens and Finney 2002, current and former Forest Service researchers, respectively, found that among ponderosa pines approximately 20 inches DBH, about 60 percent of the trees studied survived a 90 percent crown scorch by fire. Also, a substantial percentage of the ponderosa pines studied survived 100 percent crown scorch. This study is particularly significant to the burned forest in the Flagtail Project area, which is dominated by ponderosa pine trees. Another study by Ryan and Reinhardt (1988) identified bark thickness as an important factor influencing tree mortality after fire. Only 60 percent of conifers with bark thickness of 3 cm (which equates to fairly small trees – in the range of 15 inches DBH) survived 65 percent crown scorch. 75 percent of trees with bark 4 cm thick survived 65 percent crown scorch. For trees with bark 5 centimeters thick and 65% crown scorch, over 80 percent survived.

A substantial portion of the large ponderosa pines that had 100% crown scorch in the North Fork fire of 2001 on the Sierra National Forest produced significant new green foliage in 2003, despite the fact that they showed no signs of life in the late summer and fall of 2001 or the entirety of 2002. Pers. Comm. with Mike Price, Sierra National Forest, 7/10/03. So many of the large ponderosas that were previously believed dead came "back to life" nearly two years after the fire that Forest Service personnel are not sure they will be able to sell the timber sale. *Id.*

The Forest Service's failure to disclose published findings that contradict its own assessment of tree mortality and decay rates violates NEPA. The Flagtail DEIS lacks a reasoned discussion of scientific disagreements. See Seattle Audobon Society v. Mosely, 798 F.Supp. 1473, 1482 (W.D. Wash. 1992), *affirmed*, 998 F.2d 699 (9th Cir. 1993). The NEPA document must meaningfully address uncertainties surrounding the relevant scientific evidence concerning post-fire forest conditions. See Seattle Audobon Society v. Espy, 998 F.2d 699, 704 (9th Cir. 1993).

NEPA requires the Forest Service to provide the "hard data" upon which it relies for its conclusions and decisions. Idaho Sporting Congress v. Thomas, 137 F.3d 1146, 1150 (9th Cir. 1998). The record must disclose the studies and data used compiling NEPA documents, which must be "sufficient to enable those who did not have a part in its compilation to understand and consider meaningfully the facts involved." Environmental Defense Fund v. Corps of Engineers, 492 F. 2d 1123, 1136 (5th Cir. 1974). Without full disclosure the public is not be able to make independent judgments about the agency's action. Izaak Walton League of America v. Marsh, 655 F. 2d 346, 368-369 (D.C. Cir. 1981). "Conclusory statements which do not refer to scientific or objective data supporting them do not satisfy NEPA's requirement for a 'detailed statement'" Citizens Against Toxic Sprays v. Bergland, 428 F. Supp. at 908.

The MNF fails to provide enough information for the public to be able to challenge the agency. Robertson v. Methow Valley Citizens, 490 U.S. at 349. NEPA requires the agency to prepare a detailed analysis of the environmental impacts and adverse environmental effects of proposed actions. 42 U.S.C. § 4332(2)(C). The DEIS fails to divulge the extent of live, green

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and partially burned trees that would otherwise survive that would be removed due to use of Scott et al. mortality guidelines, and the impacts of this on habitat, spotted owls and other old forest species and fire severity.

The Forest Service cannot ensure that it will not log live trees. As a result, the agency must follow ecosystem standards prescribed in the Eastside screens and the MLRMP. By arbitrarily calling large, live, viable, partially burned trees “dead” or “dying” even though the relevant science shows that they will likely survive, the Flagtail Salvage Sale violates the prohibitions in the Eastside screens ecosystem and wildlife standards, the MLRMP, and NFMA. 36 C.F.R. § 219.10(e). The Forest Service fails to provide the public with science and hard data to support mortality determinations, fails to acknowledge contradictory science, and fails to provide an impacts analysis of the effect of harvesting live trees in violation of NEPA. This constitutes arbitrary and capricious decision making in violation of the APA. 5 U.S.C. § 706(2)(A).

V. The Flagtail Salvage Sale will further diminish riparian quality in violation of INFISH.

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In 1995, Inland Native Fish Strategy (INFISH) amended the MNF Land and Resource Management Plan (MLRMP). INFISH provides direction for the protection of riparian habitat in ecosystems containing native fish. INFISH establishes a set of Riparian Management Objectives (RMOs) to protect Riparian Habitat Conservation Areas (RHCA). These Objectives contain quantitative standards used to achieve eight management goals. *INFISH Decision Notice*, A-2 to A-13. The goals are to “maintain and restore” water quality, stream channel integrity and instream flows, and support population of well-distributed fish stocks. *Id.* at A-1 to A-2. The watershed surrounding the Flagtail Salvage Sale project area currently fails to meet RMOs in four of six categories. The subwatersheds are deficient in: large woody debris, pools, water temperature, and width/depth ratio. *Flagtail DEIS*, 229.

Although the Forest Service finds stream channels and riparian areas to be sensitive to even slight changes, the DEIS finds the project will not affect sediment, water quality, temperature, or water quantity. *Flagtail DEIS*, 229; 236. As a result, the Forest Service concludes that the project will not adversely affect INFISH RMOs. As discussed *supra*, the Forest Service failed to adequately provide sufficient information for sedimentation, water quality, and water quantity. As such, the agency cannot claim with any validity that RMOs will not be affected. The agency cannot ensure that it is meeting the goals prescribed in INFISH of “maintain[ing] and restor[ing]” water quality, stream channel integrity, and instream flows, and support population of well-distributed fish stocks without providing adequate support in determining the project effects. *INFISH Decision Notice*, A-1 to A-2.

VI. The Flagtail DEIS fails to fully analyze and disclose essential information from the Federal Wildland Fire Management Policy and Program Review

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The Flagtail DEIS must comply with the Federal Wildland Fire Management Policy and Program Review. No alternative in the DEIS should contradict or fail to fully incorporate the letter and spirit of the Federal Wildland Fire Management Policy, and the DEIS must explain the

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relationship of the project to this Fire Policy. The DEIS should disclose to the public specific, relevant items from the Federal Wildland Fire Management Policy and Program Review. The DEIS should disclose the Policy's restoration oriented fire management strategy that mandates the development of new fire management plans that integrate fire as an essential ecosystem process.

The Policy also confesses to the impracticality and unfeasibility of suppressing all wildfires, and the need to change public and agency expectations about systematic fire suppression and exclusion. This need for public disclosure on the Fire Policy is one of the ways that the proposed project can serve the educational mandates of the Fire Policy, and is a necessary investment for garnering public support for future fire and fuels management activities in the Malheur National Forest. The Forest Service must use the EIS process as an opportunity to inform and educate the public about the Federal Wildland Fire Policy and incorporate the Policy in all relevant aspects of developing alternatives and decision-making.

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VII. Malheur National Forest's proposed use of the new emergency exemption provision is inappropriate and will violate NFMA.

It has come to our attention that the Malheur National Forest intends to seek an "emergency situation determination" (ESD) in accordance with the 2003 final National Forest Management Act (NFMA) notice, comment, and appeal regulations (NCA regulations), as finalized in the June 4, 2003 Federal Register. 68 Fed. Reg. 33,582 (June 4, 2003). As NEDC has notified Region 6 Regional Forest Supervisor, Linda Goodman, we have several concerns regarding the use of the ESD because both the new ESD provision and the NCA regulations violate NFMA.

To begin, the new regulations state that if an emergency situation determination is made, the agency may implement the project immediately, regardless of whether an administrative appeal of the project is filed. 36 C.F.R. § 215.10(c)(2) (2003). Consequently, the new regulations do not provide a stay pending a determination of the appeal. *Id.* This regulation exceeds the Forest Service's statutory authority for at least two reasons, and making an emergency situation determination for any post-fire salvage projects is unlawful.

First, existing statutory authority already sets forth who is allowed to make an emergency situation determination. NFMA establishes essential requirements of National Forest planning. In 1992 Congress passed The Appeals Reform Act, which amended NFMA and addresses administrative appeals of projects that implement Land and Resource Management Plans. In part, the Appeals Reform Act states:

(e) Stay. Unless the *Chief of the Forest Service* determines that an emergency situation exists with respect to a decision of the Forest Service, implementation of the decision shall be stayed during the period beginning on the date of the decision

(1) for 45 days, if an appeal is not filed, or

10-98 Cont.

(2) for an additional 15 days after the date of the disposition of an appeal under this section, if the agency action is deemed final under subsection (d)(4).

P.L. 102-381, Title III, § 322(e), 106 Stat. 1419 (emphasis added).

The new regulations implementing the notice, comment, and appeal provisions of NFMA allow the *regional forester* to make an emergency situation determination, which is clearly inconsistent with the statutory intent expressed in the Appeals Reform Act. 36 C.F.R. § 215.10(a) (2003). We are unaware of any legal authority that allows federal agencies to implement regulations that are clearly inconsistent with plain statutory direction.

Second, prohibiting a stay of the agency’s decision pending consideration of the appeal, yet requiring exhaustion of administrative remedies by filing an administrative appeal of the project decision runs directly counter to well-established case law interpreting the Appeal Reform Act. As the Supreme Court stated in Darby v. Cisneros, “an appeal to ‘superior agency authority’ is a prerequisite to judicial review *only* when expressly required by statute or when an agency rule requires appeal before review *and* the administrative action *is made inoperative* pending that review.” 509 U.S. 137, 154 (1993) (emphasis in original). Because the responsible official’s decision (i.e., the Regional Forester’s decision to implement the Flagtail project) is not “made inoperative” pending appeal review, Darby indicates that immediate judicial review is available.

Our second concern pertains to the definition of “emergency situation.” The new regulations define “emergency situation” as:

“[a] situation on National Forest System (NFS) lands for which immediate implementation of all or part of a decision is necessary for relief from hazards threatening human health and safety or natural resources on those NFS or adjacent lands; or that would result in substantial loss of economic value to the Federal Government if implementation of the decision were delayed.

36 C.F.R. § 215.2 (2003). NEDC assumes that the MNF will seek an emergency situation determination based on the second prong of the definition, claiming that the delay in implementation would “result in substantial loss of economic value to the Federal Government.”

Previous regulations implementing NFMA’s notice, comment, and appeal requirements defined an “emergency” as “an unexpected event, or a serious occurrence or a situation requiring urgent action.” 36 C.F.R. § 215.10(d)(1) (1994). Under those regulations, examples of an emergency included, but were not limited to, “an immediate threat of flooding or landslide... [h]azardous or unsafe situations ... [d]amage to water quality caused by siltation due to fire or flooding... loss of fish and wildlife habitat due to windstorms and blowdowns... [and s]udden outbreaks of forest pests and diseases.” Id.

Because nothing in the Appeals Reform Act contemplates an economically-based definition of “emergency situation,” it is our position that the regional forester’s emergency situation determination authority has no basis in law. Moreover, even if such a basis existed, the

10-98 Cont.

Forest Service's own past experience with salvage sales indicates that there is no true "economic emergency" presented by a traditional appeals process, including a stay pending appeal review. For example, in the Rodeo-Chediski fire salvage in Arizona, the Forest Service acknowledged that decay of the commercial timber does not even begin to become significant until well after the public participation period has closed. The Forest Service stated unequivocally that the burned timber can still be harvested efficiently through commercial sale of wood products up to a year and a half after the burn (18 months).³

In another example, the Viveash fire on the Santa Fe National Forest burned approximately 29,000 acres in May of 2000. In July 2002, the Forest Service prepared an environmental impact statement and a record of decision for salvaging timber within the burned area. Two commercial contracts were signed in early December 2002, over two and a half years after the fire occurred.

The Corner Mountain Salvage sale on the Gila National Forest provides a third example. In this case, the fire burned through the project area in September of 1998. The salvage proposal was appealed and eventually litigated before a contract was signed and logging began. During the litigation, the Regional Measurements Specialist, qualified as a master Check Cruiser and master Log Scaler, declared under penalty of perjury that the salvage logging could be completed as late as December of 2001, three years after the fire, and remain economically feasible.⁴

As a result of the agency's past experience, and the Supreme Court's holding in Darby v. Cisneros, we see no support for failing to provide Appellants with an automatic stay for post-fire salvage administrative appeals. Indeed, it is unclear whether the Forest Service will realize any economic harm from delaying salvage logging, as most green timber and salvage sales result in a net loss to the agency.

Finally, as MNF may know, several conservation groups recently challenged the entire suite of notice, comment, and appeal regulations in federal court in Alabama, alleging the same legal violations as those outlined in this letter. While the outcome of that litigation has yet to be decided, we caution Region 6 against utilizing authority conveyed by regulations of extremely questionable validity, both in law and in fact.

CONCLUSION

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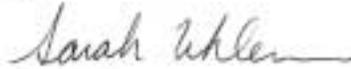
In summary, the supposition that post-fire logging is effective at reducing future fire severity has not been demonstrated, while there is substantial evidence that removing large dead trees can and often does result in numerous adverse impacts to biological and physical resources (Henjum et al. 1994, Minshall et al. 1994, Peters et al. 1996, Beschta et al. 1995, Lindenmayer & Franklin 002). If the Forest Service is to justify post-fire salvage logging on the basis of reducing fuels and future fire severity (as is suggested by the Flagtail DEIS), then a rigorous,

³ USDA Forest Service NOI for the Rodeo/Chediski Fire Salvage and Rehabilitation Project. 67 Fed. Reg. 60637-60639.

⁴ Declaration of Stephen E. Marsh, Regional Measurements Specialist, USDA Forest Service, Region 3. November 9th, 2001. *Center for Biological Diversity v. Andre*, Civ 01-1106 JP/RLP, Exhibit 3.

10-99 balanced analysis of this issue needs to be presented that supports this claim, as well as adequate mitigation strategies to minimize cumulative effects to terrestrial and aquatic resources already impacted by the fire.
Cont.

Sincerely,



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FS Response to Letter #10 – Northwest Environmental Defense Center

10-1. This is an introduction to substantive comments that follow. Please see responses below to individual comments.

10-2. See response to 5-20

10-3. In the paragraph from the DEIS used in your response, the fuel bed that would support fast moving fire, high intensity fire is the bed of grass and shrubs interspersed with conifer seedlings. The fire-killed trees that will have fallen can contribute to large fire development and high fire severity as described in the DEIS and FEIS, Chapter 3, Fire and Fuels, Introduction. Additional discussion regarding reburn was included in the Fire and Fuels Section of Chapter 3 in this FEIS.

Chapter 5 of the DEIS and FEIS list references used in preparing the documents. The DEIS and FEIS acknowledge the controversy surrounding the use of salvage harvest to reduce potential effects of future fires (Chapter 1, Key Issues).

10-4. Fire severity can increase if slash is not treated, however treatment of harvest created slash was proposed in the DEIS and FEIS with Alternatives 2, 3, and 5 (Chapter 2, Alternatives Considered in Detail). Additional disclosure relating to the immediate increase in fire risk and fire hazard was included in the Fire and Fuels section of this FEIS (Chapter 3).

10-5. The need addresses potential future fuel loading as disclosed in Chapter 1, Existing Condition, Fuel Loads of the DEIS and FEIS. While it is true that there is no scientific support for the concept that standing large trees increase fire risk, when the dead trees fall, they do become part of the down woody fuel loading and contribute to fire behavior and fire effects as discussed in Chapter 3 of the DEIS and updated in this FEIS. Based on several comments relating to fuel loading, this FEIS discloses additional quantitative information on fuel loadings.

Several of these scientific studies were considered in the DEIS (Chapter 5 and Chapter 3, Other Disclosures, Issues Relating to the Beschta Report). The other studies cited in this comment were reviewed but do not change the analysis of this project.

The DEIS discusses coarse woody debris with reference (Chapter 3, Fire and Fuels, Introduction) and additional information has been added to the Fire and Fuels Section of the Environmental Consequences Chapter 3 of this FEIS. The DEIS and FEIS disclose fuel loading and fire severity (Chapter 3, Fire and Fuels, Fuel Loading and Fire Behavior). The Purpose and Need of this project also includes capturing economic value (DEIS and FEIS, Chapter 1) which involves removing tree boles.

10-6. The study cited by the NWEDC was located in southern Oregon with different site characteristics. Some of the factors that are different include rainfall, soils, species composition and quantity of down logs.

Rainfall in the Flagtail area averages 25 to 30 inches annual rainfall (Malheur Soil Resource Inventory), whereas at the Amaranthus site precipitation in the prior 12 months was 39 inches; probably unfrozen water (rain, snowmelt) was in contact with the logs for a much longer time period at the Amaranthus site. Soil descriptions are disclosed in the DEIS and FEIS - Chapter 3, Soil, Existing Condition. Species composition is disclosed in the DEIS and FEIS – Chapter 3, Forest Vegetation, General Existing Condition. Approximately 51% of the forested area burned

with high severity to the vegetation (Table FV-2). In these high severity areas, the surface litter and duff and the crowns of existing vegetation were completely consumed as in the study area described by Amaranthus. In Flagtail, the down logs were largely consumed (DEIS and FEIS, Chapter 3, Forest Vegetation, General Existing Condition) as compared to 15 down logs per acre remaining post fire in the southwest Oregon study site. The Flagtail Fire showed that logs did not lessen fire intensity or rate of spread. This quantity of down logs didn't likely exist historically in this area due to lower stocking levels and the frequent fires characteristic of much of the area.

See also Responses to Letter #11, Comment 11-20 and Letter #5, Comment 5-84.

10-7. Fall down rates and references were disclosed in the DEIS (Chapter 3, Fire and Fuels, Introduction, and Terrestrial Wildlife, Primary Cavity Excavator Species-same location in this FEIS). Many variables factor into the longevity of snags: condition of the tree before it died, cause of death, soil type, climate, extreme weather conditions, protection of snags by topography or other vegetation type, tree species, snag height, and snag diameter. In response to this comment, snag longevity assumptions in the DEIS were reviewed again for this FEIS; resource specialists concluded that the original assumptions were valid given the wide range of fall down rates reported in the literature. Indeed, some snags are expected to remain standing beyond 30 years, but the majority are expected to fall within 10 to 30 years post-fire, with most of the smaller snags falling first.

These fall-down rates assumptions were used in the environmental consequences for all alternatives (with and without post-fire logging). See DEIS and FEIS Chapter 2, Alternatives Considered in Detail, and Chapter 3 Fire and Fuels section for descriptions of treatments of fuels. See the Purpose and Need (Chapter 1), as larger trees were proposed for removal to also capture economic value. If snags stand longer than the assumptions used for analysis, potential fuel loads may not materialize for more than 30 years.

10-8. This comment appears to be specific to the Biscuit Fire as the Biscuit fire is cited twice in the paragraph. In addition, there is no assertion on page 5 of the DEIS that vegetation change resulting from human-caused fire suppression is a primary factor in explaining the size of the fire. However, components affecting fire behavior are disclosed in the Chapter 3, Fire and Fuels Introduction of the DEIS and FEIS and in the Fire and Fuels Specialist Report. The fact that the Flagtail fire burned under extreme fire weather conditions is disclosed in the DEIS and FEIS in Chapter 3, Fire and Fuels, Fuel Loading and Fire Behavior. Additional weather information is described in the Flagtail Fire and Fuels Specialist Report. Drought conditions of 2000-2002 were not discussed, but we acknowledge that the area has been in a drought.

10-9. The models used were science based and applicable to predict the components of fire behavior and fire effects used in this analysis. Assumptions and limitations are acknowledged in the DEIS (Chapter 3, Fire and Fuels, Fuel Loading and Fire Behavior), this FEIS, and the Fire and Fuels Specialist Report. FARSITE uses Behave as the base fire behavior processor.

10-10. The purposes and needs for the Flagtail Fire Recovery Project were derived from the differences between the existing and desired conditions (Chapter 1 of the DEIS and FEIS), and to comply with the goals and objectives outlined in the 1990 Malheur National Forest Land and Resource Management Plan as disclosed in the DEIS and FEIS, Chapter 1, Purpose of and Need for Action.

10-11. See response to Letter #5, Comment 5-39. Additionally, information on fire spread is disclosed in the DEIS and FEIS Chapter 3, Fire and Fuels, Introduction.

10-12. You are correct; through this EIS we are meeting the goals of NEPA.

10-13. See response to Letter #5, Comment 5-39.

10-14. The fuel reduction element of this project is directed at fuel loads in the future (DEIS and FEIS, Chapter 1, Existing Conditions (Fuel Loads, and Chapter 3, Fire and Fuels). As disclosed in Chapter 1, Purpose of and Need for Action of the EIS, a purpose and need is to capture economic value. Removal of merchantable trees also addresses this purpose and need of the project. The statements quoted pertain specifically to stands of live trees. In this case, dead trees and those expected to die are proposed for removal, as well as the smaller trees when they are at levels that warrant treatment.

10-15. The scientific studies considered in the DEIS and FEIS are disclosed in Chapter 5, Bibliography, and in Chapter 3, Other Disclosures (Issues Relating to the Beschta Report). Other studies mentioned in comment letters were reviewed.

10-16. The DEIS and FEIS disclose there are structures on adjacent private land (Chapter 3, Fire and Fuels, Regulatory Framework). The Malheur National Forest Fire Management Plan describes Wildland Urban Interface as areas, in addition to the communities listed in the Federal Register, such as single residences, ranches, camps, and other developments on private lands within or adjacent to the Forest. Cohen's work and SIAM model do not address home ignitions by spotting, which is the most common way homes are ignited in the interface.

10-17. The ID Team considered five alternatives in detail and considered ten alternatives that were eliminated from detailed study. Five alternatives (see Chapter 2, Alternative 5 and four Alternatives Considered but Eliminated from Detailed Study) were considered between DEIS and FEIS.

10-18. As required by NEPA 40 CFR § 1502.16 the Flagtail DEIS and FEIS disclose short- and long-term, positive and negative, direct, indirect and cumulative effects/consequences of Alternatives 1 through 4 on all resources (see Chapter 3). The effects of Alternative 5 were added to Chapter 3 of this FEIS. See also Response to Letter #10, Comment 10-21.

10-19. Alternatives to Dedicated Old Growth (DOG) and Replacement Old Growth (ROG) designation are very limited. Any adjustment to or relocation of DOG/ROG areas requires a non-significant Forest Plan amendment. Alternative 1 would retain the Dedicated Old Growth (DOG) and Replacement Old Growth (ROG) areas in their existing locations; no amendment is necessary though Alternative 1 does not meet Forest Plan Standards and Guidelines for MA 13 (see DEIS and FEIS, Chapter 2, Alternatives Considered in Detail, Alternative 1, Conformance with Forest Plan Standards and Guidelines). The action alternatives would change DOG/ROG locations (see DEIS and FEIS, Chapter 2, Alternatives Considered in Detail, Alternatives 2-4). Alternative 5 has been added in this FEIS; DOG/ROGs will be relocated requiring a non-significant Forest Plan amendment.

Between DEIS and FEIS, the Flagtail interdisciplinary team (IDT) considered an additional alternative to old growth designation, but eliminated it from detailed study (see FEIS, Chapter 2, Alternatives Considered but Eliminated from Detailed Study, #10). The current range of

alternatives is sufficient. See responses to Letter #4, Comment 4-3 and Letter #10, Comments 10-22 and 10-70.

10-20. See response to Letter #10, Comment 10-17.

10-21. All alternatives are given equal consideration in the DEIS and FEIS; beneficial and detrimental effects of proposed activities, or the lack of proposed activities, on each resource are described by alternative in Chapter 3 of the DEIS and FEIS. When no effect or an effect that is not measurable is expected, this is also displayed or discussed.

The soil scientist discloses in the DEIS and FEIS that eroded soil from harvest operations was likely to remain within unit boundaries due to the implementation of BMPs. Soil remaining within unit boundaries would not be delivered as sediment to streams or draws. Under these conditions, as disclosed in the DEIS and FEIS, Alternatives 2 and 3 (and 5) are no different from Alternative 4. The primary sediment source to streams is expected to be the road system during and after the salvage. Fewer roads are treated in Alternative 4 reducing the overall benefits of activities to streams. Water quality fluctuations would not measurably differ among the alternatives for several reasons disclosed in the Watershed - Water Quantity section of the DEIS and FEIS. These reasons were clarified in this FEIS and include the application of site-specific BMPs which would retain concentrated flows within activity units; the commercial and non-commercial removal of dead trees or trees expected to die (the primary effects on water quantity were caused when the trees were killed by the fire; the additional changes caused by the death of damaged trees (likely to die) were also assumed to be a result of the fire in the Water Quantity section); and the removal of only incidental amounts of green trees.

The soil scientist completed further analysis using the Water Erosion Prediction Project (WEPP) model between the DEIS and the FEIS which identified conditions under which eroded soil may be transported away from units and enter the stream system as sediment. This analysis is incorporated into the Watershed Environmental Consequences in this FEIS.

10-22. The comment questions whether a full range of alternatives have been considered for MA-13 old growth designation. The ability to design a range of alternatives for old growth designation is limited in this situation. Between DEIS and FEIS, the Flagtail interdisciplinary team (IDT) considered the alternative proposed by the commenter, but eliminated it from detailed study (see FEIS, Chapter 2, Alternatives Considered but Eliminated from Detailed Study). This alternative was eliminated because DOG/ROG 221 no longer provides sufficient live trees to manage it as a ROG, and because a substantial increase MA-13 acres would require a significant Forest Plan Amendment. The current range of alternatives is sufficient. See responses to Letter #4, Comment 4-3 and Letter #10, Comments 10-19 and 10-70.

10-23. The Flagtail DEIS and FEIS disclose the impacts of Alternatives 1 through 4 on all resources in Chapter 3. Irreversible and irretrievable commitment of resources were discussed and summarized at the end of each resource section. Effects analyses have been updated in this FEIS, and now include the effects of Alternative 5. The effects of proposed activities on plant diversity are discussed in Chapter 1, Other Analysis Issues, of this FEIS.

10-24. Water quality impairment, as defined by Oregon Department of Environmental Quality for the Clean Water Act (CWA) is disclosed in Chapter 3, Watershed, Existing Condition of the DEIS and FEIS. The discussion of general water quality was separated from the discussion of streams included on the CWA Section 303(d) List of Water Quality Impaired Waterbodies for

clarification in this FEIS. Effects of the proposed activities on water quality were disclosed in the DEIS, and have been modified in this FEIS to include additional WEPP analysis conducted by the soil scientist between the DEIS and FEIS (Chapter 3, Watershed, Water Quality). This analysis indicated, that under some conditions, sediment might enter streams under all alternatives. Most previous activities were conducted without the implementation of BMPs as stated in Chapter 3, Watershed Existing Condition; BMPs (see Chapter 2) have been prescribed for the proposed activities. The results of monitoring conducted by the hydrologist and fishery biologist in 2003 for effects of the fire, suppression and rehabilitation activities are included in this FEIS Watershed Existing Condition and in Cumulative Effects for both Watershed and Fisheries. The Forest Service is required to describe the Existing Condition of the project area in order to analyze effects of Alternatives under NEPA; it is not required to establish a pre-fire baseline. Pre-disturbance baseline conditions are incorporated into the Existing Condition and/or Cumulative Effects.

10-25. The DEIS disclosed that hydrologic openings were increased to over 55% in two subwatersheds not watersheds.

The discussion in the DEIS was clarified in this FEIS and incorporated into cumulative effects. For NEPA, Existing Condition is the basis against which Alternatives are analyzed. NEPA does not require that a pre-disturbance baseline be described although changes from such a baseline may be incorporated into Existing Condition or Cumulative Effects. The Existing Condition (Chapter 3, Watershed, Water Quantity) of this FEIS was modified to more clearly describe the total hydrologic openings which exist post-fire, regardless of cause and includes both the “baseline” --hydrologic openings created by harvest before the fire-- and ones created by the fire. Cumulative effects of past activities and the Flagtail fire were incorporated into the Existing Condition (Chapter 3, Watershed, Water Quantity) of this FEIS and, by extension, Cumulative Effects. Table WS-9 was modified to identify hydrologic openings created before the fire in which little fire-caused mortality occurred. Harvest of dead trees does not create additional hydrologic openings nor affect water yield because, according to a basic principle of plant physiology, dead trees are no longer transpiring or taking up water. The existing condition also includes trees “likely to die” because these trees are no longer able to take up water (see Chapter 3, Forest Vegetation, Existing Condition); their function in the hydrologic cycle is the same as if they were dead. Using best available science to determine if trees are dead or alive, should result in only a small amount of incorrect calls. The effect of harvesting only a small amount of trees, which may be incorrectly classified, on hydrologic conditions is expected to be minor and is clarified in Chapter 3, Watershed, Water Quantity section of this FEIS.

Removing incidental green trees and construction of temporary road would not substantially alter the percentages of subwatersheds in created hydrologic openings, because they cover a very limited area.

The agency is not required to make two analyses of effects based on contradictory literature. In the Existing Condition section (Chapter 3, Watershed, Water Quantity) the agency explained the reason for choosing one study over another (Helvey and Fowler (1995) was conducted in the Blue Mountains of Oregon not the Rocky Mountains). The “good faith reasoned response” to the contradictory literature is that Troendle and Lee (1980) study was conducted in a different geographic location with a different climate that does not apply in the Blue Mountains of Oregon, especially when more local information is available. The agency acknowledges the

potential uncertainty, based on several reasons, associated with using one study in Chapter 3, Watershed, Water Quantity. This section also discloses that the results of Helvey and Fowler (1995) are consistent with local observations.

10-26. The DEIS discloses “Even though skidding likely would cause negligible soil export from units, there is a small risk of a small amount of soil export from units with moderately and severely burned soil.” (Chapter 3, Soil, Environmental Consequences). For this FEIS, WEPP was used to further quantify the risk of sediment export from units.

The sediment analysis in Chapter 3, Watershed in this FEIS was based on the analysis conducted by the project soil scientist which indicated that, under the most common weather conditions, sediment would not move beyond unit boundaries. The analysis of sediment transport in Chapter 3, Watershed, Water Quality section of this FEIS was modified and incorporates additional information based on WEPP modeling conducted between the DEIS and FEIS. The soil scientist conducted WEPP modeling between the DEIS and FEIS that confirmed the analysis in the DEIS for the most common weather conditions. The WEPP analysis also showed that sediment would reach draws and streams with 5 year or greater runoff events but that there would be no measurable difference among all the alternatives.

BMPs are the mechanism used to control non-point source pollution as described in the MOU between the Forest Service, Region 6 and the State of Oregon Department of Environmental Quality (USDA-Forest Service, 2002), by EPA (2001), and Appendix K. Prescribed BMPs are site-specific and tailored to the Flagtail project area; they were prescribed as systems as described in Chapter 3, Watershed section. As described in Chapter 2 (Monitoring Section) BMPs would be monitored for implementation and effectiveness while activities are on-going and at completion of the project. Monitoring during implementation allows ineffective practices to be addressed and modified, if needed. Forest Service employees responsible for monitoring were identified in the Monitoring Section, Chapter 2.

The Forest Service is not responsible for whether or not activities on private land meet water quality standards. The Forest Service does have a duty under NEPA to disclose cumulative effects of the proposed activities. Cumulative effects are defined by the Council on Environmental Quality in the CFS for NEPA. This information is disclosed in the DEIS and FEIS (Chapter 3, Watershed, Water Quality and Quantity).

10-27. Snow Creek is not listed for dissolved oxygen; only the lower 20 miles of the Silvies River are listed for dissolved oxygen. The Forest Service disclosed that proposed activities, including the removal of incidental amounts of shade, would have no measurable effects on water temperature. It was also disclosed that these activities would result in long term benefits to stream temperature and other parameters (see Chapter 3, Fisheries). It has not been claimed that either the Malheur or the post-fire salvage logging is exempt from the Clean Water Act; see the response to Comment 10-28. The DEIS disclosed that only one stream segment is included on the List of Water Quality Impaired Waterbodies section 303(d) list which is the official method for designating water impairment. In response to this and similar comments, the discussion of Water Quality in this FEIS was modified to separate general water quality concerns from discussion about streams included on the CWA Section 303(d) List of Water Quality Impaired Waterbodies. See also Appendix K, which was developed in response to this and other comments, to clarify the basis for applying Water Quality regulations to this project.

10-28. Updates to Forest Plan Standards 117 and 119, added to this FEIS Watershed Regulatory Framework reference the MOU with the State of Oregon (USDA-Forest Service, 2002) and federal guidance and protocols for dealing with the Clean Water Act and degraded water quality. Appendix K, which was developed in response to this and other comments, describes the basis for applying Water Quality regulations to this project in more detail. Effects on Water Quality are disclosed in the Watershed section of Chapter 3 of this FEIS.

10-29. The Forest Service recognizes that “short term” degradations of temperature, the parameter for which Snow Creek is listed as impaired, are not permitted under the current temperature standard. No measurable effects on stream temperature are expected as described in the Watershed – Water Quality section of this FEIS. See also Appendix K, which was developed in response to this and other comments, to clarify the basis for applying Water Quality regulations to this project. Exemptions to the CWA Section 404 “Fill and Removal” permitting process allow the Forest Service to conduct work proposed in the DEIS and FEIS as long as prescribed BMPs are implemented.

10-30. The analysis of effects of road closure and decommission were based on a reasonable belief that adequate funding would be available to implement these actions within the timeframes specified in this FEIS. The purchaser of the timber sale would implement some road closures. The Blue Mountain Ranger District is requesting watershed, fisheries, wildlife, and engineering funding from the Regional Office to implement other road closures and decommission activities.

10-31. Page S-3 of the DEIS Summary contained no statement that the MNF has not decommissioned temporary roads in the past. The temporary roads to be “stabilized and decommissioned” are those that would be created (under some alternatives) for this project. All action alternatives (alternatives are described in a variety of locations including the Summary, Chapter 1, and Chapter 2) in the Flagtail EIS do propose that 2 miles of unclassified road extensions would be decommissioned as part of this project. These “unclassified” road extensions are mainly skid trails that were later used and extended by woodcutters or hunters. Access would be blocked using earthen berms, gates or other barriers with implementation of the action alternatives.

10-32. See response to Letter#10, Comment 10-30.

10-33. The situation in Flagtail is not analogous to Austin. The project under consideration in Austin was occurring in an area where stream or river segments were included on the Montana Section 303(d) List of Water Quality Impaired Waterbodies for sediment among other parameters. The existing condition in the Flagtail area is that, with one exception (Snow Creek for temperature), no streams are listed for water quality impairment. The legal duties of the Forest Service and the State are different for stream segments that are listed as impaired on the section 303(d) list than for streams that are not listed. See Appendix K, which was developed in response to this and other comments, for clarification of the basis for the application of Water Quality regulations to this project. The Forest Service is required to describe the Existing Condition of the project area in order to analyze effects of Alternatives under NEPA; it is not required to establish a pre-fire baseline. Pre-disturbance baseline conditions are incorporated into the Existing Condition and/or Cumulative Effects.

The Flagtail EIS does not state that fish are likely to be “threatened.” See the Fisheries BE in Appendix G for short and long term effects calls for fish for Alternatives 1-4. This FEIS incorporates effects calls for Alternative 5.

10-34. The baseline for streams included on the Oregon Section 303(d) List of Water Quality Impaired Waterbodies was disclosed for the Flagtail project area. The report you brought to our attention is useful information but does not currently provide direction for the Forest Service. Its conclusions are beyond the scope of this project. Scotty Creek is the only other stream in the Upper Silvies Watershed included on the 2002 303(d) List. It is included for summer rearing temperature. This project would have no effect on this stream because it does not drain the project area and because its confluence with the Silvies is located downstream of Jack Creek’s confluence with the Silvies; Jack Creek has the lowest confluence with the Silvies of any streams draining the project area.

10-35. The DEIS and FEIS disclose the effects of permanent and temporary road construction and decommission on soil compaction and displacement in Chapter 3, Soil, Environmental Consequences, the effects to fisheries in Chapter 3, Fisheries, Environmental Consequences, and the effects to terrestrial wildlife in Chapter 3, Terrestrial Wildlife.

This FEIS has been updated to clarify the effects on soils, and to clarify why temporary road activities would not impact fish or fish habitat.

The DEIS, Chapter 3, Terrestrial Wildlife, focused the effects disclosure of road construction on big game; the FEIS, Chapter 3, Terrestrial Wildlife and Appendix D, Wildlife Biological Evaluation has been updated to reflect the effects of road construction on other terrestrial species, as applicable. Construction of .3 miles of system road would not fragment any large blocks of interior habitat; this section of road is being constructed through burned forest and is intended to replace existing road that is being decommissioned in nearby riparian areas. Temporary road construction could temporarily fragment some habitats, but roads would be decommissioned immediately after logging is completed. Effects would last only 1-3 years. In burn areas, habitat fragmentation from roads becomes more of an issue once older forests have developed, well beyond 3 years. The action alternatives reduce total road miles as well as open road densities, to the benefit of many wildlife species.

Temporary roads were not fully addressed in the Watershed Environmental Consequences in the DEIS. The effects of temporary roads have been addressed in this FEIS.

Also, see FEIS, Chapter 3, Unroaded Areas for description of two unroaded areas highlighted by Oregon Natural Resources Council (ONRC) and their existing values.

10-36. In response to this comment, the FEIS, Chapter 3, Old Growth Forest was updated to better disclose the effects of converting DOG/ROG 221 from Management Area 13 (MA-13), Old Growth to Management Area 1 (MA-1), General Forest.

10-37. The Flagtail analysis discloses whether or not surveys were conducted for the various wildlife species believed to be currently present or present prior to the fire (DEIS and FEIS, Chapter 3, Terrestrial Wildlife and Appendix D, Wildlife Biological Evaluation for Threatened, Endangered, and Sensitive Species). The Biological Evaluation also discloses population status/trend and source habitat trend information documented for the Interior Columbia Basin

(Wisdom et al. 2000). In this FEIS, the management indicator species discussions have been updated with population status/trend and source habitat trend information.

Species populations and distributions are not discussed in depth, as little quantitative data is available for most species. Rather, effects on habitats are discussed, with the assumption that if appropriate habitat is available for a species, then that species occupies or could occupy the habitat (see DEIS and FEIS, Chapter 3, Terrestrial Wildlife, Analysis Methods). This strategy is based upon science that demonstrates connections between species populations and viability and the quantity and condition of habitat at appropriate scales of analysis (USDA Forest Service 2001).

10-38. The effects of the Flagtail project on the rangeland resource must be, and are displayed in the Rangeland Resource section of Chapter 3 of the DEIS and FEIS. The effects of historic and pre-fire grazing are disclosed in existing condition and cumulative effects sections of the DEIS by resource. Additionally, the effects of continued grazing are considered a cumulative effect on other resources (see Appendix J); the descriptions of cumulative effects of grazing, whenever reinitiated, were expanded in Chapter 3 of this FEIS.

10-39. The decision to allow or to adjust grazing is outside the scope of the Flagtail Fire Recovery Project. The decision of when to allow grazing to continue is an administrative decision based on the Post-Fire Grazing Interim Guidelines (Appendix H) and will not be made with this EIS.

10-40. See response to Letter #5, Comment 5-97.

10-41. NEDC identified two large areas without roads. This FEIS addresses these by incorporating a new section, Unroaded, under Other Disclosures. This section includes the specialists' assessments of roadless characteristics for these two areas.

10-42. An appendix has been added to this FEIS (Appendix J) that displays past, ongoing, and reasonably foreseeable projects that, when combined with activities proposed in this project, could have cumulative effects on resources. Resource specialists used this list to assure that all activities were considered and analyzed for cumulative effects. Cumulative effects of activities on resources are described by alternative in Chapter 3 of the DEIS, and have been expanded in this FEIS. The cumulative effects discussions include effects from activities on public and private land.

The Monument and Easy fire areas lie in different river basins from the Flagtail project and are outside the area defined for cumulative impacts for aquatic and other resources; this information has been included in a table (Appendix J, Table J-2) of actions not considered in cumulative effects analyses for this project that clarifies the justification for elimination from consideration.

10-43. Other recent fires and green timber sales are in other watersheds (see response to Letter #10, Comment 10-42) and the IDT determined that there were no measurable cumulative effects from them on the Flagtail project. There were two separate CE's prepared for the Flagtail area; one for the planting and one for the roadside hazard tree removal. The planting CE was not litigated and the 380 acres of planting has been accomplished; this is analyzed by relevant resources for all alternatives in the Cumulative Effects section of Chapter 3 in this FEIS. The roadside hazard tree CE was litigated; effects of hazard tree removal (through that CE) are

considered in Cumulative Effects analyses of relevant resources for all alternatives in Chapter 3 of this FEIS.

Effects from the fire and post-fire salvage and recovery actions on private lands are documented in Chapter 3, Forest Vegetation in the DEIS and FEIS.

10-44. The prescribed fire proposed with this project is pile burning as disclosed Chapter 2, Alternatives Considered in Detail, and Chapter 3, Fire and Fuels, Air Quality in the DEIS and FEIS. The DEIS mentioned prescribed burning as a future means to maintain the area in condition class 1 or when it would be prohibitive (Chapter 3, Fire and Fuels, Fuel Loading and Fire Behavior) but this is not a proposed action. The Monument and Easy Project areas are outside of the cumulative effects area. Air quality cumulative effects have been updated in the Fire and Fuels Section of Chapter 3 in this FEIS.

10-45. The DEIS and FEIS disclose the direct, indirect and cumulative effects of alternatives on sensitive species and management indicator species (see DEIS and FEIS, Chapter 3, Terrestrial Wildlife and Appendix D, Wildlife Biological Evaluation for Threatened, Endangered, and Sensitive Species). In this FEIS, the wildlife effects discussions have been updated with population status/trend and source habitat trend information. The cumulative effects discussions have also been updated.

10-46. See Response to Letter #10, Comment 10-45.

10-47. See responses to Letter #10, Comments 10-38 and 10-42.

10-48. Existing condition inspections show almost all impacts from past activities (DEIS and FEIS, Chapter 3, Soil, Analysis Methods and Existing Condition), including timber harvest, landings, roads, fire suppression, livestock grazing, fuel treatments, ORVs. The only past and present impacts not covered in existing condition inspections are from the Roadside Hazard Tree Salvage (the part that was implemented) and the light livestock use in 2003 (see Appendix J); these impacts are negligible. Existing conditions were used to evaluate cumulative effects from the alternatives and foreseeable future actions (DEIS and FEIS Chapter 3, Soil, Environmental Consequences and Appendix E, Expected Soil Conditions after Proposed Treatments).

In the DEIS the small areas of proposed temporary road impacts were inadvertently omitted from the table in Appendix E, Expected Soil Conditions after Proposed Treatments; in this FEIS the omission is corrected for the three subunits with more than 0.5% additional detrimental impacts and greater than 8% existing impacts: 032 9614A, 090 29602, and 116 Snow27. The correction is 1 or 2%, and is small enough that none of the four subunits would have 20% cumulative impacts.

Since soil does not move except as sediment, no reason exists to consider soil impacts outside proposed unit boundaries. The DEIS and FEIS disclose sediment effects, in Chapter 3, Watershed, Water Quality.

10-49. Effects of roads were discussed in DEIS and will be clarified in FEIS. See also Appendix K.

10-50. Soil displacement and compaction on firelines were included in existing condition inspections. See response to Letter #10, Comment 10-47. Fire suppression and emergency rehabilitation did not reduce ground cover on thousands of acres below Forest Plan standards, and the area affected by suppression was relatively easily rehabilitated. Effects of burnouts are

included in the BAER severity map. (Figure 2, Map Section). Effects of chemical retardants on soil are negligible.

These actions were included in the watershed description of the Affected Environment and incorporated into cumulative effects as a result. They are clarified in this FEIS.

In terms of fish, see response to Letter #10, Comment 10-24.

10-51. The discussion on effects of roads on sediment are clarified in this FEIS. See also Appendix K.

10-52. See response to Letter #10, Comment 10-21.

10-53. See responses to Letter #10, Comments 10-42, and 10-43 through 10-52.

10-54. The decision for the Flagtail project will be documented in the Record of Decision (ROD) which will display reasons for decision.

The Flagtail DEIS and FEIS consider and disclose the direct, indirect, and cumulative impacts of Alternatives 1 through 4 on recreation, range, watershed, wildlife, and fish in Chapter 3. Irreversible and irretrievable commitment of resources were discussed and summarized at the end of each resource section. Effects analyses have been updated in this FEIS, and now include the effects of Alternative 5. The following responses (responses to Letter #10, Comments 10-55 through 10-60) further discuss the effects on multiple uses of interest to the commenter.

10-55. The existing condition and the effects of alternatives on recreation were discussed in Chapter 3, Recreation of the DEIS and FEIS. The existing condition and the effects of alternatives on visual quality were discussed in Chapter 3, Scenery of the DEIS and FEIS. The Illinois River (4103), Eight Dollar Mountain (4201), Lone Mountain (4402), Galice Access/ Bear Camp (2300), Burnt Ridge (2308), and Vulcan Peak Access (1909) Roads mentioned in the comment are not on the Malheur National Forest so no response will be made concerning these roads.

10-56. The DEIS and FEIS, Chapter 3, Terrestrial Wildlife section, discloses the effects of alternatives on post-fire dependent species.

10-57. The environmental consequences section of the Flagtail DEIS and FEIS (Chapter 3, Fisheries) discloses effects to fish or fish habitat from management activities.

10-58. See response to Letter #5, Comment 5-46.

10-59. The Chapter 3, Watershed, Water Quality, Environmental Consequences (DEIS and FEIS) disclose why downstream listings would not be further impaired.

10-60. Effects to range are described in Chapter 3, Rangeland Resource, of the DEIS and FEIS. Since the alternatives will remain within Forest Plan Standards (see response to Letter #5, Comment 5-46 and Chapter 3, Soil), rangeland resources will not be impaired.

10-61. The EIS uses a combination of surveys, observational data, population status/trend and source habitat trend information, and habitat assessments to evaluate effects to terrestrial wildlife. See Response to Letter #10, Comment 10-37.

10-62. The benefits of wildfire and post-fire habitats to wildlife species are disclosed in the DEIS and FEIS (see Chapter 1, Existing Condition, Terrestrial Wildlife Habitat, and Chapter 3, Terrestrial Wildlife, Existing Condition discussions).

10-63. Habitats for primary cavity excavators vary by species. Some species, such as Lewis' woodpecker, prefer larger diameter snags and some species, such as black-backed woodpeckers, generally prefer smaller diameter snags. The DEIS and FEIS considered new research on dead wood habitats. The DecAID tool (Mellen 2003) synthesizes published literature, research data, wildlife databases, inventory data, and expert judgment and experience. The DEIS and FEIS, Chapter 3, Terrestrial Wildlife, Primary Cavity Excavator Species section, and the Chapter 5 Bibliography cite additional dead wood research considered. The DEIS developed a broad range of alternatives and snag retention levels (DEIS and FEIS, Chapter 2, Alternatives Considered in Detail). Alternative 5 has been added to this FEIS to consider an additional snag strategy. This FEIS updates the effects discussion on dead wood habitats and associated wildlife species (see FEIS, Chapter 3, Terrestrial Wildlife, Primary Cavity Excavator Species).

10-64. Rose et al. 2001 (in Chapter 24, Johnson and O'Neil (2001)) was considered by resource specialists when analyzing the effects of the proposed activities; see response to Letter #11, Comment 11-32 for an expanded discussion on Rose et al. In general, snag retention in the DEIS and FEIS purposefully focused on primary cavity excavators. The Forest Plan designated these species as management indicator species (MIS), representing dead wood habitats. The MIS concept as applied here assumes that by providing habitat for primary cavity excavators, habitat is provided for many other dead wood dependent species as well (see DEIS and FEIS, Chapter 3, Terrestrial Wildlife, Analysis Methods and Primary Cavity Excavator Species, Old Growth Forest, Northern Goshawk, and Landbirds). While snags and downed wood provide other functions, in the Malheur National Forest Plan, predominantly addresses them through wildlife standards and guidelines.

10-65. Post-fire snag surveys were conducted for most of the Flagtail Fire area. The DEIS and FEIS, Chapter 3, Terrestrial Wildlife, Primary Cavity Excavator section describes the post-fire snag and downed wood conditions, and the importance of these habitat components to various wildlife species. The DEIS acknowledges that pre-fire management has influenced post-fire snag levels (see Chapter 3, Terrestrial Wildlife, Primary Cavity Excavators, Cumulative Effects,). This FEIS has been updated to display snag density and size distributions; this existing snag distribution is compared to Regional snag data included in DecAID.

10-66. In Chapter 3, Botany, Background, the benefits of fire to native plants (and therefore plant diversity) are disclosed – “most of the understory species are adapted to fire to create favorable conditions for their regeneration.” Additional discussion on the potential benefits of the Flagtail Fire to aspen was added to Chapter 3, Botany, Culturally Important Plants. As discussed in Chapter 1 under Other Analysis Issues, many areas both burned and unburned would not be treated, providing a variety of habitat, both treated and untreated for a variety of plants. The benefits of wildfire and post-fire habitats to wildlife species are disclosed in the DEIS and FEIS (see Chapter 1, Existing Condition, Terrestrial Wildlife Habitat, and Chapter 3, Terrestrial Wildlife, Existing Condition discussions).

10-67. Chapter 2 of the DEIS and FEIS disclose that treatment of smaller trees is also proposed. The DEIS and FEIS (Chapter 3, Fire and Fuels, Introduction) disclosed the influence coarse woody debris has on fire behavior. Capturing economic value is also a purpose and need of this

project (Chapter 1, Purpose of and Need for Action). See also response to Letter #11, Comment 11-32 and to Letter #5, Comment 5-84.

10-68. The DEIS and FEIS, Chapter 3, Terrestrial Wildlife section discloses the effects of alternatives on post-fire dependent species. Approximately 20% of the burned areas are outside the seed dispersal zone (farther than 800' from live trees) and it is estimated that it will take 20 to 50 years to be reforested. Planting these areas will start these stands growing sooner and will eventually grow into an old growth structural stage 20 to 50 years sooner than natural reforestation. This is documented in the DEIS and FEIS, Chapter 3, Forest Vegetation, Stand Structural Stages and Chapter 3, Terrestrial Wildlife, Old Growth Forest.

10-69. The Flagtail Fire essentially destroyed all the old growth in the project area. The DEIS and FEIS discuss effects on Dedicated and Replacement Old Growth areas (DEIS and FEIS, Chapter 3, Terrestrial Wildlife, Old Growth Forest, and Chapter 3, Forest Vegetation, Stand Structural Stages). For watershed discussions, see response to Letter #10, Comment 11-22; also see Appendix K.

10-70. Forest Plan, Management Area 13 (MA-13) provides direction for designating, refining and managing Dedicated Old Growth (DOG) and Replacement Old Growth (ROG) areas (Forest Plan, pp. IV-105 to IV-107). The action alternatives are consistent with this direction. New DOGs would be established; ROGS would be managed for future old growth (DEIS and FEIS, Chapter 3, Terrestrial Wildlife, Old Growth Forest, and Consistency with Direction and Regulations).

The commenter disagrees with the proposal to convert burned MA-13 Old Growth to MA-1 General Forest. Between DEIS and FEIS, the Flagtail interdisciplinary team (IDT) considered the alternative to maintain the current MA-13 designation for DOG/ROG 221, but eliminated it from detailed study (see FEIS, Chapter 2, Alternatives Considered but Eliminated from Detailed Study). This alternative was eliminated because DOG/ROG 221 no longer provides sufficient live trees to manage it as a ROG, and because a substantial increase in MA-13 acres would require a significant Forest Plan Amendment.

Converting MA-13 to MA-1 does not forgo opportunities to manage these areas for future old growth. Since 1993, the Forest Plan as amended, has directed the Malheur National Forest to conduct timber sales in a manner that moves stands towards OFMS and OFSS structural stages.

See also responses to Letter #4, Comment 4-3 and Letter #10, Comments 10-19 and 10-22.

10-71. See response to Letter #5, Comment 5-46. The DEIS and FEIS disclose mitigations (Chapter 2, Management Requirements, Constraints, and Mitigation Measures, Soil) to adequately protect severely burned or erosive sites, though it does not prohibit logging on these sites. Long steep slopes are protected by logging system (Figures 14 and 22, Map Section). Logging is prohibited in riparian areas.

The DEIS and FEIS disclose soils effects (Chapter 3, Soil, Environmental Consequences). The DEIS and FEIS disclose that all alternatives would have negligible effect on mass movement.

The DEIS and FEIS discloses soil erosion effects (Chapter 3, Soil, Environmental Consequences). See response to Letter #11, Comment 11-32 about large wood and erosion. Klock's (1975) study was included in McIver & Starr's (2000) review. Logging practices have

changed since the early 1970s, so a much smaller percent of the area would be disturbed and eroded.

The DEIS and FEIS disclose effects on nutrients (Chapter 3, Soil, Environmental Consequences). See also response to Letter #11, Comment 11-32.

10-72. The DEIS and FEIS do not rely on representative sampling (DEIS and FEIS, Chapter 3, Soil, Analysis Methods), and the DEIS and FEIS disclose site-specific soil effects (Appendix E, Expected Soil Conditions after Proposed Activities). About complying with LRMP standards, see response to Letter #5, Comment 5-46. About organic debris input, see response to Letter #11, Comment 11-32.

10-73. See responses to Letter #10, Comments 10-71 and 10-72.

10-74. The FEIS and DEIS disclose that some watershed processes, including some on slopes, are not functioning properly due to the fire. The FEIS and DEIS disclose road densities in Chapter 3, Watershed and Fisheries sections. The FEIS and DEIS disclose effects of past timber harvest in Chapter 3, Soil and Watershed sections. The project avoids activities on landslide-prone areas, consistent with INFISH. The FEIS and DEIS disclose that new roads, both permanent and temporary, would be built under some alternatives. The FEIS and DEIS disclose risk of erosion in Chapter 3, Soils and Watershed sections. Effects of proposed activities are disclosed in Chapter 3, Soils and Watershed sections.

10-75. The Environmental Consequences section of this FEIS analyzes the effects of all alternatives on snags and down woody debris and how they affect all resources.

10-76. McIver and Starr (2001) was used in the analysis for this project (see Chapter 5 of this FEIS). See the Fire and Fuels Section Chapter 3 of this FEIS for discussion of reburn. The beneficial and adverse effects of harvest are discussed in Chapter 3 of the DEIS and revised in this FEIS.

10-77. The DEIS disclosed the IDT response to the Beschta Report; this was modified in this FEIS (under Chapter 3, Other Disclosures). The DEIS discloses 1) both ecological and economic needs for intervention (p. 1, 2, 309), and 2) both adverse and positive environmental impacts of the alternatives (Chapter 3).

10-78. The Regional Foresters letter of Nov. 19, 2002, which was reviewed by the Washington Office, directs us “Where no salvage is done, deforested lands should be reforested as quickly as possible.”

The comparison of reforestation on pages 82 and 83 of the DEIS shows that for the No Action Alternative 78% is expected to be reforested within 2 decades, with the remaining 22% taking 2 to 5 decades. Planting in Alts. 2, 3, and 4 is expected to take 3 years to accomplish. This forms the basis for judging that No Action does not meet the direction to reforest “as quickly as possible”.

Pages 100 and 101 discuss fuel loading and fire behavior, not the effects of salvage logging on reforestation.

10-79. The numbers in the DEIS were incorrect, they were corrected for this FEIS.

10-80. Reforestation stocking surveys of the Reed and Summit Fires on the Blue Mountain RD shows that shade is not required for reforestation success. Planted tree survival has been comparable in both salvage harvested and unharvested areas.

10-81. As stated above, survival has been comparable in both salvaged and unsalvaged areas. While leaving snags and down logs may provide for increased moisture, mycorrhizal fungi, and nitrogen fixing bacteria, as shown by the mentioned studies, there has been no observable effect on reforestation survival based on actual experience on this forest. Micrositing near logs and stumps is required by the tree planting contract and is considered a standard practice.

The DEIS and FEIS disclose that soil conditions after logging would be sufficient for planted seedling regeneration (Chapter 3, Forest Vegetation, Reforestation of Burned Forestland), so microsities provided by snags and logs are not necessary, mycorrhizal fungi are sufficient, and water holding capacity is sufficient.

Snags and logs are a minor component of ground cover within 5 years after the fire, when additional ground cover would be beneficial (DEIS and FEIS, Chapter 3, Soil, Environmental Consequences) Also see response to Letter #11, Comment 11-32.

10-82. Snowbush ceanothus is considered the only potentially serious hardwood competitor to conifer seedlings. Logging is not considered to have any effect on increasing or decreasing the germination or resprouting of ceanothus, therefore it was not discussed.

Ceanothus has both beneficial and negative effects on conifer seedlings, in the dry sites prevalent in the Flagtail area the positive effects of nitrogen fixing, etc. are outweighed by competition for water, nutrients, and sunlight. Nevertheless, this project does not plan for ceanothus control.

This FEIS discloses the effect of tree planting on nitrogen fixation by *Ceanothus*. In the Flagtail area, sprouting hardwood shrubs will be minor components of the post-fire vegetation under all alternatives, so they would not have significant effects on minimizing loss of soil carbon and nutrients, maintain critical elements of soil structure, or provide critical habitats for soil organisms. In addition, even if sprouting shrubs were a major component of the vegetation, these effects would not be significant. As noted in the response to Letter #11, Comment 11-44, loss of nutrients to leaching would be negligible under all alternatives. The DEIS discloses mycorrhizal fungi are sufficient for planted seeding establishment (p.83). Under Alternative 1, loss of mycorrhizal fungi (as well as herbaceous plant and *Ceanothus* competition) possibly could inhibit tree regeneration in later years.

10-83. Aerial seeding was not considered as it has been found to give erratic reforestation success. Large amounts of seed are required due to rodents consuming much of the seed, which is expensive to collect from native trees in the proper seed zones. In addition, results are often highly variable, with some areas extremely overstocked and many others devoid of trees. Planting has been found to be the most cost effective and to give the most reliable results.

10-84. The Flagtail DEIS and FEIS environmental consequences for fisheries discloses that timber harvest and fuels treatments would have no effect on fish habitat or populations (Chapter 3, Fisheries) and will reduce potential for catastrophic fire in the future which could impact fish and fish habitat. In addition the disclosure of effects to fisheries shows a benefit with implementation of road management activities.

10-85. Legacy activities which contributed to low water quality were implemented without the use of BMPs as disclosed in the FEIS and DEIS, Chapter 3, Water Quality section and as discussed by EPA (2001). Road conditions are due to the lack of funding to implement BMPs; not due to the failure of BMPs. Funding concerns are discussed in the MOU between the Forest Service and the State of Oregon Department of Environmental Quality (USDA-Forest Service, 2002). Also, BMPs would be monitored as described in Chapter 2, Monitoring Plans; monitoring would provide the feedback loop for necessary modification as described in EPA (2001). Connected actions in all action alternatives include appropriate road maintenance activities to varying degrees. Action alternatives also include road closure and decommission activities to reduce future needs (and associated cost) for maintenance.

10-86. No streams in the Flagtail Fire Recovery Project area or adjacent to it are included on the 303(d) List of Water Quality Impaired Waterbodies for sediment. A TMDL is not required when streams are not identified as water quality impaired. The only stream in the project area included on the 303(d) List of Water Quality Impaired Waterbodies is Snow Creek which is listed for temperature. No measurable effects on stream temperature in Snow Creek are expected. The need for a WQRP under these conditions is discussed in this FEIS in the Legal Framework, Water Quality, and Consistency sections of Watershed Effects. See also Appendix K, which was developed in response to this and other comments, to clarify the basis for applying Water Quality regulations to this project.

The project soil scientist disclosed in the DEIS that eroded soil was not expected to be transported beyond unit boundaries. Under this disclosure sediment would not be expected to reach streams and there would be no effect to mitigate. The soil scientist completed further analysis using WEPP between the DEIS and the FEIS which identified conditions under which eroded soil may be transported away from units and enter the stream system as sediment. This analysis is incorporated into the General Water Quality section of the Chapter 3, Watershed section in this FEIS.

Road decommissioning is proposed to improve watershed conditions and not as mitigation to salvage harvesting as demonstrated by its inclusion in Alternative 4.

The effects of proposed temporary road and landing construction are disclosed in this FEIS Chapter 3.

The Environmental Consequences for all action alternatives state that the use of site specific BMPs, ephemeral draw buffers and designated skid trails would minimize sediment movement from harvest units while the use of default INFISH RHCA's would filter sediment leaving the units resulting in no impacts to fish habitat or populations as a result of harvest and fuels reduction activities. Road management activities would reduce road densities and chronic sedimentation from current levels in all action alternatives (DEIS and FEIS, Chapter 3, Fisheries, Environmental Consequences).

10-87. The alternatives are consistent with Regional Forester's Eastside Forest Plans Amendment #2. All riparian, ecosystem, and wildlife standards are met; see DEIS and FEIS, Chapter 3, Forest Vegetation, Terrestrial Wildlife, and Fisheries, Consistency with Direction and Regulations sections. This FEIS has updated the sections on Consistency with Direction and Regulation. More detailed responses are provided in Responses to Letter #10, Comments 10-88, 10-89, 10-90, 10-91, and 10-92.

10-88. The Regional Forester’s Eastside Forest Plans Amendment #2 (Eastside Screens) was superseded by INFISH and was clarified in the *Decision Notice Correction for INFISH*, which is disclosed in the Regulatory Framework sections for Watershed and for Fisheries in Chapter 3 of this FEIS. RHCA widths, defined in the INFISH Decision Notice Correction, are 50 feet for intermittent channels in Non-Priority watersheds. The Upper Silvies Watershed (as well as the entire Silvies River Subbasin) does not contain bull trout, which is necessary for designation by INFISH as a Priority Watershed. The Upper Silvies Watershed is not listed as a Priority watershed.

10-89. All alternatives meet the wildlife standards in Regional Forester’s Eastside Forest Plans Amendment #2 (see DEIS, Chapter 3, Forest Vegetation, Consistency with Direction and Regulations, p. 93, and Chapter 3, Terrestrial Wildlife Section, Consistency with Direction and Regulations, p. 175). The Flagtail fire essentially destroyed all the late and old structure (LOS) stands in the project area (see DEIS, Chapter 3, Old Growth Forest, pp. 120-121 and Chapter 3, Forest Vegetation, p. 70 and pp. 89-91). Therefore, the alternatives do not decrease late and old structure stands. The DEIS, Chapter 3, Terrestrial Wildlife, pp. 116-175 also addresses connectivity corridors, goshawk areas, and wildlife snags. This FEIS, Chapter 3, Terrestrial Wildlife Section has updated the section on Consistency with Direction and Regulations regarding Regional Forester’s Eastside Forest Plans Amendment #2.

10-90. As stated in the DEIS and FEIS, Chapter 3, Forest Vegetation, Regulatory Framework, this project does not propose harvesting live trees, therefore it is specifically exempt from the ecosystem (HRV) standard contained in the Regional Forester’s Eastside Forest Plans Amendment #2. The riparian and wildlife standards do apply to this project. Specifically, the wildlife standard requires no net loss of LOS and to manage vegetation so that it moves towards LOS. This project does evaluate HRV of stand structures for both existing structural stages and into the future for the alternatives as a means for evaluating the differences between the alternatives, and is documented in Chapter 3, Forest Vegetation, Stand Structural Stages of the DEIS and FEIS.

10-91. See responses to Letter #10, Comments 10-89 and 10-90. In addition, the DEIS Map Section, Figures 7, 8 and 13 (FEIS Figures 7, 8, and 14), helps facilitate discussions on old growth.

10-92. See response to Letter #10, Comment 10-93 below.

10-93. Tree survival is to be determined by applying the marking guide now shown in Appendix B of this FEIS. The marking guide is based on the rating guide developed by Scott, et al, 2002. The factors used in the rating guide are based on a large number of references to scientific papers, many which have been peer reviewed. The rating guide has been reviewed and adjusted over the last year by field evaluation by local silviculturists, making crew foremen, and the authors across the three Blue Mtn. National Forests. While no guide can realistically account for all of the factors that affect survival, the current guide is currently the “state of the art” for determining tree survivability after wildfires.

Since this is a new rating guide and actual validation studies have not been conducted, it is impossible to accurately determine an error rate of misclassifying survivability of fire-injured trees. To do so, long-term monitoring plots have been established on the Monument Fire in

conjunction with the PNW Research Station to monitor tree survival over the next 5 years. Additional plots in other wildfire areas will be established in the near future.

To reduce the chance of mistakenly marking a tree for harvest that may survive, a conservative approach has been taken in developing the actual marking guides, especially for trees over 21"DBH. If the rating score falls within the High Probability to Survive range, the tree should be marked for retention. If the rating score falls within the Low Probability to Survive range, the tree should be harvested if not needed for wildlife habitat or for protecting ephemeral draws. If the rating score falls within the Moderate Probability to Survive range, consider other non-rated factors that for trees over 21"DBH. If the rating score falls within the High Probability to Survive range, the tree should be marked for retention. If the rating score falls within the Low Probability to Survive range, the tree should be harvested if not needed for wildlife habitat or for protecting ephemeral draws. If the rating score falls within the Moderate Probability to Survive range, consider other non-rated factors that can affect survival and where the tree falls within the moderate range. Especially if the tree is over 21"DBH, it is recommended to chop into the tree bark to check for dead cambium. It is recommended that the chopping be done on four sides (faces) of the tree 2 to 4 inches below the ground level on the roots to obtain the most accurate results. If dead cambium equals or exceeds 75% (3 or 4 out of 4 faces) it is very likely to die. If dead cambium is 50% (2 out of 4 faces) it is weakened and other factors, like remaining live crown, presence of insects, etc. should be used for a final determination if the tree is expected to live. If dead cambium is less than 50% (0 or 1 out of 4 faces) it is likely to live.

Leave marginal trees as wildlife trees (future snag recruitment) if the chance of living is uncertain and harvest the obviously dead trees. No more than half of the trees left for snags should be marginal trees. Trees that are uncertain to live, regardless if they die in the near future or survive for a number of years, will be a source for future snag recruitment. This will prolong the time span that snags are available for wildlife habitat.

10-94. Between DEIS and FEIS, timber volumes were recalculated and expressed as net volume instead of gross volume and Tables 2-1, and 2-2 were updated (Chapter 2, Comparison of Alternatives). The economic analysis is based on net volumes from the Alternative Comparison Table in Chapter 2. Prior to advertisement a final appraisal will be completed using the current index with an adjustment made for blue stained pine and volume loss from Flat-headed wood borers. All log values in the DEIS and FEIS, used to run TEA-ECON, for all alternatives, were adjusted to show a value loss due to blue stain.

10-95. The Flagtail Fire occurred in mid July, before the buds had set. Fires that scorch the crowns of ponderosa pine before bud set are much more lethal than fires after bud set. Before bud set, crown scorch kills those branches and rarely does the tree produce new green foliage. This has been observed to be the case in the Flagtail Fire as few scorched trees have produced new foliage.

Bark thickness is one factor for cambium survival; other factors are fuel buildup around the bole of trees, fuel moisture, and fire intensity and residence time. In the case of the Flagtail Fire, there was a large buildup of fuels around the base of most trees consisting of bark scales, needles, and small branches. The fuel moisture was very low, and the fire intensity and residence time was sufficient to kill the cambium of many trees, even those with thick bark. Often the larger trees with thicker bark were killed at a higher rate than smaller trees with thinner bark, simply because of the buildup of flammable material around the base of the larger trees

because of the lack of frequent low intensity ground fires. Where there is uncertainty, it is recommended in the marking guides to chop into the bark at the base of the tree to check for living cambium (see response to Letter #10, Comment 10-93).

10-96. Direct, indirect and cumulative effects to fisheries are disclosed in Chapter 3, Fisheries, Environmental Consequences of the Flagtail DEIS and FEIS. The Biological Evaluation for fisheries (Appendix G) discusses effects of all alternatives on sediment, water quality, temperature, and water quantity. The short term and long term effects of alternatives differ in how they modify these parameters.

10-97. Comments to this policy are outside the scope of the project because they are relevant to the revision of the Malheur National Forest Land and Resource Management Plan. The Federal Wildland Fire Management Policy and Program Review (2001) provides guidance for the wildland fire management program. The policy gives a full range of options in suppression operations and using both wildland and prescribed fire to achieve resource benefits. Wildland fire use for resource benefit cannot occur until the Forest Plan is revised and the Federal Policy does not require that such amendments or revisions occur immediately.

10-98. The Malheur National Forest is requesting an emergency situation determination for economics for the Flagtail Fire Recovery project. That decision is outside the scope of this document.

10-99. See response to Letter #10, Comment 10-5.



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Letter #11

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11 Aug 2003

Subject: ONRC comments on the Flagtail Fire Recovery Project DEIS

Dear Forest Service:

Please accept the following comments from Oregon Natural Resources Council (ONRC) concerning Flagtail Fire Recovery Project DEIS dated June 2003. ONRC represents over 7,000 members who support our mission to protect and restore Oregon's wildlands, wildlife, and waters as an enduring legacy. We seek to permanently protect Oregon wild forests, protect and restore essential habitat for native species, and protect and restore the Klamath Basin from the headwaters to the sea.

Though we have not yet decided whether or not to appeal, and we sincerely hope that the agency makes a sound decision that avoids the necessity of an appeal, ONRC wishes to maintain eligibility to appeal this project, so we provide the following information pursuant to 36 CFR §215.6(a)(3):

Name and address: Doug Heiken
Policy and Litigation Coordinator
Oregon Natural Resources Council
PO Box 11648
Eugene OR 97440
541-344-0675
dh@onrc.org

Title of the Proposed Action: Flagtail Fire Recovery Project and proposed plan amendment. Alternative 2 is the proposed action. Alternative 3 is the preferred alternative and it involves:

- 3860 acres of salvage logging;
- 17 mmbf harvest volume;
- 2630 acres of ground-based logging;
- 4520 acres of tree planting;
- 3.8 miles of new roads (3.5 = temp)
- 17 culverts removed
- 22.7 miles f roads closed or decommissioned
- possible activity fuel treatments

Signature of Author: Doug Kirk for Oregon Natural Resources Council.
(Verification of Identity Available upon request.)

Specific Substantive Comments and Supporting Reasons:

11-1 Plan amendment. The proposed plan amendment is unjustified. The Forest Service has failed to explain why they cannot meet the forest plan requirements for snag retention. Snags and decayed wood play important ecosystem functions other than just habitat for cavity nesters. Ideally, snags and decayed wood should be both clumped AND dispersed, not one or the other.

11-2 Economic analysis. The economic analysis is based on the value of harvested trees and ignores other important economic values that are harder to measure but no less important.

11-3 Salvage increases fire risk and fire hazard. The Flagtail plan is to remove the large materials that do not contribute to fire intensity and leave behind the small fuels that do contribute to fire intensity. (DEIS p 105, 92). The DEIS indicates that activity fuels may be "available" for treatment (p 103), but there is no assurance that such treatment will occur due to funding and other constraints. There is a significant risk that salvage will increase fire risk and fire hazard in the near-term. The EIS fails to disclose the

11-4 consequences if funding is unavailable and fuel treatments do not get done.

11-5 Page 6 indicates that the EIS analysis is focused on distant future fire risk. The EIS ignores the fact that salvage logging causes an immediate increase in fire risk (caused by increased human activity and equipment that can start fires) and fire hazard (caused by increased 0-3" fuels that are moved from the canopy to the ground where they are far more dangerous).

Page 72 of the DEIS defines "short-term" and "long-term" but again ignores immediate effects of salvage.

11-6 Page 96 indicates that there is forest wide direction to manage fire intensity, but the EIS fails to disclose that fire will actually increase fire intensity. The fire variables that the Flagtail project proposes to manage (e.g., resistance-to-control) do not have similar forest plan requirements. The Forest Service must explain why they are increasing the risk they are supposed to control and controlling the risk they are NOT required to manage.

11-7 The Forest Service is also expending great effort and expense to reduce fuels outside of the wildland urban interface when there are much more important fuels reduction needs near communities. This is inconsistent with the National Fire Plan.

11-8 "Source habitats" eliminated. Black-backed woodpeckers and other species that thrive in post-fire landscape need large unsalvaged areas as "source habitats." This proposed salvage will eliminate far too much rare and important source habitat for these species.

11-9

Salvage: Give it a long rest from grazing. The fire area must be rested from grazing. The NEPA analysis fails to disclose the significant adverse effects of livestock grazing in a post-fire landscape in terms of degrading water quality, spreading invasive weeds, retarding vegetative recovery, soil compaction, etc. The EIS says that grazing will resume when vegetation has recovered, but this will be premature.

Vegetation and soil ecosystems are coupled through nutrient flows. Vegetation recovers first and delivers photosynthate to the soil foodweb thereby fueling soil recovery (but there is a significant time lag). Soil foodwebs should be allowed to fully recover before livestock grazing is resumed.

In the short term, grazing must be eliminated to allow recovery of plants, soil, and to protect water quality. In the long term, grazing must be eliminated if the agency is sincere about re-establishing natural fire regimes which depend on natural fuel profiles, which are seriously adversely affected by livestock grazing.

The DEIS cites “better distribution” of livestock as a benefit of the salvage effort. In fact, this is a significant problem. Widespread livestock use will alter the natural development of vegetation and alter future fire regimes in ways that are undesirable.

11-10

The DEIS lacks a cumulative effects analysis to consider the effects of grazing, salvage, roads, etc. on vegetation, soil, and water.

11-11

Salvage of “dying” trees will violate the 21 inch diameter limit in the eastside screens. The Regional Forester’s Plan Amendment #2 known as the “eastside screens” requires that:

“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.”

Many of the trees proposed for logging are currently living and larger than 21 inches dbh. Every false-positive prediction that a large tree will soon die and should be removed is a violation of the eastside screens. The ecological value of living trees, even if they will only live for a short time are highly significant. Live trees feed and help restore the below ground ecosystem that has been ravaged by fire. Live trees also provide snag recruitment habitat that helps fill a temporal gap in snags. Forest-wide S&G 38-49 require retention of green trees for snag recruitment and maintenance of snag numbers throughout the rotation. The DEIS notes that fires leave few green tree replacements, but fails to note that salvage makes it worse by removing many trees that would survive.

11-12

The Forest Service must consider these issue and err on the side of protecting all trees that may survive. The EIS fails to explain how the “factors affecting survival” in Appendix B will be used to justify cutting live trees or used to protect living trees. The site-specific factors themselves should be discussed in the text of the DEIS by harvest unit.

Appendix B and the discussion starting on page 76 are inconsistent. All the criteria in App B do not appear to be used in the EIS and no thresholds or definitions are discussed.

Appendix B uses high moderate and low probability of tree survival but the DEIS does not use these terms nor doe sit disclose how it will determine which live trees will be retained.

Page 123 says that all “live tree” will be retained. This is misleading to the decision-maker and the public.

11-13

Complex young forests become complex old forests. The DEIS discussion of the action and no action alternatives (e.g. page 122) should consider and disclose not just the *rate of attainment* of old growth characteristics but also the *quality* of the resulting old growth.

11-14

The proposed action will create virtual clearcuts. (Snags will be retain on 40 acres or more units, so there is not guarantee that the structure, function and process provided by snags and decayed wood will be represented across the landscape. The result of a clearcut is a simplified young forest. The Forest Service must consider the value of retaining both clumped and dispersed snags ad decaying wood in terms of creating biologically diverse young forests that are most likely to become biologically diverse old forests.

The EIS is inconsistent in describing the snag retention as “random” and in “2-6 acre patches.” Which is it?

11-15

The EIS discussion of snag retention is focused on cavity excavators and fails to address the many other values (structure, function, and process) of snags and decayed wood as presented in Rose, C.L., Marcot, B.G., Mellen, T.K., Ohmann, J.L., Waddell, K.L., Lindely, D.L., and B. Schrieber. 2001. 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>

11-16

Snags. Page 137 falsely claims that all alternatives would provide for 100% potential populations.

11-17

The DEIS (page 140) pessimistically assumes that the no action alternative will delay regeneration of big trees and expand the temporal “snag gap,” while failing to consider two important counter-veiling factors: (1) natural reprod growing at low density will grow larger faster than densely planted reprod, and (2) retaining all the large snags (which have greater longevity) will shorter the temporal snag gap on the front end.

11-17
Cont.

Page 143 of the DEIS says that the largest diameter snags will be retained but then says that the snags will be retained in patches. This is impossible unless all the largest snags just happen to be clumped in 2-6 acres patches.

Page 146 says alternative 4 is similar to alt 2 and 3 in terms of long-term snag habitat and fails to recognize that since alternative 4 retains all the large snags that are expected to remain standing the longest. The “snag gap” will be shorter under alt 4 than under alt 2 or 3 which remove most of the large snags.

The DEIS failed to disclose important differences between the alternatives. The DEIS repeatedly says that “most post-burn snags would be on the ground within 30 years” (and uses this same description for each alternative). The DEIS fails to note that alternatives 1 and 4 would retain all the large snags that have greater longevity. This difference has significant ecological consequences that are not disclosed in the EIS.

11-18

Beschta. The EIS fails to consider an alternative based on the recommendations of the Beschta Report. The EIS (p 307) also mischaracterized the Beschta recommendation as “hand off”. The Beschta recommendations in fact do allow salvage outside of sensitive areas but require retention of much more decayed wood so it can provide appropriate structure, function, and process.

The DEIS says that alternatives 1 and 4 come closest to Beschta, but both the public and the decision-maker would benefit from consideration of an alternative exactly like Beschta recommends. Such an alternative is closer to the purpose and need than either alt 1 or 4.

11-19

The DEIS page 312 says that Beschta offered no rationale for retaining all large old trees and 50% of smaller trees. Those rationale are 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> which the DEIS completely fails to cite (p 324). In summary, large old snags last longer and provide ecosystem services longer, while retaining 50% of other size classes ensures that the many other structures, functions, and processes provided by snags and decayed wood are retained and operative.

11-20

The EIS fails to disclose the consequences of various effects that are noted. For instance, page 80 discloses that salvage will eliminate shade but fails to disclose what this will mean in terms of soil moisture and soil recovery, fuel moisture, the success of vegetative regeneration and recovery, etc.

11-21

Page 82 discloses that natural regeneration will be slower, but fails to disclose the ecological benefits of slow regeneration in terms of big game forage quality and availability, early seral species habitat, the enhanced biological diversity of the resulting

stand. Please recognize the value of slow natural re-establishment of conifers and plant trees at relatively low densities.

11-22

Page 103 fails to disclose the consequences if activity fuels are not treated.

11-23

Page 131 notes that tree planting will accelerate reforestation but fails to disclose that rapid conifer conversion will accelerate loss of big game forage quantity and quality.

11-24

Wildlife proxy approach. The DEIS fails to consider actual wildlife populations and relies on a questionable assumption that wildlife populations are directly related to available habitat.

For instance, information from DecAid indicates that snag-associated wildlife will only occupy a small fraction of the area after salvage logging. This new information invalidates that “biological potential” models used by the Forest Service. The Forest Service must retain far more snags in order to comply with the regional foresters plan amendments that require retention of enough snags to maintain high levels of snag-associated species. FW S&G #41 requires the use of new modeling techniques.

11-25

Retain snag patches for big game cover. The Forest Service must maintain snag patches in a proper spatial arrangement to ensure attainment of FW S&G #30 and #31.

11-26

Aquatics. The DEIS admits that the existing road system has the greatest potential for sediment delivery (page G-12), but the DEIS fails to recognize the adverse effects of log hauling. The proposed action involves 3400 two-way log truck trips and many other road uses that will cause adverse impacts to water quality. A significant portion of the haul routes are directly adjacent to fish bearing Snow Creek and its tributaries.

11-27

The cumulative effects of grazing and salvage, road construction, and road use, are not adequately discussed.

11-28

The draft sediment export report (page E-7) lacks any results, so it offers no useful information to the decision-maker or the public. The decision should be deferred until such results are available.

11-29

Glossary. The DEIS glossary fails to define live tree or dying tree.

11-30

Purpose and need. Appendix B (page B-1) says that the agency has an obligation to recoup funds spent on establishing commercial stands damaged by fire. If this is the case, then the Forest Service should retain all the large old trees and should not salvage any trees that the Forest Service did not plant!

ROADLESS CONCERNS

11-31

Contrary to the statement on page 312 of the DEIS, there are two roadless areas larger than 1,500 acres in the Flagtail project area. One in the NE portion of the project area (in

11-31 Cont.

the vicinity of the designated old growth) and one in the west end of the project area (in the vicinity of the replacement old growth). See the attached ONRC roadless map.

Roadless areas greater than about 1,000 acres, whether they have been inventoried or not provide valuable natural resource attributes that must be protected. These include: water quality; healthy soils; fish and wildlife refugia; centers for dispersal, recolonization, and restoration of adjacent disturbed sites; reference sites for research; non-motorized, low-impact recreation; carbon sequestration; refugia that are relatively less at-risk from noxious weeds and other invasive non-native species, and many other significant values. See Forest Service Roadless Area Conservation FEIS, November 2000. This project involves activities in such unroaded areas. The NEPA analysis for this project does not adequately discuss the impacts of proposed activities on all the many significant values of roadless areas.

The Forest Service can develop a preliminary map of roadless 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.

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.

Also, consider the conclusions and recommendations of the Road Density Analysis Task Team: Unroaded and low road density areas potentially represent areas in which the aquatic ecosystems are still operating with minimal human disturbances. Areas like these that provide for high quality habitat and stable fish populations are important refugia and a cornerstone of most species conservation strategies.

...

Even well engineered roads act as conduits for sediment (Filipek 1993). Lee et al. (1997), also note that although improvements in road construction and logging methods can reduce sediment delivery to streams, sedimentation increases are unavoidable even when using the most cautious logging and construction methods.

As stated in the Biological Opinion for bull trout (USFWS 1998), there is no positive contribution from roads to physical or biological characteristics of watersheds. Under present conditions, roads represent one of the most pervasive impacts of management activity to native aquatic communities and listed fish species.

...

**11-31
Cont.**

RDAT Recommendation (4): The Regional Executives provide direction to the field units that allow for road construction in undesignated low road density areas only after completion of the mid/fine scale analysis of these areas.

Regional Executive Decision: While we agree that avoiding road construction in low road density areas with high to very high fish values may be desirable, we also recognize that providing direction precluding such development could conflict in some instances with our legal obligations under laws such as the Alaska National Interest Lands Conservation Act (ANILCA) and the 1872 Mining Laws. Rather than totally precluding such development, the BLM State Directors and Regional Foresters, through this transmittal letter, direct field units as follows:

A. Avoid new road construction in low road density areas to the extent practical, consistent with existing authorities and LRMPs, but keep in mind that in some cases the need to remove hazardous fuels may be paramount for long term watershed restoration,

B. Decisions to allow new road construction in low road density areas should not be made without an assessment of environmental effects, including any changes to the value of the low road density area as a current or potential stronghold for listed aquatic species. This assessment and/or analysis should also consider the amount of acreage within the watershed already in Wilderness and inventoried roadless areas, and

C. Where new road development in low road density areas cannot be avoided, road location and design should minimize effects to aquatic resources and incorporate practical mitigation measures, including closure or decommissioning of the road if the need for the road is temporary.

Land Management Recommendations Related to The Value of Low Road Density Areas

In the Conservation of Listed Salmon, Steelhead, and Bull Trout: A Commitment made as part of the Biological Opinions For Chinook Salmon and Steelhead (Snake River and upper Columbia River) and Bull Trout (Columbia and Klamath Rivers-areas not covered by the Northwest Forest Plan); Final Report; January 30, 2002; Prepared by the: Road Density Analysis Task Team. <http://www.blm.gov/nhp/eoia/or/fy2002/ib/ib-or-2002-134.htm>

Roadless area boundaries are an issue that has never been validated in any NEPA process. Only arbitrary Forest Service designation, outside of any public appeal opportunity, has set these boundaries. As part of this NEPA analysis, the roadless boundaries should be validated. This is addressed clearly by the California v. Block decision and others.

An action does not have to occur inside a RARE II boundary to affect a roadless area, because RARE II is not the final word on roadless lands. As the Forest Service is

**11-31
Cont.**

abundantly aware, the court ruled in *California v. Block* that actions affecting wilderness status could not rely on RARE II. The court ruled that RARE II did not comply with NEPA and “was inadequate to support the non-wilderness designations of the disputed areas and therefore violated NEPA.” In the present case, the Forest Service is relying on an illegitimate RARE II boundary of this roadless area to support its contention that logging may occur in de facto roadless land without affecting future wilderness designation.

Further, the Forest Service Washington Office ruled in its appeal decision of the Idaho Panhandle Forest Plan Appeal that roadless areas must be evaluated individually when logging is to occur in them.

The fact that several of the units of this timber sale do not fall within the RARE II boundary but *do* fall adjacent to it and undivided from it by any road requires the Forest Service to address roadless impacts per the NFMA and to acknowledge to the public the effects to the roadless resource. Judging from the controversy surrounding roadless lands these days, such an analysis would need to occur in an EIS.

An EIS is needed to consider the significant environmental impacts of proposed activities in roadless areas. The agency should consider the effects of this project on uninventoried roadless areas like the Rogue River National Forest considered unroaded areas in the recent Mill Creek DEIS. (Note: Although the Rogue River National Forest should be commended for considering uninventoried roadless areas in an EIS and for developing an alternative that deferred entry into unroaded and old-growth areas, they did not do a good job of analyzing the impact of the proposed project on the values embodied by the uninventoried roadless areas.)

While inventoried roadless areas receive mandatory attention per the Roadless Area Conservation FEIS, the Forest Service has previously acknowledged that unroaded areas smaller than the generally accepted 5,000 acres are significant as well.

1. The Draft EIS for the National Forest Roadless Conservation Rule identified as “procedural rule” that required the Forest Service to identify and consider protection for uninventoried roadless areas like those identified by ONRC. This procedural rule was moved to the NFMA planning rules in 36 CFR 219, but later rescinded by the Bush administration, but just because it is not explicitly required by the roadless rule or the forest planning regulations does not mean that it is a non-issue in terms of NEPA. If the Forest Service proposes an action that will adversely modify an uninventoried roadless area they must consider the consequences.
2. As illustrated in the Roadless Area Conservation FEIS (FEIS Fig. 3-3, p. 3-5), there are numerous inventoried roadless areas that are less than 5,000 acres. In the West alone there are over 650 inventoried roadless areas ranging from 1,001-5,000 acres (FEIS Fig. 3-3, p. 3-5). Clearly, these inventoried roadless areas and unroaded areas of 1,000 acres or greater share many of the same characteristics as the larger roadless areas and therefore constitute a compelling interest as well.

11-31 Cont.

3. Under the 36 CFR 219 Planning Regulations, it is “inappropriate to predetermine the size or configuration of unroaded areas to be analyzed and considered through plan revisions.” As a directive of the Planning Regulations, unroaded areas smaller than 1,000 acres may require consideration due to such factors as scarcity of unroaded and inventoried roadless areas.

While it is true that the Forest Service does not have an explicit legal obligation to protect these uninventoried areas (yet), the Forest Service does have a legal obligation pursuant to NEPA to describe the environmental consequences of logging and road building in ecologically significant areas. The Forest Service roadless EIS described several qualities of roadless areas that are not limited to those over 5,000 acres and that happen to have been inventoried in the RARE process. The Forest Service should not be dismissive of the need to do NEPA analysis of the impacts of their activities on uninventoried roadless. The Forest Service should not rely on the arbitrary roadless boundaries drawn as part of RARE. To fulfill your NEPA obligation, you must look at the ecological limits of roadlessness.

Low impact restoration activities including but not limited to prescribed burning, mowing, precommercial thinning, fire rehab, and soil rehab, may be appropriate in roadless areas as long as they will be substantially unnoticeable to the casual observer and leave the area suitable for future wilderness designation. The NEPA document should describe the roadless area, the roadless values represented, and the need for, and impacts of, the proposed restoration activities.

SNAGS, DECAYED WOOD AND ASSOCIATED FUNCTIONS AND SPECIES

11-32 a

Bats, martens, woodpeckers, bears, and many other species are dependant upon snags and down wood. Snags and down wood also serve several crucial ecosystem functions. Current direction for protecting and providing snags and down wood does not ensure the continued operation of these ecosystem functions or meet the needs of the many species associated with this unique and valuable habitat component. Please use the DecAID decision support tool and consider all the many values of snags and down wood presented in Rose, C.L., Marcot, B.G., Mellen, T.K., Ohmann, J.L., Waddell, K.L., Lindely, D.L., and B. Schrieber. 2001. *Decaying Wood in Pacific Northwest Forests: Concepts and Tools for Habitat Management*, Chapter 24 in *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>

Introduction

Decaying wood has become a major conservation issue in managed forest ecosystems.^{16, 64, 69a, 149, 201} Of particular interest to wildlife scientists, foresters, and managers are the roles of wood decay in the diversity and distribution of native fauna, and ecosystem processes. Numerous wildlife functions are attributed to decaying wood as a source of food, nutrients, and cover for organisms at numerous trophic levels.^{231, 232, 234, 346, 369} Principles of long- term productivity and sustainable forestry include decaying wood as a key feature

11-32 Cont.

a of productive and resilient ecosystems.^{10, 229, 291, 293, 386} In addition to a growing appreciation of the aesthetic, spiritual, and recreational values of forests, society increasingly recognizes ecosystem services of forests as resource .capital. with tangible economic value to humansy, such as air and water quality, flood control, and climate modification.^{15, 262, 290}

The ecological importance of decaying wood is especially evident in coniferous forests of the Pacific Northwest. In this region, the abundance of large decaying wood is a defining feature of forest ecosystems, and a key factor in ecosystem diversity and productivity.¹²⁷ ... Large accumulations of decaying wood provide wildlife habitat and influence basic ecosystem processes such as soil development and productivity, nutrient immobilization and mineralization, and nitrogen fixation.^{85, 115, 218, 233} ...

...
Since the publication of Thomas et al.³⁶⁹ and Brown,⁴⁸ new research has indicated that more snags and large down wood are needed to provide for the needs of fish, wildlife, and other ecosystem functions than was previously recommended by forest management guidelines in Washington and Oregon. For example, the density of cavity trees selected and used by cavity-nesters is higher than provided for in current management guidelines.^{53, 102} ...

b Ecological Functions of Decaying Wood

...
Recent significant advancements have defined wildlife species-specific relationships with particular characteristics and components of decaying trees, both standing and fallen,^{56, 95, 185, 284, 351, 373, 386, 402} and implications for management.^{13, 68, 223, 226, 250, 327} ...

...
Hollow trees larger than 20 inches (51 cm) in diameter at breast height (dbh) are the most valuable for denning, shelter, roosting, and hunting by a wide range of animals.^{7, ...}

...
... In the Interior Columbia Basin, grand fir and western larch form the best hollow trees for wildlife uses. ...

...
Recent studies have provided valuable insight on wildlife uses of snags (dead trees).^{21, 56, 314, 402} Snags provide essential habitat features for many wildlife species (Figure 6). The abundance of cavity-using species is directly related to the presence or absence of suitable cavity trees. Habitat suitability for cavity-users is influenced by the size (diameter and height), abundance, density, distribution, species, and decay characteristics of snags.³⁰⁷ In addition, the structural condition of surrounding vegetation determines foraging opportunities.⁴⁰²

The Habitat Elements matrix on the CD-ROM with this book lists a total of 96 wildlife species associated with snags in forest (93 species) or grassland /shrubland (47 species) environments. Most of these species use snags in both environments. In forests, this includes 4 amphibian, 63 bird, and 26 mammal species. Additionally, 51 wildlife species are associated with tree cavities, 45 with dead parts of live trees, 33 with remnant or legacy trees (which may have dead parts), 28 with hollow living trees, 21 with bark crevices, and 18 with trees having mistletoe or witch's brooms. Habitat uses include nesting, roosting, preening, foraging, perching, courtship, drumming, and hibernating (Figure 7).

Of the 93 wildlife species associated with snags in forest environments, 21 are associated with hard snags (Stages 1 and 2), 20 with moderately decayed snags (Stage 3), and 6 with

11-32 Cont.

soft snags (Stages 4-5) in the five-stage classification system. According to the matrixes, 188 most snag-using wildlife species are associated with snags >14.2 inches (36 cm) diameter at breast height (dbh), and about a third of these species use snags >29.1 inches (74 cm) dbh.

This query of the Habitat Elements matrix illustrates the breadth of updated information about wildlife and snag habitat relations. Research results have expanded the number and variety of decaying wood categories over what was previously presented in Thomas³⁶⁶ and Brown.⁴⁸

...

. Down Woody Material (logs). Down wood affords a diversity of habitat functions for wildlife, including foraging sites, hiding and thermal cover, denning, nesting, travel corridors, and vantage points for predator avoidance.^{56, 64, 230} Larger down wood (diameter and length) generally has more potential uses as wildlife habitat. Large diameter logs, especially hollow ones are used by vertebrates for hiding and denning structures.^{214, 230} ...

...

C Long term Productivity

... Processes that sustain the long-term productivity of ecosystems have become the centerpiece of new directives in ecosystem management and sustainable forestry.^{78, 229, 291, 320} Given the key role of decaying wood in long-term productivity of forest ecosystems in the Pacific Northwest,^{122, 169, 261, 302} the topic should remain of keen interest to scientists and managers during the coming decade.¹⁴⁹ ...

Nutrient Cycling and Soil Fertility. Decaying wood has been likened to a savings account for nutrients and organic matter,³⁷⁶ and has also been described as a short-term sink, but a long-term source of nutrients in forest ecosystems.¹⁶⁴ ...

... Substantial amounts of nitrogen are returned to the soil from coarse wood inputs, yet even where annual rates of wood input are high, 4 to 15 times more nitrogen is returned to the forest floor from foliage than from large wood.¹⁶⁴ ...

... The low nutrient content in wood, small mass of tree boles relative to foliar litterfall, and slow rates of wood decay suggest that large wood plays a minor role in forest nutrition.^{18, 159, 162} After large scale disturbance such as fire and blowdown, however, the large nutrient pool stored in woody structures of trees (bole, branches, twigs, roots) becomes available to the regrowing forest. Large down wood may thus be an ample source of nutrients throughout secondary succession.²⁸¹

...

Recent studies indicate that wood may release nutrients more rapidly than previously thought through a variety of decay mechanisms mediated by means other than microbial decomposers, i.e. fungal sporocarps, mycorrhizae and roots, leaching, fragmentation, and insects.^{107, 158, 159, 162, 339, 405}

...

Soil is the foundation of the forest ecosystem.^{68, 348} ... On the H. J. Andrews Experimental Forest of western Oregon, 20-30% of the soil volume consists of decaying wood dispersed throughout a matrix of litter and duff.²⁹⁴ Because wood is a relatively inert substance, it may help to stabilize pools of organic matter in forests by slowing soil processes and buffering against rapid changes in soil chemistry. ...

...

... Numerous studies have demonstrated that losses in soil productivity often are closely linked to losses in soil organic matter.²⁹⁸

...

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d Mass Wasting and Surface Erosion. ... Large wood helps to anchor snowpacks, limit the extent of snow avalanches, and may even stabilize debris flows, depending on the depth of the unstable area.^{125, 356, 358} ... By covering soil surfaces and dissipating energy in flowing and splashing water, logs and other forms of coarse wood significantly reduce erosion.³⁵⁷ Large trees lying along contours reduce erosion by forming a barrier to creeping and raveling soils, especially on steep terrain. Material deposited on the upslope side of fallen logs absorbs moisture and creates favorable substrates for plants that stabilize soil and reduce runoff.²³⁰

e Stand Regeneration and Ecosystem Succession. Decomposing wood serves as a superior seed bed for some plants because of accumulated nutrients and water, accelerated soil development, reduced erosion, and lower competition from mosses and herbs.^{160, 376} In the Pacific Northwest, decaying wood influences forest succession by serving as nursery sites for shade-tolerant species such as western hemlock, the climax species in moist Douglas- fir habitat.^{80, 123, 160, 163, 244} Wood that covers the forest floor also modifies plant establishment by inhibiting plant growth, and by altering physical, microclimatic, and biological properties of the underlying soil. For example, elevated levels of nitrogen fixation in *Ceanothus velutinus* and red alder^{35, 88} have been reported under old logs.

f Streams and Riparian Forests. Long-term productivity in streams and riparian areas is closely linked to nutrient inputs, to attributes of channel morphology, and to flow dynamics created by decaying wood.^{144, 233, 360} ...

Large wood is the principal factor determining the productivity of aquatic habitats in low- and mid-order forested streams.²⁶² Large wood stabilizes small streams by dissipating energy, protecting streambanks, regulating the distribution and temporal stability of fast-water erosional areas and slow-water depositional sites, shaping channel morphology by routing sediment and water, and by providing substrate for biological activity.³⁶¹ The influence of large wood on energy dissipation in streams influences virtually all aspects of ecological processes in aquatic environments, and is responsible for much of the habitat diversity in stream and riparian ecosystems.^{262, 376}

g Key Ecological Functions of Wildlife Species Associated With Decaying Wood

...

Various symbiotic relations can be described for the 96 snag-associated species. Sixteen species are primary cavity excavators and 35 are secondary cavity users; 8 are primary burrow excavators and 11 are secondary burrow users; 5 are primary terrestrial runway excavators and 6 are secondary runway users. Nine snag-associated species create nesting or denning structures and 8 use created structures. Sixteen species might influence vertebrate population dynamics and 22 might influence invertebrate population dynamics. Snag-associated species also contribute to dispersal of other organisms including seeds and fruits (21 snag-associated wildlife species perform this function), invertebrates (8 species), plants (8 species), fungi (2 species), and lichens (1 species). Six snag-associated species can improve soil structure and aeration through digging, 2 species fragment standing wood, and 2 species fragment down wood. One snag-associated species creates snags, and at least 1 can alter vegetation structure and succession through herbivory.

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... both snag- and down wood-associated wildlife more or less equally participate in dispersal of seeds and fruits (although the particular species they disperse may differ); however, snag-associated wildlife play a greater role in dispersal of invertebrates and plants, and down wood-associated wildlife play a greater role in dispersal of fungi and lichens. Down wood-associated species might contribute more to improving soil structure and aeration through digging, and to fragmenting wood. This is one example of the far greater differentiating power afforded by a well-constructed set of matrixes than was previously available in Thomas³⁶⁶ and Brown.⁴⁸ ...

h **Fire Suppression.** In the eastern Cascades and through much of the intermountain area, extensive forest insect and disease problems have resulted from decades of fire suppression in combination with selective harvesting of pines.^{177, 194, 236, 401, 403} An analysis of landscape dynamics in the Interior Columbia River Basin^{302, 379} revealed that fire suppression resulted in a decreased abundance of large- diameter trees, and caused fuel accumulations that predisposed forests to stand-replacement fires. As mentioned previously, more intense fires not only consume more wood, but can inhibit wood decay by reducing nitrogen availability (and other elements) through volatilization and leaching, especially for wood in close association with the soil.²⁴⁵ Wood decay in post- fire regenerating forests also may be exacerbated by a decline in symbiotic nitrogen-fixing plant species in stands subject to prolonged fire suppression.¹⁶⁹

i **Management Considerations Management Ramifications of Snag and Down Wood Abundance**

... The apparent dearth of large snags in Ponderosa pine may mean lower suitability for the 54 wildlife species associated with large snags (20+ in or 51+ cm dbh) in that wildlife habitat. Intensive forest management activities that have decreased the density of large snags in early forest successional stages (sapling/pole and small tree stages) may have had adverse impacts on the 61 associated wildlife species (Figure 12). Similarly, the lesser amount of large down wood in early forest successional stages may not provide as well for the 24 associated wildlife species. Such results suggest the continuing need for specific management guidelines to provide large standing and down dead wood in all successional stages.

j **Depletion of Large Wood.** The loss of large wood structures has numerous potential impacts on ecological functions of forests, although available information is inadequate for a definitive assessment. The lack of large logs on steep slopes can decrease water percolation into soil, impair slope stability, accelerate soil erosion and sediment input to streams, and increase nutrient losses in litter.^{164, 358, 359, 360, 361} Some data support a linkage between intensive management (especially depletion of decaying wood) and reduced forest biomass productivity, particularly on less productive sites. Lower productivity is attributed to nutrient losses from managed forests, reduced nutrient availability in older stands, and decreased nutrient storage, particularly in the soil.^{272, 383, 384} Depletion of soil organic matter has been cited as a primary factor contributing to declining forest productivity and biodiversity in the Pacific Northwest and elsewhere.^{17, 137, 198, 199, 228, 292, 293, 298, 299}

k **Riparian Forests.** ... Far-reaching effects of the absence of large wood structures in streams include: 1) simplification of channel morphology, 2) increased bank erosion, 3) increased sediment export and decreased nutrient retention, 4) loss of habitats associated with diversity in cover, hydrologic patterns, and sediment retention.^{33, 144, 262} In coastal

environments and estuaries, the loss of large wood may disrupt trophic webs and alter coastal sediment dynamics.²³³

...

Lessons Learned During the Last Fifteen Years

...

Several major lessons have been learned in the period 1979-1999 that have tested critical assumptions of these earlier management advisory models:

- . Calculations of numbers of snags required by woodpeckers based on assessing their biological potential. (that is, summing numbers of snags used per pair, accounting for unused snags, and extrapolating snag numbers based on population density) is a flawed technique. Empirical studies are suggesting that snag numbers in areas used and selected by some wildlife species are far higher than those calculated by this technique.²²⁶
- . Setting a goal of 40% of habitat capability for primary excavators, mainly woodpeckers,³⁶⁹ is likely to be insufficient for maintaining viable populations.
- . Numbers and sizes (dbh) of snags used and selected by secondary cavity-nesters often exceed those of primary cavity excavators.
- . Clumping of snags and down wood may be a natural pattern, and clumps may be selected by some species, so that providing only even distributions may be insufficient to meet all species needs.
- . Other forms of decaying wood, including hollow trees, natural tree cavities, peeling bark, and dead parts of live trees, as well as fungi and mistletoe associated with wood decay, all provide resources for wildlife, and should be considered along with snags and down wood in management guidelines.
- . The ecological roles played by wildlife associated with decaying wood extend well beyond those structures per se, and can be significant factors influencing community diversity and ecosystem processes.

We have also learned that managing forests with decay processes should be done as part of a broader management approach to stand development, with attention paid to retaining legacies of large trees and decaying wood from original or prior stands. Further lessons have been learned in the area of technical and operational developments; some of these are discussed below.

...

... Studies suggest that wood habitat structures function best for wildlife when they are broadly distributed as well as occurring in locally- dense clumps, such as with scattered snag or down wood patches. ...

...

... A new modeling tool named DecAID is available to assist with this task. DecAID (as in .decayed. or .decay aid.) is a new Decayed Wood Advisory Model being developed to address some of the recent lessons learned.^{226, 247} DecAID is based on a thorough review of literature, available research and inventory data, and expert judgement. It broadens the paradigm for wildlife species and habitat assessment by considering the key ecological functions of wildlife (see below) as well as the ecosystem context of wood decay in terms of secondary effects on forest productivity, fire, pest insects, and diseases.

...

The manager will be able to use DecAID for advice on the following topics by first specifying wildlife habitat, structural stage, and statistical (confidence) level: 1) wildlife species associated with particular sizes and densities of snags and down wood, or, conversely, the sizes and densities

**11-32
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11-32 required to meet specified wildlife management objectives, at three levels of confidence; 2) the
Cont. array of key ecological functions of
 wildlife associated with decaying wood; 3) the recent-historic and current range of natural
 conditions of snags and fallen trees; 4) advice on fire risk assessment and mitigation; 5) advice on
 the roles of insects and diseases associated with various amounts of decaying wood; 6) and the
 influence of the abundance of decaying wood on ecosystem processes and productivity.

...

m Management Tools and Opportunities

...

... In young stands, Franklin¹²² recommends that management should:

1. Aggressively create stands of mixed composition to maintain habitat for a broad array of species (and to achieve diversity in quality and timing of nutrient inputs to streams).
2. Delay the process of early canopy closure (wide spacings, pre-commercial thinning etc.).
3. Provide for adequate amounts and a continuous supply of large wood, including snags and down logs, for maintaining structural diversity in forests and streams and maintaining all other ecosystem processes associated with wood.

The basic theme of these revisions of intensive forestry practices is to retain the higher levels of complexity found in natural forests, and in so doing, to protect processes and structures that retain future options for ecosystem management. ...

...

... Retention of snags provides numerous habitat benefits.^{154, 239, 402} However, safety and liability issues associated with snag retention have posed an operational barrier to management objectives for structural retention. Two approaches useful in reducing hazards associated with snags are: 1) to cluster snags in patches rather than wide dispersal, and 2) to create snags from green trees after cutting.¹²²

... Managers must also consider the temporal dimension to decaying wood, to ensure that sufficient sufficient snag and down wood densities are provided through time. ...

n Live (Green) Tree Retention. Retention of living trees on cutover areas is one form of structural retention that can provide for future recruitment of snags and down wood ...

Green trees function as a refugium of biodiversity in forests. For example, many species of invertebrate fauna in soil, stem, and canopy habitats of old-growth forests do not disperse well, and thus, do not readily recolonize clear-cut areas.^{207, 326} The same concept holds for many mycorrhizae-forming fungal species.²⁹³ Added benefits of green tree retention include moderated microclimates of the cutover area, which may increase seedling survival, reduce additional losses of biodiversity on stressed sites,²⁹³ and facilitate movement of organisms through cutover patches of the landscape. Green trees retained across harvest cycles can also be used to grow very large trees for either ecologic or economic goals. ...

Green tree retention offers many benefits to wildlife. For example, the higher structural diversity in young stands that contain legacy trees from previous stands provides much improved habitat values to late successional species such as the northern spotted owl, as well as other vertebrates that use late-successional stands for some elements of their life history.^{69, 122, 314} Such stands may provide wildlife habitat as early as age 70-80 years rather

than 200-300 years, the approximate time interval required for old-growth conditions to develop after secondary succession. ...

...

○ Summary of Management Recommendations

The information presented in this chapter emphasizes several properties of decaying wood in forest ecosystems: (1) each structure formed by decaying wood helps support a different functional web in the ecosystem; (2) no one decaying wood structure supports all functions equally; and (3) all decaying wood habitats together support the widest array of ecological functions and associated wildlife species. The CD-ROM with this book in combination with the DecAid model provides managers with a powerful tool that makes it possible to assess the degree of .full functionality. of ecosystems as supported by the various decaying wood structures, and which functions are strengthened, diminished, or lost through alternative silvicultural management practices.

Lessons for managers are:

...

2. Emphasize retention of wood legacies, and secondarily promote restoration where legacies are deficient to meet stated objectives. The decline of species associated with late-successional forest structures, as well as the prolonged time needed to produce wood legacies, suggests that it is both ecologically and economically advantageous to retain legacy structures across harvest cycles wherever possible, rather than attempt to restore structures that have been depleted. This is especially obvious for slow-growing tree species and very large wood structures. ...

...

Operational Considerations

...

... OSHA revised the federal Logging Standard (29 CFR 1910.266) in 1995, to clarify its intent that danger trees may be avoided, rather than being removed or felled.^{72a} A danger tree is any standing tree (live or dead) that poses a hazard to workers, from unstable conditions such as deterioration, damage, or lean. The revised rule allows some discretion in determining the hazard area around a danger tree, byallowing work to commence within two tree lengths of a marked danger tree, provided that the employer demonstrates that a shorter distance will not create a hazard for an employee..(OSHA Logging Preamble, Section V). Determining a safe working distance requires a case-by-caseevaluation of various factors such as, but not limited to, the size of the danger tree, how secure it is, its condition, the slope of the work area, and the presence of other employees in the area. ...

...

Concerns frequently arise where high public use creates a risk of third party liability. Considerations include the proximity of reserve trees to roads, trails, campgrounds, ski areas, and other recreation areas and public access points. Methods for addressing these concerns include signage and clear delineation of potential hazard areas, fencing and other barriers to discourage public access, snag height reduction and use of setbacks to minimize exposure.

The bottom line is that current management at both the plan and project level does not reflect all this new information about the value of abundant snags and down wood. The agency must avoid any reduction of existing or future large snags and logs (including as part of this project) until the applicable management plans are rewritten to update the

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snag retention standards. See also PNW Research Station, “Dead and Dying Trees: Essential for Life in the Forest,” Science Findings, Nov. 1999 (<http://www.fs.fed.us/pnw/sciencef/scifi20.pdf>) (“Management implications: Current direction for providing wildlife habitat on public forest lands does not reflect findings from research since 1979; more snags and dead wood structures are required for foraging, denning, nesting, and roosting than previously thought.”)

Current science shows that 4 snags/acre minimum are required for 100% population potential for woodpecker species associated with snag cavities. Wolf Vegetation Management EA, Wallowa-Whitman National Forest, May 2001, page 57. “Historic snag levels could have been much higher, closer to 6-14 snags/acre. (Harrod, Gaines, Hartl, and Camp, 1998).” Goose EA, Wallowa-Whitman National Forest. Additional snags should be left because future fires (both managed and unmanaged) and illegal firewood cutting is almost certain to take a heavy toll on snags over the next several decades.

Snags should be carefully inventoried by species, size, decay status, quality, and location during project planning, and they should be treated as “special habitats” and given special protection during project planning and implementation (i.e. keep workers out of the vicinity of snags so that OSHA doesn’t order them cut). For instance, the May 2001 Wolf Vegetation Management Project on the Wallowa-Whitman National Forest includes a mitigation measure protecting trees from being harvested if they are near hazardous snags >15 inches dbh. The NEPA document does not adequately address the need to protect and provide snag habitat.

The snag retention requirements in the applicable management plan Standards & Guidelines for this project fail to retain enough snags to provide habitat for viable populations of cavity dependent species. Since snags have a patchy spatial distribution, surveys to determine snag abundance require very large sample sizes relative to other general vegetation surveys. This was not recognized until relatively recently, so most past surveys conducted to determine natural snag abundance have therefore grossly underestimated the true abundance of snags. This has lead the Agency to underestimate the number of snags necessary to protect species. This new information must be disclosed and documented in a EIS and it requires a forest plan amendment.

The agency must do away with the caveat that they will protect snags “except where they create a safety hazard.” This is based on a false choice between snags and safety. The agency can just buffer snags from activities that involve workers, then all ecologically important snags can be protected. The agency must consider this as an alternative to their proposed “management by caveat.” An example of this was the Umpqua National Forest, Cottage Grove Ranger District’s 2001 decision to burn a picnic table near Moon Falls in order to avoid placing the public in a hazardous situation with respect to a nearby snag. Similarly, the agency here should save the snags by avoiding the activity in the hazard zone around the snags.

The EA must at least disclose how many large snags will be protected vs. felled for safety under the preferred alternative.

GRAZING AND FOREST HEALTH

11-33

This project does nothing to address the threat that livestock grazing causes to forest health. There is virtually no point in trying to mechanically reduce tree density unless you deal with other underlying causes of overstocking, e.g. livestock grazing. The NEPA document describes the effects “on” range resources (e.g., fences and transitory range) but fails to disclose or analyze the effects “of” livestock on forest health and the desired future condition of vegetation composition.

Grazing reduces the density and vigor of grasses which usually outcompete tree seedlings, leading to dense stands of fire-prone small trees. Cows also decrease the abundance of fine fuels which are necessary to carry periodic, low intensity ground fires. This reduces the frequency of fires, but increases their severity. See Belsky, A.J., Blumenthal, D.M., “Effects of Livestock Grazing on Stand Dynamics and Soils in Upland Forest of the Interior West,” *Conservation Biology*, 11(2), April 1997.

<http://www.onda.org/Archives/ForestGrazing.htm>

The NEPA document failed to address these issues and failed to consider alternative ways of avoiding these impacts by not grazing. The combination of fire suppression, past high-grading, and livestock grazing together caused the overstocked condition of the stands in the analysis area. Logging and prescribed fire will only partially address the problem. To be effective, livestock grazing must also be eliminated. Grazing and logging cause cumulative effects that must be considered together in one NEPA document.

WATER QUALITY

11-34

The agency seems to claim that the direct sediment input from timber harvest in addition to any other sources of sediment will be sufficiently mitigated by the use of Best Management Practices (BMPs). While the use of BMPs is to be encouraged in timber projects, we note that the use of these measures are not themselves sufficient to ensure compliance with the Clean Water Act (CWA). *Northwest Indian Cemetery Protective Ass'n v. Peterson* 795 F.2d 688, 697 (9th Cir. 1986) (holding that compliance with BMPs does not equate to compliance with the CWA). Indeed, the agency assumes that the implementation of BMPs will sufficiently mitigate any problems that the proposed project will have on aquatic systems, but offers no proof of this assertion. Consequently, this assumption is flawed and violates the law.

11-35

A recent case in Montana affirmed that further degradation of water quality in streams that are already out of compliance with water quality standards is unacceptable unless baseline data is available showing the assimilative capacity of local streams will not be exceeded by the logging (e.g., a TMDL must be prepared). See *Sierra Club v. Austin*, (D. Montana, April 30, 2003)

<http://www.johnmuirproject.org/Opinions/Sierra%20Club%20Lolo%20Burn%20Order.pdf>

11-36

A recent USDA Office of the Inspector General Report concluded that reliance on speculative mitigation measures in order to reach a FONSI significantly compromised environmental quality. OFFICE OF INSPECTOR GENERAL, U.S. DEPT' OF AGRIC., EVALUATION REPORT NO. 08801-10-AT: FOREST SERVICE TIMBER SALE ENVIRONMENTAL ANALYSIS REQUIREMENTS (1999). The OIG concluded that:

Applicable mitigation measures contained in 10 of 12 decision notices and referenced environmental assessments reviewed, were not always implemented. In addition, mitigation measures were either omitted or incorrectly incorporated into 4 of 12 accompanying timber sale contracts. These mitigation measures are designed to reduce the adverse impacts of timber sale activities on the environment. Generally, mitigation measures were not implemented due to district personnel (a) not being familiar with the mitigation measure contained in the environmental documents, (b) not adequately monitoring actual implementation of the mitigation measures, (c) not comparing timber sale contract clauses with the applicable environmental documents and, (d) oversight. As a result, streams, wildlife habitat, heritage resources, water quality, and visual quality were or could be adversely affected. In addition, "Findings of No Significant Impact" conclusions (i.e. that there was no significant affect on the quality of the human environment) were questionable . . . Timber sale field visits disclosed that mitigation measures designed to protect key resource areas were not adequately implemented. The measures involved mitigation of riparian areas and stream management zones, wildlife habitat, heritage resource sites, visual quality, and soils.

Until the agency is able to substantiate its proposed mitigation measures - i.e., that they are appropriate, will be implemented, and will be effective - the agency must withdraw the proposed project.

11-37

Further logging in this watershed threatens further violations of state water quality standards. This issue must be addressed in the EIS and requires a TMDL/water quality management plan precede further actions that could increase stream temperature, nutrients, or sediment.

The EIS must address the cumulative effects of logging and grazing on water quality and discuss the fact that further grazing will retard the attainment of riparian and aquatic management objectives in violation of the applicable land management plan as amended.

SOILS CONCERNS

11-38

According to the regional guidelines soils in 80% of an activity area must be maintained in a non-compacted, non-displaced, and non-puddled condition. Soils must be "maintained," not "mitigated" or "restored" to attain that objective. Mitigation should not be used as an excuse for violation of the regional soil guidelines.

11-39

Scarification, ripping, and subsoiling does not alleviate the following negative impacts,

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Cont.

therefore not completely mitigating:

- compaction of soil and alteration of the soil ecosystem;
- alteration of hydrology, water storage, flow, timing, from soil compaction;
- alteration or loss of native plant communities, and tendency to create conditions which favor noxious weeds or other non-native plants;
- disruption of soil foodweb and biotic communities that serve important soil functions and processes such as aeration, nutrient cycling,

11-40

Soil productivity must be zealously guarded in order to protect our forests for future generations. This project will cause unacceptable impacts to soil resources. Use of ground-based logging equipment almost always compacts soil causing reduced site productivity, drastically altered soil food web relationships, reduced infiltration, and increase surface runoff. Spring burning can also be very harmful to soil and the thousands of creatures that live all or part of their lives in the soil profile. The EA needs to consider these impacts and consider alternative ways to avoiding these impacts.

11-41

Ground-based logging causes higher incidences of root damage and scarring of residual trees (compared to skyline systems). Kellog, L., Han, H.S., Mayo, J., and J. Sissel, "Residual Stand Damage from Thinning— Young Stand Diversity Study," Cascade Center for Ecosystem Management.

11-42

Soil disturbance caused by logging also causes erosion that adversely impacts both soil and water resources. The existing level of soil disturbance has not been measured and disclosed in the EA so the Agency cannot say with any factual basis whether forest plan standards will be met. This is arbitrary and capricious. Existing soil impacts must be measured and future impacts estimated so that an adequate cumulative effects analysis can be prepared and included in a supplemental EIS.

11-43

In modern forestry, soils are chronically impacted yet very slow to recover leading to cumulative impacts. Cumulative soil impacts caused by this project and all past and future projects (including livestock grazing, roads, landings, fuel treatments, fires, OHVs etc) is also significant issue. See <http://www.cof.orst.edu/cof/teach/for341/Cumulative%20Effects%20of%20Forestry%20on%20Soils/CHAPT6Soils.htm>. These significant soil issues must be addressed in the EIS.

Respect the soil foodweb

11-44

In undisturbed ecosystems, the soil foodweb is a tightly coupled below-ground ecosystem that directly affects many above ground processes such as succession, plant establishment and growth, and erosion and water quality.

In a forest, this below-ground ecosystem is fed primarily by photosynthates exuded from the fine roots of trees. These photosynthates feed a plethora of bacteria and fungi species which feed thousands of arthropod and nematode species and so on. Each species fills a niche and represents both a sink and a source and of nutrients for other organisms.

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11-44 Cont.

Logging will kill trees and cut off the supply of photosynthate which forms the basis of this food web, so the tightly coupled nutrient retention systems will be disrupted, allowing nutrients to “leak” from the system.

11-45

Burning slash piles also kills the below ground ecosystem and soil compaction from road building and other heavy equipment kills or destroys habitat for many soil dwelling species and shifts the below ground ecosystem from aerobic to anaerobic.

The NEPA document fails to consider these significant effects.

11-46

Soil Foodweb Significance

The structure and function of the soil foodweb has been suggested as a prime indicator of ecosystem health (Coleman, et al. 1992; Klopatek, et al. 1993). Measurement of disrupted soil processes, decreased bacterial or fungal activity, decreased fungal or bacterial biomass, changes in the ratio of fungal to bacterial biomass relative to expected ratios for particular ecosystems, decreases in the number or diversity of protozoa, and a change in nematode numbers, nematode community structure or maturity index, can serve to indicate a problem long before the natural vegetation is lost or human health problems occur (Bongers, 1990; Klopatek et al. 1993).

Soil ecology has just begun to identify the importance of understanding soil foodweb structure and how it can control plant vegetation, and how, in turn, plant community structure affects soil organic matter quality, root exudates and therefore, alters soil foodweb structure. Since this field is relatively new, not all the relationships have been explored, nor is the fine-tuning within ecosystems well understood.

Regardless, some relationships between ecosystem productivity, soil organisms, soil foodweb structure and plant community structure and dynamics are known, and can be extremely important determinants of ecosystem processes (Ingham and Thies, 1995). Alteration of the soil foodweb structure can result in sites which cannot be regenerated to conifers, even with 20 years of regeneration efforts (Perry, 1988; Colinas et al, 1993). Work in intensely disturbed forested ecosystems suggests that alteration of soil foodweb structure can alter the direction of succession. By managing foodweb structure appropriately, early stages of succession can be prolonged, or deleted (Allen and Allen, 1993). Initial data indicates that replacement of grassland with forest in normal successional sequences requires alteration of soil foodweb structure from a bacterial-dominated foodweb in grasslands to a fungal-dominated foodweb in forests (Ingham, E. et al, 1986 a, b; 1991; Ingham and Thies, 1995).

...Without doubt, plant establishment, survival and successional processes are influenced by these soil organisms

11-46 Cont.

Soil processes are important for maintaining normal nutrient cycling in all ecosystems (Coleman et al., 1985; Dindal 1990; Ingham, E. et al. 1986a, b). Plant growth is dependent on the microbial immobilization and soil foodweb interactions to mineralize nutrients. In undisturbed ecosystems, the processes of immobilization and mineralization are tightly coupled to plant growth but following disturbance, this coupling may be lost or reduced. Nutrients may be no longer retained within the system, causing problems for systems into which nutrients move (Ingham and Coleman, 1984; Hendrix et al. 1986; Nannipieri et al. 1990). Measurement of disrupted processes may allow determination of a problem long before normal cycling processes are altered, before the natural vegetation is lost, or human health problems occur. By monitoring soil organism dynamics, we can perhaps detect detrimental ecosystem changes and possibly prevent further degradation.

Immobilization of nutrients in soil, i.e., retention of carbon, nitrogen, phosphorus, and many micronutrients in the horizons of soil from which plants obtain their nutrients, is a process performed by bacteria and fungi. Without these organisms present and functioning, nutrients are not retained by soil, and the ecosystem undergoes degradation. Thus, to assess the ability of an ecosystem to retain nutrients, the decomposed portion of the ecosystem, i.e., active and total fungal biomass, and active bacterial biomass must be assessed.

Ingham, Elaine, **The Soil Foodweb: It's Importance in Ecosystem Health**
<http://www.rain.org/~sals/ingham.html>

Narrow Purpose and Need/Inadequate Range of Alternatives

The courts have also held that in defining a very narrow purpose and need, the agencies run afoul of NEPA:

11-47

The “purpose” of a project is a slippery concept, susceptible of no hard-and-fast definition. One obvious way for an agency to slip past the strictures of NEPA is to contrive a purpose so slender as to define competing “reasonable alternatives” out of consideration (and even out of existence). The federal courts cannot condone an agency’s frustration of Congressional will. If the agency constricts the definition of the project’s purpose and thereby excludes what truly are reasonable alternatives, the EIS cannot fulfill its role. Nor can the agency satisfy the Act. 42 U.S.C. § 4332(2)(E).

Simmons v. U.S. Army Corps of Engineers, 120 F.3d 664, 666 (10th Cir. 1997). The courts have recognized that agencies bring a degree of expertise to determining the scope of a particular project, but this deference is not unlimited:

Deference, however, does not mean dormancy, and the rule of reason does not give agencies license to fulfill their own prophecies, whatever the parochial impulses that drive them. Environmental impact statements take time and cost money. Yet an agency may not define the objectives of its action in terms so unreasonably narrow that only one alternative from among the environmentally benign ones in the agency’s power would accomplish the goals of the agency’s action, and the EIS would become a foreordained formality.

Citizens Against Burlington, Inc. v. Busey, 938 F.2d 190, 196 (D.C. Cir. 1991).

Salvage is not Restoration

If this project involves post-fire commodity extraction (also often referred to erroneously as “salvage” logging) please carefully analyze and take the following into account:

11-48

Please consider and disclose the site-specific analysis of the many reasons NOT to do post-fire commodity extraction, including but not limited to:

- a** • adverse impacts to soil, such as erosion, compaction, displacement, litter disturbance, nutrient depletion; loss of chemical buffering; loss of soil organic matter; loss of burrowing wildlife that help aerate soils; reduction of nitrogen fixing plants that boost soil fertility; loss of slope and snow stabilizing effects
- b** • which could lead to mass wasting or eliminate mechanisms that may mitigate mass wasting;
- c** • loss of down wood functions such as trapping sediment and aiding water infiltration, and creating microsites favorable for germination and establishment of diverse plants, and habitat for diverse wildlife;
- d** • loss of decaying wood and depletion of the “savings account for nutrients and organic matter” which affects site productivity through the removal of dead trees which store nutrients and slowly release them to the next stand. Recent studies indicate that wood may release nutrients more rapidly than previously thought through a variety of decay mechanisms mediated by means other than microbial decomposers, i.e. fungal sporocarps, mycorrhizae and roots, leaching, fragmentation, and insects;
- e** • loss of nutrients from live trees that are determined to be “dying.” Live trees produce serve as refugia for animals, invertebrates, and mycorrhizae; produce litter fall; and help cycle nutrients which are all extremely valuable in the post-fire landscape;
- f** • loss of wood that serves to buffer soil chemistry and prevent extreme changes in soil chemistry;
- g** • water quality degradation;
- h** • loss of water storage capacity in down logs;
- i** • altered timing of storm run-off which could lead to peak flows that erode stream banks and scour fish eggs;
- j** • delaying the pace of vegetative recovery and reducing the quality/diversity of the vegetation community;
- k** • spread of invasive weeds through soil disturbance and extensive use of transportation systems;
- l** • loss of legacy structures that can carry species, functions, and processes over from one stand to the next;
- m** • loss of terrestrial and aquatic habitat (mostly snags and down logs) potentially harming at least 93 forest species (63 birds, 26 mammals, and 4 amphibians) that use snags for nesting, roosting, preening, foraging, perching, courtship, drumming, and hibernating, plus many more species that use down logs for foraging sites, hiding and thermal cover, denning, nesting, travel corridors, and vantage points for predator avoidance;

**11-48
Cont.**

- n** • Depletion of large wood structures in streams that can cause: 1) simplification of channel morphology, 2) increased bank erosion, 3) increased sediment export, 4) decreased nutrient retention, 5) loss of habitats associated with diversity in cover, hydrologic patterns, and sediment retention;
- o** • commercial salvage usually removes the largest trees, but this will disproportionately harm wildlife because: (1) larger snags persist longer and therefore provide their valuable ecosystem services longer and then serve longer as down wood too, and (2) most snag-using wildlife species are associated with snags >14.2 inches diameter at breast height (dbh), and about a third of these species use snags >29.1 inches dbh.
- p** • Truncation of symbiotic species relations and loss of biodiversity. Sixteen species are primary cavity excavators and 35 are secondary cavity users; 8 are primary burrow excavators and 11 are secondary burrow users; 5 are primary terrestrial runway excavators and 6 are secondary runway users. Nine snag-associated species create nesting or denning structures and 8 use created structures.
- q** • Reduced avian and terrestrial species diversity which affects plant and invertebrate diversity. Since different wildlife help disperse different sets of seeds and invertebrates, reduced wildlife diversity can significantly affect pace of recovery and the diversity of the regenerating stand. Snag- associated wildlife play a greater role in dispersal of invertebrates and plants, while down wood-associated wildlife play a greater role in dispersal of fungi and lichens. Down wood-associated species might contribute more to improving soil structure and aeration through digging, and to fragmenting wood which increases surface area encouraging biological action that releases nutrients.
- r** • loss of partial shade that helps protect the next generation of forest;
- s** • loss of cover quality and fawning areas for big game;
- t** • loss of future disturbance processes such as falling snags that help thin and diversify the next generation of forest;
- u** • increased human activity and human access that can increase fire risk;
- v** • increased fine fuels on the forest floor that can cause an increase in fire hazard;
- w** • loss of seed sources, and
- x** • loss of diversity of vegetation and microsite conditions.
- y** • The fact that regional standards for snags and down wood fail to incorporate the most recent science indicating that more snags and down wood (especially large snags and logs) are required in order to maintain species viability and sustain site productivity.
- z** • Arguments in support of the “reburn hypothesis” are specious. (1) partial reburn may be completely natural and desirable in some cases to consume some fuel and diversify the regenerating forest, and (2) salvage logging will cause a pulse of fine fuels on the ground and actually increase the reburn risk/hazard above natural levels, and (3) fuels that fall to the ground over time will to some extent decay as they fall.
- Uncertainty calls for a cautious approach.

Compare these adverse impacts of salvage logging to the few scant reasons to salvage (e.g., economic recovery of fiber).

11-49

Prevention of reburn must not be used as a justification for post-fire logging, without carefully documenting the rationale and providing references to published scientific studies (not just hypotheses and speculation and anecdotes). Also, the Forest Service must explain whether logging will increase or decrease the risk of reburn in terms of fuels profiles over various time horizons, ignition sources, etc. Salvage logging increases fine and mid-size fuels in the short-term by leaving treetops, branches, and needles on site. Fine and mid-size surface fuels also occur in unsalvaged areas, but accumulate gradually over time. It is unlikely that fuels in an unsalvaged area would reach the same magnitude as in the post-salvage scenario because decomposition breaks down new material accumulates.

11-50

Please consider at least one non-commercial, restoration-only alternative that invests in restoration and recovery of the fire area by, for instance, eliminating livestock grazing, emphasizing native species recovery, not building any new roads, stabilizing soils disturbed by the fire suppression effort, decommissioning unneeded roads.

11-51

Also, consider an alternative modeled on the recommendations of the Beschta report. Specifically:

- prohibit post-fire logging AND roadbuilding on all sensitive sites, including: severely burned areas (areas with litter destruction), on erosive soils, on fragile soils, in roadless areas, in riparian areas, on steep slopes, and any site where accelerated erosion is possible. We would add: Late-Successional and Riparian Reserves, and protective land allocations or designations including Botanical and Scenic River Areas;
- protect all live trees;
- protect all old snags over 150 years old;
- protect all large snags over 20 inches dbh;
- protect at least 50% of each size class of dead trees less than 20 inches dbh.

See Beschta RL, Frissell CA, Gresswell R, Hauer R, Karr JR, Minshall GW, Perry DA, and Rhodes JJ. 1995. Wildfire and Salvage Logging: recommendations for ecologically sound post-fire salvage logging and other post-fire treatments on Federal lands in the West. Corvallis, OR: Oregon State University. Available at: http://www.fire-ecology.org/science/Beschta_Report.pdf

C.M. Rumbaitis-del Rio and C.A. Wessman Cooperative Institute for Research in Environmental Sciences, Campus Box 216, University of Colorado, Boulder, CO 80309 rumbaiti@colorado.edu; Tel: +1-303-492-5130 FALL 2002 AGU ABSTRACT

11-52

Compound disturbances have the potential to fundamentally alter an ecosystem structure and function. This study examines the effects of a natural disturbance and a compounded natural and anthropogenic disturbance on soil properties, biogeochemical cycles, and ecosystem reorganization in a windblown and salvage-logged ecosystem in northwestern Colorado. Areas of intact forest are used as a control to compare the disturbance effects. Results indicate that soils in the salvage-logged areas are drier, significantly warmer, denser, and contain less organic matter than soils in blowdown or control areas. Significant amounts of

11-52 Cont.

erosion occurred in the salvage-logged areas to produce these results. Furthermore, net nitrogen mineralization rates are lower in soils from salvage-logged areas than in blowdown areas. By contrast, net nitrogen mineralization rates are twice as high in blowdown areas than in control areas. Seedling density, herbaceous cover, and plant species diversity are greatest in blowdown areas, and least in salvaged-logged areas. The results of this four-year study indicate that the mitigation effects of salvage logging significantly alter ecosystem functions and retard the rate of recovery when compared to unlogged blowdown areas. Cooper-Ellis, S., D. R. Foster, et al. (1999). "Forest response to catastrophic wind: Results from an experimental hurricane." *Ecology* 80(8): 2683-2696.

Franklin, J.F., K. Cromack, Jr., W. Denison, A. McKee, C. Maser, J. Sedell, F. Swanson, and G. Juday. 1981. Ecological characteristics of old-growth Douglas-fir forests. PNW-GTR-118. USDA Forest Service. PNW Research Station. February 1981.
<http://www.fs.fed.us/pnw/pubs/gtr118part1.pdf>
<http://www.fs.fed.us/pnw/pubs/118part2.pdf>

11-53

There are implications for management of old-growth stands selected for perpetuation. Salvage logging is inappropriate since it removes at least two of the major structural components—dead and down—that are key elements of the system. In all likelihood, some of the more decadent, live trees would also be removed. Salvage logging is also inappropriate because of the damage inevitably done to root systems and trunks of the residual stand which results in accelerated mortality of trees and overall deterioration of the stand.

11-54

- Salvage has been shown to increase fire hazard, especially when dead trees less than 10" diameter will be left behind. Harvesting all the larger diameter trees, especially in an old growth preserve is not acceptable. Large trees need to be left behind.

11-55

- As stated in Appendix C-9 of the Warner Fire Recovery Project EIS (Willamette NF), standing dead trees provide about 25% daily shade to seedlings. This in itself is reason to leave standing trees, especially larger ones.

11-56

- The typical guidelines of leaving 2-4 snags/acre is too low, especially for a burned area such as this which provides abundant habitat for a variety of woodpeckers and cavity nesters. At the most, take only a small percentage of the trees that are already dead. Some trees, especially large ones, are resilient and can come back from serious burns. If living trees do eventually die, they will be providing habitat for wildlife as snags.

11-57

- Interior forests rarely have success when "re-forested" with Ponderosa Pine.

11-58

- Lop and scatter has been shown to be the worst fuels treatment for future fires (van Wagendonk, 1996).

11-59

- Pile burning leaves the area prone to invasives.

Salvage: Natural recovery alternative.

11-60

The NEPA analysis fails to consider a minimal restoration and natural recover alternative. Fires are a completely natural feature of western forest landscapes. Removing

11-61

much of the biomass from the area after a fire is not natural. Salvage logging and road work:

- removes or damages many of the building blocks needed to build the future forest (soil, large wood, and habitat structures),
- disrupts many of the post-fire recovery processes (nutrient storage and cycling in down wood, falling snags that thin the young reprod, water storage in down wood, erosion control, etc), and
- alters the developmental pathways of the future forest.

The NEPA analysis failed to disclose the significant adverse effects of salvage on these building blocks and recovery processes. The EIS must disclose and analyze these significant issues.

Salvage: Protect all live trees

11-62

While it is true that some trees with signs of life will soon die, the agency fails to acknowledge or disclose the degree of confidence in their estimates (i.e. how many false positive predictions of imminent death will the agency make) and fails to recognize the huge importance of remaining live trees as future sources of snags to fill the temporal gap between the batch of snags created by this fire and those to be produced in the distant future by the next stand of trees.

Salvage operations typically assume that many living trees will soon die and then salvage becomes a self-fulfilling prophecy. Trees that may survive the fire are an extremely valuable feature of the future forest. Providing scarce canopy and shelter in the short-term and providing scarce large snag and down wood habitat in the long-term, during a period when forest-fire landscapes are typically depauperate in snags and large wood. The EIS must disclose and analyze the effects of harvesting numerous trees that may survive.

See: Residual Trees as Biological Legacies, CCEM Communiqué #2. Sept. 1995.
<http://www.fsl.orst.edu/ccem/pdf/95Comque.pdf>

Salvage: Protect all large snags

11-63

Because large snags last much longer than small snags, large snags are disproportionately valuable as wildlife habitat, nutrient and water reservoirs, soil stabilizers, etc. If the agency chooses to conduct a salvage operation in this fire area, they must use a diameter cap and protect these scarce and valuable forest structures.

Meeting management plan snag targets is grossly inadequate. Historically, a mosaic of recent and not-so-recent fires, left lots of “snag patches” and patchy accumulations of down wood of various sizes and decay-stages. These snag patches provided tremendous habitat value for a whole host of wildlife species, include birds, mammals, amphibians, insects. 96 species are known to be associated with snags and 86 species are associated with down wood. Most of these species depend upon or prefer large snags and wood.

11-63 Cont.

With aggressive salvage policies that continue to this day, these snag patches are an under-represented feature on the landscape.

The agency's snag retention guidelines are based on wildlife needs, but fail to consider or analyze the need to large snags and large down logs for shade, water storage, disturbance (via falling and sliding), nutrient storage, channel forming, sediment trapping, soil conservation, underground processes, etc.

The NEPA analysis failed to disclose and analyze these significant issues. The EIS must fully consider them.

Although rate of biomass input and average piece size generally are thought to increase with succession (Harmon and others 1986), the amount of dead wood can follow a U-shaped pattern if young forests inherit large amounts of dead wood and live trees from preceding stands (Spies and others 1988). The snags in our study—especially large snags—increased with succession in almost all of the habitats. No wildlife habitats exhibited a U-shaped pattern, probably because snags tend to be cut within harvest units, which reduces the density found in early successional forests. . . .

. . . The lack of a U-shaped successional pattern for snags is not surprising. . . . Snags also are much more likely than down wood to be damaged or intentionally removed by humans through the course of forest management and harvest activities. . . .

All of the habitats we examined had similar patterns: distributions were non-normally distributed and strongly skewed to the right. A large proportion of the plots did not contain snags or down wood, and a very small proportion of the plots contained extremely large accumulations of dead wood.

Janet L. Ohmann and Karen L. Waddell; **Regional Patterns of Dead Wood in Forested Habitats of Oregon and Washington**; USDA Forest Service Gen. Tech. Rep. PSW-GTR-181. 2002. <http://www.fs.fed.us/pnw/pubs/journals/PSWGTR181Deadwood.pdf>

Salvage: Watershed restoration.

11-64

Salvage logging will adversely affect the ability of the land to absorb, store and release high quality water and the NEPA analysis fails to address these concerns.

First, post-fire soils are fragile because the soil duff is often consumed by the fire and the carbon and other nutrients have been largely removed. Logging will further disturb the soils and disrupt the natural soil recovery processes. Logging will also disturb and rearrange the soil protecting needle litter that will fall in the months after the fire.

11-65

Second, large wood absorbs water and serves as a significant water reservoir that is especially critical during the dryer summer months. Logging removes the wood and so reduces the potential water reservoir. Recent research indicates that much water is stored in buried wood. This buried wood is likely to result of trees that have fallen on hillslopes and become buried in natural sediment moving downslope. Salvage will adversely affect the recruitment of future buried wood.

11-65 Cont.

The agency's snag retention guidelines are based on wildlife needs, but fail to consider or analyze the need to large snags and large down logs for soil, water storage, nutrient storage, or other purposes.

11-66

Third, road construction, reconstruction, and road use all adversely affect the ability of the land to "distribute quality water." The Cub EA admits that 12.9 miles of roads are located in proximity to streams and are potential sources of sediment to the stream system (EA at 39). Using these roads for log haul will cause water quality problems inconsistent with the sustain yield principles.

The EIS must disclose and analyze these significant issues.

Salvage Beschta Report comments

11-67

Protect live trees and large snags. The Beschta report recommends retaining all live trees, all large and old snags, plus 50% of each smaller diameter class. This project fails to address each of these recommendations separately and just makes up excuses to implement large unnatural salvage clearcuts.

This project tries to excuse removal of large snags on safety grounds but they failed to consider a simple alternative, that is, to restrict workers (and others) from the hazard zone around hazard trees. Also, the Tiller Ranger District in their 1997 "Benchmark" timber sale partially implemented a Beschta-type prescription which retained 50% of the dead snags in a variety of diameter classes while providing for worker safety. If they can do it there, why can't you do it here? See: <http://www.umpqua-watersheds.org/unf/benchmark.html>

11-68

The NEPA analysis also tries to excuse salvage based on the reburn hypothesis, but the NEPA analysis fails to consider that they are only removing the commercial sized trees and leaving behind the more hazardous small material. IF there is a reburn problem, the agency is making it worse instead of better.

11-69

Vegetation recovery. Contrary to the Forest Service assertions the salvage will not alter the successional pathways and disrupt natural recovery of the forest. It is important that snags be left well-distributed within the fire area. As snags fall over during subsequent years (even after decades in some cases), they damage and kill some of the young trees that may have become established in the fire area and help to thin the trees out. Without well-distributed snags, this thinning mechanism is lost. Forest Service scientists are interested in this issue:

How much thinning is due to competition, snag and big limb fall (in post-fire sites), snowdown, bugs/bears/other animals, root rots, wind, and perhaps other processes? What are the implications of these early successional effects on stand composition and structure for development of old forest composition and structure? One hypothesis is that snag/big limb fall was an important and greatly under-appreciated process that strongly influenced early stand dynamics and stocking in young forests established after wildfire. One reason we don't have a

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Cont.**

sense of this process is that we see so few young stands that have a full complement of snags left after fire. Our mental images of young stands come from clearcuts. <http://www.fsl.orst.edu/lter/research/component/disturb/summary.cfm?sum=dstrbyr5&topnav=60>

11-70

Soils. Contrary to the Forest Service assertions, ground-based logging on fire-affect forestland will cause detrimental soil impacts that are inconsistent with the recommendations of the Beschta report. Studies have shown again and again that the agencies are often wrong in its wishful thinking that ground-based logging can be mitigated to avoid detrimental soil impacts. This logging is proposed on soils that are seriously affected by fire and are less resilient than most forest soils that have not been recently subjected to fire. The agency cannot rely on soil science that is derived from unburned sites.

Salvage: Capturing commercial log value is a questionable purpose for this project.

11-71

Conducting destructive salvage operations in order to capturing commercial log value is inappropriate. The Forest Plan is so outdated that it is effectively invalid. The plan, like so many others in the Interior Columbia Basin, calls for the liquidation of most of the remaining old forest, so the ICBEMP process was initiated to deal with the loss of old forests and the species viability issues caused by such mismanagement. Just because this burned area is in a “timber production zone” in an outdated forest plan is not a reason to salvage this area.

This nation does not need to destroy public resources in order to supply its wood product needs. The local timber industry should get its raw materials from private lands. The highest and best use of the National Forests is for clean water, wildlife habitat, recreation, carbon sequestration, etc. NOT for fiber. Because of this, the recommendations of the Beschta report deserve much more careful consideration and should be followed.

Salvage: will retard attainment of RMOs in violation of INFISH.

11-72

Salvage will retard achievement of riparian mgt objectives in violation of TM-1 of INFISH. Attainment of riparian objectives is related to natural vegetation recovery and development pathways and natural sediment regimes, both of which will be adversely affected by the proposed salvage.

Plant at low density to extend the early seral community and avoid future stand management costs.

11-73

If this project involves planting, please replant at a fairly low density and avoid the need for future thinning and other stand management costs. Let’s be patient and allow these stands recover slowly as diverse early seral communities. Diverse early seral plant communities are becoming less common and we should encourage slow and easy regeneration of forest communities. This is consistent with the research being done by

Nathan Poage which indicates that many stands developed over much longer time periods than we typically allow under the agricultural model of forest management.

SPECIES VIABILITY CONCERNS

11-74

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).

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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](http://www.ca9.uscourts.gov/ca9/newopinions.nsf/D6B0EF3C12752B5588256C360081AA9E/$file/0135403.pdf?openelement)

Abuse of the Historic Range of Variability concept.

11-76

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

11-76 Cont.

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 specify a geographic and temporal scale and note what whether the same parameter is within the HRV at the more meaningful regional scale.

"Good" fire is possible and may be preferable to the ground disturbance of logging

11-77

The NEPA document describes the no-action alternative in terms of its inherent risk of intense future fire, but the NEPA document lacks any recognition that during favorable conditions of weather and fuel moisture a low-severity or mixed-severity fire could occur in the project area and such as fire would likely accomplish much of what this project is attempting to accomplish without all the adverse consequences from ground disturbance. This shows a strong bias against the no-action alternative.

FIRE ECOLOGY / FUELS MANAGEMENT CONCERNS

11-78

ONRC supports use of prescribed fire, and, if necessary, careful thinning and removal of small diameter material and flammable brush in ecologically appropriate locations in order to help restore fire regimes. We urge the agency to avoid road building and prioritize such activities in the wildland-urban interface.

11-79

The EIS fails to acknowledge that logging often increases fine fuel loads while removing the large logs that are relatively less prone to burn. Thinning also increases wind and light penetration of the canopy and causes fuels to dry out which make them more prone to burn and increases the time it takes woody material to decompose. Removing medium and large trees also removes shade and resource competition that helps suppress the growth of small trees and brush known as "ladder fuels."

Consider these words from Mike Dombeck, former Chief of the Forest Service:

"Some argue that more commercial timber harvest is needed to remove small-diameter trees and brush that are fueling our worst wildlands fires in the interior West. However, small-diameter trees and brush typically have little or no commercial value. To offset losses from their removal, a commercial operator would have to remove large, merchantable trees in the overstory. Overstory removal lets more light reach the forest floor, promoting vigorous forest regeneration. Where the overstory has been entirely removed, regeneration produces thickets of 2,000 to 10,000 small trees per acre, precisely the small diameter materials that are causing our worst fire problems. In fact, many large fires in 2000 burned in previously logged areas laced with roads. It seems unlikely that commercial timber harvest can solve our forest health problems."

Dombeck on Fires in 2001 - How Can We Reduce the Fire Danger in the Interior West (Fire Management Today, Winter 2001, page 11).

11-79 Cont.

As eloquently stated by Neil Lawrence:

We're a long way from a model that accounts for the drying affect of insolation and increased wind penetration, the loss of water from run-off on machine compacted soil, the increased availability of residual fine fuels post-thinning, the morbidity and mortality associated with diseases and pests imported by logging equipment, and all the other real world phenomena that cut against the ivory tower view that large fuel structure and crown bulk density are the sole significant drivers of fire occurrence, intensity, and spread.

Logging very likely will have little effect on the severity or controllability of large intense canopy fires that are of most concern both environmentally and economically. If proposed logging has any effect it will likely lead to increased controllability of low intensity ground fires, but these lower intensity fires are precisely the fires that are beneficial ecologically and should probably not be controlled. So logging will help control fires which should remain wild and free, while logging will fail to control that which is most destructive.

11-80

Logging also has many effects that fires do not have. Soil compaction, roads, weeds, etc.

11-81

It would be better to just do a controlled prescribed burn at the right time of year without logging. The EIS should have considered such an alternative.

Faulty analysis of reburn potential.

11-82

The EIS considers leaving large numbers of snags to be unsafe and paints an undesirable scenario with respect to the no action and restoration alternatives, but the EA fails to acknowledge the fire risks associated with salvage logging including: (a) salvage logging will remove most of the largest logs that are least prone to burn, (b) salvage logging leave behind almost all of the smallest material which is most prone to burn, (c) the proposed action may lop and scatter the tops of large trees that are too big for the ground-based harvest machinery, (d) salvage logging equipment and workers could start fires, (e) increased access increase the risk of human caused ignition, (f) the replanting will create a fuel load that is dense, uniform, volatile, and close to the ground. During an extreme weather conditions this is one of the most extreme fire hazards in the forest.

11-83

The EA also fails to disclose that NOT salvage logging (e.g., natural recovery) may have some counter-veiling benefits in terms of fire risk and reburn potential, including: (a) large logs store water, (b) standing snags provide some shade, (c) regrowth tends to be more patchy and less dense and continuous, (d) fuels in the form of branches and dead trees fall to the ground slowly over time and have a chance to decay as they added, (e) falling snags over time tend to break up the continuity of fuels in the form of brush and reprod.

A 1989 study by Forest Service researchers M.P. Amaranthus, D.S. Parrish, and D.A. Perry ("**Decaying Logs as Moisture Reservoirs After Drought and Wildfire**") found that large down logs in a post-fire landscape contain 25 times more moisture than the

11-84

surrounding soil. While the authors recommended preventing large accumulations of "woody residue" (which the author described as very small diameter material--branches, twigs, etc.), they also recommended leaving down logs after fires to PREVENT future fire severity. They concluded that, "When forest managers are analyzing for fire risk, they should take into account the high water content of fallen logs during the period in which wildfire potential is greatest ... Fallen trees, in a range of decay classes, therefore provide a long-term reservoir of moisture. A continuous supply of woody material left on the forest floor, not only protects the productive potential of the forest soil, but also provides a sanctuary for ectomycorrhizae and a significant source of moisture in the event of prolonged drought or wildfire." The study was conducted in the Klamath region in an area with roughly 40 inches of annual rainfall. It was published in 1989 in Proceedings of Watershed '89: a conference on the stewardship of soil, air and water resources. USDA Forest Service, Alaska Region: pp. 191-194 (1989).

Landscape fire

11-85

Fire is largely driven by weather conditions. Logging is highly unlikely to affect fire behavior at a landscape scale and will therefore fail to achieve this project's purpose and need.

11-86

"The federal government reports that 70 million acres of federal lands need immediate thinning and another 140 million acres must be thinned soon. The president's plan to thin 25 million acres in the next 10 years will cost as much as \$4 billion yet leave nearly 90 percent of those acres untreated," according to Jerry Taylor, the CATO Institute's Director of Natural Resource Studies, "A recent Forest Service report estimates there are just 1.9 million high-risk acres with homes and other structures near federal lands. To defend homes and communities, we should treat those acres and fireproof the homes. That could be done in just one or two years at a tiny fraction of the cost of the president's plan." (Administration's Forest Plan Doomed to Fail, "Forests Initiative" Will Leave 90 Percent of Acres Vulnerable to Fires, 5/20/03; <http://www.cato.org/new/05-03/05-20-03r-2.html>, <http://www.cato.org/dailys/09-07-02.html>)

It is arbitrary and capricious to spend billions on a program that essentially fails to address the problem. This timber sale project is a microcosm of the larger issue identified here. Until the larger issue is dealt with, the EIS must disclose and analyze these significant issues.

11-87

Landscape fuel treatments are not likely to influence fire behavior at a landscape scale. The proposed action proposes to treat fuels at a landscape scale and cause significant soil damage, wildlife habitat disturbance, and hydrological effects, yet only reduce extreme fire hazard by a small degree across the project area. This fuel reduction benefit will only be realized during ideal weather conditions but will have virtually no effect during the most extreme fire conditions. This level of fire hazard reduction is a drop in the bucket, and the NEPA analysis fails to balance the minute level of benefit in terms of fire risk reduction against the great level of soil, water, and wildlife impacts.

11-88

The small amount of fuel reduction benefits from this project are also short-lived and will last only about 10-15 years at which point another entry will be required. So all the soil, wildlife, and watershed impacts will be repeated again and again and probably still not stop the big fire from burning it all down during extreme weather conditions that humans cannot control. We have to stop kidding ourselves. On the day of the big fire (and it will come), the difference between the action alternative and the no action alternative is almost nothing, but if the agency instead focused on careful and conscientious treatment in the community zone, maybe the homes and communities can be saved.

The agency should focus fuel reduction efforts within 1/4 mile of the homes and communities and more carefully balance the competing interests here (soils, fuels, etc). Jack Cohen's work clearly shows that the most important steps to be taken to protect home and communities are not at the landscape level but at the homesite and immediately adjacent to the homesite. See USDA Forest Service Gen. Tech. Rep. PSW-GTR-173. 1999 and the publications listed here: <http://www.firelab.org/fbp/fbresearch/wui/pubs.htm>

Outside the community zone the Forest Service should focus on restoration using non-commercial treatment using hand crews and prescribed fire. The Forest Service must focus on treatment that can be maintained, and do not required repeated entries with heavy equipment that will violate soil standards and exacerbate concerns about hydrology, wildlife, weeds and water quality.

The agency also seems to forget that much of the project area is made up of plant communities that naturally burn at high intensity. No amount of thinning is going to radically alter this natural phenomena over the scale of the next 50-100 years.

Since the benefits of fuel reduction will not be realized during the most extreme fire conditions. The agency must consider what is the likelihood that sometime during the next 50-100 years, there will be a large fire during extreme conditions. If there is a significant risk of that occurrence, then all the soil damage, hydrologic degradation, weed infestations, and wildlife disturbance (of this project and many that will be needed in the future) will be for naught. This is a very significant issue, not only for this project but for many others as well. The EIS must disclose and analyze these significant issues.

Plantations are a fire hazard**11-89**

Plantations are more susceptible to severe fire effects than unmanaged older forests (DellaSala et al. 1995, Weatherspoon & Skinner 1995). The increased susceptibility of plantations to severe fire is due to:

- Structural characteristics that promote high heat energy output by fire (Sapsis & Brandow 1997).
- Warm, windy and dry microclimates compared to what would exist in an unlogged burned forest that possessed more structural diversity and ground shading (Countryman 1955, van Wagendonk 1996).

11-89 Cont.

- Accumulations of large volumes of fine logging slash on the ground surface (Weatherspoon & Skinner 1995).

The number and distribution of plantations resulting from industrial timber management likely has altered fire behavior and effects at both stand and landscape scales (Hann et al. 1997, Huff et al. 1995). Perry (1995) suggests that the existence of a threshold proportion of highly combustible even-age tree patches on a forest landscape creates the potential for “a self-reinforcing cycle of catastrophic fires.” In addition, most plantations occur next to roads that spread invasive and exotic plants (DellaSala & Frost 2001) and increase the risk of human-caused ignitions during hot, dry conditions (USDA 2000).

No Roadbuilding Please

11-90

Nothing is worse for sensitive wildlife than a road. Over the last few decades, studies in a variety of terrestrial and aquatic ecosystems have demonstrated that many of the most pervasive threats to biological diversity - habitat destruction and fragmentation, edge effects, exotic species invasions, pollution, and overhunting - are aggravated by roads. Roads have been implicated as mortality sinks for animals ranging from snakes to wolves; as displacement factors affecting animal distribution and movement patterns; as population fragmenting factors; as sources of sediments that clog streams and destroy fisheries; as sources of deleterious edge effects; and as access corridors that encourage development, logging and poaching of rare plants and animals. Road-building in National Forests and other public lands threatens the existence of de facto wilderness and the species that depend on wilderness.

<http://www.wildrockies.org/WildCPR/reports/ECO-EFFECTS-ROADS.html>

See also NRDC Report: “End of the Road: The Adverse Ecological Impacts of Roads and Logging: A Compilation of Independently Reviewed Research” (1999) which discusses the fact that roads:

1. Harm Wildlife
2. Spread Tree Diseases and Bark Beetles
3. Promote Insect Infestations
4. Cause Invasion by Harmful Non-native Plant and Animal Species
5. Damage Soil Resources and Tree Growth
6. Adversely Impact Aquatic Ecosystems

Temporary Roads

11-91

For the semi-permanent roads that will be tilled, BLM’s own soils scientist has little faith in the restorative value of this technique. He says: “What I have seen so far have been nothing more than modified rock rippers and little lateral fracture of the soil occurs and the extent of de-compacting is very limited.” Coos Bay BLM, Big Creek Analysis file, section F, Soils Report. page 4.

11-91 Cont.

BLM assumes that temporary and semi-permanent new roads will have no effect because they are temporary. BLM has shown no scientific evidence for this assumption. In fact, scientific research has shown exactly the opposite. Effectiveness of Road Ripping in Restoring Infiltration Capacity of Forest Roads. Charles H. Luce, USDA Forest Service Intermountain Research Station, 1221 S. Main, Moscow, ID 83843. September 1996. *Restoration Ecology*, Vol. 5, No. 3. page 268.

Research results, published in *Restoration Ecology*, shows there is nothing temporary about temporary roads, and that ripping out a road is NOT equal to never building a road to begin with. “The saturated hydraulic conductivity of a ripped road following three rainfall events was significantly greater than that of the road surface before ripping... most saturated hydraulic conductivities after the third rainfall event on a ripped road were in the range of 22 to 35 mm/hr for the belt series and 7 to 25 mm/hr for the granitics. These conductivities are modest compared to the saturated hydraulic conductivity of a lightly disturbed forest soil of 60 to 80 mm/hr.” *id.* Even this poor showing of restoring pre-road hydrologic effects worsened with repeated rainfall. “Hydraulic conductivity values for the ripped treatment on the granitic soil decreased about 50% with added rainfall ($p(K1=K2)=0.0015$). This corresponded to field observations of soil settlement and large clods of soil created by the fracture of the road surface dissolving under the rainfall... The saturated hydraulic conductivity of the ripped belt series soils also dropped from its initial value. Initially, and for much of the first event, the ripped plots on the belt series soil showed no runoff. During these periods, run-off from higher areas flowed to low areas and into macropores.... Erosion of fine sediment and small gravel eventually clogged these macropores... Anecdotal observations of roads ripped in earlier years revealed that after one winter, the surfaces were nearly as solid and dense as the original road surfaces.” *Id.* Even though ripped roads increase water infiltration over un-ripped roads, it does not restore the forest to a pre-road condition. “These increases do not represent “hydrologic recovery” for the treated areas, however, and a risk of erosion and concentration of water into unstable areas still exists.” *Id.*

Weeds

11-92

On Earthday 2003 Chief Dale Bosworth said that more attention needs to be paid to beating back invasive species. Opening up the canopy and disturbing the soil through road building and logging as proposed in this project could spread non-native weeds far and wide. The invasive weed sites in the analysis area and along all log and gravel haul routes should be fully inventoried and documented as part of the NEPA process for this project . In the absence of valid and complete weed survey information, harvest and road and fuel treatment activities planned as part of this project might exacerbate the problem instead of contain it.

We find it highly unlikely that conducting ground disturbing activities over so many acres of this planning area will not make the weed problems worse instead of better. These weeds are “a slow motion explosion” that should not be taken lightly. It is often better to just close roads and avoid ground disturbing activities while sending crews in to do hand-pulling of weed infestations as necessary.

Protect Forests as Carbon

11-93

On August 1, 2000 the US government submitted it's position on land use and forestry as it related to carbon sequestration and it "Proposes strong incentives to remove carbon from the atmosphere through sound land management and to **protect existing reservoirs of carbon, for example those in mature forests.**" The submission also: "Strongly supports rules -- including definitions of key terms such as reforestation -- that help protect forests and avoid creating "perverse incentives" (for example, to log old growth forests)."

http://www.state.gov/www/global/global_issues/climate/fs-000801_unfccc1_subm.html

Lynx

11-94

The EIS fails to disclose the effects of the project on the Threatened Canada lynx. The proposed action is in a relatively high elevation area that is likely habitat for lynx foraging, denning, and dispersal. The proposed project may adversely affect the quality of the habitat for denning, foraging, and dispersal and the project is almost certain to adversely affect the lynx's prey base. Studies have shown that forest health logging prescriptions have negative effects on small mammal species that constitute the lynx prey base. Evelyn Bull examined the results of a variety of harvest prescriptions on hares and found that in lodgepole stands the number of snowshoe hares decreased after all types of harvest. She reports that mixed conifer stands appear to be "no longer suitable for hares after harvesting". (Bull, E. and Blumton, A. 1999. *Effects of Fuels Reduction on American Martens and Their Prey*. USDA Forest Service PNW-RN-539.

http://www.fs.fed.us/pnw/pubs/rn_539.pdf)

The lynx habitat maps that the Forest Service has developed inappropriately exclude areas that have historically been used by lynx and are likely to be used by lynx today. The Forest Service has not offered a reasonable justification for excluding large areas of suitable habitat from the lynx habitat maps and for refusing to formally consult on projects in these areas.

Current and historical sighting records, historical documents, and anecdotal evidence suggest that lynx occurred on both sides of the Cascade Mountains in Oregon and Washington. These records show that lynx may have been more wide-spread and abundant than was previously considered and indicate that it is likely that both resident as well as transient animals occurred in both states. While there is insufficient data to ascertain population size or trends in Oregon or Washington, this is also true of all of the other geographic regions where lynx occur. It is important to recognize that the Endangered Species Act (ESA) does not differentiate between resident and transient individuals nor does it require "resident, reproductive populations" as the threshold for consideration during consultation. Thus the obligation to minimize effects and the potential for incidental take applies where the species is documented or suspected to occur. This is particularly important in areas where the vegetation types, prey

11-94 Cont.

availability, and climatic conditions resemble those conditions found in areas where lynx are known to occur.

Management of Canada Lynx in the Cascades Geographic Areas of Oregon and Washington, A White Paper Prepared by the Offices of Region 1 of the Fish and Wildlife Service, April 10, 2001.

Neither the lynx conservation agreement or the lynx conservation assessment and strategy (LCAS) have been subject to NEPA analysis. The project NEPA document gives merely cursory attention to lynx and relies too heavily on conservation measures in the LCAS to protect lynx without project specific design and analysis.

The EA relies on “project design criteria” for lynx that have not been subject to NEPA review and comment. The Forest Service cannot rely on these PDC until they have subjected the PDC and the Lynx Conservation Assessment and Strategy (LCAS) to NEPA and considered all environmental impacts and alternatives.

Migratory Bird Treaty Act

11-95

In *Humane Society of the United States v. Glickman*, No. 99-5309 (D.C. Cir. July 18, 2000), the appeals court held that the USDA violated the MBTA § 703 when it took protected geese species without a permit and that federal agencies must obtain permits from DOI like any other person who takes migratory bird species. If conducted during the nesting season, the proposed harvest of timber will very likely kill nesting migratory birds in violation of the Migratory Bird Treaty Act.

The US government has also taken the position in international tribunals that logging activities can lead to MBTA liability. (Section 5.3.1 “logging that kills birds will be prosecuted”). See Final Factual Record for Submission SEM-99-002 (Migratory Birds); Prepared in Accordance with Article 15 of the North American Agreement on Environmental Cooperation. April 22, 2003.

http://www.cec.org/files/pdf/sem/MigratoryBirds-FFR_EN.pdf

<http://www.cec.org/citizen/submissions/details/index.cfm?varlan=english&ID=64>

Executive Order 13186, Fed Reg January 17, 2001 requires that all federal agencies:

1. “support the conservation intent of migratory bird conventions ... by avoiding or minimizing ... adverse impacts to migratory bird resources” [e.g. habitat]
2. “restore and enhance the habitat of migratory birds”
3. “prevent or abate the ... detrimental alteration of the environment for the benefit of migratory birds”
4. “design migratory bird habitat and population conservation principles, measures, and practices, into agency plans and planning processes ...”
5. “ensure the environmental analyses of Federal actions as required by NEPA ... evaluate the effects of actions and agency plans on migratory birds ...”
6. “identify where unintentional take reasonably attributable to agency actions is having, or is likely to have, a measurable negative effect on migratory bird

11-95 Cont.

populations ... With respect to those action ... lessen the amount of unintentional take”

7. “inventory and monitor bird habitat and populations”
8. “recognize and promote the economic and recreational values of birds”
9. “each agency is encouraged to immediately begin implementing the conservation measures set forth above”

http://frwebgate.access.gpo.gov/cgi-bin/getdoc.cgi?dbname=2001_register&docid=01-1387-filed

11-96

Be sure to protect the following bird species of conservation concern to the U.S. Fish & Wildlife Service:

Table 8. BCR 5 (Northern Pacific Forest–U.S. portions only) BCC 2002 List.

Yellow-billed Loon
 Black-footed Albatross
 Northern Goshawk (resident *laingi* ssp. only)
Peregrine Falcon (including resident *pealei* ssp. in Alaska)
 Black Oystercatcher
 Whimbrel
 Long-billed Curlew
 Marbled Godwit (*beringiae* ssp. only)
 Black Turnstone
 Surfbird
 Red Knot
 Rock Sandpiper
 Short-billed Dowitcher
 Caspian Tern
 Arctic Tern
 Aleutian Tern
 Marbled Murrelet (except where listed as Threatened)
 Kittlitz's Murrelet
 Yellow-billed Cuckoo
 Flammulated Owl
 Black Swift
 Rufous Hummingbird
 Lewis's Woodpecker
 White-headed Woodpecker
 Olive-sided Flycatcher
 Horned Lark (*strigata* ssp. only)
 Vesper Sparrow (*affinis* ssp. only)

USFWS. Birds of Conservation Concern 2002. Arlington, Virginia. December 2002.
<http://migratorybirds.fws.gov/reports/BCC2002.pdf>

Forest insects and diseases help regulate a healthy forest.

11-97

The NEPA document failed to consider the beneficial effects of insects.

11-97 Cont.

The massive insect epidemics that have plagued Pacific Northwest forests in recent years are mostly a reflection of poor forest health conditions, overcrowding, overuse of chemicals, fire suppression and introduction of monocultures or non-native species, a new report concludes.

Beyond that, these insect attacks are actually nature's mechanism to help restore forest health on a long-term basis and in many cases should be allowed to run their course, according to Oregon State University scientists in a new study published this week in the journal *Conservation Biology In Practice*.

Native insects work to thin trees, control crowding, reduce stress and lessen competition for water and nutrients, the researchers found. Some levels of insect herbivory, or plant-eating, may even be good for trees and forests, and in the long run produce as much or more tree growth.

"There is now evidence that in many cases forests are more healthy after an insect outbreak," said Tim Schowalter, an OSU professor of entomology. "The traditional view still is that forest insects are destructive, but we need a revolution in this way of thinking. The fact is we will never resolve our problems with catastrophic fires or insect epidemics until we restore forest health, and in this battle insects may well be our ally, not our enemy."

Historically, Schowalter said, destructive forest insects such as the mountain pine beetle or tussock moth were native to Pacific Northwest forests and served an essential role in keeping them healthy. When trees became too crowded the insects would eliminate weaker trees and reduce competition. But since the beetles' reproductive pheromones only carried effectively about 15-20 feet, naturally open stands of mature pines were protected against widespread outbreaks.

In these same forests today, fire suppression has allowed shade-tolerant, fire-intolerant species to crowd the understory, create an entire forest stressed for water and nutrients, and beetles can skip from one weak tree to another across entire stands. But the solution in cases such as this, Schowalter said, is to address the fundamental issue of overcrowding through forest thinning, controlled fire and insect attack, allowing the pine beetles to actually help in the long-term process of restoring forest health.

It now appears that insects, which are the most abundant and diverse animals on Earth, are anything but destructive pests. Rather, they are major architects of the plant world in both structure and function, and in natural balance help to maintain healthy and productive forest ecosystems.

According to the new report, insects can influence their environment in five key ways:

- Insects aid decomposition, stimulate the breakdown of organic materials, enhance soil fertility and plant growth, burrow in soils and increase its porosity and water-holding capacity.
- Insects are herbivores that eat plants, influencing where they can grow. Sometimes they kill trees and other plants to reduce competition, and many times feed on trees without killing them in ways that actually improve the health and long-term growth of trees and forests.
- Insects are a key food source for vertebrates and other animals, and play a major role in the food chain.
- Insect are dispersal agents to carry seeds, fungal spores, and even other invertebrates from one place to another.

11-97
Cont.

• Insects are pollinators, and in this role also help control the movement of plant species.

Through this multiplicity of roles, forest insects can help to control plant succession, dictate which plants will be allowed to grow or thrive in particular areas, and generally invigorate plant communities, the report said. Studies suggest herbivory levels as high as 40-50 percent make little or no difference to plant growth and survival, and this type of moderate herbivory clearly should not be "fought" with costly controls. Wood production in western U.S. pine forests reached or exceeded pre-attack levels 10-15 years following mountain pine beetle outbreaks, research has shown, and the more an individual Douglas-fir tree is defoliated by the tussock moth, the more it compensates afterwards with increased growth, given sufficient resources. The herbivory may alleviate drought stress by reducing a tree's demand for water, and also encourage more competitive interactions between plant species that ultimately work to the benefit of the tree.

Insects may be so important to soil fertility that they may be a better barometer of forest ecosystem health than the larger trees or animals which live there, researchers say. In natural forest communities there are more than 200 species of arthropods and more than 200,000 individuals in a square meter of soil, and the numbers of these arthropods can tell more than chemical tests about soil concerns such as compaction and nutrient cycling. A study by another OSU researcher showed residual impacts on soil invertebrate populations from a site that had been clearcut and slash burned 40 years earlier.

In their natural role, insects are usually helpful to the forest and rarely cause large epidemics.

"When you have a highly destructive insect epidemic, what that really should be telling us is not that we have an insect problem, but that we have a forest health problem," Schowalter said. "It's monocultures and fire suppression that cause insects to become nuisances. The pests that plague us are all too often of our own making."

As these systems become more fully understood, Schowalter said, it should be possible to work with insects, rather than against them, to produce new solutions to maximize the yield of forest commodities while achieving conservation goals and healthier ecosystems.

"It's really simple on one level," Schowalter said. "We have to pay more than lip service to the balance of nature."

<http://www.sciencedaily.com/releases/2001/10/011030230203.htm>

See also: Insect Ecology - An Ecosystem Approach Edited by Timothy D. Schowalter Academic Press. 2000. and Schowalter, TD and J. Withgott. 2001. Rethinking insects: What would an ecosystem approach look like? Conservation Biology In Practice 2(4): 11-16.

K-V Uncertainty

11-98

The Forest Service has a NEPA obligation to disclose the risk of running out of K-V funds before they are done with the projects identified in the preferred alternative. If the mitigation and restoration is not completed the NEPA analysis is no longer accurate and in fact it becomes misleading.

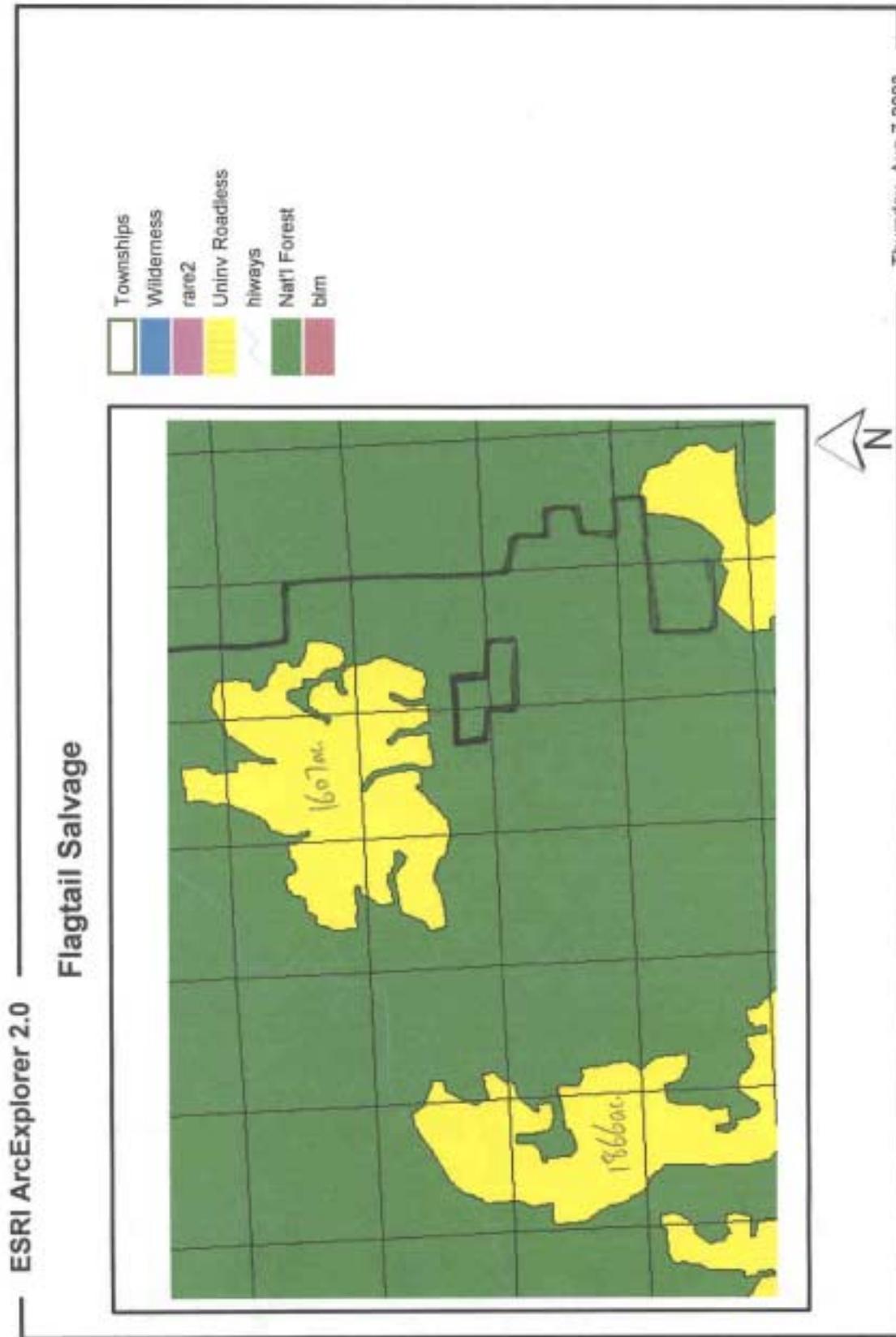
Sincerely,

Doug Heiken

ONRC comments

encl. ONRC roadless map.

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FS Response to Letter #11 – ONRC

11-1. Under Alternative 3, snags would be both clumped and dispersed. A Forest Plan amendment would be required to prescribe snag distribution on a unit basis, rather than the 40-acre block basis required in Forest Wide Standard and Guideline #39. This Forest Plan amendment permits greater flexibility in varying snag distribution to better respond to the mosaic pattern of snags and to better meet the needs of cavity excavator species. Literature on snag distribution indicates that cavity excavators generally prefer to nest and forage in patches of snags (Saab and Dudley 1997, Saab 1997, Raphael and White 1984, Mellen, et. al. 2003). Snag inventory data in DecAID (Mellen et. al., 2003) indicates that large portions of the landscape were likely devoid of snags at any given point in time. Alternative 3 snag prescriptions allow for variable snag densities within units as well as at the landscape level.

The DEIS and FEIS, Chapter 2, Alternatives Considered in Detail, describes the Alternative 3 snag strategy. The DEIS and FEIS, Chapter 3, Terrestrial Wildlife, Primary Cavity Excavator Species section describes effects to cavity excavators. This FEIS, Chapter 2 has been updated to better describe the prescribed snag distributions.

Alternative 5 would also require a Forest Plan amendment to forgo the 40-acre snag distribution requirement. As with Alternative 3, this amendment permits greater flexibility in varying snag distribution.

11-2. See Response to Letter #5, Comment 5-88.

11-3. The Fuel Loads sections in the Alternative descriptions of the DEIS and FEIS (Chapter 2, Alternatives Considered in Detail) disclose that not all small fuels would be left behind. Larger fuels contribute to fire severity, persistence, and resistance to control. In addition, objectives of the project include harvesting fire-killed and damaged trees expected to die (DEIS and FEIS, Chapter 1, Purpose of and Need for Action). The DEIS used the word “available” in a paragraph on page 103 (Chapter 3, Fire and Fuels, Fuel Loading and Fire Behavior). These acres are proposed for treatment of the dead and dying unmerchantable trees. This has been clarified in this FEIS. See response to Letter #11, Comment 11-5 below for increase in fire risk and hazard due to salvage.

11-4. It is reasonable to expect funding to be available for all needed post harvest treatments.

11-5. In response to your comment, additional disclosure relating to the immediate increase in fire risk and fire hazard was included in the Fire and Fuels section of this FEIS (Chapter 3). While it is true that there is increased activity during harvest operations, Forest records indicate fire starts due to this activity are not significant. Harvest activities may increase the 0 to 3 inch material immediately after harvest but an overall decrease in fire hazard is expected after full implementation.

11-6. The direction as disclosed on page 96 of the DEIS (Chapter 3, Fire and Fuels, Regulatory Framework in this FEIS) is to manage residue profiles at a level that will minimize the potential of high intensity wildfire. Flame length is used as an indicator of fire intensity as disclosed in Chapter 3, Fire and Fuels, Analysis Methods in the DEIS and FEIS. Resistance to control is the relative difficulty of constructing and holding a control line as affected by the difficulty of line construction and by fire behavior. It was not proposed to be managed in the DEIS and FEIS but was used to describe effects in Chapter 3. See also response to Letter #5, Comment 11-5.

11-7. Although this project is not reducing fuels immediately adjacent to a community, this area is within a Wildland Urban Interface (See also response to Letter #10, Comment 10-16). It is consistent with the fuels reduction element of the National Fire Plan as disclosed in the DEIS and FEIS (Chapter 1, Existing Condition, Fuels). In addition, see Chapter 1 of the DEIS and FEIS for the purpose and need of treating this area. Whether or not there are more important fuels reduction projects is outside the scope of this project.

11-8. The DEIS and FEIS recognize that black-backed woodpeckers use post-fire habitats as source habitats (DEIS and FEIS, Chapter 1, Existing Condition, Terrestrial Wildlife Habitat, Chapter 2, Alternatives Considered in Detail [Alternatives 3 and 5], and Chapter 3, Terrestrial Wildlife, Primary Cavity Excavator Species). Black-backed woodpeckers tend to select nest sites with the highest snag levels and the least amount of logging (Hutto 1995, Saab and Dudley 1997, Haggard and Gaines 2001, Saab, et al. 2002). Consequently, non-salvage areas would provide the best post-fire habitats for this species. The amount of non-salvage acres varies by alternative. Alternatives 1 and 4 retain the most habitat, followed by Alternatives 3 and 5. Alternative 2 leaves the least amount of habitat for this species.

Alternatives 3 and 5 were designed to retain areas specifically for black-backed woodpeckers. Four black-backed woodpecker areas, approximately 75 acres in size, have been identified.

The DEIS and FEIS, Chapter 2, Alternatives Considered in Detail, describe the alternative snag strategies. The DEIS and FEIS, Chapter 3, Terrestrial Wildlife, Primary Cavity Excavator Species, describe effects to cavity excavators. In this FEIS, snag strategy descriptions have been updated in Chapter 2 and effects disclosures on black-backed woodpeckers have been updated in Chapter 3.

11-9. The decision to allow or to adjust grazing is outside the scope of the Flagtail Fire Recovery Project. The decision of when to allow grazing to continue is an administrative decision based on the Post-Fire Grazing Interim Guidelines (Appendix H) and will not be made with this EIS.

11-10. An appendix has been added to this FEIS (Appendix J) that displays past, ongoing, and reasonably foreseeable projects that, when combined with activities proposed in this project, could have cumulative effects on resources. Resource specialists used this list to assure that all activities were considered and analyzed for cumulative effects. Cumulative effects of activities on resources are described by alternative in Chapter 3 of the DEIS, and have been expanded in this FEIS (see FEIS, Chapter 3, individual resource Cumulative Effects sections and Appendix J).

11-11. The objective of the Flagtail Recovery Project is to leave the trees expected to survive the fire, which is consistent with the direction in RFPA #2. The Forest Service recognizes that determining if a tree will live or not is an inexact science and that some trees that might live may be harvested, and some that are marked for retention as live trees will die. To reduce the chances of mistakenly harvesting trees that may live, the marking guide included in Appendix B has been developed to reduce the number of errors in tree marking. Scott, Schmitt, and Spiegel reviewed the most recent and applicable research on tree mortality following wildfire and developed a rating guide for the Blue and Wallowa Mountains (Scott, et al, 2002). In the summer of 2003 the author's field-tested and revised the rating guide with the help of silviculturists and marking crew foremen.

The marking guide now in Appendix B describes how to use the high, moderate, and low probability ratings and adds checking for live cambium below ground level to reach a final determination if the tree is to be harvested or not. See the response to Letter 10, Comment 10-93 for more information on use of the marking guide.

11-12. See Response to Letter #10, comment 10-93.

11-13. This FEIS, Chapter 3, Terrestrial Wildlife, Old Growth Forest, has been updated to address the effects of alternatives on the quality of future old growth. Management activities in proposed ROG 220 vary by alternative. Alternatives vary by snag and down wood levels, treatment acres, and changes in road access.

11-14. The objective of this project is to harvest dead and dying trees resulting from wildfire. Where the fire severity resulted in stand replacement, yes the result is a simplified forest. But that is the result of the fire and not harvesting the already killed trees. Where the fire did not kill all of the trees, the result is a mosaic of dead and live trees. The intent of this project is to retain the live trees and a portion of the dead trees. Snag and down wood levels vary by alternative; the effects to structural diversity are disclosed in the DEIS and FEIS, Chapter 3, Terrestrial Wildlife section. This FEIS has updated the discussion of dead wood habitats. Also, see response to Letter #11, Comment 11-1.

11-15. See Response to Letter #11, Comment 11-32

11-16. All alternatives would meet or exceed Forest Plan standards, i.e., 2.39 snags per acre, 21” DBH of greater, where available, providing for 100% of potential population levels of primary cavity excavators (see DEIS and FEIS, Chapter 3, Terrestrial Wildlife, Primary Cavity Excavator Species, Environmental Consequences). This FEIS, Chapter 3, Terrestrial Wildlife, Primary Cavity Excavator Species section has been updated. Also, see response to Letter #11, Comment 11-1.

11-17. See Letter #10, Response 10-7 for assumptions on snag fall down rates. Snag gap discussions have been updated in the FEIS in Chapter 1 to reflect the commenter’s concerns. The DEIS and FEIS disclose that *some* snags may persist longer than 30 years. Because Alternatives 1 and 4 retain the most large snags, they are more likely to support snags beyond 30 years, shortening the snag gap. The FEIS, Chapter 3, Terrestrial Wildlife, Primary Cavity Excavators, has been updated to reflect this point.

The analysis considers the wider planting spacing proposed for this project (15 x 15’ to 11 x 11’) rather than densely planted reproduction. The result is that growth will be comparable regardless if it is natural or planted. The main variable is the time of establishment, which is longer for natural reforestation than planting. Also, natural reforestation is highly variable, with some sites having very little regeneration while other areas, such as lodgepole sites, may be extremely overstocked. The assumptions used for the time for natural reforestation are stated in Chapter 3, Forest Vegetation, Stand Structural Stages of the DEIS and FEIS.

The commenter references a statement in the DEIS (Chapter 3, Terrestrial Wildlife, Primary Cavity Excavators) that states for Alternative 3 that “the largest diameter snags will be retained, as the larger the snag the longer it will likely stay standing.” The intent of the snag prescription is not to mark (for retention) the largest snags in the unit, but to select for retention the largest snags in the immediate area that is being marked.

11-18. Between DEIS and FEIS, the Flagtail interdisciplinary team (IDT) considered an alternative based on the recommendations of the Beschta report as disclosed in Chapter 2, Alternatives Considered but Eliminated from Detailed Study.

11-19. The reference **Decaying Wood in Pacific Northwest Forests: Concepts and Tools for Habitat Management** (Rose et al. 2001) was reviewed for the DEIS. The DEIS references this material as part of the larger volume **Wildlife-Habitat Relationships in Oregon and Washington** (Johnson and O'Neil 2001). The DEIS considered information in Rose et al. (2001) when developing dead wood strategies and disclosing the effects of the alternatives on dead wood dependent species. This FEIS has replaced the Johnson and O'Neil reference with the more specific Rose et al. reference.

The DEIS and FEIS, Chapter 2, Alternatives Considered in Detail, describes the alternative snag strategies. The DEIS and FEIS, Chapter 3, Terrestrial Wildlife, Primary Cavity Excavator Species section describes effects to cavity excavators. In this FEIS, snag strategy descriptions have been updated in Chapter 2 and effects disclosures on black-backed woodpeckers have been updated in Chapter 3.

11-20. The reduction in shade due to salvage has no ecologically significant effect on soil moisture or soil recovery. Reduction in shade possibly could have detrimental temperature and moisture stress effects on planted seedling, but salvaged areas of the Reed and Summit Fires had no significant difference in seedling survival compared to non-salvaged areas.

11-21. Regional Forester direction, as stated in the letter dated Nov. 19, 2002, is to reforest salvaged areas within 5 years, and to reforest non-salvaged areas as quickly as practicable. This is stated on page 70 of the DEIS. See also response to Letter #11, Comment 11-23.

Planting is to be done at lower densities than customary: 15 x 15 foot spacing in the hot-dry biophysical environment, 13 x 13 foot spacing in the warm-dry biophysical environment, and 11 x 11 foot spacing in the cool-dry biophysical environment. This spacing is designed to avoid needing to precommercial thin these stands. Additionally, the spacing is to be irregular and varied to better emulate natural reforestation with small openings and dense areas providing forage and hiding areas for wildlife. Openings up to an acre in size in planted areas caused by tree mortality, vegetative competition, or animal browsing are acceptable and will not be replanted, as these will provide forage for wildlife and vegetative diversity. This has been clarified in the FEIS description of the action alternatives (Chapter 2, Alternatives Considered in Detail).

11-22. See response to Letter # 11, Comment 11-3. All units with yard tops attached as a fuel treatment will be completed during the harvest operation. It is reasonable to expect funding to be available for all needed post harvest treatments.

11-23. Indeed, there is an inverse relationship between cover development and forage condition. Discussion in the DEIS and FEIS focuses on the development of cover because it is currently the most limiting habitat component in the Flagtail project area, not forage. If Forest Service managers continue to manage vegetation towards the cover levels prescribed in the Forest Plan (20% of the subwatershed acres), the future availability of forage would not be considered a limiting factor, especially in summer range. Management direction in Regional Forester's Eastside Forest Plans Amendment #2 (1995) prescribes moving dry forest types back towards their historical variation in structural stage. Many stands in the Flagtail project area are likely to

be managed at reduced tree stocking and canopy cover levels, promoting forage development. Under this project, prescribed planting is planned at a wider spacing than standard spacing, and should provide foraging habitat longer into the future. Much of the burn area would be available for high quality forage until tree canopy recovers and begins to limit the development of ground vegetation. Prescribed fire is likely to be used to maintain these conditions, likely benefiting both forage quality and quantity. This FEIS updates forage discussions.

11-24. The EIS uses a combination of surveys, observational data, population status/trend and source habitat trend information, and habitat assessments to evaluate effects to terrestrial wildlife. See response to Letter #10, Comment 10-37.

11-25. Forest-wide standard and guidelines #30 and #31 address satisfactory and marginal cover. Dead trees do not provide satisfactory or marginal cover (DEIS and FEIS, Chapter 3, Terrestrial Wildlife, Big Game Habitat).

11-26. Direct, indirect and cumulative effects of log haul and road use were not disclosed for watershed and fisheries in the DEIS but have been added to this FEIS. See also response to Letter # 5, Comment 5-29.

11-27. For watershed, cumulative effects are discussed in the DEIS, Chapter 3, Watershed, Water Quality and have been expanded in this FEIS. For fish, see response to Letter #11, Comment 11-10.

11-28. The missing pages were inadvertently left out of the DEIS. They have been added to this FEIS Appendix E. The DEIS summarized the results as "Two to three years after Summit fire, skidding caused export of a total of 0.02 m³ of soil from units totaling 230 acres" (Chapter 3, Soil, Environmental Consequences).

11-29. A definition has been added to this FEIS. See also response to Letter #10, Comment 10-93

11-30. Appendix B of the DEIS is an independent paper and is not a NEPA decision document. Therefore it does not set forth the Purpose of and Need for the Flagtail Fire Recovery Project. The Purpose of and Need for this project is identified in Chapter 1, Purpose of and Need for Action, DEIS and FEIS.

11-31. The Flagtail IDT has examined the areas identified by ONRC as unroaded and has determined that these areas do not have the characteristics associated with roadless areas. A further discussion of these areas was added to this FEIS in Chapter 3 under Other Disclosures, and in the Flagtail Project Record.

11-32.

a. Rose et al. 2001 (in Chapter 24, Johnson and O'Neil (2001)) was considered by resource specialists when analyzing the effects of the proposed activities, and Rose et al.'s recommendations used, where feasible and appropriate. Since this chapter describes a broad area (Oregon and Washington), and a variety of forest types (ranging from coastal rain forest to drier forests as found in the Flagtail area), some of the information described is relevant to the Flagtail Fire project area, and some of it is not. The following subparts (b through o) provide more specific detail as to how this FEIS addresses information in Rose et al. 2001.

- b. The Flagtail Recovery Project FEIS assesses the effects of alternatives on dead wood habitats and associated wildlife species via Management Indicator Species (MIS) identified in the Forest Plan. The MIS concept as applied here assumes that by providing habitat for primary cavity excavators, habitat is provided for many other dead wood dependent species as well. The DEIS developed a broad range of alternatives and snag retention levels (DEIS, Chapter 2, Alternatives Considered in Detail). Alternative 5 has been added to this FEIS to consider an additional snag strategy. This FEIS updates the effects discussion on dead wood habitats and associated wildlife species (see FEIS, Chapter 3, Terrestrial Wildlife, Primary Cavity Excavator Species). Chapter 3, Terrestrial Wildlife, Primary Cavity Excavator Species section, and Chapter 5, Bibliography in this FEIS cite dead wood research considered, including Rose et al. (2001) and Mellon et al. (2003).
- c. As disclosed in Chapter 3, Soil, Environmental Consequences, Alternatives 2, 3, and 5, Nutrients section, removal of logs may decrease productivity a small amount. As discussed in the Project Record, effects on soil organic matter would be negligible under any alternative.
- d. As discussed in the Project Record, effects of removing future woody debris on ground cover or creeping or raveling soil would be negligible under any alternative.
- e. This refers to western slope Cascade ecosystems (moist Douglas-fir habitat); it is not applicable to the Blue Mountains.
- f. Habitat surveys of streams included Large and Coarse Woody Debris and are disclosed in Chapter 3, Fisheries of this FEIS. Direct, indirect and cumulative effects to fish and fish habitat are disclosed for all alternatives in Chapter 3 and Appendix G (Biological Evaluation) of this FEIS and include discussions on Large and Coarse Woody Debris.
- g. Various snag- and down wood associated species do contribute to ecological processes as described in this comment. The Flagtail Recovery Project FEIS assesses the effects of alternatives on dead wood habitats and associated wildlife species via Management Indicator Species (MIS) identified in the Forest Plan. The MIS concept assumes that if we provide the habitat components necessary for the health of MIS species, then we meet the habitat requirement of other species associated with snags and downed logs. Therefore, if we maintain the health of these species, we can also assume that the ecological benefits associated with these species will also persist. This FEIS updates the effects discussion on dead wood habitats and associated wildlife species (see FEIS, Chapter 3, Terrestrial Wildlife, Primary Cavity Excavator Species). See Response 11-48, subpart b for a discussion specific to burrowing wildlife and soil benefits.
- h. We agree with these statements in that fire suppression and past harvest of early seral has resulted in changes to the landscape and fires of increased intensity and severity. We also recognize that stand conditions within the hot-dry and warm-dry plant association groups were not within the historical ranges for stand densities or fuel loadings before the Flagtail fire (DEIS and FEIS, Chapter 3, Forest Vegetation, General Existing Condition). They exceeded what was within the historical range. The Fire and Fuels section in Chapter 3 of this FEIS discusses this in more detail.
- i. See 11-32 subpart b.

j. As discussed in the Project Record, effects of removing future wood debris on soil erosion would be negligible under any alternative. The areas of concern in the Flagtail project area are along streams and ephemeral draws in which wood of various sizes, including large wood, will be retained in RHCAs or in draw buffers. Wood will also be placed in channel or in draws under the Coarse Wood Placement Categorical Exclusion prepared for this area. Much of literature cited by commenters appears to be from western Oregon where landscape processes differ from those found in the Flagtail area. As disclosed in Chapter 3, Soil, Environmental Consequences, Alternatives 2, 3, and 5, Nutrients section, removal of logs may decrease productivity a small amount.

k. See 11-32 subpart f.

l. The DEIS and FEIS considered new research on dead wood habitats, including DecAID (Mellen 2003). The DecAID tool synthesizes published literature, research data, wildlife databases, inventory data, and expert judgment and experience. Chapter 3, Terrestrial Wildlife, Primary Cavity Excavator Species section, and Chapter 5, Bibliography in this FEIS cite additional dead wood research considered. The DEIS developed a broad range of alternatives and snag retention levels (DEIS, Chapter 2, Alternatives Considered in Detail). Alternative 5 has been added to this FEIS to consider an additional snag strategy. This FEIS updates the effects discussion on dead wood habitats and associated wildlife species (see FEIS, Chapter 3, Terrestrial Wildlife, Primary Cavity Excavator Species).

m. One of the objectives of the Flagtail Fire Recovery Project is to reestablish the upland vegetation similar to that which historically existed in the biophysical environments that are found on the fire area. The planting prescriptions vary the species and spacing to be planted by the biophysical environment, with the goal of reestablishing a forest that is diverse and resilient to future disturbances (see FEIS, Chapter 2, Alternatives Considered in Detail, and Chapter 3, Forest Vegetation, Reforestation of Burned Forestland). Trees that are expected to live are to be retained to provide structural diversity and to supply future snags (see FEIS, Chapter 2, Alternative Development Process and Alternatives Considered in Detail, and Appendix B, Flagtail Marking Guide; also see Chapter 3 Terrestrial Wildlife). The alternatives leave snags at varying densities and a portion are to be left in clumps (see FEIS, Chapter 2, Alternatives Considered in Detail, and Chapter 3, Terrestrial Wildlife, Primary Cavity Excavator Species).

n. Action alternatives propose removing only dead and dying trees (see FEIS, Chapter 2, Alternative Development Process and Alternatives Considered in Detail, and Appendix B, Flagtail Marking Guide). Trees expected to survive the fire are to be retained to provide structural diversity and to supply future snags; only incidental green trees will be removed to construct roads and landings, and to eliminate safety hazards during logging operations. An alternative that would have harvested live trees was considered by the Decision Maker, but was eliminated from detailed study "...because...the live tree component was left to provide additional habitat diversity and a source for natural regeneration" (DEIS and FEIS, Chapter 2, Alternatives Considered but Eliminated from Detailed Study).

This FEIS discloses the benefits of retaining trees expected to survive the fire; the following references focus on those specific issues raised in this comment. Green tree replacements for snags are discussed in Chapter 3, Terrestrial Wildlife, Primary Cavity Excavator Species. Connectivity habitat is discussed in Chapter 3, Terrestrial Wildlife, Old Growth Forest. Shading of seedlings is discussed in Chapter 3, Forest Vegetation, Shade and Microclimate. Forest

succession is discussed in this FEIS, Chapter 3, Forest Vegetation, Stand Structural Stages and Terrestrial Wildlife, Old Growth Forest.

o. See 11-32 subpart l (letter l) for a discussion of recommendations. As commented, snags marked for retention may need to be felled and/or removed during logging for operational needs or safety reasons. In this FEIS, design and mitigation features have been updated in the action alternatives to reduce the potential for loss of protected snags (see FEIS, Chapter 2, Alternatives Considered in Detail, and Management Requirements, Constraints and Mitigation Measures, Terrestrial Wildlife. This FEIS, Chapter 3, Terrestrial Wildlife, Primary Cavity Excavators has been updated to disclose the effects of potential losses of protected snags.

11-33. The decision to allow or to adjust grazing is outside the scope of the Flagtail Fire Recovery Project. The decision of when to allow grazing to continue is an administrative decision based on the Post-Fire Grazing Interim Guidelines (Appendix H) and will not be made with this EIS. The effects of resumption of grazing were considered as cumulative effects on the various resources (see Appendix J). The cumulative effects of grazing were updated in this FEIS.

11-34. See Response to Comment 10-26.

11-35. Baseline is not the same as Existing Condition. Analysis of effects of alternatives is based on comparison with the Existing Condition. Baseline conditions may be considered as part of cumulative effects or incorporated into the Existing Condition. The 303(d) listing in the Flagtail area occurred before the fire; it is based on data collected before the fire. Also see Response to Comment 10-24.

11-36. This is a report that is available to the Forest Service. Responding directly to it is beyond the scope of this project. The Flagtail Fire Recovery Project recognized the incomplete implementation of BMPs (Watershed Environmental Consequences) and prescribed BMPs and mitigation (Appendix F and DEIS and FEIS, Chapter 2, Management Requirements, Constraints, and Mitigation Measures) including monitoring which is a component of BMPs (DEIS and FEIS, Chapter 2, Monitoring Plans). BMP discussion is modified in FEIS to show that BMPs are prescribed as a system of complementary and supplemental practices to control nonpoint source pollution. See Response to Comment 10-26 which describes the role of BMPs. Also see Appendix K, which was developed in response to this and other comments, to clarify the basis for applying Water Quality regulations to this project.

11-37. See Appendix K of this FEIS, which was developed in response to this and other comments, to clarify the basis for applying Water Quality regulations to this project..

Watershed cumulative effects are discussed in the DEIS, Chapter 3, Watershed, Water Quality. Grazing that meets Forest Plan standards is not expected to retard the attainment of riparian and aquatic management objectives. Additional disclosure regarding cumulative effects is presented in FEIS.

11-38. Forest Service Manual R6 Supplement No. 2500.98-1, section 2520.3 says "In areas where less than 20 percent detrimental soil conditions exist from prior activities, the cumulative detrimental effect of the current activity following project implementation and restoration must not exceed 20 percent." This guideline will be met - refer to Appendix E.

11-39. The DEIS disclose that "Skid trails for this operation would occupy less than 9% of each unit," and "Subsoiling skidtrails would reduce detrimental impacts by about 7%." (Chapter 3, Soil, Environmental Consequences). So the DEIS discloses that subsoiling alleviates most, but not all, compaction and resulting alteration of hydrology. This FEIS clarifies this. The DEIS does not claim subsoiling alleviates alteration of soil biota. The DEIS discloses "... sediment production from erosion due to subsoiling would be negligible."

11-40. See response to Letter #5, Comment 5-46.

11-41. Most of the trees in the salvage units are dead, particularly the thin bark species, therefore root damage caused by ground skidding will be of minor consequence in most units. Pre-designated skid trails are to be used in all units and by controlling the number and density of skid trails (DEIS and FEIS, Chapter 2, Management Requirements, Constraints, and Mitigation Measures), any damage to living trees will be within acceptable levels.

11-42. The DEIS and FEIS disclose soil erosion (DEIS and FEIS, Chapter 3, Soil, Environmental Consequences). The DEIS and FEIS disclose that existing levels of detrimental impacts were measured (Chapter 3, Soil, Analysis Methods) and disclosed (Appendix E, Expected Soil Conditions after Proposed Activities).

11-43. See response to Letter #10, Comment 10-48.

11-44. In addition to root exudates, plant litter (both leaf and roots) and partially decomposed organic matter are major sources of energy for fungi and bacteria. In using this energy to live, bacteria and fungi absorb nutrients, and keep them from leaching from the soil. Even after severe fire or clearcutting, there is enough root litter and partially decomposed organic matter to prevent leaching until plants have started to re-grow. Then nutrient uptake, by the new plants and by fungi and bacteria living on new litter and root exudates, will prevent leaching. This is true whether the trees are killed by fire or by logging. So nutrient leaching and denitrification would be negligible under all alternatives.

11-45. See response to Letter #5, Comment 5-46.

11-46. The DEIS considered soil foodweb impacts. The soil specialist searched for scientific data about effects to soil quality from changes in soil biota which result from salvage harvest. He found no scientific data on this topic. Research scientists also note the lack of information. For instance, Dr. Elaine Ingham (Director of Research and President, Soil Foodweb Inc., Corvallis, OR) wrote "Soil ecology has just begun to identify the importance of understanding soil food web structure not all the relationships have been explored, nor is the fine-tuning within ecosystems well understood." (www.rain.org/~sals/ingham.html) As another instance, the Beschta Report says "... logging is likely to have unanticipated consequences concerning micro-habitat for species that are associated with recovery, e.g., soil microbes." The report says "unanticipated" because no research exists to indicate adverse effects can be anticipated. Although soil disturbance, removal of logs, and planting of trees would alter soil biota, the soils specialist has found no information to indicate these alterations would be detrimental. In rare cases, tree regeneration has failed in clearcuts of live trees west of the Cascade Mountains because of a deficiency of mycorrhizal fungi. However, on Malheur National Forest, no such regeneration failures have been reported, even after harvest of live trees. See also response to Letter #11, Comment 11-44.

The soil specialist does recognize these impacts may be important. For instance, the DEIS discloses that "Failure of planted areas on the Blue Mountain Ranger District is less than 5%." (Chapter 3, Forest Vegetation, Reforestation of Burned Forestland). Possibly some of the failures are due to soil biota. But the low percentage of failures indicate that soil biota is always or almost always sufficient for seedling establishment. The soil specialist is aware of no information on effects of post-fire logging of dead and dying trees, on soil biota, in environments similar to the Flagtail Fire. A little information on the effects of clear cutting live trees and of woody debris affects, on mycorrhizae and soil biota in western Oregon and northern Idaho, is available. But, again, this project involves logging dead and dying trees, in an environment that historically had little down wood. The soil specialist is aware of no information on the effects of changes in soil biota on soil quality, except for a little information on mycorrhizal fungi. Little information is available for mycorrhizae for environments similar to Flagtail fire. Possibly tree planting would benefit mycorrhizal fungi by providing a host more rapidly, and possibly tree planting would benefit soil foodwebs by restoring organic layers more rapidly. Possibly, removing logs would decrease mycorrhizal fungi habitat. However, removing logs decreases the hazard of severe wildfire, and wildfire possibly could severely decrease mycorrhizal fungi. These possible changes in mycorrhizae would potentially have no effect on plant growth. However, with the small amount of information available, these are suppositions.

11-47. There are six purposes and needs for this project as disclosed in the DEIS and FEIS, Chapter 1. In this FEIS ten alternatives were considered but eliminated from detailed study and five alternatives were considered in detail as disclosed in Chapter 2 of this FEIS.

11-48.

- a. The DEIS and FEIS disclose adverse impacts to soil, including erosion, compaction, displacement, loss of nutrients and organic matter (Chapter 3, Soil, Environmental Consequences). Litter disturbance is not an adverse impact, except as it affects erosion. Loss of chemical buffering would not be significant. This FEIS discloses reduction of nitrogen fixing plants. The DEIS and FEIS disclose all alternatives would have a negligible effect on mass movement (Chapter 3, Soil, Environmental Consequences).
- b. The soil specialist searched for scientific data about effects to soil quality from changes in habitat for burrowing animals from salvage logging. He found no scientific data on this topic. Others also note the lack of information. For instance, Rose and coworkers (2001, p. 601) say that available information is inadequate for a definitive assessment of potential impacts of loss of large wood on ecological functions of forests. Although some burrowing wildlife is associated with dead wood, and burrowing wildlife increases soil aeration (Rose and coworkers 2001, p. 591), the soils specialist has found no information that would allow even a rough estimate of the magnitude and timing of these cause/effect relationships.
- c. See response to Letter #11, Comment 11-48a.
- d. See response to Letter #11, Comments 11-32c, d, and j.
- e. The DEIS and FEIS disclose loss of nutrients (Chapter 3, Soil, Environmental Consequences). This FEIS discloses no scientific data are available on soil foodweb impacts (Chapter 1, Other Analysis Issues, Soil and Geology section). See also response to Letter #11, Comment 11-46. Most dead trees are in moderate and high fire severity areas while dying trees are mostly in low fire severity areas, where ground cover from their litter is not needed to meet Forest Plan

standards. About nutrient cycling see responses to Letter #11, Comment 11-32 and Comment 11-44.

f. There is no evidence that loss of chemical buffering would be significant.

g. See response to Letter #11, Comment 11-34.

h. See response to Letter #5, Comment 5-84.

i. The Watershed Consequences section (FEIS Chapter 3) discloses effects of proposed activities on timing of runoff. The fisheries consequences section (FEIS, Chapter 3, Fisheries) discloses the effects of harvest on fish and fish habitat.

j. Based on experience reforesting other recent wildfires on the Malheur N. F., salvage harvest has no observed effect on the pace of reforestation. The main difference is between planting and natural regeneration, which is variable in success and timing. Likewise, salvage of dead trees has little noticeable effect on the recovery of vegetation.

k. The DEIS and FEIS disclose the effects of No Action (Alt. 1) which would not use post fire commodity extraction and the effects of the various action alternatives. These discussions describe both desirable and undesirable outcomes of proposed activities (including effects of harvest and roads) on the spread of invasive weeds (Chapter 3, Botany, Invasive Species). The effect of harvest on micro-sites has been added to Chapter 3 of this FEIS in the Forest Vegetation section.

l. The DEIS and FEIS disclose the effects of retaining various dead wood levels over time (DEIS and FEIS, Chapter 3, Terrestrial Habitat); the Primary Cavity Excavator section provides the most discussion on dead wood habitats. In this FEIS, snag strategy descriptions have been updated in Chapter 2 and effects disclosures on dead wood dependent species have been updated in Chapter 3. In particular, the effects discussion on down wood levels has been updated.

m. See Response 11-48 l.

n. The Flagtail DEIS and FEIS disclose direct, indirect and cumulative effects from management activities on the large wood component in streams as well as MIS fish habitat and populations (Chapter 3, Fisheries, Environmental Consequences).

o. The EIS documents the importance of larger, dead wood structures. See Response 11-48 l.

p. See Response 11-48 l.

q. See Response 11-48 l.

r. Experience with reforestation of previous wildfires on the Malheur N. F. has shown that there is no observable difference between seedling survival between salvaged and non-salvaged areas.

s. The Flagtail fire had the most effects on big game cover. The alternatives have little effect on remaining cover because only an incidental number of live trees are removed, and dead wood habitats provide little cover habitat. The DEIS and FEIS disclose the effects of the Flagtail fire on cover habitat (DEIS and FEIS, Chapter 3, Terrestrial Wildlife, Big Game Habitat). This FEIS has been updated to disclose the effects of alternatives on fawning habitat.

t. Observing non-salvaged areas of fires on the Malheur N. F. that were reforested by planting has not shown falling trees to be an important tree mortality factor. In fact salvage logging with

helicopters after areas have been planted has resulted in less than 5% mortality to planted seedlings.

u. Additional disclosure relating to the immediate increase in fire risk has been included in the Fire and Fuels section of this FEIS (Chapter 3). While it is true that there is increased activity and access during harvest operations, Forest records indicate fire starts due to this activity are not significant.

v. Additional disclosure relating to the immediate increase in fire hazard has been included in the Fire and Fuels section of this FEIS (Chapter 3). Harvest activities may increase the 0 to 3 inch material immediately after harvest but existing fuel levels are low and an overall decrease in fire hazard is expected after full implementation.

w. Harvesting of dead trees does not reduce the seed sources available to reforest the fire area, as dead trees do not produce seed.

x. The project will plant native tree species on 4,250 acres (FEIS, Chapter 3, Forest Vegetation, Reforestation of Burned Forestland) using seed collected from many parent plants before the fire – resulting in a higher genetic diversity than could be achieved with remaining live trees.

Planting will more quickly develop more diverse age classes and stand structure than if regeneration developed naturally from existing live trees (FEIS, Chapter 3, Forest Vegetation, Stand Structural Stages).

By removing dead or dying trees, the risk of another stand replacement fire is reduced, protecting future diversity (FEIS, Chapter 3, Fire and Fuels, Fuel Loading and Fire Behavior).

See also Response to Letter #10, Comment 10-22

y. See response to Letter #11, Comment 11-32, under nutrient cycling and soil fertility.

z. (1) Stand conditions within the hot-dry and warm-dry plant association groups were not within the historical ranges for stand densities or fuel loadings before the Flagtail fire (FEIS, Chapter 3, Forest Vegetation, General Existing Condition). If no salvage or other fuel treatment occurred and a reburn were to occur, the falldown contributing to the reburn would still be at much higher levels than fuel loadings under the historical fire regimes and the effects would be more severe. (2) See response to Letter #11, Comment 11-5. (3) Fuels that fall to the ground will decay over time, however, the potential fuel loadings are above historical levels that would result in increased future fire severity as disclosed in Chapter 3 of this FEIS.

11-49. Post fire harvest will decrease the severity of a future fire by decreasing the future potential fuel loading. The effects of salvage logging and fuels was disclosed in Chapter 3 of the DEIS and updated in this FEIS.

11-50. Alternative 4, as described in the DEIS, Chapter 2, Alternatives Considered in Detail, is a non-commercial, restoration only alternative.

11-51. Between DEIS and FEIS the IDT did consider an alternative that was modeled on the recommendations of the Beschta report. It was added to this FEIS in Chapter 2, Alternatives Considered but Eliminated from Detailed Study.

11-52. The information contained in this comment is not from the Cooper-Ellis et al. (1999) paper. The Cooper-Ellis et al. (1999) paper has no relevance to the Flagtail Fire because it does

not describe effects of logging and because it concerns different environment (hardwoods) and disturbance (pulling trees over). Relative to the information provided, drier, warmer soils are not detrimental impacts, and are not expected because Flagtail was a fire, not a blowdown. The DEIS and FEIS disclose that denser soils are expected after tractor harvest (Chapter 3, Soil, Environmental Consequences). The DEIS and FEIS disclose only minor erosion is expected (Chapter 3, Soil, Environmental Consequences), so decreased organic matter and nitrogen mineralization are not expected.

11-53. The research paper quoted considers old growth Douglas-fir forests in the west side of the Cascade Range. Conditions are quite different in the historically fire maintained ecosystems of the Flagtail Fire. The marking guides to be used to determine which trees to harvest are designed to be conservative to reduce the likelihood of harvesting trees that would survive to a low amount (see Appendix B). Standard logging practices minimize damage to residual trees; language is included in timber sale contracts to restrict damage.

Forest Plan, Management Area 13 (MA-13) provides direction for designating, refining and managing Dedicated Old Growth (DOG) and Replacement Old Growth (ROG) areas (Forest Plan, pp. IV-105 to IV-107). The action alternatives are consistent with this direction. New DOGs would be established; ROGS would be managed for future old growth (see DEIS and FEIS, Chapter 3, Terrestrial Wildlife, Old Growth Forest and Consistency with Direction and Regulations). Management activities in proposed ROG 220 varies by alternative. Alternatives vary by snag and down wood levels, treatment acres, and changes in road access. This FEIS, Chapter 3, Terrestrial Wildlife, Old Growth Forest, has been updated to address the effects of alternatives on the quality of future old growth.

11-54. See Chapter 2, Alternatives Considered in Detail, for treatment of material 8 inches and less. See also response to Letter #11, Comment 11-5. Effects disclosure for harvest of large diameter trees is disclosed in Chapter 3, Terrestrial Wildlife, Old Growth Habitat and Primary Cavity Excavators.

11-55. Shade from snags has not been found to be crucial to seedling survival; salvaged areas of the Reed and Summit Fires had no significant difference in seedling survival compared to non-salvaged areas.

11-56. The DEIS considered a broad range of snag prescriptions (DEIS and FEIS Chapter 2, Alternatives Considered in Detail). Alternative 2 prescribes snag levels at the current Forest Plan standard. Alternatives 3 and 4 consider alternative snag densities and sizes based on DecAID (Mellon et al., 2003). Alternative 5 has been added to this FEIS to consider an additional snag strategy (see FEIS, Chapter 2, for alternative description).

The DEIS and FEIS, Chapter 3, disclose the effects of snag retention on wildlife species. The Decision Maker will discuss the resource tradeoffs between alternatives in the Record of Decision.

See responses to Letter #11, Comment 11-11 and to Letter #10, Comment 10-93 for more information on how we are evaluating tree survival. We are making every effort to retain trees that have a good chance to live longer than 3-4 years after the fire.

11-57. As stated in the DEIS and FEIS, Chapter 3, Forest Vegetation, Reforestation of Burned Forestland, historical seedling survival is approximately 65%. Less than 5% of the fire areas

planted have needed replanting to meet stocking objectives (1994 Reed Fire and 1996 Summit Fire).

11-58. The DEIS and FEIS disclosed lop and scatter as methods available to treat fuels but proposes yard tops attached, grapple piling and hand piling as options for fuels treatments with this project (Chapter 3, Fire and Fuels, Fuel Loading and Fire Behavior).

11-59. Information was added to this FEIS on the effects of pile burning on weeds. The DEIS and FEIS recognize and disclose that invasive species could become established as a result of the fire or proposed actions (Chapter 3, Botany, Invasive Species). In Chapter 2 of this FEIS, there are mitigation measures that require avoiding documented weed sites, and that sow seed on landings and areas near existing weed locations with a native or non-persistent certified weed-free seed mixture, as a preventative measure to limit the spread of noxious weeds.

11-60. Alternative 1 plans no reforestation or other restoration activities and Alternative 4 plans only restoration activities, such as planting and stream improvement projects, while doing no salvage logging.

11-61. The DEIS and FEIS disclose effects on soil, nutrients, erosion (Chapter 3, Soil, Environmental Consequences); see also responses to Letter #11, Comment 11-32, under nutrient cycling and soil fertility, and to Letter #5, Comment 5-84. This FEIS, Chapter 3, Terrestrial Wildlife, discloses the effects of retaining or removing dead wood structures on dead wood associated species; this discussion is primarily in the Primary Cavity Excavator Section, but other Terrestrial Wildlife sections discuss these habitat components if they play an integral part in habitat needs as well.

11-62. See responses to Letter #11, Comment 11-11 and Letter #5, Comment 5-1. We are making every effort to retain trees that have a good chance to live longer than 3-4 years after the fire (see also revised Appendix B).

11-63. The DEIS and FEIS disclose effects on soil, nutrients, erosion (Chapter 3, Soil, Environmental Consequences); see also responses to Letter #11, Comment 11-20, Letter #11, Comment 11-32, under nutrient cycling and soil fertility, and Letter #5, Comment 5-84. This FEIS, Chapter 3, Terrestrial Wildlife, discloses the effects of retaining or removing dead wood structures on dead wood associated species; this discussion is primarily in the Primary Cavity Excavator Section, but other Terrestrial Wildlife sections discuss these habitat components if they play an integral part in habitat needs as well.

11-64. Effects of logging on water are disclosed in the Watershed Consequences section (DEIS Chapter 3) and are modified in this FEIS.

The DEIS and FEIS disclose effects on soil, nutrients, erosion, including soils with an erodibility rating of moderate to high, and severely burned soil (Chapter 3, Soil, Environmental Consequences).

11-65. See responses to Letter #11, Comment 11-32, under nutrient cycling and soil fertility, and Letter #5, Comment 5-84. Water holding capacity is sufficient for seedling establishment (FEIS, Chapter 3, Forest Vegetation, Reforestation of Burned Forestland).

The DEIS and FEIS disclose effects on soil, nutrients, erosion (Chapter 3, Soil, Environmental Consequences).

11-66. See response to Letter #5, Comment 5-29.

11-67. The Beschta Report (1995) recommendations regarding retaining live trees and snags were considered and are discussed under Other Disclosures in Chapter 3 of the DEIS and FEIS, and an alternative based on Beschta recommendations was added to this FEIS and considered under Treatment as Recommended in the Beschta Report (1995) in Chapter 2, Alternatives Considered but Eliminated from Detailed Study.

The purpose and need for removal of dead and dying trees is discussed in Chapter 1 of the DEIS and FEIS. As commented, snags marked for retention may need to be felled and/or removed during logging for operational needs or safety reasons. In the Flagtail Fire Recovery project, design and mitigation features have been included in the action alternatives to reduce the potential loss of protected snags (see FEIS, Chapter 2, Alternatives Considered in Detail, and Management Requirements, Constraints and Mitigation Measures, Terrestrial Wildlife. This FEIS, Chapter 3, Terrestrial Wildlife, Primary Cavity Excavators has been updated to disclose the effects of potential losses of protected snags.

11-68. The Flagtail project proposes actions that meet the purpose and need (DEIS and FEIS, Chapter 1). Reburn results when falldown of the old burned forest contributes significantly to the fire behavior and fire effects of the next fire (Brown 2003). Future fire behavior and fire effects are disclosed in Chapter 3 of the DEIS and FEIS. Chapters 2 and 3 of the DEIS and FEIS include discussions of the smaller material. See also response to Letter #11, Comment 11-5.

11-69. Experience with helicopter salvaging of fire killed timber in planted units (Reed and Summit Fires) is that tree felling and yarding by helicopter damaged or killed very few seedlings that were planted before the harvesting took place. By extension, it would seem that natural falling of snags would also have little effect on the young trees that have become established in a burned area. Planting is prescribed at wider than normal spacing to reduce the need for thinning, whether by natural processes or by precommercial thinning.

The successional pathways are not altered, just the timing of stand initiation (accelerated by planting) and the time to reach each larger structural stage. The differences between the alternatives of planting (Alts. 2, 3, 4, and 5) and natural reforestation (Alt. 1) are shown in the DEIS and FEIS, Chapter 3, Forest Vegetation, Stand Structural Stage. Assumptions used for stand development are shown in Chapter 3, Forest Vegetation, Analysis Methods.

11-70. The DEIS and FEIS disclose effects on soil, Chapter 3, Soil, Environmental Consequences, including some effects that are inconsistent with parts of the Beschta report. Special mitigations for relatively erodible sites are summarized in the same section of the EIS. The discussion of the Beschta report was updated in this FEIS, and can be found in Chapter 3 under Other Disclosures.

11-71. Revision of the Forest Plan is outside the scope of this analysis.

11-72. As disclosed in the Fisheries section of environmental consequences (FEIS, Chapter 3, Fisheries) there are no expected direct or indirect effects to fish or fish habitat from timber harvest with the use of default INFISH buffers, ephemeral draw buffers and designated skid trails. The cumulative effects (FEIS, Chapter 3, Fisheries, Environmental Consequences, Cumulative Effects) of road management activities and activities completed under CEs (riparian

hardwood planting and coarse wood placement) are expected to accelerate attainment of Riparian Management Objectives (RMOs).

11-73. See response to Letter #11, Comment 11-21; wider than normal spacing is prescribed.

11-74. The EIS uses a combination of surveys, observational data, population status/trend and source habitat trend information, and habitat assessments to evaluate effects to terrestrial wildlife. See references and responses to Letter #5, Comments 5-52 and 5-53, Letter #10, Comment 10-37 and 10-61, and Letter #11, Comment 11-24.

11-75. There are several issues that separate analyses of fish and fish habitat in the Flagtail Fire from the court case cited by ONRC. The parameters measured to determine habitat quality in MNF LRMP Amendment 29 are the same as those currently used by NOAA Fisheries and US Fish and Wildlife in the Matrix of Pathways and Indicators and are considered the best available science. Level 2 stream surveys include biological surveys where electroshocking or snorkeling is completed to determine species distribution and population estimates. Redband trout and Malheur mottled sculpin were identified during surveys (see FEIS, Chapter 3, Fisheries, Existing Condition). The court case cited by ONRC also notes that management activities would further degrade habitat conditions. The direct, indirect and cumulative effects of all action alternatives in the Flagtail area will maintain or improve parameters for habitat conditions for MIS and sensitive fish species, although at varying degrees (see FEIS, Chapter 3, Fisheries, Environmental Consequences and the Fisheries BE in Appendix G).

For terrestrial wildlife species, the EIS uses a combination of surveys, observational data, population status/trend and source habitat trend information, and habitat assessments to evaluate effects to terrestrial wildlife. See references and responses to Letter #5, Comments 5-52 and 5-53, Letter #10, Comment 10-37 and 10-61, and Letter #11, Comment 11-24.

11-76. The size of the Flagtail Fire is thought to be larger than most stand replacement fires in the pine type. Agee, 1993, quotes a figure of several hundred hectares, but undoubtedly there were occasional fires that grew larger. HRV analysis is better applied to larger areas than the Flagtail analysis area, and is used in the DEIS to provide a basis for comparison of the alternatives ability to provide for future habitat.

As stated in the DEIS and FEIS, Forest Vegetation, Regulatory Framework, HRV analysis is not necessary for projects that do not propose harvesting live trees. It is used only to display the effects of implementing the various alternatives and is not an objective in and of itself. No living old forest stands are proposed for harvest in the DEIS or FEIS; old growth stands that experienced stand replacement fire are now classified as stand initiation structural stage.

11-77. All alternative were considered equally. Favorable weather conditions would be equivalent to the “prescribed fire” conditions used in modeling flame lengths and mortality. Effects during prescribed fire conditions are displayed in Chapter 3 of the DEIS and FEIS (Table FF-5).

11-78. Fuel treatment of material less than 8 inches in diameter is included in all action alternatives, and road construction was minimized. See alternative descriptions in Chapter 2, Alternatives Considered in Detail. A portion of this project area is in an interface as described in Chapter 1, Existing Condition, Fuels.

11-79. It is true that logging can increase fine fuel loads (see response to Letter #11, Comment 11-5 and Chapter 3 of this FEIS). The rest of this comment is outside the scope of the project as it addresses live stands of trees.

11-80. The effects of logging are described in the EIS in Chapter 3. See also response to Letter #11, Comment 11-48.

11-81. In response to your comment, use of prescribed fire only was considered as an alternative between DEIS and FEIS. It was not developed and the reasons are disclosed in Chapter 2 of this FEIS (Alternatives Considered but Eliminated from Detailed Study).

11-82. For (a) and (b) see Fire and Fuels section of Chapter 3 in this FEIS and response to Letter #11, Comment 11-5. For (c) see Chapter 2, Alternatives Considered in Detail - lop and scatter is not part of the proposed action. For (d) see response to Letter #11, Comment 11-5. For (e) see response to Letter #11, Comment 11-48(u) and Chapter 3 of this FEIS, for (f) see response to Letter #4, Comment 4-1.

11-83.

- a) See response to Letter #10 Comment 10-6.
- b) See response to Letter #11, Comment 11-55.
- c) Survival and distribution of tree seedlings has not been found to be materially different between salvaged and non-salvaged areas in the Summit and Reed Fires.
- d) Decay rates are slow and coarse woody debris would accumulate and contribute to fire severity until considerable decay has occurred.
- e) Falling snags contribute to the fuel bed. The influence of coarse woody debris in fire behavior was disclosed in Chapter 3 of the DEIS and FEIS (Fire and Fuels, Introduction).

11-84. In terms of fire and fuels see response to Letter #10, Comment 10-6. In terms of watershed, see response to Letter #5, Comment 5-84.

11-85. Factors that influence fire behavior were disclosed in the DEIS and FEIS (Chapter 3, Fire and Fuels, Introduction). The effects of reducing potential future fuel loadings was discussed in Chapter 3 of the DEIS and updated in this FEIS.

11-86. This project addresses components of the Healthy Forest Restoration Act; however, it was an Act passed by Congress and the Act is outside the scope of this project.

11-87. The Purpose of and Need for Action in Chapter 1 describes the reasons for the project, including removal of commercial timber. Effects on resources were disclosed in Chapter 3 of the DEIS and modified for this FEIS. The Decision Maker will weigh the benefits against the impacts in issuing the ROD and disclose his reasons for the decision under NEPA.

11-88. This project is in response to a large fire. The effects of the treatments are discussed in Chapter 3 of the DEIS and modified for this FEIS. A portion of the project is within an interface area. Alternative 4 does not include commercial removal.

11-89. See response to Letter #4, Comment 4-1.

11-90. Only Alternatives 2, 3 and 5 would construct permanent road; the construction of 0.3 miles of new road is intended to relocate over 1 mile of road 2400133 and 2400203. These existing roads are located in a Riparian Habitat Conservation Area (RHCA) and cross Snow Creek; the 1-mile of undesirable road would be decommissioned.

The DEIS and FEIS disclose road effects on soils (Chapter 3, Soil, Environmental Consequences). This FEIS has been clarified.

The direct, indirect and cumulative effects to fisheries of road building, maintenance, reconstruction and decommission activities are disclosed in the DEIS and FEIS in Chapter 3, Fisheries, Environmental Consequences under Roads. This is in accordance with direction from INFISH guideline RF-3 (b) to avoid adverse effects on inland native fish by prioritizing road relocation out of RHCAs.

The DEIS, Chapter 3, Terrestrial Wildlife, focused the effects disclosure of road construction on big game; this FEIS, Chapter 3, Terrestrial Wildlife and Appendix D, Wildlife Biological Evaluation has been updated to reflect the effects of road construction on other terrestrial species, as applicable. Construction of .3 miles of system road would not fragment any large blocks of interior habitat; this section of road is being constructed through burned forest and is intended to replace existing road that is being decommissioned in nearby riparian areas. Temporary road construction could temporarily fragment some habitats, but roads would be decommissioned immediately after logging is completed. Effects would last only 1-3 years. In burn areas, habitat fragmentation from roads becomes more of an issue once older forests have developed, well beyond 3 years. The action alternatives reduce total road miles as well as open road densities, to the benefit of many wildlife species.

Also, see FEIS, Chapter 3, Unroaded Areas for description of two unroaded areas highlighted by Oregon Natural Resources Council (ONRC) and their existing values.

11-91. Building and then obliterating temporary roads is not a “restoration action,” but rather a way to mitigate effects to soils, watershed and fisheries. The temporary roads planned for the Flagtail Project are located outside RHCAs (most on or near ridgetops—see Figures 3, 10, 11, and 13, Map Section), in low gradient topography. This is disclosed in the Fisheries effects section of the Flagtail FEIS. The DEIS and FEIS disclose road effects on soils (Chapter 3, Soil, Environmental Consequences). This FEIS has been clarified. Additional disclosure of effects of system and temporary roads has been included in the Watershed section of this FEIS.

No sediment is expected to reach streams or impact fish as a result of temporary road construction or decommission activities. The study cited by ONRC from *Restoration Ecology* was located in Idaho and analyzed different soil types more prone to saturation and mass failure than those in the Flagtail Area.

This FEIS, Chapter 3, Terrestrial Wildlife updates the effects disclosure of roads on terrestrial wildlife. New road construction is considered minimal; the action alternatives reduce total road miles as well as open road densities, to the benefit of many wildlife species.

11-92. The DEIS and FEIS recognize the risk of weed spread in Chapter 1, Other Analysis Issues, and in Chapter 3, Botany, Invasive Species, and the need for inventory. Effects of proposed activities on weeds are discussed in Chapter 3, Botany, Invasive Species. See also responses to Letter #5, Comments 5-5 and 5-6.

11-93. Atmospheric carbon is removed from the air by trees and “locked up” in the wood and other vegetative portions of the tree. Burning or decomposition both release carbon back into the atmosphere. If the trees are left on site to fall down and decompose, or to burn up in future fires, the carbon is returned to the atmosphere. (Nutrient Cycling Lectures, Professors Cromack and

Kimmins, Silviculture Institute Module 2, Fall, 1984) If boles are harvested and converted into durable wood products (lumber, for instance) the carbon is taken out of the system for a period of time, for a net reduction in atmospheric carbon. Therefore, Alternative 2 has the best effect on carbon sequestration, followed by Alternative 5, then Alternative 3, with Alternatives 1 and 4 at the low end of carbon sequestration, as they allow the carbon to reenter the atmosphere sooner.

11-94. The DEIS and FEIS disclose effects to the Canada lynx. See DEIS and FEIS, Chapter 3, Terrestrial Wildlife, Threatened or Endangered Species – Canada Lynx and Appendix D, Wildlife Biological Evaluation.

11-95. The DEIS and FEIS disclose effects to neotropical migratory birds. See DEIS and FEIS, Chapter 3, Terrestrial Wildlife, Regulatory Framework and Analysis Methods, and Landbirds including Neotropical Migratory Birds. Management direction in Executive Order 13186, signed by then US President William Clinton (66 FR 3853, January 17, 2001), and subsequent Memorandums of Understandings (MOUs) on landbird species were considered in evaluating the effects of alternatives. In this FEIS, Chapter 3, Terrestrial Wildlife, the Regulatory Framework and Analysis Methods and the Consistency with Direction and Regulations sections have been updated to better address consistency requirements.

11-96. The comment references a different Bird Conservation Region (BCR #5) in the U.S. Fish and Wildlife Service's Birds of Conservation Concern 2002 (USFWS 2002) than the Region the Flagtail Project is in. Therefore, many of the avian species listed in the comment are not found in the project area. This FEIS considers avian species listed in BCR 9 (Great Basin Region) and BCR10 (Northern Rockies Region). Many of the wildlife species listed have been specifically addressed, either in Chapter 3, Terrestrial Wildlife (including Landbirds) and/or in the Wildlife Biological Evaluation in Appendix D. The Landbird section discusses avian species not addressed in the Forest Plan. These species are discussed in terms of priority habitats and associated focal species. Focal species are used much like management indicator species. Habitat requirements are presumed to represent those of a larger group of wildlife species, and act as a barometer for the health of various habitats. In this FEIS, effects to species listed in BCR9 and BCR10 have been assessed in the context of priority habitats.

11-97. The discussion provided by the commenter focuses mainly on the role of insects in unburned forests. The beneficial role of insects in restoring an unhealthy forest by thinning overstocked stands and reducing the amount of fir trees in the forest does not apply to the Flagtail fire, as the fire has already accomplished these actions.

This project is not being planned to reduce the insect populations or to prevent outbreaks. The time necessary to complete the NEPA analysis for this project is too long to be able to respond quickly enough to have much effect on insect populations, as documented in this FEIS (Chapter 3, Forest Vegetation, Living Trees).

This FEIS, Chapter 3, Terrestrial Wildlife, Primary Cavity Excavators discusses the effects of reducing dead wood habitats and therefore, foraging substrate as well.

11-98. This project does not anticipate using K-V Funding for implementation of any of the projects planned in the DEIS. They will be accomplished with appropriated funds, cost-share funds, or by the timber sale purchasers.



Letter #12

PRAIRIE WOOD PRODUCTS

457 FRONT ST. • P.O. BOX 340
PRAIRIE CITY, OR 97869

August 15, 2003

Linda Batten, Flagtail IDT Leader
Blue Mountain Ranger District
PO Box 909
John Day, OR 97845

Dear Ms. Batten:

Thank you for this opportunity to present comments on the Flagtail Fire Recovery Project. (DEIS) As you are aware we have two saw mills in the John Day Valley, Prairie Wood Products in Prairie City and Grant western Lumber Company in John Day. Both mills are very dependent on timber from the National Forests. Grant Western Lumber Co. has both a large log side as well as a small log side. Where as Prairie Wood Products is a small log mill. These two mills employ 150 plus family wage jobs in Grant County.

Prairie Wood Products and Grant Western Lumber Co. agrees with the stated purpose and need for action reducing future fuel loading and capturing economic value of fire killed trees. We support Alternative 2, (it best meets the purpose and provides much needed timber jobs).

The use of Dec AID for snag retention is wrong. With 150 mm feet of timber dying on the forest each and every year and even with a fair salvage program we would never cut all the dying trees in our forest. My understanding is there is no endangered, threatened, or sensitive species of wildlife that will be negatively affected if you were to use Alternative 2.

Again, please look at your purpose, and need and you will see that Alternative 2 best meets your purpose and need.

Sincerely,

Dan Bishop
Resource Manager

12-1

FS Response to Letter #12 – PWP

12-1. The DEIS and FEIS consider multiple sources of information on dead wood habitats, including DecAID (Mellen 2003). The DEIS and FEIS, Chapter 3, Terrestrial Wildlife, Primary Cavity Excavator Species section, and the Chapter 5 Bibliography cite additional dead wood research considered. The DecAID tool is currently one of the best sources of information on dead wood habitats because it synthesizes published literature, research data, wildlife databases, inventory data, and expert judgment and experience.

The DEIS developed a broad range of alternatives and snag retention levels (See DEIS Chapter 2, Alternatives Considered in Detail). Alternative 5 has been added to this FEIS to consider an additional snag strategy. This FEIS updates the effects discussion on dead wood habitats and associated wildlife species (see FEIS, Chapter 3, Terrestrial Wildlife, Primary Cavity Excavators).

The DEIS and FEIS, Chapter 3, disclose the effects of snag retention on wildlife species and socio-economics. The Decision Maker will discuss the tradeoffs between alternatives in the Record of Decision.

Letter # 13



United States Department of the Interior

AUG 27 2003

OFFICE OF THE SECRETARY
Office of Environmental Policy and Compliance
500 NE Multnomah Street, Suite 356
Portland, Oregon 97232-3036

IN REPLY REFER TO:

August 12, 2003

ER 03/0575

Roger W. Williams, Forest Supervisor
Malheur National Forest
P.O. Box 909
431 Patterson Bridge Road
John Day, Oregon 97845

Dear Mr. Williams:

13-1

The Department of the Interior has reviewed the Draft Environmental Impact Statement for the Proposed Forest Plan Amendments for the Flagtail Fire Recovery Project, Malheur National Forest, Grant County, Oregon. The Department does not have any comments to offer.

We appreciate the opportunity to comment.

Sincerely,

Preston A. Sleeper
Regional Environmental Officer

FS Response to Letter #13 – USDI, Office of Environmental Policy and Compliance

13-1. No response needed.

Letter #14



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 10

1200 Sixth Avenue
Seattle, Washington 98101

OCT 14 2003

Reply To
Attn Of: ECO-088

Ref: 03-009-AFS

Michael Montgomery, District Ranger
Department of Agriculture - Forest Service
Blue Mountain Ranger District
P.O. Box 909
John Day, OR 97845

Dear Mr. Montgomery:

The U.S. Environmental Protection Agency has reviewed the draft Environmental Impact Statement (EIS) and proposed Forest Plan amendments for the **Flagtail Fire Recovery Project** (CEQ #030295) in accordance with our responsibilities under the National Environmental Policy Act (NEPA) and Section 309 of the Clean Air Act. Section 309, independent of NEPA, specifically directs EPA to review and comment in writing on the environmental impacts associated with all major federal actions and the document's adequacy in meeting NEPA requirements.

The draft EIS proposes various forest activities to reduce future fuel loadings and capture the economic value of fire-killed and damaged trees in the Malheur National Forest. The EIS identifies Alternative 2 as the proposed action. No preferred alternative has been identified.

Based on our review and evaluation, we have assigned the following ratings to the alternatives evaluated in the draft EIS.

Alternative	Rating
Alternative 1: No Action	LO (Lack of Objections)
Alternative 2: Maximize economic value of fire killed and damaged trees	EC-2 (Environmental Concerns-Insufficient Information)
Alternative 3: Capture economic value of fire killed and damaged trees and increase snag habitat	EC-2 (Environmental Concerns-Insufficient Information)
Alternative 4: Reduce fuel loads and provide local employment without commercial timber harvest	LO (Lack of Objections)

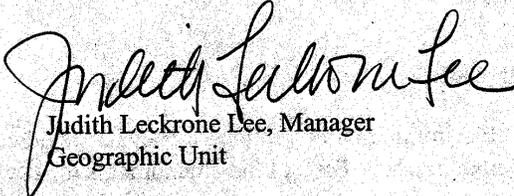


Our concerns with Alternatives 2 and 3 are that there would be environmental impacts due to harvest activities and grazing, and the removal and destruction of nest structures for landbirds in dry forest habitats.

An overall rating of EC-2 (Environmental Concerns - Insufficient Information) along with a summary of our comments will be published in the *Federal Register*. A copy of the rating system used in conducting our review is enclosed for your reference.

Thank you for the opportunity to review this draft EIS. If you would like to discuss these issues, please contact Mike Letourneau at (206) 553-6382.

Sincerely,



Judith Leckrone Lee, Manager
Geographic Unit

cc: Christine Kelly, EPA - La Grande, OR
Dan Opalski, EPA-OOO

Enclosure

**EPA's Detailed Comments
Flagtail Fire Recovery Project and Proposed Forest Plan Amendments
Draft Environmental Impact Statement**

Environmental Impacts from Harvest Activities

14-1

Tractor harvest activities proposed under Alternatives 2 and 3 would include skidtrails. Skidding often causes displacement, bare soils, decreases infiltration and channels overland flow and thus accelerates erosion. Concentrated runoff from roads, shallow soils, or draws can also exacerbate skidtrail erosion. While erosion of skidtrails decreases and can stop in one to three years after use, decreased productivity due to severe displacement and erosion can last hundreds of years. The EIS states that much of the skidtrails would be compacted and some of the soil tracked only once or twice would be compacted. Compaction usually lasts more than 20 years and some compaction lasts more than 50 years. Therefore, we recommend that an alternative that does not include tractor harvest, be selected as the preferred project alternative.

Grazing

14-2

Grazing operations can contribute to a decline in water quality and habitat, which adversely affects the health of terrestrial and aquatic wildlife and species diversity. Poorly managed operations can also impact soils, groundwater tables, and stream hydrology and morphology. Alternatives 2 and 3 would promote short and long term increases in grazing by opening of the canopy cover and reducing the number of snags that fall on the forest floor, thereby increasing forage. In addition, fuel treatments associated with Alternatives 2 and 3 would reduce the accumulation of large material on the ground, which will also increase forage availability. While Alternatives 1 and 4 would increase forage in the short term, reforestation and fallen snags and material accumulation on the forest floor will inhibit forage and grazing in the long term. We recommend that the selected project alternative promote environmental protection and restoration and limit grazing activities.

Removal of Nest Structures for Landbirds

14-3

Habitat loss is considered the primary factor in the decline of landbirds including neotropical migratory birds. The Flagtail fire has created a large amount of habitat suitable for a variety of landbird species. The EIS states that the removal of snags would have a negative effect on populations of cavity nesting landbirds in dry forest habitats. Effects would include displacement from nests by removal or destruction of nest structures (snags, ground nests) during salvage operations. These effects would be greatest under Alternatives 2 and 3. Effects would be minimal under Alternatives 1 and 4 because snag removal will only occur under limited situations. We recommend that the selected project alternative limit snag removal to maintain or increase habitat for landbirds.

Issues Relating to the Beschta Report

14-4

The EIS includes an evaluation of the findings of the 1995 Beschta Report on salvage logging activities on forest ecosystem health and presents recommendations as they relate to the Flagtail Fire Recovery Project. While the analysis is beneficial to understanding project specific goals and providing a comparison of the Beschta Report recommendations with the projects proposed actions, a number of technical statements made in defense of the project are not supported by citations. For example, the EIS states that if natural reforestation failed, it would likely require the use of chemicals to establish conifer seedlings and by planting as soon as possible there is no need for control of competing vegetation or animal damage control. Statements such as these need to be supported by citations. In particular, the EIS should provide citations that support the application of chemicals when reforestation is unsuccessful and that reforestation planting controls unwanted vegetation and controls animal damage. The EIS should provide citations for all technical statements made in this section of the document.

FS Response to Letter #14 – US Environmental Protection Agency

14-1. The DEIS and FEIS disclose the magnitude of detrimental soil effects from tractor harvest would be limited, so that Forest Plan Standards would be met under all Alternatives (Chapter 3, Soil, Environmental Consequences). (See response to Letter #5, Comment 5-46.) The DEIS and FEIS disclose that helicopter only harvest was considered, but eliminated for economic and social reasons, and because adequate resource protection was provided with other logging systems (Chapter 2, Alternatives Considered but Eliminated from Detailed Study).

14-2. The effects of the Flagtail project on the rangeland resource must be, and are displayed in the Rangeland Resource section of Chapter 3 of the DEIS and FEIS. Additionally, the effects of continued grazing are considered a cumulative effect on other resources; this cumulative effect is discussed in each resource section (Chapter 3, FEIS).

The decision to allow or to adjust grazing is outside the scope of the Flagtail Fire Recovery Project. The effects of allowing and/or adjusting grazing will be analyzed in a separate NEPA document when the allotment plans are revised.

14-3. Effects to landbirds are disclosed in the DEIS and FEIS, Chapter 3, Terrestrial Wildlife, Landbirds section. Effects to dead wood habitats and associated species are disclosed in the DEIS and FEIS, Chapter 3, Terrestrial Wildlife, Primary Cavity Excavators section. The FEIS updates these sections.

14-4. The DEIS and FEIS disclose the professional judgments contained in the DEIS are based not only on scientific literature, but also on monitoring, personal observation, and professional contacts (see Chapter 3, Soil, Analysis Methods). In many cases, site-specific research is not available. However, on-the-ground experience and post treatment monitoring on past fires on the Malheur N. F. has built up a large knowledge base of vegetation response after wildfires. For example, on the Prairie City RD reforestation was delayed for a number of years, and ceanothus became a major competitor of tree seedlings. Treatment of the ceanothus was required to allow the trees to grow. In the more recent Summit Fire, planting was accomplished within a few years of the fire and the trees are for the most part above the shrub competition and are expected to maintain their growth. However, in a few areas that were not planted, the ceanothus has occupied the site and reforestation will be delayed a number of years without treatment of the shrubs.

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