

**Decision Record  
for  
Butte Falls Blowdown Salvage  
EA #OR115-08-02**

**Background**

The Butte Falls Resource Area is proposing to salvage trees blown down during January 2008 windstorms. Salvage could occur on up to 6,100 acres located in the Big Butte Creek, Rogue River/Lost Creek, South Fork Rogue River, and Little Butte Creek 5<sup>th</sup> field watersheds. Trees proposed for salvage would include windthrown trees, damaged trees not likely to survive, insect-killed trees, and trees hazardous to workers or the public. Timber would be salvaged using helicopter, tractor, shovel, or cable yarding systems. Site preparation or slash disposal activities such as lop and scatter, piling and burning, and underburning would be used to treat logging slash and damaged residual conifers 1 inch to 12 inches in diameter. Road work associated with the proposed salvage activities is road renovation, landing construction, permanent road construction, and temporary spur road construction. This project is proposed within matrix (including connectivity/diversity block), 100-acre northern spotted owl activity center, and riparian reserve land use allocations. The timber salvage would help meet the Medford District annual sale quantity goals established through the Medford District Resource Management Plan and the Northwest Forest Plan.

The BLM completed the environmental analysis for this project and published the *Butte Falls Blowdown Salvage Environmental Assessment* (EA) on July 25, 2008. The legal notice for public comment on the EA was published in the *Medford Mail Tribune* on July 27, 2008 and *Upper Rogue Independent* on July 29, 2008. Publishing of the legal notice in the *Medford Mail Tribune* started a 30-day public comment period that ended August 26, 2008.

The BLM consulted on the effects of this project with the U.S. Fish and Wildlife Service and the National Marine Fisheries Service as required under the Endangered Species Act. The BLM received Letters of Concurrence from both Services, dated July 10, 2008 and August 12, 2008, respectively.

NOTE: There is a correction to page 135 of the *Butte Falls Blowdown Salvage EA*. “T35S” should be “T36S.”

**Decision**

My decision is to implement in part the actions proposed and analyzed under Alternative 3 and to defer a decision on the remaining actions proposed under Alternative 3 until a later date, to be determined. My decision will implement actions in locations described below and all required Project Design Features (PDFs), as described in the EA. Required PDFs were developed using the Best Management Practices (BMPs) identified in the *Medford District Resource Management Plan and Record of Decision* (p 151-175).

The project is located on matrix lands in

T33S, R2E, Sections 13, 15, 21, 23, 25, 26, 27, 29, 31, 33, 35;  
T33S, R3E, Section 30;  
T34S, R1E, Section 13, 25;  
T34S, R2E, Sections 2, 3, 5, 7, 8, 9, 10, 12, 14, 15, 16, 17, 18, 19, 21, 22, 23, 28, 29, 33, 34;  
T35S, R1E, Sections 1, 11, 12;  
T35S, R2E, Sections 3, 17, 19, 27, 29, 33, 35;  
T36S, R2E, Sections 1, 2, 3, 11, 12, 13, 14, 23, 25; and  
T36S, R3E, Sections 7, 19, 20, 29,  
Willamette Meridian, Jackson County, Oregon.

**My Decision is to**

1. Salvage trees blown down during the storm, storm-damaged trees not likely to survive, insect-killed trees, and trees hazardous to the public or workers on approximately 3,500 acres of BLM-administered matrix lands.
2. Renovate 157 miles of road.
3. Construct 0.6 miles of new permanent road and 3.8 miles of temporary spur roads.
4. Reduce the amount of slash and additional fuel hazard created by the windstorm on approximately 3,500 acres.

At this time, I am deferring the decision to implement activities in Alternative 3 on

**Matrix Lands in**

T34S, R2E, Sections 13, 24, 26, 27, 35;  
T34S, R3E, Sections 21, 23, 24, 25, 27, 29, 31;  
T35S, R2E, Sections 1, 13, 21, 23, 25; and  
T35S, R3E, Sections 7, 19, 31.

**Riparian Reserves in**

T33S, R2E, Sections 15, 35;  
T34S, R2E, Sections 9, 17, 33;  
T35S, R2E, Sections 1, 13, 23, 25, 27; and  
T36S, R2E, Section 3.

**Northern Spotted Owl Activity Center in**

T35S, R2E, Section 35,  
Willamette Meridian, Jackson County, Oregon.

I will defer my decision for proposed salvage on 1,840 acres of matrix lands, restoration on 70 acres of riparian reserves and 30 acres of a northern spotted owl activity center, and the road renovation and permanent and temporary road construction associated with the deferred activities. My rationale for deferring these specific areas at this time is due to comments received from the public. Commentors voiced concern over the large number of acres (6,100) proposed for salvage, the harvest system used to salvage (4,870 acres tractor, 910 acres skyline, 60 acres

bull-lining, 170 acres helicopter), and where (matrix, deferred watersheds, key watershed, riparian reserves, Ginger Springs Watershed, northern spotted owl activity center) the salvage is proposed. Deferring a decision on a portion of the proposed activities allows me to give greater consideration to these comments and their merits, and to make a decision at a later date on the remaining acres. However, I also received comments requesting the BLM to harvest the blowdown in a timely and economical manner, including comments from neighboring land owners concerned with fire and insect risk. My decision today to implement a portion of the acres analyzed in the *Butte Falls Blowdown Salvage Environmental Assessment* was made in consideration of these comments.

## Decision Rationale

My decision to authorize the proposed action is in compliance with the *Medford District Record of Decision and Resource Management Plan* (ROD/RMP), dated April 1995 and the *Northwest Forest Plan*, dated April 1994 (EA p. 5). The proposed action complies with all applicable standards and guidelines. This action takes into consideration cumulative impacts of past harvesting and silviculture practices on nearby private and Federal lands. All required Threatened and Endangered (T&E), Special Status Species (SSS), and cultural surveys were completed and mitigation was applied, where appropriate.

This action meets the purpose and need, identified in the EA, to salvage timber on BLM lands in the Butte Falls Resource Area affected by the windstorm in the Big Butte Creek, South Fork Rogue River, Rogue River/Lost Creek, and Little Butte Creek 5<sup>th</sup> field watersheds. Timber sales resulting from this decision will produce revenue for the Federal government and contribute approximately 22 million board feet of timber toward the Medford District's 2008 Allowable Sale Quantity of 57 million board feet. Road renovation of 157 miles of road used to haul timber will reduce the potential for sediment production and reduce the sediment delivery to streams from these roads. Salvage and associated fuels treatment will reduce the existing fuel hazard created by the windstorm.

In preparing the EA, the BLM analyzed the impacts of the proposed action for the following issues: economics; potential insect epidemic; increased fuels; and recovery of severely damaged riparian reserves, known northern spotted owl activity center, and matrix land. The BLM determined the impacts will be within those analyzed in the Environmental Impact Statement for the Proposed Medford District Resource Management Plan (PRMP/EIS) or were otherwise insignificant. Discussion of those impacts can be found in the EA available at the Medford District Office, 3040 Biddle Road, Medford, Oregon.

I did not select Alternative 1 (the No Action alternative) because it did not meet the identified purpose and need. Alternative 1 would not recover the revenue for the Federal government from approximately 35 million board feet of blown down timber currently existing on BLM matrix lands. No site preparation would occur to create planting sites for the establishment of conifer seedlings. Existing conditions would slow the development and growth of a new forest stand for at least 10 to 20 years. Without a fully stocked conifer stand occupying the site, growth rates within these stands will be less than those planned for and expected on matrix lands under the sustained yield objectives of the PRMP/EIS (EA p.38). In addition, within mature stands near

moderate and severe windthrown areas, the risk of mortality for live, standing Douglas-fir would be high for three to four years due to high populations of Douglas-fir bark beetles. Although immediate suppression and control of all wildfires, human or lightning-caused, would continue, the increased fuel load and the sequential increase in fire behavior would not be addressed (EA p. 62-66).

Alternative 2 was considered but not selected because selection of Alternative 2 would preclude all recovery of severely damaged riparian reserves and the severely damaged known northern spotted owl activity center. Salvage in these areas would reduce the potential for additional impacts from epidemic insect populations and increased fire risk to these already severely damaged habitats. Salvage would hasten the recovery of these areas by reducing the depth of debris covering the ground, opening areas for planting and natural seeding, and accelerating the development of mature forest stands to provide stream shade and suitable habitat for spotted owls.

I have chosen Alternative 3 because it most completely meets the identified purpose and need for the following reasons:

The Butte Falls Blowdown Salvage project is located on BLM-administered lands subject to the requirements of the O&C Lands Act which directs that O&C lands be managed for “permanent forest production . . . in accord with sustained-yield principles” (ROD/RMP p. 17). The Medford District ROD/RMP established certain land use allocations designed to address “the need for a sustainable supply of timber and other forest products that will help maintain the stability of the local and regional economies and contribute valuable resources to the national economy on a predictable and long-term basis” (ROD/RMP p. 16-17). The ROD/RMP (p. 38) allocated matrix lands for “produc[ing] a sustainable supply of timber.” Implementing this decision contributes an estimated 22 million board feet (MMBF) of timber from these matrix lands toward the Medford District Allowable Sale Quantity, thus meeting the timber resource objectives in the Medford District RMP (ROD/RMP p. 17, 72-73) and one of the purposes identified for this project (EA p. 5).

Another identified purpose for the project is to reduce the “potential breeding habitat for bark beetles, wood borers, and other insects” (EA p. 4 and 45). While it is not possible to precisely predict what insect populations will do, blowdown in previous large windstorms have consistently resulted in higher insect populations. Insect population levels outside of the range of natural variability may cause the mortality of healthy green trees. ROD/RMP direction (p. 189) is to limit the increase of endemic levels of insects. The intent of the salvage is not to eliminate insects in the Project Area, but to reduce “breeding habitat” and the potential build-up of large insect populations.

Salvage and fuels treatments provide an opportunity to reduce the amount of surface fuels and additional fuel hazard (fire intensity and rate of spread) created by the windstorm. Reducing the fuels allows for a better chance to safely reduce the risk of large fires to the town of Butte Falls and other neighboring communities within the Wildland Urban Interface, Ginger Springs Municipal Watershed, road infrastructure, adjacent private lands, and critical resource areas (EA p. 58). The ROD/RMP direction (p. 89 and 91) is to lower the risk of high intensity, stand-replacing fires which can damage natural resources and homes and threaten the safety of

individuals and fire fighters by reducing natural fuel hazards on BLM-administered lands in rural interface areas and reducing both natural and activity-based fuel hazards. The greatest potential for extreme fire behavior exists during the first 5 years after the blowdown.

## **Consultation and Coordination**

Section 7(a)(2) of the Endangered Species Act (ESA) states that each Federal agency shall, in consultation with the Secretary, insure that any action they authorize, fund, or carry out is not likely to jeopardize the continued existence of a listed species or result in the destruction or adverse modification of designated critical habitat.

The BLM consulted with the US Fish and Wildlife Service pursuant to the ESA. Informal consultation was completed with the US Fish and Wildlife Service and the Service concurred with the BLM's determination that the proposed action may affect, is not likely to adversely affect the northern spotted owl or designated northern spotted owl critical habitat. The BLM received a Letter of Concurrence from US Fish and Wildlife Service on July 10, 2008.

The BLM consulted with National Marine Fisheries Service (NMFS) on Southern Oregon/Northern California coho salmon (*Oncorhynchus kisutch*), listed as a "threatened" species under the ESA. The BLM determined the only portion of the Butte Falls Blowdown Salvage project that may affect coho salmon is within the Big Butte Creek 5<sup>th</sup> field watershed. The BLM received a Letter of Concurrence from NMFS on August 12, 2008.

The Klamath Tribe, the Confederated Tribes of the Siletz, and the Confederated Tribes of the Grand Ronde were notified of this project during the scoping process for the EA.

Jackson County Commissioners, Oregon Department of Fish and Wildlife, and Oregon Department of Forestry were also notified during scoping and the EA public review period.

## **Public Involvement**

The Butte Falls Resource Area mailed a scoping letter to a total of 90 individuals, businesses, organizations, tribes, and government agencies on May 28, 2008 to initiate scoping for the Butte Falls Blowdown Salvage project. Scoping recipients had either requested to be notified of such projects, were government entities, or owned land in the Project Area. The BLM held a public meeting on June 12, 2008 in the community of Butte Falls. The information sharing meeting was advertised in the *Medford Mail Tribune* and was attended by about 20 individuals. A total of 15 comment letters, public meeting comment forms, and e-mails were received from adjacent land owners, private citizens, timber companies, organizations, and environmental groups concerning the proposed salvage project.

The BLM conducted a field trip with Klamath Siskiyou Wildlands Center on May 7, 2008 to reveal the effects of the windstorm and discuss the BLM project proposal.

The BLM met with Southern Oregon Timber Industry Association (SOTIA) on May 13, 2008 and Jackson County Natural Resource Advisory Committee (RAC) on June 17, 2008 to apprise them of the Butte Falls Blowdown Salvage project.

On August 14, 2008 the BLM met with Jackson County Commissioners to discuss the Butte Falls Blowdown Salvage proposal on BLM-administered lands.

A formal public comment period for the project was held from July 27 to August 26, 2008. The public was notified through a newspaper notice in the *Medford Mail Tribune* and the *Upper Rogue Independent*. Letters and copies of the EA were sent to 29 individuals, organizations, and government entities. The BLM received seven letters containing comments on the EA.

### **Response to Public Comment**

The following are the BLM responses to the substantive comments received on the *Butte Falls Blowdown Salvage EA*:

#### **The Significant Environmental Impacts of This Project Necessitate Completion of an EIS**

**Comment:** *“While we understand that the decision not to prepare an EIS for this project is preordained and inevitable regardless of the significant scientific controversy and the presence of significant cumulative impacts, we nevertheless will briefly summarize why the project triggers all of the Ten Significance Criteria described as 40 CFR 1508.27.”*

**Response:** Both the context and intensity of the impacts anticipated from the Butte Falls Blowdown Salvage project is addressed in the Finding of No Additional Significant Impact for the *Butte Falls Blowdown Salvage Environmental Assessment*. I have determined the Butte Falls Blowdown Salvage project does not constitute a major Federal action having a significant effect on the human environment and an environmental impact statement (EIS) is not necessary and will not be prepared. This conclusion is based on my consideration of the Council on Environmental Quality’s (CEQ) criteria for significance (40 CFR § 1508.27) with regard to the context and to the intensity of the impacts described in the EA and based on my understanding of the project, review of the project analysis, and review of public comments. The analysis of effects was completed within the context of the Medford District’s Resource Management Plan and the Northwest Forest Plan. This conclusion is consistent with those plans and the scope of effects anticipated from those plans. The analysis of effects also occurred in the context of multiple spatial and temporal scales as appropriate for different types of impacts and the effects were determined to be insignificant.

#### **Scientific Controversy and Uncertainty**

**Comment:** *“As noted above in our request for an EIS for this project, significant scientific controversy exists regarding the impacts of proposed salvage logging and road construction activities. In addition to requiring the BLM to complete an EIS to address that controversy, NEPA also establishes a duty that the BLM take a ‘hard look’ at conflicting science that is submitted by the public during the NEPA process. That ‘hard look’ has not occurred here.”*

**Response:** While differences in public opinion regarding managed versus unmanaged forests reflect a range of values that humans place on public lands and its management, they do not indicate the presence of highly controversial environmental effects. “Highly controversial,” in the context of 40 CFR 1508.27(b)(4), refers to substantial disagreement within the scientific community about the environmental effects of a proposed action. It does not refer to expressions of opposition or expressions of preference among alternatives. Some commentors submitted literature they believed to be evidence supporting scientific controversy. Literature was submitted by some commentors for consideration in assessing the environmental effects of salvaging. However, BLM specialists determined the studies submitted were not applicable to the Butte Falls project for one or more of the following reasons:

- 1) the level of disturbance events (absence of wildfire) is different and the environmental and vegetative conditions of the two areas are significantly different, thus not comparable (EA p. 37),
- 2) the study prematurely ended after two seasons (standard study length is 4 to 5 years) after a wildfire consumed all of the salvaged-logged plots and four of the control plots (EA p. 37-38),
- 3) this study was conducted on an ecological area (elevation range from 8,000 to 9,000 feet) so very different from those found on BLM-administered forest lands in southern Oregon (elevation ranges from 2,000 to 5,000 feet), that it would be impractical to compare these results with those in this Project. Soil depth, development, texture, organic matter, parent material, temperature, moisture supplying capacity, decomposition rates, and biota vary substantially between the study site and the soils found within the Project Area that the data cannot be effectively correlated to aid in the quantification of the anticipated effects (EA p. 80), and
- 4) the study did not apply to this type of activity.

**Comment:** “*The BLM should be aware of, and incorporate the findings contained in the following peer-reviewed documents that directly address assumptions relied on by the agency to justify its refusal to document an analysis of scientific literature and controversy regarding the environmental impacts of post-disturbance salvage logging.*”

**Response:** The first study, *Biogeochemical Consequences of Wind and Salvage-Logging Disturbances in a Spruce-Fir Forest Ecosystem* (Rumbaitis-del Rio and Wessman unpublished), documents the compound effects of three disturbance events on subalpine forests: catastrophic windthrow in 1997, followed by salvage logging in 1998 to 2001, and finally a large wildfire in 2002. The hypothesis of the study was that “compound disturbances have the potential to fundamentally alter an ecosystem structure and function.” A comparison of this study to the anticipated effects of the BLM proposed action is not appropriate as the level of disturbance events (absence of wildfire) is different and the environmental and vegetative conditions of the two areas are significantly different (EA p. 37). The second research paper, *Changes in Understory Composition Following Catastrophic Windthrow and Salvage Logging in a Subalpine Forest Ecosystem* (Rumbaitis-del Rio 2006), focused on salvage logging in a 25,000-acre blowdown area in high elevation subalpine forests in Colorado’s Routt National Forest. Comparison of the Colorado study area to the proposed BLM salvage area is not appropriate as the environmental and vegetative conditions of the proposed salvage area are vastly different from the area studied by Rumbaitis-del Rio. The blowdown study area in Colorado is a high

elevation (8,400 to 9,400 feet), slow growing, subalpine forest dominated by shade-tolerant (trees with the capacity to become established and persist under the shade of a canopy) Engelmann spruce and subalpine fir that have a low tolerance to high temperatures and periods of moisture stress. The Butte Falls Blowdown Salvage project is at lower elevations (2,100 to 4,800 feet) with mixed conifer stands dominated by intermediate- to shade-intolerant (trees unable to tolerate low light or shaded forest conditions) conifers that have a higher tolerance to high temperatures and moisture stress (EA p. 37).

The research study *Ecosystem Properties and Processes in a Wind-Disturbed and Salvage-Logged Subalpine Forest* (Rumbaitis-del Rio 2004), a thesis submitted to the University of Colorado, Boulder, was also considered by the BLM soils scientist. The BLM specialist determined it would be impractical to compare results to soil depth, development, texture, organic matter, parent material, temperature, moisture supplying capacity, decomposition rates, and biota because they vary substantially between the study site and the soils found within the Butte Falls Blowdown Salvage project. The data cannot be effectively correlated to aid in the quantification of the anticipated effects. This portion of the research documents the effects of salvage logging versus no salvage logging on the soil resource in a catastrophic windthrow area in the Rocky Mountains of Colorado. The qualitative soil effects disclosed in this study are fundamentally sound and are not in dispute. However, this study was conducted on an ecological area (elevation range from 8,000 to 9,000 feet) so very different from those found on BLM-administered forest lands in southern Oregon (elevation ranges from 2,000 to 5,000 feet) that it is not applicable to the Butte Falls Blowdown Salvage project (EA p. 80).

The Xerces Society Report summarizes studies concerning the influence of logging on the control of insects. The report concludes with five insect management guidelines. In the paragraphs below, each guideline is compared to the proposed action in the EA. The proposed action is consistent with the report guidelines.

1. *Maintain and restore high-quality late-successional and old growth forest conditions. Diverse, old forests contain an array of natural predators and pathogens, and are more resilient to forest insect pests.*

Except for the damage caused by the windstorm, late-successional and old growth forest conditions will not be affected. The objective of this blowdown salvage project is to recover wind damaged trees that resulted from a natural disturbance and does not propose to alter stand characteristics and structure beyond that caused by the windstorm. In areas where the windstorm created canopy openings and low tree densities, a diversity of conifer seedlings will be planted to help accelerate the restoration of late-successional conditions.

2. *Ensure structural and species diversity when logging, including the retention of large trees and snags, downed wood, and canopy closure. These practices can help minimize large outbreaks of insect pests.*

Standing large green trees, snags, and coarse woody debris will be left to provide species diversity, long-term biological legacies, and habitat for insect predators.

3. *Minimize soil compaction and harm to trees and tree roots when doing any thinning or logging. Soil compaction and tree damage can increase the susceptibility of forest stands to insect attack.*

Widely spaced, designated skid trails will be used to minimize the area and extent of soil compaction and damage to residual trees. Existing skid trails will be used where possible.

4. *Utilize prescribed fire to promote more natural forest conditions. Insect pests are less of a problem under diverse natural conditions.*

Prescribed underburns may be used as a follow-up to salvage and fuels treatments to reduce fuel loadings in moderate and severe damaged forest stands.

5. *Reduce current road densities, particularly in ecologically significant areas. Roads can serve as dispersal for non-native invasive insect species.*

No roads will be constructed within riparian reserves or late-successional reserves. No permanent roads will be built in deferred watersheds or key watersheds. Temporary roads (0.9 miles) will be ripped and planted following use. Road densities and percent of area in roads will essentially remain the same in the Project Area (EA p. 109).

Similarly, the Donato et al. study, *Post-Wildfire Logging Hinders Regeneration and Increases Fire Risk* directly addresses post-fire salvage logging and the reference pulled from page 9 of the 2006 Lindenmayer and Noss study, *Salvage Logging, Ecosystem Process, and Biodiversity Conservation (Conservation Biology 20(4):949-958)*, also addresses post-fire logging. However, the disturbance factor in the Butte Falls Blowdown Salvage Project Area was not fire, it was wind. The fuel loadings after the blowdown event already exist and are considerably higher than they were prior to the event, unlike a fire where the fuel loadings are reduced after the disturbance. The Project Area surface fuel loading conditions are not comparable to fuel loadings after a fire. Because the conditions are not comparable, you cannot extrapolate the findings of these studies to the current project. The anticipated effects of salvaging blown down timber and post-salvage fuels reduction are documented and well supported with referenced literature throughout the EA (p. 46-75).

### **Direction Contained in the Watershed Analysis**

**Comment:** *“The Central Big Butte Watershed Analysis (CBBWA) recommends and findings that are not reflected in the agency’s salvage logging proposal.”*

**Response:** The Watershed Analysis (WA) is not a decision document. The watershed analysis process identifies important issues and conditions and ecosystem relationships within a watershed. Watershed analysis was prepared using information that existed at that time. Recommendations made in the WA are applicable based on project objectives and management direction. The concerns and recommendations made in the WA are addressed through site-specific PDFs and mitigation measures, including BMPs for water quality protection that were developed in the environmental analysis (EA p.18-19). The following excerpts from the Central Big Butte WA were submitted by commentors:

**Comment:** “Page 50 re: ‘Inadequate or improperly functioning riparian buffers. Lack of connectivity along riparian areas.’ ‘2. Reduce the number of miles of road in the RMA.’ (page 51) ‘3. Identify areas where grazing is impacting stream banks and riparian vegetation.’”

**Response:** The concerns of inadequate or improperly functioning riparian buffers and the lack of connectivity along riparian areas are addressed by maintaining full riparian reserves throughout the project. Alternative 3 proposes treatment inside riparian reserves while still maintaining a no-salvage buffer. The objective of treating the riparian reserves is to increase the rate of recovery of trees and canopy, which will improve the function of the riparian buffers and reduce the risk of future tree loss.

No new roads will be constructed within riparian reserves in any of the watersheds within the Butte Falls Blowdown Salvage project. Therefore, no increase in road miles in riparian reserves will occur (EA p.101).

The impacts identified in the WA address impacts to stream banks and riparian vegetation due to grazing. The proposed project will not affect riparian reserves, in fact the amount of blowdown trees within the riparian reserve may restrict access to the streams for cattle and big game. The EA states that with the cessation of some activities, such as cattle grazing, and the moderation of impacts from other activities, such as logging and road building, water quality conditions are improving (EA p. 99).

**Comment:** “Page 51 re: ‘Fish population declines’ ‘4. Reducing sediment loading from adjacent watersheds and tributaries by reducing compaction to increase infiltration and reduce runoff.’ ‘6. Identify roads which are contributing to sediment loads and close or surface roads to reduce erosion.’ (page 52) ‘7. Minimize new road construction and rip skid trails to reduce compaction and increase filtration and reduce runoff.’”

The BLM has addressed the concern over fish population declines in these watersheds through the completion of several projects (e.g., culvert replacements, adding large wood to streams, road decommissioning, etc.) since the WAs were written. The blowdown event added large wood to many of the streams. The EA addresses the recommendation of reducing sediment loading from adjacent watersheds and tributaries by reducing compaction to increase infiltration and reduce runoff by ripping over 500 acres of compacted skid trails (EA p. 84-85).

The EA addresses the recommendation to identify roads which are contributing to sediment loads and close or surface roads to reduce erosion by implementing road renovation in the Project Area. Crushed rock would be added in spots where surfacing has been depleted. Additional drainage structures (culverts, water dips, etc.) may be added to existing roads to reduce spacing between culverts for improved drainage (EA p. 5, 14).

The EA addresses the recommendation to minimize new road construction and rip skid trails to reduce compaction and increase filtration and reduce runoff by using existing roads where possible, building temporary roads instead of permanent roads, building permanent roads on stable locations outside of riparian reserves where long-term access is needed for the future, and

using helicopter yarding in some areas instead of building new road. Over 500 acres of skid trails will be ripped to reduce compaction and runoff and increase soil infiltration (EA p.84-85).

**Comment:** *“Page 53 ‘Designated big game critical winter range located west of USFS road 3260 and north of USFS roads 34 and 3450.’ ‘Open road density 3.5 miles per square mile of habitat exceeds management objective of 1.5 miles per sq mile of habitat.’ [See LRMP page 45]”*

**Response:** No new permanent roads will be constructed in Big Game Winter Range. All proposed temporary spurs will be decommissioned (ripped, mulched, and blocked) when logging is completed.

**Comment:** *“Page 55 ‘Early successional stands should not exceed present levels. The level of late successional stands within this watershed should be at least 45%...’”*

**Response:** The proposed salvage will not result in additional early successional stands. The windstorm resulted in stand replacement conditions in areas generally identified as severe; these areas are now essentially early successional stands. The development of early successional stands in these areas will occur regardless of the proposed salvage treatment.

### **New Plantations Increase Fire Hazard**

**Comment:** *“In summary, post-disturbance logging and plantation establishment may reinforce a growing tendency toward high severity fire at a landscape scale. Please address peer-reviewed findings indicating that post-disturbance logging and plantation establishment irreversibly hinder the natural low- and mixed-severity fire regime.”*

*“The EA is replete with statements indicating that existing blowdown, and the potential for insect epidemics, may result in increased fire hazard. Indeed, analysis of the No Action alternative mostly consists of repeated statements that such an alternative would result in unacceptable fire hazard. Yet the BLM’s concern for fire behavior and fire hazard seems to largely disappear when it comes to analyzing the impacts of plantation establishment in this Project Area. This disparate analysis of fire hazard and forest health evidences significant agency bias in the NEPA analysis and must be remedied in the decision document for this project.”*

**Response:** The creation of tree plantations is not the intent of this project. This project is in response to a natural disturbance event, not the result of a planned BLM timber sale. The salvage removes only wind damaged trees from wind damaged stands. Where the windstorm caused severe damage and has altered stand characteristics from late-successional to early seral conditions, tree planting is proposed (EA p. 51). In these areas, the canopy has been opened up and tree densities are below desired levels. A mix of conifer seedlings will be planted to accelerate tree reestablishment, ensure species diversity, increase the rate of recovery towards late-successional conditions, and meet the planned growth and yield objectives for matrix lands as mandated by the Medford District ROD/RMP.

Plantations will occur only where severe wind damage has caused the loss of the majority of the trees within a forest stand. In the event of a wildfire, the potential fire behavior in plantations

will be less than severely damaged forest stands that are not salvaged and planted, refer to the EA Table 3-7 (p. 61 and 62), Table 3-10 (p. 64 and 65), and Table 3-11 (p. 77). Potential fire behavior is based on the rate of spread, flame length, and fireline intensity.

## Fire and Fuels

**Comment:** *“The BLM has not used the best available science regarding the effects of fire or the proposed logging on fire and fuels, in its NEPA document. The scoping notice indicated that the BLM believes that salvage logging the blowdown (and standing) trees may ‘mitigate the risk to the local neighborhood communities, individuals, fire fighters, and the environment from severe, unwanted, and unplanned wildfire events.’ Yet concerns raised in scoping comments regarding slash creation and plantation establishment on fire hazard were downplayed or ignored by the agency.”*

*“Salvage logging will increase fire hazard”*

*“If machine piled, material between 2 and 12 inches in diameter and 2 feet long would be piled. The piles would be a minimum of 8 feet high and 10 feet in diameter. The number of piles per acre would range from 25 to 45. -Butte Falls Blowdown Salvage EA page 15.”*

**Response:** The BLM is not increasing fire hazard by piling because the material that will be piled is already on the ground and creating the fire hazard. The proposed salvage and slash disposal activities will reduce fuel loading and continuity within the salvage treatment areas. Piling the slash will decrease the potential fire hazard by lowering the fuel bed and breaking up the continuity of the fuel layer (EA p. 59). A fuels assessment will be conducted within each salvage unit following salvage activity. Units assessed as a high fire risk will receive priority for slash disposal treatment and the appropriate slash disposal treatment will be conducted (EA p. 66). Fuel loading will be reduced, as shown in the EA (p. 67) in Table 3-11 Change in Predicted Fire Behavior and Fuel Loading in Blowdown Areas after Salvage and Slash Disposal.

**Comment:** *“There is no scientific, empirical evidence to prove that the presence of large-diameter standing or downed fuels translates into high fire hazard. Beschta et al. (1995) stated, ‘We are aware of no evidence supporting the contention that leaving large dead woody material significantly increases the probability of reburn’ (p. 11). While ‘reburn’ is not an issue for blowdown mortality, the point is nevertheless valid.”*

**Response:** There is often confusion between fire hazard and fire behavior. While large logs may not be the initial carrier of the fire, therefore not increasing initial fire behavior, it is not correct to translate that into fire hazard. The definition of hazard is something causing unavoidable danger, peril, risk, or difficulty. The large-diameter logs in the blowdown certainly present more than one hazard from a fire/fuels management stand point. Outside of their effects on the actual fire behavior, large logs inhibit line building capability, severely restrict access to fire in the area, and create safety concerns for fire personnel during suppression efforts (EA p. 62).

While large diameter logs are not the primary carrier of the fire, they still contribute to fire behavior by increasing fire intensity and duration once they become ignited. As stated on page

65 of the EA, in the early parts of the fire season, the large logs lying on the ground could provide some shading and increased moistures immediately adjacent to the down logs. However, the open canopies would allow incoming solar radiation to penetrate down to the forest floor, increasing surface temperatures and decreasing relative humidity and fine fuels moisture quicker. These areas would become available to burn earlier in the summer and would likely burn with more intensity even when fire conditions in surrounding intact stands are at moderate levels. A steady fire growth can be expected during the majority of the fire season within the blowdown area, especially within the first 5 years.

Fires occurring in the blowdown area within the first couple years would spread quickly through the fine fuels and build intensity as the larger fuels such as large limbs, branches, and down and dead shrubs and small diameter trees start burning. Active flaming would be sustained for longer periods, especially as these larger fuels begin to cure or dry out, start burning, and contribute to the duration of heat transferred to the ground once the fire front has passed and they continue to burn or smolder. Initially, the green, large down logs with intact bark would likely not contribute to the fire spread or intensity. However, these large logs would inhibit the ability of suppression resources to construct handline or dozer line at a rate fast enough to contain a fire spread. This would be especially true in the moderate to severe areas where multiple large logs have fallen on top of one another, or “jackstrawed.” Fire line would likely require the use of dozers or heavy equipment in conjunction with hand crews using chainsaws to safely cut and remove large logs impeding the construction of a control line. This could result in more fires with larger final sizes than have occurred within the last 40 years.

Machine piling and pile burning will be the most effective in addressing the total fuel loading and the vertical and horizontal continuity of all fuel size classes. Approximately 80 to 90 percent of material 2 to 12 inches not removed during salvage operations will be piled and burned. To decrease soil compaction during piling operations, the equipment would be required to move over existing slash. This would further compact the smaller fuels throughout the unit. Larger areas of existing surface fuels would be burned because the larger size piles would cover approximately 4 to 6 percent of the surface area. Flame lengths and rate of spread would be greatly reduced. Machine piling would reduce the overall intensity and the duration of the fire burning after the fire front has passed (EA p. 68).

**Comment:** *“The BLM did not fully analyze and disclose the factors that mitigate the flammability of large fuels in its EA. It also failed to analyze the full range of adverse effects on wildlife, vegetation, and natural recovery processes (such as elimination of refugia during future fire events) that would result from salvage logging the large-diameter logs.”*

**Response:** Debris from wind damage falls into the Slash-Blowdown (SB) Fuel Models. Fuel model SB2 best represents stands 40 to 80 years old with moderate and severe damage and accounts for less than 5 percent of the affected area. Approximately 81 percent of the blowdown occurred in stands greater than 80 years. Of these, just over 50 percent sustained moderate or severe damage.

The increase in surface fuel loadings of size classes larger than 100-hour (material greater than 3 inches) is not reflected in the fuel models, however, estimated ranges of size classes greater than

100-hour were established using a photo series based on the level of stand damage (low, moderate, and severe). Table 3-9 of the EA shows the range of current fuel loading for all age classes and each level of stand damage on BLM-administered lands in the Fire and Fuels analysis area (EA p. 52-54).

## Soil

**Comment:** “*ripping skid trails and temporary roads could, in the short term under certain circumstances (i.e. intense rainstorms) increase erosion and subsequent sedimentation in localized areas’ BF Blowdown Salvage EA page 83*”

**Response:** The full quote from the EA is “Ripping skid trails and temporary spur roads could, in the short-term under certain circumstances (i.e. intense rainstorms), increase erosion and subsequent sedimentation in localized areas. However, these areas are expected to reestablish vegetative cover with 1 to 2 years with the aid of PDFs (i.e., grass seeding and mulching and waterbarring) and diminish over time to background levels. Straw mulching bare soil areas created by the proposed actions provides protection to the soil surface until the native grasses and plants can reestablish cover. The direct effect of ripping skid trails and temporary spur roads would be to ameliorate most soil compaction, redistribute displaced topsoil, increase soil infiltration, reduce runoff, and aid in the recovery of site soil productivity in the areas proposed for these treatments” (EA p.82-83).

**Comment:** “*We are particularly concerned that the EA calls for up to 4,877 acres of tractor yarding, 7.8 miles of new road construction and 2,900 acres of machine piling. Please note that the soils section of the EA contains no analysis whatsoever regarding the impacts of machine piling on soil resources. The Lost Creek WA states ‘Stabilize soil by reducing compaction and erosion; use logging systems that minimize impacts during harvest.’ (WA 77) It does not appear that the BLM is attempting to minimize ground based yarding.*”

**Response:** The *Butte Falls Blowdown Salvage EA* does analyze the effects of machine/mechanical slash piling. Public comments the BLM received indicates there is confusion over the term mechanical (machine or excavator) piling. There are many different types of mechanical equipment that can be used for piling slash. Past mechanical piling has used a tractor with a brush blade walking over the ground and pushing slash and brush across the soil surface creating much more of a soil disturbance from scraping the area clean of slash. Comments received seem to consider the proposed mechanical piling to be tractor piling. In fact, all piling described in the *Butte Falls Blowdown Salvage EA* will be implemented with an excavator. The excavator will operate from timber harvest pre-designated skid trails and be required to reach at least 25 feet with a grapple to pick up slash. The excavator will reach out and pick up slash and place the slash in a pile. Where the excavator cannot reach the slash from the skid trail, it will walk off the trails over existing slash and pile the slash as it works back toward the designated trail.

The EA describes mechanical piling “would occur when the slash ... remaining in the units after harvest is greater than 15 tons per acre and slope is less than 35 percent” (EA p. 15). Limiting the area disturbed by these actions (e.g., using well-spaced designated skid trails, limiting machine

size, and operating machinery over logging slash) can effectively minimize impacts (EA p. 80). Excavator piling is limited to the dry season, when soil moisture is less than 25 percent. These operations are also restricted to slopes generally less than 35 percent. Because these PDFs for the piling are the same as tractor yarding and because the operations will occur over the same ground, no additional soils effects were anticipated than were described for tractor harvest in the EA. The Medford District PRMP/EIS (Vol. I, p. 4-12 through 4-13) analyzes the effects of soil compaction from tractor yarding and mechanized site preparation for BLM-administered lands. The stated objective to keep soil productivity losses to 5 percent or less is expected to be met by limiting the areal extent to which mechanized equipment can impact a given harvest unit to less than 12 percent by requiring an average 150-foot spacing between designated skid trails. This addresses the direct and cumulative effects of soil compaction and the associated soil productivity losses at all scales.

**Comment:** *“Soil loss with respect to method of harvest is directly related to the amount of soil disturbed and bared by harvest activity, especially the density of skid trails and roads required to access the timber. Megahan (1981) found tractor logging on granitics to result in 28 percent of the soil disturbed, ground cables with 23 percent, suspended cables with five percent and helicopter logging with two percent. Similarly, Swanston and Dyrness (1973) found tractor yarding in granitics to result in 35.1 percent bare soil, hi-lead in 14.8 percent and skyline in 12.8 percent. In a Trinity County study on mixed soil types, skid trails averaged four to eight percent (6-12 km/sq.km) for clearcut areas (Scott et al., 1980). [http://www.krisweb.com/biblio/klamath\\_srcd\\_sommarstrometal\\_1990.pdf](http://www.krisweb.com/biblio/klamath_srcd_sommarstrometal_1990.pdf)”*

**Response:** As the EA described, disturbance from activities such as tractor yarding, cable yarding, and road and landing construction can also cause soil erosion. The loosened and bare soil created from these activities has the potential for moving off-site by channelized water flow if left unmitigated. The resulting rill and gully erosion and ditchline scour may become conduits for sediment to enter streams. The effects of these processes are typically short-term and diminish over time as the areas reestablish vegetative cover. The relatively flat terrain with low stream and road gradients within the Project Area also moderates the potential for sediments to move off-site and reach stream channels. Seasonal restrictions to dry soil periods, waterbarring, grass seeding, and mulching can effectively minimize these impacts (EA p. 80).

The EA describes that a loss of soil productivity may also result from soil displacement. Displacement occurs most frequently when the soil surface is disturbed by the manipulation of heavy equipment during logging and site preparation activities. This can remove topsoil where the majority of available plant nutrients are located and can ultimately reduce soil productivity in the long-term. Limiting the area disturbed by these actions (e.g., using well-spaced designated skid trails, limiting machine size, and operating machinery over logging slash) can effectively minimize these impacts (EA p. 80). In addition, the studies cited did not use designated well-spaced skid trails in the determination of percent of area impacted and Meghan’s (1981) study was conducted on highly erodible granitic soil types which are not found within the Butte Falls Blowdown Salvage Project Area (EA p. 77)

The EA proposed harvest systems based on the BMPs for yarding systems as described on page 166 of the Medford District PRMP/EIS. The BLM determined the effects of the proposed tractor

yarding were within the magnitude of effects anticipated in the Medford District PRMP/EIS (EA p. 82). Alternative harvest systems such as skyline yarding in areas identified for tractor yarding would have resulted in additional miles of new road construction and associated impacts from new roads. It would have also reduced the economic efficiency of the salvage timber sales. Without new roads, skyline yarding in proposed tractor yarding units would not be feasible. Increased helicopter yarding in these areas would reduce the economic efficiency, potentially rendering the salvage timber sales uneconomical, which would not meet the purpose and need of the proposed action (EA p. 5).

**Comment:** *“The greatest surface erosion from roads occurs during the construction phase and first year after.”*

**Response:** The BLM has no argument with this statement. Page 80 of the EA states, “Disturbance from activities such as tractor yarding, cable yarding, and road and landing construction can also cause soil erosion. The loosened and bare soil created from these activities has the potential for moving off-site by channelized water flow if left unmitigated. The resulting rill and gully erosion and ditchline scour may become conduits for sediment to enter streams. The effects of these processes are typically short-term and diminish over time as the areas reestablish vegetative cover. The relatively flat terrain with low stream and road gradients within the Project Area also moderates the potential for sediments to move off-site and reach stream channels. Seasonal restrictions to dry soil periods, waterbarring, grass seeding, and mulching can effectively minimize these impacts.”

The following PDFs are required:

- Limit any construction to the dry season (generally May 15 to October 15). Landing or spur road construction will be located outside of riparian reserves and away from unstable soil conditions and headwalls.
- Meet 100-year flood design standards for road construction and improvement activities such as culvert upgrades.
- Install and remove culvert crossings, as needed, where existing operator spurs cross intermittent or ephemeral streams. Culverts will be removed during the same operating season and prior to fall rains. Apply native plant seed and weed-free mulch to disturbed soils after culvert removal.
- Replace existing road barricades upon completion of salvage activities. All drainage structures, including water bars, will be properly functioning prior to blocking. If no future access is needed, road decommissioning will be considered on all spur roads. If it is determined a spur road is needed for future access, it will either be adequately surfaced or decommissioned.
- Prohibit construction of new permanent roads or skid trails in the deferred watersheds (Clark Creek, Vine Maple, and Lost-Floras). Existing skid trails and temporary spur roads used for salvage harvest in the deferred watersheds will be ripped on completion of salvage in all areas with severe blowdown or in moderate blowdown areas where no short-term future access or entry is needed.

- Rip all temporary roads, apply native plant seed and weed-free mulch, and block upon completion of use. If log hauling on a temporary road is not completed in the same year the road is constructed, block the road before the rainy season, generally October 15.
- Seasonally restrict all rock hauling, log hauling, and landing operations on native surface or inadequately rocked roads whenever soil moisture conditions or rain events could result in road damage or the transport of sediment to nearby stream channels, generally October 15 to May 15.
- Restrict all rock hauling, log hauling, and landing operations on adequately rocked roads whenever soil moisture conditions or rain events could result in road damage or the transport of sediment to nearby stream channels, especially between the dates of October 15 and May 15. Allow road or landing use between those dates only during periods of dry weather.
- In moderate or scattered blowdown areas, minimize the total number of skid roads by designating skid roads with an average spacing of 150 feet. Avoid creating new skid roads and use existing roads, where feasible, in order to minimize ground disturbance.
- When constructing temporary roads, use ridge tops wherever possible.
- Restrict all tractor yarding, soil ripping, and excavator piling operations from October 15 to May 15, or when soil moisture exceeds 25 percent.
- Restrict tractor and mechanical operations to slopes generally less than 35 percent. In areas where it is necessary to exceed these gradients, use ridge tops where possible.
- Rip areas identified for ripping (e.g., skid roads, landings, decommissioned roads) to a depth of 18 inches using a subsoiler or winged-toothed ripper.”

**Comment:** *“Soil erosion and compaction (as always occurs with roads) causes long-term loss of soil productivity.”*

*“The loss of topsoil and attendant loss of soil productivity is permanent.”*

*“The removal of trees and other vegetation (as always occurs with roads) causes long-term loss of soil productivity.”*

**Response:** BLM acknowledges that lands affected by permanent roads are an irretrievable commitment of the soil resource. However, road design, road location, and road construction restrictions are expected to moderate the effects of these actions to acceptable levels. The EA addressed Soils thoroughly on pages 76-85.

Implementation of PDFs (e.g., well-spaced designated skid trails, ripping or subsoiling, walking machinery over logging slash, seasonal restrictions to dry soil periods, restricting heavy equipment to slopes less than 35 percent, grass seeding and mulching, and waterbarring) will minimize the effect from tractor yarding, cable yarding, helicopter yarding, and road and landing construction. These effects would be within the scope of what was anticipated in the Medford District PRMP/EIS (p. 4-12 through 4-15). In addition, potential increases in soil erosion from the activities proposed in Alternative 3 are expected to be low due to the stable soil types found in the Project Area. The Freezner, Geppert, and Dumont-Coyata soils have moderate to

moderately slow permeability, low runoff rates, and only a slight hazard of water erosion (EA p. 77). The physical properties of the soil are expected to reduce the potential for erosion, keep impacts localized, and minimize recovery time.

**Comment:** *“Temporary’ roads have enduring impacts on aquatic resources.”*

**Response:** All temporary roads will be constructed in stable locations (i.e., ridgetops) and out of riparian areas (EA p. 107-108). Construction of temporary roads will be limited to the dry season (generally May 15 to October 15). All temporary roads will be ripped, native plant seed and weed-free mulch applied, and blocked upon completion of use. If log hauling on a temporary road is not completed in the same year the road is constructed, the road will be blocked before the rainy season, generally October 15 (EA p. 19).

The Aquatic Conservation Strategy (ACS) addressed temporary roads. “...PDFs will maintain or restore all Aquatic Conservation Strategy objectives. Due to the limited entry into riparian reserves, 70 acres dispersed across 48,010 acres of public land (four 5th field watersheds) and the inclusion of specific PDFs, all riparian areas will continue to function and protect the aquatic environment in the short- and long-term and at the site and watershed scales (EA p. 202-203).

### **Cumulative and Causative Impacts of Adjacent Logging**

**Comment:** *“It is essential that the connected and cumulative impacts of past, and foreseeable, BLM activities in the project area be analyzed and disclosed in conjunction with the proposed post-disturbance salvage logging. It is very possible, and in fact likely, that past BLM logging and road construction activities, proposed salvage logging activities, and foreseeable non-salvage timber sales will have cumulative and connected impacts on the terrestrial, hydrological and fire hazard conditions in the planning area.”*

**Response:** The BLM addressed cumulative impacts throughout the document. The EA disclosed the effects of past harvesting on BLM and private lands, both recent (past 5 years) and long-term (40-50 years) (EA p. 36, 40, 99, 116).

**Comment:** *“A full and honest disclosure and analysis of the cumulative impacts of past logging activity, proposed salvage logging activity, and foreseeable (non-salvage) logging activity would greatly contribute to informed decision making. Such an analysis could inform the agency regarding variables such as: (1) The influence of thinning and regeneration harvest on blowdown of residual and adjacent forest stands in the Butte Falls and Ashland Resource Area; (2) The cumulative impacts of past logging, proposed salvage logging and foreseeable non-salvage logging on the functioning of NSO critical habitat; (3) Cumulative impacts on fire hazard; (4) Cumulative impacts on soils; and (5) Cumulative impacts on wildlife habitat.”*

**Response:** The BLM described the past, current, and future actions within the Project Area in the EA (p. 30-34). Affected environment descriptions for NSO critical habitat (EA p. 124), fire hazard (EA p. 49-57), soil (EA p. 77-79), and wildlife habitat (EA p. 121-129) each illustrates the existing condition in the Project Area on BLM and private lands, and the influence of these

past actions on the current (post-storm) conditions. Each effects analysis includes the cumulative effects of the proposed actions.

**Comment:** *“(1) The influence of thinning and regeneration harvest on blowdown of residual and adjacent forest stands in the Butte Falls and Ashland Resource Area;”*

**Response:** The BLM agrees this is important to consider when proposing thinning and regeneration harvest treatments. The BLM is not proposing any thinning or regeneration harvest treatments in this EA. Although, as stated above, BLM does acknowledge the influence past treatments may have had on the damage caused by the wind (EA p. 36). Also, the Medford District PRMP/EIS addressed the effects of management by acknowledging blowdown could occur in the upland (PRMP/EIS p. 4-39 and 4-40) and in the discussion of edge effect from harvesting adjacent to riparian areas (PRMP/EIS p. 4-49 and 4-50).

**Comment:** *“(2) The cumulative impacts of past logging, proposed salvage logging and foreseeable non-salvage logging on the functioning of NSO critical habitat;”*

**Response:** “There would be no cumulative effects to northern spotted owl populations within these watersheds from action proposed in the environmental assessment” (EA p. 135). The proposed action will not change the current function of northern spotted owl habitat (EA p. 135-136).

**Comment:** *“(3) Cumulative impacts on fire hazard;”*

**Response:** The cumulative effects for Alternative 1 (No Action) describe the effects of past actions on fire hazard. “...past and continued fire suppression efforts have reduced or eliminated the regular occurrence of low to moderate severity fires. The exclusion of fire results in the buildup of surface fuel loadings, ... which contribute to an increase in wildfire intensities (Grahman et al. 2004)” (EA p. 64). “After 5 years or after the fine fuels have dropped off ... The fuel loading would decrease slightly in the fuels less than 100-hour size class and would remain the same in the larger fuels. However, the regeneration of grasses, shrubs, and trees is occurring at the same time which would likely contribute to the flaming fire front during high to extreme weather conditions. The fire behavior characteristics would begin to take on ... grass-shrub fuels models, with high rate of spread and flame lengths. In addition, as the large logs and snags begin to decay they would contribute to increased spotting, higher intensities ... and continue to hinder direct fire line construction” (EA p. 65).

The cumulative effects analysis specific to Alternative 2 and 3 addressed the effects of the proposed action (EA p. 69). These effects are compared to the No Action Alternative which is the baseline against which the effects of the action alternatives can be compared, the existing conditions in the Project Area, and the continuing trends (EA p. 16). “Salvage logging followed by either mechanical piling and pile burning, hand piling and pile burning, and underburning would be the most effective in reducing all size class fuel loadings” (EA p. 69). “After 20 years, all stands harvested could exhibit increased rates of spread, flame lengths, and intensities similar to those discussed in the No Action Alternative due to increased fuel loads, ladder fuels and canopy cover” (EA p. 69).

**Comment:** “(4) Cumulative impacts on soils;”

**Response:** The EA (p. 80) states, “The past actions that have resulted in the current conditions to soils in the Project Area include ground-based timber harvest, road building, landings constructed for timber harvest, and OHV use (USDI 1995a; USDI 1999). These land uses cause soil compaction, erosion, and a subsequent loss of soil productivity (Elliot 1999). Ground-based timber harvest (tractor yarding) has had the greatest impact on soil productivity in the Project Area by increasing soil compaction through ground pressure and vibration.” Because this project will use predesignated skid trails and existing skid trails to the extent possible, the decreases in soil productivity will be within the 5 percent loss disclosed in the RMP (EA p. 77).

“Due to the relatively flat terrain in the Project Area, ground-based logging is the most logical and economical logging method. This has resulted in a relatively large amount of tractor yarding throughout the Project Area and has contributed to the current level of soil compaction” (EA p. 81).

“Present actions on BLM-administered lands include roadside salvage of windthrown trees along approximately 170 miles of roads throughout the area affected by the windstorm. This entails removing windthrown trees that are fully or partially within the road prism or are leaning toward the road prism. Logs will be bull-lined to the road way. These actions are expected to create small areas of soil disturbance within the road prism as the logs are lined to the road. PDFs are incorporated into this project to minimize these effects by requiring road maintenance after logging to return the roads to predisturbance conditions” (EA p. 81).

“On adjacent private industrial timberlands, salvage logging has begun on the windthrow areas. Although exact acreages and logging methods are not known at this time, past practices indicate that tractor yarding is the most common logging method used on private timberlands in the Project Area” (EA p. 81). The BLM used the assumption that 25 percent of tractor ground on private land is compacted (EA p. 79). “Typically, no ripping or designated skid trails are implemented on private industrial timberlands. For these reasons, soil compaction, soil displacement, and soil erosion are expected to increase at the watershed scale from these actions” (EA p. 81-82).

“Future timber sale projects planned on BLM-administered lands within the next 5 years are Bowen Over, Windy Soda, Flounce Around, Camp Cur, Double Bowen, Twin Ranch, Lost Clark, and Eighty Acre in the Soil analysis area. These proposed actions on BLM-administered lands are expected to contribute to increases in soil compaction, displacement, and soil erosion. It is also expected that the PDFs proposed for mitigation in the Medford District RMP/ROD (p. 149-175) would maintain or improve soil compaction levels to the acceptable levels of less than 12 percent for these projects” (EA p. 82).

**Comment:** “(5) Cumulative impacts on wildlife habitat.”

**Response:** “Activities under both alternatives would not lead to the need to list sensitive wildlife species as T&E. The proposed action has environmental impacts on certain species that do not extend beyond the Project Area or are so insignificant they cannot be reasonably measured

beyond the Project Area. The proposed action is not expected to affect long-term population viability of any Bureau Sensitive wildlife species in the area” (EA p. 135).

## Yarding Systems

**Comment:** *“We are very concerned about the potential cumulative and site-specific impacts from the proposed tractor and cable yarding systems. Tractor yarding will contribute to soil compaction. Cable yarding will contribute to existing edge and blowdown effects.”*

**Response:** The BLM’s decision at this time is to tractor harvest on approximately 3,100 acres of matrix lands; approximately 650 acres are within the Lower North Fork Little Butte Creek Key Watershed and 910 acres within the deferred watersheds of Clark Creek and Lost Floras. The EA describes how the project would meet RMP direction “to minimize loss of soil productivity and reduce potential for surface runoff and subsequent water quality degradation” and watershed analysis recommendations by implementing the BMPs and PDFs described in the *Butte Falls Blowdown Salvage EA* (p. 18-19). Actual areas impacted by tractor yarding will be minimized by using existing skid trails and predesignated skid trails and limiting the size of the tractor. BLM will require ripping of all skid trails in severe blowdown areas and deferred watersheds (Clark Creek and Lost Floras). In addition, skids trails in the moderate blowdown areas where future treatments are not anticipated will also be ripped. Ripping is expected to ameliorate 85 to 95 percent of the compaction from past harvest and proposed salvage operations (EA p. 80). Implementation of PDFs will minimize the area compacted and the loss of soil productivity to 0.04 percent (EA p. 85). This will adequately mitigate soil compaction to levels described in the Medford District PRMP/EIS (p. 4-12 through 4-15).

**Comment:** *“Soil loss with respect to method of harvest is directly related to the amount of soil disturbed and bared by harvest activity, especially the density of skid trails and roads required to access the timber. Megahan (1981) found tractor logging on granitics to result in 28 percent of the soil disturbed, ground cables with 23 percent, suspended cables with five percent and helicopter logging with two percent. Similarly, Swanston and Dyrness (1973) found tractor yarding in granitics to result in 35.1 percent bare soil, hi-lead in 14.8 percent and skyline in 12.8 percent. In a Trinity County study on mixed soil types, skid trails averaged four to eight percent (6-12 km/sq.km) for clearcut areas (Scott et al., 1980).”*

**Response:** As the EA described, disturbance from activities such as tractor yarding, cable yarding, and road and landing construction can also cause soil erosion. The loosened and bare soil created from these activities has the potential for moving off-site by channelized water flow if left unmitigated. The resulting rill and gully erosion and ditchline scour may become conduits for sediment to enter streams. The effects of these processes are typically short-term and diminish over time as the areas reestablish vegetative cover. The relatively flat terrain with low stream and road gradients within the Project Area also moderates the potential for sediments to move off-site and reach stream channels. Seasonal restrictions to dry soil periods, waterbarring, grass seeding, and mulching can effectively minimize these impacts (EA p. 80).

The EA describes that a loss of soil productivity may also result from soil displacement. Displacement occurs most frequently when the soil surface is disturbed by the manipulation of

heavy equipment during logging and site preparation activities. This can remove topsoil where the majority of available plant nutrients are located and can ultimately reduce soil productivity in the long-term. Limiting the area disturbed by these actions (e.g., using well-spaced designated skid trails, limiting machine size, and operating machinery over logging slash) can effectively minimize these impacts (EA p. 80). In addition, the studies cited did not use designated well-spaced skid trails in the determination of percent of area impacted and Meghan's (1981) study was conducted on highly erodible granitic soil types which are not found within the Butte Falls Blowdown Salvage Project Area (EA p. 77)

The EA proposed harvest systems based on the BMPs for yarding systems as described on page 166 of the Medford District PRMP/EIS. The BLM determined the effects of the proposed tractor yarding were within the magnitude of effects anticipated in the Medford District PRMP/EIS (EA p. 82). Alternative harvest systems such as skyline yarding in areas identified for tractor yarding would have resulted in additional miles of new road construction and associated impacts from new roads. It would have also reduced the economic efficiency of the salvage timber sales. Without new roads, skyline yarding in proposed tractor yarding units would not be feasible. Increased helicopter yarding in these areas would reduce the economic efficiency, potentially rendering the salvage timber sales uneconomical, which would not meet the purpose and need of the proposed action (EA p. 5).

### **Pacific Fishers**

**Comment:** *“This scientific literature was not discussed in the analysis of the proposed project. Instead, the EA Addendum counts on the ability of the fisher to move out of the way of the proposed activity and “continue to use the areas away from the proposed action.” (EA 133) If the habitat is already fragmented, as the BLM admits, then where is the fisher expected to move to? Further, as established in the EA and in these comments, the is in the planning process for at least 7 additional green old-growth timber sales in this planning are (EA page 41) and the BLM is actively attempting to open additional Fisher habitat to industrial logging via the WOPR.”*

**Response:** The Pacific Fisher is not listed as threatened or endangered. It is a US Fish and Wildlife Service (USFWS) Federal Candidate and BLM Bureau Sensitive specie. The USFWS is directed to monitor candidate species, and if they determine a species is under significant risk, they are required to list the species. The BLM acknowledges this in the EA (p. 126).

A known population of fisher is present in the southern Cascades near the communities of Prospect and Butte Falls. A research project by Pacific Northwest Research Station Olympia Forestry Services Laboratory (PNW) and Rogue River National Forest (RRNF) documented fishers on BLM lands in the Rogue River/Lost Creek, Big Butte Creek, and South Fork Rogue River 5th field watersheds near RRNF lands. Protocol surveys for fishers were conducted in the Big Butte Creek 5th field watershed in 2008 by a Medford BLM fisher biological survey team. A fisher was detected in the Butte Falls Blowdown Salvage Project Area at two camera stations approximately 1.5 miles apart in the Bowen Creek area. It is unknown whether this is the same fisher or two different individuals. The size of the fisher population on Butte Falls Resource Area

and RRNF lands is unknown, although 22 fishers were captured from 1995 and 2001 in the PNW study (Aubry and Raley 2002) (EA p.125)

Salvage is proposed on approximately 3,495 acres of matrix lands. No known fisher dens are in the proposed salvage area. The proposed action will not change fisher habitat to nonsuitable because canopy would not be changed in green stands. Snags and trees with holes and cracks which could be used for denning that were present prestorm will not be harvested, unless the BLM identifies them as a hazard (EA p. 133). Although proposed salvage will remove down logs and storm damaged trees, these habitat structures constituent elements (e.g., snags, hardwoods, and CWD) would remain in the units at current levels (EA p. 134). Fisher habitat within the proposed salvage units will remain after the salvage is completed. Canopy will be maintained, large snags and wood would meet or exceed matrix requirements, and the multi-canopy, uneven-aged tree structure that was present pretreatment will remain post-treatment (EA p. 134).

The *Butte Falls Blowdown Salvage EA* references a fisher study conducted by Aubry and Raley specific to the southern Cascades population of fishers to address the needs of the fisher population that may be near the Project Area: Aubry, K.B. and C.M. Raley 2002 *Ecological characteristics of fishers in the southern Oregon Cascade Range. Final Progress Report: June 2002* published by USDA Forest Service, Pacific Northwest Research Station, Olympia Forestry Sciences Lab, Olympia, WA and Aubry, K.B. and C.M. Raley. 2006 *Ecological Characteristics of Fishers (Martes pennanti) in the Southern Oregon Cascade Range Update July 2006* published by USDA Forest Service, Pacific Northwest Research Station, Olympia Forestry Sciences Lab, Olympia, WA.

### **Aquatic Conservation Strategy Objectives.**

**Comment:** “Some road would cross CCH and trout habitat and some portion of the roads are connected to streams; therefore, it is reasonable to assume some sediment would reach CCH and fish habitat.” -Butte Falls Blowdown Salvage EA 118.”

**Response:** This is correct. The EA also states “Only a few miles of roads proposed for renovation and log hauling are within close proximity to CCH. Ditchlines near CCH were inventoried (BLM 2008) and the majority of roads near CCH are on flat surfaces where material is more difficult to transport. Any sediment moving off roads would be an inconsequential amount and would likely be assimilated into background conditions” (EA p. 118-119).

The BLM consulted with National Marine Fisheries Service (NMFS) on Southern Oregon/Northern California coho salmon (*Oncorhynchus kisutch*), listed as a “threatened” species under the ESA. The BLM determined the only portion of the Butte Falls Blowdown Salvage project that may affect coho salmon is within the Big Butte Creek 5<sup>th</sup> field watershed. The BLM received a Letter of Concurrence from NMFS on August 12, 2008.

**Comment:** “All four watersheds are currently at risk to increases in peak flow from soil compaction.” -Butte Falls Blowdown Salvage EA 197”.

**Response:** This reference refers to soil compaction for each 5<sup>th</sup> field specifically (Table G-1, Existing Soil Compaction). The table represents cumulative compaction for each watershed,

which includes urban and rural development on all land ownerships (EA p. 197). Compaction on BLM lands is much lower than the total for each watershed. The current values on BLM lands range from 2.6 to 6.5 percent (EA p.197, Table G-1). This is well below the 12 percent level of concern identified for compaction and within acceptable levels identified under the RMP (p. 166).

**Comment:** *“The ACS Consistency Review contained in Appendix H of the EA largely ignores the impacts of road construction on peak flows, water timing and the function of the Transient Snow Zone (TSZ). Further, the ACS Consistency Review is completely silent as to the cumulative hydrological impacts associated with proposed machine piling activities.”*

**Response:** The ACS Consistency Review discussed maintaining the timing and magnitude of peak and low flows. The ACS did not directly include discussion of transient snow zone on peak flows because the EA clearly states that any changes to canopy closure inside the transient snow zone is a result of the windstorm and not the project proposal (EA p.112).

Implementation of PDFs will maintain or restore all Aquatic Conservation Strategy objectives. Due to the limited entry into riparian reserves, 70 acres dispersed across 48,010 acres of public land (four 5th field watersheds), and the inclusion of specific PDFs, all riparian areas will continue to function and protect the aquatic environment in the short- and long-term and at the site and watershed scales. The following discussion is based on the proposed project activities combined with specific PDFs that will maintain or restore each ACS objective. ACS objectives are analyzed based on short- (10 years or less) and long- (over 10 years) term effects of the project at the site (project) and watershed scales (EA p. 200, ACS Review).

Vegetative canopy removal, soil compaction, roads, and stream crossings (all four risk assessment factors) would not increase or approach the risk thresholds for peak or base flows. Therefore, this project would have no causal mechanism to alter flows (EA p. 205, ACS Review).

“Long-term benefits would result from road renovations and culvert replacement and the subsequent improved road drainage and related decreases in sediment caused by degraded forest roads at the site scale” (EA p. 206, ACS Review).

“Long-term effects of road renovations would improve road drainage and decrease the amount of sediment from forest roads within the Project Area and improve the overall hydrologic function of respective watersheds. Riparian reserves throughout the Project Area would continue to maintain water quality necessary to support healthy riparian, aquatic, and wetland ecosystems” (EA p. 206, ACS Review).

Road renovations would improve road drainage off forest roads to allow a more natural hydrologic function (timing, magnitude, duration, and spatial distribution of peak, high, and low flows) (EA p.208, ACS Review).

Riparian reserves throughout the Project Area would continue to maintain patterns of sediment, nutrient, and wood routing, and the distribution of peak, high, and low flows. Long-term benefits

would result from road renovation and the subsequent improved road drainage and decreases in sediment from forest roads.

The Butte Falls Blowdown Salvage project would maintain the timing, variability, and duration of floodplain inundation and water table elevation in meadows and wetlands because vegetation canopy removal, soil compaction, roads, and stream crossings (all four risk assessment factors) would not increase or exceed risk thresholds for altering hydrology.

The ACS Consistency Review (EA p. 200) included PDFs that would maintain or restore ACS objectives. These PDFs addressed the impacts of both tractor yarding and excavator (machine) piling. They are as follows:

- Prohibit the operation of ground-based equipment within riparian reserves and bull-line all salvage trees on ground suited for tractor yarding (generally less than 35 percent slope) to adjacent matrix lands.
- Construct new landings and roads outside riparian reserves.
- Rip all skid trails in areas with severe blowdown on completion of salvage activities.

Excavator piling will take place on designated skid trails outside of riparian reserves; therefore, full riparian reserves and ripped and waterbarred skid trails would not increase sediment transport or increase peak flows to area streams and will allow water infiltration to improve natural hydrological function.

## Survey and Manage

**Comment:** *“Rather than abiding by the Survey and Manage protocols contained in the Northwest Forest Plan, codified in the Medford RMP, and called for in the relevant watershed analyses for the planning area, the agency is choosing to rely on the 2007 ROD to Remove the Survey and Manage Standards and Guidelines. EA page 7. Hence the project will be enjoined by a court of law when the Bush Administration’s illegal and political 2007 ROD is found to violate NEPA, FLPMA and the APA. As has occurred repeated since the inception of the Forest Plan, the BLM will once again fail to produce timber volume due to its unwillingness to implement the conservation measures associated with the NFWP and the Medford RMP.”*

**Response:** Although the EA states it conforms to the 2007 *Record of Decision To Remove the Survey and Manage Mitigation Measure Standards and Guidelines from Bureau of Land Management Resource Management Plans Within the Range of the Northern Spotted Owl* (also known as Survey and Manage), the EA also states, “The BLM conducted preproject surveys for Special Status plants between 1997 and 2006 in many of the proposed salvage harvest areas. Those surveys searched for T&E; Bureau Special Status; and Survey and Manage (S&M) vascular plants, lichens, bryophytes, and fungi that were on the Medford District BLM Special Status Species lists at the time the surveys were conducted. The BLM resurveyed proposed salvage areas within the range of *Fritillaria gentneri* potentially containing suitable habitat where surveys were more than five years old. Surveys were conducted in Spring 2008 for this specie, as well as other Special Status vascular plants. The BLM also conducted surveys for Special Status lichens and bryophytes in the summer of 2008 in all areas proposed for salvage

harvest to meet BLM policy direction. The BLM requires botanical surveys for projects initiated after February 6, 2008 for T&E and Sensitive plants on the Final State Director's Special Status Species List (USDI 2008)" (EA p. 166).

The project wildlife biologist completed a review of the special status species identified in the Butte Falls Resource Area (EA p. 211-213, Table I-1). The table includes a list of special status species considered but eliminated as an issue in the Project Area. This list contains species which were not detected during surveys, species not present in the watershed, or historic sites which are vacant or would not be impacted by the action. Only the species known or suspected to be present in the Project Area are discussed.

### **Clean Water Act**

**Comment:** *"The project threatens a direct violation of the Clean Water Act by proposing activities that are known to contribute sediment loading to water-quality impaired streams listed for sediment loading under §303(d) of the Act. This is not a NEPA issue and hence our organizations needn't raise the issue in these comments in order to retain standing to sue the agency for failure to abide by the CWA. We raise this issue here solely as a courtesy to the agency so that the decision maker will be aware that should the BLM elect to ignore water quality values in its decision, the agency will likely be found to be in violation of the CWA."*

**Response:** The BLM is recognized by Oregon DEQ as a Designated Management Agency for implementing the Clean Water Act on BLM-administered lands in Oregon. The BLM and DEQ have a Memorandum of Agreement that defines the process by which the BLM will cooperatively meet State and Federal water quality rules and regulations. In accordance with the memorandum, the BLM, in cooperation with the Forest Service, DEQ, and Environmental Protection Agency, is implementing the *Forest Service and Bureau of Land Management Protocol for Addressing Clean Water Act Section 303(d) Listed Waters* (USDA, USDI 1999). Under the Protocol, the BLM will protect and maintain water quality where standards are met or surpassed, and restore water quality limited water bodies within their jurisdiction to conditions that meet or surpass standards for designated beneficial uses. The BLM will also adhere to the State Antidegradation Policy (OAR 2005; 340-041-0004) under any proposed actions (EA p.92).

The BLM acknowledges that some activities, such as culvert replacement and road work, may contribute to some short-term sediment delivery. However, this short-term sediment would not be adjacent to or nearby any stream on the 303(d) list for sediment. None of the projects in this EA drain into the 303(d) listed streams for sediment of South Fork Little Butte, Soda, Lost, or Lake Creeks within the Little Butte Creek 5<sup>th</sup> field watershed. The potential for sediment in salvage harvest units to reach stream channels is very low due to the implementation of erosion prevention PDFs, such as no harvest or yarding in riparian reserves and limiting the extent of skid trails. Water bars on tractor skid trails would prevent water from concentrating on bare, compacted ground and move it to adjacent vegetated or slash covered slopes. Soil that moves on cable yarding corridors during storm events would be trapped by logging slash or by ground cover on undisturbed ground at the bottom of or adjacent to yarding corridors (EA p. 107). Project activities occurring in the Little Butte Creek 5<sup>th</sup> field watershed would follow PDFs to reduce the risk of sediment delivery to the maximum extent practicable.

## **Conclusion to Public Comment**

Overall comments received varied from support of action Alternatives 2 and 3 to recommendations that a lesser amount of salvaging should be considered. Nonsubstantive comments, those comments considered to be differences of opinion concerning management of public lands, were not considered. There were challenges to the overall management direction of the BLM-administered lands, with some advocating natural processes be allowed to develop future forest stands versus the management direction of the Medford District Resource Management Plan. These disagreements to the fundamental differences of managing BLM lands are appropriate when raised during development of land use plans, but are outside the scope of the *Butte Falls Blowdown Salvage EA*. This EA is specific to the amount of blowdown to be salvaged and how it should be implemented based on the direction provided by the O&C Act, Medford District RMP, and the Northwest Forest Plan. This Decision addresses the effects of the salvage of blowdown timber on matrix lands. I am not at this time making decisions on future timber sales on BLM-administered lands in the Butte Falls Resource Area.

### Administrative Remedies

This decision is a forest management decision. Administrative remedies are available to persons who believe that they will be adversely affected by this Decision. Administrative recourse is available in accordance with BLM regulations and must follow the procedures and requirements described in 43 CFR § 5003 - Administrative Remedies.

In accordance with the BLM Forest Management Regulations 43 CFR § 5003.2(a and b), the effective date of this decision, as it relates to an advertised timber sale, will be when the first Notice of Sale appears in a newspaper of general circulation in the area where the lands affected by the decision are located. This newspaper is the *Medford Mail Tribune*. Publication of the first Notice of Sale establishes the effective date of the decision for those portions of this Decision Record included in the advertised timber sale. The effective date of this decision establishes the date initiating the protest period provided for in accordance with 43 CFR § 5003.3. Any protest must be submitted in a signed hard copy delivered to the physical address of the advertising BLM office.

Publication of this notice establishes the date initiating the protest period provided in accordance with 43 CFR § 5003.3. While similar notices may be published in other newspapers, the date of publication in the *Medford Mail Tribune* will prevail as the effective date of this decision.



Christopher J. McAlear  
Butte Falls Field Manager

09/03/08

Date