

# Summary

## Chapter 1

### Introduction

On July 12, 2002, a series of large thunderstorms passed through the Blue Mountains of Eastern Oregon and ignited numerous fires on the Malheur National Forest, including the Easy Fire in the Upper Middle Fork John Day River and Upper John Day River watersheds. Several days of high daytime temperatures with strong northerly winds increased fire activity and expanded the fire. The fire was completely within the Prairie City Ranger District, on National Forest lands, and within the Malheur National Forest.

The Easy Fire Recovery Project Area refers to approximately 5,839 areas within the fire perimeter. There are approximately 157 acres within the fire perimeter that did not burn. The total area burned is approximately 5,682 acres.

The Easy Fire project area is located approximately 11 miles northeast of Prairie City, Oregon, in portions of T12S, R35E, Sections 14, 15, 20-23, 26-29, 31-35 and T13S, R35E, Sections 3-5, Willamette Meridian, Grant County, Oregon. The area is within the watersheds of the Upper Middle Fork John Day River (81%) and Upper John Day River (19%). The three major drainages in the project area are Clear Creek, Easy Creek, and Mossy Gulch.

### Purpose of and Need for Action

The five purposes and needs for the Easy Fire Recovery Project Area are to:

- Capture the economic value of the dead and dying trees that are excess to other resource needs;
- Re-vegetate the project area to appropriate forest structural conditions and tree species to improve wildlife and fish habitat, reduce the spread of *Armillaria* root disease, and ensure a future supply of timber products from the area;
- Re-establish Dedicated and Replacement Old-Growth areas (DOGs and ROGs) that burned and are no longer suitable to meet this Forest Plan requirement;
- Reduce dead standing and down fuel, and work toward the stand structure and fuel models that allow for more frequent lower severity wildland fires in the project area.
- Reduce road-related impacts in the fire area to meet Forest Plan standards for wildlife.

The need for the proposed action is derived from the differences between current conditions and desired conditions. Desired conditions are based on Forest Plan direction and management objectives. The proposed action is designed to move resource conditions closer to the desired conditions, and address the management direction provided by the Malheur Land and Resource Management Plan, as amended.

The two broad categories expressed above in the underlying purpose and need are: 1) the acceleration of ecosystem restoration, and 2) timely commodity extraction. Each of the existing and desired conditions relevant to providing improved conditions and accomplishing

commodity extraction for jobs and income can be linked to the purpose for the proposed action.

## Proposed Action

The proposed action is an alternative developed early in the NEPA planning process to accomplish stated purposes, needs, and goals based on the best information available at the time. It is the first alternative offered and is used to identify issues and develop other alternatives for further study.

## Purpose and Design

Alternative 2 was designed to minimize the severity of future large-scale fire events and to allow for more frequent lower severity fire over the entire Easy Fire area. This alternative also meets the other identified needs including economically re-vegetating the greatest acres, providing the most volume for greater economic return to the Treasury and economic stability in the local area, addressing road access from roads analysis, and providing for wildlife habitat needs.

Current management activities taking place in the area would continue if Alternative 2 were selected. Activities such as motorized access travel management, road maintenance, dispersed recreation, noxious weed management, fire protection, and livestock grazing would be allowed to continue as they currently take place in the project area. However, resumption of livestock grazing would be subject to the Forest's post burn grazing guidelines. This policy would allow grazing to resume at current levels after two or more years, depending on fire severity and whether monitoring shows that the range resource is ready after two growing seasons. Grazing may be delayed for a longer period if necessary to meet other resource objectives (USDA Forest Service, 2003).

## Forest Vegetation/Structure

Alternative 2 would harvest approximately 1,777 acres of dead and dying trees in 44 units to reduce future fuel loadings and capture the economic value of fire-killed and dying trees (Figure 18, Map Section). Total volume of commercial timber harvested is expected to be about 8 million board feet (MMBF). Only fire-killed trees and trees expected to die as a result of fire injury would be removed. Live trees that would jeopardize the safety of the harvest operation would also be harvested. Incidental live trees may be removed during temporary road and landing construction.

Harvest would be accomplished with tractor yarding on about 979 acres, skyline yarding on about 253 acres, and helicopter yarding on about 545 acres. Skyline and tractor unit landings are included in these acreages. The purchaser would subsoil skid trails on about 117 acres.

Roadside hazard trees along open roads and along any roads used for implementation of this project would be felled to provide safe and adequate road access in the fire area. Felled hazard trees in RHCAs would be left on site or used as in-channel wood; felled hazard trees outside of RHCAs would be removed as a commercial product. Roadside hazard trees not associated with a unit may only be removed without tracked or wheeled equipment leaving the road. Commercial timber harvested through roadside hazard tree removal is included in the acres and volumes listed above.

Approximately 1,721 acres inside of units and about 2,197 acres outside of units would be planted with western larch, ponderosa pine, western white pine, and Douglas-fir to reforest areas that sustained high tree mortality. Douglas-fir would not be planted in areas where Armillaria root rot is prevalent. All areas proposed for planting would be treated with big game repellent (BGR). Planting of 682 acres of existing plantations, including two harvest units that have not yet been planted, would also occur but are covered by existing NEPA decisions and are not part of this project proposal. Planting would be done to accelerate recovery of forest habitats. Site conditions would determine the species for planting in each area. Natural regeneration would occur on approximately 56 acres of lodgepole pine sites within the proposed post and pole harvest units and on about 490 acres outside proposed and existing harvest units. The remaining acres would remain fully stocked following harvest of the dead and dying material and would not require reforestation.

## **Wildlife Habitat**

### **Snags**

In all salvage harvest units, 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" dbh are not available, an appropriate number of snags of the largest representative diameter class would be retained. The snags would be averaged on a 40-acre basis and would be left in small clumps (2 –6 acres). Outside salvage units, all snags would be retained except those felled along open roads to reduce safety hazards. These areas outside the units include approximately 1,199 acres of forested areas classified in the mixed-conifer habitat type (DecAID) that would improve the snag distribution. In harvest units, snags would not be retained within 150' of open roads or within one tree height of improvements such as fences; nor would snags be retained where they're likely to be felled because their accessibility makes them prone to felling for other reasons such as firewood cutting.

Snags marked for retention should be hard snags. Hard snags will last longer and provide habitat for a longer period of time. Soft snags are available currently to provide nesting habitat. Snags with broken tops are preferred, since shorter snags tend to stand longer. Snags that already have woodpecker cavities would be retained if found.

### **Old Growth Habitat**

Alternative 2 would designate old growth areas to replace those lost to the fire (see Figure 9, Map Section, for original and replacement DOG/ROG locations). The relocation of Dedicated Old Growth and Replacement Old Growth areas should maintain the integrity of the Forest's old growth network. DOG/ROG 364 is located within the burn area (see Figure 9, Map Section). Prior to the fire, DOG/ROG 364 contributed towards pileated woodpecker and pine marten management requirements.

Fire intensities ranged from moderate intensity, mosaic burns or severe intensity in both dedicated old growth areas. There were several small areas that remain unburned.

Dedicated Old Growth (DOG) 364 would be relocated outside the fire perimeter since most of it burned in the Easy Fire. Areas outside the fire perimeter in the Reynolds Creek subwatershed, Mossy Gulch and North Reynolds Creek provide large sized blocks of mature and old growth habitat.

The Easy fire consumed the entire mature and old growth habitat remaining in the project area that met pileated woodpecker, pine marten or three-toed woodpecker habitat requirements, based on the current Forest Plan guidelines. The Dedicated and Replacement Old Growth areas are no longer functioning as old growth. Stands have been converted to understory re-initiation (UR) and stand initiation (SI) structural stages. Canopy cover has been reduced below 20% and in many places eliminated. Snags resulting from the fire will provide nesting and foraging habitat for northern three-toed woodpeckers though.

The fire also destroyed old growth habitat outside of the Dedicated and Replacement Old Growth areas. Post-fire evaluation determined, there was essentially no (0) acres of old growth remaining in the project area (see Forest Vegetation Section). The suitable old growth remaining is small and highly fragmented, and although vegetation conditions may classify these areas as old growth, they likely provide for few old-growth dependent species. These old growth conditions may be important as legacy structures in future stands.

A nonsignificant Forest Plan Amendment would be required to change the designation of the DOG and ROG from MA-13 – Old Growth to MA-1 – General Forest; and designate a new DOG and ROG, changing them from MA-1 to MA-13.

Proposed Treatments within Dedicated (DOG) and Replacement Old Growth (ROG)

Existing DOG/ROG 364 would be converted to general forest (MA-1). Harvest and fuel reduction would occur as described under Forest Vegetation/Structure, Fuels Condition, Roads/Access, and Wildlife Habitat.

### **Fuel Condition**

Fuels, including those created by the fire and by salvage activity, would be reduced on about 1,777 acres within the harvest units (Figure 21, Map Section). Fuel models after harvest and post harvest treatments, including standing dead, will vary from FM 8 to 11 to 12 depending on harvest method and limb breakage. It is not the intent of this proposal to reduce severity on every acre. The intent is to reduce fuels where feasible and economically viable to break up the fuels continuity before the next wildland fire event and to allow for future prescribed fire.

Fuel treatment methods would include whole tree yarding, yarding with limbs attached to logs, grapple piling and burning, yarding with tops attached, and lop and scatter (see Glossary). Approximately 513 acres would have whole tree yarding during harvest; 206 acres would have yarding with limbs attached to logs during harvest; 456 acres would have grapple piling and burning of piles; 57 acres would have yarding with non-merchantable tops attached; and 545 acres would only have lop and scatter. Utilization of the biomass in landing piles could occur if there is a market or the piles would be burned. Acres of post-harvest treatment will be verified after harvest. No fuel reduction would occur on 4,062 acres within the Easy fire area.

### **Roads/Access**

Alternative 2 would construct about 0.7 miles of temporary road to allow access to harvest. (Figure 28, Map Section). Of these temporary road miles, about 0.2 miles are existing rehabilitated temporary road and about 0.5 miles are decommissioned roads that would be re-

opened as temporary roads. All miles of temporary road would be stabilized and decommissioned after harvest activities.

A year-round road closure is proposed for Rd. 2600391. All 5.2 miles of this road (4.6 miles inside the project area and 0.6 miles outside) would be closed year-round to public use. The purpose of the road closure is to reduce road densities in the project area where deer and elk security habitat has been affected by the fire and to meet Forest Plan standards.

Approximately 0.3 miles of the 2600026 road would have grid-rolled material added to bridge over an existing wet spot to eliminate rutting and soil movement. About 59.4 miles (34.0 miles of road within the project area and about 25.4 miles outside the project area) would have maintenance performed to allow better access to harvest areas and to reduce impact to other resources.

Alternative 2 would prescribe spot rocking as well as water for dust abatement and other road maintenance methods. See Figure 32, Map Section for location of rock sources and water sources.

### **Forest Plan Amendments**

A nonsignificant amendment to the Forest Plan would be required to implement alternative 2. The proposed action designates, in part, to replace Dedicated Old Growth that is now no longer suitable because of the fire. Selecting *Alternative 2 would include a site-specific, amendment* (Management Area designations) to the Malheur National Forest Plan, as amended. The amendment would relocate DOG and ROG 364 outside the fire perimeter and convert the original acres to MA-1.

## **Management Areas and Objectives**

### **Relationship to the Forest Plan**

This environmental assessment tiers to and relies upon the analyses for the Malheur National Forest Land and Resource Management Plan (Forest Plan), as amended. Amendments include but are not limited to the Regional Forester's Eastside Forest Plan Amendment #2 and the Interim Strategies for Managing Anadromous Fish-producing Watersheds in Eastern Oregon and Washington, Idaho, and Portions of California (1995) (PACFISH). Those analyses are documented in the Final Environmental Impact Statement and Record of Decision for the Forest Plan, and the Interim Management Direction Establishing Riparian Ecosystem and Wildlife Standards for Timber Sales (Eastside Forest Plan Amendment #2), and other related documents. These documents are incorporated by reference, as appropriate, throughout this environmental assessment. The Forest Plan, as amended, contains Forest-Wide Standards and Guidelines as well as Standards and Guidelines for specific management areas (such as MA-1 General Forest). These standards and guidelines are identified in each resource section of Chapter 3.

### **Regional Forester's Forest Plan Amendments**

Regional Forester's Eastside Forest Plan Amendment #2 (1995) is a Forest-Wide Standard and Guideline that contains direction for the development of timber sales. Amendment #2 changed standards for harvest of live trees, snag and down logs, goshawk habitat, connectivity

of old forest, and riparian habitat. Salvage sales that do not harvest live trees, except for incidental live trees, are exempt from the ecosystem standards; but the riparian and wildlife standards still apply. The ecosystem standards do not apply since the only live trees to be cut are for road and landing construction, or for safety. The riparian and wildlife standards still apply since they have concerns for resources still present in a recently burned forest (and could be affected by salvage harvest).

## Management Areas

Lands within the project area fall within five Forest Plan management allocations (MAs). The Standards and Guidelines for each MA are identified in each resource section of Chapter 3. The management goals in the MAs are:

MA 1 General Forest – Emphasize timber production on a sustained-yield basis while providing for other resource values. Develop equal distribution of age classes to optimize sustained-yield timber production. Manage levels and intensities consistent with the schedule described in the Malheur Forest Plan, to provide for multiple uses and resources.

MA 2 Rangeland – Emphasize forage production on non-forested areas on a sustained-yield basis, while providing for other resources and values.

MA 3B - Management Area 3B consists of perennial streams and seasonally flowing streams, wetlands, and wet/moist areas such as meadows, springs, seeps, bogs, and wallows. The goal of MA 3B is to manage riparian areas to protect and enhance their value for wildlife, anadromous fish habitat, and water quality. MA 3B acres are also accounted for on an acre-basis within the Riparian Habitat Conservation Areas (RHCAs). The Forest Plan amendment (Regional Forester's Amendment 2) for the Interim Strategies for Managing Anadromous Fish-producing Watersheds in Eastern Oregon and Washington, Idaho, and Portions of California (1995) (PACFISH) amended the Description and Standards for this management area by creating a management area called Riparian Habitat Conservation Areas (RHCAs). However, MA3B includes areas not addressed in PACFISH, for which standard RHCAs were not defined; these areas include dry aspen stands and ephemeral draws.

MA 13 Dedicated Old Growth – Provide suitable habitat for old-growth-dependent wildlife species, ecosystem diversity, and preservation of aesthetic qualities.

MA 14 Visual Corridors – Manage corridor viewsheds with primary consideration given to their scenic quality and the growth of large diameter trees.

## Key Issues

Comments received from the public generated issues to be discussed in this document. The interdisciplinary team (ID team) reviewed and evaluated issues derived from this process to determine which issues were key issues. In the NEPA process, key issues are defined as resources or other values that drive the development of an alternative, may be adversely affected by the proposed action, or involve unresolved conflicts regarding alternative uses of available resources. Key issues provide the focus for the analysis and are used directly in the formulation of the alternatives. Listed with each key issue are indicators to show a measurement of how each key issue is affected by the proposed activities for each alternative.

## **1. Wildlife**

Several public letters raised concern over the snag retention strategy. Wildlife species use burned forest habitats differently than live, green forests. In post-fire habitats, minimum Forest Plan snag standards may not be sufficient to assure use by all primary cavity excavators. Snag density, size and distribution influence use levels and vary by individual species. Salvage logging could potentially have negative impacts on cavity dependent species, particularly such species as the black-backed woodpecker. The alternatives retain varying levels and sizes of snags.

## **2. Water Quality and Fish Habitat**

Water quality and fish habitat are key resources in maintaining ecosystem sustainability. Forest management activities, such as timber harvest, mechanical fuels treatments, temporary road construction, and system road maintenance are ground disturbing activities. These activities could potentially increase sedimentation and stream turbidity, and the amount and timing of overland flow, which could affect water quality and fish habitat for resident and anadromous threatened species.

Proposed activities may adversely affect threatened bull trout and steelhead, chinook salmon, and redband and cutthroat trout fish populations, within or near the project area.

## **3. Soils**

Concern has been expressed that using mechanized equipment to salvage timber and reduce fuels would increase soil erosion risk and decrease soil productivity, especially on soils burned with high and moderate severity. The amount, method and timing of timber harvest would influence the amount of soil disturbance (compaction, displacement, puddling) and resultant surface erosion, which could have an effect on soil productivity.

## **4. Fuels**

At the heart of this issue is the scientific controversy relevant to the benefits of using salvage harvest to reduce fuels in order to reduce potential effects of future fire events. The “Beschta Report” (Beschta, 1995) advocates a passive approach to fuels management in burned areas and recommends that natural processes are best for management of fuels. Others suggest that salvage harvest is the best way to reduce the potential for another cycle of heavy fuel accumulations therefore, allowing future management the opportunity to restore the landscape to historic fuel models. The lack of empirical data on the effects of post fire salvage versus future fire severity demonstrates the complexity of this issue to quantify short and long term impacts of fuel reduction, but does not override the evidence in all fire dependent ecosystems that less fuel equals less fire resulting in less fire effects, i.e., less severity to soils and forest mortality.

## **5. Socio-Economics**

Commercial value of fire-killed trees will deteriorate quickly if not salvaged. Recovery value of timber will have an effect on the local economy. Economically viable timber sales are important to local communities. The social and economic well-being of residents and local

governments is dependent on employment and revenues generated from timber sales, fuel treatments, and reforestation. The methods of harvest, any delays in harvest, and size of timber could affect the economic viability of timber sales within the fire area.

## Decision Framework

The Responsible Official for this proposal is the Forest Supervisor of the Malheur National Forest. Based on the analysis disclosed in the Final EIS, the Responsible Official will make a decision and documented in a Record of Decision (ROD).

The responsible official may decide to:

- Select the proposed action, or
- Select another action alternative that has been considered in detail, or
- Modify an action alternative, or
- Select the no-action alternative.

The Responsible Official will determine if the selected alternative is consistent with the Forest Plan, and will require an amendment to the Forest Plan if Alternative 2, 3, 4 or 5 is selected (see Chapter 2, Alternatives Considered in Detail).

## Chapter 2

### Alternative Development Process

This chapter of the FEIS describes in detail five alternative ways to manage land and resources in the Easy Fire project area. The Proposed Action was developed using the District Ranger's specific direction detailed in the Project Initiation Letter, dated December 13, 2002. Public participation to review and comment on proposed activities in the Easy Fire area began in February 2003 and continues with this FEIS. Forest Service resource specialists were part of an interdisciplinary team (IDT) that worked on development of action alternatives. Based on comments received from the public and other agencies, direction given by Forest leadership, and through incorporating Forest Plan amendments, existing State and Federal laws, and Forest Service interim direction, the range of options and differences between alternatives is limited. The alternatives were designed to stay within the framework of ecological stewardship and the Malheur Forest Plan.

The action alternatives (Alternatives 2, 3, 4, and 5) were developed with some common themes.

Alternatives 2, 3, and 4 would:

- Remove fire-killed trees or trees expected to die as a result of fire injury. Dead and dying trees would be removed through salvage harvest. Incidental green trees would only be removed to construct roads and landings and to eliminate safety hazards during logging operations.
- Retain forested areas classified in the mixed-conifer wildlife habitat type (DecAID) to improve the snag distribution.
- Minimize the construction of new roads.

- Apply site-specific water quality Best Management Practices (BMPs) in the design and implementation of the alternatives to protect water quality.
- Avoid potential adverse effects to streams and riparian areas by not harvesting fire-killed trees in RHCAs and MA 3B.
- Avoid effects on sensitive areas such as heritage sites and sensitive plant sites by not proposing harvest in those areas.

Alternatives 2, 3, 4, and 5 would:

- Use planting to reforest the burn area.
- Relocate Dedicated Old Growth (DOG) and Replacement Old Growth (ROG) areas burned by the fire because they are no longer suitable habitat.
- Close Road 2600-391 year-round.
- Provide some level of employment to the local community.

Each action alternative analyzed in detail discloses environmental effects associated with its implementation, thereby facilitating a comparison of alternatives. This comparison of effects along with projected environmental consequences detailed in Chapter 3, provides the Responsible Official with information needed to make an informed choice between alternatives.

The IDT felt the alternatives to be analyzed in detail represented a range of reasonable alternatives (40 CFR 1502.14 (a)) and that they address the underlying needs of reducing fuel loadings, capturing economic value of the killed and dying trees, providing safe and adequate access, re-establishing upland and riparian vegetation, and designating suitable Dedicated and Replacement Old Growth areas to replace those degraded by the fire. The No Action Alternative is defined as no change from management activities as they now exist.

## **Alternative 1 – No Action**

The purpose of this alternative is to allow current processes to continue in the Easy analysis area, along with associated risks and benefits.

The “No Action” alternative is required by NEPA. In this document the “no action” alternative means the proposed project (which includes all activities identified in the proposed action) would not take place in the Easy analysis area at this time. Alternative 1 is designed to represent the existing condition. It serves as a baseline to compare and describe the differences and effects between taking no action and implementing action alternatives.

Current management activities taking place in the area would continue if Alternative 1 were selected, but no new activities would take place. Only those management activities considered part of normal maintenance requirements, or those allowed under previous decision documents would continue. Activities such as motorized access travel management, road maintenance, dispersed recreation, noxious weed management, fire protection, and livestock grazing would be allowed to continue as they currently take place in the project area. However, resumption of livestock grazing would be subject to the Forest's post burn grazing guidelines. These guidelines would allow grazing to resume at current levels after two or more years depending on fire severity and whether monitoring shows that the range

resource is ready after the two growing seasons or not. Grazing may be delayed for a longer period if necessary to meet other resource objectives (USDA Forest Service 2003).

## **Alternative 2 – Proposed Action**

As described in Chapter 1 in the Proposed Action section, Alternative 2 will meet the project objectives by salvage harvesting and capturing the economic value of dead and dying trees, minimizing the severity of future large-scale fire events, providing local jobs, providing safe and adequate access, re-establishing upland vegetation, and designating suitable Dedicated and Replacement Old Growth areas to replace those degraded by the fire.

## **Alternative 3 – Preferred Alternative**

### **Purpose and Design:**

This alternative was designed to minimize sediment delivery to Clear Creek and Easy Creek, which contain habitat for threatened fish species by avoiding salvage harvest on steeper slopes that burned severely (as mapped by the BAER team) on the uplands above Clear Creek and Easy Creek.

Alternative 3 was also designed to leave snags in patches of significant size (larger than 75 acres) in order to better meet the needs of primary cavity excavators and does not leave snags within harvest units other than the one tree per acre to meet down wood Forest standards as well as incidental cull trees. The significant snag patches are located in areas that burned severely on steeper slopes, and on three additional areas that are all larger than 75 acres.

Implementation of this strategy will reduce fuel loadings and move future fire severity toward its historical range, which would help reduce the impacts of future wildfires on the environment, restore health to fire-adapted ecosystems, and reduce fuels to allow for low intensity prescribed fire.

This alternative meets the other identified needs, including capturing economic value of the fire-killed and dying trees, providing safe and adequate access, re-establishing upland and riparian vegetation, and designating suitable Dedicated and Replacement Old Growth areas to replace those degraded by the fire.

Current management activities taking place in the area would continue if Alternative 3 were selected. Activities such as motorized access travel management, road maintenance, dispersed recreation, noxious weed management, fire protection, and livestock grazing would be allowed to continue as they currently take place in the project area. However, resumption of livestock grazing would be subject to the Forest's post burn grazing guidelines. This policy would allow grazing to resume at current levels after two or more years, depending on fire severity and whether monitoring shows that the range resource is ready after two growing seasons. Grazing may be delayed for a longer period if necessary to meet other resource objectives (USDA Forest Service, 2003).

### **Forest Vegetation/Structure**

Avoiding harvest on steeper, severely burned slopes and leaving large patches for snag habitat would reduce the acres treated under this alternative. Alternative 3 would harvest approximately 1,298 acres of dead and dying trees in 35 units to reduce future fuel loadings and capture the economic value of fire-killed and dying trees (Figure 19, Map Section). Total

volume of commercial timber harvested is expected to be about 6 million board feet (MMBF). As in Alternative 2, only fire-killed trees and trees expected to die as a result of fire injury would be removed. Live trees that would jeopardize the safety of the harvest operation would also be harvested. Incidental live trees may be removed within the clearing limits of road building and landing construction.

Harvest would be accomplished with tractor yarding on 837 acres, skyline yarding on 153 acres, and helicopter yarding on 308 acres. Skyline and tractor unit landings are included in these acreages. The purchaser would subsoil skid trails on about 100 acres.

Roadside hazard trees would be felled to provide safe and adequate road access in the fire area. Hazard trees would be felled along open roads and along any roads used for implementation of this project. Felled hazard trees in RHCAs would be left on site or used as in-channel wood; felled hazard trees outside of RHCAs would be removed as a commercial product. Roadside hazard trees not associated with a unit may only be removed without tracked or wheeled equipment leaving the road. Commercial timber harvested through roadside hazard tree removal is included in the acres and volumes listed above.

Approximately 1,242 acres within the harvest units would be planted and about 2,676 acres outside of the harvest units would be planted with western larch, ponderosa pine, Douglas fir, and western white pine to reforest areas that sustained high tree mortality. Douglas-fir would not be planted in areas where *Armillaria* root disease is prevalent. All areas proposed for planting would be treated with big game repellent (BGR). Planting of 682 acres of existing plantations, including two harvest units that had not yet been planted, would also occur but are covered by existing NEPA decisions and are not part of this project proposal. Planting would be done to accelerate recovery of forest habitats. Site conditions would determine the species for planting in each area. Natural regeneration would occur on approximately 56 acres of lodgepole pine sites within the post and pole harvest units and on about 490 acres outside proposed and existing harvest units. The remaining acres would remain fully stocked following harvest of the dead and dying material and would not require reforestation.

## **Wildlife Habitat**

### **Snags**

Large patches of snags were delineated ranging from 100 acres to 570, totaling 1524 acres, not including RHCAs, which would add another 418 acres. Another 1,199 acres was added by retaining forested areas classified in the mixed-conifer habitat type (DecAID) to improve the snag distribution. Other additional acres that provide snag areas are uneconomical areas due to low volume or deterioration. Overall snag distribution differs from that proposed in Alternative 2 to better meet primary cavity excavator habitat needs while still reducing fuel loads near to those that occurred under historical conditions. Because the snags would be located outside proposed salvage units, it is also less likely that they would be felled for safety reasons during logging, especially in helicopter and skyline units.

The largest snag patch was created primarily as a buffer to provide additional protection from sedimentation of Clear Creek. Clear Creek provides habitat for bull trout and steelhead. The other four patches were created by dropping units specifically for this purpose and combining them with units that would be dropped for economic purposes. These patches are significantly larger than Forest Plan Management Area 13 (MA-13) recommendations for

three-toed woodpeckers. Minimum management requirements suggest establishing habitat acres of 75 acres for every 2,000 to 2,500 acres (USDA 1986), which for this area, would require 160 to 200 acres. The 75-acre patch size also matches recommendations for black-backed woodpeckers made in several Idaho post-fire studies (Saab and Dudley 1997, Saab et al. 2002). No salvage harvest or fuels reduction activities would be conducted in these snag patch areas, as these species prefer unlogged conditions.

Outside salvage units, all snags would be retained except those felled along open roads to reduce safety hazards. Snags would generally not be retained within 150' of open roads or within one tree height of improvements such as fences; nor would snags be retained where they are likely to be felled because their accessibility makes them prone to felling for other reasons such as firewood cutting.

Forest Plan Management Area 13 (MA-13) - Dedicated Old Growth (DOG) and Replacement Old Growth (ROG)

Alternative 3 would designate old growth areas to replace those lost to the fire (see Figure 9, Map Section, for original and replacement DOG/ROG locations). The relocation of Dedicated Old Growth and Replacement Old Growth areas should maintain the integrity of the Forest's old growth network.

DOG/ROG 364 is located within the burn area (see Figure 9, Map Section). Prior to the fire, DOG/ROG 364 contributed towards pileated woodpecker and pine marten management requirements. The fire burned through both old growth areas; fire intensities ranged from moderate intensity or mosaic burns to severe intensity or total burns. There were several small areas that were unburned.

Dedicated Old Growth (DOG) 364 would be relocated outside the fire perimeter since most of it burned in the Easy Fire. Areas outside the fire perimeter in the Reynolds Creek subwatershed, Mossy Gulch and North Reynolds Creek provide large sized suitable blocks of mature and old growth habitat.

Post-fire, there is essentially no mature or old growth habitat remaining in the project area that meets pileated woodpecker, pine marten or three-toed woodpecker habitat requirements based on the current Forest Plan guidelines. The Dedicated and Replacement Old Growth areas are no longer functioning as old growth habitat. Stands have been converted to understory re-initiation (UR) and stand initiation (SI) structural stages. Canopy cover has been reduced below 20% and in many places eliminated all together. Snags resulting from the fire will provide nesting and foraging habitat for northern three-toed woodpeckers though.

The fire also destroyed old growth habitat outside of the Dedicated and Replacement Old Growth areas. Post-fire, there are no (0) acres of old growth remaining in the project area (see Forest Vegetation Section). What little habitat remains is small and highly fragmented, and although vegetation conditions may classify these areas as old growth, they likely provide for few old-growth dependent species. These old growth stands are important as legacy structures in future stands.

A nonsignificant Forest Plan Amendment would be required to change the designation of the DOG and ROG from MA-13 – Old Growth to MA-1 – General Forest; and designate a new DOG and ROG, changing them from MA-1 to MA-13.

Proposed Treatments within Dedicated (DOG) and Replacement Old Growth (ROG)

Existing DOG/ROG 364 would be converted to general forest (MA-1). Harvest and fuel reduction would occur as described under Forest Vegetation/Structure, Fuels Condition, Roads/Access, and Wildlife Habitat.

### **Fuel Condition**

Fuels, including those created by the fire and by salvage activity, would be reduced on about 1,298 acres within the harvest units (Figure 22, Map Section). Fuel models after harvest and post harvest treatments, including standing dead, will vary from FM 8 to 11 to 12, depending on harvest method and limb breakage. It is not the intent of this proposal to reduce severity on every acre. The intent is to reduce fuels where feasible and economically viable to break up the fuels continuity before the next wildland fire event and to allow for low intensity prescribed fire.

Fuel treatment methods would include whole tree yarding, yarding with limbs attached to logs, grapple piling and burning, yarding with tops non-merchantable attached, and lop and scatter (see Glossary). Approximately 381 acres would have whole tree yarding during harvest; 153 acres would have yarding with limbs attached to logs during harvest; 456 acres would have grapple piling and burning of piles; and 308 acres would only have lop and scatter. Utilization of the biomass in landing piles could occur if there is a market or the piles would be burned. Acres of post-harvest treatment will be verified after harvest. No fuel reduction would occur on 4,541 acres within the Easy fire area.

### **Roads/Access**

Alternative 3 would construct about 0.5 miles of temporary road to allow access to harvest. (Figure 29, Map Section). Of these temporary road miles, all are decommissioned roads that would be re-opened as temporary roads. All miles of temporary road would be stabilized and decommissioned after harvest activities.

A year-round road closure is proposed for Rd. 2600391. All 5.2 miles of this road (4.6 miles inside the project area and 0.6 miles outside) would be closed year-round to public use.

Approximately 0.3 miles of the 2600026 road would be having grid-rolled material added to bridge over an existing wet spot to eliminate rutting and soil movement. About 56.0 miles (30.9 miles of road within the project area and about 25.1 miles outside the project area) would have maintenance performed to allow for access to harvest and to reduce soil and water impacts. Sources for spot rock and water for dust abatement/other maintenance would be the same as for Alternative 2 (See Figure 33, Map Section).

### **Forest Plan Amendments**

Two nonsignificant Forest Plan amendments would be required to implement Alternative 3.

Alternative 3 was designed to leave higher levels of snag habitat and in a distribution pattern designed to increase cavity excavator habitat for species such as the black-backed woodpecker. Snag distribution is aggregated in snag patches on a unit basis for better utilization by the species, and not a 40-acre block basis, we would not meet Forest Wide

Standard and Guideline #39. Alternative 3 would include a site-specific, amendment to Forest Wide Standard and Guideline #39.

Alternative 3 was designed to replace Dedicated Old Growth that is now unsuitable due to the fire. Selecting *Alternative 3 would include a site-specific, amendment* (Management Area designations) to the Malheur National Forest Plan, as amended. The amendment would relocate DOG and ROG 364 outside the fire perimeter and convert the original acres from MA-13 to MA-1. A second part of the amendment would relocate DOG and ROG 364 and convert the new areas from MA-1 to MA-13.

## Alternative 4

### Purpose and Design:

Wildlife species use burned forest habitats differently than live, green forests. In post-fire habitats, minimum Forest Plan snag standards may not be sufficient to assure use by all primary cavity excavators. Snag density, size and distribution influence use levels and vary by individual species. Alternative 4 was designed to leave higher levels of snag habitat distributed in a way that accommodates a broader range of cavity excavator species.

Implementation of this strategy will reduce fuel loadings, but to a lesser extent than alternatives 2 and 3. This alternative meets the other identified needs, including capturing economic value of the killed and dying trees, providing safe and adequate access, re-establishing upland and riparian vegetation, and designating suitable Dedicated and Replacement Old Growth areas to replace those degraded by the fire.

Current management activities taking place in the area would continue if Alternative 4 were selected. Activities such as motorized access travel management, road maintenance, dispersed recreation, noxious weed management, fire protection, and livestock grazing would be allowed to continue as they currently take place in the project area. However, resumption of livestock grazing would be subject to the Forest's post burn grazing guidelines. This policy would allow grazing to resume at current levels after two or more years, depending on fire severity and whether monitoring shows that the range resource is ready after two growing seasons. Grazing may be delayed for a longer period if necessary to meet other resource objectives (USDA Forest Service, 2003).

### Forest Vegetation/Structure

Leaving higher levels of snag habitat would limit the ability to economically treat some areas. This would reduce the acres treated under this alternative. Alternative 4 would harvest approximately 956 acres of dead and dying trees in 20 units to reduce future fuel loadings and capture the economic value of fire-killed and dying trees (Figure 20, Map Section). Total volume of commercial timber harvested is expected to be about 3 million board feet (MMBF). As in Alternative 2, only fire-killed trees and trees expected to die as a result of fire injury would be removed. Live trees that would jeopardize the safety of the harvest operation would also be harvested. Incidental live trees may be removed in the clearing limits during road building and landing construction.

Harvest would be accomplished with tractor yarding on 633 acres, skyline yarding on 58 acres, and helicopter yarding on 265 acres. Skyline and tractor unit landings are included in these acreages. The purchaser would subsoil skid trails on about 76 acres.

Roadside hazard trees would be felled to provide safe and adequate road access in the fire area. Hazard trees would be felled along open roads and along any roads used for implementation of this project. Felled hazard trees in RHCAs would be left on site or used as in-channel wood; felled hazard trees outside of RHCAs would be removed as a commercial product. Roadside hazard trees not associated with a unit may only be removed without tracked or wheeled equipment leaving the road. Commercial timber harvested through roadside hazard tree removal is included in the acres and volumes listed above.

Approximately 900 acres within the harvest units would be planted and about 3,018 acres outside of the harvest units would be planted with western larch, ponderosa pine, Douglas fir, and western white pine to reforest areas that sustained high tree mortality. Douglas-fir would not be planted in areas where *Armillaria* root disease is prevalent. All areas proposed for planting would be treated with big game repellent (BGR). Planting of 682 acres of existing plantations, including two harvest units that have not yet been planted, would also occur but are covered by existing NEPA decisions and are not part of this project proposal. Planting would be done to accelerate recovery of forest habitats. Site conditions would determine the species for planting in each area. Natural regeneration would occur on approximately 56 acres of lodgepole pine sites within the post and pole harvest units and on about 490 acres outside proposed and existing harvest units. The remaining acres would remain fully stocked following harvest of the dead and dying material and would not require reforestation.

## **Wildlife Habitat**

### **Snags**

In all salvage harvest units, snags would be retained at the elevated level of 13 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. The snags would be averaged on a 40-acre basis and would be left in small clumps (2 –6 acres). Outside salvage units, all snags would be retained except those felled along open roads to reduce safety hazards. These areas outside the units include approximately 1,199 acres of forested areas classified in the mixed-conifer habitat type (DecAID) that would improve the snag distribution. In harvest units snags would generally not be retained within 150 feet of open roads or within one tree height of improvements such as fences; nor would snags be retained where they are likely to be felled because their accessibility makes them prone to felling for other reasons such as firewood cutting.

Snags marked for retention within salvage units should be hard snags. Hard snags will last longer and provide habitat for a longer period of time. Soft snags are available currently to provide nesting habitat. Snags with broken tops are preferred, since shorter snags tend to stand longer. Snags that already have woodpecker cavities would be retained if found. In salvage units, an average 13 snags per acre would be clumped in 2-6 acre patches using the following distribution in size classes: 3 of the snags > 21 inches DBH; 7 of the snags 14 inches to 20.9 inches DBH; and 3 of the snags 10 inches to 13.9 inches DBH.

Forest Plan Management Area 13 (MA-13) - Dedicated Old Growth (DOG) and Replacement Old Growth (ROG)

Alternative 4 would designate old growth areas to replace those lost to the fire (see Figure 9, Map Section, for original and replacement DOG/ROG locations). The relocation of Dedicated Old Growth and Replacement Old Growth areas should maintain the integrity of the Forest's old growth network.

DOG/ROG 364 is located within the burn area (see Figure 9, Map Section). Prior to the fire, DOG/ROG 364 contributed towards pileated woodpecker and pine marten management requirements. The fire burned through both old growth areas; fire intensities ranged from moderate intensity or mosaic burns to severe intensity or total burns. There were several small areas that were unburned.

Dedicated Old Growth 364 will be relocated outside the fire perimeter. Areas outside the fire perimeter in the Reynolds Creek subwatershed, Mossy Gulch and North Reynolds Creek provide large sized blocks of mature and old growth habitat.

Post-fire, there is essentially no mature or old growth habitat remaining that meets pileated woodpecker, pine marten or three-toed woodpecker habitat requirements based on the current Forest Plan guidelines. The Dedicated and Replacement Old Growth areas are no longer functioning as old growth. Stands have been converted to understory re-initiation (UR) and stand initiation (SI) structural stages. Canopy cover has been reduced below 20% and in many places eliminated all together. Snags resulting from the fire will provide nesting and foraging habitat for northern three-toed woodpeckers though.

The fire also destroyed old growth habitat outside of the Dedicated and Replacement Old Growth areas. Post-fire, there are no (0) acres of old growth remaining (see Forest Vegetation Section). What little habitat remains is small and highly fragmented and although vegetation conditions may classify these areas as old growth, they likely provide for few old-growth dependent species. These old growth conditions may be important as legacy structures in future stands.

A nonsignificant Forest Plan Amendment would be required to change the designation of the DOG and ROG from MA-13 – Old Growth to MA-1 – General Forest; and designate a new DOG and ROG, changing them from MA-1 to MA-13.

Proposed Treatments within Dedicated (DOG) and Replacement Old Growth (ROG)

Existing DOG/ROG 364 would be converted to general forest (MA-1). Harvest and fuel reduction would occur as described under Forest Vegetation/Structure, Fuels Condition, Roads/Access, and Wildlife Habitat.

### **Fuel Condition**

Fuels, including those created by the fire and by salvage activity, would be reduced on about 956 acres within the harvest units (Figure 23, Map Section). Fuel models after harvest and post harvest treatments, including standing dead, will vary from FM 8 to 11 to 12, depending on harvest method and limb breakage. It is not the intent of this proposal to reduce severity on every acre. The intent is to reduce fuels where feasible and economically viable to break up the fuels continuity before the next wildland fire event and to reduce prescribed fire intensity.

Fuel treatment methods would include whole tree yarding, yarding with limbs attached to logs, grapple piling and burning, yarding with tops attached, and lop and scatter. (see Glossary). Approximately 288 acres would have whole tree yarding during harvest; 11 acres would have yarding with limbs attached to logs during harvest; 335 acres would have grapple piling and burning of piles; 57 acres would have yarding with non-merchantable tops attached, and 265 acres would only have lop and scatter. Utilization of the biomass in landing piles could occur if there is a market or the piles would be burned. Acres of post-harvest treatment will be verified after harvest. No fuel reduction would occur on 4,883 acres within the Easy fire area.

### **Roads/Access**

Alternative 4 would construct about 0.2 miles of temporary road to allow access to harvest. (Figure 30, Map Section). Of these temporary road miles, all are existing rehabilitated temporary road. All miles of temporary road would be stabilized and decommissioned after harvest activities.

A year-round road closure is proposed for Rd. 2600391. All 5.2 miles of this road (4.6 miles inside the project area and 0.6 miles outside) would be closed year-round to public use.

Approximately 0.3 miles of the 2600026 road would be having grid-rolled material added to bridge over an existing wet spot to eliminate rutting and soil movement. About 48.0 miles (23.7 miles of road within the project area and about 24.3 miles outside the project area) would have maintenance performed to allow for access to harvest and to reduce impact to other resources. See Figure 34 for location of planned road maintenance, sources for rock for spot rocking, and sources for water for dust abatement and other maintenance.

### **Forest Plan Amendments**

Alternative 4 was designed, in part, to replace Dedicated Old Growth that is now unsuitable due to the fire. Selecting *Alternative 4 would include a site-specific, nonsignificant amendment* (Management Area designations) to the Malheur National Forest Plan, as amended. The amendment would relocate DOG and ROG 364 outside the fire perimeter and convert the original acres from MA-13 to MA-1. A second part of the amendment would relocate DOG and ROG 364 and convert the new areas from MA-1 to MA-13.

## **Alternative 5**

### **Purpose and Design**

Detailed consideration is given to an alternative considered but not analyzed in the DEIS (Easy DEIS, p.45) and developed into Alternative 5. There were numerous public comments on the DEIS requesting that this alternative be fully analyzed in the FEIS and follow recommendations contained in the Beschta Report. This alternative includes many of the restoration activities included in Alternatives 2, 3, and 4. It does not include salvage of fire-killed or dying trees.

The alternative is based on recommendations contained in a publication known as the Beschta Report. The Beschta Report is a compilation of scientist recommendations for fire recovery projects and post-fire timber salvage. Recommendations in this report favor natural recovery, with little or no salvage, as the best method to maintain a variety of resource values.

This alternative does not meet the need of capturing economic value of the killed and dying trees. It does meet the other identified needs, providing safe and adequate access, re-establishing upland and riparian vegetation, and designating suitable Dedicated and Replacement Old Growth areas to replace those degraded by the fire.

Current management activities taking place in the area would continue if Alternative 5 were selected. Activities such as motorized access travel management, road maintenance, dispersed recreation, noxious weed management, fire protection, and livestock grazing would be allowed to continue as they currently take place in the project area. However, resumption of livestock grazing would be subject to the Forest's post burn grazing guidelines. These guidelines would allow grazing to resume at current levels after two or more years, depending on fire severity and whether monitoring shows that the range resource is ready after two growing seasons. Grazing may be delayed for a longer period if necessary to meet other resource objectives (USDA Forest Service, 2003).

### **Forest Vegetation/Structure**

As in Alternative 1, there would be no commercial timber harvest of the fire-killed or dying trees.

Roadside hazard trees along open roads and along any roads used for implementation of this project would be felled to provide safe and adequate roaded access in the fire area. Felled hazard trees would be left on site.

Approximately 2,524 acres would be planted with western larch, ponderosa pine, western white pine, and Douglas-fir to reforest areas that sustained high tree mortality. The hand planting would be done only on areas that were severely burned (vegetation severity). Douglas-fir would not be planted in areas where *Armillaria* root rot is prevalent. All areas proposed for planting would be treated with big game repellent (BGR). Planting of 682 acres of existing plantations, including two harvest units that have not yet been planted, would also occur but are covered by existing NEPA decisions and are not part of this project proposal. Planting would be done to accelerate recovery of forest habitats. Site conditions would determine the species for planting in each area. Natural regeneration would occur on approximately 1788 acres in those areas not severely burned and in lodgepole pine stands. The remaining acres would remain fully stocked.

### **Wildlife Habitat**

#### Snags

As in the No Action Alternative, all snags would be retained with the exception of hazard trees.

#### Old Growth Habitat

Alternative 5 would designate old growth areas to replace those lost to the fire (see Figure 9, Map Section, for original and replacement DOG/ROG locations). The relocation of Dedicated Old Growth and Replacement Old Growth areas should maintain the integrity of the Forest's old growth network.

DOG/ROG 364 are located within the burn area (see Figure 9, Map Section). Fire intensities ranged from moderate intensity, mosaic burns or severe intensity in both dedicated old growth areas. There were several small areas that remain unburned.

Dedicated Old Growth 364 will be relocated outside the fire perimeter. Areas outside the fire perimeter in the Reynolds Creek subwatershed, Mossy Gulch and North Reynolds Creek provide large sized blocks of mature and old growth habitat.

Post-fire, there is essentially no mature or old growth habitat remaining that meets pileated woodpecker, pine marten or three-toed woodpecker habitat requirements based on the current Forest Plan guidelines. The Dedicated and Replacement Old Growth areas are no longer functioning as old growth. Stands have been converted to understory re-initiation (UR) and stand initiation (SI) structural stages. Canopy cover has been reduced below 20% and in many places eliminated all together. Snags resulting from the fire will provide nesting and foraging habitat for northern three-toed woodpeckers though.

The fire also destroyed old growth habitat outside of the Dedicated and Replacement Old Growth areas. Post-fire, there are no (0) acres of old growth remaining (see Forest Vegetation Section). What little habitat remains is small and highly fragmented, and although vegetation conditions may classify these areas as old growth, they likely provide for few old-growth dependent species. These old growth conditions are important as legacy structures in future stands.

A nonsignificant Forest Plan Amendment would be required to change the designation of the DOG and ROG from MA-13 – Old Growth to MA-1 – General Forest; and designate a new DOG and ROG, changing them from MA-1 to MA-13.

Proposed Treatments within Dedicated (DOG) and Replacement Old Growth (ROG)

Existing DOG/ROG 364 would be converted to general forest (MA-1). Fuel reduction would occur as described under Fuels Condition and Wildlife Habitat.

#### Fuel Condition

Fuels, including those created by the fire and by salvage activity, would be reduced on about 3,652 acres (Figure 24, Map Section). Fuel models after harvest and post harvest treatments, including standing dead, will vary from FM 8 to 11 to 12, depending on harvest method and limb breakage. It is not the intent of this proposal to reduce severity on every acre. The intent is to reduce fuels where feasible and economically viable to break up the fuels continuity before the next wildland fire event.

Fuel treatment methods would include hand felling of dead trees less than 7 inches dbh, grapple piling and burning, and hand piling and burning (see Glossary). Approximately 1,750 acres would have hand felling, grapple piling and burning of piles. About 1,902 acres would have hand felling, hand piling and burning of piles. No fuel reduction would occur on 2,187 acres within the Easy fire area.

#### Roads/Access

A year-round road closure is proposed for Rd. 2600391. All 5.2 miles of this road would be closed year-round to public use.

There would be no temporary road construction. Approximately 0.3 miles of the 2600026 road would be having grid-rolled material added to bridge over an existing wet spot to

eliminate rutting and soil movement. About 69.5 miles (41.0 miles of road within the project area and about 28.5 miles outside the project area) would have maintenance performed to allow for access for fuel treatments and to reduce impact to other resources. Sources for rock for spot roasting and water for dust abatement and other maintenance activities would be the same as for Alternative 2. See Figure 35, Map Section, for location of planned road maintenance, rock sources, and water sources.

### **Forest Plan Amendments**

Alternative 5 was designed, in part, to replace Dedicated Old Growth that is now unsuitable because of the fire. Selecting Alternative 5 would include a site-specific, nonsignificant amendment (Management Area designations) to the Malheur National Forest Plan, as amended. The amendment would relocate DOG and ROG 364 outside the fire perimeter and convert the original acres from MA-13 to MA-1. A second part of the amendment would relocate DOG and ROG 364 and convert the new areas from MA-1 to MA-13.

## **Management Requirements, Constraints, and Mitigation Measures**

The Forest Service developed mitigation measures to be used as part of the action alternatives. Those management requirements, constraints, and mitigation measures can be found in Chapter 2.

## **Identification of the Preferred Alternative**

Alternative 3 has been identified as the preferred alternative for the Easy Fire Recovery Project.

## Chapter 3

### Comparison of Alternatives

Table 1: Comparison of Alternatives by Activity

Activity	Unit of Measure	Alt. 1	Alt. 2	Alt. 3	Alt. 4	Alt.5
<b>Harvest</b>						
Salvage/ Regeneration	Acres	0	1,721	1,242	900	0
Post and Poles (Natural. Regeneration)	Acres	0	56	56	56	0
Total Harvest Area	Acres	0	1,777	1,298	956	0
<b>Harvest Acres by Vegetation Severity</b>						
--Light	Acres	0	87	77	15	0
--Moderate	Acres	0	588	392	116	0
--Severe	Acres	0	1,101	829	825	0
<b>Management Areas Harvested</b>						
--MA 1_2	Acres	0	1,538	1,133	812	0
--MA 14M	Acres	0	239	165	144	0
<b>Harvest Method</b>						
Tractor	Acres	0	979	837	633	0
Skyline	Acres	0	253	153	58	0
Helicopter	Acres	0	545	308	265	0
<b>Reforestation</b>						
Within Harvest Areas	Acres	0	1,721	1,242	900	0
Outside Harvest Areas:	Acres	0	2,197	2,676	3,018	2,524
Total to be Replanted	Acres	0	3,918	3,918	3,918	2,524
Animal Damage Control-BGR	Acres	0	3,918	3,918	3,918	2,524
<b>Fuel Treatment</b>						
Grapple Pile	Acres	0	456	456	335	1750*
Lop & Scatter	Acres	0	545	308	265	0
Whole Tree Yarding	Acres	0	513	381	288	0
Yard Limbs with Log	Acres	0	206	153	11	0
Hand Pile	Acres	0	0	0	0	1902*
Yard Tops Attached	Acres	0	57	0	57	0
Total Fuels Treatment	Acres	0	1,777	1,298	956	3,652
<b>Roads</b>						
Temporary Roads	Miles	0	0.7	0.5	0.2	0
**Maintenance of haul route roads	Miles	0	59.4	56.0	48.0	69.5
<b>Landings</b>						
Tractor Landings	Number	0	97	66	63	0
Skyline	Number	0	203	132	22	0
Helicopter Landings	Number	0	7	5	5	0
<b>Access &amp; Travel Management</b>						
Roads closed with gates	Miles	0	5.2	5.2	5.2	5.2
<b>Wildlife/Old Growth</b>						
Relocates DOG/ROG	Qualitative	No	Yes	Yes	Yes	Yes

\* Hand felling&lt;7"dbh material

\*\*Includes temporary roads and includes grid-rolled material to be added to 0.3 miles of Rd. 2600026.

Table 2: Comparison of Alternatives by Issue and Measurement

Resource Issue	Unit of Measure	Alt. 1	Alt. 2	Alt. 3	Alt. 4	Alt. 5
<b>Wildlife – Issue #1</b>						
Snag Management		Meets Forest Plan Standards	Meets Forest Plan Standards	Forest Plan Amendment would be needed	Meets Forest Plan Standards.	Meets Forest Plan Standards
Snag Retention Areas (excludes acres in existing plantations)	Acres, Percent of Project Area	4,759 82%	2,701 46%	3,139 54%	3,536 61%	4,759 82%
Snag Levels within Harvest Treatment Areas.	Number of Snags/acre, >20" dbh.	5.2-8.2	2.39	1 or 2 as needed for down wood	13	5.2-8.2
Wildlife Use Level	Tolerance Level (%)	30-50	30	30-50	30-50	30-50
Down Wood Retained Within Harvest Treatment Areas	Lineal Feet Per Acre	All	Ponderosa 20-40	Same as Alt 2	Same as Alt 2	All
			Mixed Con. 100-140			
			Lodgepole 120-160			
<b>Water Quality &amp; Fish Habitat – Issue # 2</b>						
Amt of harvest on high BAER severity, moderate slopes	Acres	0	136	22	92	0
Haul roads within RHCAs of Category 1 streams	Miles	0	10.0	10.0	10.0	0
Haul roads within RHCAs of Category 2 streams	Miles	0	2.0	2.0	1.8	0
Haul roads within RHCAs of Category 4 streams	Miles	0	2.0	2.1	1.9	0

Table 2: Comparison of Alternatives by Issue and Measurement - Continued

Resource Issue	Unit of Measure	Alt. 1	Alt. 2	Alt. 3	Alt. 4	Alt. 5
<b>Water Quality &amp; Fish Habitat – Issue # 2 (continued)</b>						
Avg. proximity of units to listed fish bearing streams on high BAER burn severity, moderate slopes	Miles	0	0.55	N/A*	0.8	0
<b>Soils – Issue #3</b>						
Ground based harvest by BAER burn severity						
High	Acres	0	162	151	138	0
Moderate	Acres	0	224	218	149	0
Low or Unburned	Acres	0	593	468	346	0
<b>Fuel – Issue # 4</b>						
Future Fire Severity to Soils and Vegetation (25 years)		Extreme	Moderate	Moderate to High	High	Extreme
Fuel Loading (25 years) (weighted average entire project area)						
< 9” diameter	Tons Per Acre	10	10	10	10	7
> 9” diameter	Tons Per Acre	31	22	24	28	31
Total	Tons Per Acre	41	32	34	38	38
Smoke Management (Future fire – 25 years)						
Smoke	Tons Per Acre (PM 2.5)***	.2-.4	.1-.2	.1-.2	.1-.2	.1-.2
Area	Acres	3,652	1,777	1,298	956	3,652
Smoke	Parts Per Million (PM 2.5)***	1,226	738	598	652	738
<b>Economics – Issue # 5</b>						
Commercial Harvest Net Volume	(MBF)	0	8,018	6,177	3,254	0
	(CCF)	0	14,101	10,864	5,722	0
Commercial Harvest Area	Acres	0	1,777	1,298	956	0
Harvest Value	Millions \$	0	.64	.46	.20	0
Present Net Value**	Millions \$	0	-2.42	-2.49	-2.59	-3.33
Jobs Provided (2 yr period)	Number	0	66	51	27	0

\* There are no harvest units located predominately on mod. slopes that burned at predominately high BAER intensity in Alt. 3.

\*\*includes reforestation costs for areas outside proposed harvest units, but not for replanting existing plantations.

\*\*\*PM 2.5 = in the 2.5 micron size class

## Chapter 4

Chapter 4 documents the Forest Service personnel who assisted in preparation of this environmental impact statement, and the individuals, Federal, State, and local agencies, tribes, and non-Forest Service persons consulted during the development of this FEIS. Chapter 4 also includes a Public Involvement Summary, and it documents who received a copy of the FEIS.

## Summary of Changes from Draft to Final EIS

The following changes were made after the DEIS comment period for the FEIS. This listing does not include corrections to grammar, spelling, explanations, and errors in paragraph formatting.

### Chapter 1

- Updated existing condition in the roads and noxious weeds section. The road densities (open & closed roads) were updated based on field information and noxious weed information was updated based on field surveys in the summer and fall of 2003.
- The proposed action was modified to reflect updated field information and incorporate reclassification of stand types used to determine snag levels. This change resulted in a 52% reduction of the number of acres proposed for salvage harvest. This reduction was due to decreased tree mortality (14%), deterioration of the dead trees (5%), and retention of snags in mixed conifer stands (33%). Timber harvest would be uneconomical in those stands where mortality levels are low and in areas where deterioration of the dead trees over the last two years was severe. A number of forested stands were reclassified as lodgepole pine because of the effect of severe fire on mixed conifer stands. The remaining mixed conifer stands were dropped from planned harvest because their snag distribution does not meet DecAIDs recommendation, even in the existing condition. These mixed conifer stands were retained as snag habitat. A unit by unit summary of the changes can be found in the Project File (Changes DEIS to FEIS, 08/12/2004).

### Chapter 2

- Detailed consideration is now given to an Alternative Considered but Eliminated from Detailed Study in the DEIS (Alternative 5). There were numerous public comments on the DEIS requesting that this alternative be developed. This alternative does not include timber harvest activities. Alternative 5 is developed from the restoration only theme in the DEIS and is now fully analyzed in the FEIS.
- The alternatives were modified to reflect updated field information and incorporate reclassification of stand types used to determine snag levels. In Alternative 2, proposed action, this change resulted in a 52% reduction of the number of acres proposed for salvage harvest. This acre reduction was because there was decreased tree mortality (14%), deterioration of the dead trees (5%), and retention of snags in mixed conifer stands (33%). Timber harvest would be uneconomical in those stands where mortality levels are low and in areas where deterioration of the dead trees over the last two years was severe. A number of forested stands were reclassified as lodgepole pine due to effect of severe fire on mixed conifer stands. The

remaining mixed conifer stands were dropped from planned harvest because stand snag distribution does not meet DecAIDs recommendation, even in the existing condition. These mixed conifer stands were retained as snag habitat. A unit by unit summary of the changes can be found in the Project File (Changes DEIS to FEIS, 08/12/2004). For Alternative 3 the reduction in harvest would be 18% - low mortality; 6% - deterioration; and 30% - snags; totaling 54%. For Alternative 4 the reduction would be 15% - low mortality; 6% - deterioration; and 41% snags; totaling 62%. A unit by unit summary can be found in the Project File (Changes DEIS to FEIS, 08/12/2004).

- The FEIS updated open and closed road and the number of miles of road maintenance and temporary road construction information.
- The FEIS added Wildlife Mitigations and Monitoring.

### Chapter 3

#### General

- The effects of Alternative 5 were included in all the resource sections in Chapter 3 of the FEIS.

#### Forest Vegetation

- Discussion of shade cards was added to Shade and Microclimate and to Reforestation of Burned Forestland.
- The discussion of species and spacing to use in tree planting was updated.
- Added discussion on the effects if planting is delayed.

#### Terrestrial Wildlife

- Updated tables TW-3 and 4 in big game analysis.
- Additional discussion added to big game.
- Additional snag analysis and tables for DecAID under Primary Cavity Excavators.
- Addition of effects for Alternative 5 to the Wildlife BE, Appendix D.
- Addition of Threatened, Endangered, and Sensitive species (TES) discussions.

#### Fish and Water Quality

- Updated Road Densities.
- Edited text to remove Reconstruction. There is a new definition for reconstruction and the 0.3 miles listed in the Draft Environmental Impact Statement (DEIS) as reconstruction is now defined as maintenance.
- Updated maps for clarity.
- Included Watershed Erosion Prediction Project (WEPP) analysis text and results.
- Updated text for updated grazing direction.
- Added discussion of Clean Water Act compliance.
- Maps revised to reflect ground verification of two stream locations since DEIS.

#### Soils

- Included WEPP Analysis and discussion.
- Included discussions on effects to soil biota and mycorrhizae.
- Updated tables on expected soil conditions to include effects of Alternative 5.

- Reformatted and moved detailed tables of harvest units in alternatives and BAER burn severity acres to Soils Appendix C.
- Included maps of tractor harvest units and stream locations for Alternatives 2, 3 and 4 in Soils Appendix C.
- Included map of labeled ephemeral draws in Soils Appendix C.

#### Fuels

- Updated tables to include Alternative 5.
- Fuel Loading tons per acre and smoke tons per acre were calculated incorrectly for the DEIS and were corrected in the FEIS.

#### Economics/Social

- Timber values have been adjusted to reflect wood deterioration and an increase in timber indices.
- Discussion of human health and safety updated to reflect potential hazards to tree planters.

#### Roads and Access

- Updated road densities based on additional field review and update of INFRA database.

#### Heritage

- Updated the information in Consultation with Others, added a section on Tribal Interests, and updated the Environmental Consequences.

#### Other Disclosures

- Added analysis of unroaded areas.

### Chapter 4

- The distribution list was updated to include new individuals, organizations, and agencies that received the FEIS.

### Map Section

- Maps added for Alternative 5 and to provide additional resource information.
- Maps renumbered to allow Alternative 5 maps to follow other alternatives.
- Maps revised to reflect ground verification of two stream locations since DEIS.
- Maps revised to reflect units that were dropped between DEIS and FEIS.

### Appendices

Four new appendices were added: Appendix B – Road Lists, Appendix G – Fisheries Biological Assessment and Letters of Concurrence, Appendix H – Post-fire Grazing Guidelines, and Appendix I – Response to Comments.

Maps revised in Appendix C - Soils to reflect ground verification of two stream locations since DEIS.

## **References**

A number of references were reviewed but not used in the analysis. These are listed under “References Reviewed”.