18 Fire Recovery Project
Record of Decision

USDA Forest Service
Pacific Northwest Region

Deschutes National Forest
Bend-Fort Rock Ranger District

Deschutes County
Bend, Oregon
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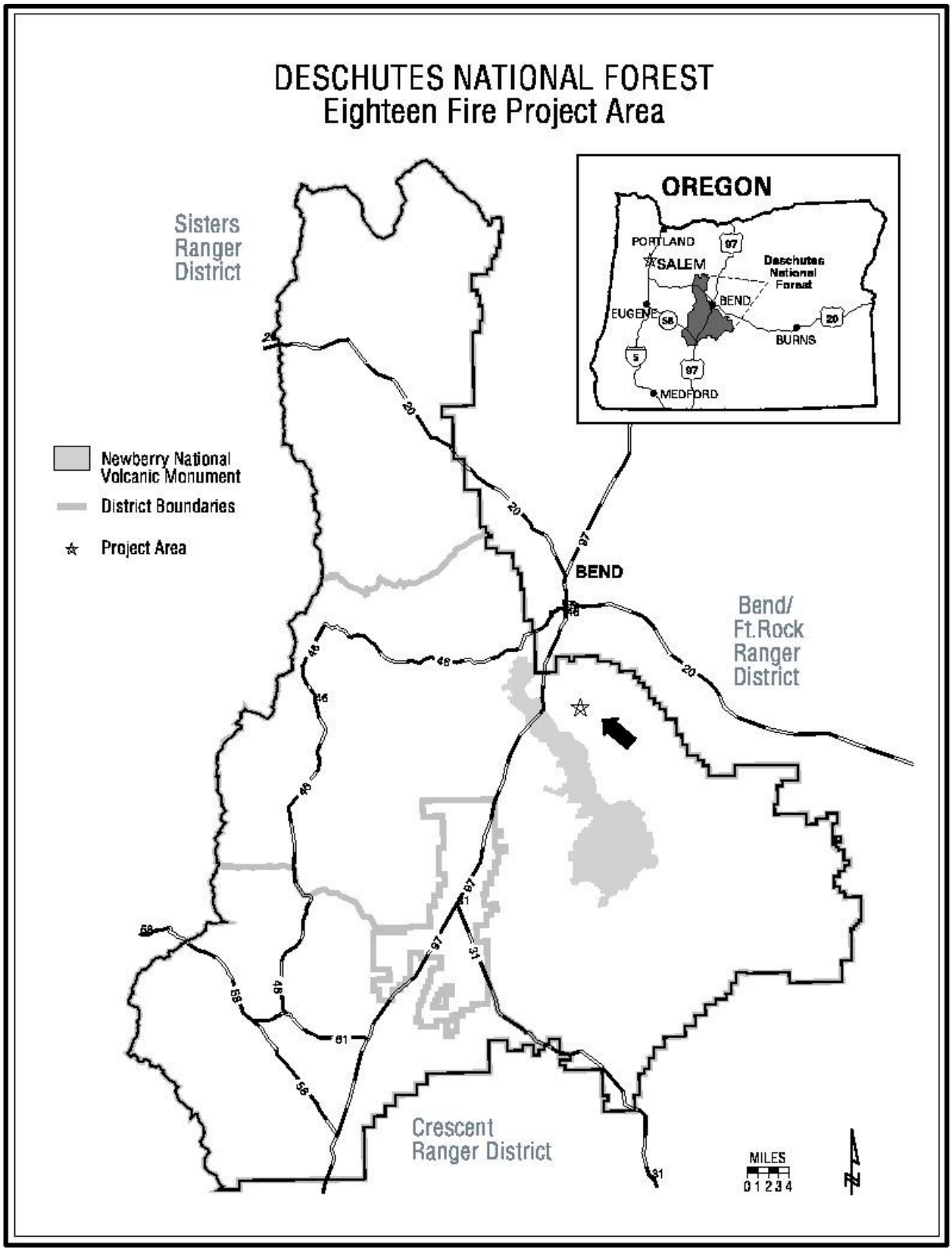
Table of Contents


DESCHUTES NATIONAL FOREST
Eighteen Fire Project Area
OREGON
PORTLAND
SALEM
EUGENE
BEND
BURNS
MEDFORD
Deschutes National Forest
Sisters Ranger District
Newberry National Volcanic Monument
District Boundaries
Project Area
BEND
Bend/ Ft.Rock Ranger District
Crescent Ranger District
MILES
0 1 2 3 4

Record of Decision

Introduction

This Record of Decision (ROD) documents my decision and rationale for the selection of Alternative 2 for the 18 Fire Recovery Project. An emergency situation determination for economics has been granted for the salvage portion of the project area. This determination covers 1,886 acres of salvage and approximately 5.9 million board feet of saw timber. This is discussed in greater detail in the Appeal Rights section at the end of this document.

In July 2003, the 18 Fire burned approximately 3,810 acres on the Bend-Fort Rock Ranger District of the Deschutes National Forest. The 18 Fire Recovery Project area is located approximately 3.5 miles southeast of the city of Bend, Oregon and ranges in elevation from 4,200 to 5,120 feet.

The project area lies within the Pilot Butte Watershed. There are no wild and scenic river corridors within or adjacent to the project area. The Deschutes Wild and Scenic River corridor is approximately 7 miles west of the project area. There is no essential fish habitat or potential bull trout habitat within 7 miles of the project area. There would be no flow impacts to the Deschutes Basin, based on the existing condition of no streams within or adjacent to the project area and soils that allow for rapid infiltration of precipitation without the potential of overland flow reaching perennial stream channels.

The 18 Fire Recovery project area falls within the dry ponderosa pine plant association group that is dominated by ponderosa pine. The condition prior to the 18 Fire in 2003 was very different from historic conditions. Due to fire exclusion, as well as previous clearcut harvest, most of the area was young single structure ponderosa pine. An estimated 2,420 acres of the fire was stand-replacement with tree mortality ranging from 95 to 99 percent. Although the fire caused high mortality of over story trees, ground-level heating was typically not elevated to temperatures capable of altering soil properties that affect site productivity. Severely burned soils were confined to small, isolated spots beneath down logs or around root crowns of individual trees. Presently, there are no surface fuels other than occasional patches of shrub, duff and litter that remain. The remainder of the area, 1,390 acres burned at a low to moderate intensity with occasional individual tree mortality and 3 to 5 acre pockets of stand replacement wildfire, creating a mosaic across the landscape.

Except for occasional areas of exposed bedrock associated with some of the youngest lava flows, the majority of the planning area (over 95 percent) has been covered by a moderately thick layer of volcanic ash and pumice deposits from Mount Mazama (Crater Lake) and the Newberry-Crater shield volcano. The volcanic ash-influenced soil generally varies from 20 to 40 inches thick and consists mostly of sand-sized soil particles. Dominant soils tend to be non-cohesive (loose) and they have little or no structural development due the young geologic age of the parent materials. These soils are well-drained with rapid infiltration rates that readily drain

excess moisture. Previously developed soils typically overlay hard bedrock that consists dominantly of basalt lava. The cindery soil materials of Bessie and Luna Buttes are generally exposed on the top portions, while ash deposits have accumulated to greater depths on the northern and mid-to-lower slope positions of all aspects due to wind and dry ravel erosion.

Forest Plan land allocations within the project area include Deer Habitat (MA 7, 76 percent of project area), General Forest (MA 8, 23 percent), and Scenic Views (MA 9, 1 percent). There is no designated Wilderness within or adjacent to the project area. The nearest wilderness is the Three Sisters Wilderness, approximately 27 miles west of the project area. There are no Inventoried Roadless Areas or areas with unroaded characteristics within or adjacent to the project area. The nearest Inventoried Roadless Area is approximately 7.25 miles southeast (North Paulina Roadless Area). The project area was clearcut harvested by private ownership in the 1920s and the open road density is currently 3.6 miles per square mile.

Restoration actions which have been accomplished and are planned follow.

Hazard Trees: Trees along primary roads, which pose an imminent hazard to human safety were felled and harvested in the winter months of 2004. The removal of felled hazard trees was included in the Decision Memo for the 18 Fire Roadside Salvage Categorical Exclusion (CE).

Reforestation: Approximately 73 acres will be planted under the hazard tree Decision Memo for the 18 Fire Roadside Salvage Categorical Exclusion (CE). In addition to 73 acres of planting, a ½ acre study plot was planted on Bessie Butte in the spring of 2004.

Road Management: A Roads Analysis has been completed under a separate NEPA analysis (Kelsey Environmental Assessment) for the 18 Fire Recovery Project and surrounding area previous to the wildfire. In addition to not identifying the need for any new permanent roads in the 18 Fire Recovery Project area, the following roads are not needed for long-term administrative or recreational access and would be obliterated: 1810300, 1810485, 9711600, 9711820, and 9711910 (see Chapter 2, Alternative 2 map). The portion of the Kelsey analysis area that is within the 18 Fire Recovery Project has been incorporated into this FEIS. To improve deer habitat effectiveness road management activities, including Knutson-Vandenberg Act (KV) road decommissioning and road inactivation, are addressed in this analysis.

Weed Treatment: Treatment and monitoring of noxious weeds was approved under the Burned Area Emergency Rehabilitation (BAER) process and the Deschutes National Forest Noxious Weed Control Environmental Assessment September, 1998. Treatment is ongoing and considered in the analysis. Other weed treatments may be planned as needed through the monitoring of weed populations.

Area Closure: An area closure restricting motor vehicle use to designated open roads is in place and would likely continue to be in effect for 2 years (through 2005) in order to prevent additional resource impacts to the area affected by the fire. Exemptions to this closure include individuals with an issued permit, and federal, state, or local officials performing work related duties.

Purpose and Need/Proposed Action

The overriding purpose of entering the 18 Fire is to:

- Recover commercial value.
- Expedite the establishment and restoration of a dry ponderosa pine forest following a stand replacing fire.
- Reduce future fuel loadings to lessen the potential effects of future fire behavior potential.

Habitat recovery following a stand replacing fire within the dry ponderosa pine forest type has a number of factors to consider including shrub response (competition), browsing by big game, seed source, and future fuel loadings. Natural regeneration of ponderosa pine is dependent on seed dispersal from healthy, live trees. In many areas, particularly within the interior areas of the fire, adjacent seed sources are no longer available. The majority of the high mortality area is located within deer winter range (deer habitat). Based on shrub response, browse damage, and experience within adjacent wildfires, such as the Bessie Butte, Skeleton, and Evans West Fires of 1996, interior areas with high tree mortality would require reforestation by planting ponderosa pine in order to ensure and expedite forest restoration.

Lowering fuel loads to a level that reduces the future likelihood of a high severity fire occurring in the 18 Fire area could help promote the long-term survival and growth of planted trees. Over the next 20 years, the majority of the fire-killed, standing trees within the 2,420 acres of stand replacement will fall down and become a heavy surface fuel load of 38 to 62 tons per acre versus a desired level of 5 to 20 tons per acre for warm dry ponderosa pine (Brown 2003). If untreated, a future fire ignition in the heavy surface fuels created by the 18 Fire could increase the duration of elevated temperatures to levels capable of altering soil properties and affecting site productivity in addition to complicating efforts to suppress a new fire in a young, reestablished ponderosa pine forest. This would also complicate the use of prescribed fire in the future.

My proposed action consisted of a variety of activities including fuel reductions, timber harvest, road closures and decommissioning, and reforestation. The needs for the proposed action are derived from the differences between current conditions and desired conditions. Desired conditions are based on Forest Plan direction and management objectives.

The two broad categories of purpose for the project are: the acceleration of ecosystem restoration, and 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.

Environmental Impact Statement

I determined that proposed restoration actions and their effects could best be analyzed and disclosed to the public through an Environmental Impact Statement (EIS). A Notice of Intent to prepare an EIS was published in the *Federal Register* on December 16, 2003. This was followed by release of the 18 Fire Recovery Project Draft Environmental Impact Statement (DEIS) in June 2004. The Notice of Availability for comment on the DEIS was published in the *Federal Register*

on July 2, 2004. The Notice of Availability for the final EIS (FEIS) was published in the *Federal Register* on October 8, 2004.

Consultation with Tribes

Consultation with the Klamath Tribe, the Burns Paiute Tribe, and the Confederated Tribes of the Warm Springs Reservation of Oregon occurred prior to my decision (FEIS, page 13). The 18 Fire Recovery Project area lies inside lands ceded to Confederated Tribes of the Warm Springs Reservation, according to the 1855 treaty with the tribes of Middle Oregon and the treaty boundaries as depicted in the Royce Indian Land Cessions circa 1778-1883.

My decision is guided by the federal government's treaty responsibility to these Tribes. As treaties are the law of the land, the Forest Service has an obligation to manage National Forest resources in a manner that harmonizes the federal trust responsibility to tribes and the statutory mission of the agency. In January 2004, the Deputy Forest Supervisor contacted the Burns Paiute Tribe. No special concerns about Tribal resources were identified. This is one of several legal obligations that I considered as I made my decision. In addition, scoping letters were sent November 14, 2003 to two other tribes that have rights or interests in the 18 Fire Recovery area: the Confederated Tribes of the Warm Springs Reservation; and the Klamath Tribes. Based on a government-to-government relationship, as directed in Executive Order 13175 (EO 13175), Consultation and Coordination with Indian Tribal Governments, November 6, 2000, the purpose of the contact was to exchange information, answer questions, and to work closely and continuously with each other to integrate tribal rights and interests in the planning process. In April (2004), a Memorandum of Understanding was signed with the Burns Paiute Tribe. No concerns were received specific to the 18 Fire Recovery Project.

Consultation with Government Agencies

Coordination has also occurred with federal, state, and local government officials (see also Appendix A). The United States Fish and Wildlife Service and Oregon Department of Fish and Wildlife were informed of the project and representative's field reviewed the 18 Fire area with interdisciplinary team members. The Environmental Protection Agency assigned the 18 Fire Recovery Project FEIS a *Lack of Objection* rating. Information has been provided to and exchanged with state agencies and Deschutes County.

Issues

In response to my proposed action, the public and the Forest Service identified two (2) "Key" issues. Key issues were then used to develop alternatives to the Proposed Action. Issues include:

Effects on Soil Productivity

Salvage harvest and associated activities can potentially have adverse impacts on soil productivity through physical disturbances and adverse changes in organic matter levels. Past management practices, the 18 Fire, and fire suppression activities have affected the soil resource within the project area. The proposed salvage harvest and associated activities may cause cumulative increases in detrimental conditions by increasing compaction and soil displacement, reducing effective ground cover, and increasing the potential for accelerated erosion.

Effects on Wildlife Habitat

Salvage harvest and associated activities can have effects on deer winter range, snags, and coarse woody debris habitat. What are the effects of the proposed activities on wildlife habitat, specifically effects on deer winter range, snags and coarse woody debris habitat? Deer winter range is within the 18 Fire Recovery Project area. Effects of the alternatives are a concern for the deer winter range habitat. The current and future levels of snags and Coarse Woody Debris (CWD) habitat is a concern expressed by several members of the public. There is a direct connection between the number of trees removed for salvage and those left to provide snag and down log habitat.

Alternatives Considered in Detail

Two action alternatives and a no action alternative were analyzed in the FEIS. The two action alternatives considered in the FEIS examine varying combinations and degrees of activities and were developed to address the significant issues and the purpose and need. For additional details on these alternatives, see the FEIS (Chapter 2, Alternatives 1 through 3).

Alternative 1 – No Action

The purpose of this alternative is to allow current processes to continue, along with associated risks and benefits, in the 18 Fire analysis area. The “no action" alternative means the proposed project (which includes all activities identified in the proposed action) would not take place in the 18 project 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.

Alternative 2 – Preferred and Selected Alternative

This alternative was designed to recover the economic value of fire killed trees and to reforest the project area. Alternative 2 would salvage harvest and hand plant ponderosa pine on 1,886 acres. By treating the burned acres, future fuel loads will be within their historical range, reducing the impacts of future wildfires on the environment. In all salvage harvest units, snags would be retained at or above the Forest Plan standard of 1.52 snags per acre to provide habitat for cavity dependent species. Detrimental soil conditions after salvage harvest would not exceed 16 percent in any harvest unit. Approximately 9.9 miles of existing specified roads would be closed or decommissioned to reduce the effects of roads on wildlife habitat.

Alternative 3

Alternative 3 was developed to provide recovery without commercial timber harvest, in response to comments generated during the scoping process that advocated natural recovery processes. This alternative is similar to Alternative 2 except there is no timber salvage. There would be no increase in detrimental soil conditions and no loss of snag and coarse woody debris habitat. Approximately 9.9 miles of specified road would be decommissioned or closed and 1,936 acres would be hand planted with ponderosa pine.

Decision and Rationale

It is my decision to select Alternative 2 as the Forest Service recovery plan for the 18 Fire area. For a detailed discussion of all the facets of Alternative 2, see FEIS, pages 20 to 22.

In making this decision, I carefully considered the comments received, regarding the proposed recovery project. Some members of the public said that the resource values had been degraded by the fire and that the best use for the burned trees was to utilize the dead trees for wood products and reforest the area.

Others said that the fire had done enough damage to the landscape and that commercial harvest would set the land even farther back from recovery; that burned trees provide a special habitat and letting the land heal over time was the best way to deal with the damage that the fire had caused.

No management strategy would totally meet all the concerns that were expressed.

I have selected an alternative that addresses all of these concerns, though it is not likely to resolve these conflicting viewpoints. Alternative 2 balances the need for recovery of some of the economic value of the dead trees, while providing for snag and burned habitat associated species. It provides economic recovery to the government to allow for restoration work needed in the fire area such as reforestation. This alternative will reduce standing fuel today so that future downed fuel loadings will remain within historic levels. Commercial harvest and fuel reduction activities may have some impacts to the land, these impacts are within Forest Plan standards and will not significantly set back the ecological recovery of the fire area.

Before making this decision, I evaluated and balanced many factors. The first factor I considered was whether active or passive management would be the best management strategy.

Active v. Passive Management

A concern that arose early in the process was how to manage a burned area. Scientific literature exists that could lead the reviewer to conclude either active or passive management may be best, depending upon circumstances. Dr. James McIver of the Blue Mountains Natural Resource Institute (BMNRI) wrote that: "…while Beschta et al., (1995, 2004) comment that `there is no ecological need for intervention on the post-fire landscape,' and that post-fire logging, reseeding, and replanting should be conducted only under limited conditions, they also state that there is a lack of knowledge pointing to detrimental ecological effects of salvage harvest measured in association with any particular wildfire" (McIver and Starr, 2001). Similarly, in his response to Beschta et al., Everett (1995) comments on the lack of good information, but states that the `custodial' approach advocated by Beschta may in many cases be less desirable than more active management because of the possible soil degradation in the absence of seeding, and because of possible fuel buildup in the absence of timber harvest." In

designing my decision, I have attempted to incorporate ideas presented by both Beschta, Rhodes (Appendix G), and Everett as well as the scientific literature cited in the Bibliography, Appendix B of the FEIS. I am also including monitoring to the decision that is designed to help determine the difference in vegetation recovery between salvage and non salvage (FEIS, page 30).

The 18 Fire changed the biological and physical conditions of the area. An estimated 2, 420 acres of trees were killed that provided timber for future harvest and wildlife habitat. These detrimental conditions will not self-correct in an acceptable period of time. In my judgment, active management is necessary.

Through history, fire has likely played a major role in the project area. These fires were thought to be generally frequent, low intensity fires that reduced ladder fuels and stand densities by killing small trees. Like the Bessie Butte, Evans West, and Skeleton fires of 1996, the 18 Fire was also uncharacteristically a large and high mortality wildfire. The high tree mortality across much of the fire area was largely due to a well developed shrub layer and past fire suppression efforts. If many of the burned trees are not removed, fuel loads will be higher than they were before the 18 Fire and another future fire with similar or greater effects is likely to burn in the same area. If such a fire occurs, investments in recovery efforts and favorable gains in cover and habitat for wildlife characteristics would be lost.

Historically, the dry ponderosa plant association group experienced low to moderate severity wildfires. It is important to reduce fuel loads in these plant association groups to decrease the risk of future fires that would consume reforestation investments. This fire burned large areas of forest that, historically, were not as adversely affected by fires.

In order to pursue active management, I have to make this decision now. Commercial salvage is the most practical option for removing trees 12 inches and greater—and commercial harvest can only be accomplished while the material has commercial value. In the Eyerly Fire, a two year waiting period has resulted in no bidders for accomplishing much needed work. If I had decided not to remove some of the material now, I would not likely be able to remove it later in an efficient manner.

In weighing this decision, I considered both fuel characteristics (amount, size, arrangement, continuity, and moisture content) and the likelihood of ignition. Although the majority of this material is in the form of standing snags today, most of this material is expected to be on the ground within 20 years. Data from the fire area indicate that expected fuel loads in 20 years would be higher than desired levels (FEIS, page 134). A severe reburn would likely kill or set back any coniferous vegetative recovery. High fuel loads would also pose problems associated with access and movement within the fire area for fire suppression. High-to-extreme fire hazard and potential for excessive soil heating exist when heavy fuel loadings are allowed to accumulate with no treatment. Based on these conditions, I concluded that active management is an appropriate course of action.

I would like to reduce fuel loadings to the point where fire can be returned to its natural role within the dry ponderosa pine plant association group. This requires that fuel loads be low enough to allow fire to burn through stands without severely damaging them. It may be several decades before those reduced fuel loadings can be achieved.

The 18 Fire Recovery Project alone will not bring about full recovery to the fire area. Future activities such as prescribed fires, thinning timber stands, regulating grazing, road closures, and additional reforestation will be needed. Monitoring the project area will enable managers to know what actions need to occur, as well as where and when.

After I concluded that active restoration was appropriate, I weighed the pros and cons of each alternative based on the purpose and need and the key issues listed above. The following is a discussion of these considerations and my conclusions.

RESPONSE OF THE ALTERNATIVES TO THE PURPOSE AND NEED

- *Recover commercial value.*

The analysis presented in the FEIS discloses that Alternative 2 would produce the highest commercial value.

Economic Element	Alternative		
	1	2	3
Volume of salvage in Million Board Feet	0	7	0
Job Supported	0	58	10

See the FEIS page 121 for a full discussion of economic and social effects.

- *Expedite the establishment and restoration of a dry ponderosa pine forest following a stand replacing fire.*

The no action alternative would rely on natural regeneration, rather than planting. Due to extensive areas of tree mortality the amount of the area without a conifer tree seed source is greater than would have occurred historically. Most of the seed produced by ponderosa pine did not disperse very far from the source tree. Alternative 1 is likely to result in an area dominated by shrubs with heavy fuels within the next 20 years. Natural regeneration of ponderosa pine can be expected to take many decades to occur.

In action alternatives 2 and 3 conifer tree planting is proposed on 1,886 and 1,936 acres, respectively. Planting trees would accelerate the establishment of a ponderosa pine forest and provide larger trees sooner (at least 100 years) than natural regeneration. Alternative 3 would likely retard forest development as snags fall and accumulate in the understory.

Alternatives 2 and 3 would close 9.9 miles of existing specified road and restore soil productivity by subsoiling 7 miles of road to restore wildlife habitat effectiveness.

See the FEIS page 138 for a full discussion of forest vegetation effects and page 163 for a full discussion of roads and transportation.

- *Reducing future fuel loadings to lessen the potential effects of future fire behavior potential.*

While none of the alternatives would necessarily affect the chances for a fire start to occur, the fuel succession that would occur under Alternatives 1 and 3 would create persistent elevated fuel loadings on the majority of the fire area. On untreated areas, within 20 years, much of the area would have high down fuel loads, in excess of desired levels. These conditions can contribute to uncharacteristic fire behavior with increased flame lengths, longer burn duration with potential negative effects on soils, and increased future emission production and potential for spotting. Fires with such behavior limit the effectiveness of suppression actions, and make the use of prescribed fire in the future difficult.

Re-introduction of low intensity fire is the best way to create forest habitat in the project area that can be sustained over time. If short-interval fire adapted environments are to be managed using a disturbance regime similar to that under which they developed, the fuels must first be reduced to keep fire effects within an historic range. Alternative 2 is the only alternative that reduces future fuel loadings to a sustainable level based on current research. The ecological benefits with Alternative 2 include lower emission production, decreased soil heating as it relates to soil productivity, and improved potential for the retention of CWD and for suppressing a fire in a young reestablished ponderosa pine forest. Under Alternative 2, 411 acres will remain in a high fuel loading condition and under Alternatives 1 and 3 there would be 2, 347 acres.

Fuel Loading	Alternative		
	1	2	3
Acres where fuel loading does not exceed 15 to 20 tons per acre.	1,463	3,399	1,463

See the FEIS pages 36 to 74 , pages 105 to 107, pages 132 to 155 for a full discussion of soils, air quality, fire and fuels, forest vegetation and timber management effects, Appendix G, pages 257 to 278 (Beschta 1995 and 2004), and Appendix H, pages 279 to 315.

RESPONSE OF THE ALTERNATIVES TO THE KEY ISSUES

Soil Productivity

Impacts to Soils

In deciding whether or not to actively pursue salvage harvest, maintaining soil productivity was an important consideration. In the original design of Alternative 2 (Proposed Action) it was recognized that maintaining soil productivity was a compelling part of the alternative (FEIS, page14). Before making my decision, I considered the findings of the 1995 and 2004 Beschta Reports, including the recommendation that salvage logging should be prohibited in sensitive areas including severely burned areas because of soil compaction and erosion concerns (FEIS, pages 69 to 74, Appendix G, page 257). To avoid potential impacts, all sensitive soil types such as slopes greater than 30 percent, high erosion soils, and extremely rocky areas that could

be adversely impacted by ground disturbing management activities were excluded from management consideration.

Soil impacts from ground skidding will be minimal because all areas would be salvaged utilizing designated skid roads and modern boom-mounted mechanical harvesting systems or logging over snow or frozen ground. None of the temporary road locations would require excavation of cut-and-fill slopes because they are located on nearly level to gentle slopes (less than 5 percent gradient). Management requirements, mitigation measures, and Best Management Practices are incorporated into the project design to avoid or minimize potentially adverse impacts to the soil resource (FEIS, pages 24 to 27). As disclosed in the FEIS (Table 3-4, page 56), none of the activity areas would exceed the Regional and LRMP standard of 20 percent detrimental soil conditions following the removal of dead trees and the establishment of temporary roads. To restore and maintain soil productivity, I have decided to restore all log landings, specified and temporary roads, and portions of all major skid roads by subsoiling. Since detrimental soil conditions will not exceed Forest Plan standards after project implementation, these restoration treatments would be considered an enhancement and not required mitigation. Funding would be provided by K-V funds (FEIS, page 294) or appropriated funds. The Deschutes National Forest has utilized commercial harvest to fund restoration with successful results – including maintenance of acceptable soil productivity (1995 Pringle, 1996 Evans, and 1998 McKay).

Existing sources of woody debris and surface organic matter would be retained on-site and protected from disturbance to the extent possible. Adequate amounts of snags and fallen trees would be available following salvage activities to meet CWD guidelines for maintaining soil productivity and providing habitat for dependent wildlife species.

If my only objective were to eliminate any potential of harvest-related soil disturbance and complete only separate unconnected restoration proposals, I would have selected Alternative 3. Alternative 3 would not salvage dead trees or construct any temporary roads. Although both Alternatives 1 and 3 afford soils a high degree of short-term protection, I did not select them because I am looking at the overall context of post-fire landscapes, including from the long-term perspective. Alternative 1 does not establish the desired tree cover in the next 50 to 100 years. Alternatives 1 and 3 do not reduce fuel loadings in the event of a future fire. Consumption of the heavy surface fuels could increase the duration of elevated temperatures to levels capable of altering soil properties and affecting site productivity.

I place a high value on accelerating the vegetative recovery of the area to a sustainable condition, especially for big game that relies on forested conditions for thermal and hiding cover. To do this, I have chosen an alternative that accomplishes this goal, is likely to be implemented, and will protect forest resources. In selecting Alternative 2, I have provided a balanced approach for managing the recovery area. Alternative 2 responds to all the elements of the purpose and need for action, while providing a high level of protection for all resources, including soils. The effects of the alternatives on soils are described in the FEIS starting on page 36. Even under implementation of Alternative 2, about 47 percent of the area would not incur any impacts associated with commercial activities.

Wildlife Habitat

Snag Habitat

Wildlife species use burned forest habitats differently than live, green forests. The Regional Forester Eastside Forest Plans Amendment #2 directs Region 6 Forests to use the best available science to determine snag numbers (FEIS, page 79). I decided to use the recently completed DecAID (Mellen et al. 2003) as an advisory tool to help me evaluate the effects of the alternatives on species that use snags and large down logs. The DecAID tool is currently one of the best sources of information on dead wood habitats because it synthesizes published literature, research data, wildlife databases, inventory data, and expert judgment and experience. DecAID was used in combination with other research available on snags and dead wood habitats, as cited in the literature section of the Final EIS (Appendix B, page 185).

Most of the concerns centered on the effects of the proposed salvage on snags and down wood habitat. This was a key issue and Alternative 3 was developed to analyze the effects of leaving all snags on the landscape. One of the more complex issues to balance was the level of snags to be retained. Looking at the burned area today, there appears to be plenty of snags for wildlife needs. However, this is a short to mid-term condition. Once these snags fall over, there will be no replacement snags until the forest is re-established and reaches a size and age to provide snags again. Even with reforestation on some of the project area, it is anticipated snag recruitment to fill in the gap will not begin to occur until year 70 when live trees begin to reach 16" (FEIS page 144).

Snags are important for a number of primary cavity excavator species. The Deschutes Forest Plan, as amended, requires enough snags be provided to support selected populations of cavity dependent species (5) at 100 percent of their population potential across the landscape and, where available, green trees be retained to replace those snags when they fall over or are otherwise no longer suitable. To provide replacement snags all damaged live trees are being retained.

DecAID presents information on wildlife use of snag diameter, snag density, down wood diameter, and down wood percent cover, and on the range of natural and current conditions of snag density and down wood percent cover by diameter classes. The information is presented at three statistical tolerance levels, which may be interpreted as three levels of "assurance:" low (30 percent tolerance level), moderate (50 percent tolerance level), and high (80 percent tolerance level). Minimum and maximum values are also presented. Additional available data such as dead wood species, and decay condition are summarized, but not analyzed statistically. Alternative 1 and 3 would support the highest population levels for most primary cavity excavators.

Any benefits associated with providing higher snag levels in the short-term would be lost after about 20 years, recognizing that snags become down wood habitat as well as fuel loadings that exceeded historic ranges. From the long-term perspective, I believe it is more important to return the area to a condition where it can start producing habitat for dependent species in the quickest manner. Action alternatives would do this by reforesting with a tree species that is likely to be sustained in a fire-adapted environment, and grow to a size sufficient for cavity

excavators. All alternatives have been designed to provide snags at levels that meet or exceed Forest Plan standards and guidelines.

My selection of Alternative 2 over the other alternatives balances the need to restore the landscape to a condition that is adapted to fire (typical of ecosystems east of the Cascade Mountain Range), reduces fuel loading, retains snag habitat for a range of species, and recovers economic value. In addition, the larger units (1, 4, and 8) will have wildlife retention areas (1/2 to 15 acres in size) where no commercial activity will occur. Alternative 2 will retain at least 50 percent of each tree diameter class for snags and replacement snags within the fire area, while meeting Forest Plan standards for snags. Included in this percent are an abundance of snags on the landscape within and surrounding commercial treatment units.

Standing dead trees become down logs as a natural progression in post-fire landscapes, and as is the case in this fire, there will not be a problem meeting or exceeding levels of down wood (3.2 percent CWD) within salvage units to meet the Deschutes National Forest Land and Resource Management Plan, as amended by the 1995 Regional Forester's Eastside Forest Plans Amendments #2. Effects of the alternatives on down wood levels are described in the FEIS starting on page 79.

Deer Habitat

The majority of the stand replacement acres occurred in the Deer Habitat Management Area (deer winter range). Approximately 96 percent of the acres proposed for salvage are within this management area that is important to both deer and elk. Coniferous hiding and thermal cover and previously designated deer and elk movement corridors were eliminated by the fire. Alternative 1 would not reestablish tree cover within the foreseeable future (50 to 100 years) and open road density would continue to exceed the target road density for deer winter range.

Alternatives 2 and 3 would reforest approximately 1,886 acres (after deleting snag retention and monitoring study areas) within the Deer Habitat Management Area to move the area back towards the desired conditions for this management area. Consistent with LRMP direction reforestation would be designed to reestablish deer and elk movement corridors and a mosaic of deer hiding and thermal cover (LRMP, M7-5, M7-10, M7-13 pages 4-113, 4-114). Also consistent with LRMP direction, road closures and obliterations would reduce the current open road density from 3.6 miles to 1.9 miles per square mile (LRMP, M7-22, M7-23, page 4-115) under the action alternatives to increase wildlife habitat effectiveness.

In selecting Alternative 2, I have chosen to reduce potential down wood levels on 1,886 acres (less snag retention and monitoring study areas) to reduce future fuel loadings to sustainable levels as specified by the newest science (FEIS page 132). I am particularly interested in reducing fuels so that careful introduction of prescribed fire in appropriate areas is possible in the future and to protect the investment made in reforestation. One of the objectives of reforestation is the rapid recovery of wildlife habitat and the reduction of open road density to improve wildlife habitat effectiveness. The restoration of an open, dry ponderosa pine stand with a frequent fire return interval would benefit species dependent on this type of habitat.

Cumulative Effects from Ongoing and Proposed Activities

In deciding to go forward with the 18 Fire Recovery Project, particularly Alternative 2, I reviewed the past, ongoing and proposed activities within each resource's cumulative effects area (FEIS, Chapter 3). Of particular concern is how these actions may cumulatively affect soils and wildlife habitat. I considered the likely effects of these past, ongoing, and future activities in combination with the proposed activities of the 18 Fire Recovery Project. The Pilot Butte subwatershed is a closed basin with no intermittent, ephemeral, or perennial streams or water bodies. There are no private forest lands within the subwatershed or other ownerships that were determined to have any bearing on cumulative effects on this project.

The analysis of effects (Chapter 3, FEIS) did not indicate likely significant cumulative effects from the activities; however, beneficial cumulative effects are expected from the recovery projects in addition to the 18 Fire Recovery Project.

Early in the analysis process, several projects (FEIS page 5) were identified to assist in the recovery of the burned area. One restoration project was signed under the Categorical Exclusion authority and is being implemented (conifer planting and hazard tree removal). The Kelsey Vegetation Management Environmental Assessment (September, 2004) includes a seasonal road closure in deer winter range that also incorporates the 18 Fire Recovery Project. These activities are enhancing and will enhance recovery of the 18 Fire area; the expected results of these projects are included in each resource's discussion of cumulative effects.

I did consider that other ongoing and proposed actions are occurring within and adjacent to the Pilot Butte Watershed. The analysis did not indicate significant cumulative effects (FEIS, Chapter 3). This contributed to my decision to select Alternative 2.

Other Public Concerns

In addition to the key issues that drove alternatives discussed earlier in this document, concern was expressed during the public scoping and in the comments on the DEIS about the effects of the proposed actions on:

Air Quality

I have considered the effects of the alternatives on air quality described in the FEIS, page 105. All prescribed fire and pile burning would be conducted under the State of Oregon Smoke Management System to track smoke produced and would be coordinated through Oregon Department of Forestry. Pile burning would be conducted under favorable smoke dispersal conditions, avoiding impacts to the Three Sisters Wilderness Area Class I Airshed and Bend urban area. Inversion conditions, which would increase the potential for smoke pooling in valleys and drainages, would be avoided during burning operations.

The City of Bend is an area where air quality is of interest and it is closely monitored for smoke intrusion and effects from prescribed fire. Bend is located approximately 3.5 air miles north of the 18 Fire area. Burning under favorable smoke dispersion conditions would not affect air quality in Bend. Alternative 2 is designed to meet the National Ambient Air Quality standards

through avoidance of practices that degrade air quality below health and visibility standards. The Oregon State Implementation Plan and the Oregon State Smoke Management Plan will be followed to maintain air quality.

Beschta

The "Beschta Report" formally known as the 1995 "Wildfire and Salvage Logging, Recommendations for Ecologically Sound Post-Fire salvage Management and Other Post-Fire treatments" and the 2004 "Post-fire Management on Forested Public Lands of the Western United States" highlighted scientific controversy over post-fire management. In light of these scientific uncertainties and unknown risks this FEIS was prepared. Scientific research and literature was reviewed and discussed in Chapter 3 and in Appendix G.

I have considered the scientific research and literature that was reviewed and discussed throughout the FEIS and Appendices. I have decided that Alternative 2 is the best alternative to address these unknown risks. Alternative 2 incorporates the recommendations of Beschta and other recent research and presents a balanced approach between economic recovery, environmental protection, and restoration.

Economic and Social

I considered the surrounding physical and biological environments that influence human social life in the central Oregon area. This is most evident in rural areas where the variety and quality of available natural resources often determine the chief means of economic livelihood and what leisure activities people are likely to pursue and, therefore, influence local preferences for the use of public lands. Also, I considered those comments I received where people wanted no activity to occur in the post-fire landscape.

The financial efficiency of Alternative 2 is the highest (FEIS, page 121). This alternative has the best ability to offset some of the reforestation and restoration project costs and produces the most employment opportunity for the area.

Fire and Fuels

Comments were received expressing concern for the potential of heavy fuel loading, which may occur as a result of salvage operations or as standing dead trees fall contributing to the potential intensity of future wildfire. I have decided that Alternative 2 best meets this concern. Alternative 2 includes whole tree yarding to address activity generated fuels, while reducing fuel loading to within desired ranges on dry ponderosa pine plant association groups (FEIS, page 132). Treatment of fuels resulting from the proposed salvage activity is a connected action included in Alternative 2.

Insects and Decay

The effects of the alternatives on the potential changes in insect populations are described in the FEIS page 156. I have reviewed the analysis and have determined that effects are considered in a comprehensive and accurate manner. Since salvage harvest is limited to only dead trees, the overall effect of Alternative 2 on bark beetle populations would be minor. The most important biological aspect of harvesting only dead trees is that additional beetle related mortality can be expected within and adjacent to the fire. The most important population regulator for most

organisms is available habitat, and since we will retain a large portion of snags in the 18 Fire area under Alternative 2 and additional mortality would occur; sufficient levels of insects as prey will be available for dependent wildlife such as woodpeckers.

Noxious Weeds

The selection of Alternative 2 includes mitigation and management requirements for noxious weed treatment (FEIS, page 28). The proven effectiveness of the mitigation and management requirements of Alternative 2 will adequately reduce the risk of spreading noxious weeds.

Threatened, Endangered and Sensitive Species

Threatened, Endangered and Sensitive (TES) Species effects are described in the FEIS on pages 99 through 104 and pages 108 through 110. There would be no direct, indirect, or cumulative effects on TES plant species under Alternative 2, because no TES plant species or high probability habitat exists within the project area. The project will have no effect or no impact on any TES animal species. There is no classified habitat or any other evidence of Canada lynx on the Deschutes National Forest. The project area is located outside the range of the northern spotted owl and the nearest known spotted owl site is at least 20 miles west of the project area. There is no current or potential habitat for the northern spotted owl in the project area.

Recreation

The effects of the alternatives on recreation resources are described in the FEIS, page 160. The landscape and the recreational experience have changed.

Alternative 2 would return the landscape to a natural forested condition. Although some people expressed concerns with road closures, every section in the 18 Fire will still be accessible by open system roads outside of the deer winter range closure period.

Scenery Quality

A concern was expressed on the effects of the 18 Fire and the alternatives on Scenic Quality. There are no proposed treatments within the Scenic View Management Area. Alternative 2 would do the most to accelerate the restoration of the dry ponderosa pine forest (FEIS, page 166 to 168).

Range

To address the concerns and comments relating to the effects of grazing and timber salvage I want to be clear, "There has been and will be no grazing in the fire area within the reasonably foreseeable future." There is an established, but inactive grazing allotment (Bessie Grazing Allotment) within the 18 Fire Recovery Project area. No grazing has occurred in the allotment since 1990 and at this time none is anticipated. No negative direct, indirect, or cumulative effects were identified relative to grazing and timber salvage under Alternative 2. The combination of deer fencing and vexar tubing to eliminate deer browse and damage to planted trees means that cattle, goat, and sheep grazing would not occur for the reasonably foreseeable future in the 18 Fire area (FEIS, page 172). The reason that no grazing would be allowed is to prevent damage to the planted trees. Based on experience with tree growth from other adjacent

fires it would be a minimum of ten (10) years and likely much longer before the planted trees are no longer susceptible to livestock damage.

Cultural Resources

The effects of the alternatives on cultural resources are described in the FEIS, page 119 to 120. No cultural sites were identified within the salvage and reforestation units. All action alternatives include mitigation measures to avoid impacts to cultural sites if found during project implementation.

Wilderness/Roadless Characteristics

There is no designated Wilderness within or adjacent to the project area. The nearest wilderness is the Three Sisters Wilderness, approximately 27 miles west of the project area. There are no Inventoried Roadless Areas or areas with unroaded characteristics within or adjacent to the project area. The nearest Inventoried Roadless Area to the 18 Fire Recovery Project area is the North Paulina Roadless area, 7.25 miles southeast. The project area was clearcut harvested in the 1920s and the current open road density is 3.6 miles per square mile.

Wild and Scenic River/Essential Fish Habitat

There are no wild and scenic river corridors within or adjacent to the project area. The Deschutes Wild and Scenic River corridor is approximately 7 miles west of the project area. There is no essential fish habitat (Magnuson-Stevens Act) or potential bull trout habitat within 7 miles of the project area (see also Water Quality below).

Water Quality

There would be no flow impacts to the Deschutes Basin, based on the existing condition of no streams within or adjacent to the project area and soils that allow for rapid infiltration of precipitation without the potential of overland flow reaching perennial stream channels. Ground water would not be effected because no live trees are being harvested.

Changes Between Draft and Final EIS

The following changes were made between the 18 Fire Recovery Project Draft and Final EIS. This list does not include minor grammatical corrections, editorial formatting, and clarification of data previously presented. The changes were driven by public comment and a comprehensive internal review.

1. A section on priority funding for Sale Area Improvement Projects (KV) has been added. Mitigation and Management Requirements were clarified as needed.
2. USDA Forest Service Central Oregon Interagency Ecology Program has established monitoring plots in the 18 Fire to compare forest recovery in the salvage and non-salvage areas.
3. A portion of the soil section has been updated to add more research information on soil biota populations and a listing of previous vegetation management activities.

4. In the Wildlife section population trend information was updated in Table 3-6 for MIS and Species of Concern. Wildlife and Botany effects have been amended to reflect the revised Regional Forester's Sensitive Species List. The effects summary in the Wildlife Biological Evaluation was moved from Appendix D to Chapter 3.
5. In the Air Quality section the potential effects of landing pile burning on the Three Sisters Wilderness Area Class I Airshed was further clarified.
6. Appendix H: Response to Comments was added; and Appendix D, E, F, and G had minor changes do to updating information based on the revised Regional Foresters sensitive species list and the peer reviewed 2004 Beschta report.

Consultation/Conferencing with USFWS

No endangered, threatened, sensitive or proposed animal or plant species are documented or suspected in the project area (Appendices D and F of the FEIS). Consultation with USFWS was not necessary because the area contains no Endangered Species Act listed animals or plant species. The selected alternative is expected to have No Effect on threatened and endangered wildlife and plant species. While consultation was not necessary, USFWS was kept informed of proposed activities in the 18 Fire Recovery Project and all alternatives are consistent with the Project Design Criteria (PDC) for the Joint Aquatic and Terrestrial Programmatic Biological Assessment (BA) for Fiscal Years 2003-06 (USDA et al. 2003).

Legal Requirements and Policy

In reviewing the EIS and actions involved in Alternative 2, I have concluded that my decision is consistent with the following laws and requirements:

The Preservation of American Antiquities Act, June 1906: The Selected Alternative will have no direct effect on heritage resources, due to management requirements, constraints, and mitigation measures (Chapter 2, FEIS). New sites discovered during operations will be protected by provisions in the timber sale contract (C6.24#).

The National Historic Preservation Act: This project will have no adverse effects on heritage resources. The Inventory Report has been completed and signed by the Forest Archaeologist under the Programmatic Agreement among the United States Department of Agriculture, Forest Service, Pacific Northwest Region (Region 6), the Advisory Council on Historic Preservation, and the Oregon State Historic Preservation Officer regarding Cultural Resource Management on National Forests in the State of Oregon, dated March 10, 1995. This is in compliance with section 106 of the National Historic Preservation Act.

The National Environmental Policy Act (NEPA), 1969: NEPA establishes the format and content requirements of environmental analysis and documentation, such as the 18 Fire Recovery Project. The entire process of preparing an environmental impact statement was undertaken to comply with NEPA.

The Endangered Species Act of 1973, as amended: Biological evaluations were prepared to document possible effects of proposed activities on endangered and threatened species in the 18 Fire area. The Selected Alternative is expected to have No Effect on threatened and endangered wildlife and plant species.

The National Forest Management Act (NFMA), 1976: The Selected Alternative was developed to be in full compliance with NFMA (FEIS, Consistency with NFMA Requirements, page 146).

Clean Air Act Amendments: The Selected Alternative is designed to meet the National Ambient Air Quality standards through avoidance of practices that degrade air quality below health and visibility standards. All burning will be done in accordance with the Oregon State Smoke Management Plan and the Oregon State Implementation Plan in order to ensure that clean air requirements are met (FEIS, page 105).

Satisfaction of State Forest Worker Safety Codes: The Oregon Occupational Safety and Health Code for Forest Activities (OAR 437, Division 6) regulations will be met when the Selected Alternative is implemented. Salvage strategies are designed to provide for worker safety by providing for appropriately sized openings to facilitate safe operation of yarding equipment or by clumping dead trees that are retained. Removal of hazard trees along haul routes will meet OSHA standards for danger trees.

Civil Rights and Environmental Justice: Executive Order 12898 on environmental justice requires federal agencies to identify and address any disproportionately high and adverse human health or environmental effects on minority and low income populations (FEIS, page 130). The analysis focuses on potential effects from the project to minority populations, disabled persons, and low-income groups. Alternative 2 has the potential to bring in workers from the outside the local area to perform logging, reforestation, mushroom harvesting, and related activities. While the outside workforce is more likely to be racially diverse than the local resident population, the residents have worked effectively with and supported anticipated fluctuations in the workforce expected with the implementation of an action-based alternative. The primary services needed by the workers would be food and shelter. Local businesses that can supply food (grocery stores and restaurants) and other services would capture most of the money being spent by the workers in the area.

Opportunities for all groups of people to use the fire area are maintained by Alternative 2, and no disproportionate effect is anticipated to subsets of the general population.

Other Policy or Guiding Documentation

Biological Evaluations were prepared to assess potential effects to sensitive species as identified by the Regional Forester. These evaluations determined there will be no impacts to individual sensitive species. FEIS, pages 99 to 104, and pages 108 to 110, Appendices D and F).

The Deschutes National Forest Land and Resource Management Plan, as amended, provided the framework for the development of all the alternatives.

The Deschutes National Forest Land and Resource Management Plan (LRMP or Forest Plan) contains the following direction for noxious weed management: Standard FH-8, page 4-37 states that herbicides would be used in conjunction with the Mediated Agreement and Record of Decisions (1988 and 1992) for the Final Environmental Impact Statement (Vegetation Management FEIS) for Managing Competing and Unwanted Vegetation. Other sections of the

LRMP (pages 4-47 to 4-49) make indirect references to maintaining habitat for wildlife species that are dependent on plant communities and habitat.

In 1998, the Deschutes National Forest Noxious Weed Control Environmental Assessment (DNF Weed EA) with its supplemental Deschutes National Forest Integrated Weed Management Plan (IWMP) was completed in accordance with the Regional Vegetation Management FEIS. The Decision Notice from the DNF Weed EA selected an alternative that allows a variety of noxious weed treatments, including herbicides (USFS 1998). Although there are no herbicide treatments proposed under Alternative 2 of the 18 Fire Recovery Project, the potential effects associated with ongoing weed treatment are discussed for affected resources and are summarized within respective sections in this analysis. I have reviewed the effects analysis for the DNF Weed EA and have determined them to be relevant and applicable to the effects discussed in this FEIS. This project will use prevention as the main strategy to manage unwanted and competing vegetation, and will incorporate all measures specified in the mitigation measures (FEIS, page 23) and monitoring (FEIS, page 29).

My decision was based on using active management to restore a burned area that is not capable of recovering in a time period I find acceptable.

Public Participation

The NEPA scoping process (40 CFR 1501.7) was used to invite public participation, to refine the scope of this project, and to identify preliminary issues to be addressed. I sought information, comments, and assistance from federal, state, local agencies, the tribes, other groups, and individuals interested in or affected by the Proposed Action.

The Notice of Intent (NOI) was published in the Federal Register on December 16, 2003. The NOI asked for public comment on the proposal from December 16 to January 16, 2004.

The Bend-Fort Rock Ranger District mailed a scoping letter on November 14, 2003 seeking public comment to approximately 127 individuals, groups,, and agencies who had previously shown interest in Deschutes National Forest projects and the project was listed in the Winter, Spring and Summer 2004 *Schedules of Proposed Activities (SOPA) for the Deschutes and Ochoco National Forests and the Prineville District of the BLM*.

In addition, as part of the public involvement process, field trips with representatives of Oregon Natural Resources Council (Tim Lillebo, January 9, 2004), Blue Mountain Biodiversity Project (Karen Coulter, April 9, 2004) Protecting and Restoring Oregon's Wild Lands Project (Lisa Blanton, April 9, 2004), United States Department of Interior Fish and Wildlife Service (Sandra Ackley, February 19, 2004) and Oregon Department of Fish and Wildlife (Glen Ardt, December 1, 2003) were conducted.

In response to these scoping efforts written comments were received from 9 interested parties. In addition to 5 comments supporting the project, the District received comments reflecting concerns related to potential adverse impacts on soils and wildlife. Some environmental organizations expressed a desire to develop an alternative that relies on "natural" post-fir recovery and passive processes without commercial fiber removal.

- Public comments were used in the development of the reasonable range of alternatives including a restoration, non salvage alternative and the identification of the significant issues. Two key issues were identified: Effects on Soils and Effects to Wildlife Habitat.

Comments and strong support for the quick implementation of salvage operations were received from the timber industry and local citizens. The Ochoco Lumber Company mentioned "As usual with fire killed Ponderosa Pine stands, quick salvage response is critical…" There were 3 responses from environmental organizations that were generally opposed or skeptical of salvage logging. The Oregon Natural Resources Council mentioned "Please consider at least one non-commerical, restoration-only alternative…"

The 18 Fire Recovery DEIS was published in the Federal Register July 2, 2004, and the comment period ended August 16, 2004. A total of 10 different comments were received from the following 11 groups and individuals:

Judith Leckrone Lee	US Environmental Protection Agency
Gordon Baker	
Lisa Blanton	Prowl Project; Cascadia Rising
John Morgan	Ochoco Lumber Company
Asante Riverwind	Blue Mountains Biodiversity Project
James Johnston	Cascadia Wildlands Project
Doug Heiken	Oregon Natural Resources Council
Barbara Schroeder	
Dean Richardson	
Charles Burley	American Forest Resource Council
Troy Reinhart	

From these groups and individuals there were seven who favored the project and three who commented negatively. The American Forest Resource Council specifically commented in support of an ESD and other responses stressed the importance of timely salvage. Positive comments were typified by the following: "We encourage you to move forward as quickly as possible with this proposed project."

Two negative comments came from three environmental groups. These comments discussed soil impacts, not following correct NEPA or Forest Service laws and guidelines. Generally these comments were against commercial harvest of wood products.

No comments from governmental organizations were negative.

Request for Emergency Situation Determination

The request for emergency situation determination was published in the legal notice section of The Bulletin, on October 18, 2004. The 18 Fire Recovery Project FEIS Summary, Notice of Availability cover letter, and Central Oregon BLM-Forest Service web site included notification that the Forest Supervisor was in the process of seeking an ESD.

I considered all comments in the decision-making process.

The Environmentally Preferable Alternative

Under the National Environmental Policy Act, the agency is required to identify the environmentally preferable alternative (40 CFR 1505.2(b)). This is interpreted to mean the alternative that would cause the least damage to the biological and physical components of the environment, and, which bests protects, preserves, and enhances, historic, cultural, and natural resources (Council on Environmental Quality, *Forty Most Asked Question Concerning CEQ's National Environmental Policy Act Regulations*, 46 FR 18026). Factors considered in identifying this alternative include: (1) fulfilling the responsibility of this generation as trustee of the environment for future generations, (2) providing for a productive and aesthetically pleasing environment, (3) attaining the widest range of beneficial uses of the environment without degradation, (4) preserving important natural components of the environment, including biodiversity, (5) balancing population needs and resource use, and (6) enhancing the quality of renewable resources. An agency may discuss preferences among alternatives based on relevant factors, including economic and technical considerations and statutory missions {40 CFR 1505.2(b)}.

In the case of the 18 Fire Recovery Project, I have determined that the environmentally preferable alternative is Alternative 2. Alternative 2 is the most economically efficient and likely to be implemented and effective in reducing fuels through commercial means and protect this environment for future generations. Also, it facilitates reintroduction of fire into the system at a later date. As in Alternative 3, Alternative 2 includes the largest amount of tree planting of ponderosa pine important for big game and other associated wildlife species. In the short-term, the No Action Alternative offers the least risk of soil disturbance, but does nothing to provide the widest range of beneficial uses or reduce the potential for severe effects associated with future wildfires. A portion of the area can be salvaged with ground-based equipment without deleterious effects to soils (FEIS, pages 36 to 74).

Alternatives 2 and 3 plant the 18 Fire area, restoring conifer vegetation, aesthetics, and productivity at a faster rate than Alternative 1, while also accelerating the development of deer hiding and thermal cover. Alternative 2 utilizes the dead and dying timber for beneficial economic uses, provides long-term benefits of fuels reduction and reforestation activities, minimizes environmental risks and provides for wildlife needs. Alternatives 1 and 3 retain all the dead and dying trees that in the short to mid-term are providing the best beneficial wildlife snag habitat use, but does not address long-term fuel reduction and may not be the best for a wide diversity of species.

From an economic perspective, Alternative 2 provides the greatest economic value from the dead and dying timber by providing jobs and logs to timber companies while still providing protection of the environment. Alternative 3 accomplishes this to a lesser extent by implementing road closure and tree restoration projects. Alternatives 1 and 3 do not capture the economic value of timber from dead trees or provide any jobs.

Management Requirements and Mitigation Measures

Management requirements and mitigation measures are site-specific management activities designed to reduce the adverse impacts of timber harvest and associated activities. Management requirements and mitigation measures will be applied to project design and

layout, in timber sale contracts, and permit requirements. Management requirements and mitigation measures will be implemented through project design, contract specifications, contract administration, and monitoring by Forest Service officers.

As part of my decision, I am choosing to implement the management requirements and mitigation measures identified in the FEIS, pages 23 to 29. I am confident that selected management requirements and mitigation measures will minimize adverse effects for the following reasons: the selected mitigation measures are practices we have used successfully in the past; they are state-recognized best management practices for protecting water and soil; or they are based on current research. I have decided to monitor the implementation of these measures and, in some instances, to monitor their effectiveness, as described in Chapter 2 of the FEIS (pages 29 to 30) and in the following section.

Monitoring

Resource monitoring of the 18 Fire Recovery Project will be implemented with Alternative 2. The objectives of monitoring are: 1) to assure that all aspects of the project are implemented as intended; 2) to determine, for certain critical activities, that the effects of the activities are consistent with the intent; and 3) to allow adaptation if it is found that activities are not being implemented correctly or are not having the desired effects. For example, if monitoring of reforestation tree survival indicates that mortality is higher than anticipated, the result of that monitoring would be used to replant low survival areas.

To determine vegetative differences between salvaged and unsalvaged sites I have decided to implement an administrative study in partnership with the USDA Forest Service Central Oregon Interagency Ecology Program. The results of this study will assist in the validation of predicted environmental effects and be beneficial for future vegetation management and fire salvage. Implementation of this study will reduce the acres of salvage and tree planting from an estimated 1,936 acres to 1,886 acres. The amount of saw timber removed would also decline by an estimated 160 thousand board feet. This would have a negligible effect on the economic return, while at the same time providing additional wildlife habitat (snags).

Additional details of the monitoring items may be found in the FEIS (pages 29 to 30) and are part of my decision.

Forest Plan Consistency

Alternative 2 is consistent with long-term management objectives as discussed in the Deschutes National Forest Plan, as amended. Discussions on consistency are found in the FEIS on pages 10, 11, 19 to 29, 52, 63, 75, 175, 220 to 248, and 287.

Consistency with NFMA Requirements

In all other respects, I find this decision to be consistent with the Deschutes Forest Plan and with the requirements of the National Forest Management Act implementing regulations; specifically:

Silvicultural Practices

In Alternative 2, there is no timber salvage on lands classified as unsuitable for timber production 36 CFR 219.27 (c) (1).

Even-aged Management/Clearcutting

The Selected Alternative includes reforestation and salvage of timber killed by a large-scale wildfire. According to the requirements of 36 CFR 219.27(d) and 16 USC 1604(k), the limits on opening size do not apply because the opening is a result of natural catastrophic conditions. The reforestation of the openings will result in even-aged stands where the fire killed all the live trees.

Vegetative Manipulation/Management Requirements

The selected action is consistent with the seven management requirements from 36 CFR 219.27 and the vegetation requirements from 36 CFR 219.27(b).

Maintaining Viable Populations of Fish and Wildlife Species

The selected action is consistent with the viable population requirements of 36 CFR 219.19. The 18 Fire removed habitat for species dependent on live trees and a canopy, including management indicator species. Fuels reduction activities and reforestation would accelerate the area closer to a sustainable, forested habitat condition. Those species that need snags and down logs are being provided for at various levels across the landscape in a sufficient temporal and spatial scale until the area can once again recruit these necessary components. When habitat conditions are once again sufficient, colonization can occur from the surrounding areas within those areas that did not burn severely, or are outside the fireline. For a complete discussion on Management Indicator Species, reference the FEIS on pages 75 to 104.

Implementation

I have reviewed the 18 Fire Recovery Project FEIS, and its associated appendices. I feel there is adequate information within these documents to provide a reasoned choice of action. I am fully aware of the possible adverse environmental effects that cannot be avoided, and the irreversible/irretrievable commitment of resources associated with the Selected Alternative. I have determined that these risks are low and will be outweighed by the likely benefits. Implementing the Selected Alternative will cause no unacceptable cumulative impact to any resource. There will be no significant impact to cultural resources, consumers, civil rights, minority groups, or women. There are no unusual energy requirements for implementing the Selected Alternative. The FEIS adequately documents how compliance with these requirements is achieved (FEIS, Chapter 3).

An emergency situation status was granted on November 12, 2004. Harvest activities of the selected alternative will be implemented immediately.

Procedure for Change During Implementation

Minor changes may be needed during implementation to better meet on-site resource management and protection objectives.

In determining whether and what kind of further NEPA action is required, the Responsible Official will consider the criteria for whether to supplement an existing Environmental Impact Statement in 40 CFR 1502.9(c) and FSH 1909.15, sec. 18, and in particular, whether the proposed

change is a substantial change to the intent of the Selected Alternative as planned and already approved, and whether the change is relevant to environmental concerns. Connected or interrelated proposed changes regarding particular areas or specific activities will be considered together in making this determination. The cumulative impacts of these changes will also be considered.

The intent of field verification prior to my decision was to confirm inventory data and to determine the feasibility and general design and location of a road or unit, not to locate the final boundaries or road locations. For example, salvage unit prescriptions may be modified if site conditions dictate and if other resource objectives can be met. Minor adjustments to unit boundaries may be needed during final layout for resource protection, to improve logging system efficiency, and to better meet the intent of my decision. Many of these minor changes will not present sufficient potential impacts to require any specific documentation or action to comply with applicable laws.

Appeal Rights and Emergency Situation Determination

Organizations or members of the general public may appeal my decision according to Title 36 CFR Part 215. The 45-day appeal period begins the day following the date the legal notice of this decision is published in *The Bulletin*, Bend, Oregon, the official newspaper of record. The Notice of Appeal must be filed with the Reviewing Officer at:

Appeal Deciding Officer
Pacific Northwest Region
USDA Forest Service
Attn. 1570 Appeals
333 S.W. First Avenue
PO Box 3623
Portland, OR 97208-3623

Appeals can also be filed electronically at: appeals-pacificnorthwest-regionaloffice@fs.fed.us or hand delivered to the above address between 7:45 AM and 4:30 PM, Monday through Friday except legal holidays. The appeal must be postmarked or delivered within 45 days of the date the legal notice for this decision appears in *The Bulletin* newspaper. The publication date of the legal notice in *The Bulletin* newspaper is the exclusive means for calculating the time to file an appeal and those wishing to appeal should not rely on dates or timeframes provided by any other source.

Electronic appeals must be submitted as part of the actual e-mail message, or as an attachment in Microsoft Word (.doc), rich text format (.rtf) or portable document format (.pdf) only. E-mails submitted to e-mail addresses other than the one listed above or in other formats than those listed or containing viruses will be rejected. Only individuals or organizations who submitted substantive comments during the comment period may appeal.

It is the responsibility of those who appeal a decision to provide the Regional Forester sufficient written evidence and rationale to show why my decision should be changed or reversed. The appeal must be filed with the Appeal Deciding Officer § 215.8 in writing. At a minimum, an appeal must include the following:

1. Appellant's name and address (§ 215.2), with a telephone number, if available;
2. Signature or other verification of authorship upon request (a scanned signature for electronic mail may be filed with the appeal);
3. When multiple names are listed on an appeal, identification of the lead appellant (§ 215.2) and verification of the identity of the lead appellant upon request;
4. The name of the project or activity for which the decision was made, the name and title of the Responsible Official, and the date of the decision;
5. The regulation under which the appeal is being filed, when there is an option to appeal under either this part or part 251, subpart C (§ 215.11(d));
6. Any specific change(s) in the decision that the appellant seeks and rationale for those changes;
7. Any portion(s) of the decision with which the appellant disagrees, and explanation for the disagreement;
8. Why the appellant believes the Responsible Official's decision failed to consider the substantive comments and;
9. How the appellant believes the decision specifically violates law, regulation, or policy.

On November 12, 2004 Forest Service Regional Forester, Linda Goodman determined the 18 Fire Recovery Project to be an emergency situation and exempted it from stay pursuant to 36 CFR 215.10. This means that my decision may be implemented immediately following publication in *The Bulletin*, Bend, Oregon, the newspaper of record. This emergency exemption is based on the economic value the government would lose if the project were delayed during the appeal period. The value loss is estimated at $124,000. The exemption from stay during the appeal period applies to all units within the 18 Fire Recovery Project.

Contact Persons

For additional information concerning the specific activities authorized with my decision, please contact:

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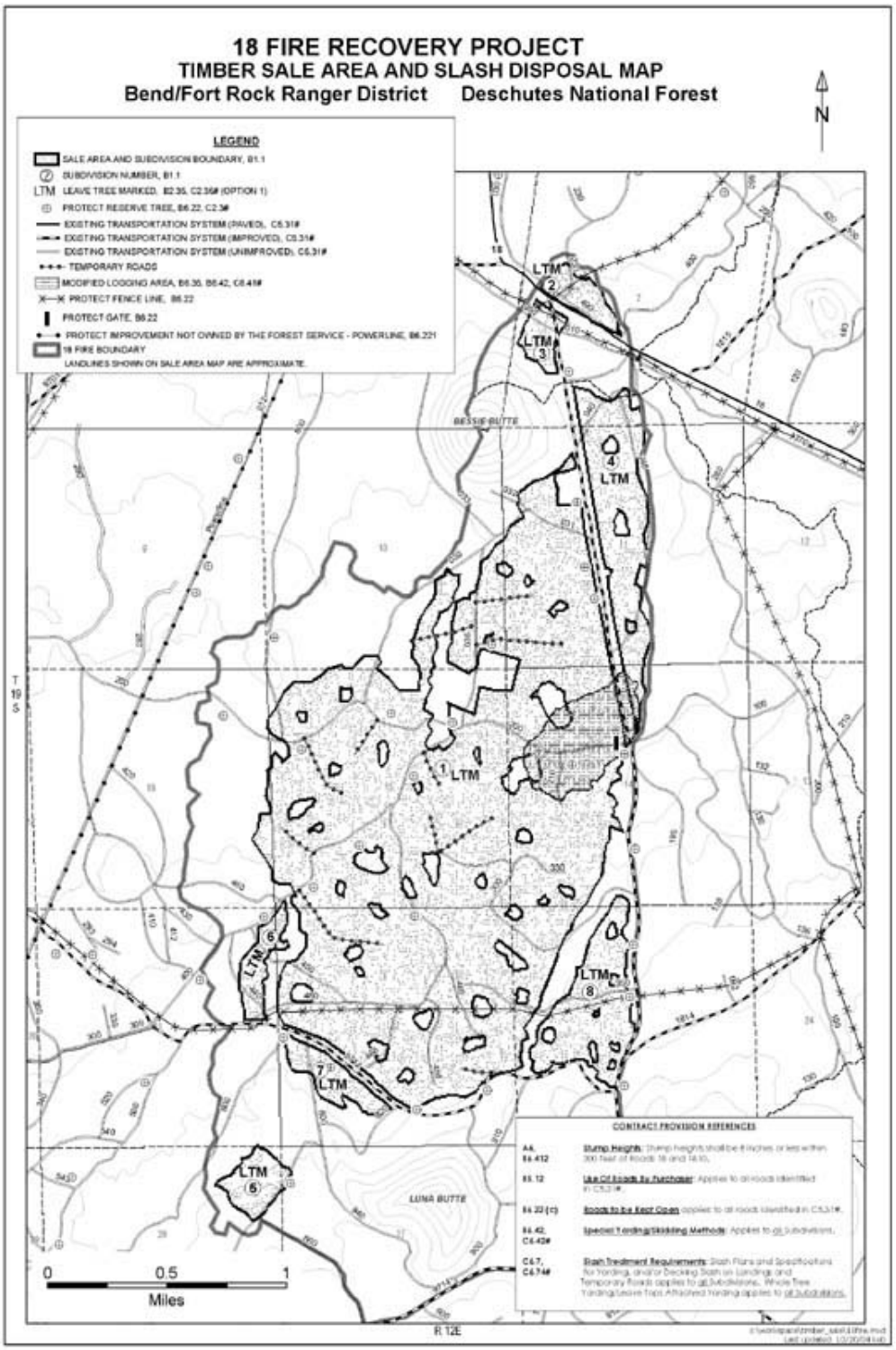
_____ _____

LESLIE A. C. WELDON
Forest Supervisor
Deschutes National Forest

Date

Figure 2 Alternative 2


18 FIRE RECOVERY PROJECT
TIMBER SALE AREA AND SLASH DISPOSAL MAP
Bend/Fort Rock Ranger District Deschutes National Forest
N
LEGEND
SALE AREA AND SUBDIVISION BOUNDARY, B1.1
SUBDIVISION NUMBER, B1.1
LTM LEAVE TREE MARKED, B2.35, C2.35# (OPTION 1)
PROTECT RESERVE TREE, B6.22, C2.3#
EXISTING TRANSPORTATION SYSTEM (PAVED), C5.31#
EXISTING TRANSPORTATION SYSTEM (IMPROVED), C5.31#
EXISTING TRANSPORTATION SYSTEM (UNIMPROVED), C5.31#
TEMPORARY ROADS
MODIFIED LOGGING AREA, B6.35, B6.42, C6.41#
PROTECT FENCE LINE, B6.22
PROTECT GATE, B6.22
PROTECT IMPROVEMENT NOT OWNED BY THE FOREST SERVICE - POWERLINE, B6.221
18 FIRE BOUNDARY
LANDLINES SHOWN ON SALE AREA MAP ARE APPROXIMATE.
BESSIE BUTTE
LUNA BUTTE
LTM 1
LTM 2
LTM 3
LTM 4
LTM 5
LTM 6
LTM 7
LTM 8
T 19 S
R 12E
0 0.5 1
Miles
CONTRACT PROVISION REFERENCES
A4, B6.412 Stump Height: Stump heights shall be 8 inches or less within 300 feet of Roads 18 and 1810.
B5.12 Use Of Roads By Purchaser: Applies to all roads identified in C5.31#
B6.22 (c) Roads to be Kept Open: applies to all roads identified in C5.31#.
B6.42, C6.42# Special Yarding/Skidding Methods: Applies to all subdivisions.
C6.7, C6.71# Slash Treatment Requirements: Slash Plans and Specifications for Yarding, and/or Decking Slash on Landings, and Temporary Roads applies to all Subdivisions. Whole Tree Yarding/Leave Tops Attached Yarding applies to all subdivisions.