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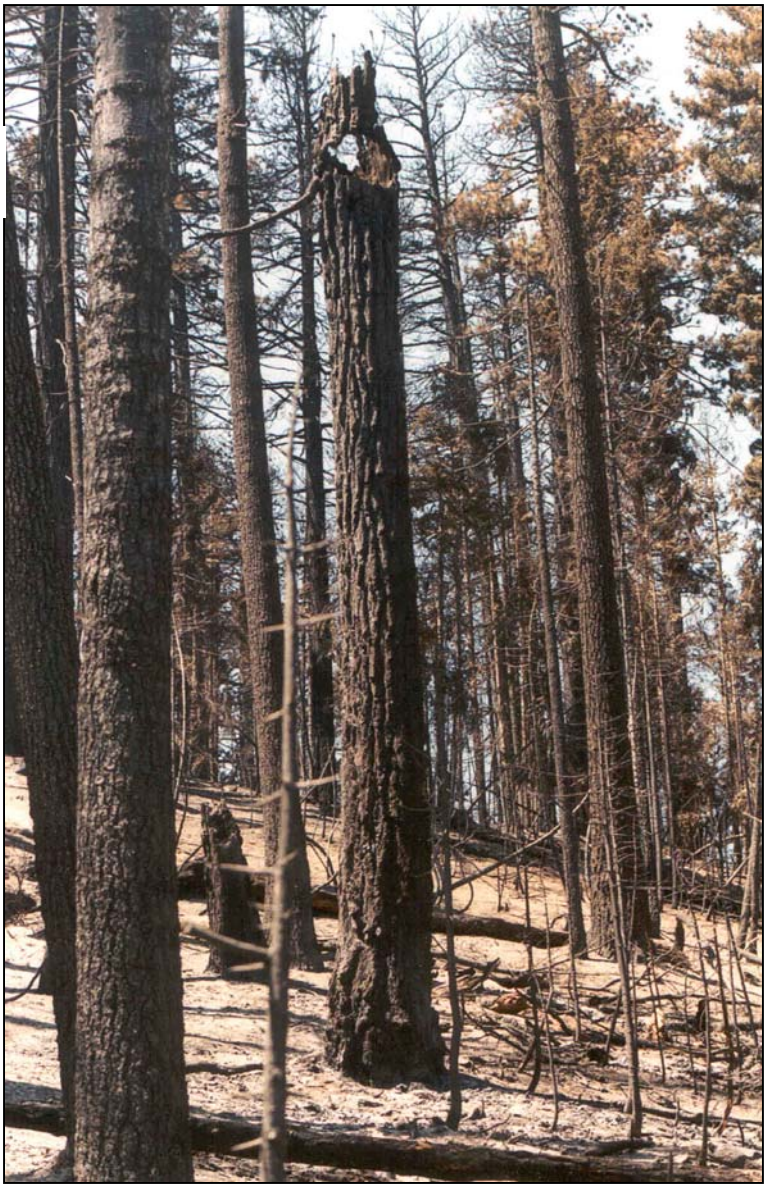
Davis Fire Recovery Project

Record of Decision



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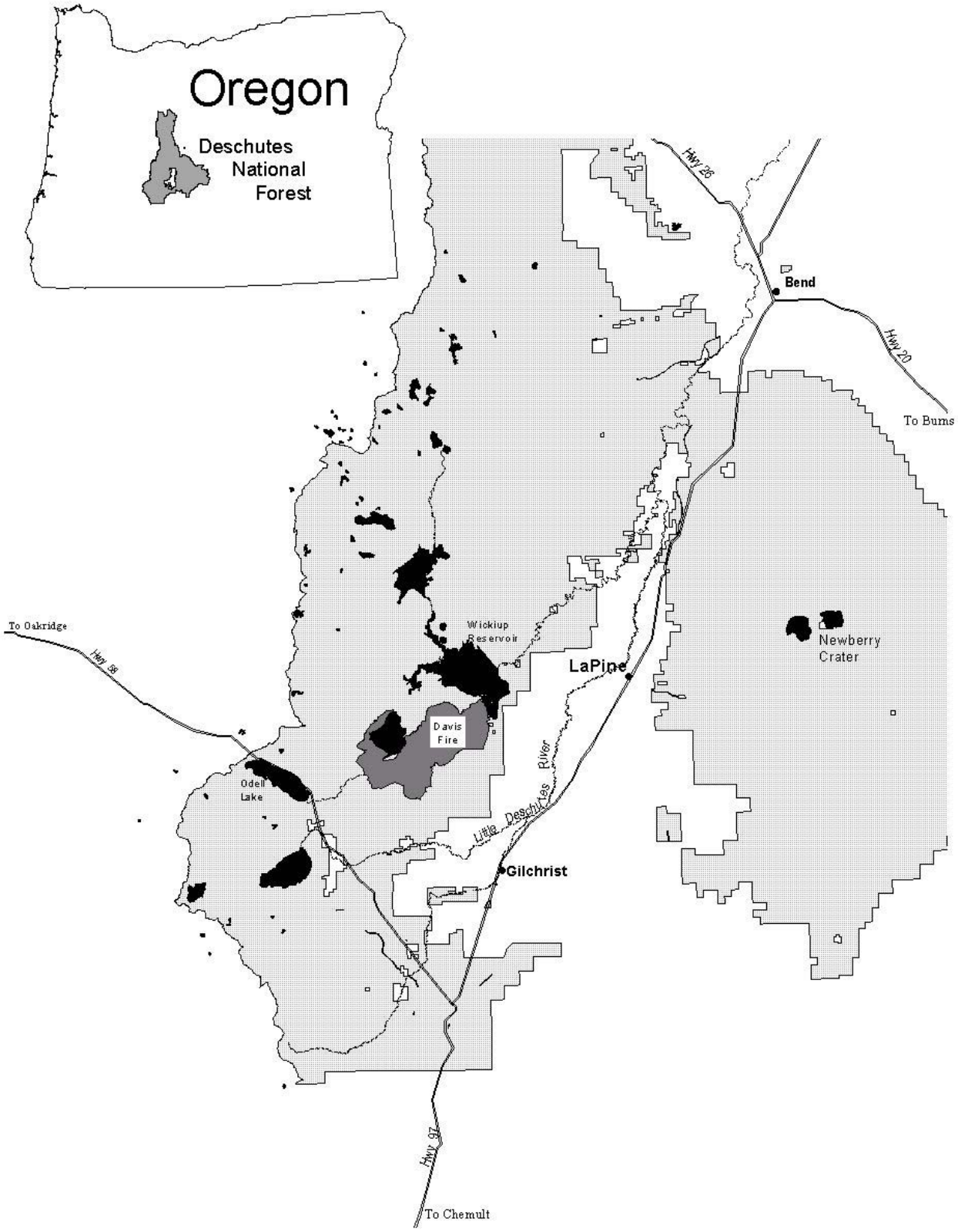
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RECORD OF DECISION
AND NON-SIGNIFICANT FOREST PLAN AMENDMENT
Davis Fire Recovery Project

USDA Forest Service
Crescent Ranger District, Deschutes National Forest
Klamath and Deschutes Counties, Oregon

T 22 S, R 7 E; T 22 S, R 8 E; T 23 S, R 7 E; T 23 S, R 8 E, Willamette Meridian

INTRODUCTION & BACKGROUND

This Record of Decision (ROD) documents my decision and rationale for the selection of Alternative B for the Davis Fire Recovery Project. It also includes a non-significant amendment to the Deschutes National Forest Plan. The amendment allows tree removal and slash to be visible to the "casual observer" for longer periods than under the existing Standards and Guidelines on approximately 100 acres.

In order to make a decision that would have no effect on the northern spotted owl, I have decided to drop small diameter thinning in areas of mixed fire intensities on 83 acres (units 390, 250, and 251) within a former spotted owl territory. Also, I have decided to drop small diameter thinning within Nesting, Roosting, and Foraging habitat on 48 acres (Table 1), for a grand total of 131 acres.

Table 1: Units Dropped for "No Effect" to the Northern Spotted Owl

Small Diameter Thinning Unit	Allocation	Unit acres	Acres of Nesting, Roosting, and Foraging	Acres Dropped
250	Matrix Owl Home Range	23	0	23
251	Matrix Owl Home Range	41	0	10
331	CHU/LSR	26	23	23
333	LSR	6	4	4
370	Matrix	154	18	18
375	Matrix	149	3	3
390	CHU/LSR	50	15	50
	Total	349	63	131

I considered where these units are located on the landscape and the effect to the fuels strategy (including commercial and non-commercial activities). Approximately 1,319 acres of small diameter fuels reduction would remain and the overall effect would have an insignificant change from those effects discussed in the FEIS.

An emergency situation determination for economics has been granted for the portion of the project area that is experiencing rapid deterioration. This is discussed in greater detail in the Appeal Rights section at the end of this document.

In the end of June and early July 2003, the Davis Fire burned approximately 21,000 acres on the Crescent Ranger District of the Deschutes National Forest. The Davis Fire Recovery Project area is located approximately 10 miles northwest of Crescent/Gilchrist, Oregon (Figure 1).

About 56% of the fire occurred within the Davis Late Successional Reserve (LSR) and the eastern edge of the fireline borders Wickiup Acres, a small tract of private land with homes and structures. Of the thirteen spotted owl territories on the Crescent Ranger District, five are all or partially located within the Davis Fire perimeter. Davis Mountain had a nesting pair of spotted owls with young. It is most likely the nestling did not survive the fire. There are six northern bald eagle territories within or adjacent to the Davis Fire. Five of the adults with young likely successfully fledged where their nest tree received less than a high intensity fire.

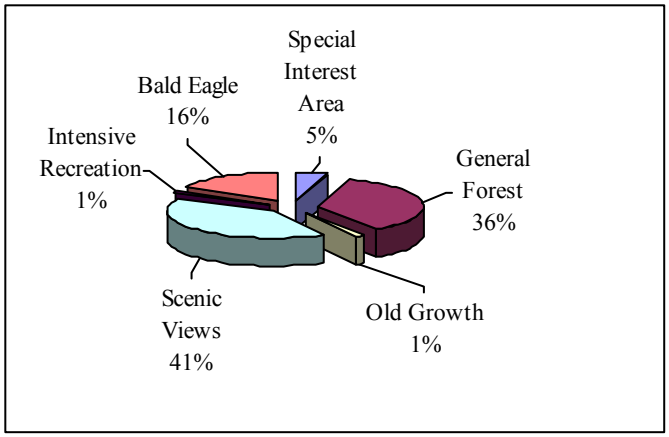
The project area lies within seven 6th field subwatersheds. In 1999, the Crescent Ranger District updated the Odell Watershed Analysis (WA) which applies to more than half of the project area. The Big Marsh Watershed Analysis completed in 1997, also covers a very small portion of the area (about 3%). The FEIS will serve as an update to the existing condition described in the WA. Davis Lake and its tributaries are part of the Odell Lake Bull Trout Recovery Unit. Bull trout are predominately found in Trapper Creek and Odell Lake, which both lie within the Odell Lake subwatershed upstream of the project area boundary. None of the lakes or streams within the subwatersheds have a connection to the ocean that would allow for anadromous fish. Odell Creek is the only stream within the project area included on the Oregon DEQ 303(d) list for temperature, because the summer spawning and rearing habitat for some species would be limited.

The majority of the burn area was forested with dry mixed conifer stands comprised of ponderosa pine overstories with a component of Douglas-fir. By 2003, the condition of these stands was very different from historic conditions. Due to fire exclusion, most of the area was overstocked with a significant shift to fire intolerant species such as white fir and lodgepole pine. Approximately 75% of the area burned with moderate to high intensity which resulted in 100% tree mortality.

Soils on the slopes of the larger buttes are primarily comprised of a deep mantle of ash and pumice fall from Mt. Mazama over an older layer of similar. A deep mantle of ash and pumice fall also overlies an older soil located above glacial outwash within the Davis Lake basin. These soils are characterized as highly permeable and well drained.

The following Figure 2 displays the distribution of Forest Plan land allocations within the project area:

Figure 2: Deschutes National Forest Plan Allocation Distribution within the Davis Fire Perimeter



There are no inventoried roadless, wilderness, or proposed wilderness areas within or adjacent to the project area.

Additional recovery projects have been completed or are on-going within the Davis Fire Recovery Project area (FEIS, Page 3-200, 3-227, 3-340). These projects include:

- Hazard tree felling and removal along main travelways and within East and West Davis developed campgrounds.
- Spading of conifers and planting of seedlings within East and West Davis developed campground is planned to begin in the spring of 2005.
- Log placement on the lower 1.5 miles of Odell Creek of approximately 150 logs in logjam structures to reduce erosion and sediment transport, as well as to improve channel integrity and fish habitat.

PURPOSE AND NEED FOR ACTION

Several post-fire reviews of the burned area showed that actions were needed to move the resource conditions closer to the desired future conditions and address the management direction provided by the Deschutes National Forest Plan, as amended. The stands in the fire area had been altered from their historic conditions. The two broad categories of purpose for the project are: the acceleration of ecosystem restoration, and timely commodity extraction. There are five basic underlying needs identified for the Davis Fire area:

- Protect remaining late and old structured habitat within the LSR and the Matrix from uncharacteristically severe fire;
- Establish fuel conditions that will allow for future management actions including restoring fire as an ecosystem component;
- Accelerate reforestation of the desired species important for long term objectives within areas where no seed source remains;

- Recover timber volume where a disturbance event is clearly outside of pre-suppression fire processes (referred to as catastrophic in the Northwest Forest Plan); and
- Improve public safety

My proposed action consists of a variety of activities including fuel reductions, timber salvage, planting riparian vegetation, 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, and on recommendations from the Odell Watershed Analysis (USDA Forest Service, 1999) and the Davis Late Successional Reserve Assessment (USDA Forest Service, 1995). The following is a more detailed description of how this decision meets the five basic needs identified for the Davis Fire area.

1. Protect remaining late and old structured habitat within the LSR and the Matrix from uncharacteristically severe fire.

2. Establish fuel conditions that will allow for future management actions and restore fire as an ecosystem component.

Since the Davis Fire occurred, the remaining late and old structured habitat within the LSR and the Matrix lands surrounding the LSR are elevated in their importance to dependent species. It is especially important to protect these areas, as well as ensure fuel loadings and arrangements are maintained in a manner that can ensure the role of fire can be successfully integrated back into appropriate plant associations. By achieving this goal, reduction of all sizes of fuels can also elevate the chance of a successful initial attack on a subsequent wildfire adjacent to residential communities in the La Pine basin.

The majority of the Davis Fire Recovery area (82%) is characterized as a short-interval fire adapted ecosystem (Fire Regimes I and IIIa). Under a more characteristic condition, frequent, low-intensity fires swept the forest floor and maintained fuel and vegetation to support fire disturbance processes. High intensity fires did occasionally occur, but were often in isolated pockets of heavy fuels within broad-scale low intensity fire events.

Prior to the Davis Fire, forest stands that were historically characterized by open large-sized Douglas-fir and ponderosa pine had become dominated by denser stands of smaller trees often in multi-strata structures, and with increasing amounts of white fir and lodgepole pine. These stand conditions made ladder fuels common and were accompanied by an accumulation of surface fuel loadings. Together these changes resulted in a condition that supported high intensity fire behavior with potentially damaging results to existing forest stands over a large portion of the landscape. These

stand and fuels conditions were present within the Davis Fire area in amounts and distribution that represent a substantial departure from historic conditions.

Fire intensity was moderate to high on about three quarters of the fire area, resulting in almost 100% tree mortality. This was an uncharacteristic event compared to the historic fire regimes. In large portions of the fire area, the fire consumed the litter layer, most of the existing down woody material, and killed or severely damaged all of the standing trees.

Now, as a result of the fire, a dead and standing fuel component remains. For the next 10 years, a high intensity fire in the project area is unlikely because ground fuels will not have accumulated to sufficient levels on the ground, and will not be continuous enough to carry fire. However, approximately 10 to 30 years from now, the rate of fuels accumulation on the forest floor will likely increase as smaller diameter dead trees fall, and as shrubs and other understory species become established (FEIS 3-184). Minimal duff will have accumulated, thus a high burn severity would primarily occur where fuel is concentrated and has decomposed enough to support prolonged burning. The maximum surface fuel loading is predicted to begin during the period of 30 – 35 years post fire, and could persist for several decades. The average maximum surface fuel loading for stand replacement burned areas is estimated to range up to 75 tons per acre, primarily in larger fuels.

After 30 years, large wood will have decayed considerably, and a litter and duff layer will have established, resulting in a potential for high burn severity to soils due to prolonged burning of this layer. Additionally, existence of a dense, fire intolerant conifer overstory could support a crown fire, which would retard or eliminate vegetation recovery. The development of vegetative communities could be altered, perpetuating the departure from historic conditions under a short-interval/low-intensity fire regime. The potential for re-introduction of fire in the future, either by prescribed burning or wildland fire use (formerly called prescribed natural fire), would be reduced because fuel conditions would not allow for retention of the desired number of trees.

Table 2 displays the potential surface fuel loading (projected to occur in 30 – 35 years), which would result from no action, compared to desired levels. Suitable levels are described in the Davis Late Successional Reserve Assessment (LSRA) 1996. The assessment describes the percentage of each Plant Association Group in a sustainable habitat condition based on peer reviewed literature most appropriate for eastside conditions. The last column in the table displays recent science regarding management of coarse wood debris in a recovering forest (Brown et al, 2003). The suitable levels by plant association group from the Davis LSRA would be appropriate to apply to at least 75% of the entire Davis Fire area in the mixed conifer plant association group.

Table 2: Projected and Desired Surface Fuel Loading

Plant Association Group	Projected Maximum Surface Fuels in 10-30 years, Under No Action Tons/acre	Suitable Habitat Condition Tons/acre	Recent Science Brown et al, (2003) Tons/acre
Ponderosa Pine Dry	10-75	10 - 15	5 - 20
Mixed Conifer Dry	10-75	12 - 24	10 - 30

Projections for no action indicate that maximum surface fuels would exceed desired levels, in some areas by as much as 400%. Based on the above comparison, there is a desire and need to remove some of the standing dead trees (small and large) that will eventually fall and add to surface fuel loading. The removal of the standing dead trees and fuel treatments within salvage units would help to reduce the potential effects associated with future fire behavior; particularly burn duration, resistance to control, reduce fire severity of prescribed or wildfire events, and give us the ability to move toward a characteristic burn cycle.

3. Accelerate reforestation of the desired species important for long term objectives within areas where no seed source remains.

Natural regeneration of conifer species after a fire is dependent on seed dispersal from remaining live trees. For much of the Davis Fire Recovery area, particularly within the interior areas of the fire, adjacent seed will not be available for conifer species such as ponderosa pine, Douglas-fir, or sugar pine. These areas will require reforestation by planting. Replanting will ensure establishment of species desirable for long-term objectives. These objectives include fire tolerant tree species (e.g. ponderosa pine and Douglas-fir) that have the potential to develop into the size necessary to provide nesting and roosting for wildlife. Due to the loss of seed source, the majority of natural regeneration would likely include those early seral species that generally do not achieve the desired tree size and are less tolerant of fire.

The restoration rate of late successional forest habitat can be increased with planting and fuel reduction treatments. Modeling of the area has shown conifer planting to reach average tree diameter of 14" at year 100. Some trees would range up to 20" and the stand composition would be made up of fire tolerant species. At this point, snags can begin to be recruited for woodpeckers. In a passive management scenario, the restoration of late-successional forests could be delayed an additional 100 years, and the primary tree species would not be tolerant of a frequent fire regime (mostly lodgepole and white fir).

Through active management, planting densities and patterns will reflect potential natural regeneration and mortality expected over time. Spacing between planted trees will average 15 feet. Combined with mortality associated with the return of fire into

the stands, spacing will be sufficient to allow the tree growth needed to provide for nest sites and roosting, as well as diminish the need for intensive thinning.

4. Recover timber volume where a disturbance event is clearly outside of pre-suppression fire processes (referred to as catastrophic in the Northwest Forest Plan).

The proposed action is linked to the purpose and need for action. In addition to improving conditions that are suitable and sustainable for dependent species, it also accomplishes commodity extraction for jobs and income where the fire killed more trees than needed in the short and long term.

For the Davis Fire Recovery Project Area as a whole, this action is needed because the area is currently characterized by fire-killed and damaged ponderosa pine and mixed conifer trees. There are more snags than would have existed under a normal fire regime (i.e. without fire suppression). Mixed conifer stands are composed of a mixture of tree species including: ponderosa pine, Douglas-fir, sugar pine, western white pine, white fir, Shasta red fir, and lodgepole pine. These species quickly lose commercial value and their suitability as a raw material for sawtimber rapidly deteriorates following fire mortality. This action responds to the goals and objectives for the Deschutes National Forest Land and Resource Management Plan (p. 4-2, and pp. 4-37 – 4-49). One of the purposes of this project is to recover value in the wood in a timely and economically efficient manner from a portion of the area burned by the Davis Fire by putting it to beneficial use in the local and regional communities. There is a need and demand for wood and various wood products used throughout the region. The proposed action utilizes the opportunity to salvage harvest the fire-killed trees and will help provide jobs and income.

Specifically, for the portion of the project within the Davis Late-Successional Reserve (LSR), there is an opportunity to recover the timber volume in this instance where a catastrophic event killed more trees (resulting in more snags and down logs in the short and long term) than are necessary to contribute to future late-successional conditions (reference Northwest Forest Plan Record of Decision, page 66). In other words, the post-fire snag levels exceed what would have existed under a normal fire regime and removing some of the fire-killed trees through salvage logging will provide sawtimber and other wood products to the local and regional economies (NWFP ROD, A-1).

Salvage of merchantable trees can also offset the costs of removing fuels in smaller unmerchantable size classes and fund other important recovery activities, including reforestation through planting of conifers.

5. Improve public safety

There is a need to improve public safety along major roads and areas of highly concentrated use within the fire area. The immediate danger trees creating the hazard was addressed along some of the major roads and within developed campgrounds immediately after the fire as addressed in the categorical exclusion and subsequent decision memo. But there is a need to remove potential danger trees from other roads and concentrated areas visited by the public to address a long-term safety concern. Also, providing for safe evacuation in case of a subsequent uncharacteristic wildfire is a consideration. It is a forest management goal to provide safe, efficient access for the movement of people and materials involved in the use of the National Forest lands (LRMP, p. 4-2).

CONSULTATION WITH THE TRIBES

Consultation with the Klamath Tribe, the Burns Paiute Tribe, and the Confederated Tribes of the Warm Springs Reservation of Oregon (CTWSRO) occurred prior to my decision (FEIS, page 2-22). The Davis Fire Recovery project area lies outside of lands ceded to CTWSRO, 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.

Government to government consultation with the tribes has been occurring since early on in the process through scoping letters and dialogue on the proposed activities within the Davis Fire Recovery Project analysis area. No special concerns about Tribal resources were identified. It is acknowledged that the Tribes may have lost the verbal history and they may not know where desired plant species and cultural resources may be found. This may affect their ability to tell Federal agencies where Tribal trust resources can be located on Federal lands.

CONSULTATION WITH GOVERNMENT AGENCIES

Coordination has occurred with federal, state, and local government officials (see also Chapter 4), including the U.S. Fish and Wildlife Service. The Environmental Protection Agency has not identified any environmental impacts requiring substantive changes. Information has been provided to and exchanged with state agencies and Deschutes and Klamath Counties.

ISSUES

In response to my proposed action, the public and the Forest Service identified three key issues. These issues were then used to develop alternatives to the Proposed Action. Issues include:

Issue #1 – Soils

Concern was expressed that using mechanized equipment to reduce fuels through commercial timber sales would decrease soil productivity (mainly through compaction, displacement of soil, or a decrease in ground cover). Ground-based yarding systems have the potential to increase erosion on soils burned with high and moderate severity.

The essential indicator for this issue is the area of detrimental disturbance, including cumulative effects from past actions. All of the alternatives were designed to meet or exceed the forest plan standards and guidelines for soil productivity.

Issue #2 - Wildlife

Several public letters raised concern that salvage operations could negatively impact habitat for species dependent upon snags and down wood. Although there are likely more snags than would have existed under a characteristic fire regime, the Davis Fire created conditions that will provide a short-term benefit for species that forage on the insect populations that result from high tree mortality events (approximately 3–15 years). Removal of merchantable material has the potential to limit the natural cycles of post-fire insect populations and the population dynamics of dependent foraging species. Snag density, size and distribution influence use and vary by individual species.

The essential indicator for this issue is snag habitat. All of the action alternatives are consistent with standards and guidelines within the Northwest Forest Plan and Eastside Screens, as well as recommended levels for the Davis Late Successional Reserve.

Issue #3 – Passive vs. Active Management

Active management in the post-fire landscape is opposed by some people. Some public comments show a desire for "natural" post-fire recovery and passive processes, and alternatives were suggested to restore the area through non-commercial means. Public input on the best approach to recovery demonstrates the divergent points of view on what approach to recovery would best accomplish the purpose and need. The essential indicator for this issue is the time it takes to recover late and old structured stands. Action alternatives achieve large trees sooner than under a passive management scenario.

Ten additional issues were considered in the assessment of effects, but were not used as the basis for alternative development as they were resolved in other ways (see FEIS, page 2-25).

ALTERNATIVES CONSIDERED IN DETAIL

Four action alternatives and a "No Action" alternative were analyzed in the FEIS. A short-term, non-significant, site specific amendment of the visual quality standards and guidelines in the Deschutes National Forest Land and Resource Management Plan

is incorporated into the design of Alternatives B, C, and E. It allows tree removal and slash to be visible to the "casual observer" for longer periods than under the existing Standards and Guidelines on approximately 100 acres. Thirteen alternatives were considered in the FEIS and dropped from detailed consideration (FEIS, pages 2-58 through 2-62). The four action alternatives considered in the FEIS examine varying combinations and degrees of recovery 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 A through E).

Alternative A – No Action

The purpose of this alternative is to allow current processes to continue, along with associated risks and benefits, in the Davis Fire analysis area. Any restoration would rely on a passive approach. There would be no salvage of fire-killed trees to reduce fuels; there would be no planting for reforestation of mixed conifer species; no small-diameter fuels reduction would take place; and no temporary roads would be constructed; no riparian shrubs would be planted in the riparian corridor of Odell Creek and there would be no planting to provide cover or forage within the Key Elk Area. Other than some of those deemed unsafe, all snags would be retained on site. No actions would be taken that would change current wildlife habitat or soil quality.

Alternative B – Preferred and Selected Alternative

Alternative B maximizes ground-based logging methods (3,785 acres) to be able to better reduce fuels profiles in the most economical manner. Aerial harvest systems are proposed on steeper slopes, where access is marginal on Davis Mountain and Saddle Butte, and around Davis Lake.

Conifer reforestation would occur in salvage units, plantations that were in the high/moderate burn, portions of the lodgepole flat area south of Davis Lake (to accelerate hiding cover in the Key Elk Management Area), and the riparian reserve along Odell Creek. Reforestation will include planting and natural regeneration. Fuel reduction units were located to reduce the risk of fire spreading into or from high-use areas such as the campgrounds on Davis Lake and along Highway 46. Additional fuels reduction units are located around the periphery of the fire, and in conjunction with previously-treated stands to provide protection from fire entering or spreading from the recovery area, or remaining habitat and LOS stands. These small-diameter fuels treatments include green trees up to 12" dbh and no thinning will occur in spotted owl nesting, roosting, and foraging habitat.

Alternative C

Alternative C was developed to respond to Key Issue #1 (Effects to Soils). The area to be salvage harvested is the same as Alternative B, but differs in the logging system utilized. Using more aerial harvest systems (over 3,200 acres) in addition to ground-based systems, less soil disturbance will occur and less temporary road construction will be required. The post-salvage fuels treatments in the helicopter and skyline units differ from ground-based units in that they will not be grapple piled. In ground-based units, post-salvage fuels treatments would take place by felling unmerchantable 3-12"

dbh trees, then grapple piling and burning. In helicopter and skyline units, small-diameter fuels treatments following salvage operations would take place by felling unmerchantable trees 3 – 12" dbh, and jackpot burning to reduce concentrations of dead and down material. This burning would be applied to about 60% of each unit. All other activities such as reforestation and fuels reduction outside of salvage units will occur as described in Alternative B.

Alternative D

Alternative D was developed to respond to Key Issue #3 (Passive Recovery in Late Successional Reserve vs. Recovery using Active Management, Including Commercial Salvage) and Key Issue #2 (Wildlife Habitat). Because some respondents believe that passive management of the forest (or limited intervention) is best for post-fire landscapes, Alternative D proposed no commercial salvage operations, except hazard tree removal along 3 major roads, within the Davis Late Successional Reserve (LSR), where the primary objective is to manage for species that depend on late and old forests. Within the Davis LSR, hazard tree removal proposed along roads 6230, 6240, and 6245 would provide for public safety. These roads total approximately 9 miles within the fire area.

Outside of the Davis LSR, commercial salvage and reforestation will take place as identified in Alternatives B & C (approximately 1,045 acres). This will occur in the Matrix allocation (945 acres) as well as outside of the range of the northern spotted owl (100 acres). Small-diameter fuels reductions will take place on approximately 1,319 acres. Some units that are identified for salvage in Alternatives B & C will be treated only for small-diameter fuels in Alternative D (these occur along Highway 46); this accounts for the greater number of acres of fuels reduction in this alternative.

Alternative E

As in Alternative C, this alternative responds to the Soils Key Issue #1. The skyline and helicopter harvest units from Alternative C are retained in this alternative, but as helicopter logging only. Ground-based salvage units along Highway 46 from Alternative C are included as helicopter logging units in this alternative. Reforestation of the salvage units will occur. Hazard tree removal would also take place as in the other alternatives. No temporary road construction would take place under this alternative. Small-diameter fuels treatments following salvage operations would take place by felling unmerchantable trees 3 – 12" dbh and jackpot burning to reduce concentrations of dead and down material. This burning would be applied to about 60% of each unit.

Reforestation by planting outside of salvage units will occur over 250 acres that are within the vicinity; and in the Key Elk Area and along Odell Creek as described in the other action alternatives. Fuels reduction outside of salvage units would take place on 1,319 acres by felling understory live trees up to 12 inches in diameter, followed by either grapple piling or hand piling and burning.

Mitigation specific to this alternative: Units 5 and 10 on Ranger Butte are dropped from logging (approximately 160 acres) in this alternative, as are all other areas exceeding 25% slope.

DECISION AND RATIONALE

It is my decision to select Alternative B (Figure 3) as the Forest Service plan for the Davis Fire Recovery Project. For a detailed discussion of all the facets of Alternative B, see FEIS, starting on page 2-30.

In making this decision, I carefully considered the comments received about the proposed recovery project and the Davis Fire area. Some members of the public said that many of the resource values had been degraded by the fire and that the best use for the burned trees was to log them and put a community back to work that is suffering from a high unemployment rate.

Others said that the fire had done enough damage to the landscape and that large scale 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 results of the Davis Fire.

I recognized that the public was passionate about what they felt was best for the land and the community, and that there is no management strategy that could totally satisfy all concerns that were expressed. I have selected an alternative that addresses all of these concerns, though is not likely to resolve the conflicting points of view.

Post fire recovery has become a big part of land stewardship on the Deschutes National Forest. In terms of needs and opportunities, I have considered the two main questions: What are the best actions to take to assure ecological recovery after a fire? And, where should these actions take place on the land to assure desired outcomes, especially in the long-term (30 years and beyond)? I have reviewed the latest peer-reviewed ecological science and considered its relevance to the Davis Fire area. Alternatives B and C do the best job of ensuring a healthy and productive forest ecosystem, including clean water and biological diversity. I explain my reasoning for choosing B instead of C under the Impacts to Soils discussion on page 19.

I acknowledge commenters who believe there should be no commercial removal of trees in a post fire landscape. I have considered their arguments in favor of allowing passive processes to take their course, or having the necessary restoration work solely funded from the national treasury. In this case, active restoration of ecological health will produce a byproduct in the form of merchantable material which makes sense when undertaken with appropriate environmental protection. Alternative B allows some amount of commercial opportunity to help offset restoration expenses and contributes to the economic health of forest-dependent communities, especially the local towns of Crescent/Gilchrist and La Pine, Oregon. Economic opportunities are expected to trickle down in all forms of goods and services resulting from timber sale

contracts, stewardship agreements, and service contracts for reforestation and small diameter thinning.

This alternative puts the Davis Late Successional Reserve on the fastest track to developing suitable and sustainable conditions that are so important for species that depend upon late and older forests. Also, it does the best job of protecting the remaining surrounding forests, as well as providing a level of safety for visitors who return to the Davis Lake area.

Alternative B provides economic recovery to the government to allow for other restoration work needed in the fire area such as a balanced reduction of all sizes of the fuel profile, and reforestation of conifers important for long term objectives within the Late Successional Reserve.

Some of the eastern edge of the fire borders the Wickiup Acres subdivision, and it burned to within a few miles of homes south of La Pine, Oregon. With that in mind, Alternative B will reduce standing fuel today so that future downed fuel loadings will be nearer to characteristic levels typical of the eastside of the Cascade Mountain Range. And while both commercial harvest and fuel reduction activities will have some adverse impacts to the land, these impacts are within Forest Plan standards and will not significantly set back the ecological recovery of the fire area.

I considered the impacts to the scenery surrounding Davis Lake and Highway 46, part of the National Scenic Byway system. Although the short term impacts may not initially blend in with the landscape, I am focused on the long term benefits to scenery, as well as public safety and Late Successional Reserve objectives.

Before making this decision, I evaluated and balanced many factors. The first crossroad I encountered was whether the best strategy would be active or 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 that either approach (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) comments 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 and Everett as well as the scientific literature described in the bibliography of the FEIS. I am also including actions in this decision that are

designed to help fill information voids on the debate regarding active or passive management (FEIS, page 2-40).

The Davis Fire changed the biological and physical conditions of the area. Thousands of acres of trees were killed that provided cover and forage for wildlife; timber for future harvest; seed sources for new forests; and shade to streams. Scenic values were degraded, as well as the safety of forest visitors due to the vast acreage of standing dead trees. Many of these detrimental conditions will not self-correct in an acceptable period of time. After reviewing the analysis, in my judgment, active management is necessary.

Through history, fire has played a major role in the project area. These fires were generally frequent, low intensity fires that reduced ladder fuels and stand densities by killing small trees. Like the Eyerly, B and B, and 18 fires in 2002-2003, the Davis Fire was also an uncharacteristically severe wildfire. The high fire intensity across much of the fire area was due to unnaturally high fuel loading and its arrangement, largely due to past fire suppression efforts and not fully recognizing the role of fire in these forests. If many of the burned trees are not removed, there is a significant risk that: 1) future fuel loads will be just as high or higher than they were before the Davis Fire, especially at the surface, 2) another fire with similar or greater devastating results will burn, and 3) the safety of forest visitors and permittees in the fire area will be compromised. If such a fire burns, investments in recovery efforts and favorable gains in cover and habitat for wildlife, reforestation, and scenery characteristics would be lost and we would once again be faced with the need to evaluate and decide on appropriate means of ecosystem recovery. It is important to reduce fuel loads and fuel continuity within these areas to allow fire to play a more characteristic role, protect investments in reforestation, as well as protect forest visitors and citizens living on the eastern edge of the fire.

In order to pursue active management, I have to make this decision now. Commercial salvage is the most practical option for removing trees that exceed historic levels and commercial harvest can only be accomplished while the material has commercial value. This is especially true where advanced logging systems are planned to protect soil productivity and water quality. In the Eyerly Fire, a 2-year waiting period has initially yielded no bidders for accomplishing much needed work. If I were to delay removing some of the material, 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), likelihood of ignition, plus impacts on soils during salvage harvest activities. Projected fuel loadings based on existing fire-killed trees are 2 to 4 times higher than the disturbance regime within the fire area to that which they were adapted (eastside of the Cascade Mountain Range). Although the majority of this material is in the form of standing snags today, 10 to 30 years after the fire, most of this material is expected to be on the ground, and in a condition that could support a high severity wildfire. A high severity wildfire would likely kill or set back any riparian or coniferous vegetative recovery, again raising the potential for

increased stream temperatures and sediment levels. Without a source of ignition, high fuel loads would not be a problem. However, the Deschutes National Forest in similar plant association types has incurred multiple wildfires per year: greater than 80 percent ignited by lightning. Based on these conditions, I concluded that active restoration on a portion of this area, to help reduce some of the risk, is an appropriate course of action.

Eventually, I would like to return the area to its natural role, within these short-interval fire adapted environments. This would require that fuel loads be low enough to allow fire to burn through stands without severely damaging them. However, it is likely to be several decades before those reduced fuel loadings and vegetation characteristics can be achieved at a level sufficient to make a difference at the landscape scale. Both fuel and vegetation conditions will need to be developed over time: i.e., reduced surface fuels and trees of sufficient size and species to support and be resilient to low intensity fire. Additional site-specific fuel treatment needs, such as prescribed fire, may be later identified in a few decades. Returning fire into appropriate stands will be much easier in the future where fuels reduction has taken place. I have not included these actions as a part of my decision because these actions are too far out in the future to be certain where and when the timing is right.

The Davis Fire Recovery Project alone will not bring about full recovery to the fire area. Future activities such as prescribed fires, thinning timber stands, additional reforestation, and permanent implementation of the road closures recommended in the Davis Fire Roads Analysis will likely be needed.

After I concluded that active restoration on some part of the post-fire landscape was appropriate, I weighed the pros and cons of each alternative based on the purpose and need and significant issues listed above. Following is a discussion of these considerations and my conclusions. Reference page 2-43 of the FEIS for a detailed table that summarizes and compares the alternatives by how each responds to the purpose and need by alternative.

RESPONSE OF THE ALTERNATIVES TO THE PURPOSE AND NEED

- ✓ *Protect remaining late and old structured habitat within the LSR and the Matrix from uncharacteristic severe fire*

- ✓ *Establish fuel conditions that will allow for future management actions and restore fire as an ecosystem component*

In evaluating the alternatives response to these purposes, I considered the analysis presented in the FEIS.

While none of the alternatives would necessarily affect the chances for a fire start to occur, the un-manipulated fuel succession that would occur in untreated areas would produce persistent elevated fuel loadings. On untreated areas, within 20 – 30 years, much of the area would have high down fuel loads, in excess of desired levels. These conditions contribute to uncharacteristic fire behavior with increased flame lengths, longer burn duration, and increased potential for crowning and 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 with which they developed, the fuels must first be reduced to keep fire effects within an historic range. Even with implementation of the alternative that goes the farthest in reducing fuel loadings within the fire area, there will be many acres that remain in a high fuel loading condition.

The table below displays the alternatives' response to this purpose. Compared to the desired fuel loadings, Alternative B best meets this purpose. As displayed in Table 3, Alternative C has similar effects when comparing acres meeting desired fuel loading.

Table 3: Amount of Project Area Meeting Desired Fuel Loadings (In Acres)

Fuels Element	Alternative				
	A	B	C	D	E
Acres Where Fuel Loading Does Not Exceed 10-35 Tons Per Acre	4,230	10,649	10,453	6,906	8,054

See the FEIS page 3-171 for a full discussion of fire and fuel accumulation.

- ✓ *Accelerate reforestation of the desired species important for long term objectives within areas where no seed source remains.*

This purpose is closely related to the purpose for reducing fuel loadings in order to accelerate development and sustain young stands long enough to develop into late-structured forest habitat. In the 2003 Davis Fire, a substantial portion of the area burned as a high fire intensity, stand replacement event. Fire behavior such as torching, spotting and crowning occurred in a forest with a density and structure that was a significant departure from historically more open structures dominated by large size ponderosa pine forest conditions.

The no-action alternative would rely on natural regeneration, rather than planting. As noted above, due to extensive areas of tree mortality and the timing of the fire relative to seed development, the amount of area without a conifer tree seed source is greater

than would have occurred historically. Most of the seed produced by ponderosa pine and Douglas fir, a major species component of the forest in this area, does not disperse very far from the source tree. Alternative A (No Action) is likely to result in a very incomplete initial reforestation dominated by fire intolerant species, overlain with heavy fuels in about 20–30 years. In this case, neither the character of the regeneration nor the fuels conditions would contribute to development of a sustainable structure.

In all action alternatives, conifer tree planting is proposed to varying degrees. Planting trees now in portions of the Davis Fire area would accelerate the establishment of upland forest vegetation, and restore species composition similar to that which existed before the fire occurred. Planting trees within the Davis LSR would accelerate development of forest vegetation and will provide larger trees sooner (at least 100 years) than natural regeneration. Alternatives B and C respond best to this purpose and need.

The following table displays the alternatives response to elements of this purpose.

Table 4: Upland Forest Vegetation Outputs

Upland Forest Vegetation	Alternative				
	A	**B**	**C**	**D**	**E**
Acres Planted	0 Mostly Fire Intolerant Species	8,030 Mostly Fire Tolerant Species	8,030 Mostly Fire Tolerant Species	1,660 Mostly Fire Tolerant Species	3,540 Mostly Fire Tolerant Species

See the FEIS pages 3-138 for a full discussion of forest vegetation effects.

- ✓ *Recover timber volume where a disturbance event is clearly outside of pre-suppression fire processes (referred to as catastrophic in the Northwest Forest Plan)*

The analysis presented in the FEIS discloses that Alternative B would produce the highest output for both volume of timber and jobs supported. The following table displays the outputs for the alternatives. Alternative B best meets this purpose.

Current estimates of volume to be removed are 11% less than the original estimates due to general deterioration of the wood. Estimates for timber removed in 2005 are 40% of the original volume estimates. The following Table 5 displays the volume and jobs expected from the removal of timber in 2004 and 2005.

Table 5: Economic Outputs

Economic Element	Alternative				
	A	B	C	D	E
2004 Volume of salvage in MMBF	0	72	70	10	35
2004 Timber Jobs Supported	0	691	672	96	336
2005 Volume of salvage in MMBF	0	49	47	7	23
2005 Timber Jobs Supported	0	470	451	67	221

The timber volumes for the Davis Fire Recovery Project FEIS did not account for general deterioration. This volume estimation and economic analysis in the FEIS is based on removal immediately following the fire. This was due to the uncertain nature of the public process in regards to timelines. The FEIS compares alternative financial efficiency and not the absolute values of the project. At present, it is estimated that all ponderosa pine and sugar pine will have at least 60% value loss due to extensive blue stain[2]. In fall 2003, three months following the fire, extensive checking in the lodgepole pine and white fir was observed, reducing quality from sawtimber to chip material. It is estimated, if harvest is initiated one additional year later in 2005, value could be reduced by as much as 33% more. See the FEIS page 3-353 for a full discussion of social and economic factors.

- ✓ *Improve public safety*

Danger tree removal is important to me in order to provide safe conditions for forest visitors from a long term perspective. Removing these hazards on all major roads, including 4-digit roads, would finish the job I started with the danger tree removal under a categorical exclusion.

My earlier attempt to remove some of the danger trees focused only on those that are leaning onto the roadway. In the event of a wind storm, blow down of the standing dead trees, especially in popular areas surrounding Davis Lake and the Cascade Lakes Scenic Byway could fall at an accelerated rate and it could lead to large areas of stacked trees on the forest floor and possibly the roadway. For the first decade, the National Scenic Byway and access to the Cascade Lakes area could be closed for several days after wind events. Also, there would be an elevated risk to visitors from falling trees.

[1] 1997 Timber Sale Program Annual Report

[2] July 2004 personal conversation with Vickie Dunaway, Timber Sale Preparation Specialist, Deschutes National Forest.

Alternative B would not remove all the hazards from the forest. It would remove a portion of those standing dead trees in selected areas so the long-term safety of the traveling public would be improved – especially in the event we have another wildfire in the Davis Lake area and visitors need safe and open escape routes.

RESPONSE OF THE ALTERNATIVES TO THE KEY ISSUES

Impacts to Soils

Soil impacts from ground skidding will be minimal and will meet Forest Plan standards following the removal of dead trees by using the design and mitigation measures identified in Chapter 2. Monitoring and site visits to similar post fire landscapes indicate a high probability of meeting soil standards after restoration and mitigation measures have been implemented. On numerous occasions, the Deschutes National Forest has utilized commercial methods to fund restoration with successful results – including maintenance of acceptable soil productivity (1995 Pringle, 1996 Evans, and 1998 McKay).

In deciding whether or not to actively pursue salvage harvest, reducing the potential for soil erosion and maintaining soil productivity were important considerations. In the original design of Alternative B (Proposed Action) it was recognized that soil productivity was a compelling part of the design of the alternative and was an outcome I wanted. To avoid potential impacts, areas were either dropped (avoided) or advanced harvest systems such as helicopter yarding were identified as the logging system. This approach was also followed in the design of the associated helicopter log landings and temporary roads (Figure 5). All infrastructure associated with a commercial operation are located in stable upland areas. Dependent upon economic opportunities, I may even go further than specified in Alternative B in utilizing advanced logging systems, but I selected this alternative over Alternative C to maintain options. If I chose Alternative C, which is identical in acres of salvage harvest to Alternative B, I would lose flexibility to get this important work completed. It is very possible that in this economic environment, the value of burned and dead trees could diminish to the point where there would be no willing bidders for the work.

Alternatives C, D and E followed this same approach to identify the hazards associated with soil productivity, employing a lesser amount of ground-based systems than in Alternative B. I evaluated the risks versus tradeoffs associated with each of the alternatives, the likelihood of actually being able to implement the fuels treatment, and selected Alternative B. Using mitigation measures and by the design of the alternatives, areas with tractor logging will meet the 20% soil productivity standard identified in the Forest Plan. This standard is appropriate for the soils found in the project area.

Conversely, 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 A. Alternative A would not salvage dead and dying trees,

construct any temporary road, or plant seedlings to re-establish conifer forest. Although Alternative A affords soils a high degree of short-term protection, I did not select it because I am looking at the overall context of postfire landscapes, including from the long-term perspective. Alternative A has the least potential to improve the future condition class, or to establish the desired ground cover. Further, Alternative A does not respond fully to the purpose and need for action.

I place a high value on accelerating the vegetative recovery of the area to a sustainable condition, especially for the wildlife that depend on late and old forested conditions. To do this, I must choose an alternative that accomplishes this goal, is likely to be implemented, and will protect the resources. In selecting Alternative B, I have provided a balanced approach for managing the recovery area. Alternative B does the best job of responding to all the elements of the purpose of 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 3-65. Even under implementation of Alternative B, about 70% of the area would not incur any impacts associated with commercial activities.

Wildlife – Snag Habitat

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 D was developed to analyze the effects of leaving more 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 appear to be plenty of snags for wildlife needs. However, this is a short to mid-term condition. The "rule of thumb" is approximately 50% of the standing snags fall every decade (FEIS 3-381). Since the Davis Fire burned so hot and killed so many trees, 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 80 when live trees begin to reach 20" (FEIS page 3-159).

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 evaluate the effects on snag and down wood habitat across the landscape by each alternative, I considered the analysis information provided including the analysis tool known as DecAID.

The DecAID tool provides tolerance levels as an overall range of use for species dependent on dead wood habitat (FEIS page 3-101). Values provide a relative difference between alternatives. Tolerance levels have less to do with viability of species and populations, and more to do with the distribution of individuals across a project area. The alternatives represent different levels of snag retention and

distribution, and thus would affect woodpecker and other species presence and distribution. Alternative A would support the highest tolerance levels for most primary cavity excavators.

Any benefits associated with providing higher snag levels in the short-term would be lost after about 30 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 snags which will persist on the landscape the longest (36" and greater) will be retained under each action alternative scenario. These large snags average 1-8 per acre. All alternatives have been designed to provide snags at levels that meet or exceed Forest Plan standards and guidelines.

My selection of Alternative B over the other alternatives (particularly A and D) 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. Each unit meets or exceeds those snag levels specified in the Davis Late-Successional Reserve Assessment. In addition, at least 15% of all units will have an associated zone where no commercial activity will occur. Alternative B will retain at least 70% of the burned forest snag habitat within the fire area and meet Forest Plan standards for snags. Included in this percent are an abundance of snags on the landscape surrounding commercial treatment units, especially in those stands that were not completely consumed by the fire. These stands are not proposed for commercial removal and will be prolific in producing snags now and in the future.

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 to meet the Deschutes Forest Plan as amended by the Northwest Forest Plan, standards and guidelines for site productivity and wildlife habitat (FEIS page 3-380). Effects of the alternatives on down wood levels are described in the FEIS starting on page 3-100.

In selecting Alternative B, I've chosen to reduce potential down wood levels on 6,355 acres in favor of reducing future fuel loadings to sustainable levels as specified by the newest science (FEIS page 3-155). I am particularly interested in reducing fuels so that careful introduction of prescribed fire in appropriate areas is possible in the future.

The Regional Ecosystem Office (REO) Interagency Late-Successional Reserve Working Group has concluded its review of documents provided by the Deschutes National Forest regarding proposed activities within Alternative B of the Davis Fire Recovery Project. The working group has concurred with the Deschutes National Forest in its findings of consistency with the Standards and Guidelines for both snags

and down wood under the Northwest Forest Plan. A copy of the letter and findings can be found in Appendix G of the FEIS, Volume II.

Passive versus Active Management

A great deal of the discussion in this Record of Decision and in the FEIS has centered on whether it is better to take an active approach in post fire landscapes versus letting nature take its course. The comments I have received have particularly focused on the Late-Successional Reserve. Alternative D was developed to respond to this concern.

All of the alternatives have (to some degree) a portion, or all of the fire area retained for natural succession – or where there will be very little intervention (Table 6).

Table 6: Percent of Fire Area Where No Commercial Activity Will Occur

Passive vs. Active Management	Alternative				
	A	B	C	D	E
Percent of Fire Where **No** Commercial Activity Occurs	100	70	70	95	84

I have chosen Alternative B over the other alternatives for many reasons already expressed, including a faster timeline in developing late and old forested conditions. Alternative B plants approximately 8,030 acres of conifer species important for long term objectives which include large tree-dependent species. By waiting for natural regeneration, presence of these species in most areas where the fire burned hot could be delayed by 100 years. Also, the expected fire behavior in the future is an important consideration. Under implementation of Alternative B, approximately 10,649 acres would be left in a sustainable fuel level, where the fire behavior, size, and intensity would not be excessive for soil heating (FEIS 2-49, 3-190). Maintaining a reasonable fuel profile also gives us a greater chance to suppress future fires in the area.

I have considered that all effects of the Davis Fire were not adverse. On a small portion of the Davis Fire, there were areas where fire intensity was lower and burned as a surface fire. This resulted in a minimal effect to the overstory green trees, but the existing high fuel loading remains. In these areas, the potential for high intensity fire is reduced for a time before fuels again accumulate to hazardous levels.

Water Quality

Although this was not identified as an issue that drove an alternative in the FEIS, there was concern expressed in response to the proposed Davis Fire Recovery Project regarding the risk of increasing erosion and sediment delivery from salvage logging and its effect to water quality. The FEIS contains extensive discussion of the effects of the alternatives on water quality including: Clean Water Act Section 303(d) listed water bodies, stream flow, sedimentation, channel network and condition, water temperature, and water chemistry (FEIS starting on page 3-264).

I have considered that the action alternatives would have a negligible effect on stream flow because only dead trees would be removed and soil compaction is not at a magnitude that would significantly affect stream flow. Active restoration alternatives would result in an increase in the amount of soils in a detrimental condition above the No Action Alternative (FEIS, p. 3-78). However, the increase would be spatially dispersed and located away from streams, thereby reducing the effect on stream flow to negligible levels. The soils are highly porous and well drained, the topography is generally flat, and streams do not flow through the majority of the burn area. I have considered that Alternative B, by reducing fuel loading and planting upland vegetation, reduces the risk of future wildfire effects on peak flow and enhances forest vegetation recovery.

In my decision I considered a number of factors related to the risk of sediment delivery from salvage activities. These include: the number of hydrologically connected road ditches, acres of proposed harvest within sediment transport zones, timber haul and its effects associated with increased traffic, the total level of activity (e.g., how many acres are being salvage harvested or acres of ground skidding); the logging systems to be used and associated mitigation; the location of activities relative to stream channels; and the erosion hazard and other soil characteristics of the lands being salvaged.

The No Action alternative does not include salvage logging or ground disturbing activities and does not present any additional risk of activity-related sediment. However, it does pose a potential for greater risk to the watershed, given the fire behavior and lowered chance to successfully attack a future wildfire in the area because of the fuel loadings that would remain.

Action alternatives include different levels of commercial activities. These alternatives require helicopter or cable/skyline yarding on steeper slopes. There is no salvage proposed to occur within either riparian reserves or riparian habitat conservation areas (RHCA). I have considered that compaction and vegetative disturbance from proposed activities are unlikely to significantly increase erosion risks when compared to the loss of live vegetative cover and the amount of soil exposed by the fire (FEIS, p. 3-91). There were only three units that have been identified as within the sediment delivery zone: Units 15, 20, and 120. Unit 15 and 20 were dropped from consideration in this decision due to resource considerations. Unit 120 maintains the riparian buffer, has a low gradient, and has very low potential for delivering sediment.

I selected Alternative B because it has no effect to 303(d) parameters in Odell Creek, it represents a low risk of sedimentation during salvage harvest, it recovers appropriate vegetation in the watershed sooner, and it best meets fuels and economic objectives.

Fish Habitat

This also was not a key issue that drove alternatives analyzed in the FEIS, but I must respond to the concerns expressed, especially during the comment period. The effects of the alternatives on fish habitat are largely related to the effects noted above under Water Quality. Effects of the action alternatives on bull trout habitat and redband trout were of concern to some.

A detailed discussion of the effects of the alternatives on fish habitat is found in the FEIS, starting on page 3-277. All alternatives are consistent with the Deschutes Forest Plan and Northwest Forest Plan Aquatic Conservation Strategy (FEIS, page 3-311). Common effects of the alternatives include:

- No changes to stream flow
- No changes in stream temperature
- No changes in channel condition
- The determination in the Biological Assessment (BA) was that the project would not likely adversely affect (NLAA) bull trout or their habitat, and **May Impact Individuals or Habitat**, but will not likely contribute to a trend toward federal listing or loss of viability to the redband trout population or individual species (NLII) or their habitat.

My decision comes down to the risks associated with the various alternatives regarding potential increases in sediment delivery to streams. As described above under water quality I consider the risk of increased sediment for Alternative B to be low and that risk is outweighed by the benefits from accelerated upland forest vegetation, fuels reduction, and economic consequences that result from implementation of Alternative B.

The U.S. Fish and Wildlife Service (USFWS) has concurred with the determination of effect on bull trout which states that Alternative B is Not Likely to Adversely Impact the species. In their review of the Draft Environmental Impact Statement for the Davis Fire recovery Project the Environmental Protection Agency (EPA) gave a rating of "Environmental Concerns – Insufficient Information." Additional information regarding air and water quality was provided to the EPA and added to the FEIS; the EPA no longer has concerns.

Alternative B meets all Project Design Criteria (PDCs) for bull trout found in the Joint Aquatic and Terrestrial Programmatic Biological Assessment for Federal Lands within the Deschutes Basin.

[3] July 26, 2004, Conversation with Rick Cope, Deschutes National Forest Hydrologist

Cumulative Effects from Ongoing and Proposed Activities

In selecting Alternative B, I directed the IDT to consider the likely effects of past, present, and future activities in combination with the proposed activities of the Davis Fire Recovery Project. Some commenters were concerned about ongoing and planned projects near the project area. Although the projects with past and foreseeable actions were included in the cumulative effects analysis for soils, fish, and hydro, I directed the team to specifically address these projects by name to respond to the comments. The following is a summary.

The past, ongoing, and future timber sales were analyzed in the appropriate spatial and temporal context. For example, the Charlie Brown project; in context of the Davis Fire Recovery Project, occurs in a minor portion of one Moore Creek subwatershed (FEIS 3-289). Also, the stream density within the fire perimeter is listed as .008 miles per square mile (FEIS, page 3-298). The subwatershed is a closed basin downstream from the Davis Fire, and the hydrologic cumulative effects are considered insignificant. Although minor, the Charlie Brown was included in the soil productivity calculations using the activity layers for the Moore Creek subwatershed. Also, the cumulative effects of the Charlie Brown project were considered for wildlife - Spotted Owl Nesting, Roosting, and Foraging (FEIS 3-159), Bald Eagle Management Areas (FEIS 3-200), big game forage/cover calculations (FEIS 3-250) and bull trout (FEIS (3-256).

The Five Buttes Interface Project is a proposed activity categorized as understory thinning and is currently in the public scoping period. It was listed as a foreseeable action and discussed (water quality and fish habitat: FEIS 3-266, 3-268 and 3-276; and noxious weeds FEIS 3-332). A subsequent analysis for the Five Buttes Interface Project will consider cumulative effects of the Davis Fire Recovery Project as well as past, ongoing, and likely foreseeable actions.

The Seven Buttes and Seven Buttes Return Environmental Assessment activity units have been implemented or are currently being implemented in or near the project area and are discussed (soils, FEIS 3-69); snags and down wood, FEIS starting on 3-119; noxious weeds, FEIS 3-332; vegetation, FEIS starting on 3-139 (existing condition), and 3-358; and bald eagles, FEIS 3-200. The Seven Buttes projects were also included in the ECA analysis used in the water quality and fish habitat analysis.

The Crescent Lake Wildland Urban Interface Project is also characterized as mostly understory thinning and fuels reduction. A Decision Notice and Finding of No Significant Impact Statement for the Crescent Lake Wildland Urban Interface Project was signed between the Draft and Final EIS for the Davis Fire Recovery Project and the consultation with US Fish and Wildlife has determined that the effects for northern spotted owls on 162 acres of Nesting, Roosting, and Foraging habitat will be May Affect, Likely to Adversely Affect. USFWS issued a Biological Opinion dated February 17, 2004 for the habitat modification. For the northern bald eagle, thinning and fuel reduction and the effect was determined to be May Affect, Not Likely to

Adversely Affect. Treatments within Bald Eagle Management Areas include approximately 100 acres of understory thinning. The project would convert multi-storied stands to single story stands. The project was determined to be a May Affect, Not Likely to Adversely Affect due to the abundance of existing roosting habitat. Over the long term, the actions would be beneficial as treated stands become more resistant to disease and insect attacks and have a reduced risk of loss to wildfire. A Letter of Concurrence with these findings for bald eagles was issued on February 17, 2004. This new information will be added to the FEIS. Also, the cumulative effects of the Crescent Wildland Urban Interface project was analyzed for the Davis Fire Restoration Project cumulative effects for soil and water quality resources. The DEIS mentioned this project as a foreseeable action on page 3-218.

A portion of lower Crescent Creek is owned and managed by a private timber company. This land is several miles downstream of proposed project activities. It is likely that logging activities will occur on these lands in the future. There are no private lands within the Odell Creek or Davis Lake subwatersheds. There are no other ownerships within the respective subwatersheds that were determined to have bearing on cumulative effects for this project. Also there is no livestock grazing or mining to the extent of extraction of minerals other than cinders within or near the project area.

The transportation system in the project area was reviewed and evaluated by an interdisciplinary team. The analysis process is documented in the Davis Fire Area Roads Analysis Report {USFS 2003(b)}. This report is available on the Crescent Ranger District.

I did consider that other ongoing and proposed actions are occurring in the watersheds that share the Davis Fire area. The analysis did not indicate significant cumulative effects, however (FEIS Chapter 3). This contributed to my decision to select a balanced resource-protective alternative.

OTHER PUBLIC CONCERNS

In addition to the key issues that drove alternatives and water quality and fish habitat 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:

- Threatened and Endangered Wildlife
- Noxious Weeds
- Forest Insects
- Cultural Resources
- Recreation
- Unroaded Areas
- Scenery Management
- Socioeconomic Factors and
- Air Quality

Threatened and Endangered Species

I have considered the effects on these species described in the FEIS on pages 3-191 through 3-224[4]. A biological assessment was prepared in compliance with the requirements of the Forest service manuals and the Endangered Species Act. The project will have no effect on the Canada lynx or northern spotted owl or northern spotted owl critical habitat and will Not Likely Adversely Affect the northern bald eagle. The No Effect determination for northern spotted owls and their critical habitat is explained on the first page of this document.

Noxious Weeds

The selection of Alternative B includes project design elements for noxious weed treatment (FEIS, page 3-325). I believe the design of Alternative B will adequately mitigate the risk of spreading noxious weeds and has the long term benefit of establishing canopy cover more rapidly to lessen the potential spread or invasion in the future.

Forest Insects

The effects of the alternatives on the actions of insects are described in the FEIS page 3-169. I have reviewed the analysis and have determined that effects are considered in a comprehensive and accurate manner. Even though the manager has limited ability to avoid outbreak populations of bark beetle (the greatest forest insect-related concern that arises after a wildfire), there are some opportunities. The removal of infested trees and soon-to-be-infested host material helps to limit bark beetles populations to a certain degree. The greatest gains are with the largest infested trees; removal of small infested trees, or trees colonized two years previously have no relevance to reducing bark beetle populations from within the fire area.

The most important population regulator for most organisms is available habitat, and since we will retain a large portion of snags in the Davis Fire area, sufficient levels of insects as prey will be available for dependent wildlife.

Cultural Resources

The effects of the alternatives on cultural resources are described in the FEIS, page 3-335. There would be very limited activity surrounding the areas of most concern near Davis Lake and all action alternatives include mitigation measures to avoid impacts to identified cultural sites.

Recreation

The effects of the alternatives on recreation resources are described in the FEIS, page 3-339. The landscape and the recreational experience have changed and the area will

[4] Table 3.51 on FEIS page 3-191 incorrectly summarized the conclusion of effects on the northern spotted owl critical habitat found on page 2-224. Findings are Alt. A would have No Effect (NE) on critical habitat, where Alternatives B, C, D, and E, because of the fuels treatments, may affect not likely to adversely effect (NLAA) northern spotted owl critical habitat.

not likely meet visitor's expectations for at least the next five years until vegetation returns. Many of the dispersed campsites were burned over by high intensity fire. Most live vegetation that provides shade and screening from the view of adjacent sites has been removed by the fire.

Alternative B would return the landscape to a vegetative condition that would be relatively safe to visit in the quickest manner. I included a mitigation measure in the selection of Alternative B that would improve visitor's experience by limiting the hours of commercial operation to allow periods of solitude and remoteness.

Unroaded Areas

The Davis Fire Recovery Project does not include any Inventoried Roadless Areas. The FEIS identifies, analyzes and discloses effects to two unroaded areas, each larger than 1000 acres, for their potential eligibility for consideration as roadless areas; this is found in the FEIS on page 3-344. Effects of the alternatives on the recreation experience, and recreation opportunity spectrum (ROS) are addressed in the FEIS page 3-339.

Scenery Management

Retention landscapes (404 acres) along Cascade Lakes Highway 46 within the fire perimeter are the most restrictive and human activity is not to be noticeable to the casual forest visitor. In order to minimize visual impacts to this scenery (which has been altered by the fire itself), ground-based systems would mostly stay on compacted areas such as roads and existing skid trails to minimize soil displacement and contrast. In the areas where Davis Lake is visible from the highway, advanced systems such as helicopters would further minimize soil contrast. Patches of standing dead trees would be clumped and retained over 15% of the area within treatment units. All activity generated slash that cannot be yarded or flown to landings would be piled by hand and either utilized or burned. Human activity (activity slash, and cut stumps) for up to 300 feet would be evident to the casual forest visitor for approximately 5 years. Mitigation measures and alternative design elements such as cutting stumps low to the ground, marking trees designated for retention, removal of flagging, and handpiling of activity slash along Highway 46 are expected to be effective in minimizing the evidence of forest management. Although these activities are expected to benefit the long-term objectives for scenery management, in the short term, they would not be consistent with current Forest Plan Standards and Guidelines for Scenic Views within ponderosa pine Retention Foreground (M9-4). Specifically, forest residue would be visible to the casual visitor for greater than one year as it is likely the labor-intensive handpiling could not be accomplished in one year.

I have included a Forest Plan Amendment to respond to this inconsistency. As discussed in this document, I choose to focus on the long term outcome, which includes a quicker return to the scenery characteristic of the central Oregon landscape that visitors expect. Also, public safety and accessibility of the Cascade Lakes Scenic Byway via Highway 58 after wind events weighed in as factors in my decision to

pursue a Forest Plan Amendment. Approximately three quarters of the Retention management zone (300 acres) would remain available for the public to view natural fire succession. Active management would only take place on approximately 100 acres within this management allocation.

The proposed revised Visual Quality Standards and Guidelines would not significantly change the forest-wide impacts disclosed in the Deschutes National Forest Land and Resource Management Plan Environmental Impact Statement, based on the following factors:

Timing: The Forest Service Planning Handbook (1909.12, 5.32) indicates that a change is less likely to result in a significant plan amendment if the change is likely to take place after the plan period (the first decade). This plan amendment would take place on the 14th year of the Forest Plan, would take place immediately, and is specific to this project.

Location and Size: The proposed revised Visual Quality standards and guidelines are site specific and would only affect the area within the Davis Fire Recovery Project area boundary for approximately 100 acres.

Goals, Objectives and Outputs: The proposed revised Visual Quality standards and guidelines would not alter the long-term relationship between levels of goods and services projected by the Land and Resource Management Plan. This amendment would not change management allocations where programmable timber harvest could occur. There would not be any significant change in timber outputs over what might be available if the project was designed without the proposed amendment.

Management Prescriptions: The proposed revised Visual Quality standards and guidelines would not change the desired future condition for land and resources from that contemplated by the existing management direction in the Land and Resource Management Plan in the short-term. It would not affect the whole Land and Resource Management Plan planning area, but only approximately 100 acres of National Forest System lands within the Davis Fire Recovery Project area. The proposed amendment would not change the Land and Resource Management Plan allocations or management areas.

Small diameter thinning of trees along Highway 46 is expected to enhance the scenery by highlighting large trees while offering filtered views to distant peaks. These activities are expected to be consistent with Retention standards and guidelines as they may not be evident to the casual forest visitor and would remain subordinate to the landscape

A discussion on the effects to Scenery Resources can be found page 3-346 in the FEIS.

Socioeconomic

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 B is the highest with total Present Net Value of over two million dollars and a Benefit Cost Ratio of 1.26. This alternative has the best ability to produce enough revenues to pay for restoration projects associated with the salvage even with possible deterioration of value and volume.

This alternative produces the most employment opportunity for the area. Timber sale activities, fuels treatments, reforestation, prescribed fire and future timber harvest will generate the maximum number of jobs of the alternatives.

Air Quality

I have considered the effects of the alternatives on air quality described in the FEIS, page 3-372. 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. Prescribed fire and pile burning would be conducted under favorable smoke dispersal conditions, avoiding impacts to Class I airsheds and urban areas. 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 30 air miles from the Davis area. Burning under favorable smoke dispersion conditions would not affect air quality in Bend. Alternative B 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.

I considered the implications of prescribed burning under favorable conditions and the health risks associated with those activities versus the potential unplanned release of particulates during another wildfire event. I have decided that Alternative B is the best choice, because it meets Forest Plan standards and guidelines and applicable regulations and is consistent with the Clean Air Act (FEIS 3-374).

CHANGES BETWEEN DRAFT AND FINAL EIS

The following changes were made between the Davis 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 Sale Area Improvement Projects has been added.
2. Clarification and wording changes in the mitigation, northern bald eagle and northern spotted owl sections were a result of ongoing consultation with the US Fish and Wildlife Service and new information resulting from 2004 field surveys.
3. Adjustments have been made to reflect direction of the 2004 Survey and Manage Record of Decision to Remove or Modify the Survey and Manage Mitigation Measure Standards and Guidelines.
4. The Fisheries section has been updated to include the results of recent surveys and additional information has been added to explain the work and accomplishments of the Odell Lake Bull Trout Recovery Team.
5. More information has been added describing the status of the redband trout and mountain whitefish in Odell Creek.
6. Current condition information has been added for Crescent Creek, though it falls outside of the project area.
7. Cumulative effects analysis has been updated to include recent and future projects.
8. Appendices, including Appendix E: Response to Comments; Appendix F: Regional Ecosystem Office Review of the Davis Fire Recovery Project: and Appendix G: Summary of Late Successional Reserve Management Strategy Areas

ESA CONSULTATION/CONFERENCING WITH U.S. FISH AND WILDLIFE SERVICE

Aquatic Species

All alternatives are consistent with the Endangered Species Act (on file at the Crescent Ranger District). All alternatives will have May Effect – Not Likely to Adversely Affect on Columbia River Bull Trout and May Impact Individuals or Habitat, but will not likely contribute to a trend toward federal listing or loss of viability to the population or species on Redband Trout. Based on this effect call, consultation with the US Fish and Wildlife Service (USFWS) was necessary.

Based on USFWS' review of the biological evaluation and supporting information provided in Level 1 team meetings, and field trips to the fire and project areas, USFWS concurred with the Forests' effect determinations for bull trout and redband trout.

Terrestrial Wildlife

Because Alternative B removes potential perch trees, there was a "May Effect, Not Likely to Adversely Effect" determination on northern bald eagles. Based on this, consultation with the USFWS was necessary. The USFWS' reviewed the biological assessment and supporting information provided in Level 1 team meetings and attended field trips to the fire project area. As a result, the USFWS concurred with the Forests' effect determinations for the northern bald eagle.

Alternative B actions of salvage and planting would provide ponderosa pine and Douglas-fir habitat in structure and form beneficial to bald eagles, northern spotted owl and Critical Habitat Unit OR-7 because of habitat development over time.

Plants

Surveys show there are no known federally listed threatened or endangered plant species within the project area. No consultation with the regulatory agencies such as the USFWS was needed.

LEGAL REQUIREMENTS AND POLICY

In reviewing the EIS and actions involved in Alternative B, I have concluded that my decision is consistent with the following laws and requirements that have not previously been discussed in this document:

The Preservation of American Antiquities Act, June 1906 and The National Historic Preservation Act: The Oregon State Historic Preservation Officer (SHPO)

Following guidelines in a 1995 Regional Programmatic Agreement among USDA-Forest Service, the Oregon Historic Preservation Office (OSHPO), and the Advisory Council on Historical Preservation, a finding of No Adverse Effect has been determined. A formal mitigation and treatment plan has been developed to keep these impacts within the process called for in Federal law, regulation, and Forest Service agreements with OSHPO and the Advisory Council on Historic Preservation. Implementation of a data recovery/treatment/rehabilitation plan will mitigate the adverse effects.

New sites discovered during operations will be protected by avoidance or mitigation provisions in the timber sale contract C6.24# (Reference FEIS starting on 3-335).

The Crescent Ranger District staff and my Deputy Forest Supervisor have contacted the three tribes that have interests in the Davis Fire Recovery area: the Klamath Tribe, the Confederated Tribes of the Warm Springs Reservation, and the Burns Paiute Tribe. 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 initiated to exchange information, answer questions, and to work closely and continuously with each other to integrate tribal interests in the planning process. Subsequent meetings to discuss the Davis Fire Recovery Project yielded no concerns regarding proposed activities, especially cultural plant habitat and access management within all areas burned in the fire season of 2003. My decision is guided by the federal government's responsibility to these Tribes. 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. This is one of several obligations that I considered as I made my decision, and consultation with the tribes provided me with valuable information in making that decision.

The effects of the Davis Fire Recovery Project on Culturally Important Plants are listed in the Botany section of Chapter 3 of this EIS. No culturally important plants in riparian habitat will be affected because there is no harvest activity planned within them. Overall, motorized access within the project area may be reduced due to a temporary closure order that may become permanent, if adequate access remains.

The Endangered Species Act of 1973, as amended

Biological Assessments and evaluations have been prepared to document possible effects of proposed activities on endangered and threatened species in the Davis Fire Recovery Project area. Appropriate coordination, conferencing, and consultation with USFWS has been completed (See previous section of this document titled Consultation/Conferencing with USFWS).

The Clean Water Act, 1982 and 303(d)

The State is required by the Clean Water Act, Section 303(d), to identify waters that do not meet water quality standards. Odell Creek is the only water body within the Davis Fire Recovery Project area on Oregon's list (303(d) list). It is listed for exceeding summer water temperatures for salmonid rearing (17.8° C) and spawning (12.8° C).

States are required to develop Total Maximum Daily Load (TMDL) allocations, which include Water Quality Management Plans (WQMP) for 303(d) listed waters. Most of the project area lies within the Upper Deschutes Subbasin and a WQMP is scheduled for completion in 2006. The entire project area is within the Upper Deschutes Basin, for which a WQMP is under development and scheduled for completion in 2006.

The Forest Service responsibilities under the Clean Water Act are defined in a 2002 Memorandum of Understanding between DEQ and the Forest Service. The MOU

designates the Forest Service as management agency for the State on National Forest System Lands.

The Best Management Practices (BMPs) are a result of the Clean Water Act which requires the State of Oregon to develop a state-wide water quality management plan and to set standards for water quality. Site-specific BMPs have been designed to protect beneficial uses (FEIS, 2-35). Alternative B will meet and conform to the Clean Water Act as amended in 1982. This determination is because the conditions that reduce the likelihood that proposed activities are capable of exacerbating watershed conditions and affecting water quality include:

1. The Davis Fire occurred in the "bottom" of the subwatersheds which is considered as a relatively closed system at Davis Lake.
2. Proposed activities are in soils that are well-drained (i.e. pumiceous).
3. There are no proposed commercial activities within Riparian Reserves or Riparian Habitat Conservation Areas.
4. All planned activities have been determined to meet Aquatic Conservation Strategy and Riparian Management Objectives.

Odell Creek is on the 303(d) list for temperature. Small diameter, non-commercial thinning of trees associated with fuels reduction within the riparian areas around two developed campgrounds has the potential to remove a few standing snags that currently provide some solar deflection. This action could raise stream temperature, but the effect would be so slight, it would be immeasurable over the next few years. The greatest source of solar exposure and corresponding temperature increase will result from the loss of shading from the wildfire. Under alternative B, approximately 1.5 miles of Odell Creek would be replanted with riparian associated plant species to provide an immediate return of structure capable of providing shade to the stream. Riparian plantings are not expected to provide significant amounts of shade capable of minimizing temperature increases in the lower reaches of Odell Creek for a number of years.

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.

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, 3-370). The analysis focuses

on potential effects from the project to minority populations, disabled persons, and low-income groups.

Alternative B 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 B, and no disproportionate effect is anticipated to subsets of the general population.

OTHER POLICY OR GUIDING DOCUMENTATION

Biological Evaluations for Sensitive Species

Biological Evaluations were prepared to assess potential effects to sensitive species as identified by the Regional Forester. This evaluation for aquatic species and terrestrial wildlife determined that while there may be impacts to individual sensitive species, those effects are not likely to contribute to a trend toward federal listing or loss of viability of the population or species.

Noxious Weed Control and Guiding Documents

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 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 B of the Davis 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 2-38) and monitoring (FEIS 2-41). Specifics of managing competing and unwanted vegetation are documented and in the silvicultural prescriptions for this project.

1995 Davis Late-Successional Reserve Assessment and 1999 Odell Watershed Analysis

The Deschutes National Forest Land and Resource Management Plan (Forest Plan), as amended, provided the framework for the development of all the alternatives. I have reviewed the Davis Late Successional Reserve Assessment and the Odell Watershed Analysis and both are cited for principle and direction throughout the FEIS. My decision was based on using active management to restore a portion of a burned area that is not capable of self correcting in a time period that I find acceptable. I find the activities planned in Alternative B to be consistent with both documents. Also, the actions proposed for the Davis LSR in Alternative B have been reviewed, and were found to be consistent with Northwest Forest Plan standards and guidelines by the Regional Ecosystem Office.

Survey and Manage

In 1994 the Northwest Forest Plan developed a system of reserves, the Aquatic Conservation Strategy, and various standards and guidelines for the protection of old growth related species. Mitigation measures were also included for species that were rare, or thought to be rare due to a lack of information about them. It was unknown whether the major elements of the NWFP would protect these species. These species (collectively known as Survey and Manage species) were included in standards and guidelines under Survey and Manage, Protection Buffers, and Protect Sites from Grazing. In 2001 the survey and manage standards and guidelines were amended; and a second amendment in 2004 removed or modified the survey and manage requirements; some species were moved to the Regional Forester's Sensitive Species list. The Davis Fire Recovery project was completed under the 2001 survey and manage ROD guidance. This project is consistent, however, with guidance in the 2004 ROD to Remove or Modify the Survey and Manage Mitigation Measure Standards and Guidelines (FEIS 3-232).

PUBLIC PARTICIPATION

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

the Proposed Action. The complete record of the public involvement process to date is available for review in the project file (FEIS 2-22). The Davis Fire Recovery Project was initially presented to the public in a letter dated September 8, 2003 that was sent to the Crescent Ranger District's NEPA mailing list of 88 individuals, groups, and agencies. The letter described the purpose and need and the proposed action. The proposed action was posted on the Deschutes National Forest's web site on September 10, 2003. An article describing the proposal appeared in *The Bend Bulletin* on September 12, 2003. The project was listed in the *Schedule of Projects for the Deschutes and Ochoco National Forests and the Prineville District of the BLM* beginning with the Fall 2003 issue. A Notice of Intent to Prepare an Environmental Impact Statement was published in the Federal Register on September 17, 2003 (Vol. 68, No. 180).

In addition the following public outreach occurred:

- July 17, 2003 tour of project area with Deschutes Provincial Advisory Committee
- September 12, 2003 Bend Bulletin article announces Davis Fire Recovery Project proposed action and request for input
- October 10, 2003 tour of project area with Frank Isaacs (Oregon Eagle Foundation)
- October 18, 2003 bus tour of project area with interested public
- October 20, 2003 tour of project area with Society of American Foresters "Post-fire Restoration and Salvage Harvesting" conference (85 attendees)
- November 4, 2003 tour of project area with Tim Lillebo (Oregon Natural Resources Council)
- November 6, 2003 tour of project area with timber industry officials (nine attendees)
- November 12, 2003 tour of project area with Karen Coulter (Blue Mountains Biodiversity Project)
- November 13, 2003 meeting with George Wilson (Sierra Club, Juniper Group)
- November 18, 2003 tour of project area with George Wilson (Sierra Club, Juniper Group)
- November 26, 2003 Letter to District mailing list (table 2.1) describing project alternatives to date
- December 12, 2003 presentation of Alternatives to the Provincial Advisory Committee (Deschutes PAC)

A 45-day comment period for the Davis Fire Recovery Project Draft Environmental Impact Statement (DEIS) was provided for interested and affected publics, including appropriate local, state, and federal government agencies and Tribes. This period lasted from May 21, 2004 through July 5, 2004. During this period, the Forest Service received comments from different sectors of the public, with a range of concerns and questions. Some comments resulted in a clarification of discussions within the DEIS. I considered the comments in the decision-making process. The Forest Service received 32 separate pieces of mail during the comment period, from 27 sources. All comments were reviewed and substantive comments received the focus during this comment analysis. The complete comment record and coded substantive comments

are kept within the Davis Fire Recovery Project public record and are available for review at the Crescent Ranger District, Crescent, Oregon.

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 Davis Fire Recovery Project, I have determined that the environmentally preferable alternative is Alternative B. Long-term, Alternatives B and C combine fire restoration activities with low risk of additional watershed damage to protect this environment for future generations. Alternative B is the most economically efficient and likely to be implemented and effective in reducing fuels through commercial and non-commercial means. Also, it facilitates reintroduction of fire into the system at a later date. As in Alternative C, Alternative B includes the largest amount of tree planting of the species important for dependent wildlife. In the short term, the No Action alternative offers the least risk of sedimentation that affects water quality but does nothing to provide the widest range of beneficial uses or reduce the potential for severe fire effects associated with future wildfires. Alternative B is similar to Alternative C, but has a slightly, but not significant, larger risk of sedimentation due to the greater use of ground-based equipment. This slight difference in the risk of sedimentation between the two alternatives is offset by economic factors that favor Alternative B. A portion of the area can be salvaged with ground-based equipment without deleterious effects to soils (FEIS 3-64). I want to maintain options as helicopters can become less of an option as markets and wood condition changes.

Over the long term, as the dead trees fall to the ground near open roads and recreational areas, there is potential risk to public safety. During high winds, trees could blow over on vehicles or recreation sites, possibly blocking access around Davis Lake. Alternatives B and C equally minimize this safety risk.

Alternatives B and C plant a larger portion of the area restoring conifer vegetation at a faster rate and help to restore the aesthetics and productivity of the burned area, plus restores the largest portion of the area to late-structured forest habitat as much as 100 years sooner. Alternatives B and C utilize the dead and dying timber for beneficial economic uses, provide long-term benefits of fuels reduction and reforestation activities and include minor environmental risks and still provide for wildlife needs. Alternative A retains 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.

Preservation of the known cultural resource sites is an important factor. Since no activities are proposed under Alternative A, it offers the best protection of the cultural resource sites within the project area in the short term. However, Alternatives B and C provide adequate protection and would return the area to a vegetative condition quicker. This would potentially lessen visibility of cultural resources in the long term and potentially reduce the risk of illicit collection.

From an economic perspective, Alternatives B and C are similar. Both alternatives provide 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. Alternatives D and E accomplish this to a lesser extent. Alternative A does not capture the economic value of timber from dead trees.

DESIGN MEASURES/MITIGATION MEASURES

Design measures and mitigation actions are site-specific management activities designed to avoid or reduce the adverse impacts of timber harvest and associated activities. These measures will be implemented through project design and layout, contract specifications, contract administration, and monitoring by Forest Service officers. I have decided to implement all design and mitigation measures specified in the FEIS for Alternative B (FEIS 2-34).

These selected measures will adequately prevent 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 quality; and/or they are based on current research (e.g., the snag management approach). I have decided to monitor the implementation of these measures and, in some instances, to monitor their effectiveness, as described in the following section.

MONITORING

Monitoring of the Davis Fire Recovery Project is designed to accomplish three purposes: 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 effectiveness monitoring conditions indicates unexpected or excessive sediment transport to streams, the result of that monitoring would be used to add more mitigation, such as additional sediment traps; road closures; implement seasonal or emergency closures; or modify or delay activities. Additional details of the monitoring items are found in the FEIS on page 2-40.

FOREST PLAN CONSISTENCY

Alternative B 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 3-131, 3-234, 3-236, 3-238, 3-239, 3-241, 3-380, 3-385, and 3-388. However, there is one aspect of Alternative B that is inconsistent with existing standards and guidelines. I have decided on a short-term, non-significant, site specific amendment of the visual quality standards and guidelines in the Deschutes National Forest Plan (FEIS 3-376) incorporated into the design of Alternatives B. It allows tree removal and slash to be visible to the "casual observer" for longer periods than under the existing Standards and Guidelines on approximately 100 acres. Though the current Visual Quality Standards and Guidelines would not be met in the short-term, the proposed activities are expected to better meet visual quality objectives for the long-term (over five to ten years).

The Deschutes National Forest Plan will be amended to reflect this change in management allocation. There would be no change to land allocations made in the Northwest Forest Plan. For a discussion on the significance factors, reference page 24 of this Record of Decision.

After careful review of the environmental impact statement and project record, I have determined that there are no other factors or unique circumstances affecting the Forest Plan from this amendment.

Because I have determined that there is not significant change based on the above factors, I conclude that this amendment is not a significant change to the overall Forest Plan direction as defined in the Deschutes National Forest Plan and its Record of Decision, as amended. Therefore, an environmental impact statement for a forest plan revision following the ten step planning process found at 36 CFR 219.12 does not need to be prepared.

CONSISTENCY WITH NFMA REQUIREMENTS

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

Silvicultural Practices
In Alternative B, there is no timber salvage on lands classified as unsuitable for timber production. Alternative B, in conjunction with the Forest Plan amendment is consistent with 36 CFR 219.27(c)(1).

Even-aged Management/Clearcutting
The Selected alternative includes salvage of timber killed by a catastrophic wildfire and subsequent reforestation. 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 Davis 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 page 3-238.

IMPLEMENTATION

I have reviewed the Davis Fire recovery Project FEIS and associated appendices. I believe 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 impacts to any resource. There will be no significant impact to cultural resources, consumers, civil rights, minority groups, or women. The FEIS adequately documents how compliance with these requirements is achieved (FEIS, Chapter 3).

An emergency situation status was granted on September 10, 2004. Harvest activities on a portion 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. 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, or 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

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 Bend Bulletin newspaper. The publication date of the legal notice in the Bend 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). 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 September 10, 2004, Forest Service Regional Forester, Linda Goodman determined the Davis 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 was delayed during the appeal period. The value loss is estimated at over $276,000. The exemption from stay during the appeal period applies only to the portion of the project implemented with the Matrix, Lift and Fly Timber Sales (see Figure 6).

An additional emergency situation is currently being requested for the Ash Timber Sale.

CONTACT PERSONS

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

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IDT leader
Crescent Ranger District
P.O. Box 208
Crescent, OR 97733
(541) 433-3216

Phil Cruz
District Ranger
Crescent Ranger District
P.O. Box 208
Crescent, OR 97733
(541) 433-3200

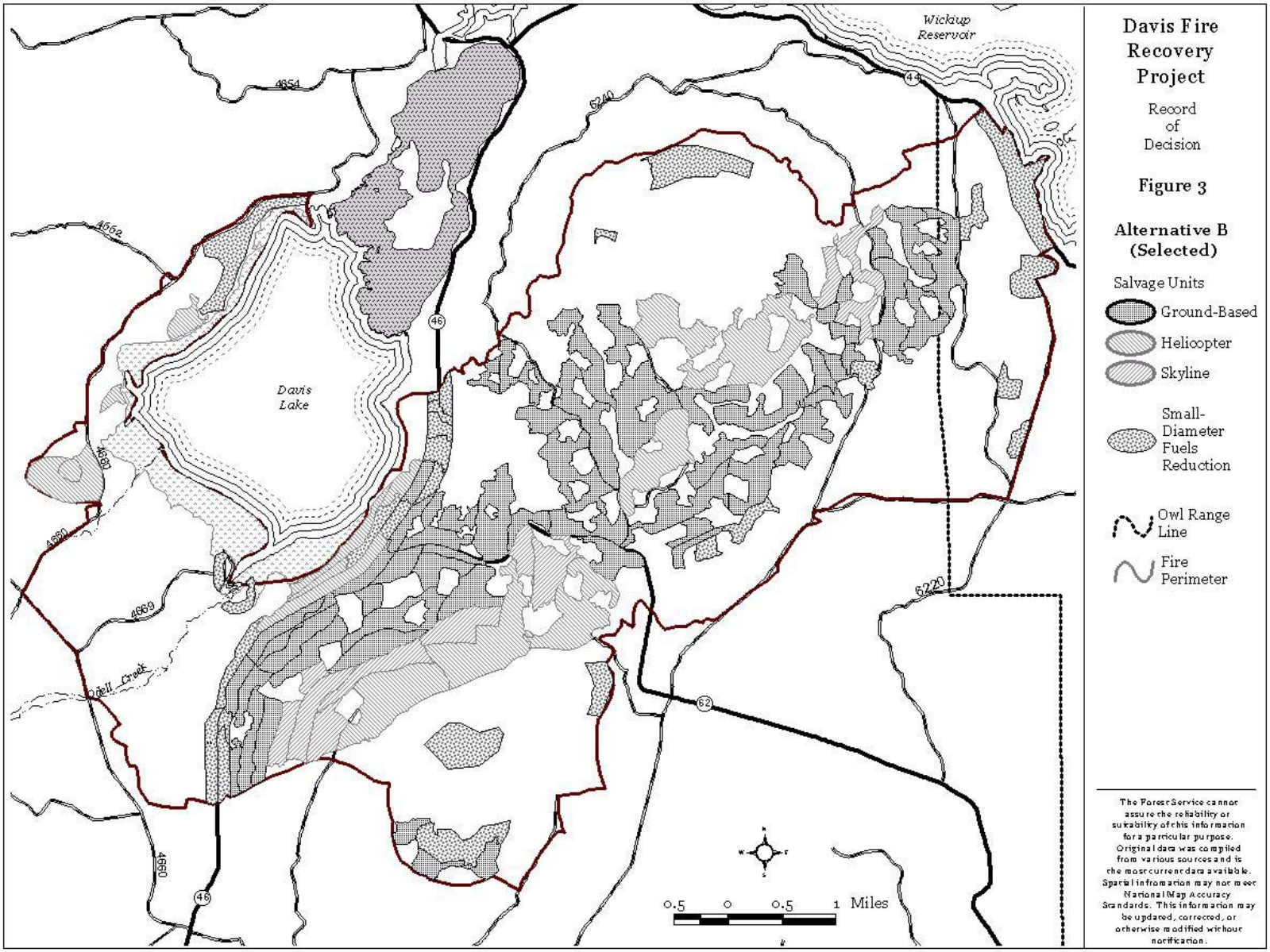
RESPONSIBLE OFFICIAL

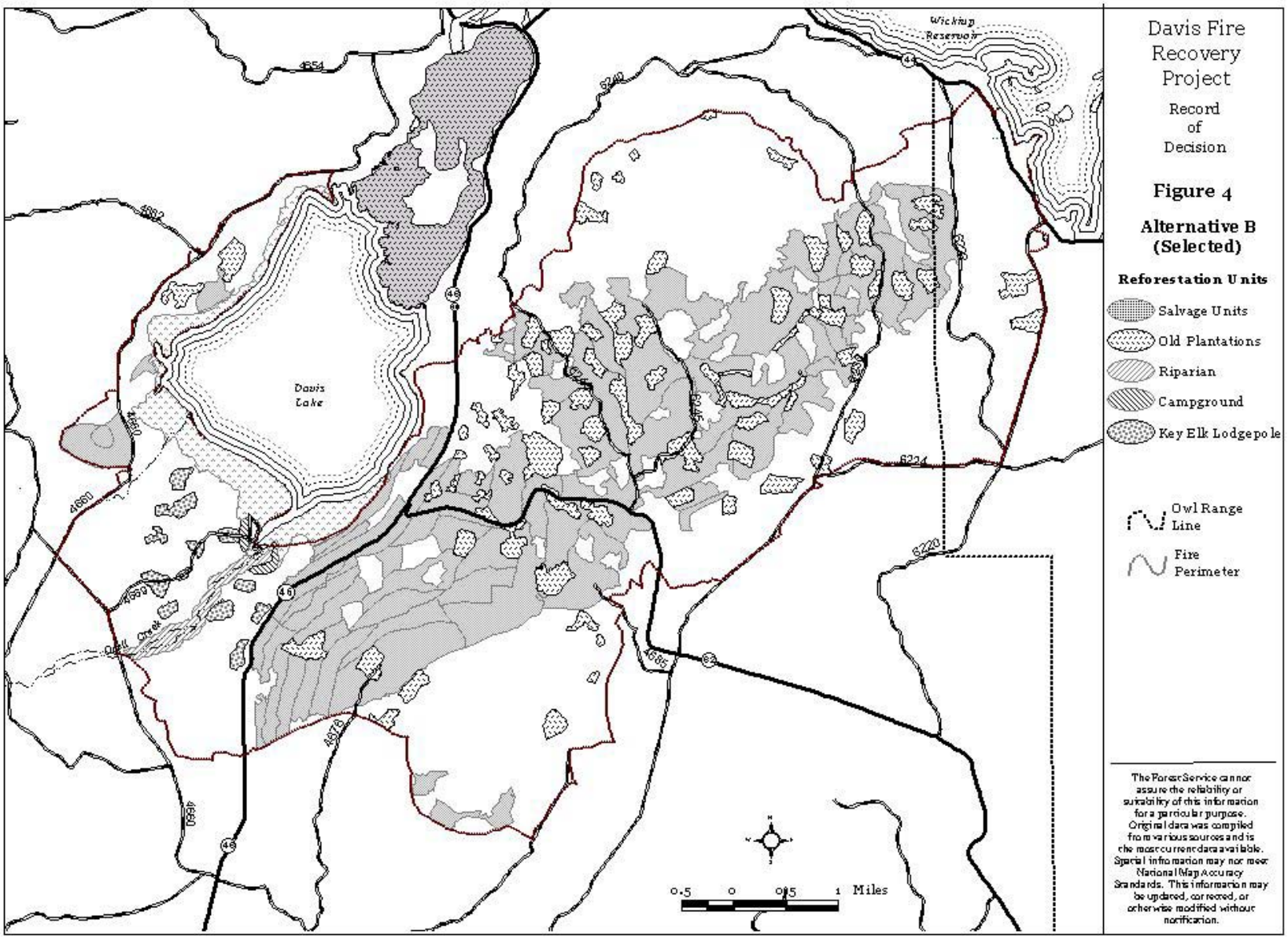
September 14, 2004

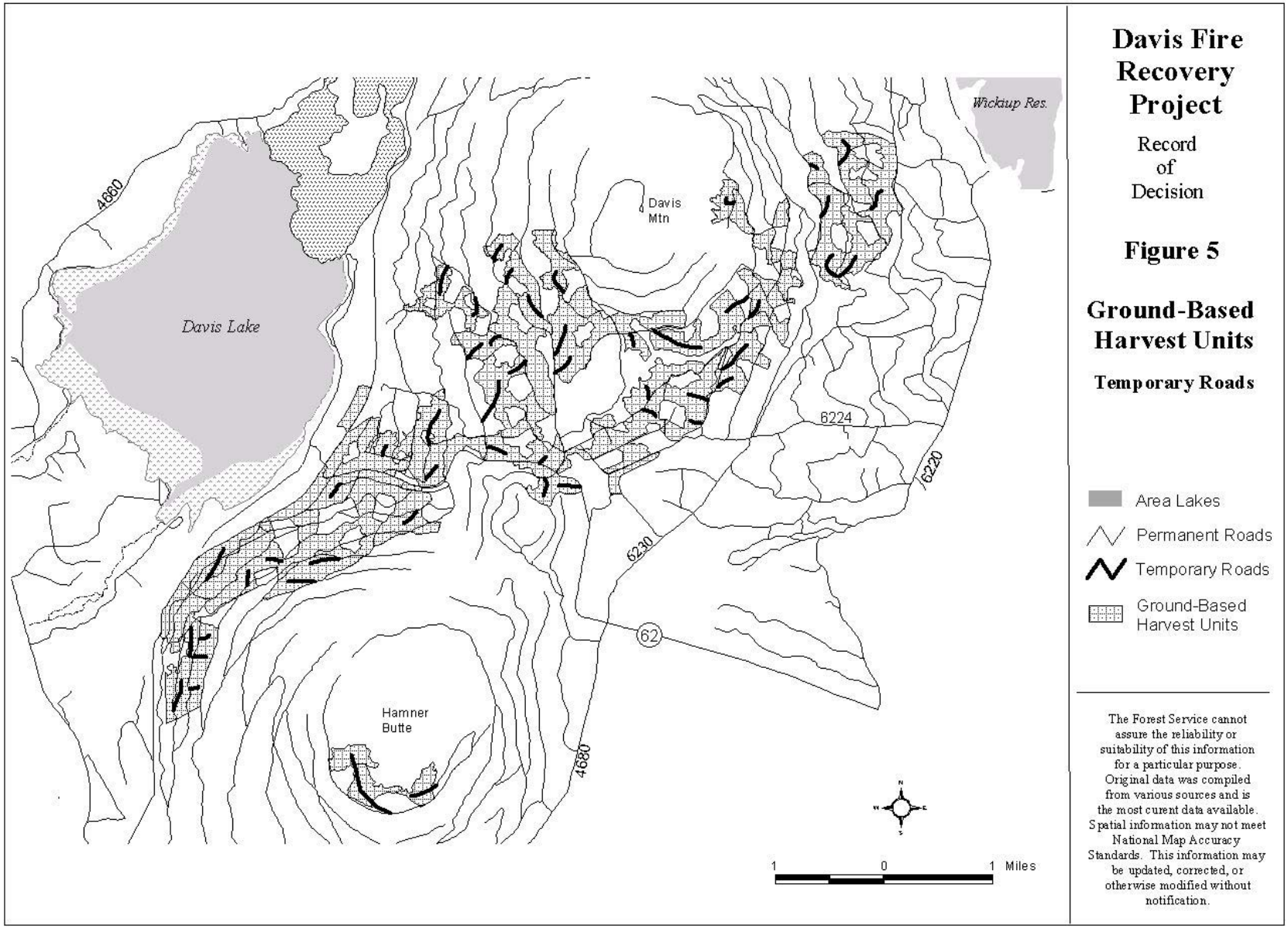
_____ _____

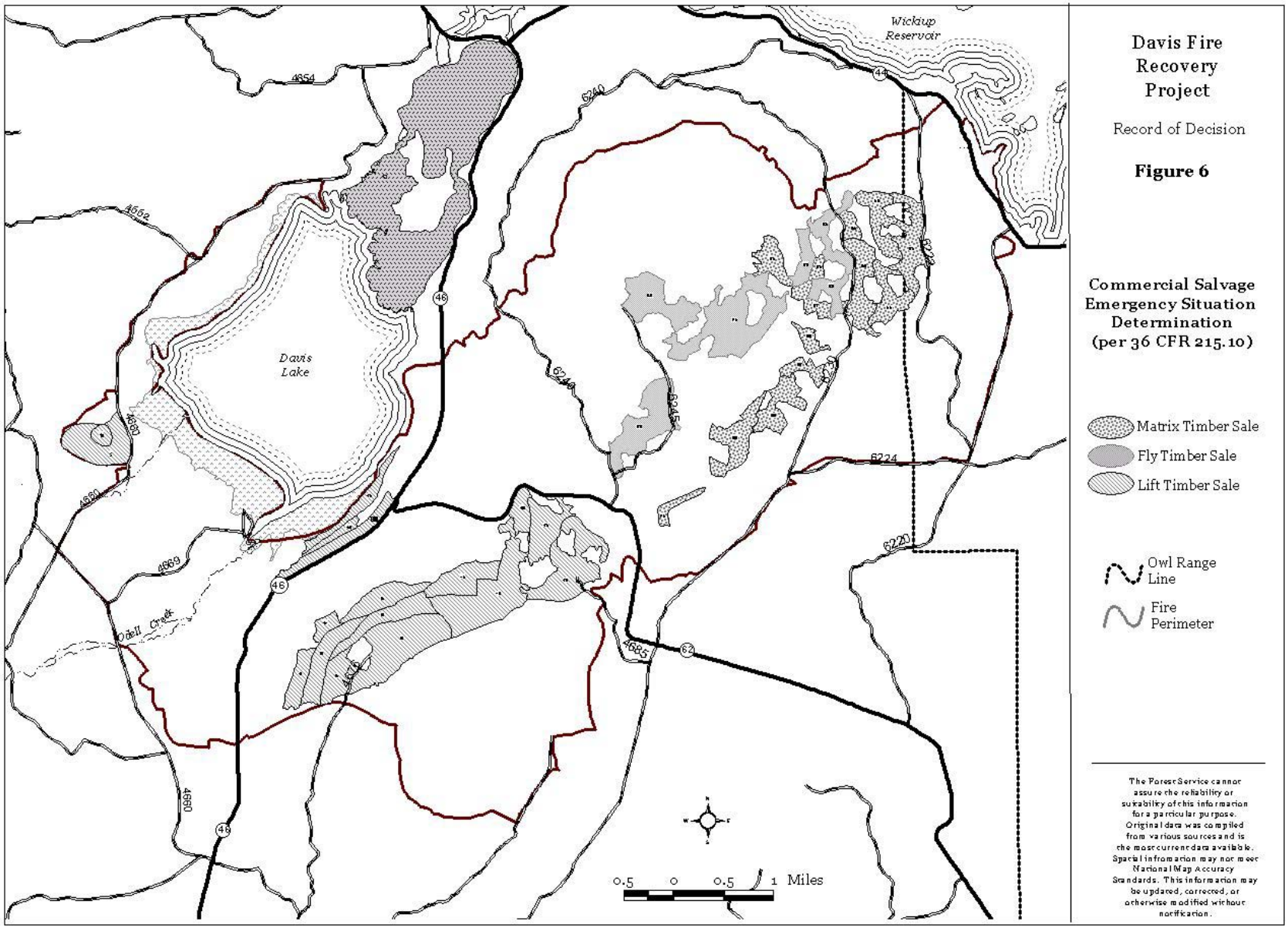
LESLIE A.C. WELDON
Forest Supervisor
U.S. Department of Agriculture
Deschutes National Forest
P.O. Box 6010
Bend, OR 97708-6010

Date


Wickiup Reservoir
Davis Lake
Odell Creek
4854
4662
4660
4659
4660
5240
5220
46
44
62
0.5 0 0.5 1 Miles
Davis Fire Recovery Project
Record of Decision
Figure 3
Alternative B (Selected)
Salvage Units
Ground-Based
Helicopter
Skyline
Small-Diameter Fuels Reduction
Owl Range Line
Fire Perimeter
The Forest Service cannot assure the reliability or suitability of this information for a particular purpose. Original data was compiled from various sources and is the most current data available. Spacial information may not meet National Map Accuracy Standards. This information may be updated, corrected, or otherwise modified without notification.


Wickiup Reservoir
Davis Lake
Davis Fire Recovery Project
Record of Decision
Figure 4
Alternative B (Selected)
Reforestation Units
Salvage Units
Old Plantations
Riparian
Campground
Key Elk Lodgepole
Owl Range Line
Fire Perimeter
0.5 0 0.5 1 Miles
The Forest Service cannot assure the reliability or suitability of this information for a particular purpose. Original data was compiled from various sources and is the most current data available. Spatial information may not meet National Map Accuracy Standards. This information may be updated, corrected, or otherwise modified without notification.


Davis Fire Recovery Project
Record of Decision
Figure 5
Ground-Based Harvest Units
Temporary Roads
Wickiup Res.
Davis Mtn
Davis Lake
4680
6224
6220
6230
62
Hamner Butte
4680
Area Lakes
Permanent Roads
Temporary Roads
Ground-Based Harvest Units
1 0 1 Miles
The Forest Service cannot assure the reliability or suitability of this information for a particular purpose. Original data was compiled from various sources and is the most curent data available. Spatial information may not meet National Map Accuracy Standards. This information may be updated, corrected, or otherwise modified without notification.


Wickiup Reservoir
Davis Lake
Odell Creek
4654
4662
4680
4689
4690
4685
6240
6245
6224
6220
46
42
0.5 0 0.5 1 Miles
Davis Fire Recovery Project
Record of Decision
Figure 6
Commercial Salvage Emergency Situation Determination (per 36 CFR 215.10)
Matrix Timber Sale
Fly Timber Sale
Lift Timber Sale
Owl Range Line
Fire Perimeter
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