ALTERNATIVES, INCLUDING THE PROPOSED ACTION

Introduction

The purpose of this chapter is to describe how the alternatives were generated, reviewed, and either eliminated from detailed study or considered in detail. Various alternatives proposed by the Interdisciplinary Team (IDT) and generated through the public scoping process are discussed. This chapter also includes a comparison of the alternatives. Mileage and acreage figures used throughout this document are approximate figures.

Chapter 2 Changes Between Draft EIS and Final EIS

Within Chapter 2, the following changes were made:

- A section on priority funding for Sale Area Improvement Projects (KV) has been added. Mitigation and Management Requirements were clarified as needed.
- USDA Forest Service Central Oregon Interagency Ecology Program has established monitoring plots in the 18 Fire to compare forest recovery in the salvage and non-salvage areas (see Monitoring).

Development of Alternatives

The process used in developing the alternatives began with a review of the purpose of and need for action by the IDT. The IDT also considered the 18 Burned Area Emergency Rehabilitation (BAER) report, Kelsey Vegetation Management EA, comments received during the scoping process, the Beschta Report (Beschta, 1995 and 2004), other scientific sources and the applicable direction in the Forest Plan, as amended.

Three alternatives are analyzed in detail. The action alternatives provide a reasonable range of alternatives and respond to one or more of the key issues.

Alternatives Considered in Detail

Alternatives were developed and analyzed in response to the purpose and need of the proposed action. Additionally, they address social and environmental issues, respond to public and agency concerns and input, and satisfy Council on Environmental Quality (CEQ) regulations and the National Environmental Policy Act (NEPA). The NEPA process requires the Forest Service to consider a range of reasonable alternatives, which may include a multitude of options.

One of the goals in developing the action alternatives for this FEIS was to ensure that each option was "technically and physically feasible," as well as reasonable as specified by 40 CFR 1502.14. The alternatives developed should provide the Forest Service decision-maker and the public with a range of reasonable options to consider. The

following questions were typical of those considered by the IDT during the alternative development process.

- Economically viable
- Do the action alternatives meet the purpose and objectives of salvaging timber?
- Do the action alternatives conform to the time restrictions anticipated for timber harvest given the expected deterioration of the timber resource after the fire?
- Can the action alternatives be implemented with little or no new road construction while fully utilizing the existing Forest road system within the 18 Fire burned area?
- Do the alternatives protect soils and wildlife habitat while allowing for economic recovery of the timber resource?
- Are the selected action alternatives technically feasible?
- Would the alternatives, while meeting the purpose and need of the action, result in a low level of environmental degradation?
- Do the alternatives interfere with any rights or obligations of the Forest Service or other Government agencies under their legal and regulatory jurisdiction?
- Do they meet scoping input (public and internal)?

Under Alternative 2 (salvage/reforestation) and Alternative 3 (reforestation) treatments would take place within designated units, subject to legal, safety, and environmental stipulations established by the Forest Service. Alternative 2 would, by design, be subject to these conditions (outlined in this Chapter, under section Mitigation and Management Requirements). All harvest units offered for competitive sale would be bound by the provisions of the standard Forest Service timber sale contract and additional clauses used to implement mitigation measures selected by the decision maker.

Table 2-3, Comparison of 18 Fire Recovery Alternatives, presents a comparison of the various components of all alternatives. The locations of the units proposed for timber harvest or reforestation are displayed on the Alternative 2 map (see at end of Chapter 2) and Alternative 3 Map (see at end of Chapter 2).

Within each designated salvage and treatment unit, practices would be carried out as detailed under Mitigation and Management Requirements.

A synopsis of the alternatives analyzed is presented in the discussion that follows.

Alternative 1– No Action

Objective
Under the No Action Alternative, current management plans would continue to guide management of the project area. Separate "Additional Resource Recovery Projects",

(Chapter 1, *section heading*) would not be affected with the selection of this (or any other) alternative.

Salvage Harvest
No salvage activities or timber outputs would result from this alternative.

Hazard Trees
Trees that pose a hazard to public safety on open roads and in recreation areas would continue to be monitored and felled when identified as a hazard according to the Region 6 (R6), Pacific Northwest, Forest Service, Hazard Tree standard (Harvey, Jr. & Hessburg, Sr., 1992). Utilization of felled trees for commercial use would not occur under this alternative.

Forest Roads
No roads would be closed or decommissioned.

Fuels Treatment
No fuels treatments would occur.

Reforestation
As noted under Additional Resource Recovery Projects a total of 73 acres of roadside salvage would be hand planted in the spring of 2005.

Snags and Coarse Woody Debris
Under the No Action Alternative existing snag levels would remain. No treatments are planned that would affect snags or future coarse woody debris.

Alternative 2 – Proposed Action

Objective
This alternative is the proposed action. Proposed activities were designed to meet the purpose of and need for action as described in Chapter 1 and are consistent with existing Forest Plan direction. The Alternative 2 map at the end of this chapter, displays timber salvage and reforestation proposed under this alternative.

Salvage Harvest
With the implementation of Alternative 2, salvage would remove dead trees on approximately 1,936 acres. Minimum diameter of salvage trees would generally be 12 inches for ponderosa pine. An estimated total volume of 7.0 million board feet (MMBF) from fire killed trees would be harvested under this alternative. All areas would be salvaged with ground based systems utilizing designated skid roads and boom-mounted shears or logging over snow and/or frozen ground. Landing and major skid roads used during salvage operations would be restored by subsoiling and tree planting. Where possible landings and major skid trails would be located at least 300 feet away from Forest Road 18, 1810, and 9711.

Table 2-1. Alternative 2 Salvage and Reforestation Acres by LRMP Management Area

LRMP Man. Area	Acres	Salvaged/Reforested Alt. 2 (acres)	Percent of Area Salvaged/Reforested
Deer Habitat	2,887	1,868	64.7%
General Forest	901	68	0.7%
Scenic	22	0	0.0%
Total	3,810	1,936	50.8%

Hazard Trees
Trees determined to be a hazard to human life or property, according to the R6 Hazard Tree standard, would be felled and utilized in this alternative. Designated wildlife trees that are identified as hazard tress will be replaced with a substitute dead tree.

Forest Roads
Access to designated units for harvest and hauling of logs would predominately be on existing forest roads. An estimated 3.5 miles of temporary road construction would be required to access harvest units not readily accessible from existing forest roads. Temporary roads (3.5 miles) would be closed and subsoiled after purchaser use in addition to 7.0 miles of road decommissioning and 2.9 miles of closures. Subsoiling followed by planting of bitterbrush and ponderosa pine trees would be used to decommission the 7.0 miles of permanent system roads.

Fuels Treatment
All 1,936 acres within salvage harvest units would have whole tree yarding or leave tops attached to reduce slash generated by the salvage logging of dead trees. Landing piles would be burned or if economically feasible chipped for the biomass energy market.

Reforestation
Alternative 2 will reforest approximately 1,936 acres in the spring of 2006. As noted under Additional Resource Recovery Projects a total of 73 acres of roadside salvage would be hand planted in the spring of 2005. Reforestation in the Deer Winter Range (deer habitat) area will be designed to move towards providing 40 percent hiding and thermal cover. To help meet this objective a 640 acre fence (Figure 3-2) would be built in deer winter range to eliminate browsing of ponderosa pine seedlings by big game. Fencing done in the winter range area will be done in a manner that will maintain access to at least minimal forage resources by deer and elk and to allow free movement of animals through the winter range. The fence would be removed when the planted trees are above browse height. In the General Forest Management Area trees will be planted to provide for appropriate stocking levels (minimum of 100 trees per acre).

The Alternative 2 map displays the proposed salvage and reforestation units.

Snags and Coarse Woody Debris
Alternative 2 includes management requirements to leave snags consistent with levels described in Chapter 3, 18 Fire FEIS, Wildlife, *Snags, Green Trees, and Coarse Woody*

Debris. Snags would be left at levels based on ponderosa pine, dry Plant Association Groups (PAG) to provide current and future coarse woody debris. All green trees within salvage units would be retained as replacements. Only dead trees 12 inches diameter-at-breast-height (dbh) or larger would be salvaged. A dead tree is a tree with no green needles.

In Units 1, 4, and 8, five percent of the gross acres would be left for wildlife. The areas left for wildlife retention would range from ½ acres to 15 acres in size and where feasible be located around rock outcrops. These areas would not be salvaged or planted. An average of 3 dead trees per acre larger than 13.5 inches dbh would be retained on salvaged acres.

Existing CWD that was not completely consumed by the fire on the ground would be retained and protected to the greatest extent possible from disturbance during treatment (such as yarding), which might otherwise destroy the integrity of the substrate.

Alternative 3

Objective
Proposed activities in this alternative were designed in part to address scoping comments that requested a non-salvage restoration only alternative, and the issue of Deer Winter Range habitat recovery (key issue). Proposed activities emphasize reduced area of disturbance from post-fire activities while also promoting vegetative recovery within the fire perimeter. The emphasis on reducing post-fire disturbance to resources would result in no fuels treatment.

Salvage Harvest
No salvage activities or timber outputs would result from this alternative. No fuels treatments would be implemented beyond activities that are approved by the Deschutes National Forest Land and Resource Management Plan. Reforestation would occur on 1,936 acres.

Hazard Trees
Trees that pose a hazard to public safety on open roads and in recreation areas would continue to be monitored and felled when identified as a hazard according to the R6 Hazard Tree standard. Utilization of felled trees for commercial use would not occur under this alternative.

Forest Roads
A total of 7.0 miles of road decommissioning and 2.9 miles of closures would occur under this alternative. Subsoiling followed by planting of bitterbrush and ponderosa pine would be used to decommission the 7.0 miles of road.

Fuels Treatment
No fuels treatments would occur under this alternative.

Reforestation
Alternative 3 will reforest approximately 1,936 acres in the spring of 2006. As noted under Additional Resource Recovery Projects a total of 73 acres of roadside salvage would be hand planted in the spring of 2005. Reforestation in the Deer Winter Range (deer habitat) area will be designed to move towards providing 40 percent hiding and thermal cover. To help meet this objective a 640 acre fence would be built in deer winter range to eliminate browsing by big game. Fencing done in the winter range area will be done in a manner that will maintain access to at least minimal forage resources by deer and elk and to allow free movement of animals through the winter range. The fence would be removed when the planted trees are above browse height. In the General Forest Management Area trees will be planted to provide for appropriate stocking levels (minimum of 100 trees per acre).

The Alternative 3 map displays the proposed reforestation units.

Table 2-2. Alternative 3 Acres by LRMP Management Area

LRMP Man. Area	Acres	Acres Reforested Alt. 3	Percent of Area Reforested
Deer Habitat	2,887	1,868	64.7%
General Forest	901	68	07.5%
Scenic	22	0	0.0%
Total	3,810	1,936	50.8%

Snags and Coarse Woody Debris
Under Alternative 3 existing snag levels would remain the same with the exception of snags felled adjacent to the big game fence to avoid damage. No treatments are planned that would affect future coarse woody debris.

Mitigation and Management Requirements

These mitigation and management requirements or resource protection measures are an integral part of the action alternatives. Mitigation measures are specific actions that could be taken to minimize, avoid or eliminate potentially significant impacts on the resources that would be affected by the alternatives, or rectifying the impact by restoring the affected environment (40 CFR 1508.02). Management requirements are also mitigation measures typically derived from LRMP standards and guidelines, but other sources can also be existing laws or regulations, or guidelines for practices required by

extraordinary conditions. They are listed here separately to avoid repeating them in each alternative description. A majority of these only apply to the salvage harvest associated with Alternative 2.

Effectiveness ratings provide a qualitative assessment of expected effectiveness that the implemented practice will have on preventing or reducing impacts on resources. The effectiveness of each measure is rated at high, moderate, or low. These mitigation measures and management requirements are considered in the effects discussions of Chapter 3.

Effectiveness ratings of High, Moderate or Low are based on the following criteria:

a) Literature and Research
b) Administrative Studies (local or within similar ecosystem)
c) Experience (judgment of qualified personnel by education and/or experience)
d) Fact (obvious by reasoned, logical response)

HIGH: Practice is highly effective (greater than 90 percent), meets one or more of the rating criteria, and documentation is available.

MODERATE: Documentation shows that practice is 75 to 90 percent effective; or logic indicates that practice is highly effective, but there is no documentation. Implementation and effectiveness of this practice needs to be monitored and the practice will be modified if necessary to achieve the mitigation objective.

LOW: Effectiveness is unknown or unverified, and there is little or no documentation; or applied logic is uncertain and practice is estimated to be less than 60 percent effective. This practice is speculative and needs both effectiveness and validation monitoring.

Soils

Mitigation and Management Requirements
The management requirements listed for the soil resource are to be implemented during or after the project in order to meet the stated objectives for protecting and maintaining soil productivity. These requirements represent standard operating procedure for the protection of Forest resources, and they are generally addressed in timber sale contract provisions or sale layout.

Mitigation Measures:
The following mitigation measures are designed to avoid or minimize potentially adverse impacts to soils by controlling equipment operations to locations and conditions that are less susceptible to resource damage. This type of mitigation is built into the action alternatives as part of the implementation guidelines.

Minimize the extent of new soil disturbance from mechanical treatments by implementing appropriate management requirement for avoiding or reducing detrimental soil impacts from project activities. Options include using some or all of the following:

- Use existing log landings and skid trail networks (whenever possible) or designate locations for new skid trails and landings.
- Maintain spacings of 100 to 150 feet for all primary (main) skid trail routes, except where converging at landings. Closer spacing due to complex terrain must be approved in advance by the Timber Sale Administrator. Main skid trails spaced 100 feet apart would limit soil impacts to 11 percent of the unit area. For the larger activity areas (greater than 40 acres) that can accommodate wider spacing distances, it is recommended that distance between main skid trials be increased to 150 feet to reduce the amount of detrimentally disturbed soil to 7 percent of the unit area (Froehlich, 1981, Garland, 1983). This would reduce the amount of surface area where restoration treatments, such as subsoiling, would be required to mitigate impacts to achieve soil management objectives.
- Restrict grapple skidders to designated areas (that is roads, landings, designated skid trails) at all times, and limit the amount of traffic from other specialized equipment off designated areas. The use of harvester machines will be authorized to make no more than two equipment passes on any site-specific area to accumulate materials.
- Avoid equipment operations during times of the year when soils are extremely dry and subject to excessive soil displacement.
- Avoid equipment operations during periods of high soil moisture, as evidenced by equipment tracks that sink deeper than during dry or frozen conditions.
- Operate equipment over frozen ground or a sufficient amount of compacted snow to protect mineral soil. If this option is selected, equipment operations should be discontinued when frozen ground begins to thaw or when there is too little compacted snow and equipment begins to cause soil puddling damage.
- Prevent additional soil impacts in random locations of activity areas, between skid trails and away from landings, by machine piling and burning logging slash on existing log landings and skid trails that already have detrimental soil conditions.

Objective: Reduce displacement and compaction damage to soils by limiting the amount of surface area covered by logging facilities, and limiting equipment operations to specified areas and ground conditions.
Enforcement Mechanism: Timber Sale Contract
Effectiveness: HIGH
Basis: Forest Plan Standards and Guidelines (SL-1 and SL-3); Timber Management BMPs T-2, T-4, T-9, T-11 and T-12; Forest Service Soil and Water Conservation Practices Handbook (FSH 2509.22); Froehlich et al 1981; Clayton, 1990; Garland, 1983; Fact; Experience

The following mitigation measure is designed to rectify impacts to the soil resource by reducing cumulative levels of detrimental soil conditions. Impacts to the soils resource before or after restoration would not exceed Regional and LRMP standards and guidelines.

- Reclaim all temporary roads, all log landings and approximately 500 feet of all primary (main) skid trails that lead into log landings by applying appropriate soil restoration treatments in all eight activity areas proposed under Alternative 2. Decommission (obliterate) approximately seven miles of local system roads which are recommended for removal from the transportation system (FS Road Numbers are identified in the Roads and Transportation Section of this EIS). Road decommissioning treatments would apply to both of the action alternatives. Options for mitigating the effects of project activities include the use of subsoiling equipment to loosen compacted soils, redistributing humus-enriched topsoil in areas of soil displacement damage, and pulling available slash and woody materials over the treated surface to establish effective ground cover protection.

Objectives: Reduce the extent of detrimentally disturbed soil to meet management objectives. Restore and stabilize detrimentally disturbed soils prior to seasonal runoff events.
Enforcement Mechanism: Timber Sale Contract
Enforcement Responsibility: Contract Administrator
Effectiveness: HIGH
Basis: Forest Plan Standards and Guidelines for Soil, Water and Riparian Resources (SL-1 and SL-4); Watershed Management BMP W-1; Cafferata, 1983; Garland, 1983; Johnson, 1995; Experience, Logic

Management Requirements:
Application of appropriate Best Management Practices (BMPs) would be included in Alternatives 2 and 3 for all ground-disturbing management activities as described in General Water Quality Best Management Practices (Pacific Northwest Region, 1988). These BMPs are tiered to the Soil and Water Conservation Practices (SWCP) Handbook (FSH 2509.22), which contains conservation practices that have proven effective in protecting and maintaining soil and water resource values. The Deschutes Forest Plan states that BMPs will be selected and incorporated into project plans in accordance with the Clean Water Act for protection of waters of the State of Oregon (Forest Plan 4-69). Specific BMPs commonly used to minimize the effects of road systems, fuels and timber management activities on the soil resource are briefly described for this project proposal.

- Use old landings and skidding networks whenever possible. Based on harvest history, approximately 151 acres of past harvest overlap a portion of proposed Unit 01. Assure that water control structures are installed and maintained on skid trails that have gradients of 10 percent or more. Ensure that erosion control structures are stabilized and working effectively (LRMP SL-1; Timber Management BMP T-16, T-18). *High effectiveness.*
- In all proposed activity areas, locations for new yarding and transportation systems would be designated prior to the logging operations. This includes temporary roads, spur roads, log landings, and primary (main) skid trail networks.

(LRMP SL-1 & SL-3; Timber Management BMP T-11, T-14 & T-16). *Moderate effectiveness.*

- *Surface Drainage on Temporary Roads* – minimize erosive effects of concentrated water through the proper design and construction of temporary roads (Road BMP R-7). *Moderate effectiveness*
- *Road Maintenance* – conduct regular preventive maintenance to avoid deterioration of the road surface and minimize the effects of erosion (Road BMP R-18, R-19). *Moderate to high effectiveness.*
- *Coarse Woody Debris (CWD)* - Retain adequate supplies of large coarse woody debris (greater than 3-inches in diameter) to provide organic matter reservoirs for nutrient cycling following completion of all project activities (LRMP SL-1). It is recommended that a minimum of 5 to 10 tons per acre of woody debris be retained on dry, ponderosa pine sites to help maintain long-term site productivity. *Moderate effectiveness.*
- *Maintain duff layer* – Strive to maintain existing sources of unburned or partially-consumed, fine organic matter (organic materials less than 3-inches in diameter; commonly referred to as the duff layer), wherever possible, within planned activity areas. (LRMP SL-6; Fuels Management BMP F-2; Timber Management BMP T-13). *Moderate effectiveness.*

Elements and features of the action alternatives (2 and 3) are similar. They are described here to avoid repetition. Management requirements are intended to meet standards and guidelines set forth in the LRMP(as amended), and for protection of water quality in the State of Oregon through planning, application and monitoring of Best Management Practices.

The Forest Service would require that Best Management Practices (BMPs) and mitigation measures be used to minimize possible adverse effects associated with timber salvage operations. Implementation of management requirements, BMPs and mitigation measures would be the responsibility of the Forest Service and those companies contracted to conduct salvage operations. Enforcement of BMPs and mitigation measures would be within the jurisdiction of the Forest Service. Mitigation measures and management requirements were developed to target specific resource needs. It is anticipated that BMPs would have a moderate to high degree of effectiveness relative to reducing adverse impacts.

Wildlife Habitat

Management Requirements:

- In coniferous forest, sufficient snags (or clumps of snags) will be maintained to provide 40 percent of potential population levels of cavity nesting species…live green tree replacements (GTRs) will be left during any harvest to assure 60 percent of cavity nesting potential. Specific guidelines will be provided by the

Deschutes National Forest Wildlife Tree Implementation Plan (WL-37, 38). *High effectiveness.*

- Fallen trees and other woody debris will be retained in sufficient quantity, distribution, and physical characteristics to provide habitat for viable populations of dependent wildlife species over time (WL-72, 73). *High effectiveness*

Noxious Weeds

Mitigation Measures:

- Machinery involved in the harvest activities, road building, and road closures must be washed prior to entry into the project area. Use the timber sale contract equipment washing clause to reduce the possibility of importing noxious weeds to the area.
- Machinery involved in project activities must be washed prior to going to the next work site.

Objectives: Reduce or eliminate the introduction or spread of noxious weeds.
Enforcement Mechanism: Timber Sale Contract
Enforcement Responsibility: Contract Administrator
Effectiveness: MODERATE to HIGH
Basis: Forest Service Manual (FSM) 2081.03, 29). Experience, Fact

- The district botanist will identify and flag out areas of weed infestation, if present, for implementers to avoid; she or he will closely coordinate this with those doing the implementing.

Objectives: Reduce or eliminate the introduction or spread of noxious weeds.
Enforcement Mechanism: Timber Sale Contract
Enforcement Responsibility: Contract Administrator
Effectiveness: MODERATE
Basis: Forest Service Manual (FSM) 2081.03, 29). Experience, Logic

Cultural Resources

Management Requirements:

- Known heritage resource sites would be avoided by all proposed activities. *High effectiveness.*
- Heritage resource sites discovered during harvest operations would be avoided from any further disturbance. *High effectiveness.*

Scenic

Management Requirements:

These recommendations are designed to help maintain or enhance short-term and long-term scenic views, meet or exceed LRMP standards and guidelines for scenic views, and meet the LRMP Desire Future Scenic Condition through the perpetuation of scenic components and landscape elements.

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- Flush cut stump (12 inches or less) within immediate Foreground landscape (0 to 300 feet) of a sensitive travel corridor, such as along Forest Road 18 (China Hat Road), 1810 and 9711. *High effectiveness.*

Range

Management Requirements:

The following management requirements are designed to avoid or minimize affects to range improvements and range resources.

- Protect existing fence T-posts within Unit 3 (1,368 feet) and 4 (2,100 feet) by avoidance. *High effectiveness.*

Fuels Treatment and Air Quality

Management Requirements:

- The proposed action would salvage fire-killed trees on approximately 1,936 of the 3,810 acres. Whole-Tree-Yard (WTY) or Leave-Tops-Attached (LTA) to the last log would be used on all salvage acres to help eliminate salvage activity fuels. *High effectiveness.*

- All slash pile burning would be in accordance with Oregon State Smoke Management Guidelines. *High effectiveness.*

Monitoring

Project monitoring focuses primarily on "implementation monitoring" to assure the selected alternative and mitigation measures are implemented on the ground as designed and achieve the desired results.

Wildlife
Objective: To increase wildlife habitat effectiveness.
Monitor Elements: Determine if road closures and decommissioning were completed and effective.
Suggested Methodology: Annual field review for 2 years.

Soil Quality
Objective: To determine if post-implementation soil productivity is within parameters consistent with regional standards and guidelines for soil quality.
Monitoring Elements: Percentage of detrimental disturbance.
Area of Consideration: Salvage units.
Suggested Methodology: Shovel probe

Reforestation
Objective: To evaluate reforestation success.
Monitoring Elements: Tree survival and animal damage.
Area of Consideration: Reforestation units.
Suggested Methodology: Survival of planted trees will be monitored through annual visits in the fall following the first and third season after planting. Impacts by damaging agents including animals and falling trees will be assessed annually or bi annually with a walk through inspection. Monitoring will be conducted twice a year for the first four years following planting. If damage occurs an assessment of level of damage will be made and the decision on whether to control the gopher populations will be made at that time. Monitoring of seedling damage will be conducted at the time of maintenance of vexar tubes and fencelines. Effectiveness of protection will be evaluated and removal of fence or vexar when appropriate.

Noxious Weeds
Objective: To determine the introduction of new infestations or expansion of existing infestations of invasive plant species.
Monitoring Elements: Area covered by infestations and their locations.
Area of Consideration: 18 Fire project area.
Suggested Methodology: Inspect travel routes annually during field season.

Study Plots
Objective: To determine vegetative differences between unsalvaged/non-planted sites and salvaged/planted sites.
Monitoring Elements: Tree and vegetation response
Area of Consideration: Study plots
Suggested Methodology: Protocol developed by USDA Forest Service Central Oregon Interagency Ecology Program.

Comparison of Alternatives

This section provides a summary of the effects of implementing each alternative. Information in the table is focused on activities and effects where different levels of effects or outputs can be distinguished quantitatively or qualitatively among alternatives.

Table 2-3. Comparison of 18 Fire Recovery Alternatives

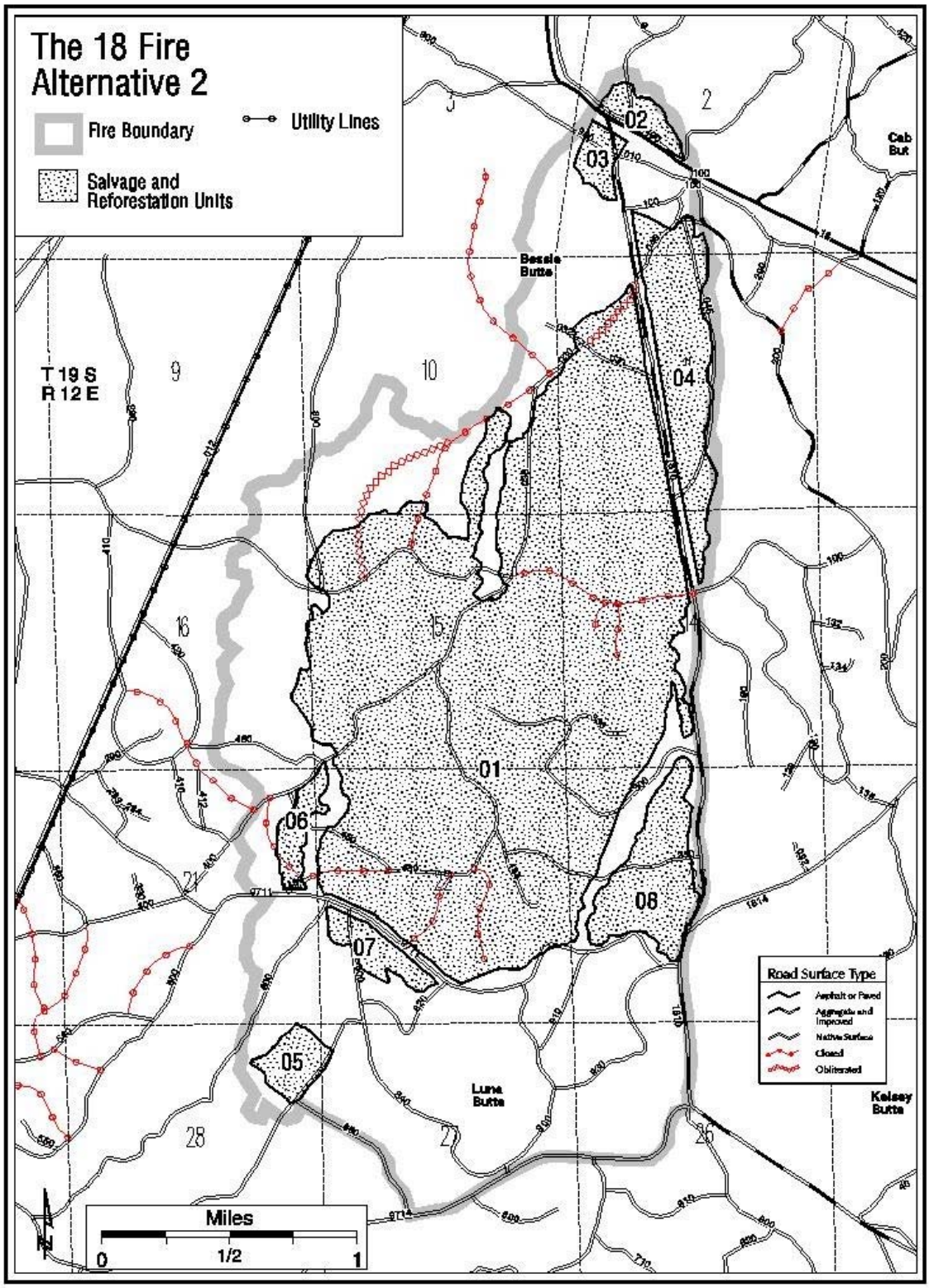
	Alternative 1	Alternative 2	Alternative 3
Volume Salvaged/MMBF	0	7.0	0
Net Sale Value/ Thousands $	0	301	0
Jobs Maintained/Created	0	58	10
Deer Habitat acres salvaged/planted	64	1,868/1,868	0/1868
Deer Habitat area not treated	2823	1019	1019
General Forest acres salvaged/planted	9	68/68	0/68

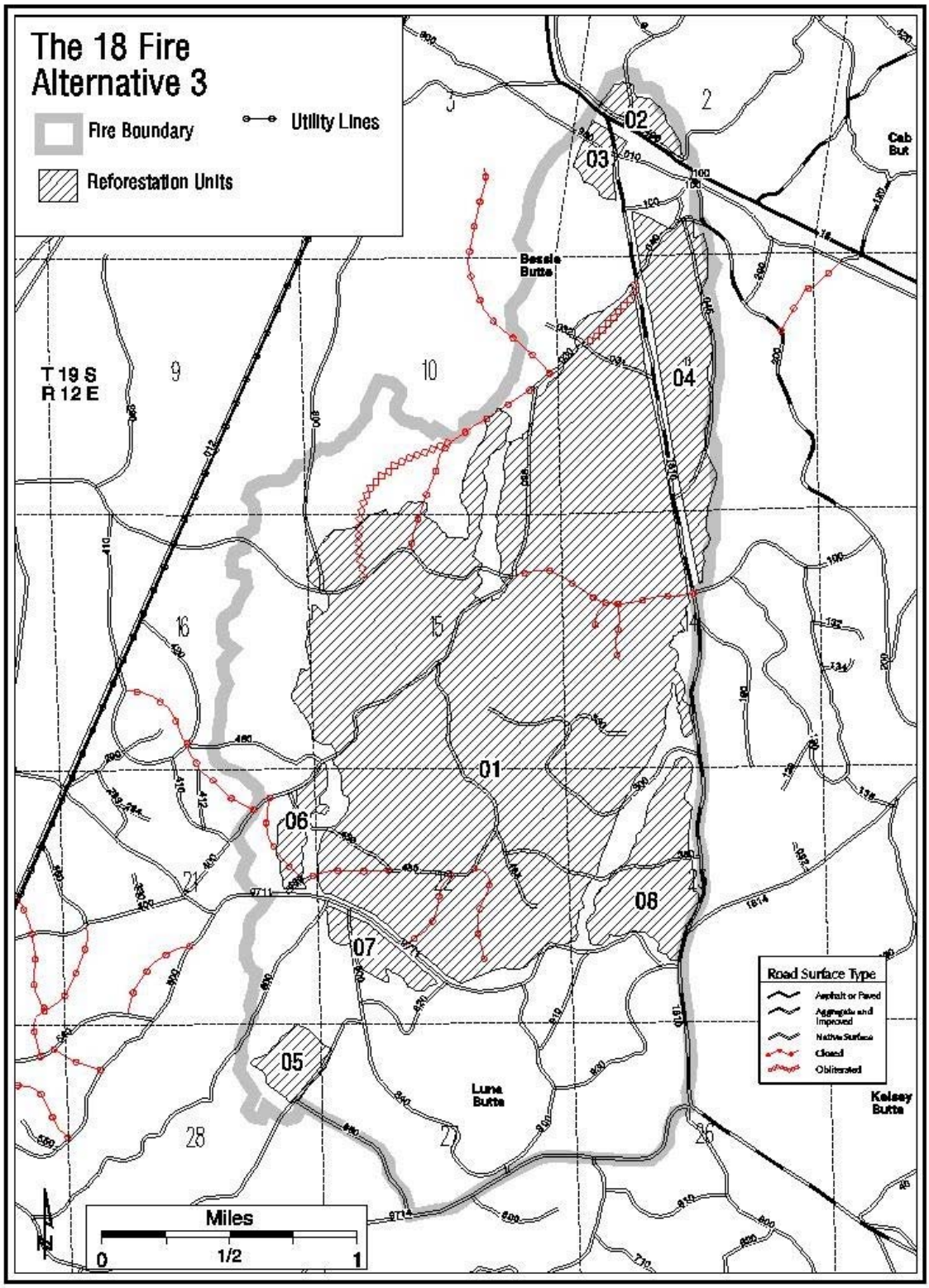
Area of fire not salvaged	98%	47%	98%
Average number of trees salvaged/acre (Note this is for the acres of salvage only)	0	31.2	0
Acres of roads & logging facilities subsoiled within units	0	56.9	4.8 (roads)
Acres of roads subsoiled outside units	0	5.6	5.6
Coarse Woody Debris/Tons per acre	40 to 60	15 to 20	40 to 60
Coarse Woody Debris/Percent Cover	8.1	3.2	8.1
Miles of road obliterated	0	7.0	7.0
Miles of road closed	0	2.9	2.9
Miles of open road/square mile	3.6	1.9	1.9
Temporary road miles	0	3.5	0
Number of acres replanted at 300 TPA*	73	252	252
Number of acres replanted at 200 TPA**	0	530	530
Number of acres replanted at 50 TPA***	0	1,227	1,227
Fence acres in Unit 1	0	640	640

* 154 acres in Unit 1; 14 acres in Unit 4; 11 acres in Unit 8. A total of 73 acres of planting was included from the Decision Memo for the 18 Fire Roadside Salvage CE and display in 300 TPA for all alternatives.

** 462 acres in Unit 1; 34 acres in Unit 5; 34 acres in Unit 7

*** 923 acres in Unit 1; 27 acres in Unit 2; 23 acres in Unit 3; 128 acres in Unit 4; 29 acres in Unit 6; 97 acres in Unit 8


The 18 Fire
Alternative 2
Fire Boundary
Utility Lines
Salvage and
Reforestation Units
T 19 S
R 12 E
Bessie
Butte
Cab
But
Luna
Butte
Kelsey
Butte
01
02
03
04
05
06
07
08
Road Surface Type
Asphalt or Paved
Aggregate and
Improved
Native Surface
Closed
Obliterated
Miles
0
1/2
1


The 18 Fire
Alternative 3
Fire Boundary
Utility Lines
Reforestation Units
T 19 S
R 12 E
Bessie Butte
Cab Butt
Luna Butte
Kelsey Butte
01
02
03
04
05
06
07
08
Road Surface Type
Asphalt or Paved
Aggregate and Improved
Native Surface
Closed
Obliterated
Miles
0
1/2
1

Sale Area Improvement Projects (KV) _____

Money may be collected from the timber sales to complete certain projects such as identified mitigation, enhancement and restoration projects in the vicinity of the salvage timber sale areas. Mitigation measures (M) have the highest priority for funding, but may be funded by other means such as appropriated funds to insure that requirements are accomplished. Items marked with an (E) are considered Enhancement.

1. Decommission identified system roads (7.0), temporary roads (3.5), landings and 500 feet of the major skid roads coming into the landings by subsoiling and planting trees and bitterbrush (M).
2. Close 2.9 miles of identified specified system roads (E).
3. Noxious weed control monitoring (E)
4. Install cultural resource interpretive signing (E).
5. Remove timber sale flagging and tags along roads 18 and 1810 (E).
6. Reforestation and surveys (E).