

Record of Decision

East Maury Fuels and Vegetation Management Project

**USDA Forest Service
Lookout Mountain Ranger District, Ochoco National Forest
Crook County, Oregon**

Decision and Reasons for the Decision

Background

This Record of Decision documents my decision and rationale for selecting a course of action to be implemented for the East Maury Fuels and Vegetation Management Project

The project area is located about 37 miles southeast of Prineville, Oregon, on the east side of the Maury Mountains. The project area encompasses about 24,239 acres within the Crooked River watershed and the Pine, Drake, Indian, Lower Camp, and Maury Creek subwatersheds. The project is within portions of Township 17 South, Ranges 20 and 21 East, and Township 18 South, Ranges 20 and 21 East.

A Watershed Analysis for the entire Maury Mountains was completed in 2000 (Ochoco National Forest, 2001). The Watershed Analysis included an extensive look at forest fuels and vegetation conditions, the relationships between those conditions and changes in fire hazard, insect and disease dynamics, wildlife habitat, and riparian health. Vegetation patterns and occurrence within the analysis area are different now than what existed historically. Changes to the health, structure, composition, distribution, and function of forest stands have altered the natural processes that maintain a viable ecosystem. This has affected vegetative resiliency to forest disturbance factors like insects and disease, wildlife habitat diversity and amount, water quality, visual quality, fuel loadings, and fire behavior. The Watershed Analysis found that the entire Maury Mountains area was deficient in seral structural stages that contain large trees, and recommended treatments that would lead to the rapid development of large trees and speed the development of deficient seral structural stages. The Watershed Analysis also recommended using prescribed fire to control seedling and sapling density under large trees; regenerate grass,

forb, and shrub layers; and reduce fuel loadings to allow for the reintroduction of fire as a disturbance factor.

With a 2005 decision and subsequent implementation of the West Maurys Fuels and Vegetation Management Project, the Ochoco National Forest began a proactive approach to vegetation and fuels management on the landscape level in the Maury Mountains. The West Maurys project area included about 38,000 acres on the west side of the Maury Mountains, and involved activities intended to move seral and structural stages and fire regimes toward their historic range of variability, with the attendant benefits of increasing late- and old-structured forest, improving vegetative resiliency to disturbance factors, and reducing the risk of uncharacteristically high-intensity wildfire. This project represents a continuation of that effort.

Purpose and Need

Based on the findings from the Maury Mountains Watershed Analysis and comparisons to the goals and objectives in the Ochoco National Forest Land and Resource Management Plan, three needs were identified in the East Maury project area:

1. There is a need to move the seral and structural conditions of forest stands toward their historic range of variability in order to maintain and increase late and old structured stands, increase the resistance of forest stands to insects and disease, and maintain and increase shrub and broadleaf tree communities.
2. There is a need to move the distribution of fire regimes toward its historic range of variability by increasing the amount of low-intensity fire conditions, decreasing the amount of high-intensity fire conditions, and maintaining low-intensity fire conditions where they already exist.
3. There is a need to provide wood products to contribute to the health of the local and regional economies consistent with Management Area and Forest-wide standards and guidelines (Forest Plan, pp. 4-31 to 4-32), as well as to provide opportunities for employment and income.

The environmental impact statement (EIS) documents the analysis of [5] alternatives to meet this need; three alternatives, including the No Action alternative, were fully developed, while two action alternatives were considered but eliminated from full development due to their inability to meet the purpose and need.

Decision and Rationale

I have reviewed the East Maury Fuel and Vegetation Management Project Final EIS and information contained in the project file, including but not limited to the Forest Plan, the Maury Mountains Watershed Analysis, the East Maury Roads Analysis, specialists' reports, public and other agency comments, and applicable laws and regulations. I have determined there is adequate information to make a reasoned choice among alternatives. I am fully aware of the possible adverse environmental effects that can't be avoided, such as the adverse effects on soils. I am also fully aware of the irreversible and irretrievable commitment of resources, such as the commitment of soils to road construction. I have determined that these risks will be outweighed by the likely benefits such as moving forested stands toward the historic range of variability, maintaining and increasing large trees on the landscape, and reducing the risk of

uncharacteristically severe wildfire in the project area. Implementing this decision will not cause unacceptable cumulative impacts to any resource.

In making my decision, I considered how each alternative meets the stated purpose and need and complies with applicable laws, regulations and policies. I have also considered the public and agency comments, including all relevant science, submitted in response to the 45-day comment period.

Based upon my review of the project file and all three alternatives, I have decided to implement Alternative 2 with some modifications. Generally, these modifications will defer commercial treatments in stands where doing so will prevent potential hydrologic damage in sensitive subwatersheds. In one unit, commercial treatments will be deferred to protect a newly discovered goshawk nest. In one unit, commercial treatments will be deferred because extensive root disease in the stand will render treatments ineffective. See Appendix 1 for a list of all modifications and their rationale.

My modifications will reduce the amount of commercial harvest by 1,295 acres, noncommercial thinning by 108 acres, and grapple piling by 328 acres, while increasing the amount of prescribed burning by 308 acres. The amount of roadwork initially proposed in Alternative 2 will be reduced by 3.6 miles of road construction and 3.1 miles of road reconstruction. Modified Alternative 2 will reduce the expected timber volume by 3.9 million board feet. Including commercial, non-commercial, and fuels reduction activities, Modified Alternative 2 will treat about 13,890 acres in the project area. Appendix 1 to this Record of Decision lists the modifications to Alternative 2 by unit and road number. Modified Alternative 2 includes all the Design Criteria and Resource Protection Measures listed in the Final EIS on pages 23-32, and monitoring activities as described on page 32 of the Final EIS.

Table 1 summarizes the activities in Modified Alternative 2 and compares the changes to Alternative 2 as originally proposed and to Alternative 3.

Table 1. Modified Alternative 2 compared with Alternative 2.

Activities	Alternative 2	Modified Alternative 2	Alternative 3
Total Treated Area (acres)	14,000	13,890	13,725
Commercial Treatments (acres)	6,857	5,562	5,102
Noncommercial Treatments (acres)	11,039	10,931	10,833
Fuel Treatments (acres)	11,400	11,381	10,909
Underburning	7,952	8,260	8,315
Grapple Piling	3,433	3,106	2,579
Hand Piling	15	15	15
Road Management (miles)			
Road Construction	9.3	5.7	.4
Road Reconstruction	18	14.9	18
Decommission	2.5	2.5	.8
Estimated Volume (million board feet)	20.5	16.6	15.3

Rationale for Modifications - Hydrologic Effects

The East Maury project area contains two sensitive subwatersheds: Maury Creek and Indian Creek. The East Maury project Hydrology Report and the Final EIS disclose effects to water

quality and stream bank stability based upon the Equivalent Harvest Area (EHA) model. The Ochoco Forest Plan assigned an EHA threshold value of 35% to all watersheds in the Maury Mountains that flow into the Crooked River above Bowman Dam. The threshold value indicates the upper limit of harvested area that can be supported in a given watershed without incurring damage to the watershed in a major storm event. This value applies to watersheds with low sensitivity. However, the project analysis indicates that two subwatersheds in the project area, Maury Creek and Indian Creek, are sensitive. Based on the scientific literature, the Hydrology Report and FEIS indicate that a more appropriate EHA threshold would be 25 % for these two subwatersheds.

The analysis determined that following implementation of proposed activities in both action alternatives, all subwatersheds in the project area would be below the Forest Plan EHA threshold of 35%. All subwatersheds in the project area except Maury Creek and Indian Creek would remain at low risk from increased flows due to vegetation management. My modifications include deferred harvest in Maury Creek and Indian Creek subwatersheds; commercial harvest will be reduced by 543 acres in Maury Creek subwatershed and 653 acres in Indian Creek subwatershed. These modifications reduce EHA in Maury Creek and Indian Creek subwatersheds to about 26%, so that they too will be at low risk from increased flows following project implementation. It should be noted that in the absence of additional commercial harvest, EHA values decrease over time.

When compared to the other alternatives, Modified Alternative 2 best meets the purpose and need while providing increased protection of water quality in sensitive subwatersheds.

Vegetation

The final EIS describes a need to move the seral (species composition) and structural (size) conditions of forest stands towards their historic ranges of variability (HRV) by (1) maintaining and increasing the amount of late and old structured stands, (2) increasing the resistance of forest stands to insects and disease, and (3) maintaining and increasing broadleaf and shrub communities. I carefully considered this need statement in deciding what activities to undertake.

HRV

I believe that the best available science, as cited in the project record, indicates that moving towards a balance of seral/structural stages as described by HRV increase the health and sustainability of forest stands over time. For this reason, I have concluded that it is necessary to undertake commercial harvest, noncommercial thinning, and prescribed fire activities that will move forest stands toward the HRV. These treatments are designed to increase the dominance of fire-tolerant species such as ponderosa pine and western larch, as well as to increase the maintenance and development of large-sized trees over time. Both action alternatives would move forest stands toward the HRV, while the no action alternative would maintain the existing condition.

Commercial harvest and non-commercial thinning prescriptions authorized by this decision will be designed on a site-by-site basis and will vary based on site conditions, including plant association group (PAG), aspect, and wildlife habitat requirements. This will result in variable-density thinning in and among treated stands across the project area.

Density reduction (thinning) in forested stands results in increased growth rates and faster development of large size class in the remaining trees. By thinning 6,857 acres, Alternative 2

would do the best job of moving forest stands toward the HRV because it would thin the greatest acreage of dense stands and increase the proportion of fire-resilient ponderosa pine and western larch, while reducing the amount of fire intolerant, shade-tolerant trees such as the true firs.

Alternative 3 would have a similar result, but on reduced acreage (5,102 acres). Under Alternative 1, the no action alternative, deviations from the HRV would be expected to increase over time. Modified Alternative 2 will thin 5,534 acres, which will not move as many acres of forest stands toward HRV as Alternative 2, but will do a better job of moving conditions toward HRV than either Alternatives 1 or 3.

LOS

In the East Maury project area, LOS stands occur in small patches of 5 to 133 acres. The Maury Mountains Watershed Analysis and the East Maury project analysis indicate that, with the exception of late-seral Douglas-fir stands, all plant associations within the project area have fewer LOS stands (stands dominated by large trees) than are desired based on the HRV.

Currently the project area contains an estimated 1,700 acres of LOS, of which about 1,567 acres are in a multi-strata (dense stands with multiple canopy layers) condition. The HRV indicates that historically, the project area would have contained 6,674 - 12,375 acres of LOS, of which a large proportion would have been single-stratum (open, single-storied stands).

Most LOS stands have a component of large trees that can be maintained and augmented over time. However, competition with dense understories is placing stress on the large trees, which reduces their vigor and increases their risk of mortality due to insect and/or disease problems. Some areas nearly meet the large tree criteria for LOS, and opportunities exist in these stands to expand the size of existing LOS patches and developing new LOS. Given current conditions, development and/or improvement of LOS could be accelerated on about 14,076 acres by thinning now. Within these acres, about 4,047 acres have significant pine overstory that is at risk because of overstocked conditions.

Modified Alternative 2 includes 413 acres of commercial thinning in LOS stands (the original Alternative 2 proposed 563 acres). Alternative 3 proposed 249 acres of commercial thinning in LOS stands. Commercial harvest is designed to maintain large trees by thinning from below and changing LOS stands from multi-strata to single-stratum conditions. After harvest treatments, these stands will continue to have an uneven-aged (uneven-sized) structure. Commercial harvest will reduce the understory canopy layers and reduce competition stress in the older, larger overstory trees. Large trees are expected to persist longer in treated stands than in untreated stands. The overall amount of LOS will not change immediately after treatment, but 413 acres of multi-strata LOS will be converted to single-stratum LOS. Modified Alternative 2 will retain multi-strata conditions on 241 acres of LOS, but will reduce ladder fuels and thus reduce fire risk to LOS because pre-commercial thinning and/or prescribed burning will be completed. These small-diameter treatments, which remove trees 9 inches dbh and smaller, do not reduce stand densities sufficiently to benefit the growth and vigor of larger trees.

All action alternatives include treatments to promote the development of LOS. Alternative 2 would treat 573 acres with commercial harvest, precommercial thinning, and fuels treatments and 100 acres with precommercial thinning and fuels treatments only. Modified Alternative 2 will treat 413 acres with commercial harvest, precommercial thinning, and fuels treatments and 258 acres with precommercial thinning and fuels treatments only. Alternative 3 would treat 249 acres with commercial harvest, precommercial thinning, and fuels treatments and 415 acres with

precommercial thinning and fuels treatments only. Modified Alternative 2 is the best alternative for maintaining existing LOS and increasing the development of LOS over time, while addressing concerns about water quality. Alternative 2 would maintain and increase LOS on the most acres, but would not provide the additional hydrologic protection that Modified Alternative 2 will provide. Alternative 3 would maintain and develop LOS on fewer acres, while Alternative 1 is unlikely to result in maintaining or increasing LOS over time.

Table 2. Comparison of treatments in LOS.

Treatment	No Action	Alternative 2	Modified Alternative 2	Alternative 3
Harvest with precommercial thinning and fuel treatment (acres)	0	573	413	249
Precommercial thinning and fuel treatment (acres)	0	100	258	415
Total LOS Treated by Thinning and Fuels Treatments	0	673	671	664

Insects and Diseases

Overstocked timber stands become vulnerable to insects and disease. This is a concern in the East Maury project area because of the relatively low number of large trees, the relatively long period of time it would take to replace large trees if they die, and the relative importance of this habitat feature on the landscape. Currently, about 3,954 acres of stands are at high risk of insect and disease mortality due to overstocked conditions, while 7,352 acres are at moderate risk. An additional 3,255 acres currently at low risk, but due to overstocked conditions and the absence of large trees, are in a condition in which stocking control now will benefit long-term growth, vigor, and resilience. About 358 acres of forested stands currently suffer from severe dwarf mistletoe infestation. Table 3 summarizes current stand conditions and how these would be addressed by the alternatives.

Table 3. Current condition of insect and disease risk compared to risk reduction by alternative.

Condition and Risk	Total acres in project area	Acres Treated			
		Alt. 1	Alt. 2	Modified Alt. 2	Alt. 3
Stands at high risk due to density (basal area greater than 95 sq. ft. or more than 3 trees per acre larger than 21" dbh)	3,954	0	2,371	1,827	1,714
Moderate risk (basal area greater than 75 sq. ft., single-stratum)	7,352	0	4,324	3,526	3,069
Low risk at this time, but stocking control would benefit long-term growth and vigor	3,255	0	3,255	3,255	3,255
Severe dwarf mistletoe problems	358	0	237	237	237

By treating the most acreage of high and moderate risk stands, Alternative 2 would result in the greatest area of stands at increased resistance to insects and disease; Modified Alternative 2 best

meets this aspect the purpose and need while addressing water quality concerns. Alternative 3 would result in 612 fewer acres with increased resilience to insects and disease, while Alternative 1 would maintain or increase the current levels of risk over time.

Upland Grass and Shrub Communities

Upland shrub communities are an important ecosystem component that provides soil protection and wildlife habitat in the Maury Mountains. The HRV for grass and shrub dominated communities on sites identified as western juniper woodland, western juniper steppe and dry ponderosa pine in the East Maury project area is between 2,084 and 3,315 acres. Currently, there are only about 554 acres of this habitat type in the area. Small juniper removal projects in adjacent areas in the last 15 years have resulted in dramatic development of desirable native sagebrush, bitterbrush and bunchgrasses. Treatments implemented by this decision are expected to improve habitat for other upland shrubs as well, including serviceberry, cherry, currant, rose, snowberry, and mountain-mahogany.

Modified Alternative 2 will cut juniper on about 3,327 acres in dry ponderosa pine and juniper sites, which will result in about 2,003 acres returned to grass and shrub dominance. Additional juniper may be removed from commercial harvest units, and some will be cut or girdled in precommercial thinning units. Any juniper larger than 21 inches dbh and all juniper with old growth characteristics will be retained in treatment units. Juniper removal will be followed with prescribed fire on about 1,347 acres to reduce fuels and reduce stocking of seedling and sapling junipers. There is essentially no difference between my selected alternative and Alternatives 2 and 3 in the case of juniper cutting. Alternative 1 would result in increased juniper dominance and conifer cover, and decreased grass and shrub cover.

Riparian Plant Communities

Riparian Habitat Conservation Areas (RHCAs) are portions of watersheds where riparian dependent resources receive primary emphasis, and management activities are subject to specific standards and guidelines identified in the Inland Native Fish Strategy (INFISH). The East Maury project includes about 2,164 acres of RHCAs located on about 64 miles of perennial, seasonally flowing, or intermittent streams. Desired vegetation characteristics in RHCAs include variable stocking, large trees providing root strength, multiple age classes, healthy full crowns to provide shade, room for shrub and deciduous tree growth, and healthy aspen clones.

Riparian broadleaf trees and shrubs provide an important component in RHCAs. They maintain proper water temperatures by shading the streams and they contribute to bank stability because their roots spread horizontally, which creates a roughness element that reduces the velocity and erosive energy of over-bank flow during high water events. Large overstory conifers are also important, as they provide some shade and bank stability, and over time contribute to the large wood element in streams. The increasing density of young conifers in riparian areas is affecting the ability of broadleaf shrubs to grow and spread. Many broadleaf species are shade-intolerant; the young conifers compete with the riparian shrubs for sunlight and water. In addition, this dense conifer understory is competing with the large overstory trees, increasing the risk of competition-related mortality in the overstory.

Alternative 2 proposed a total of 1,253 acres of treatments in RHCAs. Treatments focused on aspen stand enhancement include about 210 acres of commercial and precommercial treatments in Double Cabin, Drake, Indian, Keeney, Maury, Parrish, Stewart, Wildcat, and Wiley creeks and tributaries, and 256 acres of noncommercial thinning. Additional noncommercial thinning

that is not focused on aspen was proposed on 554 acres in RHCAs. Underburning following thinning activities was proposed on about 814 acres. Alternative 3 is essentially the same as Alternative 2, with commercial harvest reduced to 166 acres. All treatments are intended to promote the development of deciduous trees and shrubs, rejuvenate riparian plant communities, reduce competition between conifers to retain and develop large, overstory trees, and enhance the long-term recruitment of large wood into the streams. Alternative 1 would maintain the existing condition in RHCAs, contributing to the further decline of riparian broadleaf and shrub communities. Modified Alternative 2 will reduce commercial harvest in RHCAs to 123 acres; total acreage including all treatments in RHCAs will be 1,098 acres.

Fuels

The Final EIS describes a need to move fire regimes towards the HRV by (1) maintaining and increasing the amount of low-intensity fire conditions, and (2) decreasing the amount of high-intensity fire conditions. I carefully considered this need in deciding what activities to undertake.

Prior to fire suppression over the last 90 years, the forests of the Maury Mountains were shaped by frequent, low-intensity fires. As a result of fire suppression, the amount of ground fuel and the density of forest stands have increased. This has altered fire regimes and increased the amount of area that can support a mixed-intensity or high-intensity fire due to the continuous arrangement of ground and ladder fuels. The Maury Mountains Watershed Analysis determined that risk of crown fire is high in overstocked stands, and that stands that were thinned and burned in the 1980s and 1990s need treatments to maintain low surface and ladder fuels.

Based on these conditions, I concluded that reducing fire risk is an appropriate course of action. My review of the analysis file, including science and comments provided by the public, indicates that the best available science shows that commercial harvest, noncommercial thinning, and prescribed fire activities work in concert to reduce stand densities, reduce the amount of and change the arrangement of fuels, and decrease the risk of high-intensity wildfire. All thinning that will be implemented under this decision will be size class and species-specific; the largest, most fire-resistant trees will be retained on the landscape and species composition will be moved toward fire-tolerant species such as ponderosa pine and western larch. Prescribed fire treatments of natural and activity fuels will reduce the amount of fuels in the project area.

Alternative 2 reduces the risk on the largest number of acres, followed by Alternative 3. Alternative 1 maintains the current condition; the level of wildfire risk on the landscape would likely increase over time. Modified Alternative 2 reduces the risk on fewer acres than Alternative 2, but on more than Alternative 3.

Fire Regimes and Condition Classes

A natural fire regime is a general classification of the role fire would play across a landscape in the absence of modern human mechanical intervention, but including the influence of aboriginal burning. The five natural fire regimes are classified based on average number of years between fires (fire frequency) combined with the severity of the fire on the dominant overstory vegetation. These five regimes are:

- I - 0-35 year frequency with low to mixed severity; surface fires are most common type
- II - 0-35 year frequency with high severity; stand-replacing fires are most common type
- III - 35-100+ year frequency with mixed severity

- IV - 35-100+ year frequency with high severity
- V - 200+ year frequency and high severity

A Fire Regime Condition Class is a landscape classification that describes the amount of departure from the natural fire regime. Departure arises from changes in one or more of the following ecological components:

- Vegetation characteristics, including species composition, structural stages, stand age, canopy closure, and mosaic pattern;
- Fuel composition;
- Fire frequency, severity and pattern; and
- Other associated disturbances, like insects and diseases, grazing or drought.

There are three condition classes for each fire regime, as follows:

- Condition Class 1: within the natural range of variability of vegetation characteristics; low departure from the central tendency of the natural regime.
- Condition Class 2: moderate departure from the natural range of variability;
- Condition Class 3: high departure from the natural range of variability.

As condition class increases, the risk of loss of key ecosystem components to wildfire increases.

The dominant fire regime in the Maury Mountains is Fire Regime I, a regime of low-intensity fire with an average fire return interval of less than 25 years. The project area also includes Fire Regimes 2 and 3.

Condition Classes in the East Maury project area are:

- Condition Class 1: 5,875 acres
- Condition Class 2: 7,936 acres
- Condition Class 3: 7,256 acres

From a fuels standpoint, the desired condition is for the landscape to be as close to Condition Class 1 (low departure from the central tendency of the natural fire regime) as possible. Fuels treatments, including commercial and non-commercial thinning and prescribed burning, reduce stand density, surface fuels, and ladder fuels. All action alternatives would reduce the potential for high-intensity fire by: 1) reducing surface fuels, which would shorten the flame lengths of surface fires, 2) increasing the distance from the ground to the base of the canopy, requiring longer flame lengths to initiate tree torching, and 3) decreasing crown density, making it harder for fire to travel from tree to tree.

Table 4. Comparison of effects of alternatives on Condition Class.

Change in Condition Class	Alternative 2 (acres treated)	Modified Alternative 2 (acres treated)	Alternative 3 (acres treated)
CC 3 to CC 1	5,685	3,578	3,310
CC 3 to CC 2	425	1,052	1,414
CC 2 to CC 1	5,433	5,281	5350
CC 1 Maintenance	2,634	2,617	2,479

Forest Wood Products and Seasonal Jobs

The Final EIS describes a need to provide wood products to contribute to the health of the local and regional economies (Forest Plan, pp. 4-31 to 4-32) consistent with Management Area and Forest-wide standards and guidelines and to provide opportunities for employment and income.

In deciding what activities to undertake to meet this need, I considered whether the selected alternative would provide economic benefits. Providing economic benefits to the local and regional communities is a specific purpose identified within the Forest Plan. These benefits are in the form of timber products and the jobs they create as well as employment from other activities. The Final EIS includes an analysis of the jobs which would be created or maintained by each alternative.

Alternative 2 harvests the most timber volume and includes the most activities which would generate employment opportunities. This alternative is estimated to provide 20.5 million board feet of timber volume and create or maintain about 285 jobs. Alternative 3 provides the least amount of timber volume (15.3 million board feet) and jobs (about 233). Modified Alternative 2 provides 16.6 million board feet of timber. Alternative 1 provides neither timber volume nor jobs.

I gave careful consideration to the tradeoffs between economic benefits and ecological concerns. Although Modified Alternative 2 provides less economic benefit than Alternative 2, it goes further in addressing water quality concerns than either Alternative 2 or 3, while still affording the ecological benefits of forest health improvement and wildfire risk reduction. I believe Modified Alternative 2 provides a reasonable balance between achieving resource objectives and contributing economic benefits to communities.

Key Issues

Two key issues were identified during the analysis process, both of which involved road construction. Both key issues were important considerations in making my decision.

Issue 1: New road construction can cause adverse effects to water quality by increasing sediment, altering stream discharge, and altering thermal processes.

Issue 2: New road construction causes adverse effects to wildlife by fragmenting habitat.

The environmental effects of roadwork are fully analyzed and disclosed in the Final EIS (Chapter 3). Alternative 2 includes 9.3 miles of road construction, 18 miles of reconstruction, and 2.5 miles of road decommissioning. Alternative 3 was developed specifically to address these key issues, and reduces the amount of roadwork to .4 miles of road construction and .8 miles of decommissioning, with no change in miles of reconstruction. Modified Alternative 2 is the result of careful consideration of tradeoffs between the environmental impacts of roadwork and the need for vegetation management and fuels reduction activities in the project area; it includes 6 miles of road construction, 14.9 miles of reconstruction, and 2.5 miles of decommissioning. It should be noted that Issue 1 centered on impacts to water quality. By deferring harvest in two sensitive subwatersheds, Modified Alternative 2 does more to protect water quality than does Alternative 3 in spite of the fact that Modified Alternative 2 includes more roadwork than Alternative 3. The no action alternative, Alternative 1, would make no changes to the existing road system, and would thus avoid new road-related impacts, but would not address the purpose and need for action in the project area.

Other Alternatives Considered

In addition to the selected alternative, I considered the 2 other alternatives that were fully developed in the East Maury EIS. These alternatives are described below. Alternative 3 was the environmentally preferred alternative. A more detailed comparison of these alternatives can be found in the Final EIS on pages 33-39.

Alternative 1 - No Action

Alternative 1 is the No Action alternative. No vegetation or fuel management activities would be implemented to accomplish project goals. This alternative serves as a baseline for comparison of the effects of all of the alternatives.

Routine activities such as road maintenance and suppression of unplanned fires would continue. Activities authorized under separate decisions would also continue. These activities include livestock grazing and noxious weed treatments, Recreational use of the area, including camping, hunting and motorized and non-motorized use, would continue.

There would be no stand density management treatments. Stands would continue to incur mortality and large diameter trees would continue to be at risk of dying due to competition among trees. LOS stands would remain multi-strata with dense stand conditions causing competition for resources among trees. Large diameter trees, such as ponderosa pine, would remain at a high risk of mortality. Riparian and upland grass and shrub communities would continue to decline.

There would be no fuels reduction treatments. Areas would continue to accumulate fuels with the potential for a wildfire causing unwanted damage to forested stands, wildlife habitat, soils, and water quality.

Alternative 3

Alternative 3 was developed to respond to key issues discussed in Chapter 1, while also meeting the stated purpose and need. This alternative focuses activities in stands with the objective to reduce stand densities, reduce hazardous fuels, reduce the risk of stand loss due to high fuel loadings, and reduce impacts associated with new road construction. Objectives also include maintaining desired fuel levels where they exist, increasing forested stands' resiliency to insects and disease, and moving towards late and old structured stand conditions.

A complete description of Alternative 3 is contained in the Final EIS on pages 21-23.

Alternatives that were Considered but Eliminated from Detailed Study

Two alternatives were suggested by commenters during the scoping and draft EIS comment periods. Both were considered by the interdisciplinary team, but ultimately were eliminated from full development and detailed study because they would not meet the stated purpose and need.

The first alternate method would include only non-commercial activities. A "no commercial harvest" or "restoration only" alternative has been considered during several previous environmental analyses on the Lookout Mountain Ranger District. Such an alternative would remove trees up to 9 inches in diameter and would not construct any new roads. The "no commercial harvest" alternative was analyzed previously, and its effects were documented in the West Maury Fuels and Vegetation Management EIS and the Spears Vegetation Management

EIS. Both analyses determined that the “no commercial harvest” alternative would do little to increase the amount of LOS stands within the project area. This alternative would not accelerate the restoration of seral structural stages toward HRV because the level of treatment would not maintain a sufficient amount of open, single strata stands. Treated stands would return to dense, stagnated conditions sooner. This alternative also would do little to increase broadleaf trees and shrubs. This alternative would not produce forest wood products and the jobs associated with commercial harvest. Small tree thinning by itself would not move the project area towards the desired condition and would not meet the Purpose and Need of the project.

The second alternate method would include commercial activities with diameter limits (commenters proposed a range of diameter limits from 12 inches to 15 inches). Removal of trees with an upper diameter limit of 15 inches would not demonstrably change the outcomes determined for smaller diameter treatments. Development of LOS and maintenance and enhancement of existing large trees and LOS requires the reduction of density in treated stands to the recommended stocking level for a given site. In some locations, stocking level recommendations may be met by removing smaller-diameter commercial-sized material, while in other areas site objectives may require removing some larger trees. In stands with dwarf mistletoe, small upper diameter limits inhibit reduction of disease problems. Species composition objectives would not be met in some stands if lower diameter limits are required. This would impede the maintenance and restoration of early seral species such as ponderosa pine. Treatments with 12 - 15 inch upper diameter limits can't be relied upon to move the project area towards the desired condition, and therefore would not meet the Purpose and Need of the project.

Public Involvement

As described in the background, the need for this action arose during the Maury Mountains Watershed Analysis. A Notice of Intent (NOI) describing a proposal to manage vegetation and fuels in the east half of the Maury Mountains was published in the *Federal Register* on August 15, 2005; the NOI requested public comment on the proposal from August 15, 2005 to October 1, 2005. In addition, as part of the public involvement process, the agency met with the Crook County Natural Resources Planning Committee to discuss this project on June 21, 2005 and October 4, 2005. The Forest Service mailed letters to potentially interested and affected individuals on August 4, 2005. The Forest Service also mailed letters to potentially affected Tribes on August 5, 2005. A revised NOI was published on October 19, 2007. The East Maury Fuels and Vegetation Management Project has been listed in the quarterly schedule of projects since Summer Quarter, 2005.

Using the comments from the public and other agencies the interdisciplinary team identified two issues regarding the potential effects of the proposed action. Main issues of concern included the effects of new road construction (see EIS pages 11-12). To address these concerns, the Forest Service created Alternative 3.

A 45-day comment period was held after the Draft EIS was completed. The comment period began on March 18, 2008 and ended on June 2, 2008. Seven comment letters were received during the comment period and two letters were received after the close of the comment period. The main concerns expressed during the comment period were related to road construction, water quality, wildlife habitat, and the potential for fuels reduction activities actually increasing

the risk of wildfire. Comments related to the NEPA process, range of alternatives, invasive plant species, cumulative effects, and livestock grazing were also received.

The response to comments (Appendix G) identifies a variety of comments, including all substantive comments, and provides a response. The project analysis file indicates that every comment was read and considered by the interdisciplinary team, even though Appendix G doesn't provide a response to each and every comment.

Forest Plan Consistency

Federal regulations (36 CFR 219.10(e)) require that permits, contracts, cooperative agreements, and other activities carried out on the Ochoco National Forest be consistent with the Ochoco National Forest Land and Resource Management Plan, as amended (Forest Plan). Accordingly, I have reviewed my decision against Forest Plan direction.

While I believe Modified Alternative 2 to be consistent with long-term management objectives as discussed in the Forest Plan, as amended, there are two aspects of Modified Alternative 2 that are inconsistent with existing direction. Two Forest Plan amendments are needed to implement Modified Alternative 2. These amendments are described below.

In all other respects, I find this decision to be consistent with the Forest Plan, as amended, and with the requirements of the National Forest Management Act. The selected alternative is consistent with the seven management requirements listed in 36 CFR 219.27.

Amendment 1 – Harvest in LOS

The Eastside Screens (aka Regional Forester's Forest Plan Amendment No. 2) contain standards that when LOS is currently below the HRV, commercial harvest is not permitted. The East Maury project area is below the HRV for both multi-strata and single-stratum LOS. A forest plan amendment is needed because Modified Alternative 2 includes commercial harvest in the multi-strata LOS structural condition.

Timber harvest in multi-strata LOS is designed to reduce competition and maintain large trees in this area; these stands would be converted to single-stratum LOS. These commercial harvest activities are designed to reduce stand density, improve growth of the residual trees, and reduce potential mortality resulting from inter-tree competition. Commercial harvest will more quickly restore historic seral/structural stage conditions and improve growing conditions for larger trees than no action, noncommercial thinning alone, or prescribed fire alone. Commercial harvest will also decrease the probability of wildfires and the severity of wildfire impacts. No trees greater than 21 inches diameter will be cut and removed in any area except in isolated cases for safety reasons or for road construction.

This amendment is consistent with the Regional Forester's June 11, 2003, letter on guidance for implementing Eastside Screens. In that letter the Regional Forester encouraged Forest Supervisors to consider site-specific Forest Plan amendments associated with increasing the number of large trees and LOS on the landscape. The commercial harvest proposed in multi-strata LOS is consistent with the intent of the Eastside Screens to maintain and/or enhance LOS.

Non-significant forest plan amendments are allowed under Forest Service Manual 1926.51 and can result from:

- Adjustments of management area boundaries or management prescriptions resulting from further on-site analysis when the adjustments do not cause significant changes in the multiple-use goals and objectives for long-term.

The commercial harvest treatments in Modified Alternative 2 will be implemented within the next 5 years. In Modified Alternative 2, approximately 413 acres will be treated out of the 1,322 acres of LOS within the 24,200 acre project area. The acres that are treated will remain LOS; it will change from multi-strata LOS to single-stratum LOS.

There will be no change in the long-term relationships between the levels of goods and services projected by the Forest Plan Final EIS and the impacts of implementing Modified Alternative 2 because of the small number of acres treated and the objectives of the treatments (to maintain LOS in the long term).

The amendment applies only to this project area and will not apply to future decisions within the project area. The amendment does not alter the desired future condition of the land or resources or the anticipated goods and services to be produced. Only a small acreage will be treated and options for future management of LOS will be maintained.

Amendment 2 – Harvest in Connective Corridors

The Eastside Screens contain standards that indicate timber harvest should be deferred in connective corridors when all the criteria for connective corridors cannot be met. A Forest Plan amendment is needed to implement Modified Alternative 2 to allow commercial harvest within connective corridors.

Commercial harvest in Modified Alternative 2 will reduce canopy closure to less than two-thirds of site potential. The Eastside Screens indicate that canopy closure should be maintained within the top one-third of site potential. Connective corridors within the project area represent the best connections given the existing conditions resulting from physical restrictions such as ridges, meadows, and previous harvest practices. Timber harvest within connective corridors is designed to maintain existing large trees and promote development of additional large trees. Modified Alternative 2 includes 48 acres of commercial harvest in connective corridors. This activity will help develop LOS in corridors and would improve connectivity in the long term.

This amendment is consistent with the Regional Forester's June 11, 2003, letter on guidance for implementing Eastside Screens. In that letter the Regional Forester encouraged Forest Supervisor's to consider site-specific Forest Plan amendment that would increase the number of large trees and LOS on the landscape. The commercial harvest proposed in connective corridors is consistent with the intent of the Eastside Screens to maintain and/or enhance LOS.

Non-significant forest plan amendments are allowed under Forest Service Manual 1926.51 and can result from:

- Adjustments of management area boundaries or management prescriptions resulting from further on-site analysis when the adjustments do not cause significant changes in the multiple-use goals and objectives for long-term.

The commercial harvest treatments in Modified Alternative 2 will be implemented within the next 5 years. The project area contains 289 acres of connective corridors. Modified Alternative 2 includes 48 acres of commercial harvest in connective corridors. The commercial harvest

retains options for future management of connective corridors. Treatments will maintain existing large trees and will promote the development of additional large trees.

There will be no change in the long-term relationships between the levels of goods and services projected by the Forest Plan Final EIS and the impacts of implementing Modified Alternative 2 because of the small number of acres treated and the objectives of the treatments (to maintain LOS connectivity in the long term).

The amendment applies only to this project area and will not apply to future decisions within the project area. The amendment does not alter the desired future condition of the land or resources or the anticipated goods and services to be produced. Only a small acreage will be treated and options for future management of corridors would be maintained.

Findings Required by Other Laws and Regulations

In reviewing the Final EIS, the project analysis file, and the activities included in Modified Alternative 2, I have concluded that my decision is consistent with the following laws, requirements, and policies.

National Environmental Policy Act: NEPA establishes the format and content requirements of environmental analysis and documentation. The entire process of preparing this environmental impact statement was undertaken to comply with NEPA.

National Historic Preservation Act: A cultural resource survey has been completed for the East Maury project. On June 2, 2008, the Ochoco National Forest completed the "Project Review for Heritage Resources under the Terms of the 2004 Programmatic Agreement" with the Oregon State Historic Preservation Office (SHPO). Activities in Modified Alternative 2 have been designed to minimize the effects to cultural resources through site protection, avoidance or design modification.

Endangered Species Act: Consultation with the U.S. Fish and Wildlife Service and National Oceanic and Atmospheric Administration is not required for the East Maury project area.

Biological Evaluations have been prepared to document possible effects of proposed activities on threatened and endangered species in the project area (FEIS, Appendix D). There are no endangered species known or suspected to occur on the Ochoco National Forest. Threatened species that are known or suspected to occur on the Ochoco National Forest include bull trout, mid-Columbia River steelhead, and Canada lynx.

On May 29, 2001 the Forest received concurrence from the U.S. Fish and Wildlife Service that implementation of any activities contained within the Forest Plan, as amended, is not likely to adversely affect the Canada lynx outside of an existing Lynx Analysis Unit. There are no Lynx Analysis Units on the Ochoco National Forest. The determination for Canada lynx is "May effect, but not likely to adversely affect."

There will be no effect to bull trout or mid-Columbia River steelhead trout.

Clean Air Act: Modified Alternative 2 is designed to be consistent with the Clean Air Act. The Oregon Department of Environmental Quality (DEQ) is responsible for assuring compliance with the Clean Air Act. In 1994, the Forest Service, in cooperation with DEQ, the Oregon Department of Forestry, and the BLM signed a Memorandum of Understanding to establish a framework for implementing an air quality program in Northeast Oregon. The Memorandum of

Understanding includes a prescribed fire emission limit of 15,000 tons of PM-10 per year for the Malheur, Ochoco, Umatilla, and Wallowa-Whitman national forests. All prescribed burning on these forests is coordinated with DEQ through the State of Oregon smoke management program. All prescribed fire treatments in the selected alternative will be conducted in compliance with the State of Oregon Smoke Management System and will meet smoke management objectives for total emissions.

Clean Water Act: Modified Alternative 2 will comply with the Clean Water Act, as amended. This Act establishes a non-degradation policy for all federally proposed projects. Modified Alternative 2 meets anti-degradation standards through project, application, and monitoring of BMPs. The EPA has certified the Oregon Forest Practices Act and regulations as BMPs. The State of Oregon has compared Forest Service practices with State practices and concluded that the Forest Service practices meet or exceed State requirements. Site-specific BMPs have been designed to protect beneficial uses. Chapter 2 lists the design criteria and resource protection measures that have been developed for all action alternatives. Appendix F contains water quality BMPs that will be implemented.

The Final EIS documents analysis of effects on streams listed on the 2002 State 303(d) list of Water Quality Limited Water Bodies for summer water temperature. These streams are Shotgun and Wildcat creeks. Implementation of Modified Alternative 2 will not result in any measurable increase in water temperatures to fish bearing or non-fish bearing streams in the project area. Commercial timber harvest and non-commercial thinning activities were designed so that they do not reduce shade. There is a possibility that conifer thinning in aspen stands would cause short-term reductions in shade. However, these slight reductions in shade should not result in any measurable increase in water temperature because the area affected is small. There is a potential to increase water temperature in intermittent non-fish bearing streams (Class IV) when they are flowing, but this should not result in a violation of state water quality standards because these streams go dry before peak water temperature occurs in the project area.

Implementation

If no appeals are filed within the 45-day time period, implementation of the decision may occur on, but not before, 5 business days from the close of the appeal filing period. When appeals are filed, implementation may occur on, but not before, the 15th business day following the date of the last appeal disposition.

Administrative Review or Appeal Opportunities

This decision is subject to administrative review (appeal) pursuant to 36 CFR Part 215. Individuals or organizations who submitted comments during the comment period specified at 215.6 may appeal this decision. It's the responsibility of those appealing this decision to provide sufficient written evidence and rationale to show why the decision should be reversed. The notice of appeal must meet the appeal content requirements at 36 CFR 215.14.

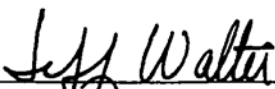
Appeals can be submitted in several forms, but must be received by the Appeal Deciding Officer, Regional Forester, within 45 days from the date of publication of notice of the decision in The Bulletin, Bend, OR. Appeals received after the 45 day appeal period will not be considered. The publication date in The Bulletin is the exclusive means for calculating the time to file an appeal.

Those wishing to appeal this decision should not rely upon dates or timeframe information provided by any other source. Appeals may be:

- Mailed to: *Appeal Deciding Officer, Pacific Northwest Region, USDA Forest Service, Attn. 1570 Appeals, PO Box 3623, Portland, OR 97208-3623;*
- Emailed to: *appeals-pacificnorthwest-regional-office@fs.fed.us*. Please put APPEAL and the project name in the subject line. Electronic appeals must be submitted as part of an actual e-mail message, or as an attachment in Microsoft Word (.doc), rich text format (.rtf), or portable document format (.pdf) only. E-mails submitted to addresses other than the ones listed above or in formats other than those listed above or containing viruses will be rejected. It is the responsibility of the appellant to confirm receipt of appeals submitted by electronic mail. For electronically mailed appeals, the sender should normally receive an automated electronic acknowledgement from the agency as confirmation of receipt. If the sender does not receive an automated acknowledgement of the receipt of the appeal, it is the sender's responsibility to ensure timely receipt by other means;
- Delivered to: *Pacific Northwest Regional Office, 333 S.W. First Avenue, Robert Duncan Plaza Building, Portland, Oregon 97204-3440* between 7:45 AM and 4:30 PM, Monday through Friday except legal holidays; or
- Faxed to: *Regional Forester, Attn: 1570 APPEALS at (503) 808-2255.*

Contact Person

For additional information concerning this decision or the Forest Service appeal process, contact Barbara Fontaine, Project Team Leader, Lookout Mountain Ranger District, at 3160 NE Third Street, Prineville, OR, 97754 or (541) 416-6500.



JEFF WALTER
Forest Supervisor
Ochoco National Forest

7-8-08

DATE

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Appendix 1. Modifications to Alternative 2.

Unit	Acres	Road	Change
Changes in Maury Creek Subwatershed			
61.1	18		Deferred harvest area within RHCA. Skyline. Reduces potential hydrologic change in subwatershed.
86.3	104	1670-355-086aT	Deferred harvest, drop temporary road (0.4 mile). Tractor. Reduces potential hydrologic change in subwatershed.
87	138	1670250-087T 1670250R	Deferred harvest, drop temporary road (0.4 mile), drop reconstruction (1.3 miles). Tractor. Reduces potential hydrologic change in subwatershed.
98	69	1670350-098T	Deferred harvest, drop temporary road (0.3 mile). Tractor. Reduces potential hydrologic change in subwatershed.
121.1	50		Deferred harvest. Tractor. Reduces potential hydrologic change in subwatershed.
126	123	1670350-098S	Deferred harvest, drop new system road (1.1 mile). Skyline. Reduces potential hydrologic change in subwatershed.
231	13		Deferred harvest. Tractor. Reduces potential hydrologic change in subwatershed. Extensive root disease area.
Misc.	28		Deferred harvest on parts of several units.
	543	Total acres	
Changes in Indian Creek Subwatershed			
222	25		Deferred harvest. Horse. Reduces potential hydrologic change in subwatershed.
232	56	1670000-232S	Deferred harvest, drop new system road (.1 mile). Skyline. Reduces potential hydrologic change in subwatershed.
233.1	251	1670-080	Deferred harvest, drop reconstruction road (1 mile). Tractor. Reduces potential hydrologic change in subwatershed.
233.2	69		Deferred harvest. Tractor. Reduces potential hydrologic change in subwatershed.
258.3	41		Deferred harvest. Tractor. Reduces potential hydrologic change in subwatershed.
264	194	1600170-264S 1600170R	Deferred harvest. Tractor/Horse. Drop new system road (.1 mile), drop reconstruction (0.8 mile). Reduces aspen restoration on 44 acres within RHCA. Reduces potential hydrologic change in subwatershed.
283	17	1600170-264	Deferred harvest, drop reconstruction of stream crossing in Wiley Creek Trib 1, drop temporary road (0.3 mile). Tractor. Reduces potential hydrologic change in subwatershed. Part of remaining unit requires uphill skidding.
	653	Total Acres	
Additional Changes			
202.1	58		Defer harvest. Within newly discovered goshawk nest stand.
231	51		Defer harvest. Proposed treatments would not be effective due to extensive root disease in stand.
		1750680-107	Drop road construction to expense and visual concerns. Skyline portion of unit accessible to road 1760 (may multi-span) (0.6 mile).
		1670000-125b	Unnecessary new temp construction. Adequate access has been located. (0.3 mile).