Executive Summary: Final Environmental Analysis and Decision for Forest Management Direction for Large Diameter Trees in Eastern Oregon and Southeastern Washington

Decision

The Under Secretary for Natural Resources and the Environment, Jim Hubbard, signed the decision notice selecting the proposed action with no changes. The effective date of this decision is January 15th, 2021. The proposed action provides management adaptability while ensuring the recovery of late and old forests and managing for forests more resistant and resilient to disturbances like wildfire. The decision also clarifies that the new guideline language does not apply to Scenario B, where forests are within or above historical levels of late and old forest structure. Nor does it apply to Scenario A when timber harvest occurs within LOS stages that are within or above HRV in a manner that maintains or enhances LOS within that biophysical environment.

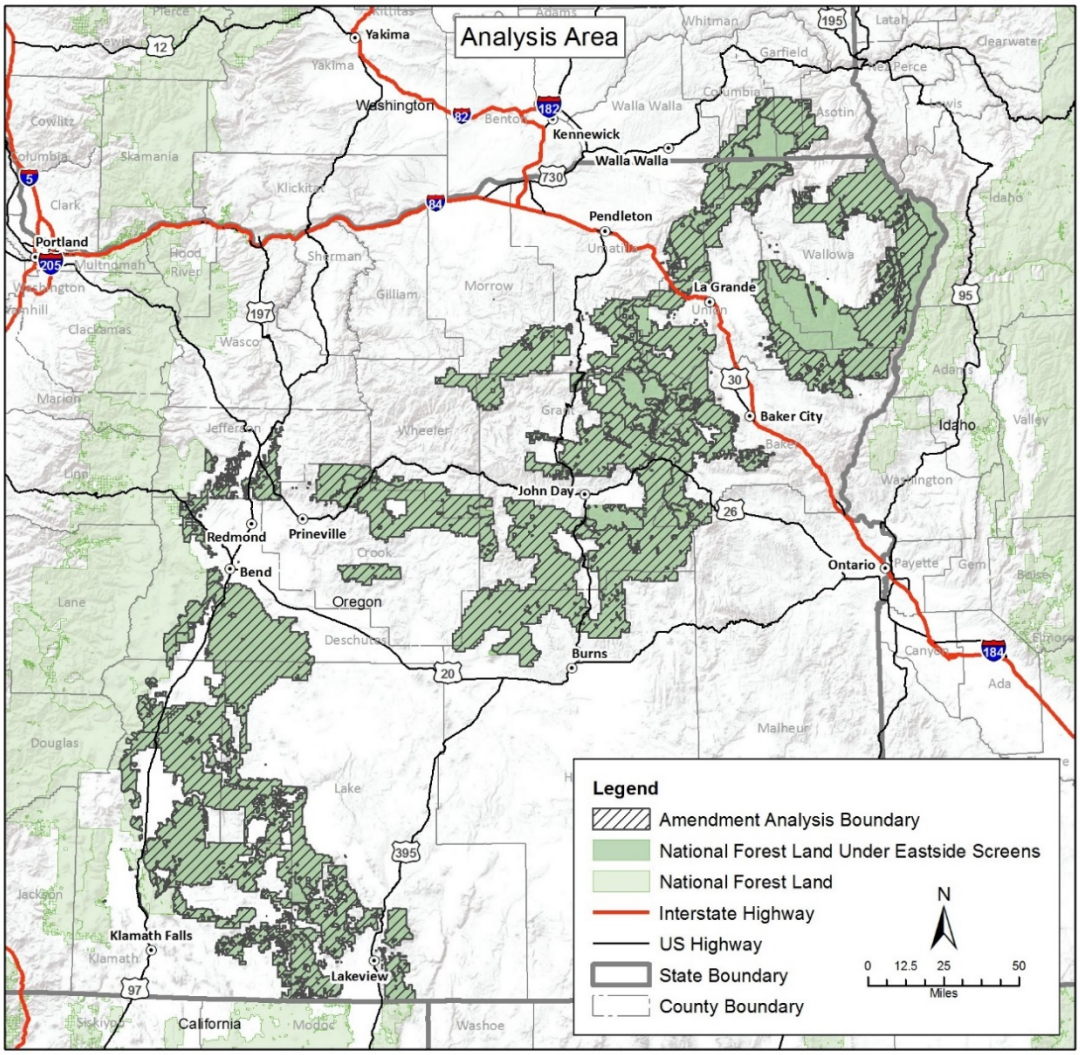

Figure 1. The analysis area encompasses 7,867,951 acres on the Fremont-Winema, Deschutes, Ochoco, Malheur, Umatilla and Wallowa-Whitman National Forests.

Introduction

On August 11, 2020 the USDA Forest Service Pacific Northwest Region released a proposal to amend land management plans on six national forests in eastern Oregon and Washington. The proposed amendment would revise a provision that prohibits harvest of trees larger than 21 inches in diameter and would apply to the Umatilla, Wallowa-Whitman, Malheur, Ochoco, Deschutes, and Fremont-Winema National Forests. The analysis covers just under 8 million acres.

Need for Change

- Twenty-four project-specific amendments have allowed cutting of trees greater than 21-inches. Such project-level amendments require repetitive analysis and add complexity to the process.
- Adapting the 21-inch standard to incorporate 25-years of science and experience would support the Forest Service's ability to restore eastern Oregon and Washington forests and adapt landscapes to changing conditions such a longer fire seasons and larger areas burned.
- Forests that historically experienced frequent fire have become dense, with tree species that are not well-adapted to their environments, making forests more susceptible to mortality from wildfires and other disturbances.
- There is currently a high level of tree mortality in old forests. Old trees provide important wildlife habitat and form the foundation for forests that are resilient to future change. Adapting our management policy will allow managers to implement actions that give old trees the best chance of persisting into the future.

Selected Alternative

Old and Large Tree Guideline with Adaptive Management (Proposed Action)

The Proposed Action is to replace the 21-inch standard with a guideline that emphasizes recruitment of old trees and large trees. Old trees (≥ 150 years of age) are prioritized for protection, and if there are not enough old trees to develop late and old structure conditions, large trees are protected, favoring fire tolerant species where appropriate. Large trees are defined as grand fir and white fir ≥ 30" dbh or trees of any other species ≥ 21-inch dbh.

Photo credit: James Johnston

The shift from a standard to a guideline makes some people nervous because there is inherently more flexibility for managers with a guideline. With a guideline, a manager must meet the intent of the guideline (maintain and increase old and late forest structure) but the guideline need not be followed precisely if there is a better way of achieving the intent based on site-specific analysis. We recognize some people's inherent mistrust of the Forest Service to effectively use this additional flexibility. To address this issue of trust and promote learning and collaboration, we incorporated an adaptive management component in the alternative. The adaptive management framework consists of required monitoring of large trees, a measurable threshold for action, and a provision to return to a standard if the landscape is not moving in the right direction. The adaptive management framework would also support regional collaboration and learning.

Finally, this alternative changes the existing snag and green tree retention language. Rather than existing language of the Eastside Screens, forests would have a choice: Maintain all snags ≥ 20" or complete a snag analysis using the best available science on the ecological requirements of snag-dependent species. Forests would also retain green trees to meet future snag and down wood recruitments for a diverse composition of wildlife species using best available science and would retain partially hollow or hollow trees that could become snags and down wood whenever possible.

Other Alternatives Analyzed

Current Management

This alternative represents how we currently implement the 21-inch standard across all six national forests. We assume project-level amendments will continue to be used sporadically, more often in some forests and districts than in other places and that the 21-inch standard will continue to be interpreted differently in different areas. For example, some managers will continue to apply the 21" rule both within and outside of late and old forests.

Old Tree Standard

This alternative replaces the size prohibition with a prohibition on harvesting trees older than 150 years.

Adaptive Management

In this alternative, the 21-inch standard would be removed. Management activities would not include a size or age requirement. As with the proposed action, this alternative incorporates the adaptive management framework.

Standard with Exceptions

This alternative was developed based on feedback during the public comment period. It represents a more conservative approach as both old trees and large trees would be protected by a standard. Exceptions to the standard include: removal of conifers to favor hardwoods in special habitats like meadows (outside of RHCAs), removal of young grand fir and white fir within the canopy of old fire tolerant trees, and for personal use pursuant to Tribal Treaty gathering rights.

The Old Tree Standard, Adaptive Management, and Standard with Exceptions Alternatives also incorporate the snag and green tree retention language described in the proposed action.

Vegetation Analysis

The prevalence of trees with lower tolerance to fire is increasing dramatically across the analysis area due to past selective harvest of old and large fire tolerant trees and fire suppression. Growth of trees with less fire tolerance has led to increased density (trees per acre) and canopy cover in stands and directly limits the persistence and recruitment of fire tolerant trees, making forests more likely to die when a wildfire, drought, or other natural event occurs. In addition, old forests decreased by approximately 8% within the analysis area between 2001 and 2017. On the other hand, the number of large trees in unmanaged forest increased by 8.5% in the past decade as compared to an increase of 12.9% in managed forests. An estimated 1.5 million acres of late structure forest currently exists within

the analysis area. Of this area, about 60% is late closed structure and about 40% is late open structure. Late structure forest has increased since 1995 on all six national forests, with most of the late structure gained in closed canopy forest.

We used four indicators to assess differences between alternatives: 1) Species Composition, 2) Old Trees, 3) Large Trees, and 4) Late Structure Forests. The ability of each alternative to meet desired conditions for vegetation cannot be assessed by looking at a single variable, such as old trees or species composition. The Current Management Alternative continues to increase large trees across the landscape but does not do as well as the other alternatives on all other measures. The Old and Large Tree Guideline continues to increase large trees on the landscape while also outperforming the Current Management Alternative for all other indicators (i.e. more old trees, more fire tolerant trees, and more late open conditions). Outcomes for the Old Tree Standard are very similar to outcomes for the guideline but with improved ability to manage for species composition (fire tolerant trees) and less flexibility to adapt to changing conditions or local site conditions. The Adaptive Management Alternative greatly enhances management flexibility and so could result in the widest range of potential outcomes. Finally, outcomes of the Standard with Exceptions are similar to the Current Management Alternative with marginal increases in the ability to support old tree persistence and manage species composition and decreased ability to create open forest structure. We note that it is not possible to restore stands to historical conditions or conditions that would be resistant to current and future conditions without cutting some fir larger than 21-inches, and this is prohibited in the Current Management Alternative and greatly restricted in the Standard with Exceptions Alternative.

Old forest has declined by 8% since 2001.

Disturbance Analysis

A century of fire exclusion, selective logging, and livestock grazing has led to an increase of fuels, smaller and decreased number of forest openings, homogenous stand structures, and increased proportions of fire-intolerant trees, especially in frequent fire regimes. These changes create conditions conducive to fires of higher severity and with larger patches than historical wildland fires. In addition, changes in forest species composition and structure have reduced forest resistance and resilience to some native insects and pathogens. For example, species composition has shifted towards increased prevalence and densities of tree species that are susceptible to native root pathogens, dwarf mistletoes, defoliators, and bark beetles such as interior Douglas-fir, subalpine fir, white fir, and grand fir.

For both the Current Management and Standard with Exceptions Alternatives, frequent fire regime forests would continue to have higher mortality levels than historical forests from wildfire, drought, insects and disease. In areas with thinning and fuels reduction work completed, forests would likely have some reduction in fire severity under mild and some moderate weather conditions. The Standard with Exceptions would likely have slightly lower mortality levels from drought, insects, and disease.

These Alternatives both represent rigid management not well-suited to rapidly changing frequent-disturbance landscapes. The need for flexibility to adapt to changing conditions is clear, particularly considering anticipated changes in climate. The proposed action would lead to lower levels of mortality and a reduction in potential fire severity under mild, moderate and some severe weather conditions in managed stands compared to current management. In addition, this Alternative provides managers the ability to adapt to changing conditions. The Old Tree Standard has the same outcomes as the proposed action though represents more rigid rather than adaptable management. Finally, the Adaptive Management Alternative provides the highest level of management adaptability but the broadest range of potential outcomes on the ground.

Social and Economic Analysis

The geographic region around the six affected National Forests is a diverse social environment comprised of a combination of small towns and rural settings with residents from a wide variety of backgrounds. Residents pursue a range of lifestyles, but many share an orientation to the outdoors and natural resources. This is reflected in both vocational and recreational pursuits including employment in logging and milling operations, outfitter and guide businesses, and ranching and farming operations as well as hiking, hunting, fishing, camping, and many other recreational activities.

Timber, tourism, and agriculture are important to local economies. Despite common concern for and dependence on natural resources within the local communities, social attitudes vary widely with respect to their management. Residents hold a broad spectrum of perspectives and preferences ranging from complete preservation to maximum development and utilization of natural resources.

We ranked alternatives according to how well they delivered six key benefits to people.

Benefit to People	**Current Management Alternative**	**Old Tree and Large Tree Guideline Alternative (with Adaptive Management)**	**Old Tree Standard Alternative**	**Adaptive Management Alternative**	**Standard with Exceptions Alternative**
Forest Products Resources	5th	3rd	2nd	1st	4th
Jobs and Income Opportunities	5th	3rd	2nd	1st	4th

Forage, Botany, Range Opportunities	3rd	1st	1st	1st	2nd
Cultural and Heritage Resources	2nd	1st	1st	1st	1st
Wildlife and Wildlife-Based Recreation	3rd	1st	1st	1st	2nd
Aquatic Resources	2nd	1st	1st	1st	1st

Wildlife Analysis

The wildlife analysis assessed all federally listed species but only addressed the two affected by the proposed action and alternatives. Consultation with the USFWS was completed, although prior to decision, gray wolf was delisted and the proposed wolverine was withdrawn from listing. Both remain Region 6 sensitive species and add to the 86 other R6 sensitive species and two management indicator species (deer and elk) addressed in the analysis. We grouped wildlife into habitat associations to identify those associated with late and old forest or a component of late and old forest such as large trees or large snags. Species associated with late and old forest include: lynx, great gray owl, little brown bat, northern goshawk, purple martin, white-headed woodpecker, fisher, fringed bat, harlequin duck, rocky mountain tailed frog, bald eagle, bufflehead, fir pinwheel (a mollusk), Dalles Hesperian (a mollusk), Johnson's hairstreak (a butterfly), and intermountain sulfur (a butterfly).

In general, viability outcomes for species associated with late structure closed canopy habitat have declined, but the amount of habitat for these species is similar to historical levels and has increased from 1995 to present. Viability outcomes for species associated with late structure open habitats have declined considerably and the amount of habitat for these species is below historical levels. The amount of this habitat has increased slightly from 1995 to present.

The Current Management and Standard with Exceptions Alternatives result in a decrease in the viability of species associated with late structure open forests. The Old Tree Standard results in an increase in the viability of species associated with late structure open forests compared to current management, and the Proposed Action and Adaptive Management Alternatives result in the greatest increase in viability of species associated with late structure open forests. The viability of species associated with late structure closed forest is maintained under all alternatives.

Decayed Wood Analysis

Life history requirements for a diverse array of wildlife are reliant on the retention of snags and down wood and the recruitment of future snags by way of green tree retention. There has been no significant change in snags ≥ 20 inches dbh in the analysis area over the time period assessed taking all tree species into account. There has been a slight increasing trend in large snags in the most prevalent habitat types for five of the six forests. Common to all action alternatives, new standards and guidelines for snags and green tree retention will better protect and account for a greater diversity of species and life histories including Regional Forester Sensitive Species, Management Indicator Species, and Threatened and Endangered Species and contribute to the viability of species associated with snag habitats.

Botany Analysis

We assessed impacts to three federally listed species and 229 Region 6 sensitive species. For all of these species, protections afforded by the Endangered Species Act and forest plans still apply no matter which alternative is chosen, so project-level surveys and analyses will still be required.

We concluded there would be no effect to the threatened MacFarlane's four o'clock or proposed whitebark pine. For threatened Spalding's catchfly, we may affect but are not likely to adversely affect the plant. For the remaining sensitive species, we determined that all alternatives may impact individuals or habitat but would not likely contribute to a trend towards federal listing or cause a loss of viability to the population or species. With any of the action alternatives, forested habitats would largely benefit from enhanced opportunities to conduct restoration thinning and restore historical forest structure and disturbance regimes.

The botany analysis also assessed culturally important plants and concluded that plants that need late-open or mid-open structure, gaps and openings, and low-severity wildfire, such as huckleberries (*Vaccinium* spp.), yellow bell (*Fritillaria pudica*), and chokecherry (*Purnus virginiana*), would benefit more from the proposed action, Old Tree Standard, and Adaptive Management Alternatives compared to the Current Management and Standard with Exceptions Alternatives.

In addition, we note that the alternatives would have a very small impact on invasive plants. Most factors that influence the abundance and distribution of invasive species would not be affected by the proposed changes, including timber harvest acreage and project-level design criteria.

Aquatic Analysis

All management direction will remain the same within the Riparian Habitat Conservation Areas. PACFISH, INFISH, their objectives, goals, standards and guidelines direct management will still apply.

More Information

For a copy of the decision notice, final environmental analysis, and more information on the project, please visit our website at: https://go.usa.gov/xvV4X