

Land Allocation

Vision and Guiding Principles

Vision

The forest described produces sustainable and predictable forest products that generate jobs and revenues for the benefit of the state, counties, and local taxing districts. The management approaches described reduce economic risks by producing a diverse mix of forest conditions and associated timber products, and will lead to increases in the asset value of the lands over time.

In designated conservation areas, the diversity of the forest is enhanced over time, providing for a broad range of social values important to Oregon citizens, including recreation. The diverse forest structures produced contribute to the range of fish and wildlife habitats necessary for all native species, and contribute to broad biodiversity. This forest will provide the range of forest conditions that will need to exist to achieve the goals for all resources.

Management Perspective

The *Land Allocation* approach will be used to designate lands into zones, primarily for timber harvest production or for conservation. This option builds upon the 70/30 stakeholder proposal.¹ While the lands will be allocated for the primary attainment of either conservation or economic benefits, there will be conservation benefits within the production zone and there will be active management in the conservation zone consistent with conservation goals. Locations of some of the conservation areas within these zones will be static while others will be dynamic. As with the stakeholder proposal, this Option presents only 2 management allocations. Additional allocation zone types could be defined to provide for a range of production or conservation zones.

Conservation Zone: The conservation zone is likely to require at least 30% of the landscape in order to achieve the conservation goals under the plan. The conservation zone will contain structure intended to maintain or promote biodiversity, including a range of seral stages.

Forests managed for late seral structure will be associated with habitat for Northern Spotted Owls (NSO) and marbled murrelets (MM). These stands will have limited harvest activities consistent with current NSO and MM policies. For conservation zones outside of the NSO circles and Marbled Murrelet Management Areas (MMMA), management will be done to promote improved conservation outcomes for the specific target species (e.g., owls or murrelets, and other late seral associated species).

The conservation zone will include some combination of habitats for fish, wildlife, and special plants. Examples include, but are not limited to MMMA, NSO circles, terrestrial and aquatic anchors, and riparian buffers. Forests in this zone include stands managed to maintain or develop into complex

¹ While this plan derives some management concepts from 70/30, it is important to note the expected volume outcome is not likely to be at the same level as the stakeholder proposed plan. The strategies presented here will result in a lower annual volume.

structure, as well as, stands and structures intended to provide other habitat values. The zone will provide flexibility over time to account for a dynamic landscape and respond to new threatened and endangered species concerns. Emphasis will be given to maintain connectivity, minimize fragmentation, and maintain desirable patch size by considering location and size of conservation areas.

Wood Production Zone: The production zone portion of the landscape will be managed for a range of age classes that provide product diversity and produce the most value. The strategy in this zone will be to have fully stocked stands of species well adapted to the sites, grown to desirable age and size for current and anticipated timber markets. A range of silvicultural prescriptions will be used to maximize volume and value of products produced over the long-term. A range of techniques will be used to assess potential for occupancy by ESA-listed species, (e.g., known habitat variables, probability models) and assess risks from insects and disease, fire, wind throw, climate change, or other disturbance.

Complex Early Structure: Over the past decade, there has been increasing recognition of the paucity and importance of complex early seral habitat on the landscape. Complex early seral stands provide habitat for a variety of wildlife including spotted owls, ungulates, and several songbird species of concern. Historically, ODF's primary management focus in young stands has been reforestation with consideration for subsequent, long-term habitat development (e.g., legacy structures, tree species diversity) and other goals (e.g., recreation access). Moving forward, ODF will focus more explicitly and intentionally on creating complex early seral habitat on a subset of young stands through both passive and active management approaches. Areas managed to promote complex early structure can be established in either the conservation or production zone.

Guiding Principles

Guiding principles are the overall rules, goals, and responsibilities that guide the planning process for Oregon state forests. They arise from state and federal laws and administrative rules; policies of the Board of Forestry, State Land Board, and State Forester; and input from advisory committees, scientists, interest groups, and the public.

A goal established by the Board of Forestry for this plan was to create a new plan that “will be financially viable while improving conservation outcomes².”

Financial viability will be enhanced by managing across district boundaries, efficiencies gained through the explicit allocation of production zones, and the use of a range of silvicultural approaches to maximize volume and value of products.

Establishment of the State Forests Foundation Fund can enhance environmental, economic and social benefits. The vision is to establish a fund which allows for the Department to accept contributions (rather than funding through the Forest Development Fund) to be used for conservation or recreation projects. This fund will be pursued outside of the Forest Management Plan process as it may require legislative approval and authority to establish.

² Board of Forestry Subcommittee Meeting 9/10/2013. Policy Sideboards and Success Criteria document.

Revenue from the State Forests Foundation Fund could enhance adaptive management and monitoring of fish, wildlife, and water quality, as well as, increase the feasibility of ongoing research on the effects of forest management on biodiversity. Increased funding could also enhance possibilities of appropriate inventory to enable identification of high biodiversity value forest.

Increased conservation associated with these strategies include a separation of retained green trees from Riparian Management Areas (RMAs) which will ultimately increase the effectiveness of retained green trees and foster a variety of leave patterns across harvest units, optimization of terrestrial anchors with regard to the number, size and spatial arrangement, wider no-harvest riparian buffers and riparian harvest only to occur expressly to improve riparian function, enhancement of complex early seral habitat, and improvements to road best-management practices. A potential conservation benefit of this plan is the explicit and durable allocation of conservation on at least 30% of the landscape. This differs from the current FMP that adopts a “floating reserve” (shifting mosaic) approach.

Social Resources

Northwest Oregon state forests comprise about three percent of Oregon’s forest land. However, these forests are important to local communities economically dependent on the forests’ resources and important to residents who recreate in these forests. Perhaps more important to Oregon’s economy is the contribution the forests make to one of Oregon’s major economic advantages, the perception of unsurpassed livability.

Recreation

- Evaluate appropriate levels and types of recreation as part of Implementation Plan revision. Consider:
 - Maintenance costs
 - Construction costs
 - Types of opportunities provided by regional landowners (i.e., substitutes and complements)
 - Statewide Comprehensive Outdoor Recreation Plan (SCORP)
- Development of recreation policy.
- Evaluate opportunities for growing recreation (e.g., establish new recreation areas [e.g., King’s Mountain, Mountain Biking Areas, or Shooting Range])

Additional social resource strategies under development include: contributions to Oregon’s economy, cultural resources, and scenic resources.

Economic Resources

The timber stands on the northwest Oregon state forests are an asset to the state, counties, local taxing districts, and to the Common School Fund.

Management of the timber asset includes investment of time, dollars, and resources to realize the forest’s ability to generate sustainable timber harvest and revenue over the long term. Investments

include direct expenses in young stand management activities such as precommercial thinning and fertilization; and in forest infrastructure, such as roads and bridges. There are also indirect expenses for overall planning and long-term management, such as forest inventory and GIS systems, research projects, and monitoring projects.

The timber resources are renewable and sustainable, and therefore the forest's revenue-generating potential is viewed in a long-term context.

Economic resource strategies under development include: timber, non-timber forest products, land base and access, energy and minerals, and agriculture and grazing.

Environmental Resources

Environmental and Conservation – Description, Goals, and Strategies

“Conservation is the maintenance of essential ecological processes, preservation of genetic diversity, and sustainable use of species and ecosystems.” (Adapted from: International Union for Conservation of Nature and Natural Resources (IUCN). 1980. *World Conservation Strategy: Living Resource Conservation for Sustainable Development*. 77pp.)

Species of Concern

The current FMP SOC goals, strategies and associated policy will be retained. Current terrestrial anchors will be reviewed on all districts (during Implementation Plan revision) to optimize the number and locations of the anchors on the landscape to increase conservation outcomes. Modifications to existing anchors will promote biodiversity by maximizing the potential for stand and landscape function (e.g., more efficiently allocate the lands with the goal of improving function).

The current FMP marbled murrelet and Northern Spotted Owl goals, strategies and associated policies will be retained. Marbled murrelet management areas (MMA) and Northern Spotted Owl (NSO) circles will continue to be implemented as described in current policies.

Habitat Conservation Plan

The benefits of a habitat conservation plan (HCP) include increased certainty around conservation of listed species as well as the ability to meet harvest objectives. If an HCP is obtained, it becomes a powerful tool for programmatic compliance with the Endangered Species Act. The State Forest division has worked towards HCPs for the Northwest State Forests in the past. The State Forests Division will continue to explore programmatic ESA compliance mechanisms including the pursuit of an HCP for the districts in this planning area.

Terrestrial Resources

Wildlife

Description and Assessment

Northwest Oregon state forests currently have habitat suitable for most native species found in forests in both the Oregon Coast Range and northern Cascade Mountains (Brown 1985, Csuti et al. 1997). Appendix E provides lists of vertebrate species known or suspected to be found on, adjacent to, or in

some cases, downstream of, state forest lands in both aquatic and terrestrial environments. In total, these lists include approximately 270 species, of which 63 are mammals, 147 birds, 32 amphibians and reptiles, and 28 fishes. These lists generally do not include the many species of marine fishes, birds, and mammals that may be found in the Tillamook and Columbia River estuaries adjacent to state forest lands, unless they use state forest lands for some portion of their life history requirements.

Management Goals

- *In a regional context, provide habitats that contribute to maintaining or enhancing native wildlife populations at self-sustaining levels, and contribute to properly functioning aquatic habitats for salmonids, and other native fish and aquatic life.*
- *Meet the requirements of federal and state endangered species acts.*
- *Contribute to maintaining fish and wildlife populations at levels that allow recreational and commercial opportunities, including fishing, hunting, and wildlife viewing.*
- *Maintain compatibility with Oregon's Statewide Planning Goal 5 (Open Spaces, Scenic and Historic Areas, and Natural Resources).*

Management Strategies

A series of strategies will be used to conserve and promote habitat for wildlife and other terrestrial resources. Strategies include: Green Tree Retention (GTR), retention of snags, and downed wood, and conservation of existing old growth trees or stands.

Green Tree Retention and Legacy Structures

Purposes of upland green tree retention and legacy structures are:

- Short Term – Provide habitat for diverse species and promote forest landscape connectivity.
- Long Term – serve as a source of future snags and downed wood; provide legacy trees in new stands following harvest to provide habitat function similar to the scattered remnant and old growth trees in today's stands, and genetic retention.

Policy Standards³

1. Green Tree Retention
 - a. Allocation of 2-4 trees per acre (TPA) in regeneration harvests in the production zone.
 - b. Consider varying the number of trees per acre required between the Northwest Region and Willamette Region (e.g., 3 TPA on Northwest Region and 2 TPA on Willamette Region)
 - c. Allocation of 6 TPA (at least 2 of which are $\geq 24''$ DBH; where available) in regeneration harvests conservation zone.
 - d. Trees in riparian fish buffers cannot count towards upland green tree retention objectives. Evaluate the potential to include trees in small non-fish buffers to contribute to GTR goals.
 - e. Green tree counts are averaged across all regeneration harvest units in each district's Annual Operations Plan.

³ Where a range is indicated, landscape modeling will be used to evaluate the costs and benefits of choices within the range prior to selection of final value consistent with BoF policy sideboards 3, 5 and 6.

2. Legacy Structures
 - a. The current targets will be retained for snags and downed wood in regeneration harvest units.
 - b. All old growth trees (as defined in the current FMP) will be maintained (where operationally feasible), including all stands, patches or individual trees (same as current standards).
 - c. All legacy snags and downed logs will be maintained unless safety considerations outweigh conservation concerns (same as current standards).
3. Enhance Early Seral Habitat – Current vegetation management strategies and green tree retention requirements result in creation of some relatively complex early seral habitat. Approaches to and rationale for vegetation management may vary among districts. The creation of complex early seral habitat will occur through active and passive means.

Aquatic Resources

Fish and Other Aquatic Biota

Description and Assessment

The streams, rivers, lakes, and other water bodies in the northwest Oregon state forests provide habitats for a variety of fish species. At least 28 species of fish use habitats in the plan area for part or all of their life history, or use habitats downstream from state forests that may be influenced by state forest management.

Native salmonid species in the northwest Oregon state forests include fall and spring races of Chinook salmon, Coho salmon, chum salmon, winter and summer steelhead trout, resident populations of rainbow trout, and both anadromous and resident races of cutthroat trout. Native non-salmonid fishes include various species of lamprey, sculpin, dace, chub, sucker, and others. Appendix E of the Northwest Forest Management Plan has a complete list of native freshwater fish species currently known or likely to exist in the planning area. The Oregon Department of Fish and Wildlife collects information on fish populations.

Stream Classification

Streams are classified in categories based on their beneficial use and stream size, as described in the Department of Forestry's Forest Practice Technical Note FP1 — Water Classification, published in April 1994 (Oregon Department of Forestry, 1994b). The beneficial use categories are defined as follows:

- *Type F — Fish-bearing streams including those with domestic water use.*
- *Type D – Non-fish-bearing stream with domestic water use*
- *Type N — All other streams*

Three stream size categories were also defined based on the average annual flow (measured in cubic feet per second; cfs):

- *Small ≤ 2 cfs*
- *Medium > 2 cfs and ≤ 10 cfs*

- *Large: > 10 cfs*

There are also two flow pattern classifications:

- *Perennial Type N streams – streams that are expected to have summer surface flow after July 15.*
- *Seasonal Type N streams – streams that only flow during portions of the year; these streams are not expected to have summer surface flow after July 15.*
 - *Potential debris flow track reaches – potential debris flow track reaches are reaches on Seasonal Type N streams that have been determined to have a high probability of delivering large wood to a type F stream.*

Wetlands

Wetlands are often near streams or have trees, but they are ecologically distinct from streams and forests. The Forest Practices Act identifies three major types of wetlands: significant wetlands, stream-associated wetlands, and other wetlands. Significant wetlands are defined as bogs, estuaries, and both forested and non-forested wetlands larger than eight acres.

In the northwest Oregon state forests, most wetlands are located along stream channels and are forested with red alders. Other wetlands are identified as seeps, and wet areas under the forest canopy. These wetlands are usually associated with red alders, devil’s club, and skunk cabbage. Many wetlands have conifers also. Sitka spruce wetlands exist in the coastal spruce zone. A few Cascades wetlands have sedges and tag alder stands.

Riparian Habitat

The condition of the trees, other vegetation, and soils in the riparian area affects the morphology of streams, and the condition of fish habitat. Ecological functions of riparian areas include shade, bank stability, nutrients (as leaves and wood drop into the water), large wood, and complex margins to the stream. These functions are important for healthy fish habitat, and also for the many wildlife species that rely partially or completely on riparian habitats, from rare amphibians to birds of prey. Floods may occur on only one or two days a year, but a healthy riparian area is especially important at these times and may influence whether the flood renews or degrades conditions within the stream.

Management Goals

- *In a regional context, provide habitats that contribute to maintaining or enhancing native wildlife populations at self-sustaining levels, and contribute to properly functioning aquatic habitats for salmonids, and other native fish and aquatic life.*
- *Meet the requirements of federal and state endangered species acts.*
- *Contribute to maintaining fish and wildlife populations at levels that allow recreational and commercial opportunities, including fishing, hunting, and wildlife viewing.*
- *Maintain compatibility with Oregon’s Statewide Planning Goal 5 (Open Spaces, Scenic and Historic Areas, and Natural Resources).*
- *Maintain the natural functions and attributes of wetlands over time.*
- *Ensure that no net loss of wetlands occurs as a result of our management activities.*

Management Strategies

Aquatic resources are protected, maintained, or enhanced using a range of strategies including: stream buffers, riparian restoration, aquatic enhancement, and wetland protection measures. All buffers will be measured by horizontal distance from outer edge of stream associated wetland, active channel width, or channel migration zone, whichever is greatest.

Policy Standards⁴

1. Increase No-Cut Buffers and Ground-Based Equipment Exclusion Zones: Type F and Type N streams
 - a. All Type F streams and large and medium Type N streams will have a 115 foot no-cut buffer
 - b. Small perennial type N streams – buffer width ranging from current (25 foot no-cut) to 50 foot no-cut
 - c. Seasonal debris-flow streams that deliver wood or gravel to Type F or Large or medium Type N streams will have a no-cut buffer ranging from current (25 foot no-cut) to 50 feet no-cut
 - d. All other small Type N seasonal streams will have a ground-based equipment exclusion zone ranging from current (30 foot) to 35 feet except at designated crossings.
 - e. Cable corridors and temporary crossings will be allowed.
2. Riparian Restoration: Active management is an option in stream-side buffers to improve riparian functions. This requires a Riparian Restoration plan that will include a cooperative evaluation with Oregon Department of Fish and Wildlife (ODFW) and is intended for areas where active management can expedite achieving desired riparian function and riparian conditions. Specific circumstances where this may be desired include, but are not limited to: overstocked young Douglas-fir stands, diseased forest conditions, or after a major disturbance (e.g., blow down).
3. Aquatic Habitat Enhancement: Evaluated in cooperation with Oregon Department of Fish and Wildlife (ODFW); emphasis on actions in fish conservation for native fish passage and habitat enhancement.
4. Wetlands: Same size categories and restrictions as in current FMP; these could be buffered differently to reflect any changes to Type F or N buffers above.
5. Inner Gorges: The greater of either:
 - a. A buffer extending to the top of the slope break that defines the inner gorge; or
 - b. The buffer that is normally applied to the stream type (e.g., Type F, small Type N, seasonal other).

Roads

The transportation process will focus on continuous improvement of the transportation network. The transportation network will be managed to:

- Protect water quality and associated impacts on aquatic resources

⁴ Where a range is indicated, landscape modeling will be used to evaluate the costs and benefits of choices within the range prior to selection of final value consistent with BoF policy sideboards 3, 5 and 6.

- Minimize the road network to that needed to provide access for meeting the management plan objectives.
- Meet or exceed FPA standards for construction, maintenance and wet weather use.
- Meet goals for minimizing hydrologic connectivity and eliminating road-related barriers to fish passage.

Slope Stability

Current strategies with regard to road construction, aquatic habitat and water quality and public safety will be applied.

Additional environmental resource strategies under development include: forest health, air quality, climate change, rare plants, geology and soils, and water quality and supply.

Monitoring and Adaptive Management

The Forest Management Plan for State Forests emphasizes the need for adaptive approaches to management in which the results of management actions are measured and changes are made where necessary. This approach requires a commitment to long-term information-gathering and the incorporation of that information into the decision-making process. With increased revenues, the state forests research and monitoring program will be enhanced to ensure that the levels of research, monitoring, and technology transfer are adequate to meet the information needs required by this long-range management plan.

Two important objectives of the monitoring program are: 1) to determine whether FMP programs and strategies are implemented as stated; and 2) to determine whether FMP programs and strategies are effective at achieving stated objectives. The FMP serves as the basis for identification of specific information needs that should be addressed through new projects.

Adaptive management is the process through which management practices are incrementally improved by implementing plans in ways that provide opportunities to learn from experience. Through a broad program of monitoring, surveys, reporting, and cooperative research, ODF will evaluate the biological relationships and habitat responses to management actions. This process will provide a credible method to assess whether our management strategies are functioning as intended.

The primary purpose of adaptive management is to demonstrate, with sound scientific information, why a change in management would be necessary. The key components of the management strategies will be tested through this adaptive process to determine if specific objectives are being met.