



OREGON DEPARTMENT OF FORESTRY

Oregon's Forest Action Plan

Summary – [Oregon's Forest Action Plan](#) was developed in June 2010 by a team of Oregon Department of Forestry subject matter, geographic information and communications specialists to fulfill requirements of the 2008 Farm Bill that all States complete a Forest Assessment and Resource Strategy to maintain eligibility for U.S. Department of Forest Service State and Private Forestry funding for programs authorized by the federal Cooperative Forestry Assistance Act.

Statewide Forest Assessment

States were required to conduct an assessment of the current conditions of all forestland regardless of ownership type, and trends leading up to these conditions. In addition, states were required to identify threats to forests and opportunities for addressing threats. The final task of completing the assessment was to identify priority landscapes for implementing opportunities.

What Oregon Did – Current conditions and trends leading up to these conditions were displayed in an external web-based [Oregon's Forest Atlas](#). Threats and opportunities were organized around 6 priority issues – Communities at Risk of Wildfire, Maintain the Forestland Base, Diversity of Upland and Aquatic Habitats, Invasive Species, Water Quality and Climate Change. These are contained in Oregon's [DRAFT Statewide Forest Assessment Document](#). The issues were cross referenced to the USDA Forest Service's National State and Private Forestry Themes and Subthemes and the Oregon Board of Forestry's Goals for the Forestry Program for Oregon. Priority landscapes were developed for: 1) Urban/Rural Forest Priority Areas, 2) [Communities at Risk of Wildfire](#), 3) [Forests Vulnerable to Loosing Timber Markets](#), 4) [Fish and Wildlife Habitat Conservation](#) and 5) [General Forestland Considerations](#) (a composite prioritization across Communities at Risk of Wildfire, Forests Vulnerable to Loosing Timber Markets and Fish and Wildlife Habitat Conservation).

Resource Strategy

States were required to develop a five-year action plan describing how they were going to use USDA Forest Service State and Private Forestry program – in conjunction with other state/business programs and initiatives to address the opportunities identified in the assessment.

What Oregon Did – [Oregon's Resource Strategy](#) includes a core business plan for the following USDA Forest Service State and Private Forestry Programs: Community Forest and Open Space Conservation, Forest Health Protection, Forest Legacy, Forest Stewardship, State Fire Assistance, Tree Improvement, Urban and Community Forestry, Volunteer Fire Assistance and the Western States Fire Managers for Western Wildland Urban Interface. The [Strategy](#) also summarized the following Other Statewide Plans and Programs: Community Wildfire Protection Plans, Federal Land Management Plans, Oregon Conservation Strategy, Oregon Forest Practices Act, Oregon Invasive Species Action Plan, Oregon Land Use Planning Program, Oregon Plan for Salmon and Watersheds, State Forest Management Plans, The National Fire Plan, Tribal Integrated Resource Management Plans and Other Private Forestland Assistance Programs administered by the Oregon Department of Agriculture, the Oregon Department of Fish and Wildlife, the Oregon Department of Forestry, the Oregon Watershed Enhancement Board, the USDA Farm Service Agency, the USDA Natural Resource Conservation Service and the US Fish and Wildlife Service. In addition to core program functions, the Strategy identified 50 innovative long-term strategies for the coordinated investment from all sources – state, federal, non-governmental and private – to address Oregon's priority forest issues.

Implementation

The USDA Forest Service requires that all State and Private Forestry Program federal grant narratives, as well as proposals to the Western States State and Private Forestry Competitive Grant Program, tier to the Action Plan. The Private Forest Division updated its Stewardship Potential geographic information systems layer for prioritizing delivery of the Forest Stewardship Program cost-share funds for forest management plans based on the assessment's [General Forestland Considerations](#) priority landscape areas.

Updating Oregon's Forest Action Plan

- There is overlap between the [Oregon's Forest Atlas](#) and [Oregon's Indicators for Sustainable Forest Management](#). The desire is to get Oregon's Five-Year Forest Inventory and Analysis (FIA) Report – combined with other key data sources such as Oregon's Cooperative Aerial Survey == to meet Oregon's assessment needs for current conditions and trends leading up to these conditions. Results should be communicated through a combination of Oregon's On-Line Forest Atlas and the Oregon Indicators for Sustainable Forest Management.
- Oregon's threats and opportunity write-ups for the priority issues are still in draft form. They have been reviewed by technical staff; but these comments have not been incorporated into the 2010 version. The issues need to be confirmed or modified and write-ups (threats and opportunities) updated accordingly.
- The following Priority Landscape Areas needs to be updated:
 - [Communities at Risk of Wildfire](#) – This layer incorporated the landscape wildfire risk ratings as identified in the Departments 2006 fire risk assessment with minor modifications for the areas proximate to federal wilderness areas. This layer needs to be replaced by an updated version using the West-Wide [Fire] Risk Assessment data.
 - [Fish and Wildlife Habitat Conservation](#) – This layer needs to be updated based on updated Oregon Forest Biodiversity data for all of Oregon's 6th field watersheds (i.e., both forest and non-forest) and incorporated as part of the next version of the Oregon Conservation Strategy.
- Oregon's Resource Strategy needs to be updated:
 - Coordination with the federal land management agencies; most notably the USDA Forest Service National Forests and the U.S. Department of the Interior Bureau of Land Management Resource Management Plans,
 - Formal review and prioritization of the innovative long-term strategies for coordinated investment and adopted as a true 5-year plan for taking action. For example, in addition to affirming key core business functions, this plan should be used to prioritize and schedule Oregon Department of Forestry proposals to the Western States State and Private Forestry Competitive Grant Program.

**Oregon’s Forest Resource Strategy
Federal Fiscal Years 2011 thru 2015**

**Coordinated and Strategic Investment of
USDA Forest Service State and Private Forestry Programs**

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Oregon's Resource Strategy – Federal Fiscal Years 2011 thru 2015
Coordinated Investment to Address Priority Forest Issues

Priority Issue: Communities at Risk of Wildfire

Strategy	State and Private Forestry Programs that Contribute	Funding Need	National Themes and Sub-Themes Addressed	Forestry Program for Oregon Goals Addressed	Coordination
<i>OPPORTUNITY -- Maintain and improve state and local capacity in fire protection.</i>					
Provide financial, technical, and other assistance to State Foresters to organize, train and equip rural fire departments to prevent and suppress wildfires.	Voluntary Fire Assistance	TBD	Protect Forests from Harm – Reduce Threats to Forest and Ecosystem Health	Goal A – Legal/Institutional Economic Framework.	Works in conjunction with the Rural Fire Assistance Program.
Maintain state and local agency capacity in preparedness, prevention and suppression of wildfires including the development of new and improved fire control technologies, effective organization and interagency sharing of fire suppression resources.	State Fire Assistance	TBD	Protect Forests from Harm – Reduce Threats to Forest and Ecosystem Health	Goal A – Legal/Institutional Economic Framework.	Works in conjunction with the Voluntary and Rural Fire Assistance programs.
<i>OPPORTUNITY -- Secure an equitable share and stable source of public funding for fire protection.</i>					
Explore and pursue significant improvements to the structure and funding of the Oregon Department of Forestry's budget.	State Fire Assistance	TBD	Enhance Public Benefits from Trees and Forests – Connect People to Trees and Forests	Goal A – Legal/Institutional Economic Framework.	Limit and create certainty around direct charges to private forest lands for both Oregon Forest Practices Act administration and fire protection. Secure stable public funding sources by reconnecting the public with the values they desired from forests.

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Coordinated Investment to Address Priority Forest Issues

Priority Issue: Communities at Risk of Wildfire

Strategy	State and Private Forestry Programs that Contribute	Funding Need	National Themes and Sub-Themes Addressed	Forestry Program for Oregon Goals Addressed	Coordination
<i>OPPORTUNITY -- Expand public outreach and education about wildfire prevention measures.</i>					
Expand outreach and education about wildfire prevention in the wildland urban interface to reduce the wildfire risks to homes and private property.	Western States Fire Managers for Western Wildland Urban Interface Program	TBD	Enhance Public Benefits from Trees and Forests – Connect People to Trees and Forests	Goal A – Legal/Institutional Economic Framework.	Work with <i>Keep Oregon Green Association</i>
<i>OPPORTUNITY -- Assist communities in hazardous fuel treatment planning, implementation and monitoring.</i>					
Plan and conduct fuel breaks, thinning, pruning, landscape modifications and other hazardous fuel reduction projects that modify or break up the fuels in such a way as to lessen catastrophic fire and its threat to public and firefighter safety and damage to property.	Western States Fire Managers for Western Wildland Urban Interface Program	TBD	Enhance Public Benefits from Trees and Forests – Assist Communities in Planning for and Reducing Wildfire Risks.	Goal A – Legal/Institutional Economic Framework.	National Fire Plan
Conduct inspections; demonstration projects; fire safe groups; training and education of homeowners and others about providing space around homes and structures that will limit the wildfire spread to provide a safer environment for defending homes and structures.	Western States Fire Managers for Western Wildland Urban Interface Program	TBD	Enhance Public Benefits from Trees and Forests – Assist Communities in Planning for and Reducing Wildfire Risks.	Goal A – Legal/Institutional Economic Framework.	National Fire Plan

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Priority Issue: Communities at Risk of Wildfire

Strategy	State and Private Forestry Programs that Contribute	Funding Need	National Themes and Sub-Themes Addressed	Forestry Program for Oregon Goals Addressed	Coordination
<i>OPPORTUNITY -- Assist communities in hazardous fuel treatment planning, implementation and monitoring.</i>					
Provide technical and financial assistance in Community Wildfire Protection Planning.		TBD	Enhance Public Benefits from Trees and Forests – Assist Communities in Planning for and Reducing Wildfire Risks.	Goal A – Legal/Institutional Economic Framework.	National Fire Plan
<i>OPPORTUNITY -- Assist farm, ranch and family forest landowners in their management of wildfire risk.</i>					
Provide technical and financial assistance in forest management planning.	Forest Stewardship Program	\$45,000/yr cost share \$76,000/yr technical assistance.	Conserve Working Forests – Actively and Sustainably Manage Forests	Goal B – Provide Diverse Social and Economic Benefits	Work with professional forestry consultants and other state and federal agency resource management planning requirements.
<i>OPPORTUNITY -- Develop a variety of end use markets for forest products and environmental services.</i>					
Develop end use markets for small diameter trees, slash and other forest residue as a means to make needed fuel treatment practices pay for themselves; thereby expanding the level of investment in fuel treatment projects .		TBD	Enhance Public Benefits from Trees and Forests – Maintain and Enhance the Economic Benefits and Values of Trees and Forests	Goal C – Maintain the Productive Capacity of Forestlands	Oregon Department of Economic Development, Oregon Forest Biomass Working Group, Oregon State University Forest Products Laboratory.

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Priority Issue: Communities at Risk of Wildfire

Strategy	State and Private Forestry Programs that Contribute	Funding Need	National Themes and Sub-Themes Addressed	Forestry Program for Oregon Goals Addressed	Coordination
<i>OPPORTUNITY -- Actively manage forests at risk of uncharacteristically severe wildfire.</i>					
Increase the level of federal investment in active management practices that reduce forest fuels as a means to change the severity and extent of wildfire consistent with the environmental purposes of these forest lands.	Western States Fire Managers for Western Wildland Urban Interface Program	TBD	Protect Forests from Harm – Restore Fire Adapted Landscapes	Goal F – Manage Forest Ecosystem Health	National Forest Plans, Bureau of Land Management Resource Management Plans, Federal Forest Lands Advisory Implementation Working Group, The National Fire Plan, Cooperative Forest Restoration Program, collaborative forest partnerships.
Integrate federal and non-federal forest management to address insects and disease outbreaks, fuel loadings and other problems crossing ownership boundaries.	Western States Fire Managers for Western Wildland Urban Interface Program	TBD	Protect Forests from Harm – Restore Fire Adapted Landscapes	Goal F – Manage Forest Ecosystem Health	National Forests, Bureau of Land Management, National Fire Plan

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Priority Issue: Maintaining the Forestland Base

Strategy	State and Private Forestry Programs that Contribute	Funding Need	National Themes and Sub-Themes Addressed	Forestry Program for Oregon Goals Addressed	Coordination
<i>OPPORTUNITY -- Maintain forest cover and connectivity within rural-urban forest areas.</i>					
Ensure active management of urban forests through inventory, planning, tree care, management and monitoring.	Urban and Community Forest Program	TBD	Enhance Public Benefits from Trees and Forests – Connect People to Trees and Forests	Goal B – Provide Diverse Social and Economic Benefits	Cities, regional governments, community organizations, non-profits and volunteer groups.
Foster homeowner, public community and local or regional government understanding of the importance of Oregon's urban-rural forests to habitats along streams, wildlife corridors and parks and other open space.	Urban and Community Forest Program	TBD	Enhance Public Benefits from Trees and Forests – Connect People to Trees and Forests	Goal B – Provide Diverse Social and Economic Benefits	Watershed councils, Soil and Water Conservation Districts, Parks and Recreation Departments, Regional Governments.
<i>OPPORTUNITY -- Assist family forestland owners with their management of forests.</i>					
Provide technical and financial assistance in forest management planning.	Forest Stewardship Program	\$45,000/yr cost share \$16,000/yr technical assistance	Conserve Working Forests – Actively and Sustainably Manage Forests	Goal B – Provide Diverse Social and Economic Benefits	Work with professional forestry consultants and other state and federal agency resource management planning requirements.
Support the Oregon Tree Farm Program as the state's landowner recognition program.	Forest Stewardship Program	TBD	Conserve Working Forests – Actively and Sustainably Manage Forests	Goal B – Provide Diverse Social and Economic Benefits	Oregon Tree Farm Program, Complimentary Forest Certification Programs.

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Priority Issue: Maintaining the Forestland Base

Strategy	State and Private Forestry Programs that Contribute	Funding Need	National Themes and Sub-Themes Addressed	Forestry Program for Oregon Goals Addressed	Coordination
<i>OPPORTUNITY -- Assist family forestland owners with the intergenerational transfer of lands for forestry use.</i>					
Integrate family succession planning with forest management planning to secure the intergenerational transfer of family forestlands.	Forest Stewardship Program	TBD	Conserve Working Forests – Actively and Sustainably Manage Forests	Goal A – Legal/Institutional Economic Framework	Oregon State University Austin Family Business Program, American Forest Foundation.
Seed bank and seedling network that provides access to genetically-improved seed and high quality nursery stock.	Tree Improvement Program, Forest Stewardship Program	TBD	Conserve Working Forests – Actively and Sustainably Manage Forests	Goal C – Maintain the Productive Capacity of Forestlands	Tree Improvement and Seed Orchard Cooperatives, Oregon Small Woodlands Association, Forest Seedling Network
<i>OPPORTUNITY -- Develop diverse markets for Oregon's timber and remove market barriers for wood products.</i>					
Develop an Oregon Wood First Program to raise awareness among designers, architects, builders, code officials and various levels of government of the opportunities to use Oregon wood to meet green building standards.		TBD	Enhance Public Benefits from Trees and Forests – Maintain and Enhance the Economic Benefits and Values of Trees and Forests	Goal C – Maintain the Productive Capacity of Forestlands	Oregon Forest Resources Institute, American Forest Foundation
<i>OPPORTUNITY -- Expand markets for the utilization of forest residues for biomass energy and other end uses.</i>					
Quantify the availability of forest residues and other small diameter forest material and the cost of removal for implementing landscape wildfire fuel treatment projects.		TBD	Conserve Working Forests – Actively and Sustainably Manage Forests Protect Forests from Harm – Restore Fire Adapted Landscapes	Goal C – Maintain the Productive Capacity of Forestlands	Coordinated Resource Offering Protocols (CROP), Forest Biomass Working Group, Oregon Forest Resources Institute.

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Priority Issue: Maintaining the Forestland Base

Strategy	State and Private Forestry Programs that Contribute	Funding Need	National Themes and Sub-Themes Addressed	Forestry Program for Oregon Goals Addressed	Coordination
<i>OPPORTUNITY -- Expand markets for the utilization of forest residues for biomass energy and other end uses – continued.</i>					
Identify Forest Investment Zones to test strategies for building business and community capacity to support the adaptive and sustainable management of federal forests		TBD	Enhance Public Benefits from Trees and Forests – Maintain and Enhance the Economic Benefits and Values of Trees and Forests	Goal A – Legal/Institutional Economic Framework.	Sustainable Northwest, US Endowment for Forests and Communities, National Forests, Bureau of Land Management, Federal Forest Lands Advisory Implementation Working Group, Cooperative Forest Restoration Program, collaborative forest partnerships, National Fire Plan.
<i>OPPORTUNITY -- Encourage private and public investment to conserve private forestland.</i>					
Purchase the development rights to working private forests that are important, strategic and threatened with conversion to non-forest use to ensure forest use in perpetuity.	Forest Legacy	\$20 million	Conserve Working Forests – Conserve High Priority Forest Ecosystems	Goals C (Productive Capacity), D (Soil and Water) and E (Plant and Animal Conservation)	Land trusts, conservation groups, landowner groups, Oregon Department of Fish and Wildlife, Oregon Watershed Enhancement Board, Community Forest Authority (ORS 530.606) and Transfer of Development Rights Authority (ORS 197.015).
Participate in a pilot Transferable Development Rights Program involving the conservation of high priority forestlands.		TBD	Conserve Working Forests – Conserve High Priority Forest Ecosystems	Goals C (Productive Capacity), D (Soil and Water) and E (Plant and Animal Conservation)	Oregon Department of Land Conservation and Development, Community Forest Authority (ORS 530.606) and Transfer of Development Rights Authority (ORS 197.015).

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Priority Issue: Maintaining the Forestland Base

Strategy	State and Private Forestry Programs that Contribute	Funding Need	National Themes and Sub-Themes Addressed	Forestry Program for Oregon Goals Addressed	Coordination
<i>OPPORTUNITY -- Encourage private and public investment to conserve private forestland (continued).</i>					
Develop a Conservancy Portfolio of state-owned forestlands that compliment the current state-owned forest land base managed for Greatest Permanent Value.	Forest Legacy	\$10 million	Conserve Working Forests – Conserve High Priority Forest Ecosystems	Goals C (Productive Capacity), D (Soil and Water) and E (Plant and Animal Conservation)	Land trusts, conservation groups, landowner groups, Oregon Department of Fish and Wildlife, Oregon Watershed Enhancement Board, Community Forest Authority (ORS 530.606) and Transfer of Development Rights Authority (ORS 197.015).
Develop innovative approaches to reduce forest fragmentation and dispersed and low impact residential and other building development in rural-urban forest areas.	Community Forest and Open Space Conservation Program	\$500,000	Conserve Working Forests – Conserve High Priority Forest Ecosystems	Goals C (Productive Capacity), D (Soil and Water) and E (Plant and Animal Conservation)	Regional Parks and Open Space, Community Forest Authority (ORS 530.606) and Transfer of Development Rights Authority (ORS 197.015).

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Coordinated Investment to Address Priority Forest Issues

Priority Issue: Diversity of Upland and Aquatic Habitats

Strategy	State and Private Forestry Programs that Contribute	Funding Need	National Themes and Sub-Themes Addressed	Forestry Program for Oregon Goals Addressed	Coordination
<i>OPPORTUNITY -- Maintain and enhance important fish and wildlife habitats on forestland.</i>					
Promote voluntary incentive programs and tools to conserve <i>Oregon Conservation Strategy</i> “Strategy Habitats” on private forestlands within Conservation Opportunity Areas.		TBD	Enhance Public Benefits from Trees and Forests – Protect, Conserve, and Enhance Wildlife and Fish Habitat	Goal E – Enhance Native Plant and Animal Conservation	<i>Oregon Conservation Strategy, Oregon Plan for Salmon and Watersheds, Oregon Coast Coho Conservation Plan for the State of Oregon, Conservation and Recovery Plan for Mid-Columbia Steelhead, other Native Fish Conservation Plans, OWEB Grants</i>
Develop block grant cost-share programs to implement conservation actions from private family forestlands consistent with regional and statewide conservation plans like the <i>Oregon Conservation Strategy, the Oregon Plan for Salmon and Watersheds</i> and <i>Native Fish Conservation Plans</i> .		TBD	Enhance Public Benefits from Trees and Forests – Protect, Conserve, and Enhance Wildlife and Fish Habitat	Goal E – Enhance Native Plant and Animal Conservation	Environmental Quality Incentives Program (USDA Natural Resource Conservation Service); Oregon Watershed Enhancement Board Grant Programs, Forest Resource Trust.
Encourage the use of Stewardship Agreements as an incentive for achieving needed conservation outcomes on private forestlands that exceed regulatory requirements.		TBD	Enhance Public Benefits from Trees and Forests – Protect, Conserve, and Enhance Wildlife and Fish Habitat	Goal E – Enhance Native Plant and Animal Conservation	Stewardship Agreement Statutes and Rules (Oregon Revised Statute (ORS) 541.423 – ORS 541.426; Oregon Administrative Rule (OAR) 629-021-0100 – OAR 629-021-1100); Healthy Forest Reserves Program (USDA Natural Resource Conservation Service)

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Priority Issue: Diversity of Upland and Aquatic Habitats

Strategy	State and Private Forestry Programs that Contribute	Funding Need	National Themes and Sub-Themes Addressed	Forestry Program for Oregon Goals Addressed	Coordination
<i>OPPORTUNITY -- Maintain habitat features and conditions for fish and wildlife residency and movement.</i>					
Effective administration, educational assistance, enforcement and landowner recognition of Oregon Forest Practices Act resource protection measures.		TBD	Enhance Public Benefits from Trees and Forests – Protect, Conserve, and Enhance Wildlife and Fish Habitat	Goal E – Enhance Native Plant and Animal Conservation	Oregon Forest Practices Act
Provide technical and financial assistance in forest management planning.	Forest Stewardship Program	\$40,000/yr cost share \$30,000/yr technical assistance	Conserve Working Forests – Actively and Sustainably Manage Forests	Goal B – Provide Diverse Social and Economic Benefits	Work with professional forestry consultants and other state and federal agency resource management planning requirements.
<i>OPPORTUNITY -- Maintain and improve programs that support voluntary conservation actions.</i>					
Improve data management, coordination and sharing between various conservation partners to support voluntary conservation.		TBD	Enhance Public Benefits from Trees and Forests – Protect, Conserve, and Enhance Wildlife and Fish Habitat	Goal E – Enhance Native Plant and Animal Conservation	The Conservation Registry (Defenders of Wildlife).
<i>OPPORTUNITY -- Develop ecosystem services markets or market based payment mechanisms for conservation.</i>					
Participate in the development of innovative market based ecosystem services programs.		TBD	Enhance Public Benefits from Trees and Forests – Protect, Conserve, and Enhance Wildlife and Fish Habitat	Goal E – Enhance Native Plant and Animal Conservation	Oregon Watershed Enhancement Board, Defenders of Wildlife.

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Priority Issue: Diversity of Upland and Aquatic Habitats

Strategy	State and Private Forestry Programs that Contribute	Funding Need	National Themes and Sub-Themes Addressed	Forestry Program for Oregon Goals Addressed	Coordination
<i>OPPORTUNITY – Restore the role of disturbance in forest ecosystems to improve upland and aquatic habitats.</i>					
Plan, conduct and monitor landscape scale thinning, slash treatment, prescribed burning and other treatment projects on private lands to restore the role of wildfire in forest ecosystems and to improve forest health and resiliency.	Western States Fire Managers for Western Wildland Urban Interface Program	TBD	Protect Forests from Harm – Restore Fire Adapted Landscapes	Goal F – Manage Forest Ecosystem Health	The National Fire Plan
Develop forest management actions consistent with geomorphologic and ecological processes – such as flooding and landslides – that result in desired aquatic habitats.		TBD			Oregon Forest Practices Act Landslide and Public Safety Rules, Institute for Natural Resources (Dynamic Ecosystems), USDA Forest Service Pacific Northwest Research Station.

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Priority Issue: Invasive Species

Strategy	State and Private Forestry Programs that Contribute	Funding Need	National Themes and Sub-Themes Addressed	Forestry Program for Oregon Goals Addressed	Coordination
<i>OVERALL FRAMEWORK FOR IMPLEMENTATION OF RESOURCE STRATEGIES FOR INVASIVE SPECIES</i>					
Program development in forest invasive species education and outreach, prevention, early detection, rapid response, eradication, risk assessment, survey and monitoring, containment and restoration.		TBD	Protect Forests from Harm – Reduce Threats to Forest and Ecosystem Health Enhance Public Benefits from Trees and Forests – Maintain and Enhance the Economic Benefits and Values of Trees and Forests; Protect, Conserve, and Enhance Wildlife and Fish Habitat	Goal A – Legal / Institutional Economic Framework.	Oregon Invasive Species Council, Oregon Board of Forestry, Oregon Department of Agriculture, Oregon Department of Fish and Wildlife, Oregon Watershed Enhancement Board.
<i>OPPORTUNITY -- Eradicate Phytophthora ramorum (the invasive pathogen causing sudden oak death).</i>					
Detection, eradication and post-treatment monitoring of all sites infested with <i>Phytophthora ramorum</i> .	Forest Health Protection	\$2.5 million per year	Protect Forests from Harm – Reduce Threats to Forest and Ecosystem Health	Goal F – Manage Forest Ecosystem Health	Oregon Department of Agriculture, private forest landowners.
Cost-share assistance and other incentives (biomass utilization) for conducting <i>Phytophthora ramorum</i> host elimination prevention treatments.	Forest Health Protection	\$0.5 million per year	Protect Forests from Harm – Reduce Threats to Forest and Ecosystem Health	Goal F – Manage Forest Ecosystem Health	Environmental Quality Incentives Program (USDA Natural Resource Conservation Service), Forest Resource Trust, Underproductive Forestland Conversion Tax Credit
Research and laboratory support for <i>Phytophthora ramorum</i> – fungicide treatments, biology and spread, risk maps, and host genetic resistances.	Forest Health Protection	\$1.0 million per year	Protect Forests from Harm – Reduce Threats to Forest and Ecosystem Health	Goal F – Manage Forest Ecosystem Health	Oregon State University, Oregon Department of Agriculture.

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Priority Issue: Invasive Species

Strategy	State and Private Forestry Programs that Contribute	Funding Need	National Themes and Sub-Themes Addressed	Forestry Program for Oregon Goals Addressed	Coordination
<i>OPPORTUNITY -- Prevention of and early detection and rapid response to new introductions of invasive species .</i>					
Annual cooperative aerial survey of insects and disease.	Forest Health Protection	TBD	Protect Forests from Harm – Reduce Threats to Forest and Ecosystem Health	Goal F – Manage Forest Ecosystem Health	Landowner cooperators.
<i>OPPORTUNITY – Actively manage and control invasive species to reduce spread and undesirable impacts.</i>					
Provide technical and financial assistance in forest management planning.	Forest Stewardship Program	\$20,000/yr cost share \$16,000/yr technical assistance	Conserve Working Forests – Actively and Sustainably Manage Forests	Goal B – Provide Diverse Social and Economic Benefits	Work with professional forestry consultants and other state and federal agency resource management planning requirements.

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Priority Issue: Invasive Species

Strategy	State and Private Forestry Programs that Contribute	Funding Need	National Themes and Sub-Themes Addressed	Forestry Program for Oregon Goals Addressed	Coordination
<i>OPPORTUNITY – Actively manage and control invasive species to reduce spread and undesirable impacts (continued)</i>					
Remove disincentives regarding Oregon Forest Practices Act notification requirements that may be preventing landowner control of invasive plant species.		TBD	Protect Forests from Harm – Reduce Threats to Forest and Ecosystem Health	Goal F – Manage Forest Ecosystem Health	Oregon Forest Practices Act
Develop cost-share financial assistance programs to implement specific actions for the management and control of invasive species on private family forestlands.		TBD	Protect Forests from Harm – Reduce Threats to Forest and Ecosystem Health	Goal F – Manage Forest Ecosystem Health	Environmental Quality Incentives Program (USDA Natural Resource Conservation Service); Oregon Watershed Enhancement Board Grant Programs, Forest Resource Trust.
Establish tools to track the location, size, status and impact of priority invasive species.		TBD	Protect Forests from Harm – Reduce Threats to Forest and Ecosystem Health	Goal F – Manage Forest Ecosystem Health	Oregon Invasive Species Council, Oregon Department of Agriculture, Oregon Department of Fish and Wildlife, Oregon Watershed Enhancement Board, State Forest Program

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Priority Issue: Water Quality

Strategy	State and Private Forestry Programs that Contribute	Funding Need	National Themes and Sub-Themes Addressed	Forestry Program for Oregon Goals Addressed	Coordination
<i>OPPORTUNITY -- Reduce runoff from impervious surfaces in business and residential urban areas.</i>					
Ensure active management of urban and urban-rural forests to maintain tree canopy cover, parks and open space to reduce impervious surface area and intercept storm water run off.	Urban and Community Forestry Program	TBD	Enhance Public Benefits from Trees and Forests – Protect and Enhance Water Quality and Quantity	Goal D – Protect Soil and Water Quality	Cities, regional governments, community organizations, non-profits and volunteer groups.
<i>OPPORTUNITY -- Monitoring and research on water quality and best management practices for forestlands.</i>					
Compliance auditing and effectiveness monitoring of the Oregon Forest Practices Act water protection rules with respect to their role as best management practices designed to meet Oregon's water quality standards for temperature, sediment and toxicity.		TBD	Enhance Public Benefits from Trees and Forests – Protect and Enhance Water Quality and Quantity	Goal D – Protect Soil and Water Quality	Oregon Forest Practices Act, Oregon State University, USDA Forest Service Pacific Northwest Research Station, Oregon Department of Environmental Quality.
Conduct long-term paired watershed studies throughout Oregon that evaluate the environmental effects on water and fish of contemporary forest management practices now in use on younger intensively managed forests.		TBD	Enhance Public Benefits from Trees and Forests – Protect and Enhance Water Quality and Quantity	Goal D – Protect Soil and Water Quality	State Forests Program (ODF), Watershed Research Cooperative. Hinkle Creek, Alsea and Trask River Paired Watershed Studies.

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Priority Issue: Water Quality

Strategy	State and Private Forestry Programs that Contribute	Funding Need	National Themes and Sub-Themes Addressed	Forestry Program for Oregon Goals Addressed	Coordination
<i>OPPORTUNITY -- Maintain and restore forest riparian and wetland conditions on agricultural and range lands.</i>					
Provide technical and financial assistance in management planning.	Forest Stewardship Program	\$8,000/yr cost share \$8,000/yr technical assistance	Enhance Public Benefits from Trees and Forests – Protect and Enhance Water Quality and Quantity	Goal D – Protect Soil and Water Quality	USDA Natural Resources Conservation Service, Soil and Water Conservation Districts, professional forestry consultants and other state and federal agency resource management planning requirements.
Coordinated resource management planning “one stop” web based tool kit that meets agricultural, forestry and fish and wildlife management planning requirements (e.g., core template, “add ons” templates by resource emphasis, geographic information system (GIS) plan development and tracking tools.	Forest Stewardship Program	\$70,000	Conserve Working Forests – Actively and Sustainably Manage Forests	Goal A – Legal / Institutional Economic Framework. Goal B – Provide Diverse Social and Economic Benefits.	Piggyback on existing Western Competitive Grant Uniform Plan Project (Oregon Forest Resources Institute, Oregon State University Forestry Extension, Oregon Tree Farm Program, USDA Natural Resource Conservation Service)
Steer cost-share programs to implement specific water quality protection measures such as restoring geomorphological stream functions, riparian forest conditions, wetlands and off channel habitats on agricultural, range and private family forestlands.		TBD	Enhance Public Benefits from Trees and Forests – Protect and Enhance Water Quality and Quantity	Goal D – Protect Soil and Water Quality	Environmental Quality Incentives Program (USDA Natural Resource Conservation Service); Oregon Watershed Enhancement Board Grant Programs, Forest Resource Trust.

Oregon's Resource Strategy – Federal Fiscal Years 2011 thru 2015
Coordinated Investment to Address Priority Forest Issues

Priority Issue: Water Quality

Strategy	State and Private Forestry Programs that Contribute	Funding Need	National Themes and Sub-Themes Addressed	Forestry Program for Oregon Goals Addressed	Coordination
<i>OPPORTUNITY -- Interagency coordination for monitoring forest pesticide use effects on water quality.</i>					
Update the 1995 Memorandum of Agreement between the Oregon Department of Forestry and the Oregon Department of Agriculture regarding the regulation of pesticide use on state, private and local government forestlands.		TBD	Enhance Public Benefits from Trees and Forests – Protect and Enhance Water Quality and Quantity	Goal D – Protect Soil and Water Quality	Oregon Department of Agriculture, Regional Forest Practices Committees.
Develop Pesticide Stewardship Partnerships to monitor current use forest pesticides in surface waters, identify streams with elevated pesticide concentrations, develop and implement voluntary best management practices to correct problems and conduct following monitoring to measure results with respect to water quality improvements.		TBD	Enhance Public Benefits from Trees and Forests – Protect and Enhance Water Quality and Quantity	Goal D – Protect Soil and Water Quality	Oregon Department of Environmental Quality

Oregon's Forest Resource Strategy Federal Fiscal Years 2011 thru 2015

Coordinated and Strategic Investment of USDA Forest Service State and Private Forestry Programs

BACKGROUND

Oregon has a proactive history in developing forestry programs for Oregon. Early efforts date back more than a century ago when the Oregon State Legislature established Oregon's first citizen advisory board on forestry in 1907. That Board became permanent in 1911 coincident with the availability of federal funding for watershed and forest protection through the federal Weeks Law. Initial concerns centered on wildfire protection, forest information and reforestation. Passage of the Clarke-McNary Law in 1924 gave Oregon another federal funding boost to expand forestry programs. By 1929, Oregon had well defined fire protection districts, a state run forest nursery and had passed pioneering statutes in reforestation tax law and forest insect pest control. Currently, the Department's Fire Protection Program provides for wildfire protection on about 15.8 million acres of Oregon forestland, having an estimated value at risk of more than \$60 billion. The majority of this forestland is in private, state or federal U.S. Department of the Interior (USDI) Bureau of Land Management ownership. Program delivery is through a coordinated protection system which incorporates the resources of federal wildfire agencies, other state agencies, city fire departments, rural fire protection districts, and private forest landowners.

Fire protection was the impetus for the Oregon Department of Forestry's organization in 1911, following the disastrous 1910 wildfires throughout the western U.S. In Oregon, the deadly Bandon Fire of 1936 and the series of Tillamook Burns in the late 1930s, 1940s and 1950s created a public demand to end large wildland fires. This led to expanded efforts at fire prevention and more aggressive initial attack and suppression. The decades of the 1950s, 1960s, and 1970s saw advancements wildfire technology and planning. In the mid-1980s, Oregon began an extended period of significantly below normal rainfall. Drought conditions led to increased tree mortality that increased fuel loadings on forestlands – especially forestlands in southwest and eastern Oregon. The build of fuels and dryness created severe burning conditions that persisted through the 1990s and into the first decade of the new millennium. In addition, population increases and demand for living and vacation residences in the forest have resulted in an expansion of the wildland-urban interface and its potent mix of dwellings in forested areas. As a result wildfires have increased in acres burns, intensity, suppression costs and resource and public safety loss. Since 2001, six of the last 9 fire seasons have been severe and way above average.

Forestry assistance began in the 1940's with the development of a farm forestry program and passage of the Oregon Forest Conservation Act in 1941. An underlying principle established by

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the act that continued to guide forest policy through the establishment of the Oregon Forest Practices Act in 1971 was assigning the public some rights to private forestry based upon the contribution that forests make toward the well-being of Oregon's citizens. Ensuring the continuous growth of timber on private forestlands was made public policy with the requirement that forests following timber harvest are regenerated using natural seed sources or planting. At the same time, Oregon also recognized that private landowners needed financial incentive to ensure forestlands were being used to their full potential. Oregon has long recognized the importance using tax law to create incentives for forest management – beginning with the Western Oregon Small Tract Option Tax Law in 1961. This law, as well as the reforestation tax credit and Forest Resource Trust statutes passed in the early 1990's, created incentives for converting lands capable of supporting forests and the continuous growth of timber back into forests and managed to their full productive potential in forestry use.

The Cooperative Forestry Assistance Act of 1978 revised the authorities of the Clarke-McNary Act and related statutes to enable the U.S. Department of Agriculture (USDA), Forest Service, to provide assistance to private forest landowners through state forestry agencies in areas like forest management and stewardship, fire protection, insect and disease control, reforestation and stand improvement, and urban forestry. Oregon passed its own Woodlands Management Act in 1979 to encourage long-term forestry investments and promote improved management of Oregon's forestlands with a particular emphasis on family forestland assistance. The act also created the State Forest Seed Bank which provided for the supply and maintenance of forest tree seed for sale to public, state and private forestland and forest nursery owners. Add similar federal farm bill authorities vested in the USDA Farm Services Agency and the USDA Natural Resource Conservation Service and you have the genesis of the federal-state partnership for delivering landowner assistance to private forestlands – especially family forestlands. Examples include cost-share assistance through the Agricultural Conservation Program (ACP) of the 1980s; the Forestry Incentive Program (FIP) and Stewardship Incentives Program (SIP) of the 1990s; and the Forestland Enhancement Program (FLEP) of the early 2000's. Passage of the 2008 Farm Bill concentrated private forest landowner cost-share assistance in the Environmental Quality Incentive Program (EQIP) administered by the Natural Resource Conservation Service. Similar farm forestry landowner assistance program that are also still funded and in operation today are the Farm Services Agency's Conservation Reserve Program (CRP), Conservation Reserve Enhancement Program (CREP) and Biomass Crop Assistance Program (BCAP); and the Natural Resource Conservation Service's Wildlife Habitat Incentive Program (WHIP) and Conservation Stewardship Program (CSP).

PURPOSE

The purpose of Oregon's Forest Resource Strategy is to coordinate the investment of federal USDA Forest Service State and Private Forestry programs with other federal, state and non-governmental programs so as to leverage their combined effectiveness in addressing the following priority forestry issues identified in Oregon's Statewide Forest Assessment.

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- Communities at Risk of Wildfire
- Maintaining the Forestland Base
- Diversity of Upland Habitats
- Invasive Species
- Quality of Aquatic Habitats

The USDA Forest Service State and Private Forestry programs that are within the Resource Strategy's scope are: Community Forest, Forest Health Protection, Forest Legacy, Forest Stewardship, National Fire Plan, State Fire Assistance, Tree Improvement, Urban and Community Forestry, Voluntary Fire Assistance, and Wildland Urban Interface. In addition, the Resource Strategy contains the required components and elements to fully described Oregon's Forest Legacy Program and replaces Oregon's 2001 Assessment of Need.

The Resource Strategy proposes specific ideas about how State and Private Forestry programs can be used in coordination with each other over the next 5 years and identifies the funding resources needed for implementation. Strategic program delivery is described with respect to the priority forest areas identified in Oregon's Statewide Forest Assessment.

STATE AND PRIVATE FORESTRY PROGRAM ELEMENTS

Community Forest and Open Space Conservation Program

Scope -- The Community Forest and Open Space Conservation Program provides grant funds to help local governments, tribes, and non-profit organizations acquire forest areas that are economically, culturally, and environmentally important to their community and threatened by development. Enrolled lands must develop and implement a forest management plan that is crafted with community input using technical assistance provided by State Forestry agencies. Program objectives are:

1. To conserve important forestlands for their community benefits such as municipal water, recreation, open space, fish and wildlife habitat and support of local timber economies. The program is voluntary.
2. Provide opportunities for vocational-technical education in forestry and other forest-based education programs as well as active demonstration sites for model forest stewardship to educate private landowners about forest management.

Eligibility Requirements – Local governments, tribal governments and non-profit organizations interested in acquiring forestlands threatened with development. Eligible lands must demonstrate their importance to the community above and beyond their natural resource value. Public access is required once properties are acquired.

Matching Fund Requirements – Grant funds must be matched dollar for dollar (at least 50% of total costs) with non-federal funds.

Priority Forest Areas – Urban and Community Forestry HIGH and MEDIUM priority landscapes as identified in Oregon's 2010 Statewide Forest Assessment.

Guidelines – Not developed; new program.

Previous Plans Replaced – None.

Collaboration – Private forest landowners, land trusts, conservation organizations, landowner groups, cities, regional governments and tribes.

Performance Measures – Acres funded.

Forest Health Protection Program

Scope -- The Forest Health Protection Program provides statewide professional entomology and plant pathology expertise to a wide range of clients. The program works cooperatively with a number of federal and non-federal partners to design and execute detection, monitoring, and evaluation surveys; provide technical advice and support to clients on forest health issues; prepare and disseminate reports and research on survey and project findings; and to administer and coordinate forest health cost-share and project funds.

Program objectives include:

1. Detection, Monitoring, and Evaluation: Plan, organize, and implement aerial and ground surveys to provide current information on the presence, location, and trends of native and non-native/invasive insects, diseases, and other damaging agents.
2. Technical Assistance and Support: Serve as a technical advisor to a diversity of clients. Develop and conduct training programs as needed. Assist in the planning and implementation of prevention, suppression, and treatment/eradication forest health projects.
3. Research and Reporting: Summarize, interpret, and disseminate updated survey results to clients to assist in conducting appropriate management. Collect and synthesize research findings to develop technical publications on forest health issues and management guidelines.
4. Administration and Coordination: Represent the Department and state on local, national, and international councils and conference committees. Assist in developing and administering forest health cost-share and research project funding received from various granting agencies.
5. Control and Eradication: Coordinate with federal and other state agencies to conduct emergency control efforts for damaging pest agents as well as early detection and eradication programs for unwanted invasive pests such as Asian long-horned beetle, gypsy moth and the sudden oak death pathogen, *Phytophthora ramorum*.

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Current state and federal program areas include Forest Health Prevention (cost-share assistance for bark beetle prevention), Insect and Disease Eradication (Asian longhorn beetle, gypsy moth, sudden oak death), Statewide Aerial Insect and Disease Survey, Forest Health Monitoring (bear damage surveys, ozone damage surveys, sudden oak death early detection surveys, swiss needle cast aerial survey), Cooperative Research (sudden oak death, ips bark beetles, alder/aspen health), and Forest Insect and Disease Management (technical assistance to forest landowners).

Eligibility Requirements -- The Forest Health Protection program serves a wide variety of clients including local, state, and federal government entities, forest landowners as well as private individuals and organizations. Detection, monitoring, research, and treatment/eradication efforts are conducted in association with many partners through funds provided by state, federal, and private cooperators. Technical assistance is provided to all clients as needed.

Matching Funds -- Non-federal cost sharing is usually a requirement for receiving funds.

Priority Forest Areas – For the Forest Insect and Disease Management program areas, special consideration and preference is given to eligible landowners and lands that fall within High General Forest Consideration priority forest landscapes as identified in Oregon's 2010 Statewide Forest Assessment. The Statewide Aerial Insect and Disease Survey includes all forestlands. Forest Health Monitoring, Cooperative Research, Forest Health Prevention and Insect and Disease Eradication programs are topic specific in their identification of priority forestlands.

Guidelines – To be determined.

Previous Plans Replaced – None.

Collaboration -- The Forest Health Protection program seeks to further develop and sustain partnerships with state, local and private entities to pursue shared goals. Our partners include: Oregon State University, Oregon Department of Agriculture, USDA Forest Service Pacific Northwest Research Station, Oregon Department of Fish and Wildlife, Oregon Invasive Species Council, Oregon Watershed Enhancement Board, The Nature Conservancy, Klamath-Lake Forest Health Partnership, Oregon Forest Industries Council, The Collins Companies, Jeld-Wen Timber Resources, The City of Brookings, and many individual private forest landowners.

Performance Measures

- *Oregon Indicator of Sustainable Forest Management, F.a. - Tree mortality and damage to Oregon forests from insects, diseases, and other agent.* Measured by the percent of forest lands without significant tree damage and mortality as assessed by the annual statewide aerial surveys. Supporting measurements include remote sensing, specialize aerial surveys, ground surveys and USDA Forest Service Forest Inventory and Analysis Forest Health Monitoring plots. Trend: Stable or decreasing levels of statewide significant damage and tree mortality.

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- *Oregon Indicator of Sustainable Forest Management, F.b. - Invasive species trends on forest lands.* Measured by the Oregon Invasive Species Council annual exclusion and containment report for invasive species; aerial/ground survey estimates of area affected by recently introduced and established invasive insects and diseases. Trend: A stable or decreasing forest acreage affected by invasive species.

Forest Legacy Program

Scope -- Oregon's Forest Legacy Program addresses privately owned forestlands that face threats to conversion to non-forest use by urbanization, rural residential development, parcelization and other development pressures. Forest Legacy provides funds for the purchase of development rights to eligible private forestlands through either conservation easement or fee-title acquisition into public ownership. The goal of the program is to maintain working forests that conserve important commodity as well as non-commodity forest resources and conservation values such water flows and quality; fish and wildlife habitat (especially for threatened and endangered species); stores of carbon; and biodiversity. In addition, the Forest Legacy Program promotes stewardship and sustainable management of private forest lands. All properties entered into Oregon's Forest Legacy Program – either through conservation easement, fee acquisition or donation – have their forest resources and conservation values protected and managed in accordance with a State Forester approved Forest Stewardship Plan. The program operates in areas where forests may be lost to non-forest uses and seeks projects that strengthen local communities through state, local and private partnerships in forest conservation. Landowner participation in the Forest Legacy Program is voluntary.

Oregon entered the Forest Legacy Program in 2001 with approval by the U.S. Secretary of Agriculture of Oregon's Assessment of Need. However, due to political concerns about the federal government facilitating the acquisition of interests or fee title of private forestlands, Oregon did not receive State legislative authority to implement the program fully until 2007. Oregon's 2001 Assessment of Need was based on the following key bets:

- Oregon's statewide land use planning laws effectively protected commercial forestlands – especially large tracts of industrial private forestlands – from non-forest conversion.
- Under Oregon's land use planning laws, development pressures consisted mostly of expanding urban and existing rural-residential area, and an increase in the number of structures placed on lands in forest use.
- Mostly non-commercial forest types were threatened by development: oak woodlands and savannas, bottomland gallery riparian forests, and ponderosa pine woodlands.

Since that time, the key bets have changed due to the following:

- Oregon citizens engaged in a public and political debate about the rights of property owners versus the public's right to enforce environmental and other land use laws. The debate led to the passage of Oregon Ballot Measure 37 in 2004 – which modified

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administrative processes for protection of agricultural and forest land uses from development. While Measure 37 was modified in 2007 by the passage of Oregon Ballot Measure 49 (which provided more land use protection for high valued forest and farmland) – land use planning in Oregon had still changed. Time will tell if large tracts of forestland – including private industrial forests – will remain effectively protected from non-forest conversion under Oregon's current system of land use planning. These controversies and resulting political pressure regarding Oregon's land use planning will likely not abate.

- The legal structure and management objectives of Oregon's private industrial forest landowners changed with the formation of Timber Investment Management Organizations and Real Estate Investment Trusts. These business entities now managed commercial forestland holdings for investment return including the disposition of parcels with higher and better use than forestry. The disposition of large tracks of forestland by individual parcels to owners with non-forest interests (such as resorts, second homes or forested ranches) – which has become to be known as parcelization – is a leading indicator of eventual forest development to rural residential land use.
- The loss of federal timber has resulted in a loss of manufacturing infrastructure – especially in eastern Oregon. Reduced competition for logs has resulted in lower timber prices for private forest landowners, making continued forest ownership and investment less economically viable.

The National Forest Legacy Program strategy has also been updated since the time Oregon completed its Assessment of Need. In particular:

1. *Strategic* -- Forest Legacy Program projects contribute to regional, landscape, or watershed-based efforts to protect important private forests, regardless of tract size
2. *Strategic* -- Forest Legacy Program projects address clear conservation priority issues by being strategically linked to other protected lands to create a cumulative conservation effort.
3. *Importance* – Forest Legacy Program projects conserve forests that protect the nation's waters; that provide economic opportunities from forest-based products; and protect, maintain and/or enhance habitats for native fish, wildlife, and plants.
4. *Threatened* -- Slow the rate of conversion and parcelization of environmentally and economically important private forestlands through federal, state, local, landowner and private (including non-governmental land trust organizations) partnerships that allow local communities retain working forests.

As a result of these changes, Oregon has revised its program objectives for the Forest Legacy Program (changes from the 2001 Assessment of Need are indicated in italics):

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1. *Focus efforts where large areas of private industrial forest land face threats from parcelization so communities can maintain their working forests prior to having these forestlands face immediate threats to non-forest development.*
2. Reinforce and expand upon existing networks of *publically owned* forest land.
3. Protect important site-specific and unique, declining or rare ecological, social and/or economic forest resources such as oak woodlands and savannas, bottomland hardwood gallery forests and ponderosa pine woodlands.
4. Encourage private forest landowners to work with communities, agencies, businesses and nongovernmental organizations so as to strengthen their management of forest resources; *and in turn, encourage communities, agencies, businesses and nongovernmental organizations to work with private forest landowners to protect important working forests the community depends on.*
5. Secure additional conservation investments in private forestland especially those identified as important in state conservation plans such as *the Oregon Conservation Strategy, the Oregon Plan for Salmon and Watersheds, and HIGH Conservation of Fish and Wildlife priority forest landscapes as identified in Oregon's 2010 Statewide Forest Assessment.*

As a result of these changes, Oregon updated its Forest Legacy Areas (Appendix). The Metro Forest Legacy Area has been dropped because the objectives for this Forest Legacy Area are much more in alignment with the newly authorized federal Community Forestry Program. The remaining 35 potential Forest Legacy Areas identified in the 2001 Assessment of Need are now included; with their boundaries adjusted to include large tracts of private industrial forestland proximate to public forestlands. A 36th Forest Legacy Area has been added for Grant County.

Eligibility Requirements – Forestlands must be privately owned and located within one of Oregon's Forest Legacy Areas to be eligible for Forest Legacy Area program funding. In addition, in order to receive Forest Legacy Program funds, Oregon's Forest Legacy Program projects must meet the following conditions before funds can be transferred at closing:

1. Dedicated funding source for both management and monitoring of the properties to be included in the Forest Legacy Program. The dedicated funding source can be in terms of dedicated funds within government agency budgets in the case of public acquisition of forestlands or a management and monitoring endowment fund controlled by the holder of conservation easements acquired as part of, or donated to, the Forest Legacy Program.
2. Protection, management and/or enhancement of the property's important forest resources and conservation values (as identified in the project's application to the Forest Legacy Program) follows a written Forest Stewardship Plan approved by the State Forester that will be periodically reviewed and updated overtime.

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3. Assurances that the acquired properties, or acquired interests in properties, using Forest Legacy Program funds (or donated to the Forest Legacy Program), protect the federal interests in those properties. Such assurances must ensure that the landowner and/or conservation easement holder will not dispose or, modify the use of, or change the terms of the real property title or acquired interest in the real property, without the permission and instructions from the federal Forest Legacy Program.

Matching Fund Requirements – There is a 25 percent non-federal cost share requirement.

Priority Forest Areas – The priority forest areas for Oregon's Forest Legacy Program are the Forest Legacy Areas as depicted in the Appendix.

Guidelines – Operation of the Forest Legacy Program in Oregon must follow the *FINAL [National] Forest Legacy Program Implementation Guidelines* (June 30, 2003) and additional requirements specific to Oregon as contained in this Resource Strategy. State Forest Legacy Program Managers are encouraged to use the national *Forest Legacy Program User's Guide* (June 2006) as an additional source of information including references, examples, and tips for implementing the Forest Legacy Program.

Appraisals must comply with the *Uniform Appraisals Standards for Federal Land Acquisitions* (also known as the "yellow book" standards) as amended or updated. Appraisals and appraisal reviews must be done by a qualified appraiser meeting the minimum qualifications contained in the *FINAL [National] Forest Legacy Program Implementation Guidelines* (June 30, 2003).

To be approved by the State Forester, Forest Stewardship Plans, must meet the *Oregon Forest Stewardship Planning Guidelines* (see: <http://egov.oregon.gov/ODF/privateforests/docs/StewardshipPlanGuidelines.pdf>) and *Oregon Forest Stewardship Plan Template for use with the Oregon Forest Stewardship Planning Guidelines* (see: <http://egov.oregon.gov/ODF/privateforests/docs/StewardshipPlanTemplate.pdf>).

Forest Legacy Program Option -- Oregon selects the "State Grant Option" for implementing the Forest Legacy Program. The State Lead Agency is the Oregon Department of Forestry.

Previous Plans Replaced -- Oregon's 2010 *Statewide Forest Assessment* and Oregon's *Forest Resource Strategy – FY 2011 thru FY 2015* functions as Oregon's 2010 Assessment of Need and replaces the *Oregon Forest Legacy Program Assessment of Need* (September 2001).

Collaboration – Private landowner participation in the Forest Legacy Program is strictly voluntary – so without the interest and vision of private forestland owners to conserve their lands for forestry purposes in perpetuity, there would be no Forest Legacy Program. Land trusts, conservation organizations, landowner groups and other state and federal natural resource agencies are key partners in conducting program outreach to private landowners and for developing Forest Legacy Program projects. The Land Trust Alliance is a key partner by holding national and regional conferences on protecting lands for conservation purposes and for maintaining The Learning Center – a document library and online training resources regarding

“best management practices” for developing conservation easements and acquiring lands for conservation purposes. The Forest Legacy Program works in partnership with the Forest Stewardship Program in that the Forest Legacy Program requires that participating forestlands be managed under a written forest management plan approved by the State Forester.

There is opportunity for the Forest Legacy Program to serve as a catalyst for developing a coordinated strategy for State of Oregon natural resource agencies such as Oregon Parks and Recreation, Oregon Watershed Enhancement Board, Oregon Department of Fish and Wildlife and the Oregon Department of State Lands to hold conservation easements as a means to protect resources and conservation values on unique properties as well as working farms and forests. Oregon needs to develop uniform standards for holding and monitoring conservation easements and the program guidelines and other requirements of the Forest Legacy Program can serve as a suite of “best management practices” of which to operate by.

Performance Measures

- *Annual Accomplishments.* Measured by:
 - Number of Forest Legacy Program project applications approved by the State Forest Stewardship Coordinating Committee for national evaluation. Target: 3.
 - Number of Oregon Forest Legacy projects selected for incorporation in the President's budget request for Forest Legacy. Target: 1.
 - Number of funded Forest Legacy Program projects monitored. Target: 100%.
- *Agency.* Measured by:
 - Number and acres of private forestland protected from conversion to non-forest use through Forest Legacy Program funded or donated conservation easements.
 - Number and acres of private forestland protected from conversion to non-forest use through fee title acquisition by state and local governments.
 - Principle and available interest of monitoring and management endowment funds for Forest Legacy Program funded or donated conservation easements.

Forest Stewardship Program

Scope -- The purpose of the Forest Stewardship Program is to encourage the long-term sustainable management of family forestlands by assisting the owners of such lands to develop and implement a plan to actively manage their forest and related resources according to their objectives. The Forest Stewardship Program provides financial cost-share and supporting technical assistance to landowners in management planning – the process of identifying landowner objectives, assessing forest conditions and opportunities and the scheduling of forestry activities to meet landowner objectives including agroforestry applications, commercial

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timber harvest, timber stand improvement, water quality protection, and fish and wildlife habitat protection, enhancement or restoration practices. Participation is voluntary.

Program objectives are to achieve the USDA Forest Service State and Private Forestry National Themes and Objectives on family forest and other non-federal forestlands:

1. **Conserve Working Forest Lands:** conserving and managing working forest landscapes for multiple values and uses.
2. **Protect Forests from Harm:** protect forests from threats, including catastrophic storms, flooding, insect or disease outbreak, and invasive species.
3. **Enhance Public Benefits from Trees and Forests:** including air and water quality, soil conservation, biological diversity, carbon storage, and forest products, forestry-related jobs, production of renewable energy, and wildlife.

Eligibility Requirements – Forest landowners that are private individual, family, group, association, corporation, Indian tribe or other private legal entity, such as Alaska Native corporations, are eligible for Forest Stewardship Program assistance. Eligible lands include lands with existing tree cover as well as lands absent of tree cover but suitable for growing trees. Participating landowners agree to manage their property according to an State Forester approved Forest Stewardship Plan.

Matching Fund Requirements – There is a 50 percent non-federal cost-share requirement for receiving funds.

Priority Forest Areas – Special consideration and preference is given to eligible landowners and lands that fall within High General Forest Consideration priority forest landscapes as identified in Oregon's 2010 Statewide Forest Assessment.

Guidelines – Program delivery must follow the USDA Forest Service, State and Private Forestry, Cooperative Forestry *Forest Stewardship Program National Standards and Guidelines* (Revised, February 2009). (See: http://www.fs.fed.us/spf/coop/library/fsp_standards&guidelines.pdf). To be approved by the State Forester of Oregon, Forest Stewardship Plans, must meet the *Oregon Forest Stewardship Planning Guidelines* (see: <http://egov.oregon.gov/ODF/privateforests/docs/StewardshipPlanGuidelines.pdf>) and *Oregon Forest Stewardship Plan Template for use with the Oregon Forest Stewardship Planning Guidelines* (see: <http://egov.oregon.gov/ODF/privateforests/docs/StewardshipPlanTemplate.pdf>).

Previous Plans Replaced – *Oregon's 2010 Statewide Forest Assessment* and *Oregon's Forest Resource Strategy – FY 2011 thru FY 2015* updates and replaces the *Oregon State Priority Plan 2003-2007* and the *Oregon Spatial Analysis Project* (June 2006).

Collaboration -- Forest management planning assistance offered through the Forest Stewardship Program provides landowners with enhanced access to other landowner assistance and forest certification programs. At present, State Forester approved Forest Stewardship Plans are recognized or required by the following programs: Forest Legacy (required), USDA Natural

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Resource Conservation Service's Environmental Quality Incentives Program (EQIP) (recognized in most cases), the Oregon Tree Farm System (recognized) and the Northwest Natural Resource Group's Northwest Certified Forestry programs (recognized).

Other collaborators include consulting foresters (plan writers), Oregon Association of Consulting Foresters (professional standards), Oregon State University Forestry Extension (outreach and training); Oregon Tree Farm System (outreach and certification); Forest Stewardship Council (certification); Oregon Small Woodlands Association (education and outreach); and the Oregon Forest Resources Institute (education, outreach and training).

Performance Measures

- *Annual Accomplishments*. Measured by:
 - Number of landowners who have received technical assistance.
 - Number of landowners who have participated in educational programs.
 - Number of and total acres covered by approved new or revised Forest Stewardship Plans.
- *Performance Measurement Accountability System (PMAS)*. Measured by:
 - Number of and total acres covered by current Forest Stewardship Plans
 - Percent of current Forest Stewardship Plans that are being followed.
- *Agency –*
 - *Key Performance Measure 7.b – Acres of non-industrial private forestlands managed under an approved certification system, stewardship agreement, or other approved management plan including wildlife habitat conservation and management plans.*
Target: 4,700,000 in 2011.
 - Percent of current Forest Stewardship Plan acres within High General Forest Consideration priority forest landscapes as identified in Oregon's 2010 Statewide Forest Assessment (Target – 60% by 2015)

State Fire Assistance Program

Scope -- The State Fire Assistance Program provides funding for state and local agency capacity in preparedness, prevention and suppression of wildfires including the development of new and improved fire control technologies, effective agency organization and interagency sharing of fire suppression resources. The State Fire Assistance Program supports activities related to development and implementation of statewide wildland fire management policies as well as the ongoing implementation of the 2004 Oregon Fire Program Review. The Fire Program Review contains a set of actions to ensure the continuation of efficient, cost-effective fire protection for Oregon's forests and the thousands of Oregonians who live, work and recreate there.

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Program objectives include:

1. *Program Preparedness and Development* – Provide for the administration and oversight of fire operation policies and resources to ensure effective prevention, planning and suppression of wildfires. Enhance organizational ability to scale up response to emergencies and critical needs in a timely manner. Ensure there are adequate numbers of trained firefighting crews available for dispatch through support of the Interagency Firefighting Crew Agreement. Support organizational capacity and readiness for rangeland protection associations that complement state Forest Protection Districts and federal lands.
2. *Training* – Conduct training and workshops that builds state and local agency capacity in preparedness, prevention and suppression of wildfires. Examples include Incident Command System (ICS) classroom and on-the-job training; work capacity training and pre-screening, inmate basic wildfire training, Resource Ordering and Status System (ROSS) training and specialized workshops in fire behavior, danger rating and prevention.
3. *Safety* – Funding for Personal Protective Equipment (PPE), camp shelter and individual fire shelter replacements. Through the Forest Environment Working Group, prepare pocket cards and web accessible fire weather and condition information.
4. *Forestland Classification* -- Develop tools and guidance for delineating those forestlands within the jurisdiction of state agency and protection district wildfire preparedness, prevention and suppression programs.
5. *Arson Patrol* – Develop partnerships (e.g., Oregon State Police) to conduct arson prevention patrols during fire season.

Priority Forest Areas – State Fire Assistance funds are expended on a formula basis dependent on organization assignments, preparedness and program development activities as determined by the Oregon Department of Forestry.

Eligibility Requirements – Funding stays within the Agency, or is distributed to cooperating firefighting agencies, to cover the cost of personnel and services and supply costs.

Matching Fund Requirements --

Guidelines – Agency.

Previous Plans Replaced – None.

Collaboration -- The State Fire Assistance Program works in partnership with many agencies and organizations such as the Oregon State Police, rural fire departments, rangeland protection associations, schools, State Department of Corrections, county commissioners, USDA Forest

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Service, USDI Bureau of Land Management, U.S. Fish and Wildlife Service, National Park Service, USDI Bureau of Indian Affairs), tribal governments, and forest landowners.

Performance Measures

- *Agency – Measured by:*
 - *Key Performance Measure 11* -- Percent of wildfires controlled at 10 acres or less.
Target: 97 percent.
 - *Key Performance Measure 12* -- Number of human caused fires per 100,000 people.
Target: 27.2

Tree Improvement Program

Scope -- The purpose of the Tree Improvement Program, both directly and cooperatively with other forest landowner organizations, is to ensure that the most appropriate and highest genetic gain forest tree seed is available and is used for reforestation purposes in Oregon.

Program objectives include:

1. Conduct reforestation activities on State Forests using well-adapted and genetically diverse seed from a variety of appropriate tree species consistent with current forest management plans and strategies and promote the use of such seed by Oregon's family forest landowners.
2. Develop or maintain a reliable seed source for the tree species and seed and breeding zones planted in significant quantities by State Forests and maintain a Forest Tree Seed Bank that provides family forest landowners with access to genetically-improved and other high-quality seed.
3. Capture the benefits of past investment in tree improvement by producing in a cost-effective manner targeted quantities of genetically-improved seed that is genetically diverse, well-adapted, and expresses desirable traits. Desirable traits include enhanced wood productivity and quality and tolerance to diseases.
4. Participate in cooperative second-generation tree improvement programs for Douglas-fir and western hemlock to further develop genetically improved forest trees that produce higher quantities of wood products of high quality while maintaining genetic diversity and adaptation and promoting forest health.
5. Ensure that the genetic resources of forest trees in Oregon adequately conserve adaptations and the long-term evolutionary potential of species.
6. Partner with the forest industry and other governmental agencies in forest genetics research that has the potential to yield benefits to State Forests and the people of Oregon in a cost effective manner.

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Eligibility Requirements -- Public and private forest landowners in Oregon.

Matching Fund Requirements – Desired.

Priority Forest Areas – Statewide, all forestlands. The Forest Tree Seed Bank will give special consideration and emphasis to meeting the needs of family forestlands falling within HIGH, MEDIUM and LOW Forestlands Vulnerable to Loss of Timber Markets priority forest landscapes as identified in Oregon's 2010 Statewide Forest Assessment.

Guidelines – Oregon Department of Forestry Genetic Plan (2004).

Previous Plans Replaced – None.

Collaboration -- Through both tree improvement and seed orchard cooperatives, this program collaborates very closely with forest industry, forest tree nurseries, Oregon Department of Forestry State Forests Division, Oregon State University, Oregon Small Woodlands Association, Oregon Forest Resources Institute, Private Forest Land Network, Willamette Valley Ponderosa Pine Conservation Association, Northwest Forest Tree Seed Certifiers Association, Northwest Seed Orchard Managers Association, and other state agencies in the Pacific Northwest.

Performance Measures

- *Agency* -- Forest tree seed produced in sufficient quantity and highest genetic gain available to meet the afforestation and reforestation needs of public and private forest landowners in Oregon. Measured by comparing the demand for forest tree seed to available seed produced. Target: Seed produced within ± 5 percent of seed demand.
- *Agency* -- Use of resources to accomplish cooperative tree improvement program objectives as efficiently and effectively as possible.

Urban and Community Forestry Program

Scope – The Urban and Community Forestry Assistance Program helps Oregonians improve their quality of life by promoting community investment in our urban and urban/rural forests. The program provides technical, financial, and educational assistance to help Oregon cities capitalize on the economic, environmental, and social benefits that trees provide. In partnership with the USDA Forest Service, the Department has a small staff of urban foresters working directly with communities providing a wide array of urban forestry advice and services.

Program objectives include:

1. **Public Awareness and Education:** Foster homeowner, public community and local or regional government understanding of the importance of Oregon's urban and urban-rural forests in providing a better place to live and work, a higher quality of life, and a healthier environment. Foster understanding of the unique care and management

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required to sustain these benefits over time. Call out and correct misconceptions about destructive tree care practices such as tree topping and severe root removal.

2. **Community Partnerships:** Facilitate the development of partnerships among diverse urban and community groups and organizations to work toward a common goal: the planting and caring of trees in their neighborhoods, schools and parks. Increased citizen participation in urban and community forestry activities is important to cultivating and maintaining community support for urban and urban-rural forests.
3. **Community Forest Management:** Ensure active management of urban and urban-rural forests. Active management of urban and urban-rural forests involves inventory, planning, care and monitoring. The scheduled maintenance and replacement of urban trees is just as important as the scheduled maintenance and replacement of other city infrastructure components.
4. **Information Distribution:** Develop state-wide and regional educational materials specific to the unique characteristics of Oregon's urban and urban-rural forests. Clear and understandable information is also important to cultivating and maintaining community support for urban and urban-rural forests.
5. **Program Administration and Monitoring –** Exhibit leadership by coordinating, managing, and monitoring state-wide community forestry efforts. Advocate for the complete development of urban and urban-rural forestry programs with respect to tree ordinances, professional staff, inventory-based management plans, and advisory committees. Provide training and assist with the development of urban forestry professionals and local leaders. Monitor program performance and incorporate needed changes to improve the effectiveness of urban and urban-rural forest programs.

Eligibility Requirements -- The Urban and Community Forest Assistance program serves a wide variety of clients. Since the Urban and Community Forestry Assistance Program was established in 1991, over 5,000 technical, financial, and education assistance interactions have been provided to Oregon's cities, municipal agencies and bureaus, civic organizations, schools and colleges, non-profit tree planting groups, community groups, and volunteer efforts. Smaller tax-exempt organizations such as civic, service, and fraternal clubs or community-based groups; and local units of government such as cities, counties, school and park districts, public universities and community colleges; soil and water conservation districts; and urban renewal districts are eligible for one-time reimbursable cost-share grants ranging from \$250 to \$2,500 from the Oregon Urban and Community Forestry Small Projects and Scholarships Fund. The purpose of the Fund is to help cover the expense of administrative, material, or educational expenses directly related to urban and community forestry projects that build local capacity, and to provide continuing education scholarships to organizations, volunteer groups, and cities.

Matching Fund Requirements – Desired.

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Priority Forest Areas – Forests and trees within cities and unincorporated urban areas that have attained either “Managing” or “Developing” in the federal Community Accomplishment Reporting System (CARS) are given highest priority. Second in priority are forests that fall on tax lots 1.5 to 20 acres in size within 5 miles of a city or unincorporated urban area that are in a wildland forest, mixed agriculture and forest or rural residential land use – as identified and mapped in Oregon’s 2010 Statewide Forest Assessment.

Guidelines – State and federal.

Previous Plans Replaced – *Oregon’s 2010 Statewide Forest Assessment* and *Oregon’s Forest Resource Strategy – FY 2011 thru FY 2015* updates and replaces *An Urban Forestry Plan for More Livable Oregon Communities "Managing Sustainable Community Forests"* – Oregon Department of Forestry and Oregon Urban and Community Forest Council, *Urban and Community Forestry Strategic Plan for 1998-2003*.

Collaboration – Cities, regional governments, community organizations, non-profits and volunteer groups are key partners – they form the organizational assets that the Urban and Community Forestry Assistance program works through to achieve program objectives. Watershed councils, Soil and Water Conservation Districts, Parks and Recreation Departments are important partners – especially in the urban-rural forested areas. The program also partners with the Environmental Protection Agency (EPA), Housing and Urban Development (HUD), Small Business Administration (SBA), Natural Resource Conservation Service (NRCS), Army Corp of Engineers and National Park Service (NPS) to in order to provide more resources to Oregon’s urban and urban-rural forests.

Education programs developed by the Urban and Community Forestry Assistance program partner with other professionals, trade groups and education organizations such as universities, community colleges, the International Society of Arboriculture and the World Forestry Center. The program has also begun to develop specific state-wide educational materials in conjunction with Oregon State University (OSU) Cooperative Extension Service.

Performance Measure

- *Key Performance Measure #4 (Oregon Department of Forestry)* - The percent of Oregon cities actively managing their urban forest resource. Target: 50% of Oregon’s cities and unincorporated urban areas. Trend: Increasing until target is achieved.

Voluntary Fire Assistance Program

Scope -- The purpose of the Voluntary Fire Assistance Program is to provide financial, technical, and other assistance to State Foresters to organize, train and equip rural fire departments to prevent and suppress wildfires. Objectives are program development and preparedness, safety, equipment (including communications) and training. The Voluntary Fire Assistance Program

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also supports The Federal Excess Personal Property program as a means to make lower cost federal surplus firefighting equipment available to rural communities.

Eligibility Requirements – To be eligible, rural fire departments must serve communities having no more than 10,000 people.

Matching Fund Requirements – There is a 50 percent non-federal cost share requirement for receiving funds.

Priority Forest Areas – Priority is given to the formation, preparedness, safety and other budget needs of rural fire departments within wildland urban interface areas as identified in completed Community Wildfire Protection Plans.

Guidelines – Agency

Previous Plans Replaced – None.

Collaboration – The Voluntary Fire Assistance Program works in unison with the Rural Fire Assistance Program funded through the U.S. Department of the Interior agencies: Bureau of Land Management, United States Fish and Wildlife Service, Bureau of Indian Affairs, and the National Park Service. Eligible rural fire departments may also get funding through U.S. Department of Homeland Security, Federal Emergency Management Agency (FEMA) firefighter assistance grants.

Performance Measures – To be determined.

Western States Fire Managers for Western Wildland Urban Interface Program

Scope – The purpose of the Western States Fire Managers Western Wildland Urban Interface Program is to provide assistance in fire prevention and fuels reduction to reduce the amount of life, property and natural resources lost to wildfire. Program objectives are:

1. *Improve Prevention in the Interface* -- Expand outreach and education about wildfire prevention in the wildland urban interface to reduce the wildfire risks to homes and private property. Coordinate, develop and distribute educational materials and the partnering between homeowners, communities, insurance companies and other government agencies. These programs (e.g., Firewise Communities) emphasize community responsibility for planning and emergency response, and homeowner responsibility for safer home construction and design, landscaping, and maintenance.
2. *Reduce Hazardous Fuels* – Plan and conduct fuel breaks, thinning, pruning, landscape modifications and other hazardous wildfire fuel reduction projects that modify or break up the fuels in such a way as to lesson catastrophic fire and its threat to public and firefighter safety and damage to property. Develop projects that are implemented across jurisdictional boundaries through coordination, collaboration and partnering.

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3. *Restore Fire-Adapted Ecosystems* – Plan, conduct and monitor landscape scale thinning, slash treatment, prescribed burning and other treatment projects to restore the role of wildfire in forest ecosystems and to improve forest and grassland health.
4. *Promote Defendable Space Around Homes and Structures* – Conduct safety inspections; demonstration projects; training and education of homeowners, officials and service personnel about providing space around homes and structures that will limit the spread of wildfire and provides a safer environment for defending homes and structures from wildfire. Foster fire safe groups and support community efforts to promote defendable space.

Eligibility Requirements – Funds are distributed to States on a competitive award basis. States must show the achievability, measurability and collaborative nature of projects. States must also show the longevity of projects and how their effectiveness will be monitored over time.

Matching Fund Requirements – There is a 50 percent non-federal cost share requirement for receiving funds.

Priority Forest Areas – Priority is given to hazardous fuel reduction projects identified in a Community Wildfire Protection Plan. The State will give special consideration to developing fire-adapted ecosystem restoration projects that fall within HIGH Communities and Risk of Wildfire priority forest landscapes as identified in Oregon's 2010 Statewide Forest Assessment.

Guidelines – State and federal.

Previous Plans Replaced – None.

Collaboration – The Western States Fire Managers for Western Wildland Urban Interface Program works in partnership with many agencies and organizations such counties, rural communities, forest and range protection associations, state and federal agencies, tribal governments, and forest landowners.

Performance Measures – To be determined.

- *Oregon Indicator of Sustainable Forest Management F.a. – Forest fuel conditions and trends related to wildfire risks.* Measured by evaluating the percentages of Oregon forestland by Fire Regime Condition Class and the percentages of Oregon forestland that will provide a surface fire type at the 90th percentile weather and wind for the region. Also measured by the acres of forestland treated to achieve either Fire Regime Condition Class 1 or to achieve a surface fire type at the 90th percentile weather and wind. Trend: Increasing rates of effective forest fuel treatments to improve resiliency to wildfire and an increasing area of Oregon forestland resilient to wildfire.

OTHER STATEWIDE PLANS and PROGRAMS

Community Wildfire Protection Plans

Scope -- Community Wildfire Protection Plans are authorized and defined in Title I of the 2003 Healthy Forests Restoration Act. Title I authorizes the Secretaries of Agriculture and the Interior to expedite the development and implementation of hazardous fuel reduction projects on federal lands managed by the USDA Forest Service and the Bureau of Land Management, when they meet certain conditions. Federal activities identified in Community Wildfire Protection Plan Wildland Urban Interface (WUI) areas are eligible for expedited federal environmental review.

Community Wildfire Protection Plans are generally developed by local governments with state and federal assistance in collaboration with other interested partners. Plans can take a variety of forms and may be as simple or complex as necessary, based on the specific needs and desires of the local community or county. In all cases, each plan should effectively address local forest and range conditions, values-at-risk, and priorities for action.

The minimum requirements for a Community Wildfire Protection Plans are:

Collaboration -- Local officials and state officials must involve federal agencies that manage land in the vicinity of the community and other interested parties, particularly landowners and other non-governmental stakeholders.

Prioritized Fuel Reduction – Plans must identify and prioritize areas for hazardous fuel reduction treatments on both federal and non-federal land and recommend the types and methods of treatment that, if completed, would reduce wildfire risk to the community.

Treatment of Structural Ignitability. Plans must recommend measures that homeowners and communities can take to reduce the likelihood that homes and structures catch fire during a wildfire such as providing defensible space.

Plans are agreed upon and approved by the applicable local government, applicable local fire departments and the state forestry agency.

Benefits of Community Wildfire Protection Plans are as follows:

- The opportunity to establish a locally appropriate definition and boundary for the community's Wildland Urban Interface (WUI) area.
- The requirement for federal agencies, when planning fuel reduction projects, to give priority to projects that provide for the protection of at-risk communities.
- Expedited National Environmental Policy Act (NEPA) procedures for federal agencies implementing fuel reduction projects identified in the plan.

Priority Areas – Oregon's Community Wildfire Protection Plan WUIs.

Supporting Information (see also The National Fire Plan)

- 1) *Preparing a Community Wildfire Protection Plan (National Association of State Foresters)* (see: <http://www.forestsandrangelands.gov/index.shtml>).
- 2) *Oregon's Community Wildfire Protection Plans* (see: <http://egov.oregon.gov/ODF/FIRE/FirePlans.shtml>).

Federal Land Management Plans

Scope – The federal government owns and manages about 60 percent of Oregon's 28.5 million acres of forestlands. The principle forest management agencies are the USDA Forest Service and Bureau of Land Management (BLM). In western Oregon the two agencies manage about 52 percent of the forestland, compared with 42 percent in private ownership, and 5 percent managed by the State. In eastern Oregon most of the BLM's ownership is rangeland, while the USDA Forest Service is by far the largest forest landowner. The federal agencies manage 72 percent of all forestland in eastern Oregon and 74 percent of the timberland (capable of producing more than 20 cubic feet per acre per year of wood fiber). Forest planning is required by law for federal forests. The National Forest Management Act (NFMA) prescribes the planning requirements for the National Forests administered by the USDA Forest Service. The Federal Land Policy and Management Act (FLPMA) sets the requirements for the BLM Resource Management Plans. Collectively these plans are referred to as federal land management plans. Another law, the Forest and Rangeland Renewable Resources Planning Act (RPA) requires federal agencies to assess the overall condition of federal, state, and private forests, at regular intervals and sets the larger context for the land management plans. The resources evaluated in RPA Assessments include fish and wildlife, water, forests, range, wilderness, outdoor recreation, and the effects of climate change on forest resources. Finally, the National Environmental Policy Act (NEPA) requires the evaluation of the environmental impacts of all federal plans and projects.

The federal land management plans provide the basic strategy for managing each unit of federal land (i.e., National Forest or Bureau of Land Management District). The plans articulate goals for the desired future condition of the landscape and identify issues of concern the agency will need to address to achieve those goals. A forest plan allocates lands among management areas, each of which will be managed for a particular mix of multiple uses. The forest plan also describes the constraints on site-specific projects such as timber sales and other forest management activities that may be proposed in a particular management area. The plans guide all natural resource management activities and establish management standards and guidelines. They determine resource management practices, levels of resource production, and the suitability of lands for resource management activities. The plans are to be revised from time to time when the Secretary finds conditions in a unit have significantly changed, or at least every fifteen years.

Priority Areas – Area of federal forest and rangeland under the jurisdiction of the USDA Forest Service and the USDI Bureau of Land Management.

Coordination with Other Statewide Plans -- The federal rules implementing the forest planning laws require that federal land management agencies include public participation as a central component in their planning processes. The law also requires the federal agencies to coordinate with other public planning efforts as they develop their forest plans. The agencies must give notice of the preparation of a plan to the affected state and local governments prior to initiating the planning process. Federal agencies are required to give consideration to the objectives of state and local plans, as expressed in their plans and policies; conduct an assessment of the interrelated impacts of these plans and policies; provide a determination of how each forest plan should deal with the impacts identified; and, where conflicts are identified, consider alternatives for their resolution. The land management plans must be consistent with state and local plans to the maximum extent consistent with Federal law.

Most land management plans in Oregon are severely out of date and have not been fully implemented. The forest plans were produced in the mid to late 1980s, and although they have been amended many times – including the 1994 “Amendments to Forest Service and Bureau of Land Management Planning Documents within the Range of the Northern Spotted Owl” (i.e., the Northwest Forest Plan) – the forest plans have never been fully revised as required by law. Many unsuccessfully attempts have been made to revise the forest planning rules or to revise the plans themselves; however, there is a general recognition of the need for forest plans, and work to revise them continues.

Many state and local plans and programs are newer than the federal land management plans, and therefore, their policies and objectives have not been incorporated into the federal plans. Overtime as the Statewide Forest Assessments evolve to include more information from other state plans and programs, the Statewide Assessments could provide a vehicle to identify state programs and provide information for coordination between state and federal plans.

Coordination with USDA Forest Service State and Private Forestry Programs -- As a new cycle of land management planning begins there is an opportunity to coordinate the analysis in the new plans with the Statewide Forest Resource Assessments and Strategies (Assessments). But there is a larger opportunity to engage with National Forest System (NFS) programs and budgets to coordinate actions with state and private funds to achieve larger landscape scale goals. Forest plans must cover a lot of issues and are by their very nature complex and difficult for the average person to understand and therefore support. Assessments can be simpler, clearer and provide important communication tools to describe the issues and build public support for solutions.

Many forest issues cross ownership boundaries. Issues like wildfire, invasive species, insect epidemics, and water quality do not end at forest boundaries, but have profound effects upon neighboring lands from various environmental, social, political, and economic standpoints. USDA Forest Service Chief Tidwell has recognized the need for an “all lands” approach to address these issues. He has called on the USDA Forest Service to:

“... expand our mission and adapt a more “all lands” approach to addressing restoration. Through our State and Private Forestry programs, we have the responsibility to provide support and assistance to State and private lands, but we need to expand our efforts to ensure that we are using all of the USDA and other federal programs to address restoration issues across broader landscapes.”

Past forest management, changing public values, lack of clear, widely accepted goals, repeated court challenges, and the inability to implement decisions have led to a lack of trust between Oregon's public, stakeholder and landowner interests and federal forestland management and related federal laws such as the Clean Water Act and the Endangered Species Act. Future Statewide Forest Assessments need to build public trust and develop consensus on goals for forest land management on all of Oregon's forests. These goals will need to vary based on the underlying management objectives of the forest landowner. Realizing the advantages of these differences will require greater involvement from the federal land management agencies in collecting and analyzing data and setting shared priorities.

Supporting Information

- 1) *Achieving Oregon's Vision for Federal Forestlands*. A report of the Oregon Board of Forestry based on the recommendations of the Federal Forestlands Advisory Committee) (see: http://www.oregon.gov/ODF/BOARD/docs/FFAC_Color_Report_and_Cover_for_Web.pdf).
- 2) *Collaborative Forest Restoration Program* (see: <http://www.fs.fed.us/r3/spf/cfrp/>).
- 3) *All Lands Vision* (National Association of State Forester Briefing Paper) (see: <http://www.stateforesters.org/files/110309-NASF-All-Lands-Policy-Platform.pdf>).

Oregon Conservation Strategy

Scope – The Oregon Conservation Strategy (also known as the State Wildlife Action Plan) is a blueprint for conserving Oregon's natural resources for today and for future generations. One key product of the strategy is mapping Conservation Opportunity Areas – geographic areas of importance that guide where the state and its conservation partners, including landowners and land managers, can best focus conservation efforts for native fish and wildlife. The objectives of the Oregon Conservation Strategy are:

- Encourage voluntary conservation and recognize existing conservation efforts.
- Expand the success of the Oregon Plan for Salmon and Watersheds to upland areas.
- Provide a wide range of voluntary conservation tools to communities and landowners.
- Increase the effectiveness of existing, and identify needed, voluntary incentive programs.
- Provide an ecoregional and statewide context in which to address conservation needs.

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- Leverage limited conservation resources by:
 - Focusing conservation actions on the species and habitats of greatest priority.
 - Identifying activities that will provide the most benefit at the landscape scale.
 - Increasing coordination, collaboration, and partnership to achieve goals.
- Demonstrate how local conservation actions fit into a broader statewide strategy.
- Reducing the risk of future species listings by preventing species becoming imperiled.
- Provide a common conservation vision to guide state and federal agency efforts.
- Increase coordination between states to address issues of common concern.
- Involved citizens in conservation - from local clean-ups to citizen-based monitoring.
- Promote the ecosystem services provided by conserving fish and wildlife habitats.
- Demonstrate Oregon's commitment to conserve its species and habitats
- Safeguard how healthy ecosystems contribute to Oregon's high quality of life.

Priority Areas – Oregon's Conservation Opportunity Areas

Supporting Information (see also the Oregon Plan for Salmon and Watersheds)

- 1) *The Oregon Conservation Strategy*
(see: <http://www.dfw.state.or.us/conservationstrategy/contents.asp#a>).
- 2) *Oregon Conservation Opportunity Area Explorer*
(see: <http://nrimp.dfw.state.or.us/website/coaexplorer/viewer.htm>).

Oregon Forest Practices Act

Scope – The Oregon Forest Practices Act declares as public policy for Oregon that the leading use on privately owned forestland is the continuous growing and harvesting of forest tree species consistent with sound management of, and continuous future benefits from, soil, air, water, scenic and fish and wildlife resources. The Oregon Forest Practices Act is a framework of flexible regulation comprised of Oregon statutes and administrative rules designed to achieve this policy on non-federal (excluding tribal) forestland. Specifically, the Act comprises of statutory provisions for final harvest operations for leaving standing live, standing dead and down wood for wildlife and biodiversity, provisions for the management of scenic resources as well as statutory provisions for adopting best management practices for meeting water quality standards as those standards are adopted by the Oregon Environmental Quality Commission.

In fulfillment of the Act's remaining statutory obligations, the Oregon Board of Forestry has adopted several administrative rules for the Act: 1) planning of forest operations, 2) reforestation requirements, 3) treatment of slash, 4) chemical applications, 5) shallow, rapidly moving landslides and public safety, 6) forest roads including maintenance and reconstruction, 7) water protection for streamside areas, wetlands and lakes and 8) protection rules for specified

resource sites for sensitive birds, threatened and endangered fish and wildlife species, ecologically or scientifically significant biological sites and significant wetlands.

Priority Areas – Family forest and other non-industrial private forestlands falling outside of any tree ordinance jurisdictions established by cities or metropolitan regional governments are the highest priority for delivering limited education, technical assistance and enforcement resources. Private industrial forestlands and commercial county government forests not covered by a voluntary forest certification program such as the Sustainable Forestry Initiative are also high in priority. Certified private industrial and state owned forestlands are subject to resource management and protection standards that exceed Oregon Forest Practices Act requirements and as such fall into a lower priority for directing limited education, technical assistance and enforcement resources.

Coordination with Other Statewide Plans – Some of the Oregon Plan for Salmon and Watershed measures relating to the placement of large wood in streams, distribution of wildlife leave trees within riparian management areas, and hardwood conversions along streams are part of the Oregon Forest Practices Act. The Oregon Forest Practices Act's water protection rules define Oregon's best management practices for meeting Oregon water quality standards and form the basis for non-point sources of pollution from forestlands in Total Maximum Daily Loads.

Coordination with USDA Forest Service State and Private Forestry Programs – USDA Forest Service State and Private Forestry Programs provide financial and technical assistance so landowners can meet their management objectives for timber production and resource management above the minimum protection requirements of the Oregon Forest Practices Act.

Supporting Information

- 1) *The Oregon Forest Practices Act*
(see: <http://egov.oregon.gov/ODF/privateforests/docs/guidance/FPARulebk.pdf>).

Oregon Invasive Species Action Plan

Scope -- Invasive species are those plants, animals, and microbes not native to a region which, when introduced either accidentally or intentionally, out-compete native species for available resources, reproduce prolifically, dominate regions and ecosystems, and cause harm to people, the environment, and the economy. The goal of the Oregon Invasive Species Action Plan is to facilitate efforts to keep invasive species out of the state and find and eradicate invasions before they establish permanent footholds through exclusion, early detection and rapid response actions. Education and cooperation are key components of the plan.

In 2001 the Oregon State Legislature created the Oregon Invasive Species Council and charged the Council to develop a coordinated and comprehensive effort to keep invasive species out of

Oregon as well as eliminate, reduce, or mitigate the impacts that invasive species have on Oregon's ecologic, social and economic welfare.

Besides being responsible for developing and updating the Oregon Invasive Species Action Plan, the Oregon Invasive Species Council also:

- Releases an annual report card on invasive species in Oregon.
- Created, maintains, and promotes an invasive species reporting hotline [1-866-INVADER].
- Enhances awareness of invasive species through outreach and education.
- Administers funds to support outreach and education, and eradication efforts.
- Developed and maintains a list of Oregon's 100 most dangerous invasive species.

Priority Areas – Oregon's Conservation Opportunity Areas

Supporting Information

- 1) *The 100 Most Dangerous Invaders to Keep Out of Oregon*
(see: http://www.oregon.gov/OISC/most_dangerous.shtml).
- 2) *2009 Report Card on Oregon's Invasive Species Activities*
(see: http://www.oregon.gov/OISC/docs/pdf/oisc_reportcard2009.pdf).
- 3) *Oregon Invasive Species Action Plan*
(see: http://www.oregon.gov/OISC/docs/pdf/oisc_plan6_05.pdf).
- 4) *Oregon Invasive Species Council* (see: <http://www.oregon.gov/OISC/index.shtml>).
- 5) *2008 Oregon Invasive Species Council Summit*
(see: http://www.oregon.gov/OISC/docs/pdf/oisc_finalsummitreport08.pdf).
- 6) *Oregon Invasive Species Council Business Plan* (July 2008 through June 2009)
(see: <http://www.oregon.gov/OISC/docs/pdf/businessplan08.pdf>).

Oregon Land Use Planning Program

Scope -- Since 1973, Oregon has maintained a strong statewide program for land use planning that is unique nationally. The foundation of the program is a set of 19 Statewide Planning Goals (see sidebar). The goals express the state's policies on land use and related topics. Most of the goals contain guidelines about how a goal may be achieved.

Oregon's statewide goals are achieved through local comprehensive planning. State law requires each city and each of Oregon's 36 counties to adopt a comprehensive plan and the zoning and land-division ordinances needed to put the plan into effect. The local comprehensive plans must be consistent with the Statewide Planning Goals. Plans are reviewed for such consistency by the state's Land Conservation and Development Commission (LCDC). When LCDC officially approves a local government's plan, the plan is said to be "acknowledged." It then becomes the controlling document for land use in the area covered by that plan.

Oregon's 19 Statewide Planning Goals

- Goal 1 Citizen Involvement
- Goal 2 Land Use Planning
- Goal 3 Agricultural Lands
- Goal 4 Commercial Forest Lands
- Goal 5 Natural Resources, Scenic and Historic Areas, and Open Spaces
- Goal 6 Air, Water and Land Resources Quality
- Goal 7 Areas Subject to Natural Hazards
- Goal 8 Recreational Needs
- Goal 9 Economic Development
- Goal 10 Housing
- Goal 11 Public Facilities and Services
- Goal 12 Transportation
- Goal 13 Energy Conservation
- Goal 14 Urbanization
- Goal 15 Willamette River Greenway
- Goal 16 Estuarine Resources
- Goal 17 Coastal Shorelands
- Goal 18 Beaches and Dunes
- Goal 19 Ocean Resources

Local plans may be changed through plan amendments or periodic review. Plan amendments are smaller, unscheduled adjustments to a plan. Periodic reviews are broad evaluations of an entire plan that occur every four to 10 years. A plan may be modified extensively after such a review. Each plan is accompanied by a set of implementing measures. The two most common measures are zoning and land-division ordinances. Every city and county in Oregon has adopted such land-use controls.

Priority Areas -- The local comprehensive plan guides a community's land use, conservation of natural resources, economic development, and location of public facilities. Each plan has two main parts. One is a body of data and information called the inventory, background report, or factual base. It describes a community's resources and features. It

must address all of the topics specified in the applicable statewide planning goals. The other part is the policy element. That part of the plan sets forth the community's long-range objectives and the policies by which it intends to achieve them. The policy element of each community's plan is adopted by ordinance and has the force of law.

Coordination with Other Statewide Plans -- Oregon's planning laws apply not only to local governments but also to special districts and state agencies. The laws strongly emphasize coordination -- keeping plans and programs consistent with each other, with the goals, and with acknowledged local plans.

Coordination with USDA Forest Service State and Private Forestry Programs -- Oregon's land use planning program has proven to be a valuable tool in anticipating and addressing the State and Private Forestry Program national themes: conserving working forestlands, protecting forests from harm, and enhancing public benefits from trees and forests.

Supporting Information

- 1) *Oregon's Statewide Planning Goals* (see: <http://www.lcd.state.or.us/LCD/goals.shtml>).
- 2) *Land Use Change On Non-Federal Land In Oregon 1974-2005*.
(see: http://www.oregon.gov/ODF/RESOURCE_PLANNING/docs/Low_Res_Forest_Farms_8_9_09.pdf).

Oregon Plan for Salmon and Watersheds

Scope – Oregon began developing what eventually became known as the Oregon Plan for Salmon and Watersheds in 1995 as a state-led strategy for conserving salmon, trout or steelhead species listed or headed for listing under the federal Endangered Species Act. The original strategy, called the Oregon Coastal Salmon Restoration Initiative, was focused on recovery of coastal coho salmon and water quality statewide. In 1997, the Oregon Legislature funded the strategy by investing in agency staff to complete water-quality planning and to develop fish restoration activities, and by creating a fund for local restoration efforts on private lands. The Governor renamed the plan as the Oregon Plan for Salmon Recovery and Watershed Enhancement—the full name for what is now commonly known as the Oregon Plan for Salmon and Watersheds, or the Oregon Plan. In 1999, the Oregon State Legislature adopted key elements of the Oregon Plan as state law. Since then, the Oregon Plan has expanded to address native fish in all watersheds of the state and now, combined with the Oregon Conservation Strategy, is presently directed at addressing watershed health in all its complexity. Currently, the Oregon Plan for Salmon and Watersheds is being implemented through the development and adoption of Native Fish Conservation and Recovery Plans.

The Oregon Plan includes four strategic elements:

Coordination State and Federal Agencies to pursue salmon recovery and watershed health. However, with more than 60% of the core or historically best habitat for coastal coho salmon is in and around streams that flow through private lands, the Oregon Plan started and continues as a grassroots, locally driven effort. Local watershed councils, Soil and Water Conservation Districts, and other groups take the lead in assessing the need for, planning, and implementing watershed improvement projects. State and federal agencies are directed to provide regulatory, technical, and funding assistance to these local groups so that necessary projects can be implemented with local knowledge and ownership.

Local and Community Action is the most effective conservators are private landowners and the public users of land and water within Oregon's watersheds that have responsibility for all activities have a direct impact on salmon. Public outreach, education and awareness are key elements of the Oregon Plan.

Monitoring is developing and implementing a statistically sound observation and data collection system to document status and trends in fish populations and important

environmental conditions is necessary to evaluate changes, causes of changes, and effects of management decisions on fish and aquatic habitats.

Adaptive management outlines a process by which, based on information gathered from monitoring and research, appropriate modifications are made in policies, management decisions, voluntary actions and other activities designed to benefit salmon, aquatic habitats and water quality.

Priority Areas – Native fish conservation and recovery plans have been completed for the Oregon Coast Coho, Lower Columbia River salmon and steelhead, Mid-Columbia River Steelhead. The Upper Willamette River salmon and steelhead plan is under development.

Coordination with Other Statewide Plans – The Oregon Plan for Salmon and Watersheds is an integrated component of the Oregon Conservation Strategy. The Oregon Watershed Enhancement Board is the agency with primary responsibility for funding implementation of the Oregon Plan for Salmon and Watershed measures. The Oregon Watershed Enhancement Board works closely with watershed councils. The Oregon Department of Fish and Wildlife's Western Oregon Stream Restoration Program provides technical assistance to watershed councils and private landowners in western Oregon to implement measures that increase in-stream habitat complexity by adding large wood or boulders, enhancing riparian areas by protection or planting, and correcting fish passage problems.

Supporting Information

- 1) *The Oregon Plan for Salmon and Watersheds Website*
(see: <http://www.oregon-plan.org/OPSW/>).
- 2) *The Oregon Plan for Salmon and Watersheds – Archived Documents*
(see: <http://www.oregon-plan.org/OPSW/archives/archived.shtml#Anchor-Plan>).
- 3) *The Oregon Plan for Salmon and Watersheds: A Perspective*. Institute for Natural Resources Policy Paper 2003-03. (See: http://www.oregon-plan.org/OPSW/archives/2003_OR_plan.pdf).
- 4) *Oregon Coast Coho Conservation Plan*
(see: http://www.oregon-plan.org/OPSW/cohoproject/coho_proj.shtml).
- 5) *Oregon Native Fish Conservation and Recovery Plans*
(see: http://www.dfw.state.or.us/fish/CRP/conservation_recovery_plans.asp)
- 6) *Network of Oregon Watershed Councils* (see: <http://oregonwatersheds.org/>).
- 7) *Oregon Association of Conservation Districts* (see: <http://www.oacd.org/>).

Other Private Landowner Assistance Programs

Oregon Department of Agriculture

Noxious Weed Control Program – The Noxious Weed Control Program provides for statewide coordination and management of state listed noxious weeds through early detection and rapid response, biological control, inventory and survey, and education projects. The program also maintains noxious weed data and maps for priority listed noxious weeds, and provides assistance to land managers and cooperators with integrated weed management projects. The program coordinates with the Oregon State Weed Board including administering the Oregon State Weed Board Grant Program, maintaining the State Noxious Weed List, and developing Weed Risk Assessments. For more information, see: <http://www.oregon.gov/ODA/PLANT/WEEDS/programoverview.shtml>.

Oregon Department of Fish and Wildlife

Riparian Tax Incentive Program -- The Riparian Tax Incentive Program is offers a property tax incentive to property owners for improving or maintaining qualifying riparian lands. Under this program, property owners receive complete tax exemption for their riparian land up to 100 feet from a stream. To be eligible, a landowner and the Oregon Department of Fish and Wildlife must sign a riparian management plan and agreement. The management plan must detail measures the landowner will implement to preserve, enhance or restore the riparian area. For more information, see: http://www.dfw.state.or.us/lands/tax_overview.asp.

Oregon Department of Forestry

Forest Practices Afforestation Program Incentive – The Forest Practices Afforestation Program Incentive provides some regulatory relief under the Oregon Forest Practices Act to encourage landowners to convert agriculture, range and other non-forested lands capable of commercial forest production back to commercial forest. Regulatory relief is in the form of exempting the first harvest rotation from the Oregon Forest Practices Act's tree retention standards for wildlife and down wood as well as from the act's water protection standards; with the exception of a 20 foot riparian leave area along most streams. For more information, see:

<http://egov.oregon.gov/ODF/privateforests/IncentivesAfforestation.shtml>.

Forest Resource Trust – The Forest Resource Trust provides financial and technical assistance to farm and forest landowners for creating new forests, and for improving the management of existing forests, for timber, fish and wildlife habitat, water quality and purposes. The only program established under the Forest Resource Trust is the Forest Establishment Program for converting agricultural, range and brush lands back into commercial forest. The Forest Establishment Program operates as a revolving loan program where participants are required to pay back the amount of funds used should they profit from the forest in the future. The terms for repayment are favorable – interest is calculated as simple interest, repayments apply to principal first and there is no requirement to pay back monies if the landowner chooses not to harvest

timber. The Forest Establishment Program also serves as a voluntary carbon dioxide emission offset program having received \$1.5 million for this purpose in 1999. For more information, see: www.forestresourcestrust.oregon.gov.

Oregon Underproductive Forestland Conversion Tax Credit – The Oregon Underproductive Forestland Conversion Tax Credit provides a 50% state income tax credit for qualified forestation projects that convert agriculture, range and bush lands back into commercial forest.

Eligible costs that can be credited include the application fee, planting materials, labor excluding self-labor, and maintenance costs such as controlling competing vegetation or protecting seedlings from animal damage. For more information, see:

<http://egov.oregon.gov/ODF/privateforests/IncentivesTax.shtml>.

Oregon Watershed Enhancement Board

Grant Programs – The Oregon Watershed Enhancement Board offers several grant programs that provide funding to watershed councils and other government and non-governmental partnerships for projects and activities that improve rivers, lakes, streams, wetlands and fish and wildlife habitat. Grant program priorities for protecting, restoring and improving clean water and fish and wildlife habitat follow those set in the Oregon Plan for Salmon and Watersheds and the Oregon Conservation Strategy. Grants are awarded in the following categories: watershed assessment, education and outreach, land acquisition, restoration, monitoring, water acquisition, technical assistance and watershed council support. The Oregon Watershed Enhancement *Small Grant Program* is an easy-to-engage-in, competitive grant program that awards funds of up to \$10,000 for on-the-ground watershed restoration projects. For more information, see:

http://www.oregon.gov/OWEB/GRANTS/grant_app_materials.shtml#Forms_and_Materials_by_Type.

Property Tax Incentives

Forest Deferral – Forestlands in Oregon are eligible for a special property tax assessment or deferral if the property is used for the growing and harvesting of commercial forest species. The purpose of the deferral is to provide a financial incentive to property owners, in the form of reduced property values, for keeping their land in timber production. The program is administered by County tax assessors. The program has a potential tax payback liability if the forestland requirements are stopped from being met. For more information, see specific County tax assessor information on eligibility requirements for forest or farm deferral programs.

Wildlife Habitat and Conservation Management Program -- The Wildlife Habitat Conservation and Management Program is administered by the Oregon Department of Fish and Wildlife as a cooperative effort involving state and local governments and other partners to help private landowners voluntarily conserve native wildlife habitat. The program offers an incentive to private landowners who want to provide wildlife habitat on their properties instead of, or in addition to, farming, growing timber or other land uses. The program addresses the problem where maintaining important vegetative habitats – such as oak woodlands and savannas – fit

neither the requirements for special tax assessment under county farm or forest deferral programs. To be eligible for a wildlife habitat special property tax assessment, a county must have to opted into the program and the enrolled land must be managed in accordance to an approved wildlife habitat conservation and management plan. For more information, see: <http://www.dfw.state.or.us/lands/whcmp/>.

USDA Farm Services Agency

Biomass Crop Assistance Program – The Biomass Crop Assistance Program provides financial assistance to farm and forest landowners for the delivery of biomass material for use in biomass conversion facilities such as biomass energy, biofuels and other biomass end uses. Assistance is in the form of matching payments to cover the cost of collecting, harvesting, storing and transporting eligible materials. Eligible materials comprise most of agricultural crop residues as well as non-commercial forest residues arising from fuel reduction treatments on forestlands. Forest residues from National Forest and BLM forestlands are eligible. For more information see: <http://www.fsa.usda.gov/FSA/webapp?area=home&subject=ener&topic=bcap>.

Conservation Reserve Enhancement Program -- The purpose of the Conservation Reserve Enhancement Program in Oregon is to restore, maintain, and enhance streamside areas along agricultural lands to benefit fish, wildlife, and water quality. Landowners enrolled in the program receive annual rental payments, incentive payments, and cost share payments to install conservation measures such as planting trees and shrubs, installing fencing, livestock watering facilities, and other approved conservation measures. The program is delivered through a partnership with the Oregon Watershed Enhancement Board and local Soil and Water Conservation Districts. The Oregon Department of Forestry provides technical assistance for those projects featuring the restoration of forest riparian conditions. For more information see: <http://www.oregon.gov/OWEB/CREP.shtml>.

Conservation Reserve Program -- The Conservation Reserve Program provides technical and financial assistance to farmers and ranchers to address soil, water, and related natural resource concerns. The program is funded through the Commodity Credit Corporation . The program is delivered in partnership with the USDA Natural Resource Conservation Service. The program reduces soil erosion and sedimentation in streams and lakes, improves water quality, establishes wildlife habitat, and enhances forest and wetland resources by encouraging farmers to convert highly erodible cropland or other environmentally sensitive acreage to vegetative cover including forests. Farmers receive an annual rental payment for the term of the multi-year contract. Cost share assistance is provided to establish the vegetative cover practices such as forestation. The Oregon Department of Forestry provides technical assistance for those projects featuring the establishment of forest cover. Conservation Reserve Program agreements last for 10 to 15 years. For more information, see: <http://www.nrcs.usda.gov/programs/crp/>.

USDA Natural Resource Conservation Service

Conservation Stewardship Program – The Conservation Stewardship Program encourages farm and forest landowners to conserve soil, water, air and other natural resources by rewarding existing landowner investments in conservation plus providing additional financial assistance to undertake additional conservation activities. Financial assistance is in the form of annual payments to landowners. For more information see: http://www.nrcs.usda.gov/new_csp/.

Environmental Quality Incentives Program -- The Environmental Quality Incentives Program provides cost-share and related technical assistance to farm and forestry landowners for certain conservation practices including many forest management activities. Program practices and activities are carried out according to a plan of operations that identifies the appropriate conservation practice or measures needed to address the resource concerns. Landowners can receive technical assistance from non-governmental Technical Service Providers. Landowners must also have an approved Conservation Management Plan to be eligible. Forest landowners who have an approved Forest Stewardship Plan can meet this requirement under most circumstances. National program priorities are reducing non-point sources of pollution, conserving ground and surface water resources, reducing air pollutants, reducing soil erosion and sedimentation, and conserving habitats for at-risk fish and wildlife species. In Oregon, program funds are prioritized for allocation (including forestry) through Local Working Groups convened by the Soil and Water Conservation Districts. For more information, see: <http://www.nrcs.usda.gov/programs/eqip/>.

Healthy Forest Reserve Program – The Healthy Forests Reserve Program provides forest landowner a financial incentive for recovering threatened and endangered species, improving biodiversity and/or enhancing carbon sequestration. In Oregon, the focus of the program is to encourage landowners to manage their land for commercial timber harvest while promoting post harvest forest conditions that improve habitat for the threatened Northern Spotted Owl. Participation in the program requires landowners to enroll in a Stewardship Agreement with the Oregon Department of Forestry. By adopting a plan that benefits northern spotted owls above baseline owl habitat conditions, landowners will also received regulatory certainty with respect to the federal Endangered Species Act through Oregon's northern spotted owl safe harbor agreement. The program offers three enrollment options: 1) permanent easement, 2) 30-year easement and 3) restoration cost share agreement. For more information, see: <http://www.or.nrcs.usda.gov/programs/hfrp/>.

Wetlands Reserve Program -- The Wetlands Reserve Program offers landowners the opportunity to protect, restore, and enhance wetlands on their property. The program provides technical and financial assistance to farm and forest landowner for wetland restoration that achieves the greatest wetland functions and values, along with optimum wildlife habitat. This program also assists landowners with conducting long-term wetland conservation and wildlife habitat and protection practices. The program offers three enrollment options: 1) permanent easement, 2)

30-year easement and 3) restoration cost share agreement. The *Wetland Reserve Enhancement Program* is a component of the Wetland Reserve Program that leverages resources of eligible partners to protect, restore, and enhance high priority wetlands and improve wildlife habitat. For more information, see: <http://www.nrcs.usda.gov/programs/wrp/>.

Wildlife Habitat Incentive Program – The Wildlife Habitat Incentive Program provides technical and financial cost-share assistance to farm and forest landowners for practices that establish and improve fish and wildlife habitat. The maintenance period requirement of the practices implemented ranges from 1 up to 10 years from the date the last practice was implemented. Program priorities are practices that benefit declining or at risk fish and wildlife species as well as practices that address the control and removal of invasive species that impact fish and wildlife habitats. For more information, see: <http://www.nrcs.usda.gov/programs/whip/>.

US Fish and Wildlife Service

Landowner Incentive Program -- The Landowner Incentive Program (LIP) provides grant funds to states for the protection and restoration of fish and wildlife habitats on private lands that benefit federally listed, proposed or candidate species under the Endangered Species Act, or other species determined to be at-risk. The funds must be used to establish or supplement existing landowner assistance programs identified in a state's wildlife action plan. In Oregon, the program is administered by the Oregon Department of Fish and Wildlife. For more information, see: <http://wsfrprograms.fws.gov/subpages/grantprograms/lip/lip.htm>.

Partners for Fish and Wildlife – The Partners for Fish and Wildlife Program provides technical and financial assistance to conserve habitat and achieve habitat restoration on private lands for the benefit of federally listed, proposed or candidate species under the Endangered Species Act, or other species determined to be at-risk. Eight geographic focus areas have been identified for program delivery in Oregon: Willamette Valley, Lower Columbia River, John Day, Rogue-Umpqua-Coquille, Upper Deschutes, Warner and Chewaucan basins, Wallowa Mountains, and the Malheur River/Harney basin. California's Klamath Basin/Trinity River focus area also includes Oregon's upper Klamath Lake region. For more information, see: http://www.fws.gov/partners/Strategic_Plans/Regions/Region_8_strategic_plan_0830.pdf and http://www.fws.gov/partners/Strategic_Plans/Regions/FINAL_Region_1_Partners_and_Coastal_Strat_Plan.pdf.

State Forest Management Plans

Scope – The Oregon Department of Forestry manages about 823,000 acres of forestland owned by the State of Oregon – representing about 3 percent of Oregon's total forestland area. Land acquisition began when Oregon became a state in 1859 when the federal government granted sections 16 and 36 of every township as a means to generate revenue for schools. Eventually, Oregon either sold most of the tracts for the benefit of schools though some of the transactions resulted in fraudulent deals. The remaining tracts are owned by the State Land Board and are known as Common School Forest Lands. In 1930, the state exchanged some of Common School

Fund Forest Lands with the federal government in order to consolidate land in larger blocks – creating Oregon's first state forest - the Elliot State Forest.

In 1925, the Oregon Legislature passed a law allowing the Oregon Board of Forestry to accept gifts or donations of forest land. In addition, the State Forests Acquisition Act of 1939 created procedures for the Oregon Board of Forestry to acquire tax-delinquent forest lands from the counties, manage the land, and return most net revenues from the land to the counties. Much of what was then known as the Tillamook Burn in Clatsop, Tillamook and Washington counties came under Board of Forestry ownership as a result of this law. Lands owned by the Board of Forestry are known as Board of Forestry Lands and are actively managed to provide sustainable timber harvest and revenues to the state, counties, and local taxing districts. In 2009, the Oregon State Legislature gave the Oregon Board of Forestry the authority to issue bonds for the purchase of the privately held Gilchrist Forest in northern Klamath County as a means to prevent these forestlands from being parceled off for passive or non-forest use. The Board of Forestry closed on the first phase of this acquisition in 2010 – known as the Gilchrist State Forest.

All state forest lands are actively managed under adopted forest management plans to provide economic, environmental, and social benefits to Oregonians. Board of Forestry Lands are managed achieve the “greatest permanent value” to the state – providing healthy, productive and sustainable forest ecosystems that over time provide a full range of social, economic and environmental benefits. Common School Forest Land is managed to “obtain the greatest benefit for the people of this state, consistent with the conservation of this resource under sound techniques of land management”. In western Oregon, this translates into developing over time a distribution of even-aged forests of differing in age and structure across the landscape – from young, regenerated forests to forests exhibiting older forest conditions and managed under long rotations up to 200 years. In eastern Oregon as well as in parts of southwestern Oregon, this translates into managing dry pine ponderosa pine and some mixed conifer forests through group or individual tree selection (i.e., uneven-aged) management. The revenue – net of forest management costs retained by the Oregon Department of Forestry -- from Board of Forestry Land timber sales goes to county governments and local taxing districts. Net timber harvest revenue from the Common School Forest Lands goes to the Common School Fund to benefit schools throughout the state.

There are four management plans covering these lands:

Northwest Oregon State Forests Management Plan – The Northwest Oregon State Forests Management Plan covers the Clatsop, Tillamook and Santiam State Forests as well as scattered tracts of forestland in Benton, Lane, Lincoln and Polk counties – a total of 615,000 acres.

Southwest Oregon State Forests Management Plan – These lands total to 18,073 acres of state-owned forests and vary widely in terms of their geologic origins and ecological

diversity. Of this total, 9,372 acres of land are consolidated in southern Douglas and northern Josephine counties, and are known as the Glendale block. The remaining 8,702 acres are Common School Forest Lands scattered in Curry, Douglas, Jackson, and Josephine counties amongst a checkerboard of private and federal lands.

Elliott State Forest Management Plan -- The Elliott State Forest is located in the Oregon Coast Range and covers a single block totaling 93,282 acres, mostly located in Coos and Douglas Counties. In addition to the Elliott State Forest, there is an additional 3,740 acres of scattered Common School Forest Lands located in Coos, Curry, and Douglas Counties.

Eastern Oregon Region State Forests Management Plan -- The eastern region state forests have a total of 85,000 acres comprising mostly of the Sunpass and Gilchrist State Forests. The remaining areas are scattered across 12 eastern Oregon counties.

Priority Areas -- State owned forestlands managed by the Oregon Department of Forestry. These lands are concentrated in six State Forests: the Clatsop, Elliott, Gilchrist, Santiam, Sun Pass, and Tillamook. There also are a number of smaller tracts, scattered mostly in western Oregon's Coast Range.

Coordination with Other Statewide Plans – Measures of the Oregon Plan for Salmon and Watersheds – especially the placement of large wood in-stream, survey of roads for fish passage blockage, and riparian management – are components of state owned forest management plans.

Supporting Information

- 1) *Northwest Oregon State Forests Management Plan*
(see: http://egov.oregon.gov/ODF/STATE_FORESTS/docs/management/nwfmp/NWFMP_Revised_April_2010.pdf).
- 2) *Southwest Oregon State Forests Management Plan*
(see: http://egov.oregon.gov/ODF/STATE_FORESTS/docs/management/swfmp/SW_FMP_Revised_April_2010_Combined.pdf).
- 3) *Elliott State Forest Management Plan* (Note: Plan is undergoing revision).
(see: http://egov.oregon.gov/ODF/STATE_FORESTS/elliott.shtml#Forest_Management_Plan).
- 4) *Eastern Oregon Region State Forests Management Plan*
(see: http://egov.oregon.gov/ODF/STATE_FORESTS/eor.shtml).

The National Fire Plan

Scope -- The catastrophic fires of 2000 (the worst in 50 years) drove a national effort for managing the impact of wildfires to communities and the environment. In August 2000, then-President Clinton directed the Secretaries of Agriculture and the Interior to develop a response plan to reduce fire impacts on rural communities, and ensure effective firefighting capacity in the future. The result was the National Fire Plan (NFP). Congress later supported this plan through appropriations language in 2001. President Bush followed up on these efforts as a result of

another series of catastrophic fires in 2002 through the Healthy Forest Initiative – which led to the passage of the Health Forest Restoration Act of 2003. As part of its direction, Congress mandated several reporting requirements including the creation of a coordinated national 10-Year Comprehensive Strategy. To meet Congressional directive, the 10-Year Comprehensive Strategy was endorsed by the Western Governors Association, National Association of State Foresters, Secretaries of Agriculture and Interior, National Association of Counties and the Inter-tribal Timber Council. This strategy contains goals and principles of a collaborative approach to reduce wildfire risk to communities and the environment.

Priority Areas – Wildland Urban Interface Areas as identified by Community Wildfire Protection Plans (figure xx). The State will promote for the coordinated funding and implementation of The National Fire Plan to address fuel treatment and other forest management needs on forestlands that fall within HIGH Communities and Risk of Wildfire priority forest landscapes as identified in Oregon's 2010 Statewide Forest Assessment.

Supporting Information

- 1) *Forests and Rangelands* (see: <http://www.forestsandrangelands.gov/index.shtml>).
- 2) *10-Year Comprehensive Strategy* (see: http://www.westgov.org/wga/initiatives/fire/implem_plan.pdf).

Tribal Integrated Resource Management Plans

Scope -- A Tribal Integrated Resource Management Plan is a long-range, strategic level, comprehensive plan which integrates the management actions applied to a tribe's natural resources and other resources of value. It is a tribal policy document, based on the vision the tribe has for its resources. The plan describes the types of management activities which are to be undertaken by tribal and/or the USDI Bureau of Indian Affairs resource management personnel, and serves as the umbrella plan under which all resource management activities are conducted.

Priority Areas – Integrated Resource Management Plans have been completed for the following federally recognized Indian tribes in Oregon:

Supporting Information

- 1) *Guidelines for Integrated Resource Management Planning in Indian County* (see: <http://www.bia.gov/idc/groups/public/documents/text/idc-001874.pdf>).
- 2) *A Tribal Executive's Guide to Integrated Resource Management Planning* (see: <http://www.bia.gov/idc/groups/public/documents/text/idc-001850.pdf>).

LONG TERM STRATEGIES

Communities at Risk of Wildfire

Problem Statement

Fire suppression efforts over the last 100 years have altered the natural role wildfire plays in the forests of southwestern and eastern Oregon. As a result, these forests have experienced an increase in woody fuels, tree stocking and tree mortality; creating conditions for large, uncharacteristically severe, wildfire events that threaten Oregon communities and the environmental, social and economic resource benefits from Oregon's forests.

Threats

- The build-up of woody fuels and increase in tree stocking resulting from decades of excluding fire in forest types that ecologically depend on frequent to moderate fire return intervals threatens forest health and overall forest ecosystem resilience to wildfire.
- Population growth and increased rural residential and urban development continues to expand the wildland urban interface – where people and residences have put themselves in harm's way to the risks of wildfire – resulting in increased risks to public health and safety, decreased firefighting effectiveness and increased firefighting costs.
- The loss of forest products infrastructure and market opportunity – especially in eastern Oregon -- and the decline in tax revenue available for covering the public's share of wildfire protection costs -- is placing an ever increasing burden on private forest landowner ability to pay their share fire protection costs.

Opportunities

- Maintain and improve state and local capacity in fire protection.
- Secure an equitable share and stable source of public funding for fire protection.
- Expand public outreach and education about wildfire prevention measures.
- Assist communities in hazardous fuel treatment planning, implementation and monitoring.
- Assist farm, ranch and family forest landowners in their management of wildfire risk.
- Develop a variety of end use markets for forest products and environmental services.
- Actively manage forests at risk of uncharacteristically severe wildfire, insects and disease.

Opportunities from Other Issues

Maintain the Forestland Base

- Expand markets for the utilization of forest residues for biomass energy and other end uses.

Diversity of Upland and Aquatic Habitats

- Restore the role of disturbance in forest ecosystems to improve upland and aquatic habitats.

Core State and Private Forestry Program Strategies

- Provide financial, technical, and other assistance to State Foresters to organize, train and equip rural fire departments to prevent and suppress wildfires.
- Maintain state and local agency capacity in preparedness, prevention and suppression of wildfires including the development of new and improved fire control technologies, effective agency organization and interagency sharing of fire suppression resources.
- Expand outreach and education about wildfire prevention in the wildland urban interface to reduce the wildfire risks to homes and private property.
- Provide technical and financial assistance in Community Wildfire Protection Planning.
- Provide technical and financial assistance in forest management planning.
- Plan and conduct fuel breaks, thinning, pruning, landscape modifications and other hazardous wildfire fuel reduction projects that modify or break up the fuels in such a way as to lesson catastrophic fire and its threat to public and firefighter safety and damage to property.
- Conduct safety inspections; demonstration projects; training and education of homeowners, officials and service personnel about providing space around homes and structures that will limit the spread of wildfire and provides a safer environment for defending homes and structures from wildfire. Foster fire safe groups and support community efforts to promote defensible space.

Integrated Program Strategies

- Explore and pursue significant improvements to the structure and funding of the Oregon Department of Forestry's budget.
- Develop end use markets for small diameter trees, slash and other forest residue as a means to make needed fuel treatment practices pay for themselves; thereby expanding the level of investment in fuel treatment projects .
- Increase the level of federal investment in active management practices that reduce forest fuels as a means to change the severity and extent of wildfire consistent with the statutory objectives of these forest lands.
- Integrate federal and non-federal forest management to address insects and disease outbreaks, fuel loadings and other problems crossing ownership boundaries.

Maintaining the Forestland Base

Problem Statement

Converting forests to non-forest uses results in a loss of forest resources and benefits such as timber, water quality, fish wildlife habitat, carbon sequestration, aesthetics and recreation. Further, development within the forest increases wildfire risk both in terms of a greater chance of

Oregon's Forest Resource Strategy – FY 2011 thru FY 2015
(6/18/10)

human caused ignitions, increased hazardous fuels, but also in terms of placing more residences and structures at risk – which greatly increases fire suppression costs.

Threats

- Allowable development of forests within urban growth boundaries is threatening important habitats along streams and wildlife corridors and diminishes the value of water quality and fish and wildlife habitat conservation measures taken on the surrounding forest area.
- Residential and other building development within forests expands the wildland urban interface and brings more forest closer to rural residential and urban land use and increases wildfire suppression costs.
- Expanding development of non-forest use into areas traditionally managed for wood production cause conflict, increases costs and may put limits on forest management practices.
- The intergenerational transfer of family forestlands from parents and grandparents to children and grand children threatens traditional working forest uses as these lands may have higher value to the new generation in terms of their selling value for non-forestry purposes.
- Parcelization of private industrial forestland is a leading indicator of passive forest management and rural residential development that threatens water quality, fish and wildlife habitats and could serve as a vector for invasive species expansion in forests.

Opportunities

- Maintain forest cover and connectivity within rural-urban forest areas.
- Assist family forestland owners with their management of forests.
- Assist family forestland owners with the intergenerational transfer of lands for forestry use.
- Develop diverse markets for Oregon's timber and remove market barriers for wood products.
- Expand markets for the utilization of forest residues for biomass energy and other end uses.
- Encourage private and public investment to conserve private forestlands.

Core State and Private Forestry Program Strategies

- Ensure active management of urban forests through inventory, planning, tree care, management and monitoring.
- Foster homeowner, public community and local or regional government understanding of the importance of Oregon's urban and urban-rural forests to habitats along streams, provision of wildlife corridors and parks and other open space.
- Provide technical and financial assistance in forest management planning.
- Support the Oregon Tree Farm Program as the state's landowner recognition program.

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- Maintain a forest tree seed bank and seedling network that provides forest landowners with access to genetically-improved and other high-quality seed and nursery stock.
- Purchase the development rights to working private forests that are important, strategic and threatened with conversion to non-forest use to ensure forest use in perpetuity.

Integrated Program Strategies

- Integrate family succession planning with forest management planning to secure the intergenerational transfer of family forestlands for continued forestry purposes.
- Quantify the availability of forest residues and other small diameter forest material and the cost of removal for implementing landscape wildfire fuel treatment projects.
- Identify Forest Investment Zones to test strategies for building business and community capacity to support the adaptive and sustainable management of federal forests.
- Develop an Oregon Wood First Program to raise awareness among designers, architects, builders, code officials and various levels of government of the opportunities to use Oregon wood to meet green building standards.
- Develop a Conservancy Portfolio of state-owned forestlands that compliment the current state-owned forest land base managed for Greatest Permanent Value.
- Develop innovative approaches to reduce forest fragmentation and dispersed and low impact residential and other building development in rural-urban forest areas.
- Participate in a pilot Transferable Development Rights Program involving the conservation of high priority forestlands.
- Develop a Conservancy Portfolio of state-owned forestlands that compliment the current state-owned forest land base managed for Greatest Permanent Value.

Diversity of Upland and Aquatic Habitats

Problem Statement

Oregon is rich in its fish and wildlife resources. However, some fish and wildlife habitats are threatened by human population growth and development, transportation and energy, intensive land management and a lack of education and awareness. When threats materialize, the results are habitat fragmentation, degradation and loss; reduced connectivity; and less diversity in native flora and fauna. Oregon forestlands provide little exception to these challenges despite a solid foundation in planning, regulatory and voluntary approaches to habitat conservation.

Threats

- *Disruption of Disturbance Regimes* – Suppression of wildfires, increased population density and structures within forests have altered natural fire regimes and place important forest fish

and wildlife habitats at risk. Similarly, dam construction to control floods has altered forest riparian floodplain functions.

- *Land Use* – The conversion of forests to other land uses such as intensive agriculture, rural residential or urban reduces fish and wildlife habitat connectivity and patch size.
- *Invasive Species* – Invasive species crowd out native plants and animals and can become a serious problem by altering habitat composition and function, increasing wildfire risk, reducing ecosystem productivity.

Opportunities

- Maintain and enhance important fish and wildlife habitats and on forestlands.
- Maintain habitat features and conditions for fish and wildlife residency and movement.
- Maintain and improve programs that support voluntary conservation actions.
- Develop ecosystem services markets or market based payment mechanisms for conservation.
- Restore the role of disturbance in forest ecosystems to improve upland and aquatic habitats.

Opportunities Identified from Other Issues

Communities at Risk of Wildfire

- Actively manage forests at risk of uncharacteristically severe wildfire.

Maintain the Forest Land Base

- Maintain forest cover and connectivity within rural-urban interface areas.
- Assist family forestland owners with their management of forests.
- Encourage private and public investment in large blocks of private industrial forestlands.

Invasive Species

- Prevention, early detection and rapid response to new introductions of invasive species.

Core Strategies

- Effective administration, educational assistance, enforcement and landowner recognition of Oregon Forest Practices Act resource protection measures.
- Encourage the use of Stewardship Agreements as an incentive for achieving needed conservation outcomes on private forestlands that exceed regulatory requirements.
- Provide technical and financial assistance in forest management planning.
- Develop block grant cost-share programs to implement specific conservation actions from private family forestlands consistent with regional and statewide conservation plans like the *Oregon Conservation Strategy* and *Native Fish Conservation Plans*.

Integrated Strategies

- Promote voluntary incentive programs and tools to conserve *Oregon Conservation Strategy* “Strategy Habitats” on private forestlands within Conservation Opportunity Areas.
- Participate in the development of innovative market based ecosystem services programs.
- Improve data management, coordination and sharing between various conservation partners to support voluntary conservation.
- Plan, conduct and monitor landscape scale thinning, slash treatment, prescribed burning and other treatment projects on private lands to restore the role of wildfire in forest ecosystems and to improve forest health and resiliency.
- Develop forest management actions consistent with geomorphologic and ecological processes – such as flooding and landslides – that result in desired aquatic habitats.

Invasive Species

Problem Statement

Invasive species are non-native plants and animals that spread rapidly once established and adversely affect habitats and desired land uses economically, socially, and/or ecologically. Invasive species constitute a major threat to the integrity of Oregon's forests. Invasive species have the effect of simplifying ecological diversity and function by selectively eliminating or reducing native species – permanently altering species composition and habitat. Invasive species can increase forest management costs and decrease profitability as well as jeopardize access to forest product markets through quarantines and other control measures.

Threats

- Spread of *Phytophthora ramorum* (the invasive pathogen causing sudden oak death)
- New introductions of invasive species:
 - Gypsy moth (both Asian and American)
 - Asian longhorn beetle
 - Emerald ash borer
 - Japanese beetle
 - European wood wasp
 - Kudzu
- Spread of knotweed and garlic mustard.

Oregon's Forest Resource Strategy – FY 2011 thru FY 2015
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- Continued outbreaks from other invasive insects and diseases
 - Balsam woolly adelgid
 - Larch casebearer
 - Spruce aphid
 - Satin moth
 - Port-Orford cedar root disease
 - White pine blister rust

Opportunities

- Eradicate *Phytophthora ramorum* (the invasive pathogen causing sudden oak death).
- Prevention of and early detection and rapid response to new introductions of invasive species.
- Actively manage and control invasive species to reduce spread and undesirable impacts.

Opportunities Identified from Other Issues

Maintain the Forest Land Base

- Maintain forest cover and connectivity within rural-urban interface areas.
- Assist family forestland owners with their management of forests.
- Encourage private and public investment in large blocks of private industrial forestlands.

Diversity of Upland and Aquatic Habitats

- Maintain and enhance important fish and wildlife habitats and habitat features on forestlands.
- Maintain and improve programs that support voluntary conservation actions.

Climate Change

- Conversion of suitable brush, agriculture and range land back into healthy, productive forest.

Core Strategies - General

- Annual cooperative aerial survey of insects and disease.
- Remove disincentives regarding Oregon Forest Practices Act notification requirements that may be preventing landowner control of invasive plant species.
- Provide technical and financial assistance in forest management planning.
- Develop cost-share financial assistance programs to implement specific actions for the management and control of invasive species on private family forestlands.

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Sidebar: Resource Strategy Implementation Framework for Invasive Species.	
Plan Element	Description
Leadership and Policy	Leadership and policy-setting are needed for coordinated, effective measures.
Collaboration	Invasive species cross land uses, ownerships, and jurisdictions. Collaboration and coordination are needed for success.
Reliable, continuous funding	A base level of continuous funding is needed for a given level of performance. Grants and other, similar sources of funding can help enhance programs or fill in gaps. Legislative funding requests may be developed for invasive species.
Education and Outreach	For effective programs, including public support, there must be broad understanding of the seriousness of the problem, potential invasion pathways, and invasive species identification.
Prevention	Preventing new introductions is a top priority and the most cost-effective approach.
Assessment/Risk Analysis	Assessing the level of concern and risk associated with new introductions helps identify the worst invaders and the management priorities.
Survey, Monitoring and Inventory	Surveying and monitoring are needed to identify new infestations, track trends, and evaluate control efforts. Inventories of forest conditions in these locations are also needed.
Early detection	Early discovery of new infestations is critical to controlling spread and achieving eradication.
Rapid Response	Immediate treatment of new, isolated infestations maximizes eradication success and decreases the likelihood of expansion.
Containment	Prevention and control are needed to keep invasive species from moving through vector pathways to new areas.
Restoration	Helping native species and ecosystems, or cultivated areas, recover is an important step following the removal of invasive species.
Adaptive Management	Managers should use survey and monitoring data in the feedback loop to review and, if necessary, revise management prescriptions.

Integrated Strategies

- Detection, eradication and post-treatment monitoring of all sites infested with *Phytophthora ramorum*.
- Cost-share assistance and other incentives (biomass utilization) for conducting *Phytophthora ramorum* host elimination prevention treatments.
- Research and laboratory support for *Phytophthora ramorum* – fungicide treatments, pathogen biology and spread, risk maps, and host genetic resistances.
- Program development in forest invasive species education and outreach, prevention, early detection, rapid response, eradication, risk assessment, survey and monitoring, containment and restoration (see sidebar).
- Establish tools to track the location, size, status and impact of priority invasive species.

Water Quality

Problem Statement

Soil and water are basic components of forests. The interaction of soil and water plays an important role in site productivity and watershed health. Fish and other aquatic species need cold water. People need clean water and over half of Oregon's population depends on water supplied from Oregon's forests. Oregon's forests protect water quality through active management of urban forests, a comprehensive set of regulatory best management practices on private lands and additional aquatic conservation strategies on state, federal and tribal lands. Continued investment in these measures – as well as monitoring their effectiveness – is important to maintaining clean water from forestlands.

Threats

- Limited funding and political support for urban forestry programs at both the state and local level constrains the ability of urban centers to actively manage urban forests and other green infrastructure necessary to reduce storm water runoff pollution to Oregon's waterways.
- The loss of forestlands to non-forest uses lowers water quality for drinking, fish and aquatic life and recreational beneficial uses.
- The lack of available state funding to administer the Oregon Forest Practices Act through education, technical assistance, enforcement and monitoring compromises the ability of Oregon's best management practices to meet water quality standards.

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- The build-up of woody fuels and increases in tree stocking resulting from decades of excluding fire in forest types that ecologically depend on frequent to moderate fire return intervals threatens water quality.
- Invasive species can become a serious problem by altering habitat composition and function contributing to slope instability, soil erosion and loss of forest canopy – all of which negatively affect water quality.

Opportunities

- Reduce runoff from impervious surfaces in business and residential urban areas.
- Monitoring and research on water quality and best management practices for forestlands.
- Maintain and restore forest riparian and wetland conditions on agricultural and range lands.
- Interagency coordination for monitoring forest pesticide use effects on water quality.

Opportunities Identified from Other Issues

Communities at Risk of Wildfire

- Actively manage forests at risk of uncharacteristically severe wildfire.

Maintaining the Forestland Base

- Maintain forest cover and connectivity within rural-urban forest areas.
- Assist family forestland owners with their management of forests.
- Encourage private and public investment to conserve private forestlands.

Diversity of Upland and Aquatic Habitats

- Provide habitat conditions and connectivity suitable for the movement of fish and wildlife.
- Maintain and improve programs that support voluntary conservation actions.
- Restore the role of wildfire in forest ecosystems to improve forest health and resiliency.

Invasive Species

- Prevention of and early detection and rapid response to new introductions of invasive species.
- Actively manage and control invasive species to reduce spread and undesirable impacts.

Core Strategies

- Ensure active management of urban and urban-rural forests to maintain tree canopy cover, parks and open space to reduce impervious surface area and intercept storm water run off.

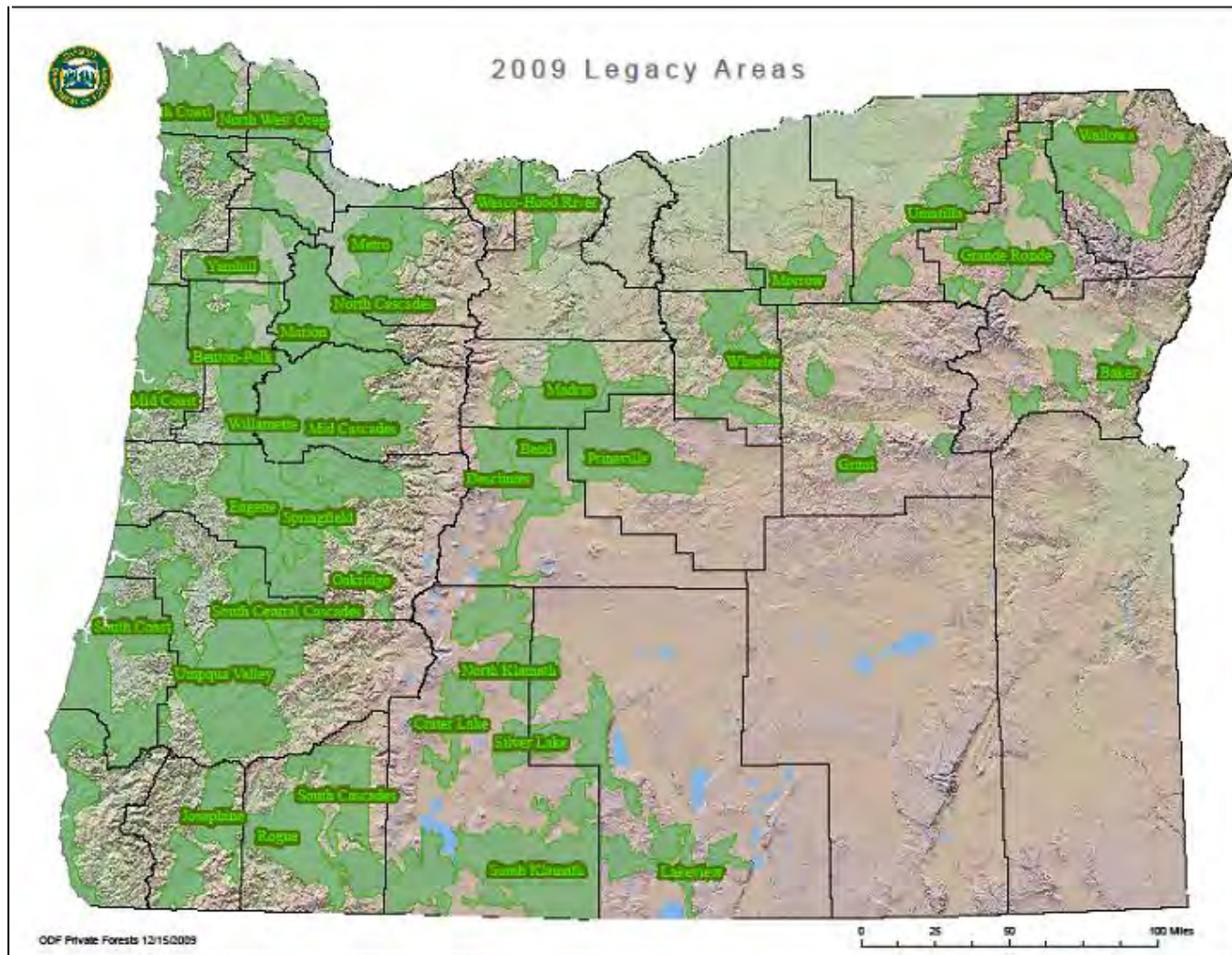
Oregon's Forest Resource Strategy – FY 2011 thru FY 2015
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- Compliance auditing and effectiveness monitoring of the Oregon Forest Practices Act water protection rules with respect to their role as best management practices designed to meet Oregon's water quality standards for temperature, sediment and toxicity.
- Steer cost-share programs to implement specific water quality protection measures such as restoring geomorphological stream functions, riparian forest conditions, wetlands and off channel habitats on agricultural, range and private family forestlands.

Integrated Strategies

- Conduct long-term paired watershed studies throughout Oregon that evaluate the environmental effects on water and fish of contemporary forest management practices now in use on younger intensively managed forests.
- Coordinated resource management planning “one stop” web based tool kit that meets agricultural, forestry and fish and wildlife management planning requirements (e.g., core template, “add ons” templates by resource emphasis, geographic information system (GIS) plan development and tracking tools.
- Update the 1995 Memorandum of Agreement between the Oregon Department of Forestry and the Oregon Department of Agriculture regarding the regulation of pesticide use on state, private and local government forestlands.
- Develop Pesticide Stewardship Partnerships to monitor current use forest pesticides in surface waters, identify streams with elevated pesticide concentrations, develop and implement voluntary best management practices to correct problems and conduct following monitoring to measure results with respect to water quality improvements.

Oregon's Forest Resource Strategy Federal Fiscal Years 2011 thru 2015
Coordinated and Strategic Investment of USDA Forest Service State and Private Forestry Programs
APPENDIX -- Oregon's Forest Legacy Areas



Oregon's Statewide Forest Assessment

I. Oregon is Mostly Forest

See Oregon Forest Atlas - http://egov.oregon.gov/ODF/RESOURCE_PLANNING/forestatlas.shtml

II. Oregon has Many Kinds of Forests

See Oregon Forest Atlas - http://egov.oregon.gov/ODF/RESOURCE_PLANNING/forestatlas.shtml

III. Threats to Oregon's Forests

1. Development (See Maintain the Forestland Base Issue in Appendix)
2. Loss of Forest Products Industry (See Maintain the Forestland Base Issue)
3. Tree Mortality (See: <http://egov.oregon.gov/ODF/indicators/indicatorFa.shtml>)
4. Wildfire and Wildfire Risk (See Communities at Risk of Wildfire Issue)

IV. Priority Issues (See Appendix for Description, Threats & Opportunities)

1. Communities at Risk of Wildfire
2. Maintain the Forestland Base
3. Diversity of Upland and Aquatic Habitats
4. Invasive Species
5. Climate Change

V. Priority Landscapes for Taking Action

A. Fish and Wildlife Habitat Conservation

Link to map: http://egov.oregon.gov/ODF/RESOURCE_PLANNING/forestatlas/HabitatConservationCOA_06082010.jpg

B. Communities at Risk of Wildfire

Link to map: http://egov.oregon.gov/ODF/RESOURCE_PLANNING/forestatlas/Communities_at_Risk_of_Wildfire_06032010.jpg

C. Forestlands Vulnerable to Loss of Timber Markets

Link to map: http://egov.oregon.gov/ODF/RESOURCE_PLANNING/forestatlas/Timberlands_at_Economic_Risk05272010.jpg

D. General Forest Considerations

Link to map: http://egov.oregon.gov/ODF/RESOURCE_PLANNING/forestatlas/GeneralForestConsiderations_HUC12_06172010.jpg

VI. National Themes, Priority Issues and Forestry Program for Oregon Goals

See Table 1.

OREGON STATEWIDE FOREST ASSESSMENT (6/18/10)

TABLE 1		National State and Private Forestry Themes										
		Conserve Working Forests		Protect Forests from Harm		Enhance Public Benefits from Trees and Forests						
Forestry Program for Oregon Goals		Conserve High Priority Forest Ecosystems	Actively and Sustainably Manage Forests	Restore Fire Adapted Landscapes	Reduce Threats to Forest and Ecosystem Health	Protect and Enhance Water Quality and Quantity	Improve Air Quality and Conserve Energy	Assist Communities in Planning for and Reducing Wildfire Risks	Maintain and Enhance the Economic Benefits and Values of Trees and Forests	Protect, Conserve, and Enhance Wildlife and Fish Habitat	Connect People to Trees and Forests	Manage and Restore Trees and Forests to Mitigate and Adapt to Climate Change
Goal A	Legal/Institutional Economic Framework	Issue #2	Issue #2		Issue #4		Issue #5	Issue #1		Issue #3	Issue #4	
Goal B	Provide Diverse Social and Economic Benefits	Issue #3	Issue #2				Issue #2	Issue #1	Issue #2	Issue #2	Issue #2	
Goal C	Maintain the Productive Capacity of Forestlands		Issue #2	Issue #1	Issues #1, #2			Issue #2	Issue #2			
Goal D	Protect Soil and Water Quality					Issues #3, #5						
Goal E	Enhance Native Plant and Animal Conservation	Issues #3, #4			Issue #4					Issue #3		Issue #3, #4 and #5
Goal F	Manage Forest Ecosystem Health	Issues #3, #4		Issues #1, #3, #5		Issues #3, #5	Issue #6	Issue #1	Issue #2			Issues #3, #4, #5
Goal G	Increase Carbon Storage in Forests and Wood Products		Issue #2									

Issue #1 – Communities at Risk of Wildfire
Issue #2 – Maintain the Forestland Base

Issue #3 – Diversity of Upland Forest Habitats
Issue #4 – Invasive Species

Issue #5 – Quality of Aquatic Habitats

Oregon's Statewide Forest Assessment

APPENDIX -- Priority Issues

Communities at Risk of Wildfire

Problem Statement

Fire suppression efforts over the last 100 years – coupled with increased development and land use conversion in Oregon's forests - has altered the natural role wildfire plays in the forests of Oregon. As a result, these forests have experienced an increase in woody fuels, tree stocking and tree mortality; creating conditions for large, uncharacteristically severe, wildfire events that threaten Oregon communities and the many resource benefits from Oregon's forests.

Background

Wildfire is a natural process of most forest ecosystems. In the Douglas-fir and hemlock forest types of western Oregon, wildfire plays the role of replacing mature forests. These major stand replacing wildfire events are infrequent; occurring once every 200 years. In the dry ponderosa pine forest types of eastern Oregon, wildfire plays the role of keeping forests from becoming overstocked and unhealthy. These stand maintenance wildfire events occur more frequently; once every 5 to 15 years. They tend to only burn the surface fuels, understory and smaller trees, leaving the larger trees healthy and renewed in vigor. Some forest types, like lodgepole pine, are dependent of severe wildfire events occurring once every 100 years for their renewal.

In the early 20th century, state and federal agencies began an aggressive wildfire suppression policy in response to the large, uncontrolled 1910 wildfires that swept through many western states. The exclusion of wildfire in those forests that ecologically depended on frequent, low severity wildfires – forest types common to southwestern and eastern Oregon -- led up to a century old build up of hazardous fuels and overstocking. The combination of these high fuel loadings with increased tree mortality from drought, insects and disease; and large number of fire starts from dry lightening events led to uncharacteristically severe wildfire events such as the southwest Oregon Biscuit Fire in 2002 – one of the nation's largest in recent history -- and the B & B Complex along the central Cascade Mountain crest in 2003. In Oregon, six of the last nine wildfire seasons have been above average and involved one or more uncharacteristically severe wildfire events.

Coincident with the buildup of hazardous wildfire fuels in many of Oregon's forests was the trend of increased rural residential and other development within these same forests. The threat to, and even the loss of, homes and other structures is commonplace to many wildfire events. To address this risk, Oregon passed the Oregon Forestland-Urban Interface Fire Protection Act of 1997 (also known as Senate Bill 360). The Act requires each Oregon county to identify forestland-urban interface areas where wildfire poses a threat to homes and structures. Within these areas, the Act requires property owners to reduce excess vegetation around buildings and

along driveways; and in some cases, create fuel breaks along property lines and roadsides. The objective of these treatments is to create less volatile zones (also known as defensible space) such that residential and rural firefighters may more safely and effectively defend homes so as to reduce the potential for possible loss of life and damaging impacts to property.

In 2003, the U.S. Congress passed the Healthy Forest Restoration Act in response to the record breaking severe wildfires throughout the western United States in 2001 and 2002. Among other things, the Healthy Forest Restoration Act authorized the development of Community Wildfire Protection Plans. The purpose of these plans was to identify wildland-urban interface areas (WUIs) that took into account the wildfire risk posed from wildland forests within and adjacent to communities. Unlike the forestland-interface areas identified through the Senate Bill 360 process – which emphasized areas that required residents to create defensible space for protecting homes from wildfire – the Community Wildfire Protection Plan WUIs prioritized areas of wildland forests for fuel reduction treatments such as forest thinning and the treatment and removal of slash and other forest residues. The purpose of these treatments is mitigating the threat and consequences of uncharacteristically severe wildfire. In Oregon, many of the wildland forests in need of treatment are on federal land and their inclusion in Community Wildfire Protection Plan WUIs allowed for streamlined environmental review.

What Do We Know About this Issue?

Where are Communities at Risk of Wildfire?

In 2006, the Oregon Department of Forestry conducted a statewide assessment of communities at risk of wildfire. A community was defined as a geographic area within and surrounding permanent dwellings with basic infrastructure and services, under a common fire protection jurisdiction, government, or tribal trust or allotment, for which there is a significant threat due to wildfire. The 2006 communities at risk assessment first evaluated landscape wildfire risk based on ignition risk, fuel loading and hazard, suppression capability, and values at risk (population, municipal watersheds, commercial timber); and then evaluated community risk as a function of the surrounding landscape risk ratings.

Figure 1 displays the results of the 2006 assessment. Of the 595 identified community areas in Oregon, 159 (27%) face a HIGH risk from wildfire and 331 (56%) faced a moderate threat. Jackson County had the highest percent of communities facing high risk (all 22 identified communities). Deschutes County was second with 10 out of 12 identified communities facing high risk of wildfire. Douglas County had the highest absolute number of high risk communities with 33. In contrast, Marion County had 30 of 41 identified communities facing low risk of wildfire and only 1 community facing high risk.

What are the conditions of these areas with respect to structures and wildfire risk?

With respect to structures and population density, communities that were evaluated for wildfire risk were either rural (consisting of 1 to 3.9 dwellings per 40 acres and a population density of 28 to 111 people per square mile), suburban (consisting of 4 to 19.9 dwellings per 40 acres and a population density of 112 to 559 people per square mile) or urban (consisting of 20 to 99 dwellings per 40 acres and 560 to 1,371 people per square mile). Highly urbanized areas (100 or more dwellings per square mile and 1,372 or more people per square mile) were excluded. Factors that contributed to a community being rated as at high risk from wildfire were as follows:

Ignition Risk – A high risk rating was given when fire occurrence exceeded 1 fire per 1,000 acres over 10 years.

Fuel Loading and Hazard – A high risk rating was based on a composite rating based on the following (percents indicate weight each factor is given to the composite rating):

Weather (25%) – The weather risk rating is based on the number of days per season that forest fuels were capable of producing a significant wildfire event as determined by an analysis of daily fire danger rating indices for regulated use areas across Oregon. All of eastern Oregon and interior southwest Oregon is high weather risk.

Slope, Aspect and Elevation (12%) – Slopes greater than 40 percent with south facing aspects at elevations at or below 3,500 feet all contribute to high risk.

Fuels (30%) – Forest fuels that result in fire behaviors of flame lengths exceeding 8 feet; frequent spotting, torching, or crowning such that fire severity is stand replacing. Example fuel conditions include flammable grasses, heavy/flammable brush, and mature timber with slash.

Insect and Disease Damage (20%) – A high risk rating was given for forested areas exhibiting at least 3 dead trees per acre from insect and disease; or at least 3 consecutive years of defoliation from the spruce budworm, as determined by the statewide aerial insect and disease survey.

Fire Regime Condition Class (13%) – Fire regime condition class a measure of forest conditions that are outside the range of natural variability in fuel conditions as result increased tree stocking and fuel build-up resulting from fire suppression. The exception are lodgepole pine forests which can exhibit a high Fire Regime Condition Class rating even though the condition is within their range of natural variability. Forests with the a high risk Fire Regime Condition Class rating exhibit excessive surface fuels, brush, live and dead mid-canopy or ladder fuels as well as canopy fuels in standing dead and overstocked mature trees. Wildfire in under these forest conditions are likely to develop in severe crown fires.

Suppression Capability – Areas at high risk have no organization fire suppression response capability. Areas at moderate risk have wildland forest suppression response, but structural response within 10 minutes is limited.

Values at Risk – High values at risk were defined by population and dwelling densities (urban and highly urbanized), forests containing municipal watersheds and forests managed for wood production.

In summary, the perfect storm for a community at the highest risk of wildfire would be an urban community within interior southwestern or eastern Oregon surrounded by forests of low elevation on south facing slopes exceeding 40 percent in slope; containing high amounts of surface and ladder fuels arising from insect and disease mortality as well as the exclusion of fire due to fire suppression efforts; with little or no organized wildfire suppression capability.

Where Do We Need More Information?

Where Have Hazardous Fuels Treatment Projects Been Completed and How Effective Have These Projects Been in Reducing Wildfire Risk?

State, federal, local agencies, non-governmental organizations and private forest landowners have made considerable investments in conducting hazardous fuel treatment projects. Hazardous fuel treatment projects include those activities designed to reduce wildfire fuel loadings in forests – thinning (both commercial and pre-commercial), treatment or removal of slash from harvest activity, prescribed fire and mechanical treatments of surface and ladder fuels in woody vegetation and small trees. However, there is no one single or statewide compilation and accounting of these activities.

Many studies have documented the effectiveness of fuel treatment projects on reducing the severity and extent of wildfire though the tradeoff between their short-term effectiveness and long-term ecological need is still debated – especially when it comes to conducting fuel treatment projects on federal land. Other studies have shown that the overall percent of forest area treated and the spatial distribution of fuel treatment units on the landscape also determines fuel treatment effectiveness in reducing wildfire risks. But, what is missing in current data collection efforts is answering whether the cumulative action taking place in Oregon is sufficient to have a measurable impact in reducing wildfire risk at the statewide level of analysis. In other words, are existing and planned efforts going to make a measurable difference in reducing wildfire risk given the overall size and scope of the problem at a statewide level? Another related question is whether the cumulative impact of past accomplishments and planned efforts are even keeping up with the build-up of forest fuels resulting from continued fire suppression and perhaps climate change?

Threats

- The build-up of woody fuels and increase in tree stocking resulting from decades of excluding fire in forest types that ecologically depend on frequent to moderate fire return intervals threatens forest health and overall forest ecosystem resilience to wildfire.

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- Population growth and increased rural residential and urban development continues to expand the wildland urban interface – where people and residences have put themselves in harm's way to the risks of wildfire – resulting in increased risks to public health and safety, decreased firefighting effectiveness and increased firefighting costs.
- The loss of forest products infrastructure and market opportunity – especially in eastern Oregon -- and the decline in tax revenue available for covering the public's share of wildfire protection costs -- is placing an ever increasing burden on private forest landowner ability to pay their share of fire protection costs.

Opportunities

- Maintain and improve state and local capacity in fire protection.
- Secure an equitable share and stable source of public funding for fire protection.
- Expand public outreach and education about wildfire prevention measures.
- Assist communities in hazardous fuel treatment planning, implementation and monitoring.
- Assist farm, ranch and family forest landowners in their management of wildfire risk.
- Develop a variety of end use markets for forest products and environmental services.
- Actively manage forests at risk of uncharacteristically severe wildfire.

Opportunities from Other Issues

Maintain the Forestland Base

- Expand markets for the utilization of forest residues for biomass energy and other end uses.

Diversity of Upland and Aquatic Habitats

- Restore the role of disturbance in forest ecosystems to improve upland and aquatic habitats.

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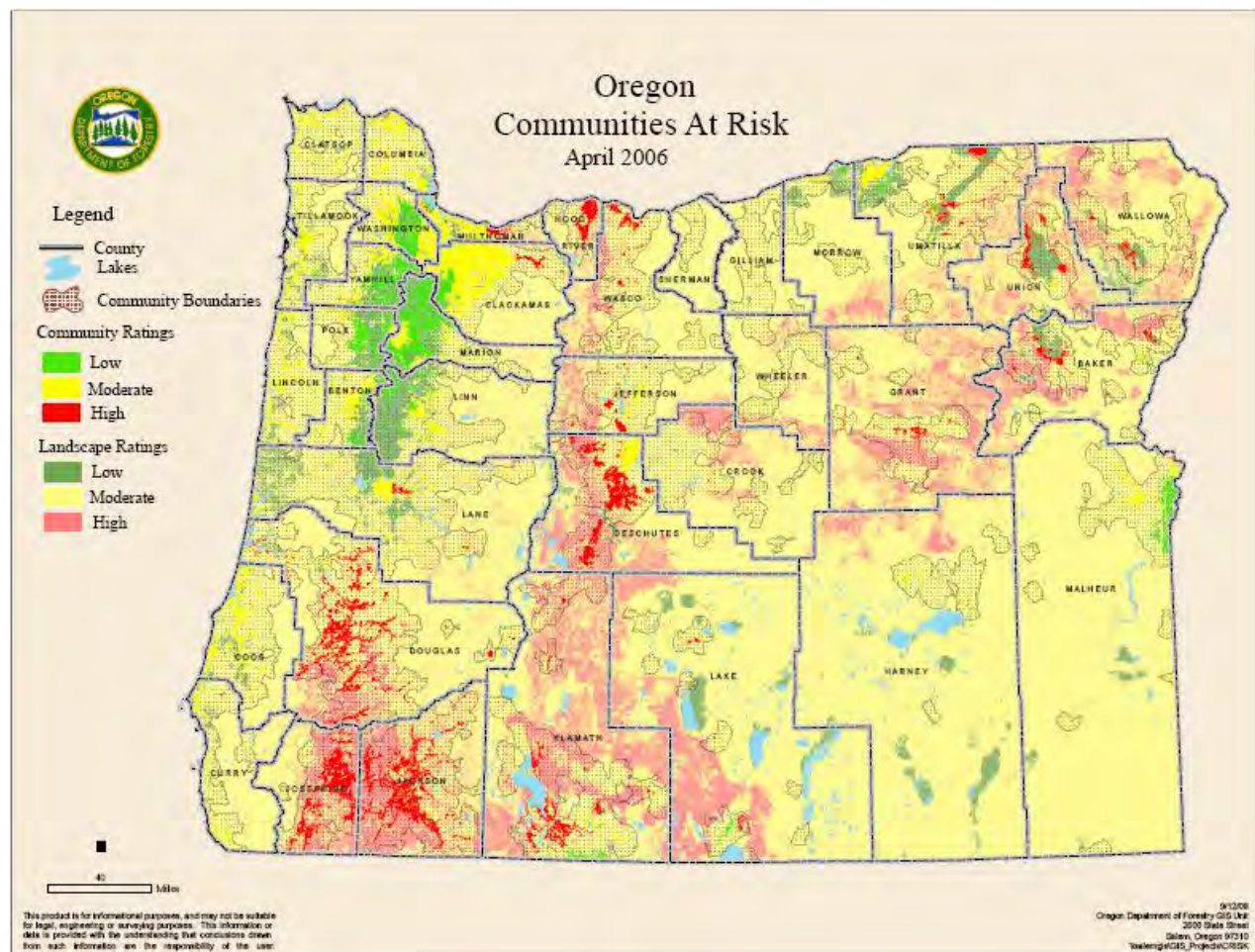


Figure 1: Landscape and community risk from wildfire.

Oregon's Statewide Forest Assessment

APPENDIX - Priority Issues

Maintaining the Forestland Base

Problem Statement

Converting forests to non-forest uses results in a loss of forest resources and benefits such as timber, water quality, fish wildlife habitat, carbon sequestration, aesthetics and recreation. Further, development within the forest increases wildfire risk both not only in terms of a greater chance of human caused ignitions and increased hazardous fuels, but also in terms of placing more residences and structures at risk – which greatly increases fire suppression costs.

Background

Some industrial forest ownerships that have historically managed their land to provide a continuous flow of wood to their own mills are now following a national trend toward timberland divestiture to Timber Investment and Management Organizations and Real Estate Investment Trusts, or managing them as separate profit centers. Under these new ownership structures disposition of forestland to higher and better use comes into play as a way to meet investor returns, meaning wood supply objectives become secondary to the rate of return on investment. The result is a trend toward parcelization – the divestiture of a single large ownership into smaller parcels owned by many different owners. Parcelization is a leading indicator of forestland development. The USDA Forest Service and the National Association of State Foresters has identified the threat of parcelization as a critical issue facing the nation's forests. Industrial lands close to expanding population centers and working family forests are particularly threatened. New owners of these lands have a broad array of objectives for ownership and often lack the knowledge to implement forest management and are generally less interested in making long-term investments in wood production. Another national trend is that many family forestlands are now facing the need to transfer the land from one generation to the next. Studies indicate that the younger generation often views the land differently than their parents or grandparents and are much more likely to consider selling rather than managing the land.

Oregon is no exception to these trends – though the good news is that the rate of forestland lost to development and the spatial extent of this loss is lower and more concentrated as a result of 35 years of state and local land use planning. Between 1984 and 2005 the rate of conversion of forest land to other uses averaged 3,300 acres per year; 84% of this change was to non-agricultural low-density rural residential and urban use. Virtually all of this development occurred in areas zoned in county comprehensive plans as developable. Currently, over 300,000 acres of Oregon's forest—about 5 percent of the state's private forestland—exist inside urban growth boundaries or other areas specifically zoned for further development.

Oregon's industrial private forests are also at increasing risk of parcelization -- especially in eastern Oregon where dramatically declining timber harvests on federal forestlands has severely constrained market opportunities and profitability of managing forestland. This same proximity to the federal forestlands and expanding rural-urban centers makes these private forestlands attractive to high end rural residential and destination resort development. It is estimated that 1.8 million acres of private forest exist within one mile of developable areas.

The parcelization and conversion of forestland results in the following:

- Degradation of the “green infrastructure” of a forested watershed, including clean water, the diversity of fish and wildlife species and their habitat related to expanding road networks and more rural residential structures on private forestlands, roads and increasing building densities on those lands.
- Significant increases in fire suppression costs as a result of more structures on forestland.
- Changes in forest management objectives toward less intensive management and resistance to traditional forestry practices. In many areas, the notion of wood production forestlands—even in the context of sustainable forestry practices—is no longer acceptable to residents.
- Loss of forest-related jobs and wood economy infrastructure exacerbates the further loss of forestland since with no workable return for their investment in forest management, landowners sell the land for development or other non-forest land use.
- Increased wildfire risks — from a higher number of human-caused fires, more homes placed at risk – to more complex firefighting prevention, planning and preparedness and significantly increased fire suppression costs.

What Do We Know About this Issue?

Who Owns Oregon's Forestland and What Are Oregon's Forests Being Managed For?

Figure 1 shows the distribution of Oregon's forestland by owner grouping. Of 31.9 million acres of Oregon's forest, 56 percent is federal, 19 percent in private industrial, 20 percent is family and other private, 3 percent is state owned, 1.5 percent is tribal and 0.5 percent is in local and regional governments.

Oregon's forests are managed for different reasons or management objectives (Figure 2). There are four categories (i.e., management classes) for grouping Oregon's forests by management objectives – Reserved, Administratively Withdrawn, Multiple Use and Wood Production.

Reserved – These forestlands are permanently set aside for their special importance by law, executive order or agency rule. Examples: National Parks, National Monuments, National Recreation Areas, National Scenic Areas, National Wildlife Refuges, federally designated Wilderness Areas, State Parks, and State Wildlife Refuges. Some non-

governmental organizations such as land trusts and conservancies also reserve private forestlands for their special importance.

Administratively Withdrawn -- These forestlands are primarily federal and are designated “administratively withdrawn” from timber harvest or general multiple use through land management planning decisions by Oregon’s two primary federal forest landowners – the National Forests administered by the U.S. Department of Agriculture, Forest Service and forestlands managed by the Bureau of Land Management of the U.S. Department of Interior. Examples: roadless areas, Late Successional Reserves (as designated by the federal Northwest Forest Plan adopted in the early 1990’s), and other withdrawn areas such as Research Natural Areas.

Multiple Use – These forestlands can be managed for timber harvest in combination with other forestland values or uses such as recreation, water, fish and wildlife habitats, scenic beauty. What particular set of multiple uses, or the relative emphasis put on different uses, is determined by the landowner or by state regulation or government policy (for state or local government owned forestland). Examples: State Forests, family forests, local and regional government owned forestland, American Indian tribal forestland, experimental and demonstration forests as well as National Forest and Bureau of Land Management “matrix” forestlands (as designated by the federal Northwest Forest Plan adopted in the early 1990’s).

Wood Production -- Land that is managed primarily for income with the main objective of producing wood and wood products from the harvest of timber. **Examples:** private industrial forests owned by a major wood products company, forests owned and managed for economic investment by timber management investment organizations (TIMOs) or real estate investment trusts (REITS), and local government forestland managed for revenue. Some family and tribal forestlands are managed primarily as wood production forests even though in general we have classified these forestlands as multiple use forests to reflect the diversity in management objectives across individual owners.

Where Have Forests Been Converted to Other Land Uses?

Figure 3 shows where forests have been converted to agriculture and development uses over the past 35 years. Most of the forest conversion to development occurred near the major urban centers along the Interstate 5 corridor in western Oregon and in the fast growing central Oregon region around Bend. Forestland conversions to agriculture are pretty minor overall, but tended to occur mostly in eastern Oregon.

The number of structures and population density has also increased on land remaining in wildland forest uses – a trend that has increased despite Oregon’s land use planning laws. Since 1974, the number of structures on forestland increased by 239 percent (Figure 3). Adding structures to forestland is a precursor to expanding development into areas traditionally used for

forestry purposes and when associated with residents creates conflicts that limits forest management practices such as timber harvest. The result is that these areas become predisposed for further development and eventual conversion to non-forest uses.

The Oregon Board of Forestry's performance measure for maintaining the forestland base is no net loss of non-federal forestland when compared to the amount of forestland present in 2010 (Sustainable Forest Management Indicator C.a) (Figure 4). This is a slightly higher goal when compared to the overall state performance measure of maintaining forestland at no less than 97.4 percent of the non-federal forestland existing in 1974 (Oregon Progress Board Benchmark #82). Currently, Oregon is exceeding the Progress Board benchmark. Between 1974 and 1984, 1.1 percent of Oregon's non-Federal land in wildland forest use was converted to more developed uses, but between 1984 and 2005, only 0.7 percent— 72,000 acres— was converted. The slowdown in the development of land in forest use through land use planning resulted in 98.2 percent of the available non-federal forestland in 1974 is still forestland today (Figure 4). However, future projections of forestland loss to other uses – even with Oregon's land use planning laws in effect – indicate that future losses of forestland will continue and the amount of non-federal forestland will fall below desired levels (Figure 4). Figure 5 shows where this future development of forestland is expected to occur over the next 50 years (see also Table 1).

What is the Location and Capacity of Existing Wood Products Mills?

Figure 6 shows the number and location of Oregon's wood products mills in 1980 compared to the number and location of Oregon's wood products mills in 2010. In 1980, Oregon had 373 operating mills – 223 lumber, 150 plywood and veneer and 32 other primary wood products manufacturing supporting 45,800 workers. In contrast, in 2010, Oregon has only 59 lumber mills (a 74 percent decline), 30 plywood and veneer mills (an 80 percent decline) and 17 other primary (a 47 percent decline) – totaling only 89 mills in all (a 76 percent overall decline). Employment now stands at 15,700 workers; a 66 percent decline. As expected, production capacity declined as well; but not in proportion to the number of mills lost. Figure 7 shows that lumber production peaked again in 2005 signifying that fewer, but larger mills, are now producing lumber when compared to the 1980's. The reasons behind this trend are complex, but center on the combination of production facilities retooling to handle second growth timber; shake outs resulting from the 1980 and 1990 recessions; loss of Pacific rim export markets and the severe loss of timber availability on federal lands. Eastern Oregon was especially hit hard because private lands were not sufficient to supply the mill capacity established around federal timber supply; today only 8 operating lumber mills left from the 42 that were running in 1988.

Oregon still remains the leader in lumber production in the United States and, with a strong and resilient forest products infrastructure - especially in western Oregon, is set to strongly rebound once the country pulls out of the current recession. Production should increase and product values should improve over the next several years. Housing starts are slowly increasing in 2010 but recovery will be gradual and long-term sustainable housing start levels of 1.6 million per

year will not be reached until 2013. Even under the most favorable economic conditions, only about 3 mills of those that closed over the last several years will reopen. Oregon's current mills are in a good position to take advantage of rebounding wood products markets. Productivity of Oregon's forest products sector has continued to improve as is evidenced by the increasing number of board feet of lumber produced per unit of wood harvested. The value of products produced per unit of wood harvested and per worker is higher than most other western states.

Biomass energy and other end product use of small diameter and other forest residues such as logging slash is widely discussed as a needed opportunity to expand wood product markets for forestland. However, of Oregon's 67 wood combustion facilities, but only 10 are used to cogenerate power and of those 10, only four sell power to the public energy grid. Most of these facilities rely on sawmill residues and wood waste for wood residue supply; only two (Medford and Prairie City) provide direct markets for the utilization of forest residues. These forest residues are the slash generated and existing dead and down material removed from fuel treatment projects and exclude those portions of trees removed suitable for commercial wood products. Figure 8 shows the location of opportunity areas for increasing the use of forest residues through the development of new biomass energy facilities or other end uses. A 2006 study – *Biomass Energy and BioFuels from Oregon's Forests* – estimates that there is enough available forest residue material within a 20 county region of southern and eastern Oregon to supply approximately 1 million bone dry tons capable of producing 150 megawatts of electrical power annually for the next 20 years; or a total availability of 20 million bone dry tons. However, the economics necessary to make this material pay for itself in energy production is not competitive with current values of electricity and as a result, at best, only 60% of these material is economically recoverable. According to the study, for the utilization of forest residues in biomass energy to pay enough to cover harvest and transportation costs – delivered values need to be at least \$59 per bone dry ton (or \$29.5 per green ton assuming 50% moisture content on a green weight basis). But, under the current market value of 6.5 to 7.5 cents per kilowatt hour of electricity, biomass energy facilities could only pay \$45 per bone dry ton and that assumes eligibility for federal energy production tax credits.

How Economical has Forest Management Been for Private Forest Landowners?

Forest landowners are faced with formidable challenges with respect to the profitability of managing working forests. Economic returns to private forest landowners have declined as log prices weakened (Figure 9). The beginning of 2010 has seen some recovery, but it remains to be seen if these improved prices hold in the next 3 years with continued lagging housing starts, low levels of nonresidential construction and the potential of increased lumber and panel imports into the United States from Canada. Log prices still remain well below those of the last decade. Declining log values and increasing logging and transportation costs resulting from high fuel prices can make timber management a losing proposition, especially for eastern Oregon private forest landowners. This shift in forestland management economics is due to many factors, but is primarily driven by low log values and high logging and trucking costs. The shift is reflected in

the value of land appraised for commercial forest production. Using the value of future income from timber management often shows the land itself as being of little or no economic value for growing and harvesting timber if one wants to make a 3% or 4% rate of return on their money.

Over the long-term, on private lands the economic returns from forest management and mixed forest agricultural or range management must at least equal economic returns from alternative land uses if the land is to remain forest. Family forest landowners in western Oregon near populated areas, or near federal forests, and in eastern Oregon everywhere, currently find it difficult for timber and mixed agriculture or range management to generate returns that compete with alternative uses. With relatively high non-resource land values, the land can often be sold for much more than its value for resource management and therein lies the problem if state policy is to maintain the forestland-base for forest uses. For example, in northeast Oregon the non-forest real estate value of forestland is 2.75 times the forestland value from timber. In western Oregon, where the productivity and marketability of timber is much better, the non-forest real estate value of forestland is 1.5 times its forestland value. The disparity could grow unless markets improve or biomass or other markets for wood materialize. Despite the challenge, Oregon is much better off than surrounding states. For example, non-forest real estate values for Idaho private forestland are 6.5 times the forestland value.

An undercurrent to the factors discussed above is how the boom and bust cycles of the economy effects market outlets for private forestland timber. For example, national and regional downturns like the recent 2008-2009 recession constrained the demand for wood products – only 2.7 billion board feet of timber was harvested from Oregon in 2009, the lowest level of timber harvest since 1934. Such severe economic downturns create challenges not only during the period of the downturn, but also post-recovery to the extent there is a more permanent loss or significant restructuring of forest products milling capacity as a result of the downturn. Using the distance to transport logs from forestland to the mill as a proxy for good or poor timber market conditions in Table 2, Oregon's forestland can be spatially depicted with respect to timber market risk. Figure 10a shows those areas of forestland that will lose competitive timber markets during periods of poor timber market conditions. These lands are disproportionately located in eastern Oregon as a result of the already limited amount of forest products manufacturing capacity in this region. In contrast, Figure 10b shows what forestland areas stand to gain market outlets if two of Oregon's most recent mill closures reopened as a result of improved economic conditions.

What are the Timber, Growth, Mortality and Harvest Trends in Oregon's Forests?

Productive Forestland and Live Tree Growing Stock Volume -- Table 3 shows the amount of Oregon forestland that meets the USDA Forest Service Forest Inventory and Analysis Program threshold criteria for productive forestlands - forestland capable of an average annual volume growth over the course of a forest harvest rotation of at least 20 cubic feet per acre per year. Over 80 percent (24.7 million acres) of Oregon's forestland exceeds the 20 cubic feet per acre

per year threshold for productivity. The use of this threshold criteria dates back to the 1970's (and earlier) when most forestland was either classed as commercial forestland (also known as timberland) suitable for wood production or non-commercial forestland (also known as other forestland). Statewide forest inventory data still uses this distinction though much of what is productive forestland on federal forestlands is administratively withdrawn or otherwise severely limited in its availability for timber harvest. Table 4 shows the distribution of live tree sawtimber growing stock volume on Oregon's forestland by species and ownership.

Timber Harvest Trends -- Figure 11 shows the historical trend in Oregon's timber harvest over the last 45 years. Peak harvest years were in the early 1970's and again in the late 1980's at around 8.5 to 9.0 billion board feet per year. With the adoption of the federal Northwest Forest Plan to address concerns about the northern spotted, marbled murrelet and aquatic habitats; federal timber harvest levels fell from 4.5 billion board feet per year to less than 1 billion board feet per year. Timber harvest levels from private lands have been stable – averaging 3.5 billion board feet per year since 1982. Fluctuations in private land timber harvest around this average reflect harvest response to economic conditions – with peak harvest levels during periods of economic expansion during the late 1980's and again during the 2000-2005 period. Figure 12 compares industrial and non-industrial private timber harvest trends. Private industrial timber harvests have been in general decline through the period ending around the turn of the century, then increased in response to the favorable markets during the first half of the 2000-2010 period. In contrast, non-industrial private timber harvests have been increasing since 1980 and reached their peak in the early 1990's in response to the stumpage price peaks resulting from the lack of timber harvest from federal forest lands due to the adoption of the Northwest Forest Plan. Since 2005, both private industrial and non-industrial timber harvest levels have declined due to poor market conditions and in 2009 were the lowest they have been (less than 2 million board feet) since the early 1930's. Figure 12 also shows that private industrial timber harvest has been somewhat above, but are approaching, sustainable levels defined by private industrial inventory growth projections into the future. In contrast, private non-industrial timber harvest levels are well below what could be sustainable given current levels of inventory.

Growth and Mortality – Table 5 shows the annual average of the estimated live tree gross volume growth, live tree removal (harvest and mortality combined) and the resulting net volume change (gross growth minus live tree removal) for the 2001-2005 inventory period. All ownership groups experienced a net increase in growing stock volume over the period indicating that timber harvest removals are less than net volume growth (gross growth minus tree mortality volume) for the period – a common definition of timber sustainability. The ratio of gross volume growth to tree removal for state and local government forestlands in western Oregon is over 8 to 1 – reflecting relatively lower levels of timber mortality and significant volume growth relative to harvest due to the still young growing stock accruing to state forestlands in northwest Oregon following the Tillamook Burns of the 1930s, 1940s and 1950s. Similarly, the ratio is over 6 to 1 for western federal forestlands reflecting the dramatic reduction in timber harvest resulting from

the adoption of the federal Northwest Forest Plan. Despite the private timber harvest response to favorable markets over the 2001 to 2005 period, the ratio for private industrial forestlands was 1.2 to 1 and for non-industrial private forestlands 1.5 to 1; both ratios reflecting that private forestland growing stock net growth exceeded timber harvest.

Where Do We Need More Information?

Where are Forest Inventories Being Depleted, Remaining the Same, or Increasing?

As discussed above, statewide inventory data shows that on balance timber inventories are increasing as growth exceeds both losses to mortality and timber harvest (Table 5). While this information is available geographically for western and eastern Oregon; more spatial explicit data is needed to track if there are areas of Oregon's forests where timber inventories are being depleted. It is quite clear that Oregon's forests has experienced widespread tree mortality from wildfire, insects and diseases – which greatly reduces live tree timber inventories – especially on federal forestlands. These types of losses are projected to continue in the future; though losses can be made up through natural regeneration and tree planting efforts – especially on productive forestlands. Similarly, inventory depletions from timber harvest levels exceeding growth are temporary; at some point the younger, regenerated forests must be allowed to build up inventory volume until stands once again reach merchantability standards for timber harvest.

A bigger question is not where are inventories in a state of flux – depleting, staying the same, or increasing -- but, where are inventories being depleted on a permanent basis due to the loss of forestland to other use? As indicated above, Oregon is meeting its benchmark for maintaining the area of forestland, but one question is, where development is occurring or projected to occur, is the loss of inventory on relatively more productive or less productive tree growing ground? Is it possible for Oregon to track areas of highly productive forestland important for timber supply and steer allowable development away from these areas? Better tools and analyses are needed to use available data regarding site productivity, timber inventory and projected development so as to track more locally where timber inventories are being permanently depleted by land use change.

Threats

- Allowable development of forests within urban growth boundaries is threatening important habitats along streams and wildlife corridors and diminishes the value of water quality and fish and wildlife habitat conservation measures taken on the surrounding forest area.
- Residential and other building development within forests expands the wildland urban interface and brings more forest closer to rural residential and urban land use and increases wildfire suppression costs.
- Expanding development of non-forest use into areas traditionally managed for wood production cause conflict, increases costs and may put limits on forest management practices.

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- The intergenerational transfer of family forestlands from parents and grandparents to children and grand children threatens traditional working forest uses as these lands may have higher value to the new generation in terms of their selling value for non-forestry purposes.
- Parcelization of private industrial forestland is a leading indicator of passive forest management and rural residential development that threatens water quality, fish and wildlife habitats and could serve as a vector for invasive species expansion in forests..

Opportunities

- Maintain forest cover and connectivity within rural-urban interface areas.
- Assist family forestland owners with their management of forests.
- Assist family forestland owners with the intergenerational transfer of lands for forestry use.
- Develop diverse markets for Oregon's timber and remove market barriers for wood products.
- Expand markets for the utilization of forest residues for biomass energy and other end uses.
- Encourage private and public investment in large blocks of private industrial forestlands.

Opportunities from Other Issues

Diversity of Upland and Aquatic Habitats

- Develop ecosystem services markets or market based payment mechanisms for conservation.

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Table 1: Historical (1973-2005) and projected loss of forestland to development.

	Eastern Oregon		Western Oregon		Total, All Oregon	
Year	Forestland Acres	Acres of Forestland Lost to Development	Forestland Acres	Acres of Forestland Lost to Development	Forestland Acres	Acres of Forestland Lost to Development
1973	15,847,830		15,719,550		31,567,380	
		-58,400		-121,280		-179,680
1984	15,789,430		15,598,270		31,387,700	
		-54,120		-52,730		-106,850
2005	15,735,310		15,545,540		31,280,850	
		-3,470		-45,260		-48,730
2020	15,731,840		15,500,280		31,232,120	
		-7,450		-84,950		-92,400
2040	15,724,390		15,415,330		31,139,720	
		-24,870		-150,380		-175,260
2060	15,699,520		15,264,950		30,964,470	

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Table 2: Haul distance proxies for good and poor timber market conditions (in miles)¹.

Western Oregon	Good	Poor
Sawmills	150	75
Veneer/Plywood	200	100
Eastern Oregon	Good	Poor
Sawmills	100	50
Veneer/Plywood	200	100
¹ Export, board, pulp and mills producing less than 100 million board feet not included.		
Source: Oregon Department of Forestry in consultation with the American Forest Resource Council.		

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Table 3: Area of Oregon forestland by ownership, species and productivity threshold for wood production, 2001-2005.

	USDA Forest Service		Other Federal		State and Local Government		Private Industrial		Other Private		All Owners		
Forest Type	Productive Forestland	Other Forestland	Productive Forestland	Other Forestland	Productive Forestland	Other Forestland	Productive Forestland	Other Forestland	Productive Forestland	Other Forestland	Productive Forestland	Other Forestland	Total Forestland
	<i>thousand acres</i>		<i>thousand acres</i>		<i>thousand acres</i>		<i>thousand acres</i>		<i>thousand acres</i>		<i>thousand acres</i>		<i>thousand acres</i>
Softwoods:													
Douglas-fir	3,416	562	1,474	29	644	12	2,842	--	1,390	11	9,766	614	10,380
Fir/spruce/mountain hemlock	2,181	892	50	119	30	--	447	--	197	43	2,905	1,054	3,960
Hemlock/Sitka spruce	326	94	74	--	62	12	376	--	111	--	949	106	1,055
Lodgepole pine	1,245	247	72	58	--	--	317	--	99	--	1,733	305	2,039
Other western softwoods	21	24	--	12	--	--	--	--	2	--	23	36	59
Pinyon/juniper	--	--	--	--	--	--	--	--	--	3	--	3	3
Ponderosa pine	3,283	178	192	--	62	--	807	12	709	11	5,053	201	5,254
Western juniper	246	188	60	1,347	--	34	51	115	156	973	513	2,657	3,170
Western larch	120	54	--	--	--	--	21	--	23	--	164	54	218
Western white pine	29	23	--	--	--	--	--	--	--	--	29	23	52
Total	10,869	2,262	1,923	1,565	798	58	4,861	127	2,686	1,042	21,137	5,054	26,191
Hardwoods:													
Alder/maple	164	--	48	--	139	--	493	--	496	--	1,340	--	1,340
Aspen/birch	32	--	1	29	--	--	--	--	6	1	39	30	69
Elm/ash/cottonwood	1	--	--	--	--	8	12	8	60	4	73	20	93
Other hardwoods	50	20	70	--	22	2	95	--	141	33	378	54	432
Tanoak/laurel	151	128	67	--	--	--	164	--	88	--	470	127	597
Western oak	83	37	133	43	29	--	80	17	198	173	523	270	793
Woodland hardwoods	63	36	12	47	--	--	--	4	51	--	126	87	213
Total	543	220	332	119	190	11	844	29	1,039	211	2,948	590	3,538
Nonstocked	343	46	11	13	27	12	140	--	129	24			745
All Forest Types	11,756	2,528	2,266	1,697	1,015	81	5,844	156	3,855	1,277	24,736	5,737	30,473

Adapted from Table 4 in Donnegan and others (2008).

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Table 4: Amount of live tree growing stock volume on productive forestland, 2001-2005.

	USDA Forest Service	Other Federal	State and Local Governme	Private Industrial	Other Private	All Owners		
Species	Net Volume, Live Tree Growing Stock					Net Volume, Live Tree Growing Stock		BF/CF Ratio
		Million Cubic Feet				Million Cubic Feet (CF)	Million Board Feet Scribner (BF)	
Softwoods:								
Douglas-fir	20,816	7,571	3,402	7,450	4,612	43,852	214,674	4.895
Lodgepole pine	987	25	18	138	77	1,246	5,413	4.344
Ponderosa Pine	5,838	497	171	569	1,037	8,112	41,247	5.085
True fir	6,474	566	110	463	549	8,162	40,583	4.972
Western hemlock	3,122	784	604	1,665	383	6,558	31,101	4.742
Western redcedar	915	147	28	171	244	1,505	6,632	4.407
Other Softwoods	3,298	430	83	631	435	4,877	23,712	4.862
Total	41,450	10,020	4,416	11,087	7,337	74,312	363,362	4.890
Hardwoods:								
Red alder	297	81	461	526	430	1,795	9,521	5.304
Other Hardwoods	244	171	32	308	356	1,110	4,690	4.225
Total	541	252	493	834	786	2,905	14,211	4.892
All Species	41,990	10,272	4,909	11,921	8,123	77,219	377,573	4.890
Adapted from Tables 17 and 18 in Donnegan and others (2008).								
Ponderosa pine includes Jeffrey pine								
Other Softwoods includes Engelmann and other spruces, incense cedar, Sitka spruce, sugar pine, western juniper, western larch, western white pine and other western softwoods.								
Other Hardwoods includes cottonwood and aspen, oak, and other western hardwoods.								

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Table 5: Net volume change, productive forestland, 2001-2005.

	Live Tree Gross Volume Growth	Tree Mortality and Harvest Removals	Live Tree Net Volume Change
Owner Group	Total	Total	Total
	<i>Thousand cubic feet</i>		
Western Oregon:			
National forest	589,279	95,168	494,111
State and local government	151,515	18,611	132,904
Private industrial	655,613	528,193	127,420
Other private	302,710	229,604	73,107
Total All Owners	1,699,117	871,575	827,542
Eastern Oregon:			
National forest	379,724	161,077	218,647
State and local government	12,514	5,182	7,332
Private industrial	59,413	69,293	(9,880)
Other private	50,429	12,595	37,834
Total All Owners	502,080	248,147	253,933
All Oregon:			
National forest	969,003	256,245	712,758
State and local government	164,029	23,793	140,236
Private industrial	715,026	597,486	117,540
Other private	353,139	242,198	110,941
Total All Owners	2,201,197	1,119,723	1,081,475
Adapted from Table 55 in Donnegan and others (2008).			

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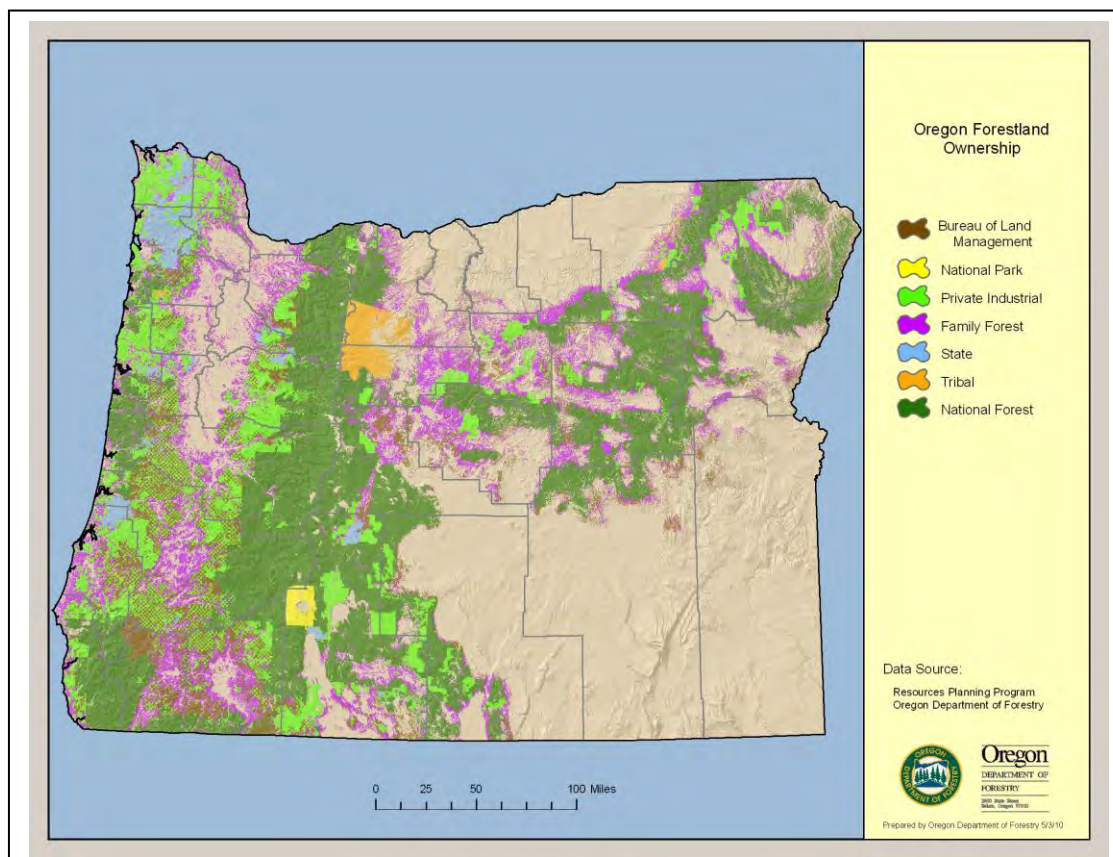


Figure 1: Oregon forestland ownership.

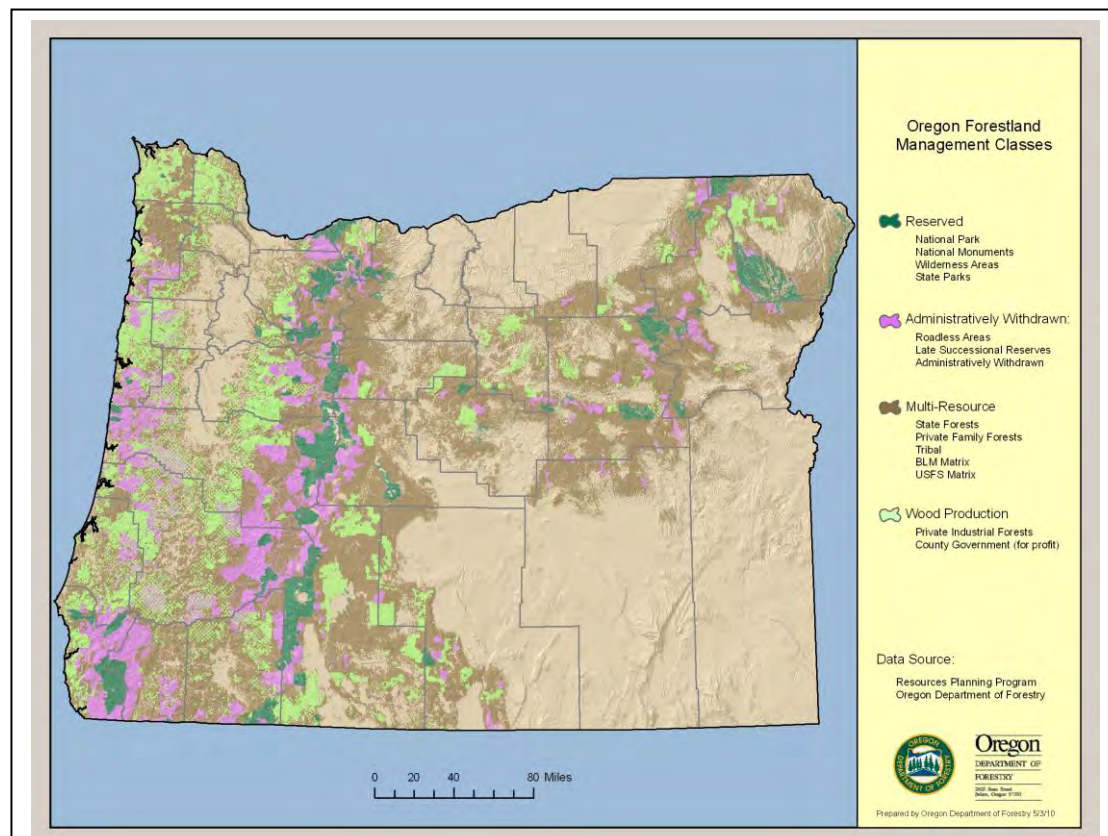


Figure 2: Oregon's forests by management class.

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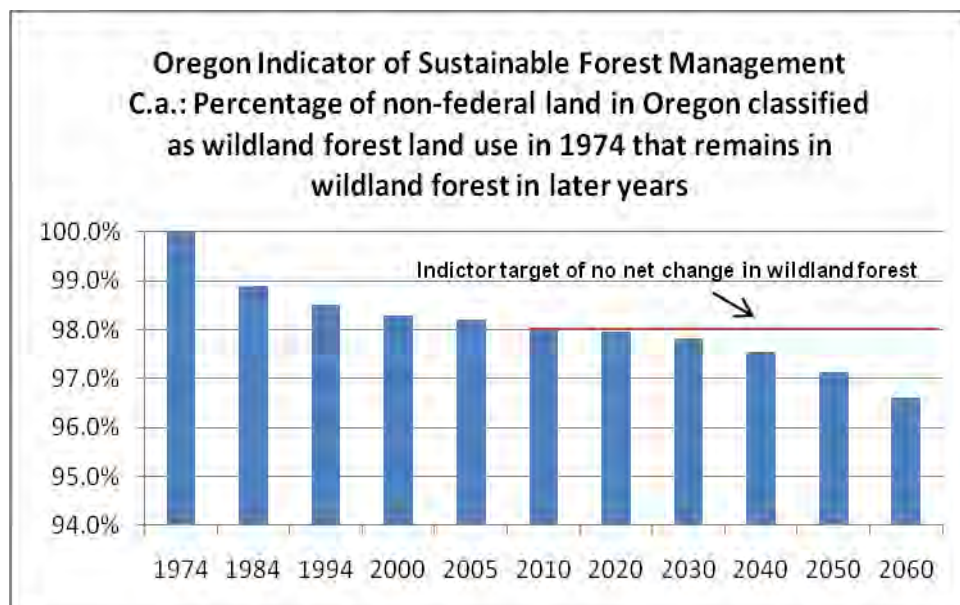
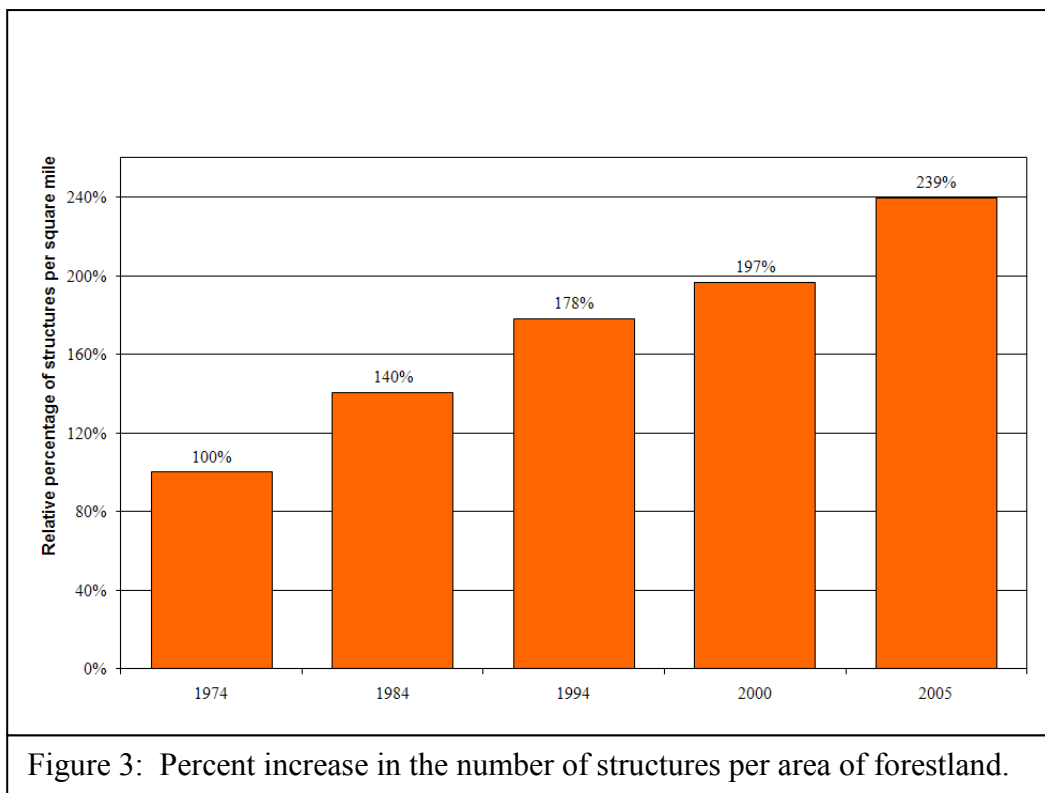


Figure 4: Percentage of non-federal forestland available in 1974 remaining as forestland – actual (1974-2010) and projected (2020 through 2060).

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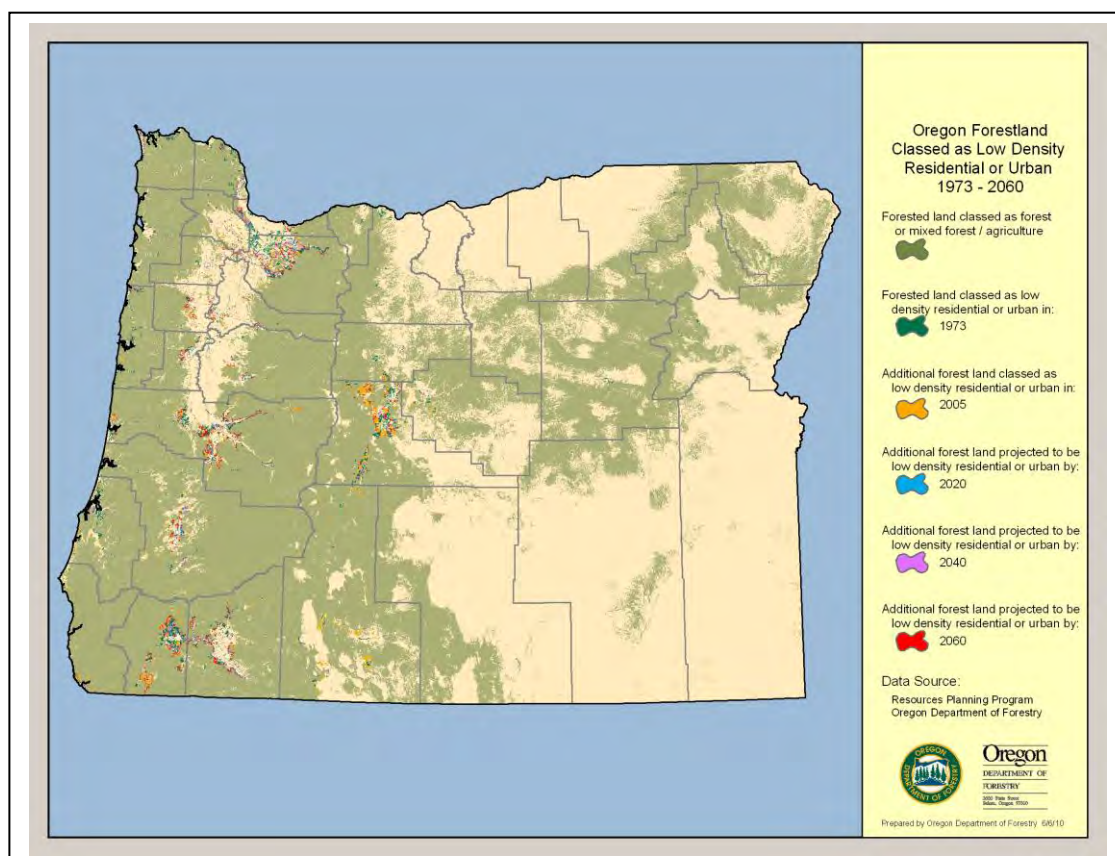


Figure 5: Projected loss of forestland to non-forest use.

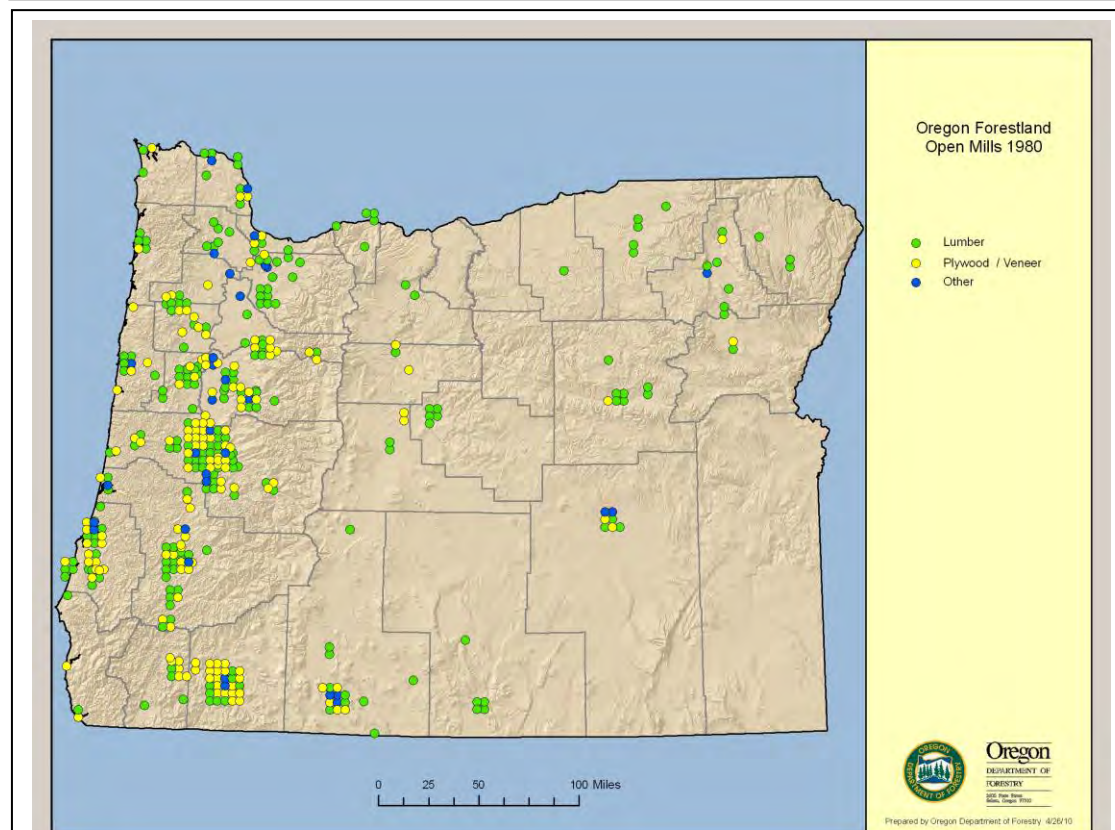


Figure 6a: Location of Oregon's wood products manufacturing facilities in 1980.

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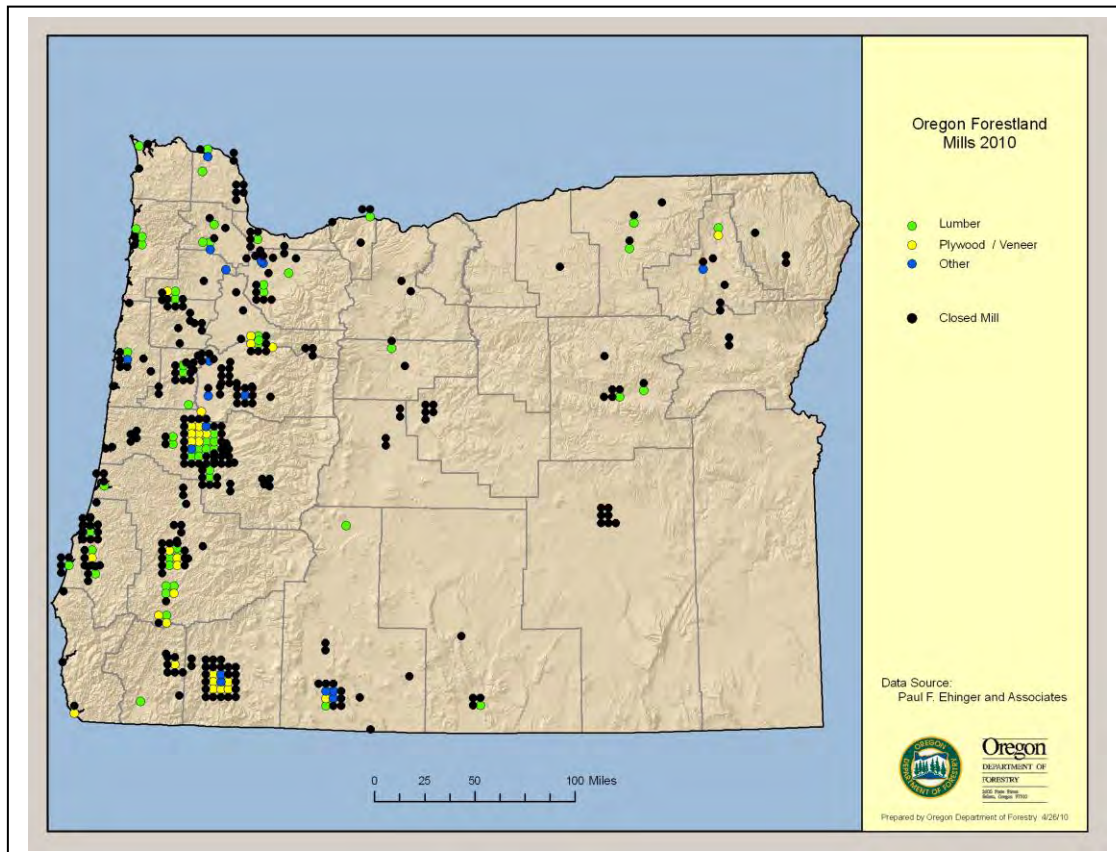


Figure 6b: Location of Oregon's wood products manufacturing facilities in 2010.

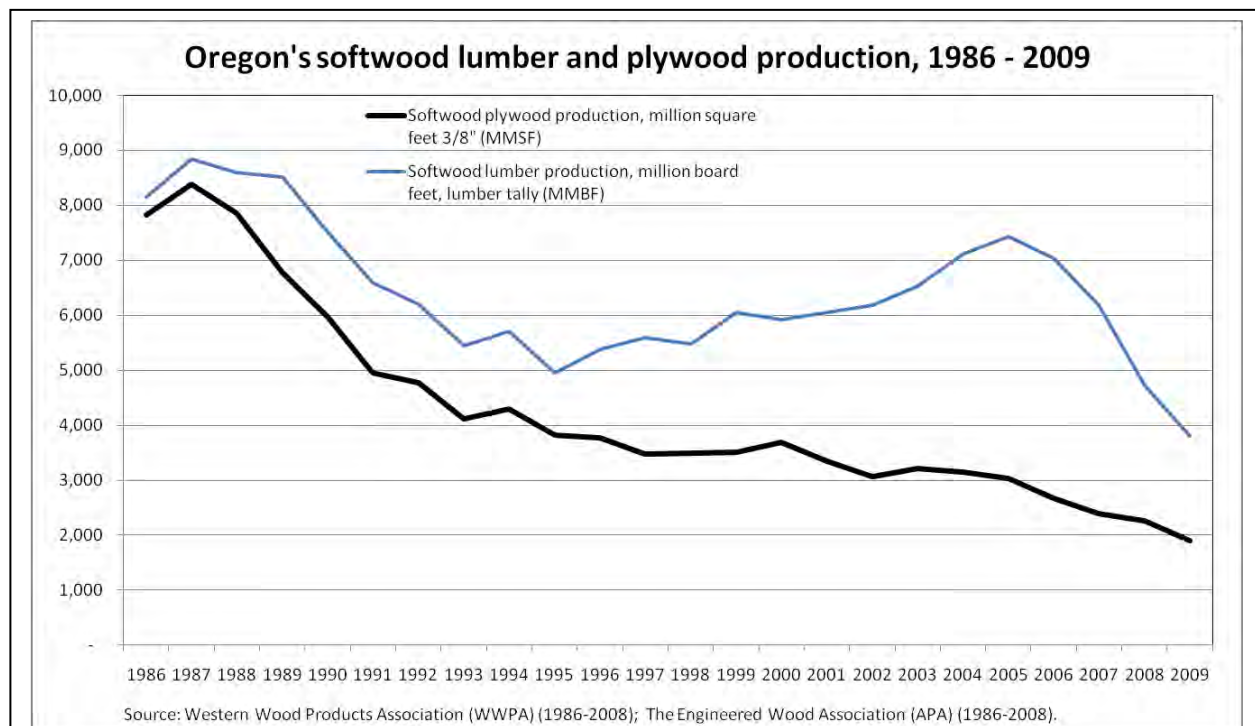


Figure 7: Oregon's softwood lumber and plywood production, 1986 - 2009.

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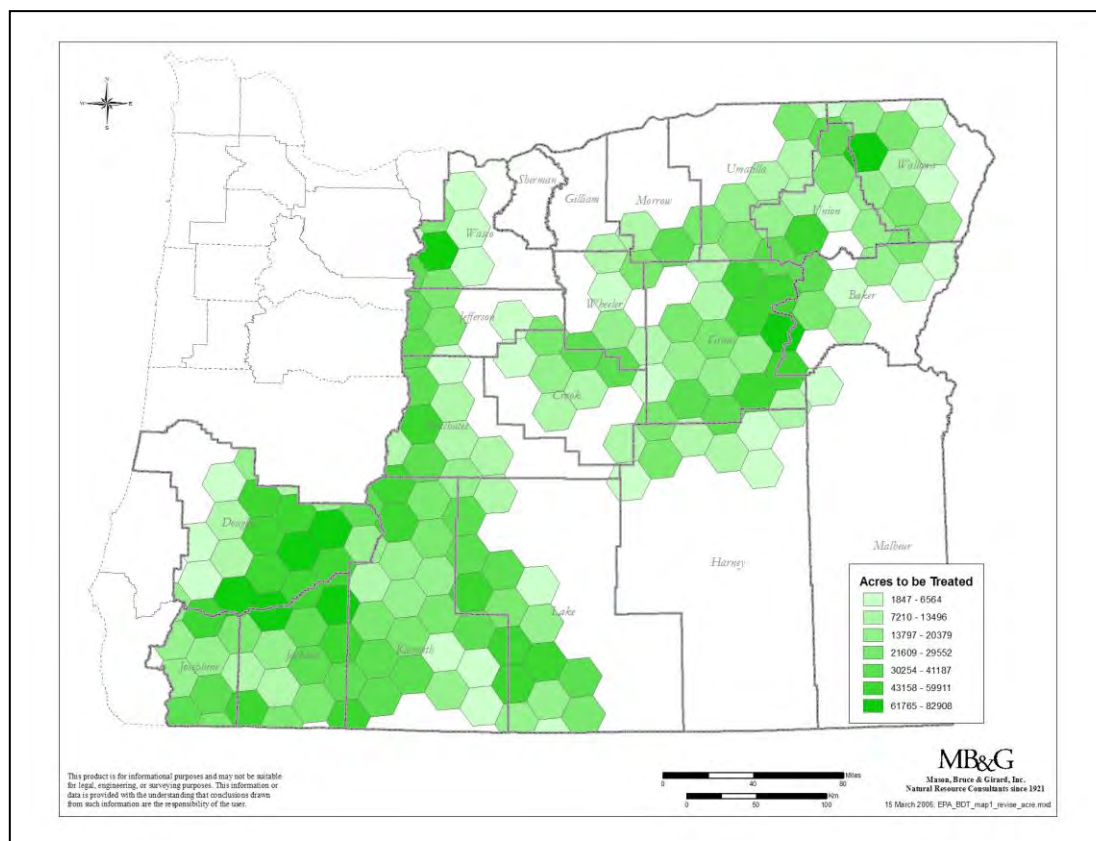


Figure 8: Biomass opportunity areas for utilization of forest residues.

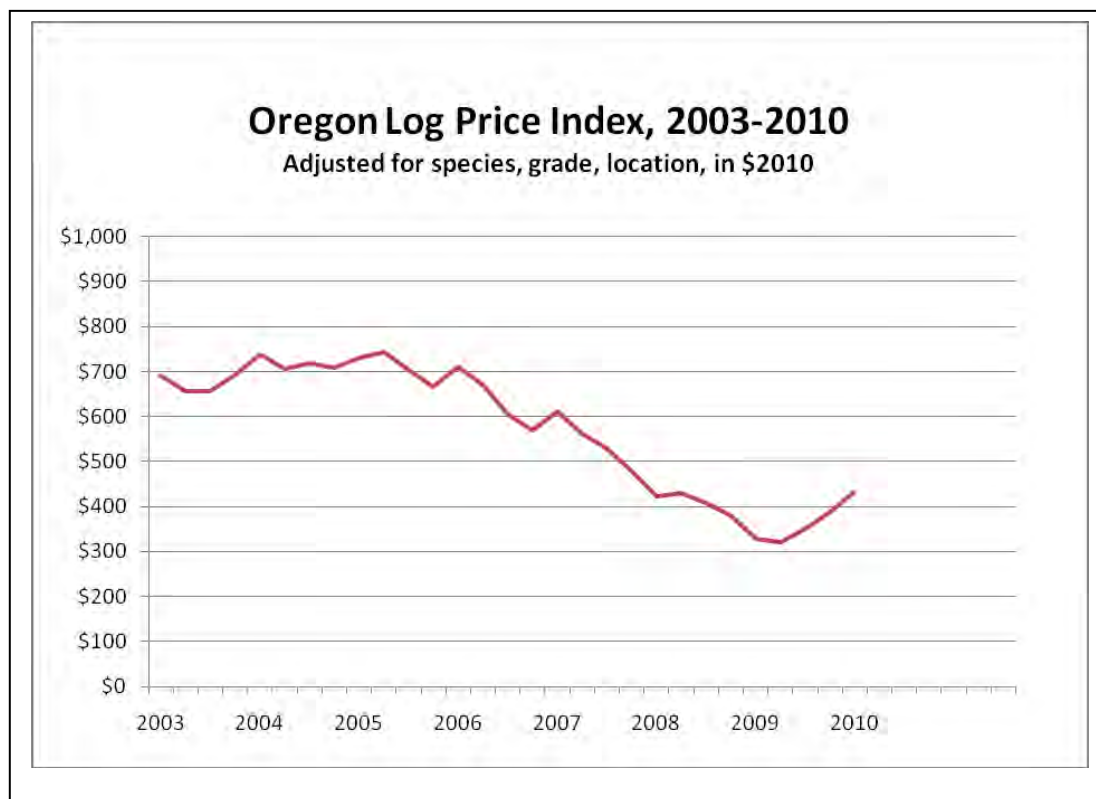


Figure 9: Oregon composite delivered log price index; 2003-2010.

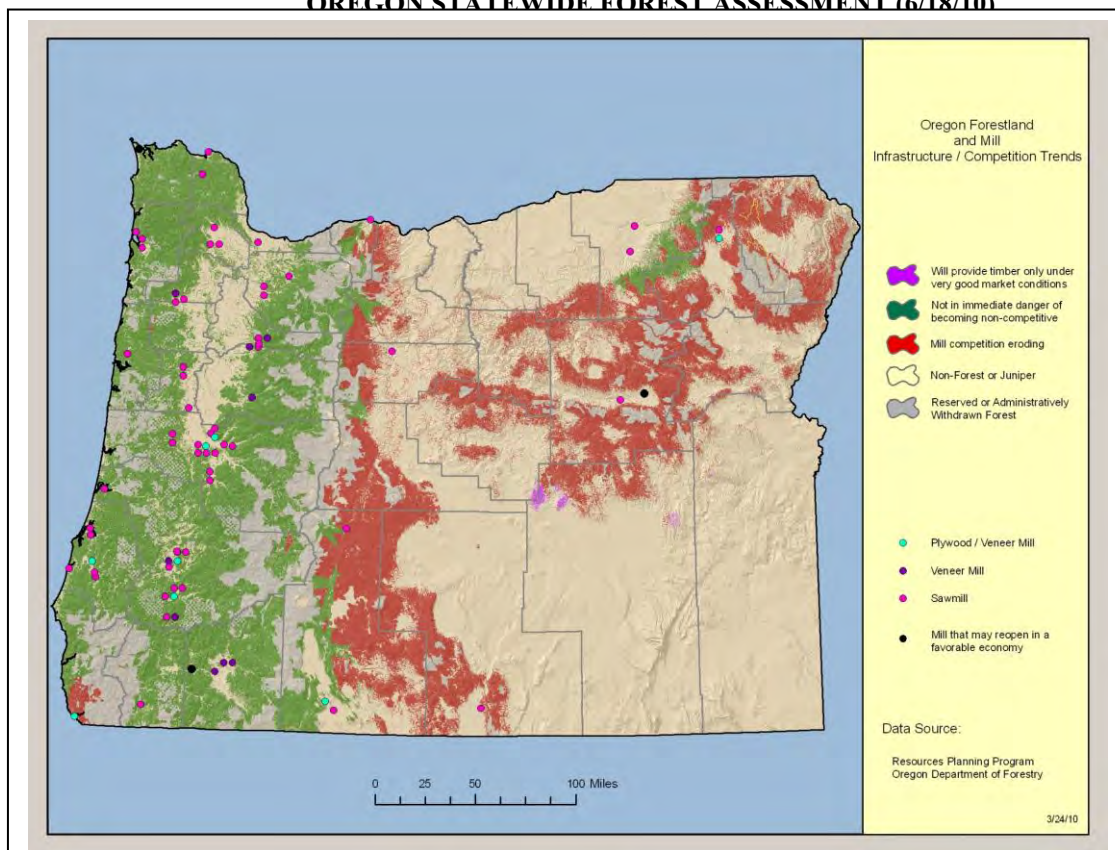


Figure 10a: Forestland at risk of losing competitive timber markets under poor economic conditions.

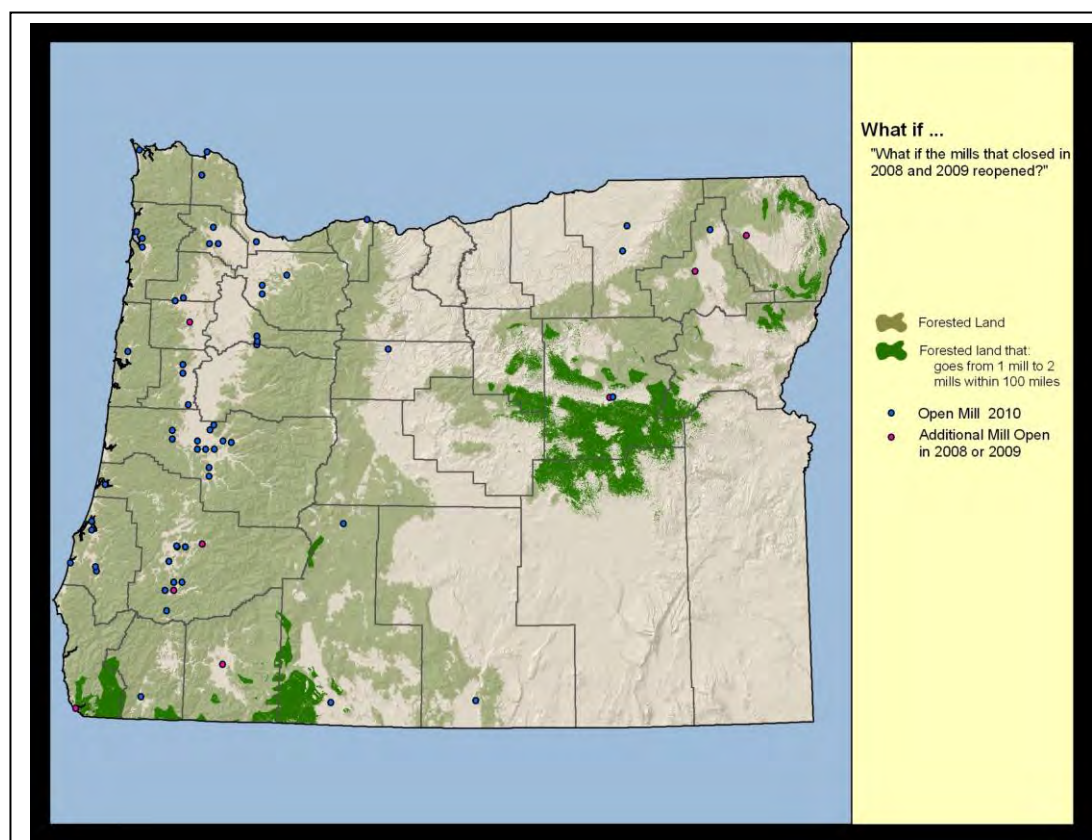


Figure 10b: Forestland that will gain market opportunity from recent mill closures reopening.

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Oregon Timber Harvest by Ownership Class
1962-2008

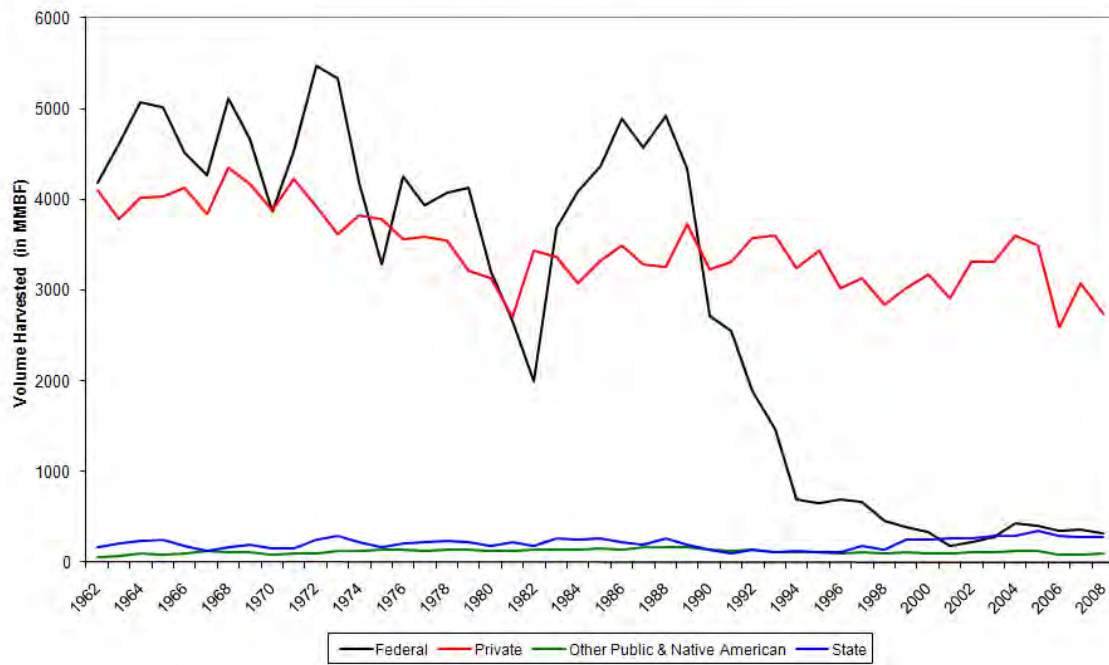


Figure 11: Oregon's timber harvest trend, 1962 - 2008.

Actual Harvest vs. Sustainable Private Harvest by Ownership Class

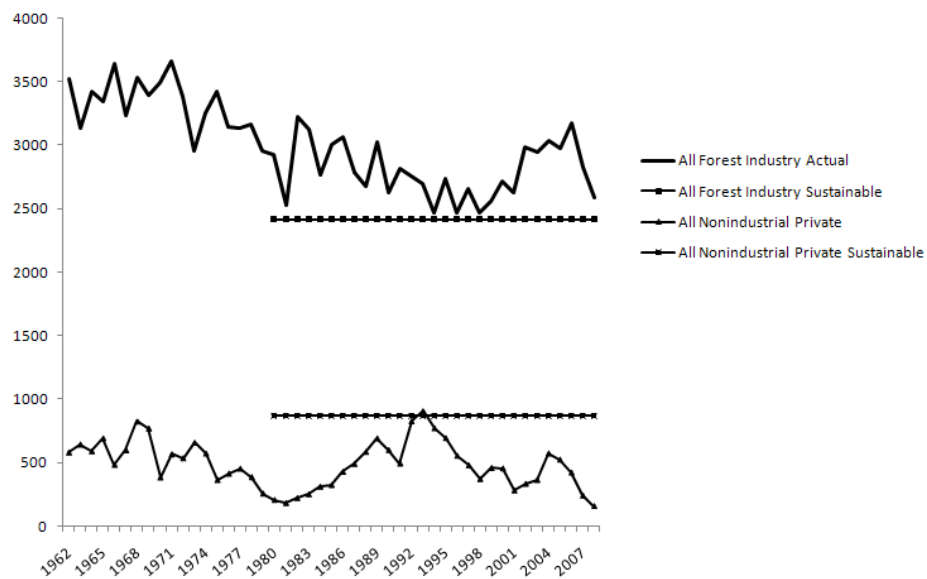


Figure 12: Private timber harvest trends, 1962-2008.

Oregon's Statewide Forest Assessment

APPENDIX -- Priority Issues

Diversity of Upland and Aquatic Habitats

Problem Statement

Oregon is rich in its fish and wildlife resources. However, some fish and wildlife habitats are threatened by human population growth and development, transportation and energy, intensive land management and a lack of education and awareness. When threats materialize, the results are habitat fragmentation, degradation and loss; reduced connectivity; and less diversity in native flora and fauna. Oregon forestlands provide little exception to these challenges despite a solid foundation in planning, regulatory and voluntary approaches to habitat conservation.

Background

Following broad public, stakeholder and government agency involvement and review, the Oregon Department of Fish and Wildlife finalized a state conservation strategy and action plan in February 2006 – known as the *Oregon Conservation Strategy*. Six key conservation issues affecting Oregon's ability to maintain healthy fish and wildlife populations throughout the state were identified:

- Land Use Change
- Invasive Species
- Disruption of Disturbance Regimes (e.g., wildfire regimes, flood regimes)
- Barriers to Fish and Wildlife Movement
- Water Quality and Quantity
- Institutional Barriers to Voluntary Conservation

The goals for taking action are: maintain and restore functioning habitats, prevent declines of at-risk species, and where possible, reverse any declines in fish and wildlife resources. The strategy builds upon Oregon's history in conservation – a framework of innovative plans, balanced regulation, and reliance on voluntary action. The *Oregon Conservation Strategy* updates the framework and provides a big-picture “blue print” for voluntary action to address the long-term needs of Oregon's fish and wildlife.

The strategy is developed for and organized around Oregon's eight ecoregions – portions of the state with similar climates and vegetation – and all of them containing forests (Figure 1). The strategy embraces two complementary philosophies:

“*Every Acre Counts*” – Implementing conservation actions will happen opportunistically based on interest and funding availability. Landowners and land managers will make

important contributions to habitat maintenance and improvements regardless of location, size and ownership.

Prioritizing Landscapes – Focusing investments on priority landscapes can increase the likelihood of long-term success, improve funding efficiency and promote cooperative efforts across ownership boundaries. Working in these landscapes coordinates action to increase their effectiveness at larger scales.

The strategy recognizes the importance and contribution of private lands to fish and wildlife conservation. One central focus of the strategy is affirming the importance of existing conservation tools and incentive as well as identifying needed tools and programs to best facilitate needed voluntary actions on private lands.

The strategy recommends that current incentive programs be aligned to focus on regional and statewide conservation goals, plans and priorities and be improved to:

- Focus on multiple key habitats and species.
- Be strategic rather than opportunistic in program delivery.
- Monitor ecological outcomes.
- Better coordinate between agencies, programs and partners.
- Provide adequate funding.
- Increase program participation by simplifying requirements and administration.
- Provide more technical support.
- Increased resources for program administration, outreach and delivery.

Expanded and New Conservation Voluntary Conservation Tools should:

- Develop business opportunities and other market-based approaches.
- Expand conservation banking.
- Develop and expand local citizen-based partnerships.
- Support multi-purpose approaches.
- Provide “one-stop shopping” for delivery of incentive programs.
- Create a statewide registry for tracking conservation actions and programs.

Implementation of the strategy will be through building upon existing conservation partnerships and forging new ones that involve landowners, citizens, conservation organizations, watershed councils, soil and water conservation districts, government agencies, research institutions and any other interests in fish and wildlife conservation.

What Do We Know About this Issue?

What are the Key Forest Plant and Animal Species of Interest?

There are 153 plant and animal species populations or recovery units that have been identified as key species for Oregon’s forests (Appendix A). This list comprises most major vertebrate

species associated with Oregon's forests as well as the subset of vascular plants and invertebrates of particular interest due to their uniqueness or sensitivity to further habitat loss. Of these, 137 are considered priority species in the *Oregon Conservation Strategy*, 5 are important game animals, and 2 have had permanent resource site protection measures adopted under the Oregon Forest Practices Act.

Figure 1 shows the biodiversity index ranking – a measure of relative abundance of species and habitats within a watershed with respect to the eco-region subsection the watershed is within -- for forested watersheds. See Appendix A for the context with respect to what is driving a watershed's biodiversity index in a particular eco-region subsection. Forested watersheds with high biodiversity indexes are rich in species diversity (the number and relative abundance of different species) and habitat diversity (the types and relative abundance of different habitats). The biodiversity index is calculated as the cumulative relative abundance of species and habitats found within the watershed in proportion to the total amount found within the respective terrestrial and aquatic eco-region subsections that the watershed is found within. Biodiversity in Oregon's forests is highest along the Cascade Range Divide and into southwestern Oregon as well as within the Blue Mountains of eastern Oregon. These same areas tend to be highest in forest diversity with respect to vegetation and structure (see Oregon Forest Atlas – dominant species, ecological systems, vegetative class).

What is the Mix and Spatial Distribution of Terrestrial and Aquatic Forest Biodiversity?

Oregon's forests are diverse with respect to tree cover (dominate species figure), size (see tree size figure), canopy cover (see canopy cover figure), structure (see vegetation structure figure) and vegetative habitats (see Oregon Forest Atlas). Table 1 lists the distribution of forest by dominate species cover for each of Oregon's 8 eco-regions. Oregon is also diverse with respect to the types of species and aquatic and terrestrial habitats found within forests (Appendix B – to be developed with the ODF assessment unit and species and habitat target data for both terrestrial and aquatic eco-sections).

What Forest Plant, Fish and Wildlife Species are at Risk?

Table 2 breaks out the number of key forest species by taxonomic grouping and their status designation specific to their distribution in Oregon. Table 2 also shows how many of the key species have been designated under the federal Endangered Species Act. There are an additional 45 populations or recovery units of key fish species (Appendix B). All are strategy species in the *Oregon Conservation Strategy*: coho salmon (3 populations, 2 of which are listed as threatened under the federal Endangered Species Act), Chinook salmon (10 populations, 3 of which are listed federally as threatened), chum salmon (2 populations; one under state status review for fear of extinction), steelhead (10 populations, 6 of which are federally listed as threatened and 1 which is a candidate for listing), bull trout (12 recovery units, all of which are federally listed as threatened), coastal cutthroat trout (4 populations, 2 of which are federally listed species of

concern) , westslope cutthroat trout (1 population federally listed as a species of concern), redband trout (1 population federally listed as a species of concern) and Oregon chub (1 population federally listed as a candidate species).

The key species discussed above are only a subset of the number of plants and animals found within Oregon's forests. Based on the estimates of the total number of Oregon forest species in each of the six taxonomic groups, the following percentages of forest species are currently considered at risk:

- Vascular Plants (flowering plants, ferns, and conifers) - 5.1% (180 out of 3,500 species)
- Mammals - 7.3% (11 out of 150 species)
- Birds - 5.6% (17 out of 305 species)
- Reptiles and Amphibians - 23.4% (15 out of 64 species)
- Fish – 25% (19 out of 76 populations)
- Invertebrates – Unknown total number, but 56 species considered at risk.

Figure 2 charts, by taxonomy group, the proportion of forest species at risk that are incurring increasing risk, decreasing risk, no change or considered at risk for the first time. Not shown are fishes – all at risk species experience no change in status; and reptiles and amphibians – 13 of the 15 at risk species experienced no change in status, the remaining 2 improved in status.

Where Are the Priority Conservation Areas and Goals for Conserving Oregon's Biodiversity?

The *Oregon Conservation Strategy* identified 165 Conservation Opportunity Areas across the state that represent priority areas that contained opportunities for taking action to achieve the goals of conserving strategy species and maintaining, restoring and improving habitats for strategy species (Figure 3). The idea behind Conservation Opportunity Areas is to focus investments in conservation so as to improve funding efficiencies, promote cooperative efforts across ownership boundaries, and increase the likelihood of long-term success across broad landscapes. The areas were also selected based on suitability with having the fewest conflicts – and hence conservation actions would most likely succeed - with respect to human population density, relative stream quality, non-native land cover and road density. Profiles for each Conservation Opportunity Area include information on recommended conservation actions, special features, key species, key habitats, and whether the Conservation Opportunity Area has been identified as a priority area in other conservation planning efforts. Priority actions – consistent with local priorities – are also highlighted. Conservation Opportunity Areas were identified for each ecoregion of Oregon using a three step process of computerized modeling of strategy species and habitats and land suitability, validation by experts and peer review.

The Nature Conservancy conducts periodic ecoregional assessments – terrestrial, aquatic and marine - to prioritize conservation actions. The assessments identify priority conservation areas – which in aggregate form an ecological portfolio -- that strives to achieve the goal of representing the full diversity of native species, natural communities, and ecosystems in

sufficient numbers and distribution to sustain them for the long term. The ecological portfolios are intended to contain enough priority conservation areas to be sufficient in size and scope so as to maintain the ecological and evolutionary potential and long-term survival of all native life and natural habitats, not just those that are rare, threatened or endangered. Wherever possible, each ecological portfolio seeks to contain those lands in management classes most suitable for conservation – be it parks and reserves, wilderness areas, or public lands. Figure 3 also shows the priority conservation areas for Oregon’s ecological portfolio.

Where Do We Need More Information?

How Has Land Use and Disturbance Affected the Distribution and Connectivity of Historical Fish and Wildlife Habitats in Oregon’s Forests?

Knowing the historic (i.e., pre-European settlement) distribution and conditions of forests is important to provide a point of reference as to the types of forest habitats that have been altered or lost as a means to help explain declines in species populations. However, the historic vegetation information is limited to General Land Office and other land survey notes. While this information has been used to recreate maps of Oregon’s forests in the 1950’s – the information is point in time and mostly describes forest cover but not structure. Further, knowing the historical variation in forest conditions resulting from wildfire and other disturbance events is absent.

For example, there has been long running debate about the loss and connectivity of late successional and other older forest habitats in Oregon (and elsewhere throughout the western region). Prior to European settlement in Oregon, the distribution and extent of older forest conditions was influenced by wildfire and other natural disturbance events such as wind and flooding. Historic vegetation maps produced by the Oregon Natural Heritage Information Center from General Land Office survey notes from the 1850’s and historic vegetation maps from land surveys conducted in the 1930’s show Oregon was mostly forested prior to European settlement. However, a historic, timber volume map published by the U.S. Geological Survey in 1900 shows that not all of this forestland was in older forest due to large, stand replacing wildfires which created expansive areas of brushy, younger forests containing little or no volume. Over the last century, many of these forest areas have matured and contain the older forest conditions – layered canopies, very large trees, standing dead and down wood and varied species composition – important habitat features for older forest dependent wildlife species such as the northern spotted owl.

Over the same period (1850’s to the 1990’s) – historic lumbering and the expansion of logging on federal lands to feed the country’s need for wood in a post World War II developing economy – resulted in changing many areas of western Oregon from old growth to second growth forests – leading to concerns about a fall down in sustainable harvest levels in the 1970’s from an economic perspective and strong concern about the loss of old growth on federal lands from an environmental perspective in the 1980’s. For the past 20 years,

federal forestlands managed by the USDA Forest Service and USDI Bureau of Land Management under the Northwest Forest Plan are managed under a late successional reserve system designed explicitly to conserve and restore older forest habitats. With the adoption of the Northwest Oregon State Forest Management Plan by the Oregon Board of Forestry in 2001 (and as amended in 2010); the forests regenerated by tree planting and aerial seeding following the Tillamook burns of the 1930's, 1940's and 1950's as well as other state owned second growth forests in northwest Oregon are to be actively managed to provide layered and older forest habitats on at least 30 percent of the forested landscape (by administrative unit). While the debate over how much old growth was once in Oregon and how much still remains will likely never be settled; significant areas of Oregon's public forest land is being managed to conserve and restore these habitats into the future.

The point with this example is that it is difficult to make exact comparisons between historic forest conditions and forest conditions today because the data available today cannot be effectively crosswalked to the data referencing historic forest conditions – especially with respect to spatial extent and key habitat features tied to forest structure such as canopy layering, understory vegetation, snags and down wood. Despite these limitations, some know patterns of change or loss in Oregon's forests have emerged:

Aspen woodlands – where wildfire exclusion, grazing and invasive species are threatening the function of this important island forest habitat in the desert sage region of southeastern Oregon by limiting regeneration and altering understory conditions; many aspen stands are ending their natural cycle and no new stands are being regenerated and recruited to replace them putting many species wholly dependent on them at risk.

Dry and mixed conifer forest types -- where the ecological role of frequent wildfire events has been disrupted by fire suppression allowing a build-up of forest fuels, increased tree stocking and significant changes to forest composition in species, size and trees per acre.

Late successional conifer forests – where timber harvest and large historical wildfires have replaced many of these older forests – complex in habitat features and structural diversity – with younger forests that have yet to develop these features (though many have been retained); despite the ambiguity in making comparisons as discussed above – an analysis of 1850 forest conditions compared to current forest conditions indicate an estimated 25 percent of late-successional Douglas-fir mixed conifer forests remain in the Klamath Mountains, 23 percent remaining in the western Cascades (and only 10 percent at elevations below 4,500 feet) and 8 percent remaining in the Coast Range.

Oak and pine woodlands and savannas – where urban and residential development, agriculture and the expansion of Douglas-fir forests (from wildfire exclusion and plantation forestry) have eliminated over 90 percent of these habitats in western Oregon valleys and foothills.

Riparian forests and floodplains – where urban and residential development and agriculture on floodplains and wetlands has reduced bottomland hardwood forest habitats, channeled streams, disrupted braiding and floodplain connectivity and simplified estuaries and filled wetlands; where historic splash dams used to transport logs to mills simplified in-stream habitat complexity (especially the loss of large wood); and where historic logging, road building and wildfire have changed riparian forest composition in terms of tree size and species composition.

Threats

Table 3 summarizes the primary factors that limit the achievement of conservation goals within each ecoregion. The factors that limit conservation on forestlands are: altered fire and flood regimes, land use conversion, invasive species and habitat fragmentation and loss.

- *Disruption of Disturbance Regimes* – Suppression of wildfires, increased population density and structures within forests have altered natural fire regimes and place important forest fish and wildlife habitats at risk. Similarly, roads, historical splash dams, agriculture and urban and residential development have altered forest riparian, instream and floodplain habitats.
- *Land Use* – The conversion of forests to other land uses such as intensive agriculture, rural residential or urban reduces fish and wildlife habitat connectivity and patch size. Further, the juxtaposition of different forest management classes being practiced by different forestland owner groups fragments forest conditions – to the benefit of some forest species but to the detriment of others that depend on large areas of unbroken older forest conditions.
- *Invasive Species* – Invasive species crowd out native plants and animals and can become a serious problem by altering habitat composition and function, increasing wildfire risk, reducing ecosystem productivity.
- *Habitat Fragmentation and Loss* – Important non-commercial habitats such as pine and oak savannas and woodlands, bottomland gallery hardwood forests, mature groves of aspen have been significantly reduced due to development, agriculture and lack of regeneration. Further, the juxtaposition of different forest management classes being practiced by different forestland owner groups fragments forest conditions across a landscape – to the benefit of some forest species but to the detriment of others that depend on large areas of unbroken older forest conditions.

Opportunities

- Maintain and enhance important fish and wildlife habitats and habitat features on forestlands.
- Provide habitat conditions and connectivity suitable for the movement of fish and wildlife.
- Maintain and improve programs that support voluntary conservation actions.
- Develop ecosystem services markets or market based payment mechanisms for conservation.
- Restore the role of wildfire in forest ecosystems to improve forest health and resiliency.

Opportunities Identified from Other Issues

Communities at Risk of Wildfire

- Actively manage forests at risk of uncharacteristically severe wildfire.

Maintain the Forest Land Base

- Maintain forest cover and connectivity within rural-urban interface areas.
- Assist family forestland owners with their management of forests.
- Encourage private and public investment in large blocks of private industrial forestlands.

Invasive Species

- Prevention of and early detection and rapid response to new introductions of invasive species.

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OREGON STATEWIDE FOREST ASSESSMENT (6/18/10)

Table 1: Area of forestland by dominant species cover type (Sustainable Forest Management Indicator E.a.)

ECOREGION	Klamath Mountains		West Cascades		Blue Mountains		Willamette Valley		Southeast Oregon		East Cascades South		East Cascades North		Coast Range		TOTAL	
Dominate Species	Acres	%	Acres	%	Acres	%	Acres	%	Acres	%	Acres	%	Acres	%	Acres	%	Acres	%
Douglas fir	2,017,324	58	4,002,912	60	1,449,717	16	807,435	64			54,938	1	248,624	25	3,335,693	69	11,916,643	
Oregon white oak	293,298	8	19,512	< 1			55,988	3			12,888	< 1	67,388	7	51,567	1	500,641	
Pacific madrone	246,064	7	14,647	< 1			6,960	< 1							7,833	< 1	275,504	
Tanoak	146,711	4	0	0											66,791	1	213,502	
Ponderosa pine	128,340	4	124,419	2	3,184,822	34			14,576	3	2,250,445	50	500,876	50			6,203,478	
White fir	119,462	3	298,800	4	38,071	< 1					575,530	13	51,363	5			1,083,226	
California black oak	92,700	3	10,314	< 1			7,473	< 1			673	< 1			6,163	< 1	117,323	
Incense cedar	66,327	2	41,353	< 1							28,161	< 1	8,439	1			144,280	
Western white pine	66,308	2	5,910	< 1							4,667	< 1			1,586	< 1	78,471	
Canyon live oak	63,147	2	0	0											680	< 1	63,827	
Jeffrey pine	45,926	1	0	0													45,926	
Sugar pine	35,676	1	3,142	< 1							12,818	< 1			12,798	< 1	64,434	
Port Orford cedar	28,037	1	0	0											19,172	< 1	47,209	
Knobcone pine	18,287	1	4,158	< 1											685	< 1	23,130	
Giant chinquapin	12,251	< 1	12,416	< 1			1,704	0							2,667	< 1	29,038	
Bigleaf maple	11,237	< 1	42,716	< 1			81,955	7							82,083	2	217,991	
Shasta red fir	9,926	< 1	198,516	3							17,429	< 1					225,871	
California laurel	9,443	< 1	0	0											23,241	< 1	32,684	
Grand fir	7,489	< 1	40,080	< 1	1,443,040	16	14,201	1					27,775	3	11,083	< 1	1,543,668	
Lodgepole pine	5,604	< 1	238,112	4	416,629	4					1,055,983	24	15,512	2			1,731,840	
Red alder	4,448	< 1	58,586	< 1			54,628	4							573,207	12	690,869	
California red fir	3,662	< 1	0	0													3,662	
Mountain hemlock	3,053	< 1	612,476	9	2,521	< 1					15,571	< 1	1,919	< 1			635,540	
Willow	1,411	< 1	1,619	< 1			6,436	1							15,070	< 1	24,536	
Western hemlock	1,402	< 1	458,853	7			13,281	1			18	< 1	512	< 1	380,786	8	854,852	
White alder	1,259	< 1															1,259	
Redwood	1,122	< 1													4,591	< 1	5,713	
Bitter cherry	966	< 1															966	
Western red cedar	245	< 1	81,387	1			35,879	6							86,980	2	204,491	

OREGON STATEWIDE FOREST ASSESSMENT (6/18/10)

Table 1: Area of forestland by dominant species cover type (Sustainable Forest Management Indicator E.a.) continued.

	Klamath Mountains		West Cascades		Blue Mountains		Willamette Valley		Southeast Oregon		East Cascades South		East Cascades North		Coast Range		TOTAL	
	Acres	%	Acres	%	Acres	%	Acres	%	Acres	%	Acres	%	Acres	%	Acres	%	Acres	%
Juniper					1,755,764	19			427,716	93	359,419	8	54,850	5			2,597,749	
Western larch					252,741	3											252,741	
Subalpine fir					197,157	2					2,518	< 1	3,073	< 1			202,748	
Engelmann spruce					190,664	2					4,664	< 1	444	< 1			195,772	
Whitebark pine					42,092	< 1											42,092	
Mountain mahogany					9,435	< 1			14,543	3	3,116	< 1					27,094	
Oregon ash							13,845	1									13,845	
Black cottonwood							11,000	< 1					429	< 1			11,429	
Pacific dogwood							6,048	< 1							499	< 1	6,547	
Pacific silver fir											699	< 1	290	< 1			989	
Aspen											12,952	< 1					12,952	
Noble fir													3,534	< 1	15,162	< 1	18,696	
Sitka spruce															120,923	2	120,923	
Beach pine															47,481	1	47,481	
TOTAL																	30,531,632	

OREGON STATEWIDE FOREST ASSESSMENT (6/18/10)

Table 2: Status of key forest species in Oregon by taxonomic grouping.

Taxonomic Grouping	Total Number	Oregon Designation						Endangered Species Act Status		
		S1	S2	S3	S4	S5	INT	END	THT	OTH
Amphibians	17	1	7	9						3
Birds	31	1	6	13	10		1		2	
Fish	45								23	5
Mammals	14		4	7	1	2				
Insects	6	5		1						
Mollusks	27	24	2	1						
Vascular Plants	15	8	3		4			2	2	
		S1 – Critically Imperiled: extremely rare. S2 – Imperiled: restricted or populations in decline. S3 – Vulnerable: At moderate risk of extinction. S4 – Apparently Secure: Uncommon but not rare. S5 – Secure: common, widespread and abundant. INT – Introduced game species.						END – Endangered THT – Threatened OTH – Proposed, candidate, special concern, status review.		

OREGON STATEWIDE FOREST ASSESSMENT (6/18/10)

Table 3: Summary of *Oregon Conservation Strategy* identified factors limiting conservation by ecoregion.

ECOREGION			Factors Limiting Achievement of Conservation Goals										
	Number of <i>Oregon Conservation Strategy</i> Conservation Opportunity Areas	Number of Ecological Portfolio Priority Conservation Areas	Altered Fire and Flood Regimes	Land Use Conversion	Recreational Use	Water	Invasive Species	Oil Spills	Alterations to Estuarine, Floodplain and Wetland Habitats	Soil Erosion	Habitat Fragmentation and Loss	Mineral Extraction	Overgrazing
Blue Mountains	26		x	x	x	x	x				X		
Coast Range	43			x	x		x	x	x				
Columbia Plateau	9					x	x			x	x		
East Cascades	22		x	x	x	x	x				x		
Klamath Mountains	13		x	x			x				x	x	
Northern Basin and Range	14		x		x	x	x						x
West Cascades	11		x				x						
Willamette Valley	27		x	x			x		x		x		
TOTAL	165												
*Bold indicates primary factors that threaten fish and wildlife conservation on forestlands.													

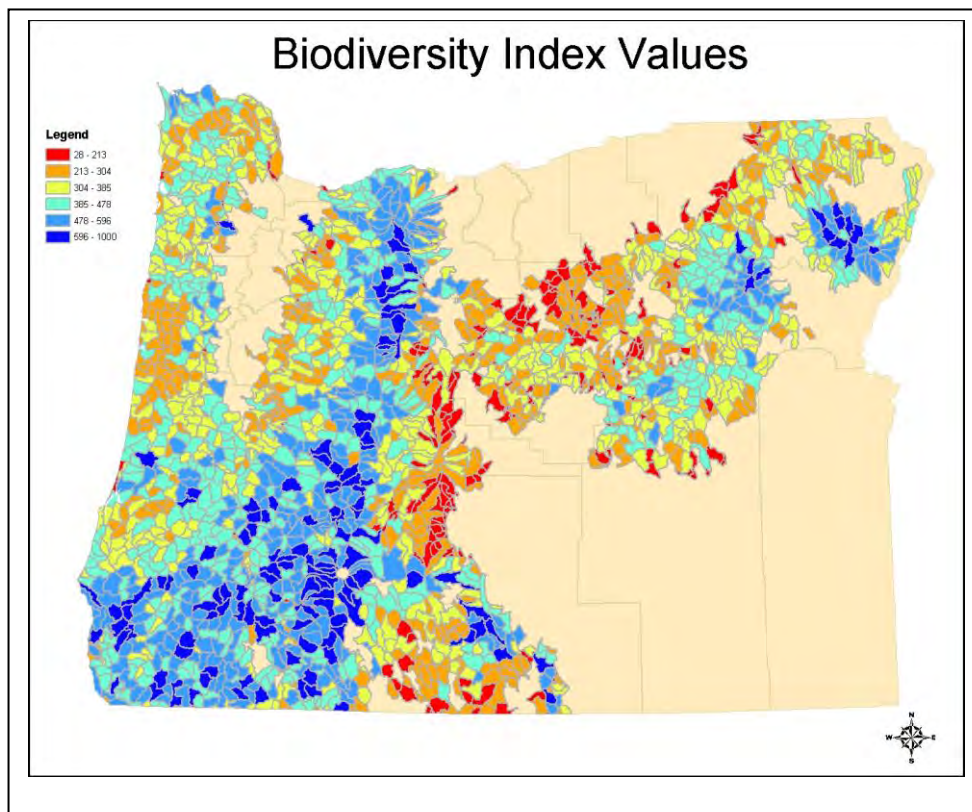


Figure 1: Biodiversity ranking of forested (at least 40%) watersheds.

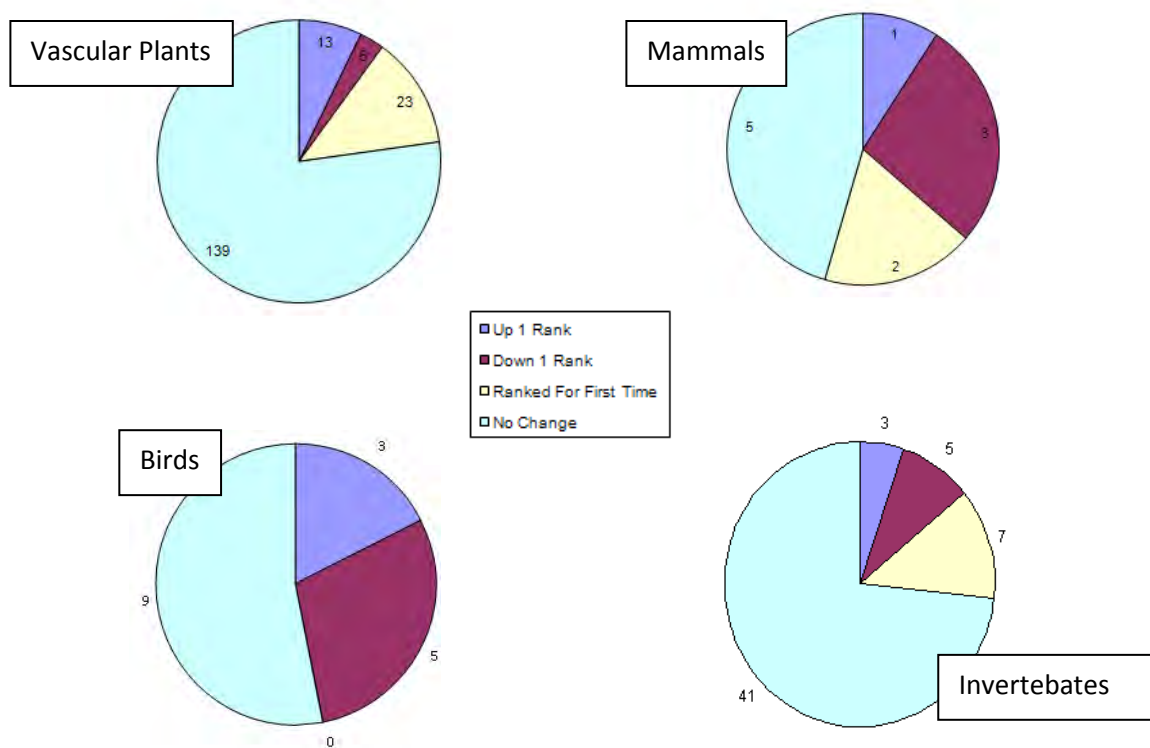


Figure 2: Change in status for "at risk" forest plants and animals, 2001-2007 (Sustainable Forest Management Indicator E.c).

Oregon's Statewide Forest Assessment

APPENDIX -- Priority Issues

Invasive Species

Problem Statement

Invasive species are non-native plants and animals that spread rapidly once established and adversely affect habitats and desired land uses economically, socially, and/or ecologically. Invasive species constitute a major threat to the integrity of Oregon's forests. Invasive species have the effect of simplifying ecological diversity and function by selectively eliminating or reducing native species – permanently altering species composition and habitat. Invasive species can increase forest management costs and decrease profitability as well as jeopardize access to forest product markets through quarantines and other control measures.

Background

The spread of non-native organisms in Oregon and around the world has had a profound impact on human and ecological communities. Nonnative species have reduced the economic viability of some land uses, required costly eradication efforts to maintain ecosystem integrity for others, and are a major cause of extinction of native species. Nonnative species often affect ecosystems and land use by competitively excluding desired species and altering disturbance cycles. However, not all non-native species are harmful; in fact, some are beneficial and others appear to be harmless. It only a small few that become invasive; but with these few, their impacts and damage can be quite large. Though Oregon hosts many invasive species, most of the United States' worst invasive species, including zebra mussel, gypsy moth and kudzu, are not established in Oregon.

Oregon, by being a coastal state and a major port of entry of overseas and domestic commerce, faces a high risk of new introductions of invasive species from plants and animals that hitchhike their way in by attaching themselves to ships, planes, moving vans or recreational vehicles; or become stowaways in shipped cargo and other containers. This risk is expected to increase with projected increases in commerce and travel into Oregon. Furthering the risk is that a small population of invasive species may persist for many years before being detected; detection usually means the population is now big enough that eradication efforts are either prohibitively costly or just plain impossible. Exclusion, early detection and rapid response are by far the most cost-effective way of dealing with invasive species.

Invasive species constitute a major threat to the integrity of native forest ecosystems. Some, such as Scotch broom and Armenian (Himalayan) blackberry, are well established and have been in Oregon for several decades. Such well established invaders permanently alter forest habitats, interfere with forest regeneration as well as increase risks from soil erosion and wildfire. Other

invasive species are recent to Oregon. *Phytophthora ramorum*, the pathogen that causes sudden oak death - a fatal disease to Oregon's tanoaks - first appeared in Oregon in 2001 just north of Brookings. The same pathogen causes leaf spots and twig die back in rhododendron, California bay laurel, huckleberry, redwood, Douglas fir and many other plants. Eradication efforts have been very aggressive; since the pathogen's introduction approximately 2,900 acres of forest have been treated at an estimated cost of \$5 million. Not only is there concern about the disease spreading and altering the species composition of Oregon southern coastal forests; but if eradication is not effective, the economic impact to Oregon's forest products and landscape nursery industry would be substantial as a result of quarantines against exporting plant material.

What Do We Know About this Issue?

How many acres of forests are affected by invasive plants and animals?

Data on invasive species in Oregon is generally quite limited. Annual aerial surveys and periodic ground surveys and formal inventories of forest lands provide information on some previously established invasive insects, diseases and plants, but are insufficient to detect new arrivals.

Invasive Insects and Diseases -- The Oregon Department of Forestry-USDA Forest Service cooperative aerial survey of Oregon forest lands estimated that established invasive insects and diseases occurred on an average of over 97,000 acres per year from 2003-2007 (Figure 1). The predominant agents were defoliating and sucking insect pests such as balsam woolly adelgid, larch casebearer, spruce aphid and satin moth insect pests, as well as Port Orford cedar root disease and white pine blister rust. Damage was greater in eastern Oregon than in western Oregon. Recent infestations have occurred primarily on federal forest lands; the exception being early detections of gypsy moth and *Phytophthora ramorum* on private lands. Trees affected included true firs, Sitka spruce, five-needle pines, Port Orford cedar, and western larch. Average infested acreage was 72 percent higher than the previous five-year average, which is due to both pest expansion as well as the development of better aerial survey detection methods.

Phytophthora ramorum was first discovered in July 2001 at five sites on the southwest coast near the town of Brookings based on aerial survey detections of unexplained tan oak mortality. Aerial photos of the area indicate that the pathogen was likely present in Oregon since 1997 or 1998. Outside of Oregon, *Phytophthora ramorum* is known to occur in forests only in California (14 counties) and in two European countries. The origin of the pathogen is unknown and it is not clear which of the known populations served as the source for introduction in Oregon. Aggressive eradication efforts led by the Oregon Department of Forestry with cooperative support by the USDA Forest Service, Oregon Department of Agriculture and private forest landowners have contained the pathogen to a 162 square mile quarantine area in Curry County. Figure 1 shows the cumulative number and area of known sites and the number of tanoaks infected.

Invasive Plants – Invasive plants spread through Oregon’s forest as a function of site disturbance and in riparian areas, as a function of stream hydrology. For example, the combination of channelizing and disturbing stream channels creates environments for the colonization and spread of invasive species which quickly suppress or eliminates native riparian vegetation. Further, the closer forests are to urban and rural residential developments, the more likely that invasive plant species are a significant component of forest understory vegetation. Other vectors for invasive plants include development within forest areas, and the accompanying infrastructure in roads, sewage pipes and power lines. Over a half a million acres of Oregon’s forests are infested (Table 2). The estimates are based on compilations of inventory plot information collected by the Forest Inventory and Analysis Program of the USDA Forest Service. The estimates vary widely due to a limited number of inventory plots measured and likely under estimate the true area impacted. Most of the species listed are considered invasive because of their impacts to habitats, site productivity and competition. Of the 2,626 plots inventories; 35 percent (904) had at least one infestation. The species listed are well established and represent a permanent feature of Oregon’s forests that only can be managed – though localized efforts could eradicate some populations or prevent their spread.

The spatial extent and degree of establishment of invasive plants is becoming better known through Oregon’s Weedmapper – a federal and state cooperative web-based tool that spatially shows known locations of noxious weeds throughout the state as collected by responsible federal, state, and local agencies. The site is especially important for tracking early detection and spread of Oregon’s “A,T” listed weeds – weeds that represent an economic threat but occur in small enough populations where eradication or containment is still possible. For example, kudzu – an extremely aggressive invasive that can completely cover trees and understory vegetation to their complete destruction – has been detected at 3 sites in northwest Oregon – all controlled. Weedmapper alerts landowners and the public of the need to report any new discoveries of this species.

The number of different species, their frequency, and the overall cover of invasive plants differs by forest stand age – with more invasive plants found in younger stands. Young stands provide the combination of recent disturbance as well as sufficient sunlight reaching the forest floor for propagation. However, this trend is bucked when forest stands are near developed centers. Many older forests with canopy closure can be inundated with invasive plant species – old winter’s beard, English ivy, English Holly, false brome – because these invaders are shade tolerant.

Invasive Animals – Feral pigs and the barred owl are the most significant invasive animals affecting Oregon’s forests. Introduced for hunting, feral pig populations have been reported in 9 Oregon counties: southwest Oregon’s Coos, Curry, Josephine, Jackson and Klamath counties; central Oregon’s Wasco, Jefferson, Crook and Wheeler counties. Reports indicate that current populations are small, relatively isolated from each other,

and seem to be limited by hunting pressure, and government control efforts. Feral pigs damage forest understories and soils through rooting and grubbing and can effect timber productivity by destroying seedlings and saplings. They can be especially damaging in oak woodlands because of their propensity to consume all available oak mast to the detriment of native wildlife.

Barred owls – a close cousin to the northern spotted owl -- have expanded their range from the eastern United States and now have become quite established in Pacific Northwest forests. Barred owls are generalists in their habitat and food requirements so can occupy a range much larger than the more stringent habitat and food requirements of the northern spotted owl. Where the two species have overlapped in their range, the result has been that barred owls push northern spotted owls out of their preferred habitat. This has been significant in Washington's Olympic peninsula – where population declines of the northern spotted owl are three times as first predicted based on habitat alone. The U.S. Fish and Wildlife Service's recovery plan for the northern spotted owl calls for setting up pilot programs for eradicating local populations of barred owl in northern spotted owl habitat to see if northern spotted owls will reclaim those habitats. Barred owls can interbreed with northern spotted owls which dilutes the genetic distinction between the two species. It is still being researched and discussed whether the two species can coexist or whether intervention to control barred owl populations can be a practical means to maintain populations of the northern spotted owl.

Where Do We Need More Information?

What are the key vectors for the introduction and spread of invasive species?

There is still a lot to be learned about the factors contributing to invasive species introductions, establishment and spread. Many of the plants now considered invasive in Oregon's forests were deliberately introduced as ornamentals for gardening, landscaping or agriculture. Soil disturbance and other alterations to natural ecosystem functions drive the establishment and spread of invasive species. For example, Japanese knotweed, an invasive in riparian forests rapidly colonized new sites and expanded its range after the 1996 flooding in northwest Oregon because flooding is a key vector for distributing plant material capable of becoming new plants to new sites. Another example is Scotch broom which can produce a large seed bank in soils that stay viable for decades. Once these soils are disturbed, Scotch broom can quickly colonize the site and prevent the establishment of desired species. Armenian blackberry quickly sprouts after being mechanically cut or mowed – making mechanical control ineffective.

The spatial distribution and temporal trends of nonnative plant populations are usually not well known, because available information usually consists of qualitative descriptions, chronologies of herbarium specimens, single-species surveys, or narrowly-focused research. Further, like the case with the barred owl, invasions of exotic species into new geographical areas sometimes occur naturally and without humans being responsible primarily because all species have the

potential to spread into new areas given that conditions are favorable to expansion. For plants and pathogens, natural pathways include wind, currents, and other forms of dispersal in which a specific species has developed morphological and behavioral characteristics to employ.

Human activity is by far the leading cause of invasive species introductions and often contributes to their establishment and spread. Intentional introductions of species for gardens, propagation or pets and are widespread and well documented. Unintentional pathways of introduction are harder to predict and often are not well understood until after the invasive species has become established. Examples of unintentional pathways are soil associated with the trade of nursery stock, seeds contaminating gravel and rock for road construction, hiking footwear, logging equipment, recreational vehicles. Solid wood packing and firewood are major vectors for invasive wood-boring insects.

The most effective control method for invasive species is prevention. The Oregon Departments of Agriculture and Forestry conduct annual trapping and monitoring efforts for high priority invasive pests such as the gypsy moth, Asian long horn beetle and sudden oak death. Early detections of the gypsy moth has allowed for effective and complete eradication of known introductions – the last two being in Jackson and Lane counties in 2008 and 2009. The Oregon Invasive Species Council (OISC) produces an annual list of the “400 most dangerous” invaders. Significant early detections – and action taken – average 32 per year over 2002-2007 resulting in 99 out of the 100 most dangerous invaders being successfully excluded from Oregon.

Where have forests experienced resource loss due to invasive species and what forests are more at risk of future introductions?

The cooperative aerial survey provides reliable statewide data where invasive insect and disease outbreaks have occurred (Figure 2) but does not calculate the estimate loss of resource value. Since most of the large outbreaks occur on federal lands, the loss of resource value is more in terms of environmental and social values (i.e., recreation) – which are difficult to quantify. The USDA Forest Service Forest Health Monitoring Program has spatially identified what forests are at risk of future introductions for some invasive species like the Asian long-horned beetle.

The lack of comprehensive statewide data on the spatial extent of invasive plants – especially local populations that will not be detected by the Forest Inventory and Analysis inventory of Oregon’s forests – makes it difficult to account for associated resource losses. Some information is available – for example in a study of the economic costs of noxious weeds in Oregon, the Oregon Department Agriculture estimates that the associated cost of Scotch broom exceeds \$45 million – but not all of this costs is attributable to resource loss on forestlands.

Threats

- Spread of *Phytophthora ramorum* (the invasive pathogen causing sudden oak death)
- New introductions of invasive species:

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- Gypsy moth (both Asian and American)
- Asian longhorn beetle
- Emerald Ash borer
- Japanese beetle
- European wood wasp
- Kudzu
- Spread of false brome, knotweed, garlic mustard
- Continued outbreaks from other invasive insects and diseases
 - Balsam woolly adelgid
 - Larch casebearer
 - Spruce aphid
 - Satin moth
 - Port-Orford cedar root disease
 - White pine blister rust

Opportunities

- Eradicate *Phytophthora ramorum* (the invasive pathogen causing sudden oak death).
- Prevention of and early detection and rapid response to new introductions of invasive species.
- Actively manage and control invasive species to reduce spread and undesirable impacts.

Opportunities Identified from Other Issues

Maintain the Forestland Base

- Assist family forestland owners with their management of forests.
- Encourage private and public investment in large blocks of private industrial forestlands.

Diversity of Upland and Aquatic Habitats

- Maintain and improve programs that support voluntary conservation actions.

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Table 1: Area of forestland infested with established non-native vascular plants.

Plant		Area Infested
Common Name	Scientific name	
		<i>Acres</i>
Shrubs		
Scotch broom	<i>Cytisus scoparius</i>	18,800
English holly	<i>Ilex aquifolium</i>	500
Himalayan blackberry	<i>Rubus discolor</i>	148,900
Cutleaf blackberry	<i>Rubus laciniatus</i>	11,800
Total		180,000
Forbs		
Yellow star-thistle	<i>Centaurea solstitialis</i>	100
Thistle species	<i>Cirsium</i>	26,800
Canada thistle	<i>Cirsium arvense</i>	6,900
Bull thistle	<i>Cirsium vulgare</i>	13,900
Purple foxglove	<i>Digitalis purpurea</i>	10,300
Common St. Johnswort	<i>Hypericum perforatum</i>	6,200
Hairy cat's ear	<i>Hypochaeris radicata</i>	5,800
Oxeye daisy	<i>Leucanthemum vulgare</i>	1,300
Total		71,300
Grasses		
Silver hairgrass	<i>Aira caryophyllea</i>	4,100
Wild oat	<i>Avena fatua</i>	700
Ripgut brome	<i>Bromus diandrus</i>	300
Cheatgrass	<i>Bromus tectorum</i>	196,100
Bristly dogstail grass	<i>Cynosurus echinatus</i>	20,100
Orchardgrass	<i>Dactylis glomerata</i>	12,500
Common Velvetgrass	<i>Holcus lanatus</i>	22,000
Medusahead	<i>Taeniatherum caput-medusae</i>	18,000
Total		273,800
Total, All Non-Native Plants		525,100
Adapted from Table 48 in Donnegan and others (2008).		

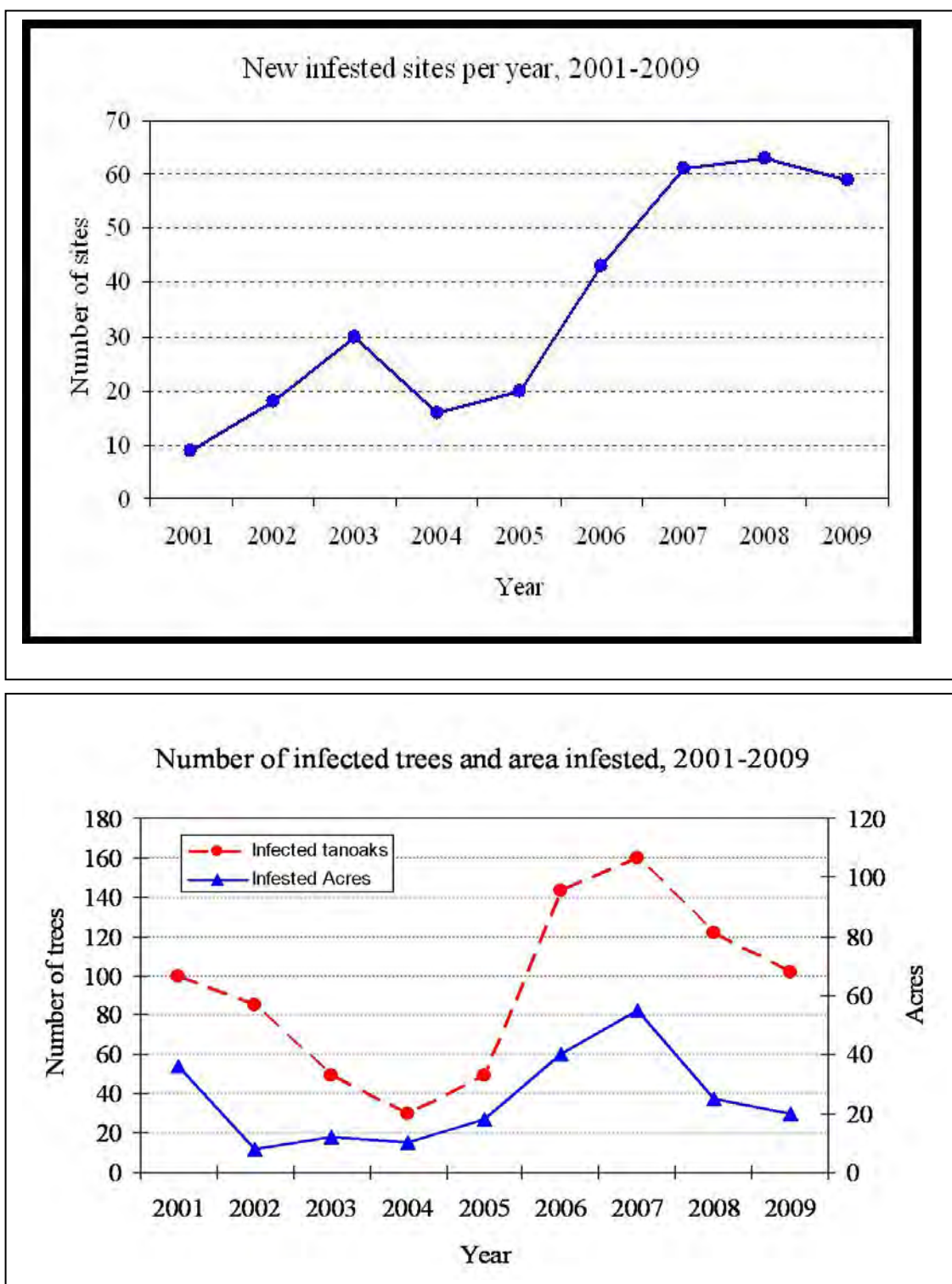


Figure 1: History of *Phytophthora ramorum* (sudden oak death) infections in Curry County, Oregon.

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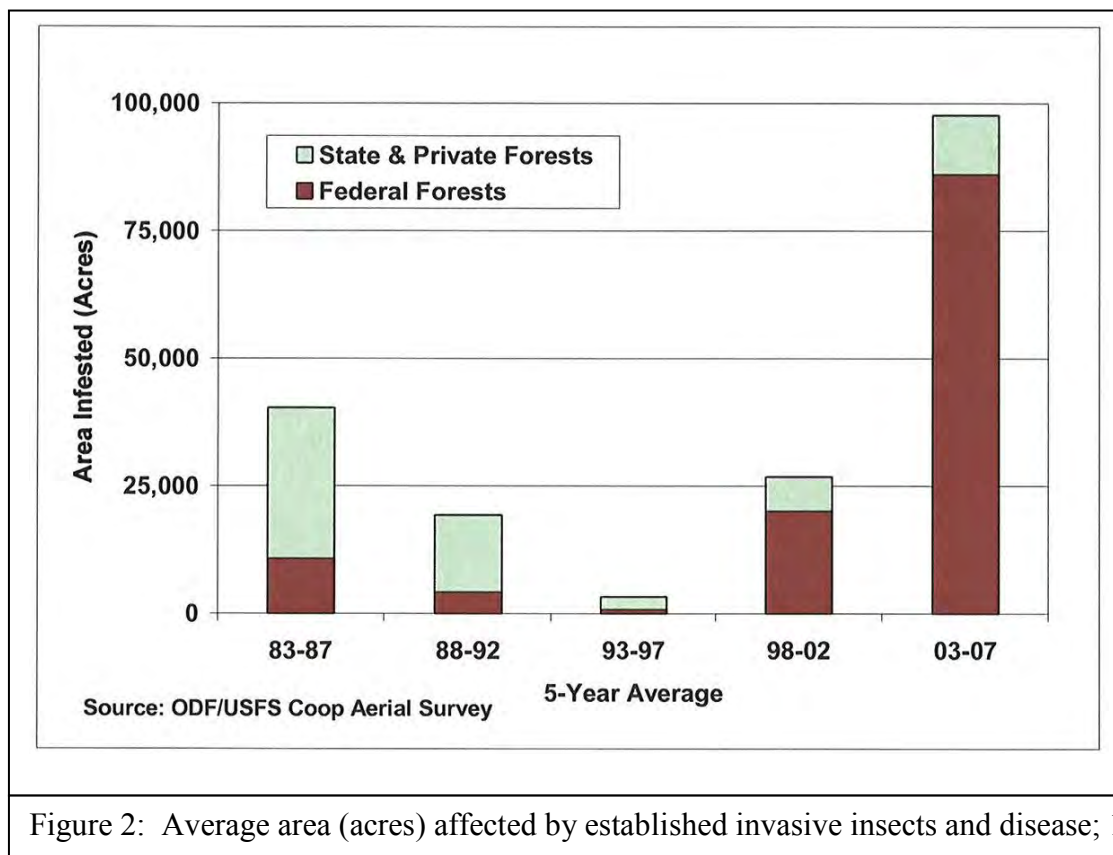


Figure 2: Average area (acres) affected by established invasive insects and disease; 1983 - 2007.

Oregon's Statewide Forest Assessment

APPENDIX -- Priority Issues

Water Quality

Problem Statement

Soil and water are basic components of forests. The interaction of soil and water plays an important role in site productivity and watershed health. Fish and other aquatic species need cold water. People need clean water and over half of Oregon's population depends on water supplied from Oregon's forests. Oregon's forests protect water quality through active management of urban forests, a comprehensive set of regulatory best management practices on private lands and additional aquatic conservation strategies on state, federal and tribal lands. Continued investment in these measures – as well as monitoring their effectiveness – is important to maintaining clean water from forestlands.

Background

Water quality is a function of many physical, chemical and biological characteristics such as sediment (turbidity), temperature, dissolved oxygen, bacteria, algae, minerals, chemical residues (both natural and manufactured) and nutrients. The federal Clean Water Act of 1972 (as amended in 1977 and 1987) is the primary law governing water pollution. The Clean Water Act provides delegated authority to states to administer and implement Clean Water Act provisions. In Oregon, provisions of the Clean Water Act are implemented by Oregon Department of Environmental Quality. The Oregon Environmental Quality Commission has rulemaking authority to adopt Clean Water Act water quality standards. Oversight, funding and approval of water quality standards is provided by the U.S. Environmental Protection Agency.

Water quality standards are benchmarks established to assess whether the quality of Oregon's water bodies (e.g., streams, rivers, ponds and lakes) is adequate for the beneficial uses of clean water - fish and other aquatic life, recreation, drinking, agriculture, industrial and other uses. Water quality standards are regulatory – meaning that it is against state and federal law to violate them. Water Quality Standards also define the goals for a waterbody by designating its beneficial uses, setting criteria to protect those uses and establishing provisions to protect water quality from pollutants. For example, one designated use for forested streams is fish and aquatic life and Oregon's Water Quality Standard for temperature is designed to protect this use by setting both numeric maximum temperature limits by fish species and life cycle (e.g., spawning, rearing) as well as antidegradation policy to prevent the worsening of existing conditions (even when the numeric standard is met) and to protect designated high quality waters.

Sources of pollutions are categorized as either point sources subject to permitting requirements under the Clean Water Act or non-point sources. Examples of point sources are manufacturing facilities, government facilities and some agricultural facilities such as feedlots. Non-point

sources is a catch all category for everything else that does not meet the definition of a point source or it is unknown or it has yet to be determined whether the source is non-point or point. In general, forestry operations and forestlands are treated as non-point sources under the Clean Water Act and are not subject to the permitting requirements of point sources. In Oregon, policy authority over forestry non-point sources is divided between the Oregon Environmental Quality Commission and the Oregon Board of Forestry. The Oregon Environmental Quality Commission is responsible for adopting water quality standards and the Oregon Board of Forestry is responsible to adopting best management practices designed to ensure forest operations meet the water quality standards. To date, Oregon has approved water quality standards for temperature, turbidity

The water protection rules adopted under the Oregon Forest Practices Act (Oregon Administrative Rules, Chapter 629 (Forestry) Divisions 625 (roads), 635 (general policy), 640 (streams), 645 (wetlands), 650 (lakes), 655 (seeps and springs) and 660 (other waters of the state) serve as Oregon's best management practices for water quality. Under Oregon law, forest landowners cannot be prosecuted for violations of water quality standards as long as they are meeting the best management practices adopted under the Oregon Forest Practices Act. Similarly, Oregon law requires the effectiveness monitoring of the Oregon Forest Practices Act water protection rules to see if the best management practices are achieving outcomes meeting water quality standards.

Another requirement of the Clean Water Act is to monitor water quality. States are required to keep a list of water quality limited water bodies – water bodies that are not meeting one or more water quality standards. Under the Clean Water Act, Total Maximum Daily Loads are required to be developed for water quality limited bodies. A Total Maximum Daily Load is a calculation of the maximum amount of a pollutant that a water body can receive from both point and non-point sources and still meet the water quality standard. Once the Total Maximum Daily Load is calculated, a Water Quality Management Plan that allocates the maximum amount of the pollutant allowed to the various sources of pollution is developed as the means to bring the water quality impaired water body into compliance.

What Do We Know About this Issue?

What is the Quality of Water from Forestlands?

The Oregon Water Quality Index analyzes a defined set of water quality variables -- temperature, dissolved oxygen, turbidity, acidity (pH), phosphorus, nitrate, ammonium, and total solids -- and produces a score describing general water quality that can be compared across geographic regions and land use. Oregon Water Quality Index scores range from 10 (worst case) to 100 (ideal water quality) - scores that are less than 60 are classed very poor, 60-79 are classed poor; 80-84 are classed fair, 85-90 are classed good, and 90-100 are classed as excellent. The index is calculated based on data collected from a network of ambient water quality and bio-monitoring

data collection sites administered by the Oregon Department of Environmental Quality, other agencies, universities, and volunteer monitoring groups. These sites – totaling 424 on forestlands - provide representative statewide geographical coverage, and include major rivers and streams throughout the state. Figure 1 displays the overall Oregon Water Quality Index ratings by forest ownership group as well as the index rating for selected water quality variables. For all ownerships combined, 77 percent of the monitored sites showed Oregon Water Quality Index values of good to excellent. Water quality was highest on federal forestlands, with 97 percent in good or excellent conditions. State sites showed 89 percent in good to excellent conditions. Private industrial sites had 87 percent in good to excellent conditions. Private non-industrial sites had 77 percent in good or to excellent conditions, and should perhaps be the highest priority for closer future study. Water quality strengths were dissolved oxygen and temperature – two important parameters for fish and aquatic life – where biochemical oxygen demand and solids (nutrient loading) showed the greatest percentage of ratings fair to very poor. These two variables go together – when streams have too much organic debris or nutrients, micro-organisms usually place a larger demand for biochemical oxygen as a result of breaking down the organic material.

Macroinvertebrates – such as larvae for mayflies, stoneflies, and other aquatic insects -- are an important component of stream ecosystems. They actively link the bottom of the food chain (bacteria, algae, leaf fall) to the top of the food chain (fishes and amphibians). The composition and abundance of macroinvertebrates is also a good indicator of water quality. These water quality measures involve sampling sites for macroinvertebrates and creating a relative index of what is on site compared what should be on site for unimpaired water quality. The unimpaired measure is based on the Predictive Assessment Tool for Oregon (PREDATOR) – a multivariate predictive model used to assess the integrity of macroinvertebrate assemblages. Ratios less than one indicate that a decrease in biological integrity of the macroinvertebrate populations; whereas ratios exceeding one indicate very high biological integrity. Similar tools predict stresses relative to temperature and fine sediments. Figure 2 displays the results of these measures for forestlands. Unlike direct measures of water quality, a higher percentage of sites evaluated for biological integrity based on macroinvertebrate populations show impaired water quality.

These results should be interpreted with respect to the general juxtaposition of forest ownership. State and federal lands for the most part are found furthest away of population centers and contain higher order and headwater streams. In these locales, water quality is greatest. However, non-industrial private forest landowners are primarily found in the foothill and valley fringe regions and are intermixed with rural residential, intensive agriculture and even urban land uses. Private industrial lands are generally located in between the other two ownership groups. In the regions where non-industrial private forestlands tend to be found, Oregon's water bodies have been altered by decades of development, and as a result, more streams are found to be fair to very poor in water quality. So, it is not because non-industrial private landowners practice a type of forest management that contributes to lower water quality when compared to other forest

ownership groups, but instead that non-industrial private forestlands are found in areas of lower water quality to begin with. Looked at this way, non-industrial private forestlands become critically important for maintaining and improving water quality in these area – further loss of these forestlands to development would only worsen the water quality situation.

Figure 3 shows the distribution of water quality impaired streams listed under Section 303(d) of the Clean Water Act. Over xx percent of the total miles of streams on forestlands is listed as water quality impaired – mostly for violations of the temperature water quality standard. Such listing has sparked debate regarding whether this reflects the extent of water quality impaired streams as a result of forest management effects on stream temperature or whether the water quality standard itself is too stringent to apply to all stream reaches equally. Like most ecological systems – natural stream temperature may exceed the water quality standard due to disturbance events such as wildfire, landslides and windthrow – and a complete homogeneous network of streams meeting the temperature standard exactly is likely not necessary to support healthy populations of fish and other aquatic life.

How might forest development affect water quality?

Figure 5 compares the Oregon Water Quality Index ratings across land use in Oregon. Forests provide the best water quality compared to other land uses. The more intensive the land use, the lower the water quality with urban land use resulting in the lowest water quality rating. Land clearing, paving, and other development activities increased the area of impervious ground surface, which decreased stream quality by eliminating or disrupting water storage in the soil. In many developed areas, precipitation on small watersheds reaches stream channels almost immediately instead of being delayed and filtered by the soil. In addition, stream channels are narrowed and confined to accommodate development furthering increasing storm runoff flows and eliminating off channel habitats important for fish refuges during flooding. As a result, even relatively low levels of impervious surface area can degrade habitat for fish and aquatic life.

Based on national studies and reviews by the US Environmental Protection Agency in the 1970's and early 1980's, the Clean Water Act was amended in 1987 to address water quality and storm water runoff. Combined sewage and runoff outflows were banned and a timetable was set for municipalities to separate sewage collection for treatment from storm water runoff. In addition, industrial storm water runoff was categorized as a point source and subject to Clean Water Act permitting requirements. Creating natural filtration systems for storm water runoff, green roofs and disconnecting residential downspouts from storm water runoff are now common best management practices for managing storm runoff from impervious surfaces. These practices point to the importance of urban forests, open space and greenbelts along urban streams in managing storm water runoff pollution.

Data from the *2009 Urban Canopy Cover Analysis for Oregon* – a comparison of a city's tree canopy cover using National Land Cover Datasets from 1992 and 2006 -- found that Oregon has

maintained on average its tree canopy cover over the past 14 years – averaging less than 1 percent loss. While this is good news in that the State is not experiencing loss of tree canopy, the results also show that Oregon cities are not gaining in tree canopy cover as well. Oregon's canopy cover average in 2006 was 19.4% with Portland being at 22.7%. Still, even a less than 1 percent loss translates into area of forest lost – for the period study – the less than a percent loss is equivalent to a loss of 2,341 acres of urban forest across the state.

Water quality in urban areas will depend in part on the ability of cities and unincorporated urban areas to actively manage urban forests and other green infrastructure such as parks and open space. Active management requires inventory, planning, tree care, action and monitoring. The federal Community Accomplishment Reporting System tracks local urban forestry program development with respect to four components -- tree ordinances, professional staff, inventory-based management plans, and advisory committees. Table 1 displays recent trends in urban forestry program development by Oregon's 242 cities and 15 unincorporated urban areas. Managing cities have programs that contain all 4 components; developing cities have programs that contain at least 1 component, but not all 4. The table shows that the bulk of Oregon's cities and unincorporated urban areas are still developing their urban forestry programs. However, those cities that have all 4 components in their program serve about 40 percent of Oregon's population. While still great in number, cities that do not have an urban forestry program tend to be in Oregon's most rural areas with lower levels of population. While population served is not a direct proxy for areas experiencing water quality problems, the results show that Oregon's largest population centers do have well developed urban forestry programs and the accomplishments of these programs in maintaining tree canopy, parks and open spaces prevents further water quality loss in these areas.

Where Do We Need More Information?

While the Oregon Water Quality Index is a valuable tool for assessing general water quality, additional research is needed. Trend information is not available specific to forestlands. While the current information indicates forestlands provide the best water quality, it is still unknown whether this result is a snapshot in an otherwise declining trend. For example, one disturbing trend is that the average number of structures on lands still classified in a forest land use has increased by over 230% when compared to the average number of structures on forestland in 1974. A long-term, random sampling design is recommended to improve forestland trend analyses and to monitor whether the trend will result in lower water quality from forest lands.

Another limitation is that the Oregon Water Quality Index does not include parameters such as toxicity from chemical pesticides. Public concern about the use of pesticides on forestland is pronounced. Based on issues and concerns submitted by the public and other interests in forestlands, the Oregon Board of Forestry's 2007 Issue Scan listed pesticides as one of seven stand out issues. Concern was expressed about the effects of using pesticides on forestlands on

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human health and safety, water quality and toxicity to fish such as salmon. The Oregon Board of Forestry will be investigating strategies for improving interagency coordination with the Oregon Department of Agriculture regarding pesticide regulation on forestlands in the state as well as strategies for the Oregon Department of Environmental Quality's toxic reduction strategy. Monitoring data is needed regarding the effectiveness of US Environmental Protection Agency label requirements and Oregon Forest Practice Act chemical application rules in preventing chemicals entering forested waterways from surface runoff, applications around small intermittent non-fish streams and forest roadside spraying.

Threats

- The loss of forestlands to non-forest uses lowers water quality for drinking, fish and aquatic life and recreational beneficial uses.
- The lack of available state funding to administer the Oregon Forest Practices Act through education, technical assistance, enforcement and monitoring compromises the ability of Oregon's best management practices to meet water quality standards.
- The build-up of woody fuels and increases in tree stocking resulting from decades of excluding fire in forest types that ecologically depend on frequent to moderate fire return intervals threatens water quality.
- Invasive species can become a serious problem by altering habitat composition and function contributing to slope instability, soil erosion and loss of forest canopy – all of which negatively affect water quality.

Opportunities

- Reduce runoff from impervious surfaces in business and residential urban areas.
- Monitoring and research on water quality and best management practices for forestlands.
- Maintain and restore forest riparian and wetland conditions on agricultural and range lands.
- Interagency coordination for monitoring forest pesticide use effects on water quality.

Opportunities Identified from Other Issues

Communities at Risk of Wildfire

- Actively manage forests at risk of uncharacteristically severe wildfire.

Maintaining the Forestland Base

- Maintain forest cover and connectivity within rural-urban forest areas.
- Assist family forestland owners with their management of forests.
- Encourage private and public investment to conserve private forestlands.

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Diversity of Upland and Aquatic Habitats

- Provide habitat conditions and connectivity suitable for the movement of fish and wildlife.
- Maintain and improve programs that support voluntary conservation actions.
- Restore the role of wildfire in forest ecosystems to improve forest health and resiliency.

Invasive Species

- Prevention of and early detection and rapid response to new introductions of invasive species.
- Actively manage and control invasive species to reduce spread and undesirable impacts.

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Table 1: Development of active urban forestry programs by Oregon's cities.

	2005	2006	2007	2008	2009
Number of Entities Managing	15	17	17	17	18
Number of Entities Developing	93	127	120	132	315
Number of Non-Participating Entities	157	123	130	118	114
Total Number of Entities	265	267	267	267	267
Percent of Entities Managing	5.7%	6.4%	6.4%	6.4%	6.7%
Percent of Entities Developing	35.1%	47.6%	44.9%	49.4%	50.6%
Percent of Entities Non-Participating	59.2%	46.1%	48.7%	44.2%	42.7%
Population of Managing Entities	1,073,770	1,083,952	1,083,952	1,083,952	1,125,175
Population of Developing Entities	1,262,730	1,340,285	1,400,121	1,449,424	1,421,688
Population of Non-Participating Entities	321,322	233,595	173,759	124,456	110,969
Percent Population in Managing Entities	40.4%	40.8%	40.8%	40.8%	42.3%
Percent Population in Developing Entities	47.5%	50.4%	52.7%	54.5%	53.5%
Total Population Assisted	2,336,500	2,424,237	2,484,073	2,533,376	2,546,863
Percent Population in Non-Participating Entities	12.1%	8.8%	6.5%	4.7%	4.2%
Total Urban/Incorporated Population	2,657,832	2,657,832	2,657,832	2,657,832	2,657,832
Number of Entities With Management Plans	17	23	23	23	24
Number of Entities With Staff	76	85	99	102	101
Number of Entities With Ordinances	71	90	103	118	121
Number of Entities With Tree Boards	55	62	66	73	74
Number of Entities Assisted	108	129	137	196	173

OREGON STATEWIDE FOREST ASSESSMENT (6/18/10)

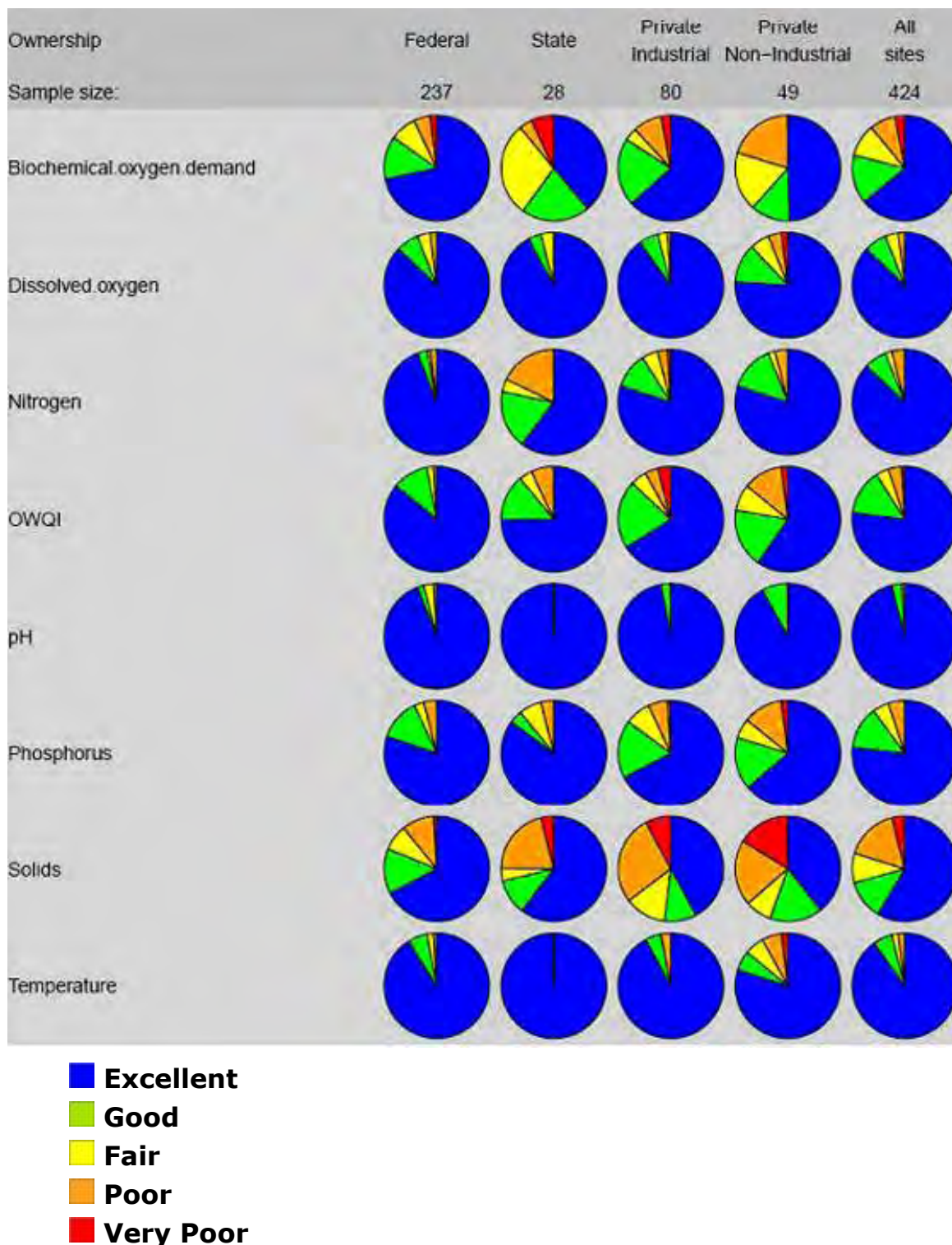


Figure 1: Oregon Water Quality Index Ratings (4th row) and selected water quality variables for forestlands, 1998 – 2007 (Sustainable Forest Management Indicator D.a – Water Quality of Forested Streams.)

OREGON STATEWIDE FOREST ASSESSMENT (6/18/10)

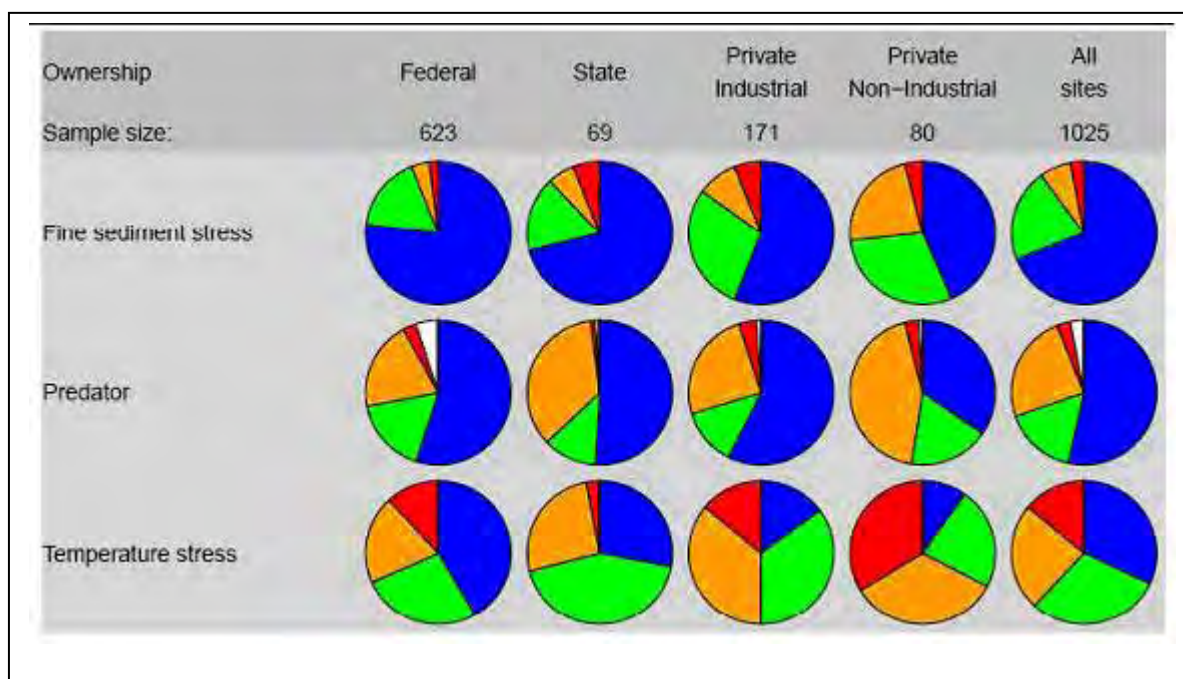


Figure 2: Oregon Water Quality Index Ratings (4th row) with respect to important stresses affecting fish and aquatic life for forestlands, 1998 – 2007 (Sustainable Forest Management Indicator D.b – Biological Integrity of Forested Streams.)

OREGON STATEWIDE FOREST ASSESSMENT (6/18/10)

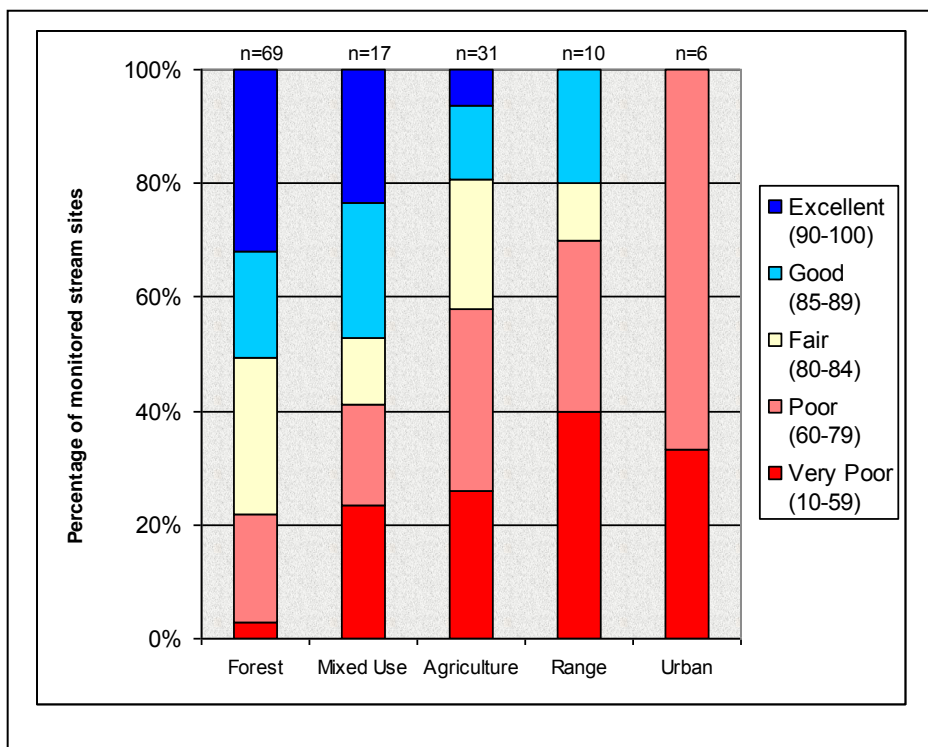


Figure 5: Comparison of Oregon Water Quality Index ratings across different land uses, 2005 (Sustainable Forest Management Indicator D.a – Water Quality of Forested Streams).

General Forestland Considerations



Priority Landscapes

- High
- Medium
- Low
- Reserved Forestland
- County Lines



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Oregon Lambert, NAD 83

Produced by ODF 06/17/2010

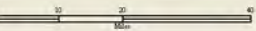
Forestland Vulnerable to Losing Timber Markets



Priority Landscapes

- High
- Medium
- Low

County Lines



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Produced by ODF 05/27/2010

Fish and Wildlife Habitat Conservation



Priority Landscapes

- High
- Medium
- Low
- Not Selected
- ODFW_COA
- County Lines

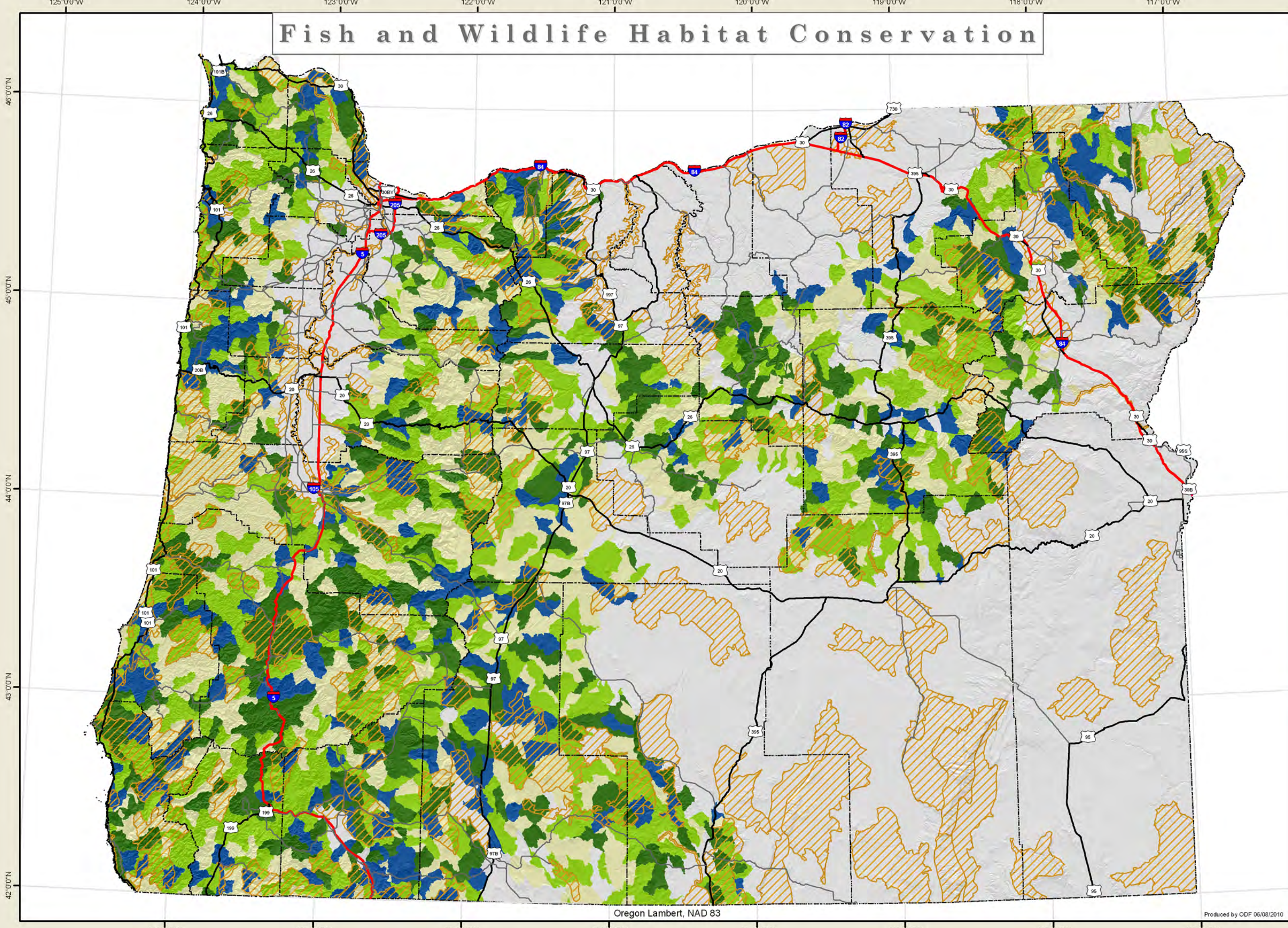


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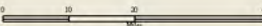


Communities at Risk of Wildfire



Priority Landscapes

- High
- Medium
- Low
- County Lines



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APPENDIX - NATIONAL PRIORITIES SECTION –Update Report

STATE OF OREGON 2015

The 2008 Farm Bill, under Title VIII – Forestry, amends the Cooperative Forestry Assistance Act of 1978, to include the requirement that each state develop a long-term, state-wide assessment and strategies for forest resources. These assessments and strategies focused on three national priorities:

- Conserve and Manage Working Forest Landscapes for Multiple Values and Uses
- Protect Forests from Threats
- Enhance Public Benefits from Trees and Forests

These documents were developed with a comprehensive team of stakeholders to address cross-boundary, landscape scale actions that would be the most efficient activities to address issues of concern developed for the assessment phase of the Forest Action plan.

This document serves as a record of activities taken by all Oregon’s stakeholders to address **Strategic Actions** taken as part of Oregon’s Forest Action Plan and will be updated annually.

Oregon’s Forest Action Plan identified a large number of *Opportunities* to help achieve each of the National Priorities. The following summary lists several examples of **Strategic Actions** that were implemented during the past five years. This report includes a **summary of implementation highlights and challenges discovered from the past five years, and identifies data needs or new issues revealed since Oregon’s Forest Action Plan was completed.**

National Priority 1. Conserve Working Forest Landscapes for Multiple Values and Uses

OPPORTUNITY	GOAL	STRATEGIC ACTION
Assist farm, ranch and family forest landowners in their management of wildfire risk.	Provide technical and financial assistance in forest management planning.	<ul style="list-style-type: none"> Implementation highlights <p>The National Fire Plan (NFP-2001) and the Healthy Forests Restoration Act (HFRA-2003) encouraged communities to develop Community Wildfire Protection Plans (CWPP's) as the primary planning mechanism for assisting landowners with understanding, managing, and reducing wildfire risk on their properties. Every county in Oregon has a CWPP, and many counties have smaller scale, community-level CWPP's. These planning documents include a Wildfire Risk Assessment, a Wildland Urban Interface Boundary, and a list and description of communities at risk to wildfire. CWPP's also contain prioritized action plans to address fuel reduction, structural ignitability, wildfire risk awareness, and suppression and response needs.</p> <p>These CWPP's are the repository for wildfire mitigation actions to be taken at the County and community-level, and have guided over \$10 million dollars' worth of investments made toward fuels reduction, prevention outreach and education and enhancements to response capabilities over the past 5 years.</p> <p>The Cohesive Wildfire Management Strategy (CWS) built on the parameters set for the NFP and HFRA, and provided additional guidance for more effectively planning for, preventing, and responding to wildfires by building: Fire Resilient Landscapes, Fire Adapted Communities, and Coordinated Emergency Response. Oregon was selected to showcase 2 Cohesive Wildfire Management Strategy Pilot projects in the Northeast Oregon Blue Mountains area and the Southwest Oregon Ashland area, with a federal investment of \$800,000.</p> <ul style="list-style-type: none"> Implementation challenges <ul style="list-style-type: none"> <input type="checkbox"/> The majority of the CWPP's in Oregon are 5 years or older, and there is a dire need for funding and capacity to ensure that CWPP's remain relevant and up to date. In addition, the 2013 Western Wildfire Risk Assessment provides much-needed updates to the wildfire risk assessment data to be used in local Wildfire Risk Analyses and WUI/Community at Risk designations. <input type="checkbox"/> Because the majority of Oregon's CWPP's are outdated, the CWS is slow to be understood and utilized at the local level. <ul style="list-style-type: none"> Implementation focus for the next five years <p>The focus over the next 5 years will be to build capacity for CWPP/CWS updates and utilization of the best available wildfire risk assessment data. This will be accomplished on two fronts:</p> <ol style="list-style-type: none"> 1.) ODF is partnering with the Oregon Partnership for Disaster Resilience to integrate the CWPP and Natural Hazard Mitigation Planning processes to reduce duplication, increase participation, and enhance funding opportunities to maintain updated mitigation planning documents. 2.) ODF Salem and field staff will work in collaboration with Oregon State University to build an enhanced Wildfire Risk Assessment Tool the University's Oregon Explorer interactive web program. This Wildfire Risk Assessment Tool will provide a platform for displaying the WWRA, and will allow the user to draw upon a

National Priority 1. Conserve Working Forest Landscapes for Multiple Values and Uses

OPPORTUNITY	GOAL	STRATEGIC ACTION
		<p>variety of wildfire and other natural resources, land cover, and demographic datasets to generate information and reports designed to assist with local CWPP updates.</p> <ul style="list-style-type: none"> Identify data needs or new issues <p><input type="checkbox"/> As drought continues to affect western landscapes, integrating drought and climate change data into future versions of wildfire risk assessments will be critical.</p> <p><input type="checkbox"/> The West Wide Risk Assessment was a regional assessment conducted over the entire Western States, and will soon be outdated. Oregon will need to begin planning for an updated Wildfire Risk Assessment in the next 5 years.</p>
Assist family forestland owners with their management of forests.	Provide technical and financial assistance in forest management planning.	<p>Over the past 5 years ODF stewardship foresters have provided technical assistance to family forestland owners. Accomplishment areas include:</p> <ul style="list-style-type: none"> Completing forest stewardship plans Improving timber stands Reforestation and afforestation Improving wildlife habitat including improving riparian areas along fish bearing streams <p>Challenges include continuing with the traditional one-on-one technical assistance delivery method with declining federal funds and no state funding allocated to serve family forestland owners. Currently we are put in a position where we have to decide to utilize our funding for stewardship plans or field assistance.</p>
	Support the Oregon Tree Farm Program as the state's landowner recognition program.	<p>ODF has provided a small amount of financial support to the Oregon Tree Farm Program (OTFP) over the past five years. A few stewardship foresters are certified as tree farm inspectors, however as funds have diminished for this type of work, few stewardship foresters are able to devote time to certifying family forestland owners to the OTFP. Unless additional state or federal funding becomes available to support ODF's efforts with the OTFP, we will not be able to maintain involvement.</p>
Assist family forestland owners with the intergenerational transfer of lands for forestry use.	Integrate family succession planning with forest management planning to secure the intergenerational transfer of family forestlands.	Not a focus at this time
	Seed bank and seedling network that provides access to genetically-improved seed and high quality nursery stock.	<p>Grant funding support through the Forest Stewardship Program has declined sharply over the past years. However a variety of reforestation-related assistance in support of Oregon's family forest landowners has been accomplished:</p> <ul style="list-style-type: none"> Educated landowners and nurseries about the use of various seed types for reforestation using one-on-one contacts, short articles, email, presentations, and internet websites. Managed the Oregon Forest Tree Seed Bank, acquiring high quality, high genetic gain forest tree seed lots for the benefit of small woodlot owners. Via the Oregon Forest Tree Seed Bank, provided landowners and nurseries with high quality, high genetic gain forest tree seed, and offered a wide variety of seed for sale to more than 40 private nurseries in the PNW. Managed the continuing development of a western larch seed orchard in northeast Oregon, including intensive management of the site to promote early flowering and seed production.

National Priority 1. Conserve Working Forest Landscapes for Multiple Values and Uses

OPPORTUNITY	GOAL	STRATEGIC ACTION
		<ul style="list-style-type: none"> • Provided Stewardship Foresters with information about the appropriate limits of seed movement via one-on-one contacts. • Produced the annual directory of “Sources of Native Forest Tree Seedlings,” a publication that directs family forest landowners to nurseries growing seedlings appropriate for their lands. • Provided technical consultation, coordination, and oversight for the tree improvement and gene conservation programs at the J.E. Schroeder Seed Orchard. <p>At this time, with declining Forest Stewardship grant funding, there are no funds allocated to supporting the state geneticist and tree improvement technical assistance and outreach to family forestland owners. Limited funds are used to continue the development of the Western Larch seed orchard.</p>
Expand markets for the utilization of forest residues for biomass energy and other end uses.	Quantify the availability of forest residues and other small diameter forest material and the cost of removal for implementing landscape wildfire fuel treatment projects.	Not a focus at this time
	Identify Forest Investment Zones to test strategies for building business and community capacity to support the adaptive and sustainable management of federal forests	Not a focus at this time
Encourage private and public investment to conserve private forestland.	Purchase the development rights to working private forests that are important, strategic and threatened with conversion to non-forest use to ensure forest use in perpetuity.	Not a focus at this time
	Participate in a pilot Transferable Development Rights Program involving the conservation of high priority forestlands.	Not a focus at this time
	Develop a Conservancy Portfolio of forestlands that compliments the current state-owned forest land base managed for Greatest Permanent Value.	<p><u>Forest Legacy Program (FLP)</u> <i>Implementation Highlights</i> – The Gilchrist Forest acquisition project (\$3.0 million in fiscal year (FY) 2013 FLP funding) is scheduled for closing on or before September 30, 2015. The Department also secured up to \$1.5 million in FY 2013 funding for the Blue Mountain Heritage conservation easement project in Union County. This project is piloting the Department’s development of a working forest conservation easement on family forestlands. Closing is expected in 2016. The Department is well positioned to secure \$3.0 million in FY 2016 acquisition funding for Wallowa County acquisition of the East Moraine Wallowa Lake tract in Wallowa County as the project is ranked 10th nationally in funding priority.</p> <p><i>Implementation Challenges</i> – Ensuring project readiness is a challenge. The Department has learned from the Blue Mountain Heritage conservation easement project that more upfront market analysis and due diligence should be performed during application development to ground truth the landowner’s expectation of value to be received. The gap between landowner expectations (i.e., selling price) and yellow book appraisal value (which defines the</p>

National Priority 1. Conserve Working Forest Landscapes for Multiple Values and Uses

OPPORTUNITY	GOAL	STRATEGIC ACTION
		<p>Department's offer price) is perceived by the landowner to be wide, which has made it difficult to move forward with project development including the completion of the yellow book appraisal. As such, project implementation is taking more staff and field unit time than anticipated.</p> <p>The inherent "field of dreams" structure to the Forest Legacy Program (i.e., build the project and the money will come) is another challenge. The Department requested de-obligation of \$4.5 million in FLP funding for the Skyline Forest conservation easement project when it became clear the landowner was not a willing seller after the downturn in the economy commencing in 2008. Further, the Department decided not to apply for \$3.0 million in appropriated FY 2015 funding for the Hood River Forest and Fish Conservation easement project as the property changed ownership and the new owner was not interested in pursuing the conservation easement as proposed by the previous owner.</p> <p><i>Implementation Focus</i> – The Department has put applicants on notice that it will not partner to hold conservation easements on new projects. This will have the result of favoring the submittal of acquisition projects to be held by another state or local government (i.e., such as the East Moraine Wallowa Lake project) as most conservation easement applications tend to favor the Department holding the easement. Exceptions do arise such as the FY 2017 Spencer Butte conservation easement application (Lane County) where the City of Eugene has expressed willingness to hold the easement.</p> <p>In general, the Oregon Forest Stewardship Coordinating Committee has not developed a geographic or resource focus to the Forest Legacy program. The Committee prefers to cast a wide net and let partners bring projects forward. In this sense, the Department is facilitating access to Forest Legacy Program funding based on the needs and priorities of partnering organizations such as land trust and other conservation organizations.</p> <p><i>Data Needs</i> – The Department needs to complete its descriptions of Forest Legacy Areas – which define geographic areas of eligibility for program funds. A lack of geographic information systems (GIS) capacity within the Private Forests Division has prevented completion of this work. The work remaining is quantifying the area of forestland within a Forest Legacy Area and attributing the forestland as to owner group (private industrial, family forest) as well as Forest Action Plan priority landscapes for Landscape Wildfire Risk, Forestlands Vulnerable to Losing Timber Markets and Fish and Wildlife conservation.</p> <p><i>New Issues</i> – The Department has been implementing the Forest Legacy Program as a means to pilot the Department's development of a working forest conservation easement template for both private industrial and family forestlands as well as to facilitate the development of projects by partners. It has become clear that various state natural resource agencies such as Department of Land Conservation and Development, the Oregon Watershed Enhancement Board, Oregon Parks and Recreation Department, the Department of Fish and Wildlife and the Department of Forestry need a coordinated infrastructure to fund the monitoring, enforcement and stewardship costs of holding conservation easements. Lacking such a state government infrastructure, the acquisition and holding of easements create unfunded responsibilities with respect to monitoring and enforcement and a lack of technical and financial assistance to help landowners manage the properties toward the conservation values called for in the easement.</p>
	Develop innovative approaches to reduce forest fragmentation and dispersed and low impact residential	See discussion on Forest Legacy discussion, page 4.

National Priority 1. Conserve Working Forest Landscapes for Multiple Values and Uses

OPPORTUNITY	GOAL	STRATEGIC ACTION
	and other building development in rural-urban forest areas.	
Actively manage and control invasive species to reduce spread and undesirable impacts.	Provide technical and financial assistance in forest management planning.	See “Assist family forestland owners with their management of forests”, page 3.
	Remove disincentives regarding Oregon Forest Practices Act notification requirements that may be preventing landowner control of invasive plant species.	Not a focus at this time
	Develop cost-share financial assistance programs to implement specific actions for the management and control of invasive species on private family forestlands.	Not a focus at this time
	Establish tools to track the location, size, status and impact of priority invasive species.	See “Overall framework for implementation of resource strategies for invasive species”, page 8.

National Priority 2. Protect Forests from Harm

OPPORTUNITY	GOAL	STRATEGIC ACTION
Maintain and improve state and local capacity in fire protection.	Provide financial, technical, and other assistance to State Foresters to organize, train and equip rural fire departments to prevent and suppress wildfires.	<p>Voluntary Fire Assistance</p> <p>For fire suppression and response activities, ODF provides financial and technical assistance to rural fire departments through grant programs, Mutual Aid Agreements, and coordinated training programs and exercises.</p> <p>The USFS Volunteer Fire Assistance Grant Program (VFA) specifically provides funding to build the capacity of rural fire departments to respond to wildland fire events. Funds are available for equipment, personal training, and personal protective equipment. The VFA programs provides an avg., of \$200-\$350K annually to rural fire protection districts.</p> <p>ODF has been working closely with landowners of rangeland in eastern Oregon and the Board of Forestry to develop Rangeland Protection Associations (RPA). There are now 20 RPA's throughout eastern Oregon and during the 2015 session, the Oregon Legislature adopted new laws to continue assisting and helping fund RPA's in their development.</p>
	Maintain state and local agency capacity in preparedness, prevention and suppression of wildfires including the development of new and improved fire control technologies, effective organization and interagency sharing of fire suppression resources.	In response to recent severe fire seasons, the Oregon Legislature passed the Wildfire Protection Act (WPA) in 2013 that does three things to increase the agency's capacity in preparedness, prevention and suppression of wildfires. The WPA includes provisions to increase severity dollars that allow firefighting resources to be prepositioned and ready prior to events. The WPA also provides dollars to help offset the high cost of fire preparedness on the East side of Oregon along with phasing in the sharing of large fire costs with the General Fund and landowner funds.
Actively manage forests at risk of uncharacteristically severe wildfire.	Increase the level of federal investment in active management practices that reduce forest fuels as a means to change the severity and extent of wildfire consistent with the environmental purposes of these forest lands.	In early 2013, the Board of Forestry formed a sub-group to focus on issues of federal forest policy and to help our Board connect with the Governor's Office, the Congressional Delegation, the Oregon Legislature and others on this critical topic. Since that time there has been much success in certain areas including the Oregon Legislature providing funding for active management on federal lands.
	Integrate federal and non-federal forest management to address insects and disease outbreaks, fuel loadings and other problems crossing ownership boundaries.	<p>Partners in the Blue Mountains of northeast Oregon and southeast Washington have turned the threat of wildfire into a chance for new collaboration. In 2013, implementation of the Northern Blue Mountain Cohesive Wildfire Strategy pilot project was initiated to address the three Cohesive Strategy goals: resilient landscapes, fire-adapted communities and efficient, effective wildfire response. The pilot project seeks to bring strategic alignment to the efforts of stakeholders across nearly 3.5 million acres of Forest Service lands covering two national forests, more than 2 million acres of private land protected by Oregon Department of Forestry (ODF) and Washington Department of Natural Resources and approximately 2 million acres managed or protected by a variety of entities including the Bureau of Land Management, Bureau of Indian Affairs, and Rural Fire Protection Districts.</p> <p>By collectively identifying goals and priorities for forest restoration, fuels reduction, and other work, implementation is focused on landscapes rather than ownership lines. This collaboration among stakeholders has resulted in the 75,000 acre "East Face" planning area for forest restoration activities across multiple land ownerships. "East Face" was identified through the West Wide Risk Assessment as a high priority area where uncharacteristically severe wildfire</p>

National Priority 2. Protect Forests from Harm

OPPORTUNITY	GOAL	STRATEGIC ACTION
		<p>could occur. This project is truly an “all lands/all hands” landscape approach that includes nearly 40,000 acres of federal lands on the Wallowa-Whitman National Forest, 30,000 acres of private lands owned by over 100 different landowners and about 5,000 acres of Oregon Department of Fish and Wildlife (ODF&W) lands. A goal of the project will be to reduce fire extent, severity & hazard across all ownerships through integrated forest treatments.</p> <p>The “all hands” aspect of this project is exemplified in the multiple agencies and landowners involved. The NRCS is providing financial assistance for non-industrial private landowners to conduct precommercial thinning and fuels reduction while ODF is providing the technical forestry assistance to the private forest landowners. To date, precommercial thinning has been completed on nearly 1500 acres of private land with another 3,200 acres under contract for treatment involving over 50 landowners. Through a cooperative agreement ODF is also providing forest management planning on ODF&W ownership. The first 200 acre timber sale contract on ODF&W lands has been awarded with the work to begin within the next year. This will mark one of ODF&W’s first forest management efforts on their forestland in northeast Oregon since the land was purchased in the 1970’s. The USFS, working through the newly formed Wallowa Whitman Forest Collaborative Committee, has completed their “purpose and needs analysis” on the East Face project and are on schedule to have a final decision on their proposed forest treatments in late 2016.</p>
Restore the role of disturbance in forest ecosystems to improve upland and aquatic habitats.	Plan, conduct and monitor landscape scale thinning, slash treatment, prescribed burning and other treatment projects on private lands to restore the role of wildfire in forest ecosystems and to improve forest health and resiliency.	Not a focus at this time
	Develop forest management actions consistent with geomorphologic and ecological processes – such as flooding and landslides – that result in desired aquatic habitats.	Not a focus at this time
Overall framework for implementation of resource strategies for invasive species.	Program development in forest invasive species education and outreach, prevention, early detection, rapid response, eradication, risk assessment, survey and monitoring, containment and restoration.	<p><u>Coordination</u> – The Oregon Department of Forestry’s invasive species program works closely with the <u>Oregon Invasive Species Council</u> – a 17 member body set up in Oregon Statute (Oregon Revised Statute 570.755), of which 10 are appointed and serve two-year terms, and seven are ex-officio members. Appointed members represent a cross-section of Oregon agricultural government and business interests, and can include tribal sovereign nations and local governments as well as ports, aquaculture, and the pet, seed, nursery, and shipping industries. Ex-officio members are the Oregon Department of Agriculture, Oregon Department of Environmental Quality, Oregon Department of Fish and Wildlife, Oregon Department of Forestry, Oregon Marine Board, Portland State University and the Sea Grant Program at Oregon State University. The scope of the Council is all invasive species taxa affecting Oregon’s natural resources and economic sectors including forest ecosystems and the forest sector. The Department currently (2015) serves as Chair of the Council.</p> <p>The Council’s <i>education and outreach</i> efforts focus on alerting Oregonians on the need to protect Oregon from invasive species. Highlights include the Council’s annual Report Card on how well the State of Oregon is performing on the invasive species front, the Council’s 100 Worst List which is designed to focus outreach, education and</p>
Eradicate Phytophthora ramorum (the invasive pathogen causing sudden oak death).	<p>Detection, eradication and post-treatment monitoring of all sites infested with Phytophthora ramorum.</p> <p>Cost-share assistance and other incentives (biomass utilization) for</p>	

National Priority 2. Protect Forests from Harm

OPPORTUNITY	GOAL	STRATEGIC ACTION
Prevention of and early detection and rapid response to new introductions of invasive species.	<p>conducting <i>Phytophthora ramorum</i> host elimination prevention treatments.</p> <p>Research and laboratory support for <i>Phytophthora ramorum</i> – fungicide treatments, biology and spread, risk maps, and host genetic resistances.</p> <p>Annual cooperative aerial survey of insects and disease.</p>	<p>prevention on the most unwanted invasive species yet to arrive to Oregon or whose current introduction is limited to a small, containable range. Other highlights include the Council’s high school media contest, annual awards campaign and partnership with Oregon Public Broadcasting’s “Silent Invasion” and “Stop the Invasion” programs. <i>Prevention</i> highlights include the Council’s development and promotion of regional and national outreach campaigns such as “Buy It Where You Burn It” (to prevent the movement of invasive species through firewood), “Squeal on Pigs” (to report sightings of feral swine), “Don’t Let it Loose” (to educate pet owners about not releasing unwanted pets and plants into the wild) and “Clean, Drain and Dry” (to prevent the movement of aquatic invasive species on boats and other recreational watercraft). <i>Reporting and mapping</i> highlights include the Oregon Invasive Species Hotline, Oregon Weedmapper, iMapInvasives, Pest Tracker and the US Geological Survey’s Nonindigenous Aquatic Species information page.</p> <p><u>Risk Assessment</u> – Specific to Oregon’s forests, the Department maintains lists of important forest invasive species as a means to prioritize outreach, prevention, early detection, control and management efforts. The first list is a “prevent” list, which includes organisms that have not been detected or are not currently widespread within the state but could cause significant harm if established. The second list is a “control” list, which includes organisms that are present in Oregon and currently causing significant ecological or economic harm to forest ecosystems. The remaining species are kept on a “watch” list, either because they are already widely established, but don’t appear to be damaging, or their negative effects are currently unknown. A “special” list was also created for four species that could easily be transported on firefighting equipment.</p> <p><u>Early Detection</u> – Since 2001, the Department has served as the lead agency for conducting sudden oak death (SOD) survey and detection efforts in Curry County. Sudden Oak Death – which kills tanoak in Oregon -- is caused by the invasive pathogen, <i>Phytophthora ramorum</i>. Since 2013, the Department has coordinated the US Department of Agriculture (USDA), Animal and Plant Health Inspection Service (APHIS), Plant Protection and Quarantine’s emerald ash borer trapping (EAB) program for western Oregon. The emerald ash borer is a non-native wood boring insect that has yet to be detected in Oregon but has the capacity to cause widespread mortality of Oregon’s native ash as well as in non-native ash species widely planted in urban and suburban landscapes. Recognizing that the (EAB) trapping program needs augmentation, the Department in 2014 assisted with Oregon State University Natural Resources and Forestry Extension Services’ piloting of the “Oregon Forest Pest Detector Program”. Other partners include the Oregon Department of Agriculture (ODA), USDA Forest Service, and USDA APHIS. The purpose of the program is to train arborists, landscapers, and others on the early warning signs of EAB and another potential invasive wood borer, the Asian long horned beetle. The Department also assists ODA with the annual survey for invasive gypsy moths by placing pheromone traps at all EAB trapping sites. In 2013, the Department deployed traps detected two moths near Grants Pass; the only detections for gypsy moth statewide.</p> <p><u>Survey and Monitoring</u> – For 68 years running, the Department has cooperated with the USDA Forest Service in conducting an annual aerial survey of Oregon forestlands for insect, disease and abiotic damage. In 2001, the cooperative aerial survey first detected SOD in Oregon. In 2014, the Department conducted a special aerial survey for the invasive forest weed, gorse. Gorse has many traits undesirable to both agriculture and forestry operations in western Oregon: it can quickly out shade and kill conifer seedlings; it is an undesirable forage species that can quickly invade and dominant pastures, and constitutes a wildfire hazard due to its propensity to burn. The survey covered 300,000 acres in Coos and Curry counties and mapped 6,230 acres of gorse. The purpose of the survey - which was</p>

National Priority 2. Protect Forests from Harm

OPPORTUNITY	GOAL	STRATEGIC ACTION
		<p>requested by cooperators in the region - was to document areas of rapidly growing populations so as to prioritize where response was needed.</p> <p><u>Containment</u> – The Department is responsible for conducting eradication treatments around new SOD infestations detected on non-federal land. This is part of a multi-agency effort to slow disease spread within Curry County. Disease spread is managed through an ODA designation of a SOD quarantine. The quarantine requires infested sites outside of a designated Generally Infested Area to undergo eradication treatment, prohibits the movement of infected material outside of the quarantine area, specifies the best practices to apply when moving host plant material from infested sites and sets forth requirements for disease free certification when moving uninfected host material to areas outside the quarantine. Other cooperators are the USDA Forest Service, the US Department of Interior Bureau of Land Management, Oregon State University, the USDA Agricultural Research Service Horticultural Crops Research Unit and affected private forestland owners. Sudden oak death continues to intensify and spread in Curry County. Most new infestations outside of the Generally Infested Area are on non-federal land including one detection that triggered a 2015 expansion to the quarantine area.</p> <p><u>Strategies – Next Five Years</u> - The Department will:</p> <ul style="list-style-type: none"> • Continue SOD survey, detection and monitoring efforts in Curry County and serve as the lead for implementing eradication treatments of new infestations on non-federal lands. • Work with agency partners and stakeholder interests in the evaluation of the SOD slow the spread program including the development of alternative strategies for further discussion with the Governor’s Office, the Board and the Oregon Legislature. • Develop an early detection and rapid response program for the emerald ash borer and Asian long horned beetle so these invaders do not become established in Oregon. This will involve expanding the pilot Forest Detector Program statewide, evaluating the cost and efficacy of the USDA APHIS EAB trapping program and how this program can be tailored to fit within the Forest Detector Program and developing an Oregon response plan for eradication efforts. • Provide technical assistance to Department field units, private forestland owners, and other interests on the prevention, control and management of forest invasive species. • Develop or adapt Best Management Practices for priority invasive species in need of management and control using Integrated Pest Management principles. • Participate in field trials and applied research involving forest invasive species control with an emphasis on biological control agents for establish forest weeds like Scotch Broom. • Continue our role on the Oregon Invasive Species Council. <p><u>Challenges</u> – The biggest challenge to working in the invasive species arena is the enormity of possible threat to Oregon’s natural resources and the economies that depend on them. For example, the Department’s prevention and control lists of unwanted forest invasive species runs into the hundreds. And this does not even take into account that the biggest threat may be from invasive species that have yet to be identified or known as was the case when SOD was first detected in Oregon. (As a result of not knowing the species responsible for SOD originally, Oregon could not access federal response funding and capacity through USDA APHIS.)</p>

National Priority 2. Protect Forests from Harm

OPPORTUNITY	GOAL	STRATEGIC ACTION
		<p>Underlying this challenge is a lack of funding and capacity to proactively and systematically conduct outreach, education, prevention, early detection and rapid response to new forest invaders. The biggest constraint is the lack of adequate emergency funds to quickly respond to the detection of a new forest invasive species such as EAB or Asian long horned beetle. Current emergency funds include a modest fund administered by the Oregon Invasive Species Council and a response fund specific to detections within the plant nursery sector.</p> <p>The first step the Department can take toward addressing this challenge is to draw from the lessons learned with SOD and evaluate and formalize the Department's capacity with respect to invasive species preparedness and response including: (1) more explicitly defining the criteria where ODF should be the lead agency in responding to a new detection of an unwanted species, (2) an accounting of the tools we have at our disposal to support response (i.e., control districts, incident management structure), (3) an accounting of existing funding mechanisms available and (4) the gaps (including funding) that compromise agency preparedness to respond.</p>

National Priority 3. Enhance Public Benefits from Trees and Forests

OPPORTUNITY	GOAL	STRATEGIC ACTION
Secure an equitable share and stable source of public funding for fire protection.	Explore and pursue significant improvements to the structure and funding of the Oregon Department of Forestry's budget.	<p>In response to recent severe fire seasons, the Oregon Legislature passed the Wildfire Protection Act (WPA) in 2013 that does three things to increase the agency's capacity in preparedness, prevention and suppression of wildfires. The WPA includes provisions to increase severity dollars that allow firefighting resources to be prepositioned and ready prior to events. The WPA also provides dollars to help offset the high cost of fire preparedness on the East side of Oregon along with phasing in the sharing of large fire costs with the General Fund and landowner funds.</p> <p>In addition to the WPA, during the 2015 session, the Oregon Legislature requested a review of how large fires are funded and agreed to participate in the process. This committee will review the funding structure for large fires and make recommendation to the Legislature in 2016.</p>

National Priority 3. Enhance Public Benefits from Trees and Forests

OPPORTUNITY	GOAL	STRATEGIC ACTION
Expand public outreach and education about wildfire prevention measures.	Expand outreach and education about wildfire prevention in the wildland urban interface to reduce the wildfire risks to homes and private property.	<p>Prevention and preparedness activities are developed and implemented in a collaborative manner to ensure consistency in messaging and efficient use of resources. At the state level, the WUI Prevention Team (consisting of ODF, the State Fire Marshall's Office and Keep Oregon Green) develops wildland fire safety and prevention messages and other tools targeted toward diverse user groups that are distributed to local entities for use during Wildfire Awareness Month and Fire Season. This team also plans a coordinated a bi-annual WUI Prevention Conference designed to bridge the gap between structural and wildland fire prevention and response efforts.</p> <p>ODF has been working closely with landowners of rangeland in eastern Oregon and the Board of Forestry to develop Rangeland Protection Associations (RPA). There are now 20 RPA's throughout eastern Oregon and during the 2015 session, the Oregon Legislature adopted new laws to continue assisting and helping fund RPA's in their development.</p> <p>In addition, the Oregon Forestland Urban Interface Act of 1997 (SB 360) requires forest landowners to create defensible space and self-certify this work with ODF in order to limit potential liability for fire suppression costs.</p> <p>At the regional/county level, Fire Prevention Cooperatives provide a means for coordinated prevention education efforts. These Cooperatives work with schools and other use groups to educate the public about fire prevention.</p> <p>At the local community level, the National Fire Protection Agency's Firewise Communities USA program provides an avenue for making neighborhoods more wildfire resilient. ODF and the local RFPD work with these communities to understand their hazards and develop an action plan. The NFPA recognizes communities' efforts to become more fire adapted by giving them, the Firewise designation. Oregon currently has 87 recognized Firewise Communities.</p> <p><i>Implementation challenges</i></p> <ul style="list-style-type: none"> There are communities at risk to wildfire in the state that do not have organized fire protection, which makes fire prevention and response efforts exceedingly difficult. Consistent funding from Forest Service is always an issue because there is a great demand for suppression funding, especially in rural areas. SB 360 is not being implemented in a number of Oregon Counties due to lack of funding and local understanding/support for the program. <p><i>Focus for the next five years</i></p> <ul style="list-style-type: none"> Continue to work with unprotected communities through the Firewise Program to become self-reliant in order to prevent, respond and recover from wildfires. Administer a fair and equitable process to distribute the VFA funding in areas of highest need and risk. Work collaboratively with RFPD's to ensure that they have the training and equipment necessary to effectively respond to a wildfire event. Continue to work with counties and the legislature to gain the funding and support necessary for SB 360 implementation.

National Priority 3. Enhance Public Benefits from Trees and Forests

OPPORTUNITY	GOAL	STRATEGIC ACTION
Assist communities in hazardous fuel treatment planning, implementation and monitoring.	Plan and conduct fuel breaks, thinning, pruning, landscape modifications and other hazardous fuel reduction projects that modify or break up the fuels in such a way as to lessen catastrophic fire and its threat to public and firefighter safety and damage to property.	Please see page 9, “Actively manage forests at risk of uncharacteristically severe wildfire”
	Conduct inspections; demonstration projects; fire safe groups; training and education of homeowners and others about providing space around homes and structures that will limit the wildfire spread to provide a safer environment for defending homes and structures.	Please see page 13, “Expand public outreach and education about wildfire prevention measures”
Assist communities in hazardous fuel treatment planning, implementation and monitoring.	Provide technical and financial assistance in Community Wildfire Protection Planning.	Please see page 2, “Assist farm, ranch and family forest landowners in their management of wildfire risk”
Develop a variety of end use markets for forest products and environmental services.	Develop end use markets for small diameter trees, slash and other forest residue as a means to make needed fuel treatment practices pay for themselves; thereby expanding the level of investment in fuel treatment projects.	Not a focus at this time
Maintain forest cover and connectivity within rural-urban forest areas.	<p>Ensure active management of urban forests through inventory, planning, tree care, management and monitoring.</p> <p>Foster homeowner, public community and local or regional government understanding of the importance of Oregon’s urban-rural forests to habitats along streams, wildlife corridors and parks and other open space.</p>	<ul style="list-style-type: none"> A brief summary of implementation highlights: <ul style="list-style-type: none"> ODF’s U&CF program has made education a top priority. We pioneered the Community Tree Management Institute (CTMI) concept back in 1994 – providing an intensive crash-course in urban forestry for municipal employees. We are now partnering with the Washington DNR on this course, offered every other year to city employees who have tree related responsibilities. Over 150 people have completed the course. Over the last five years, we have shifted this course from a place-based one to a hybrid course – partially place-based and partially online. This has cut travel costs for employees and helped strengthen the curriculum ODF’s U&CF program has also cooperated with Oregon State University to establish the first online undergraduate and graduate urban forestry degrees fully available online anywhere in the U.S. Students from around the US and the World can earn a Bachelor’s or Master’s degree in Natural Resources with an Urban Forestry emphasis. A brief summary of implementation challenges:

National Priority 3. Enhance Public Benefits from Trees and Forests

OPPORTUNITY	GOAL	STRATEGIC ACTION
		<ul style="list-style-type: none"> ○ Funding continues to be an issue, as the adjusted-for-inflation value of the federal investment in Oregon is now less than it was in 1991. • Identify the implementation focus for the next five years: <ul style="list-style-type: none"> ○ ODF is exploring new online courses in a variety of urban forestry topics to help educate an even broader group of urban forestry and natural resource professionals. • Identify data needs or new issues: <ul style="list-style-type: none"> ○ ODF recently (2014) completed its 10 year urban forestry city survey. This information will help us target educational needs even further. One area we don't know much about is in regards to Tree Boards – the citizen advisory boards that help cities manage their urban forests. No national study of tree board members has ever been attempted. This information would be of great value if the US Forest Service would sponsor such a study. It makes no sense to limit it just to Oregon – every state has this same issue.
Develop diverse markets for Oregon's timber and remove market barriers for wood products.	Develop an Oregon Wood First Program to raise awareness among designers, architects, builders, code officials and various levels of government of the opportunities to use Oregon wood to meet green building standards.	Not a focus at this time
Maintain and enhance important fish and wildlife habitats on forestland.	Develop block grant cost-share programs to implement conservation actions from private family forestlands consistent with regional and statewide conservation plans like the <i>Oregon Conservation Strategy</i> , the <i>Oregon Plan for Salmon and Watersheds</i> and <i>Native Fish Conservation Plans</i> .	Not a focus at this time
	Encourage the use of Stewardship Agreements as an incentive for achieving needed conservation outcomes on private forestlands that exceed regulatory requirements.	Limited focus as resources become available.
Maintain habitat features and conditions for fish and wildlife residency and movement.	Effective administration, educational assistance, enforcement and landowner recognition of Oregon Forest Practices Act resource protection measures.	See “Monitoring and research on water quality and best management practices for forestlands”, page 16.
	Provide technical and financial assistance in forest management planning.	See “Assist family forestland owners with their management of forests”, page 3.

National Priority 3. Enhance Public Benefits from Trees and Forests

OPPORTUNITY	GOAL	STRATEGIC ACTION
Maintain and improve programs that support voluntary conservation actions.	Improve data management, coordination and sharing between various conservation partners to support voluntary conservation.	ODF is in the process of conducting a voluntary measures survey to identify improvements made to aquatic, riparian and upland habitat, as well as roads and stream crossings under the Oregon Plan for Salmon and Watersheds. The survey will determine the types of voluntary measures that are most frequently implemented, identify barriers to implementation/reporting and tell the success story of voluntary measures on forestlands in Oregon
Develop ecosystem services markets or market based payment mechanisms for conservation.	Participate in the development of innovative market based ecosystem services programs.	Not a focus at this time
Reduce runoff from impervious surfaces in business and residential urban areas.	Ensure active management of urban and urban-rural forests to maintain tree canopy cover, parks and open space to reduce impervious surface area and intercept storm water runoff.	Not a focus at this time
Monitoring and research on water quality and best management practices for forestlands.	Compliance auditing and effectiveness monitoring of the Oregon Forest Practices Act water protection rules with respect to their role as best management practices designed to meet Oregon's water quality standards for temperature, sediment and toxicity.	<p>The Oregon Forest Practices Act (FPA) contains a set of best management practices and prescriptive rules in the areas of reforestation, harvesting, forest road construction and maintenance, slash disposal, chemical application, riparian area and wetland protection, and specified resource site (wildlife habitat) protection. Department policy attempts to gain compliance with the FPA through a program that maintains an effective balance of science and technology-based rules, incentives, educational and technical assistance, and uniform enforcement. The purposes of FPA administration are to help landowners meet their objectives while complying with the rules, educate responsible parties who have violated rules to avoid future violations, and repair to the extent possible damage that has occurred. Department Stewardship Foresters provide on-the-ground administration and enforcement of the FPA by inspecting priority operations for compliance.</p> <p>The department has hired an independent contractor, who collected data in 2013 and 2014. These initial efforts focus on key FPA rules for roads and harvesting that are suitable to numeric evaluation. This audit provides data that demonstrates the effectiveness of the department by indicating how well forest operators are complying with the rules, and indicate the implementation of the Forest Practices Act across the landscape.</p> <p>Challenges: Forest operations that are found to be in violation of FPA statutes and rules are the result of landowners' lack of knowledge or unwillingness to follow the law. The availability of Department field foresters has a direct bearing on landowner knowledge, and a somewhat indirect bearing on a landowner's willingness to follow the law. As new rules are developed and new operators/landowners become active, the department will work with landowners, operators, and educational partners to provide adequate education to maintain a high level of compliance.</p> <p>Future Actions: The department needs to continue to support operator training and education to maintain high compliance. The FPA compliance audit will be an annual occurrence. Future discussions will include a review of additional BMPs and rules to include in the audit.</p> <p>Conduct long-term paired watershed studies throughout Oregon that evaluate the environmental effects on water and fish of contemporary forest management practices now in use on younger intensively managed forests.</p>

National Priority 3. Enhance Public Benefits from Trees and Forests

OPPORTUNITY	GOAL	STRATEGIC ACTION
Maintain and restore forest riparian and wetland conditions on agricultural and range lands.	Provide technical and financial assistance in management planning.	Limited focus as resources become available.
	Coordinated resource management planning —one stop web based tool kit that meets agricultural, forestry and fish and wildlife management planning requirements (e.g., core template, —add-ons templates by resource emphasis, geographic information system (GIS) plan development and tracking tools.	Not a focus at this time
	Steer cost-share programs to implement specific water quality protection measures such as restoring geomorphological stream functions, riparian forest conditions, wetlands and off channel habitats on agricultural, range and private family forestlands.	Limited focus as grant funding opportunities become available.
	Update the 1995 Memorandum of Agreement between the Oregon Department of Forestry and the Oregon Department of Agriculture regarding the regulation of pesticide use on state, private and local government forestlands.	Not a focus at this time
	Develop Pesticide Stewardship Partnerships to monitor current use forest pesticides in surface waters, identify streams with elevated pesticide concentrations, develop and implement voluntary best management practices to correct problems and conduct following monitoring to measure results with respect to water quality improvements.	<p>Since 2010, two new Pesticide Stewardship Partnership (PSP) areas have been established that provide a picture of pesticide use on forestland. In one area, monitoring began in 2010 with input from local forestland owners and monitoring was refined based on input from forestland owners and additional analytes are now being tested for.</p> <p>In 2013, the overall PSP program was fully funded by the Oregon Legislature, allowing the PSP program member agencies to evaluate possible expansion into new watersheds. Just recently a new PSP watershed was established, bringing the total number of current PSP watersheds to nine. This new watershed will provide information about several land use categories including forestland.</p> <p>Overall, the PSP program has been highly successful in terms of reducing off-target movement of pesticides and gaining support from local groups.</p> <p>Future work includes keeping up with new pesticides entering the marketplace and developing exit strategies/success stories where PSPs have proven successful.</p>