

Oregon Forest Legacy Program

Assessment of Need



September 2001

Oregon Department of Forestry

Acknowledgements

The development of this Assessment of Need was a truly cooperative effort. However, a number of people deserve particular credit. Rick Brown was a major source of inspiration and energy for everyone working on the project. Clearly, without Rick's efforts, this Assessment of Need would have taken at least another year. In addition, all of the members of the Oregon Forest Legacy committee deserve special credit for sticking with the process and providing time, wisdom and energy: Hillary Abraham, Brenda Brown, Sam Hodder, and Steve Gordon.

The primary team who put the plan together included Jim Cathcart and Wally Rutledge of ODF, Ray Abriel of the Forest Service, and Jimmy Kagan of ORNHP. Rachel White Scheuering authored or compiled much of the initial sections of this AON, and provided guidance and editing. Theresa Koloszar was a key editor, as well as attending all the public meetings, taking minutes and putting together the summary of the work. John Hak of ORNHP did most of the GIS analysis for the project, and Claudine Tobalske of ORNHP made most of the figures and maps.

Gail Barnhart of ODF provided support for the entire project, set up the public meetings, and generally kept things in order. Arlene Whalen of ODF put together the press releases and helped make sure we got the word out, and Mike Delaune of ODF put together the PDF for the web page. We would like to thank Jeff Kline of OSU Forest Science and Gary Lettman of ODF for providing us with their excellent work on forest losses and other economic data. Chad McGrath of the Department of Geology and Mineral Industries provided information on forest soils and productivity.

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Jimmy Kagan
Oregon Natural Heritage Program

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Oregon Forest Legacy Program – Assessment of Need

September 2001

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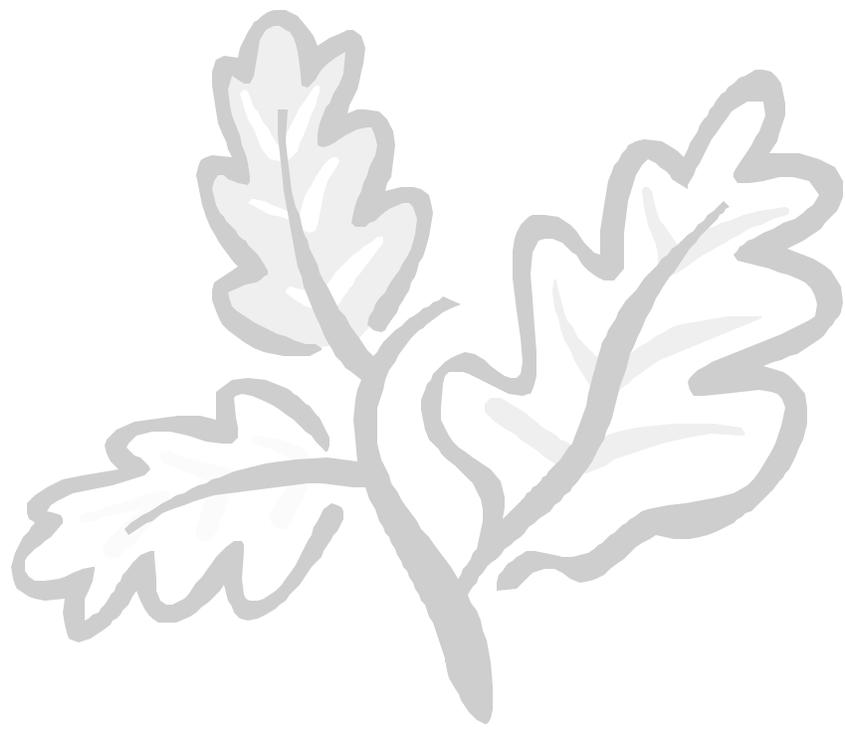
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MAR 22 2002



The Honorable John A. Kitzhaber, M.D.
Governor
State of Oregon
254 State Capitol
Salem, Oregon 97301-4001

Dear Governor Kitzhaber:

I am pleased to inform you that your request for participation in the Forest Legacy program has been approved pursuant to our authority under Section 7 of the Cooperative Forestry Assistance Act of 1978 (16 SUC 2103c), as amended.

Fifteen Forest Legacy Areas (FLA) meeting eligibility criteria to achieve these goals and having public support were proposed. They are described and mapped in the Oregon assessment of need. All fifteen areas are hereby instituted as approved FLAs.

We appreciate the work of the employees of the Oregon Department of Forestry, under the leadership of State Forester James E. Brown and the assistance of the Oregon State Forest Stewardship Coordinating Committee to bring Oregon into the Forest Legacy Program.

Thanks you again for your efforts to join the Forest Legacy Program. Please do not hesitate to contact Under Secretary for Natural Resources and Environment Mark Rey if you have any questions.

Sincerely,

Ann M. Veneman
Secretary



JOHN A. KITZHABER, M.D.
GOVERNOR



September 14, 2001

Harv Forsgren, Regional Forester
USDA Forest Service
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P.O. Box 3623
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Dear Mr. Forsgren:

With this letter I am submitting Oregon's Assessment of Need (AON) for the Forest Legacy Program. The Oregon Department of Forestry (as lead agency) and the Oregon Natural Heritage Program (ORNHP) developed the AON in consultation with Oregon's State Stewardship Coordinating Committee. The AON elects the State grant option of the Forest Legacy Program. Therefore, all Forest Legacy acquisitions (in the form of easements or fee title) shall be transacted by the State with title vested in the State or a unit of State or local government.

We were very fortunate to have ORNHP conduct the analysis and compile the AON. In particular, the experience and expertise of ORNHP Director Jimmy Kagan allowed us to capitalize on a wealth of ecological, social and economic information about Oregon's private forests compiled in previous assessments and studies. Timely access to this data allowed us to complete a quality AON in one-third the time it might have normally taken.

The AON Develops a Forest Legacy Program for Oregon that provides private forest landowners the opportunity to keep their forestland as forests so as to preserve the flow of ecological, social and economic benefits these forestlands produce for Oregon. In particular, the AON identifies 15 Forest Legacy Areas located throughout the state that have significant amounts of private forestland threatened by the possibility of conversion to non-forest uses, in particular residential and urban development, within the next 10 years. The 15 Forest Legacy Areas were also chosen to focus the program where important forest resources such as habitat for threatened and endangered species, aesthetics and recreation opportunity and timber supply are threatened by forest losses to non-forest uses. The 15 legacy areas are broadly spaced geographically in recognition that these resources and the threats to them are not confined to one region in Oregon.

As you may be aware, the Western Governor's Association and I have adopted a framework, *Enlibra*, for guiding western natural resource and environmental policy development well into the next millenium. As a voluntary program reliant on landowners, communities, agencies, non-governmental organizations such as land trusts and other interests working together, I feel Oregon's Forest Legacy Program as developed in our AON is consistent with this framework.

Harv Forsgren, Regional Forester
September 14, 2001
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We would also like to acknowledge the efforts and encouragement of your staff, especially Ray Abriel and Charlie Krebs, in assisting us with the AON. We are thankful of your support and look forward to final approval of the AON by national program staff and the Secretary of Agriculture so we can begin implementing the program immediately.

Sincerely

A handwritten signature in blue ink, appearing to read "John A. Kitzhaber". The signature is fluid and cursive, with the first name "John" being the most prominent.

John A. Kitzhaber, M.D.

JAK/NR/sm

Statement of Purpose

Oregon is a state rich in forest resources. The 27.5 million acres of forest land cover 45 percent of the state. Private forest lands, comprising 39 percent of Oregon's forest lands, have become increasingly important to the state's natural resource based industries as resource allocation decisions on federal lands, representing 57 percent of Oregon's forest lands, are now predominately geared toward producing environmental benefits.

Historically, about 10 percent of Oregon's forests present in the mid-1800's have been converted to urban, residential, agriculture, pasture and other non-forest uses. In 1973, Oregon adopted county comprehensive land use planning as a tool for protecting highly productive private agricultural and commercial forest land from being lost to development. Lands zoned as forest or farm in comprehensive plans face limited threats from being converted to urban or high-density residential uses. However, many important forests still exist within areas zoned as developable in comprehensive plans. Forest losses within these developable areas noticeably increased over the 1982-1994 period (the most recent period that data is available). In general, forest losses to development are predicted to continue as more and more people move into Oregon and communities accommodate business growth in non-natural resource sectors.

Preventing conversion of private forest lands to non-forest uses protects unique ecological, social and/or economic benefits that these private forest lands provide. In addition, it is recognized that the habitat needs of threatened, endangered and other fish, wildlife and plant species of concern cannot be met on the federal forest land base alone.

The Forest Legacy Program is a federal program that works in partnership with states. The Forest Legacy Program protects private forest lands from being converted to non-forest uses by providing states funding for acquiring the development rights to the private forest land through easement or fee title. In addition, the Forest Legacy Program promotes stewardship and sustainable management of private forest lands. Working with community partners, landowners must apply for Legacy program monies used in the acquisition of conversion rights. Landowner participation in the Forest Legacy Program is voluntary.

Guidelines for the Forest Legacy Program require that Oregon identify a state lead agency to prepare an Assessment of Need (AON), a plan that documents the need for the program, and describes how it will work. The AON was developed in cooperation with the State Stewardship Coordinating Committee. In 2001, Oregon Governor John A. Kitzhaber recommended that Oregon prepare an AON for the Forest Legacy Program and designated the Oregon Department of Forestry as the lead agency to coordinate this effort. The Oregon Department of Forestry entered into a Memorandum of Agreement with the Oregon Natural Heritage Program to conduct an analysis of private forest lands for the purpose of establishing Forest Legacy Areas containing private forest lands eligible for legacy program acquisition. The analysis was conducted in an open forum that allowed public review and comment on potential forest legacy areas before they were finalized by the State Stewardship Coordinating Committee. Oregon adopted the State Grant Option where all Forest Legacy Program acquisitions (in the form of easements or fee title) shall be transacted by the State with title vested in the State or a unit of State or local government.

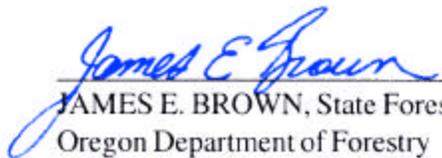
The AON identifies 15 Forest Legacy Areas that have large areas of private forestland threatened by the possibility of conversion to non-forest uses, in particular residential and urban development, within the next 10 years. The 15 Forest Legacy Areas were chosen to focus the Forest Legacy Program on areas where important forest resources such as habitat for threatened and endangered species, aesthetics and recreation opportunity and timber supply are threatened by forest losses to non-forest uses. The 15 legacy areas are spaced geographically throughout Oregon in recognition that these threatened resources are not confined to one region of the state. The legacy areas include only 12.6% of Oregon's privately owned forests.

The AON establishes five criteria for evaluating private forest lands with owners that request monies for the sale (in the form of easements or fee title) of their development rights to non-forest uses. The criteria are listed in priority order of importance (i.e., the higher the priority, the more weight given to the criteria in the evaluation of sites). They are:

1. The significance of ecological, social and/or economic values on the property.
2. The viability and importance of the site to other forest lands.
3. Local support and presence of partners and/or match funding.
4. Immediacy of conversion threats to the site.
5. The priority of the Forest Legacy Area that the property is in.

The AON identifies specific goals and objectives for each of the 15 Forest Legacy Areas. These goals and objectives, which are not meant to be comprehensive, identify specific issues tied to forests in each Forest Legacy Area. The goals and objectives serve as performance measures to ensure that when viewed collectively, Forest Legacy Program acquisitions of conversion rights make positive contributions to addressing these issues by keeping important private forest lands from being converted to non-forest uses.

As a voluntary program reliant on landowners, communities, land trusts and other interests working together, Oregon's Forest Legacy Program as established in this AON, provides private forest landowners the opportunity to keep their forest land as forests so as to continue the flow of ecological, social and economic benefits these forest lands produce for Oregon. As such, this AON is another example of Oregon's commitment to the sustainability of its forests. As appropriate, periodic review and revision of this AON will be made.



JAMES E. BROWN, State Forester
Oregon Department of Forestry

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I. Introduction

Oregon is the tenth largest of the United States, encompassing 97,060 square miles (Keisling 1999). Elevations range from sea level at the coast to the high peaks of the Cascade Mountains, the tallest being Mt. Hood at 11,245 feet elevation. Some of the wettest and driest places in the United States are found in Oregon; several sites in the eastern part of the state receive less than 8 inches of precipitation annually, while over 120 inches falls in parts of the Coast Range. All four of the world's major biomes occur in Oregon--arctic alpine, desert, grassland, and forest.

Renowned especially for its forests, which cover almost half the state, Oregon is home to such outstanding species as Douglas-fir, Sitka spruce, western hemlock, Pacific silver fir, white fir, noble fir, western red cedar, madrone, big leaf maple, black cottonwood, as well as extensive fire-maintained ponderosa pine and Oregon white oak savannas and woodlands. Port-Orford-cedar, Brewer spruce, sugar pine, Jeffrey pine, Baker cypress, and limber pine are some of the rarer conifers which account for much of Oregon's forest diversity.

Due to the widely varying combinations of climate and topography, Oregon's forests are more ecologically diverse than all other states but California. Oregon's forests are also among the tallest and most productive in the world, and for decades Oregon has led the nation in lumber production, which has always been a central part of the state's identity. In the past decade, the famed old-growth or "ancient" forests in Oregon and the other Pacific Northwest states, some of which are more than 250 years old and contain trees up to 100 meters high, catalyzed one of the country's most emotional political battles. In 1990 the U.S. government listed the northern spotted owl as a threatened species and instituted a plan to limit timber harvest in large areas of federal forests in the Northwest to ensure its protection. This plan dramatically changed the management of Oregon's federal forest lands, and impacted private forest lands throughout western Oregon.

With their remarkable wealth of diversity, Oregon's forests provide the state with uncommon natural beauty, wildlife habitat, soil and watershed protection, recreational opportunities, and valuable timber and non-timber products. These natural resources have influenced the settlement of Oregon from the time of its first human habitation. However, with continued population growth, development and other conversion to other non-forest use pose increasing threats to many of these forested areas and their natural, economic, and social resources ? crucial components of Oregon's heritage. Although many local governments and landowners wish to retain the traditional landscape and uses of their forests, sometimes outside pressures make it economically difficult for them to keep their land in forest use.

Like other Cooperative Forestry programs of the U.S. Department of Agriculture (USDA) Forest Service, the Forest Legacy Program (FLP) is a federal program that works in partnership with states. The FLP recognizes that the majority of the nation's productive forestlands are in private ownership and is designed to support state and local efforts to protect threatened forestlands from conversion to non-forest use. In addition, the FLP promotes good stewardship and long-term sustainable management of privately held forested areas. Forest Legacy is strictly a voluntary program.

This Assessment of Need (AON) is the result of a comprehensive assessment of Oregon's private forest lands. The assessment was developed in a public forum in cooperation with the Oregon State Stewardship Coordinating Committee (SSCC). The purpose of this Assessment

of Need is to develop a Forest Legacy Program for Oregon that provides landowners an opportunity to protect valuable forest resources while retaining ownership of the land. Oregon's Forest Legacy Program also needs to facilitate long-term resource management partnerships between local, state, tribal and federal governments as well as non-governmental organizations.

The Assessment of Need evaluates private forestlands with respect to threats of conversion to non-forest uses, describes the need for the program, and outlines how the Forest Legacy Program will be managed in Oregon. The AON looks at forest conversions likely to occur within the next 10 years. For the Forest Legacy Program in Oregon, the Oregon Department of Forestry (ODF) has elected the state grant option. This means that all Forest Legacy acquisitions, whether of easements or fee title, shall be transacted by the state, with title vested either in the state or some other unit of state or local government. In this assessment, the state has outlined some primary goals and objectives for the Forest Legacy Program. The goals are to:

- ✍ Conserve private forest lands in areas where forests may be lost to non-forest uses.
- ✍ Sustain forest resources such as river flows and clean water, fish and wildlife habitat, carbon stores, soil productivity, commercial and non-commercial timber, scenic quality, recreational opportunity, and biodiversity.
- ✍ Strengthen communities and facilitate state, local and private partnerships in forest conservation.

The primary objectives are:

- 1) Protect significant site-specific ecological, social and/or economic forest related benefits.
- 2) Reinforce and expand upon existing networks of conserved forest land.
- 3) Encourage private landowners to work with communities, agencies, businesses and non-governmental organizations so as to strengthen their management of forest resources.
- 4) Secure additional conservation investments in private forest land.
- 5) Protect forested properties that face immediate threats to conversion to non-forest use.
- 6) Focus efforts where large areas of private forest land face the possibility of conversion to non-forest use within the next 10 years and where the consequences in terms of overall losses to important ecological, social and economic forest related benefits are great.

Oregon was able to develop this AON because the state has just completed three major, statewide environmental assessments. These include 1) the Oregon Gap Analysis Project, funded by the U.S. Geological Survey (USGS) to look at how well habitats and species are protected in Oregon, 2) the Oregon Biodiversity Project, a cooperative private assessment coordinated by the Defenders of Wildlife, identifying conservation needs, incentives and opportunities in Oregon, and 3) the State of the Environment Report, a comprehensive analysis of the environment requested by Governor John Kitzhaber and headed by Dr. Paul Risser, Oregon State University President. The Oregon Department of Forestry chose the Oregon Natural Heritage Program (ORNHP) to develop this AON because of their involvement in the previous assessments and their access to statewide data on forests, habitats, endangered species, protected lands, and other necessary information. The data used in the assessment is described in more detail and summarized in Appendix B.

II. Oregon's Forest Resources

A. Forest plant diversity

Ecologically, Oregon is the most diverse state aside from California¹. Oregon has coastal rainforests dominated by Californian and Alaskan species; barren deserts receiving less than eight inches of rainfall a year; and mountain ranges associated with the Rocky Mountains, the Cascades, the Klamath Mountains and the Great Basin Ranges.

Trees from many regions converge in Oregon, where numerous species are at or near the edge of their range. Many plants typically found in the Arctic dominate the high Cascades. Alaskan species such as Sitka spruce dominate northern coastal lowlands, while the southern coast has a redwood belt that spills over from California. The Willowa Mountains form the western edge of the Rocky Mountains and are home to many forest species common to central Colorado. Southeastern Oregon is on the edge of the Great Basin and harbors plants found in the cool deserts of Nevada and Utah such as narrow-leaf cottonwood.

In the Klamath Mountains, the flora of the Sierra Nevadas, the Cascades, and the Great Basin comes together to form unique combinations. A two-mile stretch of the Siskiyou Crest in southwestern Oregon provides a range of niches for a rich reservoir of genetic material, supporting plant communities as varied as old-growth Douglas-fir forest, alpine meadows, western juniper steppe, Jeffrey pine savannas, California red fir forests, and rigid sagebrush steppe. The Klamath Mountains are home to the greatest diversity of conifer species in the world, with over 14 species found within a few square miles of the Kalmiopsis Wilderness Area. The forest diversity of this area has made it an internationally known study site for forest ecologists.

B. Recreational, cultural, and scenic resources

Oregon has gained a reputation for its extensive forests of tall trees, timber resources, biodiversity, and overall scenic splendor. Currently, the rugged beauty of Oregon's mountains, seacoast, and forest lands attracts millions of tourists every year. A variety of recreational opportunities await in any of Oregon's parks, forests, and other scenic areas. Crater Lake National Park, the nation's fifth oldest national park, draws visitors from around the world to its six mile-wide caldera lake and hiking trails that wind through old-growth forest. In 1999 Crater Lake drew 417,992 visitors during its brief snow-free summer season. Oregon also has 48 designated Wild and Scenic Rivers, 177 state parks, and hundreds of miles of public beaches.

Thirteen national forests throughout the state offer abundant opportunities for outdoor recreation and escape from urban life, including hiking, camping, fishing, hunting, picnicking, and sightseeing. For example, the varied landscape of wooded slopes, high mountains, and narrow canyons of the Willamette National Forest, which stretches for 110 miles along the western slopes of the Cascade Range in western Oregon, makes it a valuable scenic and recreational resource. In Oregon's northern Cascade Mountains lies the Mount Hood National Forest, which encompasses 1.2 million acres, has four designated wilderness areas, and over 1200 miles of hiking trails. Within this national forest lies Oregon's tallest

¹ Based on the number of plant associations described in the National Vegetation Classification System by the Association for Biodiversity Information

peak, Mt. Hood, which rises 11,245 feet above sea level and is the second most climbed mountain in the world (second only to Japan's holy Mt. Fuji). Nestled midway to the summit of Mt. Hood is Timberline Lodge, a National Historic Landmark and popular tourist destination, which boasts a ski area with the only year-round ski season in North America.

Further south, the Deschutes National Forest in central Oregon covers nearly 1,600,000 acres of public lands and is home to Mt. Bachelor, the largest downhill ski area in the Pacific Northwest, which receives over 700,000 visitors annually. Fishing is also an important attraction in the Deschutes National Forest, where each year anglers spend almost \$8 million on fishing and net over 300,000 fish. The 2,392,508 acre Wallowa-Whitman National Forest in the northeast corner of the state, with its 2,653 miles of trails, accounted for an estimated 4,110,500 visitor days in 1999. Oregon's national forests also manage and protect cultural resources ? the Deschutes National Forest has identified over 8,000 known cultural resource sites which range from 9,500-year-old American Indian lodges to small trapper cabins and traces of early pioneer trails and wagon roads. Eastern Oregon's Malheur National Forest manages over 3,000 archaeological and historical sites, including American Indian encampments, obsidian quarries and workshops, 19th century mining camps and homesteads, logging railroads and camps, and Forest Service lookout towers and guard stations.

The state of Oregon also manages some large forests: including the Elliot State Forest near Coos Bay; Sun Pass in the east Cascades by Klamath Falls; the Santiam State Forest in the west Cascades of Clackamas, Marion, and Linn counties; and the Tillamook and Clatsop State Forests in the northern Coast Range. The Tillamook State Forest is significant because it is over 360,000 acres, and was acquired by the state between 1930 and 1950, after a series of large wildfires had burned most of the forests. State bonds and community effort have resulted in complete reforestation of this area, creating a major forest resource for the state.

Private forest lands border many of these public recreational, cultural, and scenic areas. These private lands contribute to the state's recreational opportunities by providing vital access points, maintaining scenic corridors, adding access for hunting and fishing and offering an outlet for intense recreation pressures on public lands and resources. As cities continue to grow, more and more people will seek the aesthetic enjoyment of outdoor activities, making the continued health and conservation of forest land an important component in the quality of life Oregon has to offer.

C. Fish and wildlife habitat, and threatened and endangered species

Oregon's diversity of climate, topography, and vegetation types creates a complex system of forest habitats for fish and wildlife species. An estimated 300 species of native terrestrial vertebrates use some form of forest cover to breed; overall, forest management practices can affect habitat quality for over 400 terrestrial forest vertebrates, including the northern spotted owl, bald eagle, wolverine, and several other sensitive and threatened species. Western and montane conifer-hardwood forests and oak woodlands are some of the more species-rich areas in the state (Olson *et al.* 2001).

Some forest species have declined in Oregon. These include old-growth obligate species, species requiring deciduous cover or riparian habitat, cavity-nesting birds and mammals, amphibians, species using snags or fallen, decaying trees, large game animals, and other mammals, including forest carnivores. More than 60 wildlife species are associated with downed wood alone. Of the 114 species of wildlife listed within the Oregon Natural Heritage Program database as being either state or federally endangered, threatened, or sensitive, 65 species have some association with forests, whether for nesting, roosting, hibernating, or foraging.

In addition, forest lands of all elevations often encompass riverine wetlands and riparian habitats which support a range of wildlife species. In fact, riparian areas are sometimes richer in vertebrate diversity than upland areas. Some vertebrates are strictly associated with riparian hardwoods, mainly due to the opportunities for cavity nesting or foraging. Amphibian diversity is also high in these areas. Seven amphibian species spend large portions of their lives in smaller streams, making them sensitive to forestry practices. Riparian habitats and streamside wetlands are also crucial for providing cover, food, and water to wide-ranging species. Without these forest corridors, peripheral species and species from other habitats may suffer decreased population numbers as well.

Oregon's fish populations are also particularly reliant on healthy riparian areas since overhanging trees lower water temperatures and increase the amount of dissolved oxygen in the water. Healthy forests improve the overall living conditions for cold-water dependent fish by stabilizing steep slopes and thus reducing erosion and silt-loading in the streams. Over 60 species of fish are native to Oregon's streams and rivers, with a majority of these occurring within forested habitats. For example, steelhead trout, chum, coho and Chinook salmon, and cold water-dependent cutthroat and bull trout are found throughout the state's forested lakes and streams. Yet many of Oregon's fish species continue to experience population declines and range contractions. A majority of the stocks of anadromous salmonids (13 of 20 ESUs, or Evolutionary Significant Units) are now listed as either threatened or endangered under federal and/or state endangered species acts and have severely declined from their historical range. Some of the leading causes of this habitat decline are the conversion of many riparian forests to agricultural, urban and residential uses; and water pollution and the diversion of water for development and agriculture.

A total of 261 different species of rare, sensitive and endangered plants occur in Oregon's forests (Oregon Natural Heritage Program 2001). Some of these such as howellia and wayside aster are local endemics. Others, like the clustered lady slipper are of concern throughout the west. Recent work by the USDA Forest Service and the US Department of the Interior Bureau of Land Management (USDI BLM) has identified a number of invertebrates, fungi, and lichens which are completely dependent on the forests of the Pacific Northwest. Figure 1, below, shows the distribution of the all of the sensitive, threatened and endangered species in Oregon, from the Oregon Natural Heritage Program's at-risk species database. While these include all species, most are fish, wildlife and plants.

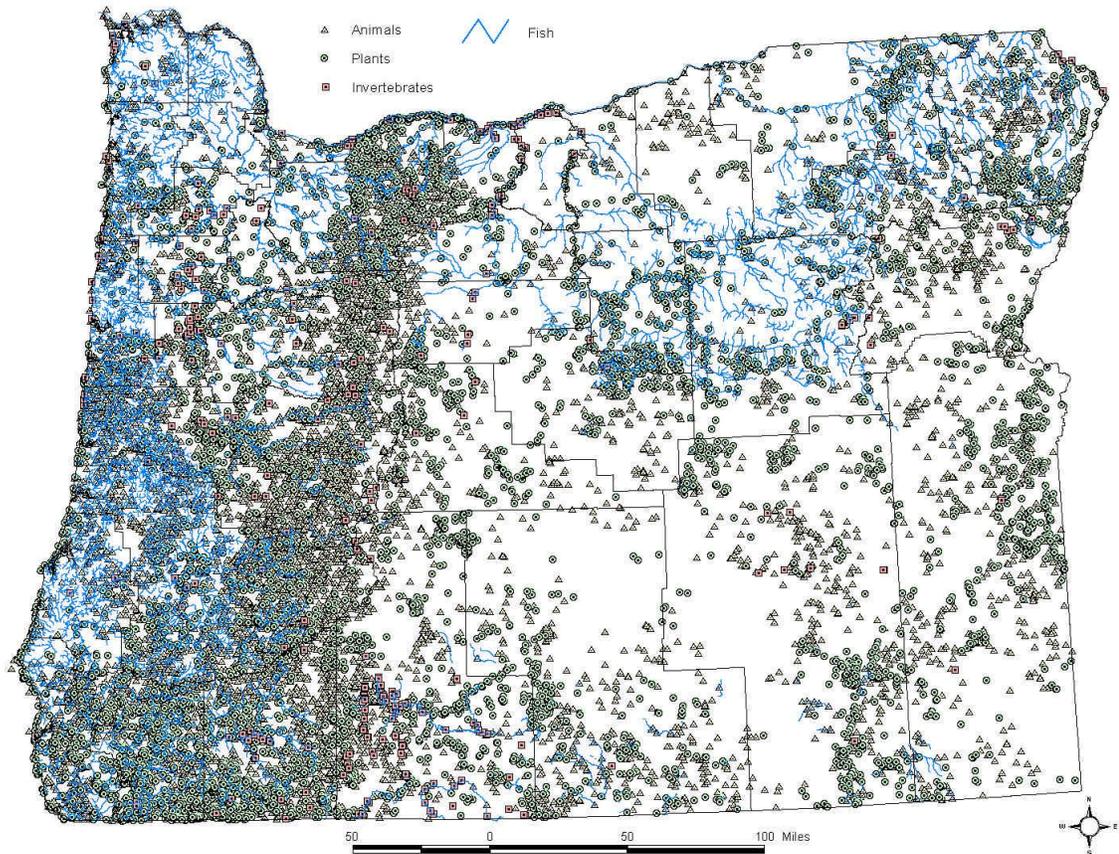


Figure 1. Distribution of Rare, Threatened and Endangered Species in Oregon as of 6/2001.

D. Geological features and mineral resources

Plate tectonics and millions of years of volcanic activity have shaped the Oregon landscape (Figure 2). Steep cliffs rise along much of Oregon's coast, where scenic headlands ? remnants of an ancient volcanic island chain that collided with North America ? are interspersed with sandy beaches and protected harbors. The eye-catching Cascade Mountains combine two volcanic regions: the older, broader, and deeply eroded western Cascades; and the snow-capped peaks of the younger, more easterly volcanoes of the high Cascades such as Mount Hood, Mount Jefferson, and the Three Sisters. Another high Cascade peak, Mount Mazama, was destroyed about 6,800 years ago by a catastrophic eruption, leaving a deep caldera that eventually filled with water and became Crater Lake. The Klamath Mountains in the southwestern corner of the state, which are covered with thick and highly diverse forests, consist of north-south trending belts of metamorphic and igneous rocks. This area also has the state's richest mineral deposits. Gold mining made its mark on the history of this area ? one mine near Ashland recovered \$1,300,000 in gold between 1886 and 1933, and the historic gold-rush town of Jacksonville has become a modern tourist attraction.

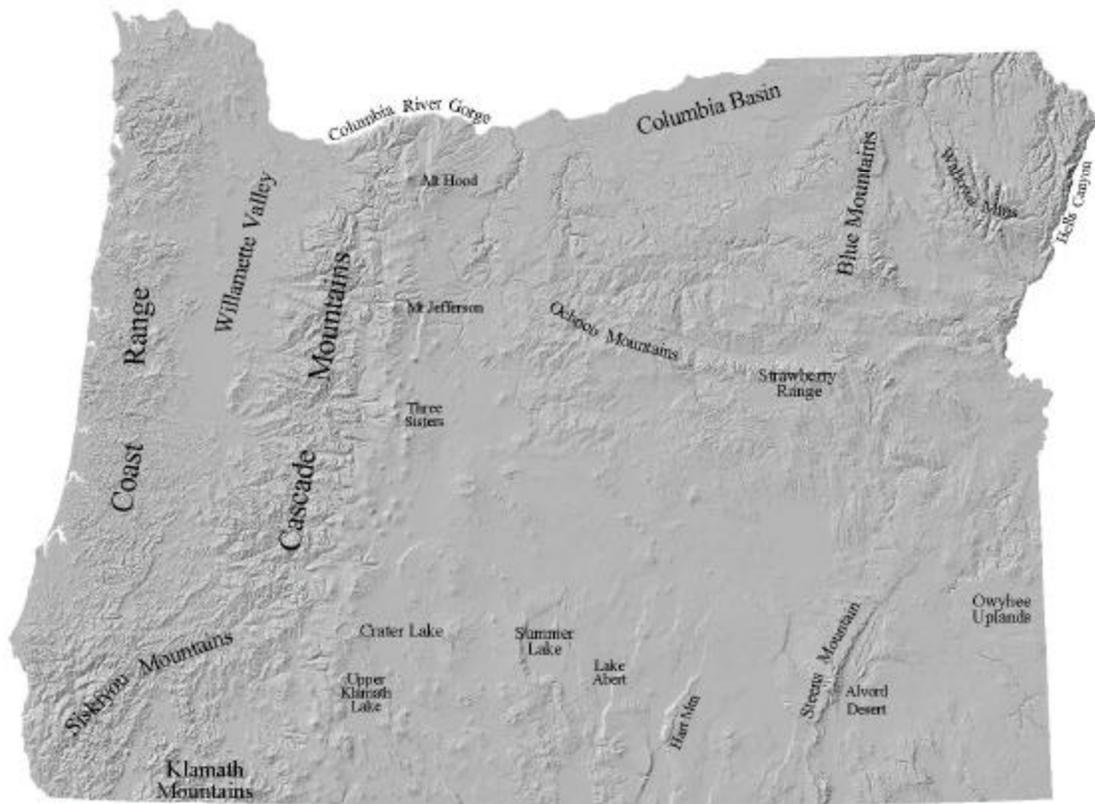


Figure 2. Shaded relief map of Oregon

Most of Oregon east of the Cascades is covered by basalt lava flows, which can be seen as columnar cliffs or rimrocks standing out above the plains throughout much of the region. A particularly spectacular sequence of these rocks has been exposed by the Columbia River, creating the Columbia River Gorge. The expanse of high desert in southeastern Oregon, which envelops the northern extremity of the Great Basin, is broken up by massive fault-block mountains such as Steens and Hart mountains. Separating these ranges are numerous flat basins containing features such as the Alvord Desert and Lake Abert. The intense volcanic and hot-spring activity in the area has produced fine-grained gold deposits and jasperoids that are prized by rock hounds.

Northeastern Oregon's most notable geological features are the rugged Blue and Wallowa mountains. This area is made up of separate exotic terraces, areas that were prefabricated elsewhere and pushed outward by the North American continent as it moved west. In addition to their timberlands, the Blue Mountains also have a gold-mining heritage, with a history of active placer and lode mines. On Oregon's eastern border with Idaho, the Snake River has carved the famous Hells Canyon, a gorge with an average depth of 5,500 feet between the Wallowa Mountains and Idaho's Seven Devils Mountains.

Widespread deposits of limestone, sand, and gravel are Oregon's most important mined resources. Sand and gravel are found almost everywhere in the state. The most valuable limestone deposits are in northwestern and extreme eastern Oregon. A small natural gas field lies beneath the surface in the northwestern part of the state. Other mineral deposits in the state include clays, diatomite, coal, gemstones, gold, nickel, silver, and talc.

E. Soil productivity

Soils are considered a basic resource since both the abundance and distribution of all renewable resources, such as forests, depend on soil characteristics. In general, the soils of Oregon's forests can be grouped into two main units: soils at moderate to high elevations, which were formed under tree-dominated vegetation; and soils at lower elevations which were formed under grassland or shrub-grassland vegetation.

The soils of western Oregon ? from the Coast Range, through the Willamette Valley, and up the west slope of the Cascades ? are quite productive. All the forest soils in these areas meet the definition of prime timber land, which requires that they be capable of producing at least 85 cubic feet of wood fiber per acre per year. The acid soils of the western Cascades, which are characterized by an accumulation of humus, and aluminum and iron oxides beneath the surface, produce between 147 and 220 cubic feet of wood fiber per acre per year, as do the soils of the Coast Range. Western Cascade soils typically have a light-colored horizon overlying a reddish-brown horizon. Gray-brown soils cover the Coast Range and Klamath Mountain regions. The deep soils of the Willamette Valley are capable of producing between 107 and 207 cubic feet of wood fiber per acre per year. Shallow soils cover most of the eastern Cascade slopes, and the basin and range region. The wheat belt of the Columbia Basin has rich soils good for growing crops.

The best forest-producing soil, volcanic ash, is found in many areas of the state. In the Blue Mountains of central Oregon, volcanic ash-based soil covers over 30 percent of forest lands. Approximately 60 percent of the Blue Mountain forests consist of steep slopes that are subject to surface soil erosion. These ash soils are also the most sensitive to compaction. In the east Cascades, soils are primarily derived from the weathering of volcanic bedrock and/or volcanic ash and pumice and are relatively young in age. Residual, loess, glacial till, glacial outwash and colluvial soils are all present within forest boundaries. The majority of these soils have unique thermal and chemical properties associated with their young age and the volcanic material from which they are derived, including poor heat transfer, moderate water holding capacities and coarse textures. Despite their relatively young age they are still productive, as indicated by the forests that they support. The primary nutrients for plant growth such as nitrogen, phosphorous and potassium are available in these soils, although nitrogen may be limiting. Water is the primary limiting factor to vegetative growth in this area, as seen by the changes in vegetation with elevation and distance from the Cascade crest.

F. Watershed values

Forests are key to healthy watersheds, keeping the streams cool and the soils stable, cleaning the air and water, and providing critical fish and wildlife habitat. Conversion of riparian forests for agriculture, range, and urban uses as well as intensive timber management of some streamside forests have contributed to the current declines in both water quality and fish habitat throughout the state. As a result of these declines, the state has developed the Oregon Plan for Salmon and Watersheds. This plan represents an unprecedented undertaking on the part of the State of Oregon to restore its salmon and aquatic resources. Its goal is to restore populations of fisheries to productive and sustainable levels that will provide substantial environmental, cultural, and economic benefits – as well as to assist in the improvement of water quality throughout the state.

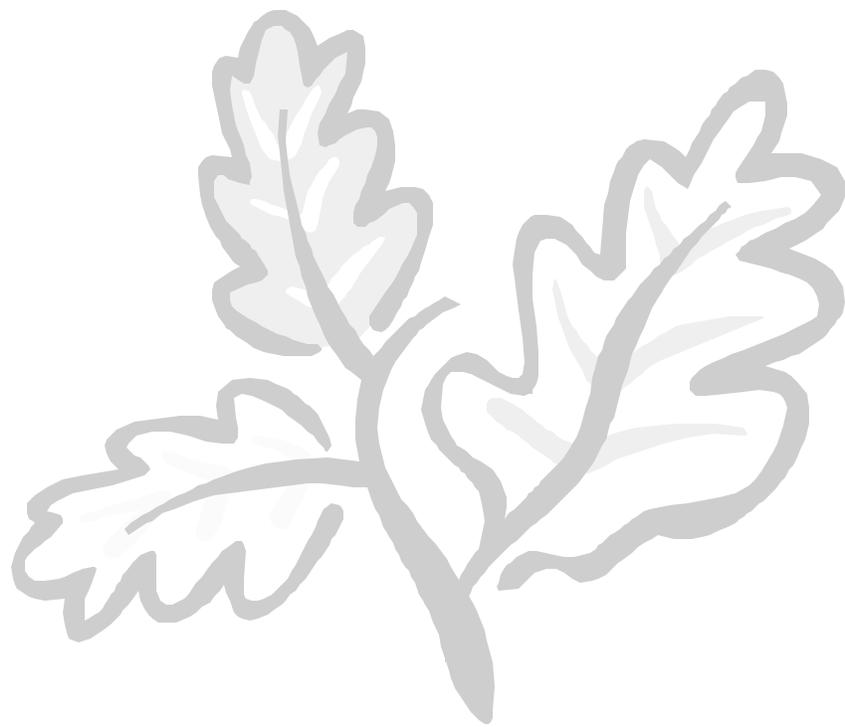
The people of Oregon have provided over seven percent of the revenue from the state lottery to the Oregon Watershed Enhancement Board (OWEB) to implement the plan. OWEB is a new state agency created by the people of Oregon to promote and implement programs to enhance and maintain watersheds throughout the state. In Oregon, watershed protection has been organized by local groups called watershed councils. Watershed councils are locally organized, voluntary, non-regulatory groups established to improve the condition of watersheds in their local area. The 1995 Legislature unanimously passed House Bill 3441 providing guidance in establishing watershed councils but making it clear that formation of a council is a local government decision, with no state approval required. Watershed councils offer local residents the opportunity to independently evaluate watershed conditions and identify opportunities to restore or enhance the conditions. Through the councils, partnerships between residents, local, state and federal agency staff and other groups can be developed. Through these partnerships and the resulting integration of local efforts, the state's watersheds can be protected and enhanced.

Across the state, established watershed councils are systematically assessing watershed conditions to identify problems and set priorities for restoration. The information gained from assessments provides a necessary starting place for planning ways to restore watershed functions. As watershed councils complete assessments, they collaborate with landowners, soil and water conservation districts, businesses, government, and others on projects and actions designed to resolve problems and improve watershed health. When aggregated, watershed assessments will play a critical role in developing a statewide strategy that points toward key restoration opportunities in each region of the state.

G. Timber management opportunities

Most of the state's timberlands are now being managed for multiple uses such as recreation, scenic values, and protection of wildlife habitat. The environmental concerns of Oregonians have led to some of the strictest reforestation and other forest practice requirements in the nation. Virtually all land in the state that is clearcut must be reforested according to the Oregon Forest Practices Act, which protects forest resources like water, soil, and fish and wildlife habitat. Landowners are responsible for replanting within two seasons after harvest. On federal forest lands, the policy in recent years has been directed toward creating more late-successional forests by limiting harvests. Timber sustainability needs a balance between growth and harvest over time, though harvests from federal lands have fallen far below current growth rates due to this de-emphasis on timber production.

According to a 1989 Oregon State University study, the long-term sustainable timber harvest on federal lands is 1.3 billion board feet per year. For comparison, the harvest volume on federal lands in 1997 was 0.67 billion board feet. On private land, according to the study, the long-term sustainable baseline harvest is 3.7 billion board feet a year, and in 1997 approximately 3.4 billion board feet were harvested on these lands. In other words, harvests from private lands remain fairly constant at levels close to current growth and long-term sustainability. The wood products industry still accounts for about 27 percent of the jobs and income in Oregon's manufacturing sector, and is considered a "basic industry" since most forest products are sold outside of the state. Over the past ten years, timber supply has shifted toward private lands with the non-industrial owner group taking a more significant role due to declining timber availability on federal lands.



III. Forest Resource Trends and Threats in Oregon

A. Historical perspective

Evidence of humans in Oregon goes back beyond 15,000 years, although there is continued debate as to the actual earliest settlements here. American Indians of various tribes resided in different areas of the state, most subsisting on hunting and fishing. In northwest Oregon, native tribal use of fire played a critical role in establishing many patterns of forest habitat. Around the end of the Pleistocene, the drier climate had created open grasslands and oak savannas throughout much of the Willamette Valley, supporting numerous prairie wildlife species, as well as a diverse endemic flora adapted to grasslands. As the climate got cooler and wetter over time, and summer lightning almost disappeared, American Indians frequently set fires in the Willamette Valley, maintaining the prairies and oak savannas that would otherwise have become conifer forests.

The first white settlement of Oregon began with fur traders, originating with a fur-trading post at Astoria. However, furs were not the only valuable resource in the region, and in 1827, the first sawmill was built. By the time civil government was established in Oregon in 1843, immigration along the Oregon Trail had begun. For the next several decades, the logging industry continued expanding, and began exporting lumber to China, Hawaii, and Australia. At the turn of the 20th century, timber supplies in the Great Lakes region had almost run out, which put new pressure on the forests in the west and inspired an era of large-scale logging in the Columbia River Basin. When the Great Depression began in 1929, the number of lumber mills in the state had risen to 608 and there were also five paper mills, 64 planing mills, and 47 furniture factories. Until this time the major focus of the lumber industry had been in northwest Oregon, but this focus began shifting to the southwestern part of the state. Meanwhile, by 1938, Oregon had surpassed Washington to become the leading lumber producer in the nation. In 1941 Oregon passed a law requiring reforestation after timber harvest.

The years 1945 to 1970 marked an era of intensive forestry and forest management. This included dramatic increases in recreation use, timber production, dam construction, campground construction, and wildlife management. After World War II, the state's natural resource industries continued to drive the state's economy, particularly for timber, as lumber and plywood from Oregon was used to build more and more homes around the country. Important changes also took place in the state's timber industry starting in the 1960s. Previously, sawdust, bark, and other logging by-products had not been used. As the diameter of logs began to decline and the industry began studying ways to conserve, many of these by-products were now being turned into hardboard, pulp and other wood products.

Activity in the state's forest products industry increased greatly in the 1970s due to growth fueled by a strong post-war economy. Coinciding with this peak was an increased public awareness and concern for the environment. In 1971, the Oregon Forest Practices Act, the first of its kind in the United States, required resource protection during logging. Two years later, the Endangered Species Act was passed by Congress. Also in 1973, Oregon approved statewide land use planning. Yet by 1975, sustained-yield harvesting had not been implemented statewide, and western Oregon began to consider banning exports.

By 1990 the U.S. Fish and Wildlife Service had listed the northern spotted owl as a threatened species in Washington, Oregon, and northern California. As a result, this species became the symbol for the protection of old-growth forests. Protection strategies for the spotted owl and other old-growth dependent species radically changed federal land management in the early 1990s, dramatically reducing timber harvest levels in western Oregon. Increasing concerns about ecosystems, salmon and forest health led to similar changes in federal forest land management in eastern Oregon and adjacent states. As the economy recovered from an early 1980s recession, timber harvest began to shift from federal to private, non-industrial timberlands (Figure 3). Since 1992, harvest levels on federal lands have dropped sharply. In the 1970s and 1980s, federal land yielded 50 percent of Oregon's timber harvest, but by 1996 it provided only 17 percent (Beuter 1996). This led to an increase in timber value and a concomitant increase in harvests from non-industrial lands in the early 1990s.

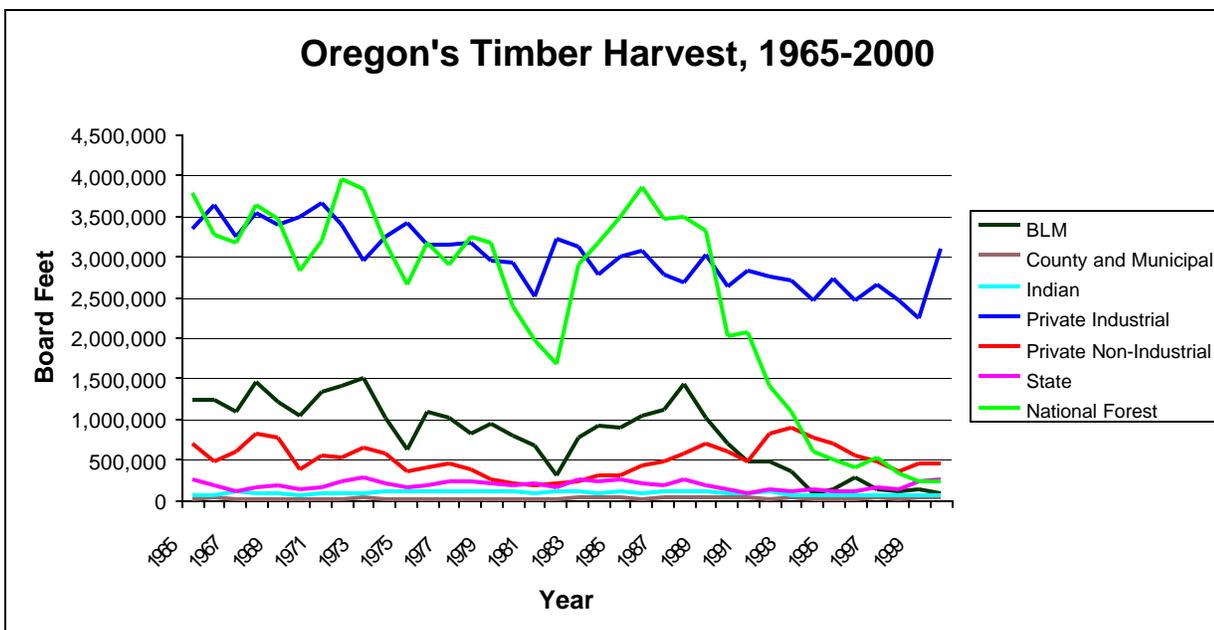


Figure 3. Oregon's timber harvest by ownership group (Oregon Department of Forestry).

In spite of the tremendous economic growth in Oregon during the 1990s, these federal policy changes are still evident in the local economies of some timber dependent counties. Differences in local dependence of Oregon's counties on timber is shown in Figure 4. The Oregon Department of Economic Development has also created a map showing the locations of economically distressed communities in 2000, much of which is from reductions in available timber. This map is shown below as Figure 5.

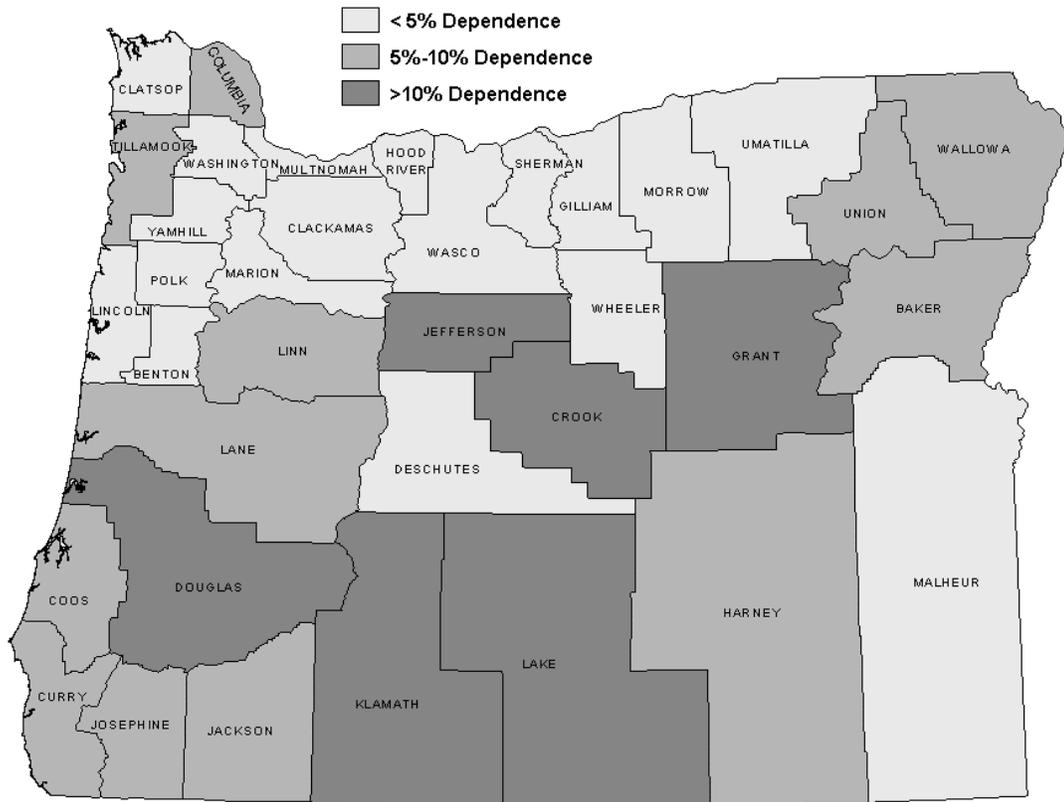


Figure 4. Timber Dependency of Oregon's Counties

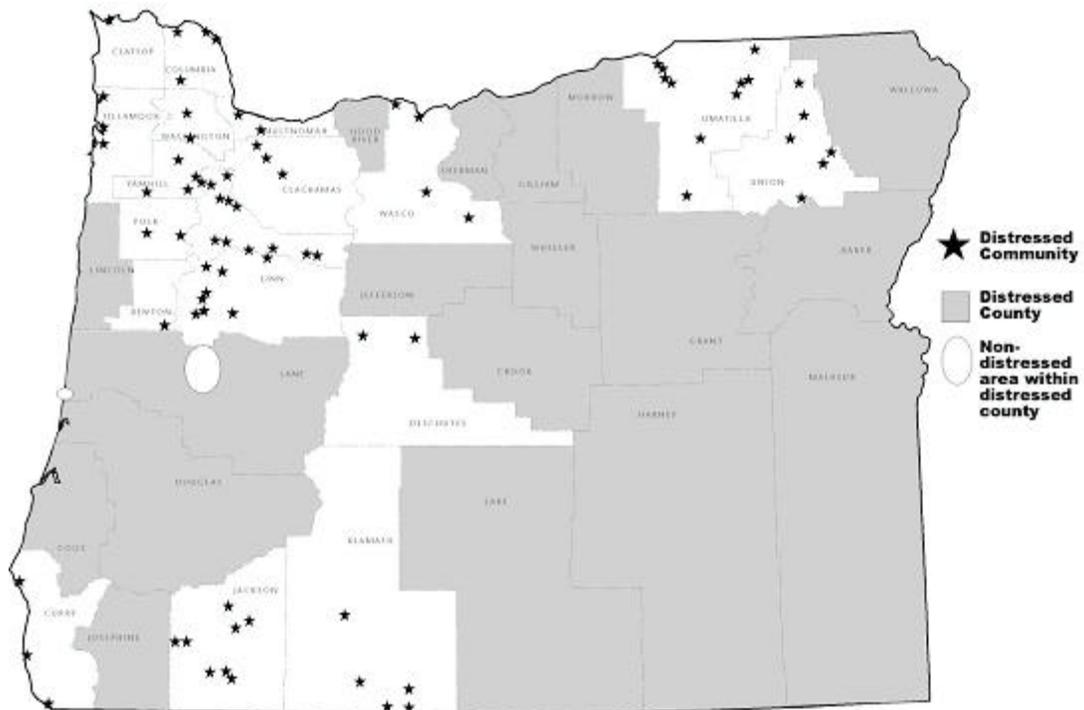


Figure 5. Economically distressed areas in Oregon, 2000.

The forest products industry is no longer Oregon's economic leader (having been surpassed by a thriving high-technology industry). But in spite of this, Oregon still leads the nation in lumber production. Moreover, while the high-tech industry is growing quickly in the Willamette Valley's metropolitan areas, especially Portland, it has little impact on the rest of the state, where the wood products industry still accounts for about one-third of the economic base (Oregon Forest Resources Institute 1999). Oregon continues to grow healthy timber, and much of it is on private land, which will increase in importance as the amount of timber harvested on federal land declines. Nonetheless, forestland has felt the pressure of human encroachment: since the early 1800's, 2.5 million acres of forest in Oregon have been converted to other uses (ODF 2001).

B. Current ownership patterns, land management objectives, and timber harvest trends

Of Oregon's 28 million forested acres, 39 percent is privately owned, 57 percent is federally owned, and the state, tribal and other public entities own the remaining four percent (Figure 6). Land management objectives for these ownership groups vary.

Federal

The USDA Forest Service and USDI Bureau of Land Management (which oversees the Oregon and California Railroad, Coos Bay Wagon Road, and public domain lands) have adopted ecosystem management as the primary method for the management of public forest lands in Oregon. Ecosystem management arose over public concern about timber harvest levels on federal lands in the late 1980s and over concern for federally listed species under the Endangered Species Act such as the northern spotted owl, marbled murrelet and several species of salmon and steelhead. Under ecosystem management, the goods and services produced by the forest (e.g., timber, minerals, recreation, water) are by-products of managing the forest for the protection and restoration of ecological values such as fish and wildlife habitats, old-growth, soil protection, long-term site productivity, watershed health and biodiversity. In western and coastal Oregon, ecosystem management centers on the development of an interconnected late successional (i.e., old-growth) forest ecosystem. In eastern and southwestern Oregon, ecosystem management focuses on restoring healthy forest conditions in areas overstocked and declining in vigor due to decades of fire suppression.

Private

Private industrial forestlands are managed intensively for timber production for competitive economic return. Private non-industrial forest owners – those managing lands less than 5,000 acres and who are not actively involved in the manufacture of wood products – have land management objectives that vary as widely as the number of owners. Some lands have been held for generations and managed as working forests for income through timber, Christmas trees, agriculture, range or some combination of use. Others landowners seek sanctuary from urban areas and emphasize aesthetics and

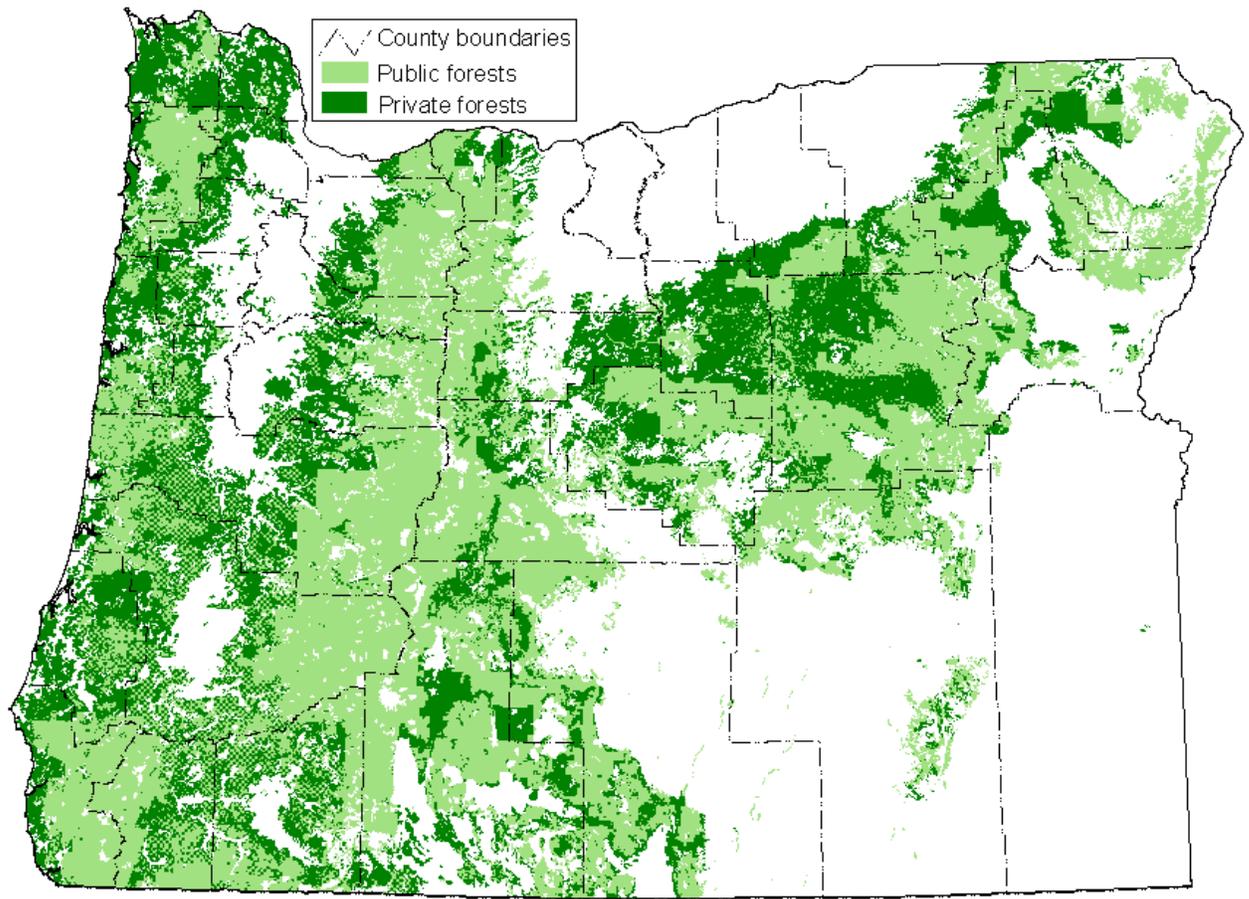


Figure 6. Forest land ownership in Oregon.

wildlife habitat. Many resources (e.g., fish, wildlife, water quality, aesthetics) are protected by mandatory compliance with the Oregon Forest Practices Act, which also requires reforestation after final timber harvest. In addition, both non-industrial and industrial private forest landowners recognize their responsibility to the environment through their stewardship of the public resources found within their holdings. These landowners often voluntarily conduct projects that enhance wildlife habitat and restore in-stream and riparian habitat for salmon and steelhead pursuant to the Oregon Plan for Salmon and Watersheds.

State

State forestlands managed by the Oregon Department of Forestry fall into two groups: those owned by the Oregon Board of Forestry (e.g., the Tillamook State Forest in northwest Oregon) and lands owned by the State Land Board (e.g., the Elliott State Forest in the southern Coast Range). The management objective for Board of Forestry lands is to provide the greatest permanent value to the people of Oregon through healthy, productive, and sustainable forest ecosystems by managing for steady timber harvest and revenues while providing other ecological and social forest values. The objective for most of the State Land Board lands is to generate revenue for the Common School Fund consistent with sound techniques of timber and land management. The Board of Forestry has adopted structure based management (i.e., repeated thinning and extended rotation ages to create older forest characteristics in tree size, down wood and dead trees used by wildlife) as the strategy for achieving greatest permanent value. The management of state forestlands must meet the regulatory requirements of the Oregon Forest Practices Act, state and federal endangered species acts.

Tribal lands

Most American Indian lands in Oregon are lands held in trust by the United States and managed under the sovereign authority of American Indian tribes. The management objectives for these lands vary by each tribal government. American Indians have a deep cultural and spiritual relationship to the land and resources, and value their forestlands accordingly. Forestlands may be managed for timber and minerals for employment, income and tribal business enterprise, but also for their cultural value. Many tribes have adopted integrated resource management plans that schedule the joint production of timber and non-timber resources for employment, shelter, fuel, clothing, crafts, medicinal plants, food, water, fish, wildlife, cultural features and a sense of place. In administering the United States trust responsibility for Indian lands, the USDI Bureau of Indian Affairs and other federal agencies must meet the requirements of federal laws including the Endangered Species and National Environmental Policy acts. However, they do this in a manner that harmonizes treaty or Executive Order rights and tribal sovereignty by working with tribes on a government-to-government basis.

Off-reservation treaty fishing rights

Specific rights were reserved in treaty documents by Indian tribes as usual and accustomed fishing places, outside the bounds of tribal lands or reservations. These rights apply to 24 Indian Tribes in the Pacific Northwest. For these tribes, the access to such sites, usually along streams or marine shorelines, may not be obstructed. This unique access is a tribal property right for those fishing places. The right remains an encumbrance on the land to future owners, whether in state, private or federal ownership.

Other public

The objectives for county, city and regional government forestlands in Oregon vary. In general, local government lands may be held in reserve for parks and greenspace or actively managed for timber as a means to generate revenue. Some lands may be managed for a combination of resource values such as timber, drinking water, aesthetics, recreation and fish and wildlife habitat.

Specific management practices applied by each ownership group reflect their management objectives. Clearcuts and young, healthy and fast-growing forests are prevalent on industrial timberlands in western Oregon since Douglas-fir is a valuable commercial species that

regenerates best in full, open sunlight. National forests and Bureau of Land Management lands comprise millions of acres of late successional reserves where light thinning and natural processes will be relied on to achieve old-growth forest conditions. State forest managers have not adopted a reserve approach. Instead, desired older forest habitat conditions will be achieved through active management of stands over longer rotations.

Since forests are important to the Oregon economy, they have been well studied. Since the late 1950s, there have been several timber supply assessments for western Oregon as increasing timber harvest activity in the state during the post-World War II era prompted questions about the sustainability of Oregon's timber resource. The landmark assessment of timber supply on both federal and private lands was the Oregon State University study, *Timber for Oregon's Tomorrow*, by Dr. John Beuter (Beuter *et al.* 1976). In 1980, the Oregon Board of Forestry completed the *1980 Timber Supply Assessment* (Stere *et al.* 1980) in preparation for its strategic plan for all of Oregon's forestlands, called The Forestry Program for Oregon. Both studies predicted that Oregon would encounter a shortfall in timber supply in the 21st century as the timber harvests shifted away from old-growth forests on federal lands at a time when private timber supplies were still too young in age to make up the difference.

What these assessments did not take into account were changes in federal land management policies that made much of the federal timber supply unavailable by the early 1990s. As such, the predicted shortfall was realized by 1990 for reasons unanticipated and not related to depreciations of standing timber inventory. In 1990, Oregon State University released an updated *Timber for Oregon's Tomorrow – The 1989 Update* (Sessions 1990) and companion reports (Greber *et al.* 1990) that evaluated the timber supply, employment, and income impacts realized by the decline in federal timber availability.

In 1988, the Oregon Board of Forestry conducted its second assessment of Oregon's forests (Lettman 1988). In this assessment, the Board recognized the need to assess all resources, not just timber, and the need to understand how the varying management of all of Oregon's forests in aggregate affects these resources. The Oregon Board of Forestry's third assessment is scheduled for completion in early 2002. This will be the first assessment of the overall sustainability of Oregon's forest. The assessment will use the seven international criteria for sustainable forestry adopted at the 1992 United Nations Conference on Environment and Development held in Rio de Janeiro, Brazil. The Seven Criteria are biological diversity, productive capacity of forest ecosystems, forest ecosystem health and vitality, soil and water resources, global carbon cycles, socioeconomic benefits and legal and economic issues. In 1999, the Oregon Department of Forestry released its First Approximation report (Birch 2000) discussing the available data and indicators to be used to evaluate each criteria in the 2001 assessment.

C. Priority Forest Communities

There have been two comprehensive federal regional ecosystem assessments. The first resulted in President Clinton's Northwest Forest Plan, developed by the Forest Ecosystem Management and Assessment Team (FEMAT) (FEMAT 1993) for western Oregon, western Washington and northwestern California. The second was the Interior Columbia Basin Assessment (Quigley *et al.* 1996), which covered all of eastern Oregon. Both of these assessments have focused on issues related to forest management of federal lands.

In addition, there have been several statewide assessments that took a broader, coarser look at all of Oregon's forests. The first private-public effort was the Oregon Biodiversity Project, a cooperative effort coordinated by the Defenders of Wildlife and completed in 1998. This was an effort to use statewide habitat data and locations of protected areas to identify the best areas in which to work to protect biodiversity (called Conservation Opportunity Areas). The Gap Analysis Project assessment was started in 1990 in Oregon, first by the U.S. Fish and Wildlife Service and then by the U.S. Geological Survey, and completed by the Oregon Natural Heritage Program in 1999. This program created statewide vegetation, habitat, protected areas, and distribution maps for all Oregon's wildlife species. The objective was to identify which species were poorly represented in the current network of wilderness, parks and other protected areas in order to allow land managers and conservation organizations to be proactive and protect species before they become endangered. Most recently, the Governor of Oregon, John Kitzhaber, asked the Oregon State University President, Paul Risser, to coordinate a State of the Environment Report for Oregon (Oregon State of the Environment Report Science Panel, 2000). This project looked at all aspects of the environment statewide, with several chapters devoted to Oregon's forests and their management.

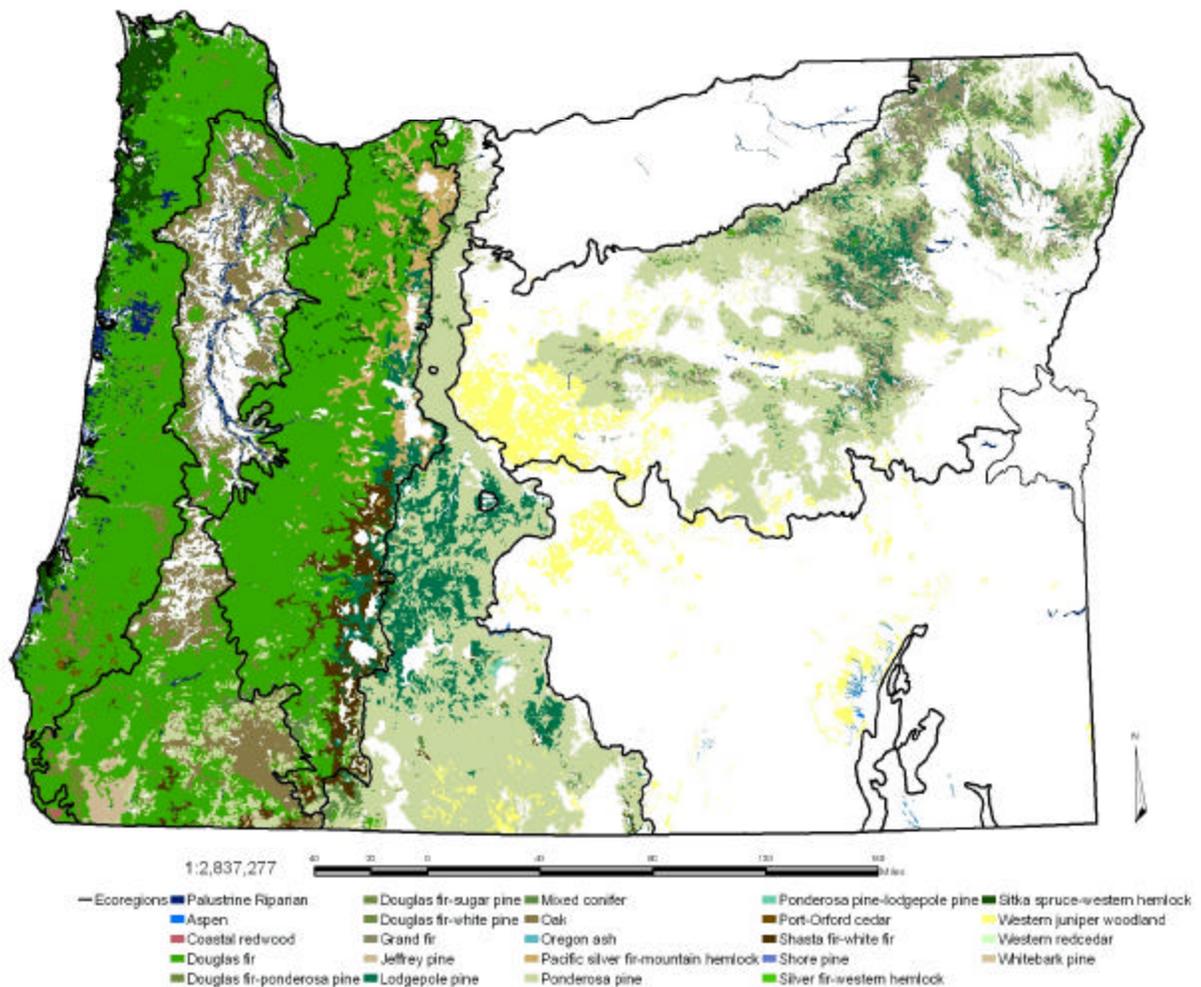


Figure 7. Presettlement forests of Oregon.

The Oregon Natural Heritage Program has developed a vegetation map showing Oregon as it was when the first settlers arrived via the Oregon Trail in the mid-1800s (Figure 7). The information is based on a combination of data. The forest information in this cover includes a forest vegetation map of Oregon and Washington developed by H.J. Andrews with survey data from the 1930s, as well as 1:24,000 vegetation maps based on the General Land Office (GLO) 1850s surveyor's notes. The data included in this AON is the second edition, which is more complete for forests and rangelands, although is still lacking details for the Rogue Valley, the Willamette Valley, the Grand Ronde Valley, and the Silvies Valley. This data allows the evaluation of how much each of the forest types have declined over the last 150 years, and where the greatest forest losses have occurred.

Currently, there are only two statewide maps of Oregon's vegetation, both developed by the USGS Gap Analysis Project (GAP). Both GAP vegetation maps relied on satellite data. The first was completed in 1992 using data from 1988-1991, and was hand digitized from 1:250,000 hard-copy satellite photographs. The second was completed in 1998 using 1991-1993 images, and was done at 1:100,000 using image-processing tools. For this AON, we have used the 1998 GAP map for the statewide and ecoregional analysis. Figure 8 shows the

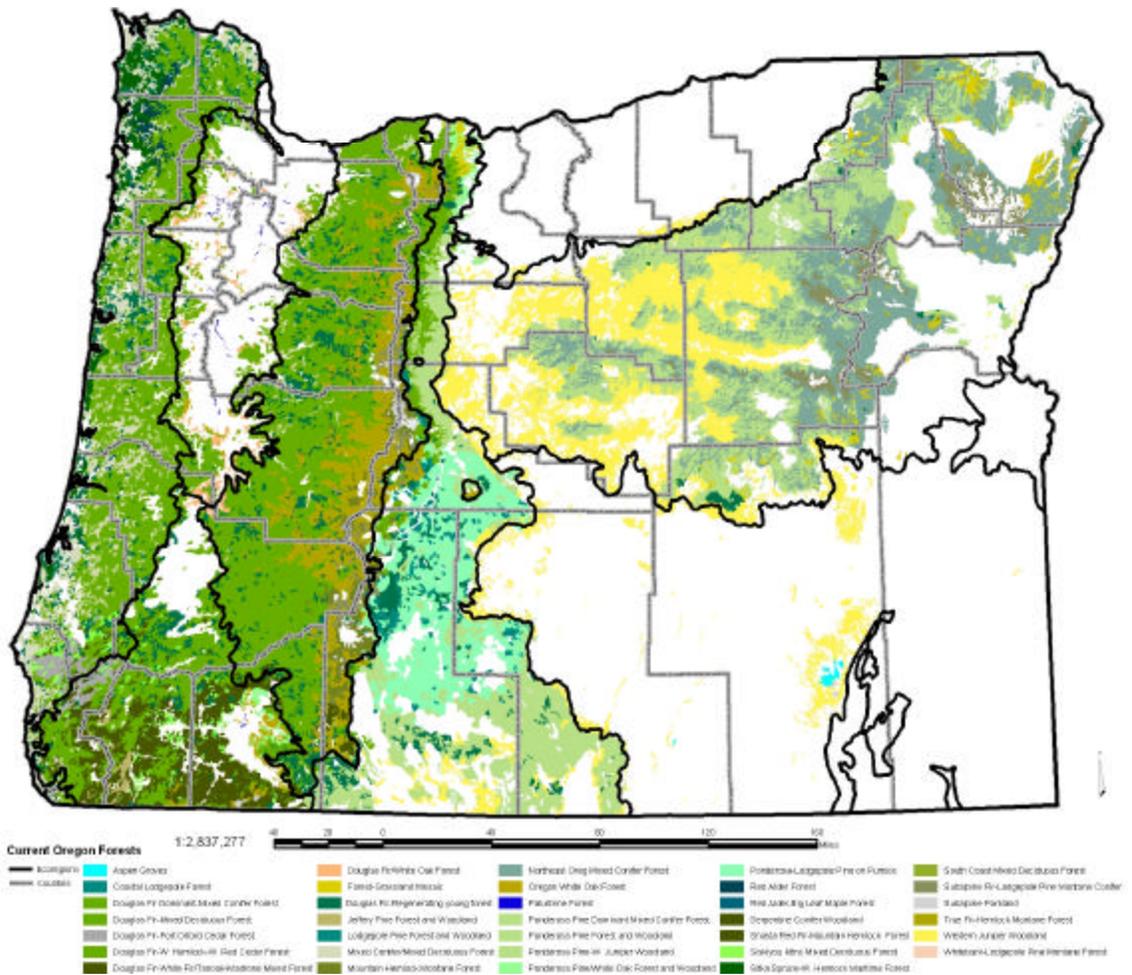


Figure 8. Existing forest vegetation from the Oregon Gap Analysis Project.

distribution of Oregon's forest types in this cover. However, for the Willamette Valley assessment, we were able to use higher resolution (1:24,000) developed by the USDA Forest Sciences Lab at Oregon State University and the Oregon Natural Heritage Program for existing forest vegetation, and compare it to 1:24,000 presettlement vegetation maps developed with GLO data.

To determine how and where forests have been lost, we compared the historical forest vegetation map with maps showing the current distribution of Oregon's forests. The overlay of these two coverages is shown below, as Figure 9. It shows both the historical increases and losses of forests throughout the state. The decreases are from forests being converted to agriculture, urban, residential or industrial uses. Increases shown here are almost entirely a result of the expansion of western juniper into sagebrush and bunchgrass habitats of eastern Oregon, which has been the subject of a number of research papers (Miller and Rose, 1995).

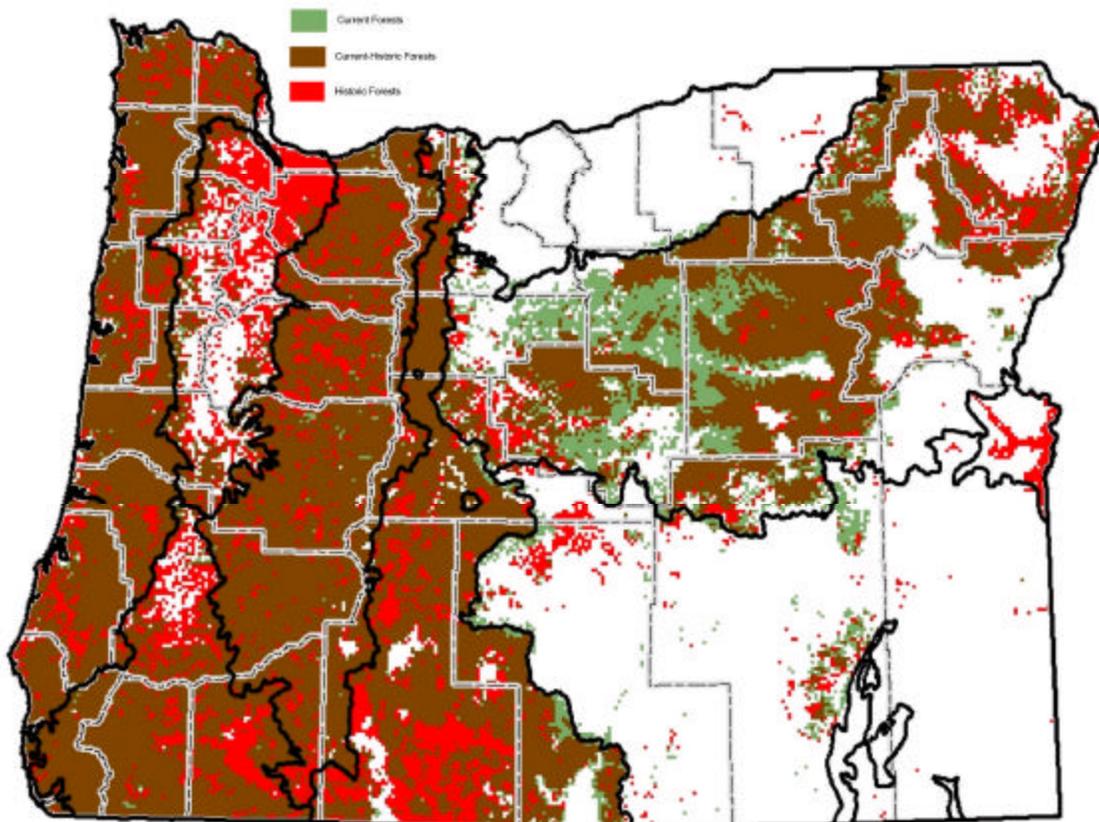


Figure 9. Comparison of presettlement and existing forests in Oregon. (Red are forests lost, brown is no change, and green are areas forests have expanded to).

The National Vegetation Classification System includes over 450 forest, woodland and savanna types described from Oregon. Most of the Oregon forests habitats (or plant associations) have been described by the USDA Forest Service's Area Ecology program. The Forest Service has a number of ongoing efforts to map all of Oregon's forests at fine scales to these plant associations, or to groups of these, called plant association groups. It is important to realize that for the discussion and analysis of forest habitats in this Assessment

of Need, only the very broad habitat types are discussed. Each of the types listed below actually represents many different plant associations and environments.

One clear result of the statewide and regional assessments was the identification of some forest types that have declined significantly since the earliest settlers arrived at the end of the Oregon Trail. Some of these types are well represented in the current network of protected lands. Others are not well protected, and continue to decline. These forest types have been identified as high priority for receiving some type of protection in the Oregon Natural Heritage Plan (State Land Board 1998). These include a number of forested habitats that are both environmentally sensitive and in great need of protection. Of these, three types are primarily found on private lands, and are often those converted to urban, rural residential or agricultural uses.

☞ Oak forests, woodlands and savannas

When the earliest settlers arrived, Oregon white oak flourished in the Willamette Valley as well as much of southwest Oregon. These venerable oaks support an abundance of birds and wildlife, are especially important for migrating songbirds, and have the highest potential for commercial use in cooperage, wood flooring and furniture. Oak savannas ? grasslands with scattered trees ? were historically maintained through the American Indian practice of burning. Since settlement, suppression efforts have excluded fire's role in maintaining these savannas, allowing increased stocking and succession of other forest types like Douglas-fir. In addition, the extensive oak savannas, woodlands and mixed oak-conifer woodlands have given way to most of Oregon's cities and towns. Currently, these oak forest types are disappearing faster than any of Oregon's other forest types. For this AON, all forests and woodlands with Oregon white oak, California black oak, canyon live oak, and madrone were included in this category, along with the conifers that often occur with them.

☞ Cottonwood, alder, ash, and willow riparian bottomland forests

The Willamette River, the Grand Ronde River, the Rogue River, the Umpqua River and many other river valleys are characterized by large, cottonwood gallery riparian forests (dense, unbroken stands of trees). The rich soils of these bottomlands support giant conifers including Douglas-fir, grand fir, western red cedar, and western hemlock, growing with black cottonwood and other deciduous trees, particularly Oregon ash and red and white alder. Found along the multi-channeled large rivers, these forests provide some of the most critical habitats for both fish and wildlife, including woodpeckers, owls, wood ducks, flying squirrels, raccoons, beavers, and song birds. They also are highly prized for their agricultural soils and their river views, and continue to be developed. Fortunately, the Oregon Plan for Salmon and Watersheds has focused on the protection and restoration of many of these forests.

☞ Ponderosa pine foothill woodlands and forests

Now associated mainly with eastern Oregon, ponderosa pine woodlands were formerly found throughout western Oregon valleys as well. In southwestern Oregon they include mixed pine forests with sugar pine, incense cedar, Douglas-fir and oaks. Ponderosa pine forests are still abundant in the mountains of eastern and southwestern Oregon, but have dramatically declined in western valleys and along the foothills of the Cascades. They continue to be threatened by development, mostly for suburban and rural residential housing.

D. Demographic trends as they relate to conversion of forest areas

As of 1994, 90 percent of the private land in western Oregon remained in forest and agricultural uses. However, between 1973 and 1994, there were significant shifts in dominant land uses toward more developed categories: low-density residential and urban uses increased while forest and agricultural uses declined (Azuma *et al.* 1999). Figure 10 shows the distribution of those forest habitats that were lost to agricultural and residential development during this time period. Although the amount and uses of western Oregon's private forests remained relatively stable in the 1980s and early 1990s, it is clear that development of these forest lands would seriously reduce future economic and ecological benefits produced from these lands (Azuma *et al.* 1999).

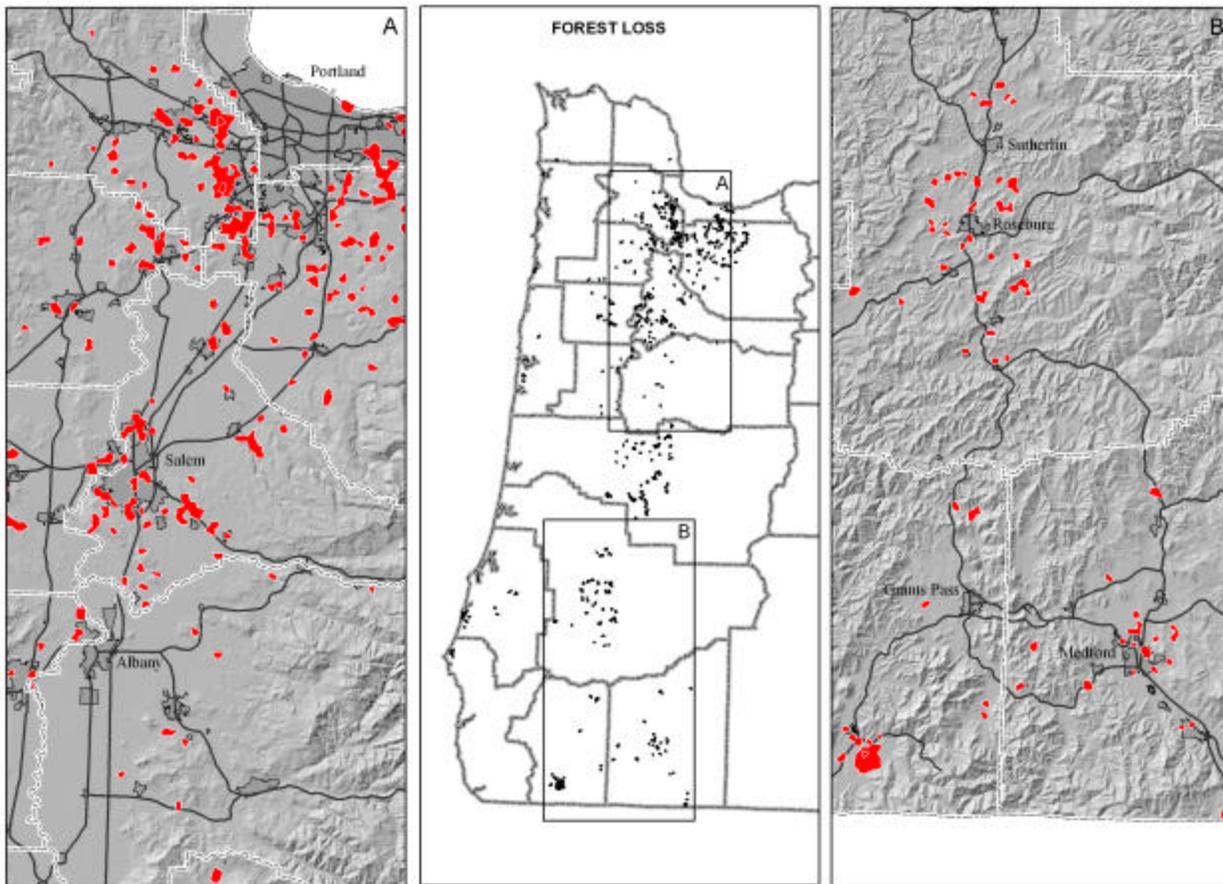


Figure 10. Western Oregon forest conversions 1974-1994. (Rural land lost to conversion in red.)

Oregon's population grew rapidly during the late 1980s and throughout the 1990s (Figure 11). Between 1990 and 1999, the state's population grew from 2,842,321 people to an estimated 3,300,000. This represents a 1.8 percent annual growth rate, almost double the national growth rate. Seventy percent of this growth came from people moving into the state. Many people who value the quality of life afforded by smaller cities, clean air and water, outdoor activities, and open spaces moved to Oregon.

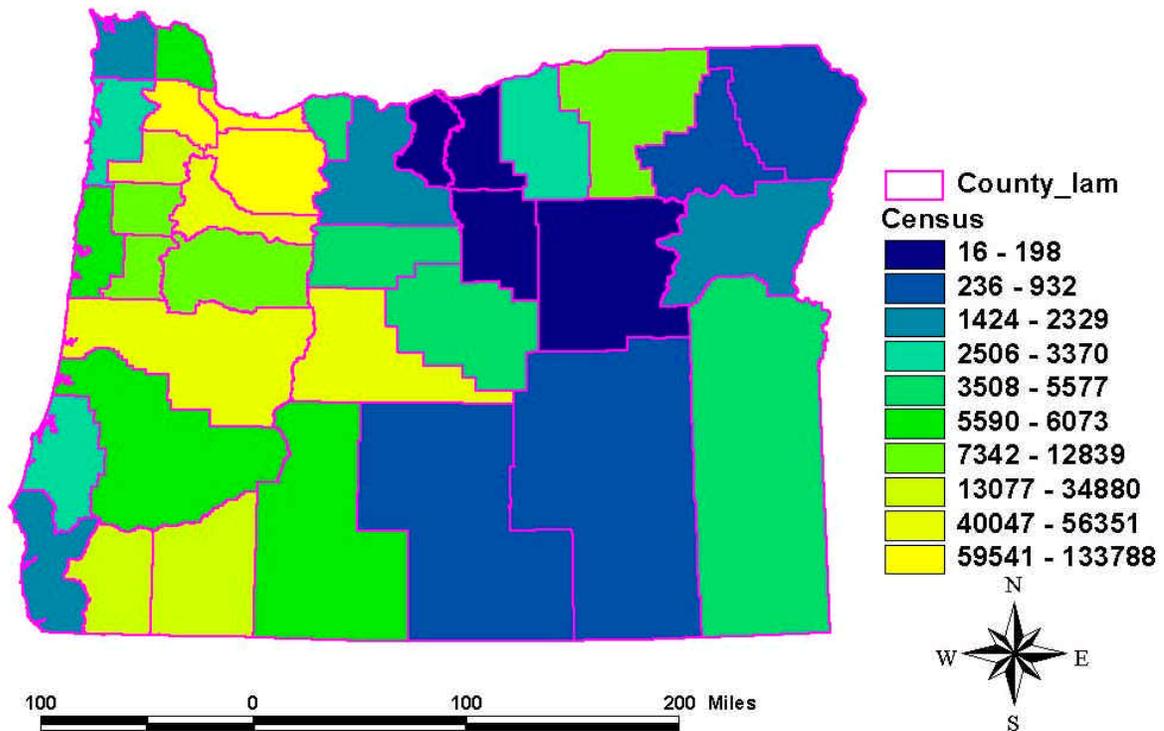


Figure 11. Population change by county, 1990-2000.

Oregon's population is expected to continue to grow rapidly, especially in the Willamette Valley, where the population is expected to double in the next 25 years. Population has been increasing in western Oregon's private forests as well (Azuma *et al.* 1999). With continued economic and population growth, private landowners will face growing pressure to develop their properties.

Oregon State University and U.S. Forest Service Forest Science researchers have developed a map showing how population growth and urban expansion will impact forests in the near future for western Oregon (Figure 12). This map shows urbanization in 1995 and predicts the urbanization of western Oregon in 2005, and 2015, identifying where rural areas are expected to be lost to development. It is these same areas where predicted future losses of forests to development are expected to occur.

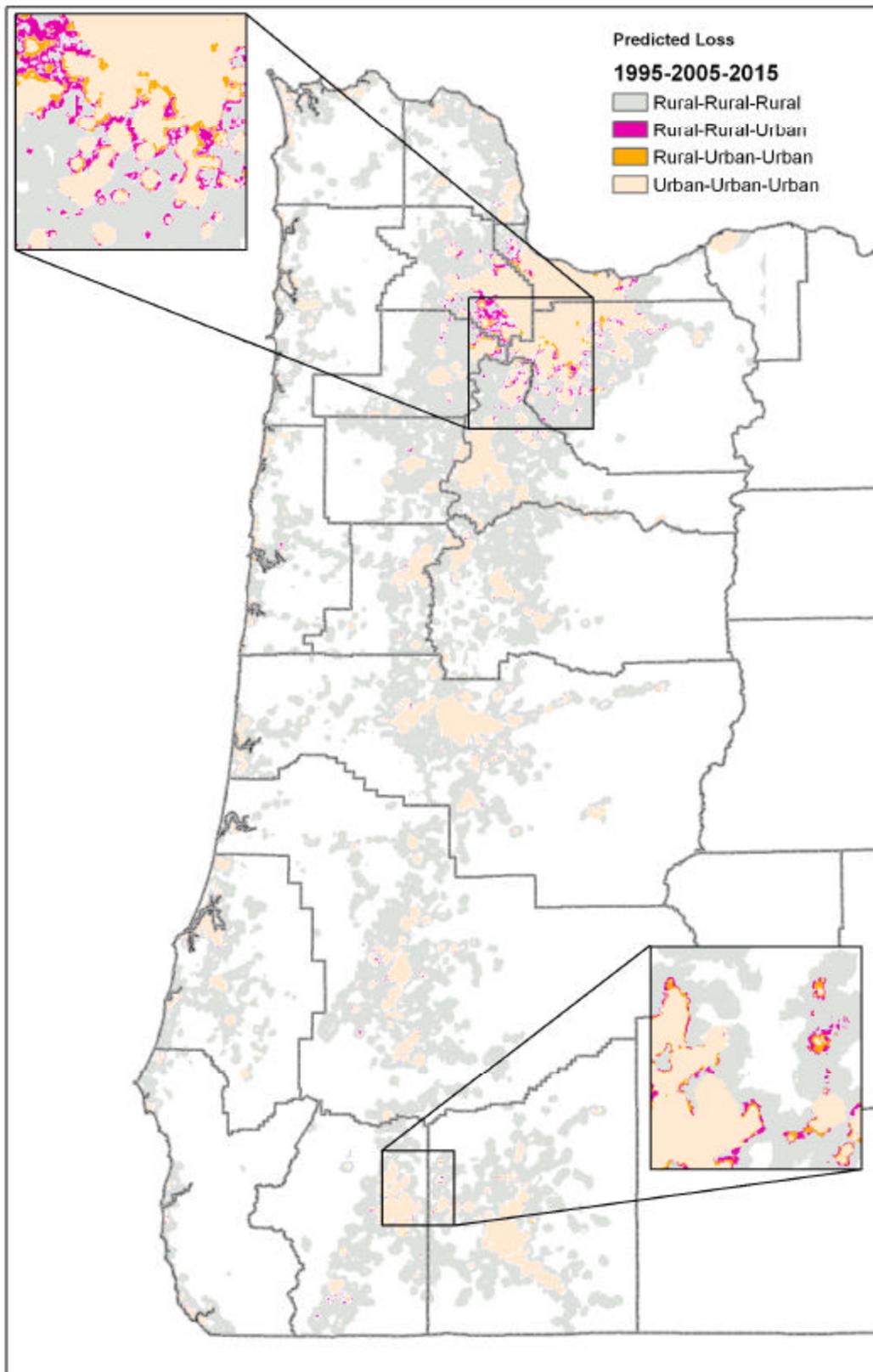


Figure 12. Western Oregon predicted development impacts to rural areas.

IV. Oregon's Land Use Planning Program

The state of Oregon was one of the first in the country with a statewide program for comprehensive land use planning. The program is overseen by the Oregon Department of Land Conservation and Development and their commission (the Land Use and Development Commission or LCDC). Zoning rules and regulations are implemented and managed by county and local governments. LCDC established a number of statewide goals, some of which directly relate to protecting forest land from being lost to non-forest uses. The overall statewide planning system has been well studied and additional details can be obtained from some key publications (Abbott *et al.* 1994, Knapp and Nelson 1992, Wiley 2001). Two particular goals relate to forests in Oregon and are described in more detail below.

A. Forest Protection (Goal 4)

One statewide planning goal (Goal 4), was designed to protect forests and Oregon's commercial forestry base. This statute, Oregon Administrative Rules (OAR) 660-015-0000 (4) passed in 1973, states the goal as: "To conserve forest lands by maintaining the forest land base and to protect the state's forest economy by making possible economically efficient forest practices that assure the continuous growing and harvesting of forest tree species as the leading use on forest land consistent with sound management of soil, air, water, and fish and wildlife resources and to provide for recreational opportunities and agriculture." As a result of working to implement Goal 4, most counties have been able to protect highly productive forest lands. A number of forest land use programs are currently available statewide.

B. Natural Resources Protection (Goal 5)

Goal 5 is a broad statewide planning goal that covers more than a dozen resources, including wildlife habitats, historic places, and aggregate (gravel). It was originally adopted by LCDC in 1974. Goal 5 and related Oregon Administrative Rules (Chapter 660, Divisions 16 and 23) describe how cities and counties are to plan and zone land to conserve resources listed in the goal. Directly related to Forest Legacy are the focus on wildlife habitats, wetlands, riparian habitats, endangered species, and natural areas.

V. Oregon's Key Forest Conservation Programs

A. State and federal programs

Forest Stewardship Program

This is a federal program administered by the USDA Forest Service and implemented by the Oregon Department of Forestry. Its objective is to provide assistance for the improved stewardship of private non-industrial and tribal forestlands. The program encourages landowners and managers to work with a professional forester to identify their land management goals in written forest management plans (also known as forest stewardship plans). Forest stewardship plans identify management opportunities for environmental protection, resource conservation and income consistent with landowner goals.

The Forest Stewardship Program encourages landowners to increase communication and collaboration between citizens and the managers of our public lands to address broader landscape issues including threatened and endangered species, biodiversity,

fuels management and fire protection. When funding is available under the Stewardship Incentive Program (SIP), landowners can apply for cost-share assistance to hire a consulting forester to complete the management plan as well as to implement the management practices identified in the plan (e.g., fish and wildlife, recreation, timber management and fire protection opportunities).

Forest Resource Trust (FRT)

An ODF program (Oregon Revised Statutes (ORS), ORS 526.700 – ORS 526.775), the Forest Resource Trust encourages landowners to establish and maintain healthy forest on underproducing forestlands ? lands capable of growing forests but currently in brush, cropland, pasture, or very poorly stocked land (and not subject to a reforestation requirement of the Oregon Forest Practices Act). The eligible land must be located in Oregon, and be part of a private forestland ownership of at least 10 contiguous acres, but no more than 5,000 acres. The FRT provides technical assistance and up to 100 percent of the monies for implementing the reforestation project, including site preparation, tree planting, seedling protection and release from competing vegetation.

Riparian Tax Incentive Program

The Riparian Tax Incentive Program, authorized by ORS 308A.350—308A.383, offers a property tax incentive to property owners for improving or maintaining qualifying riparian lands. Under this program, property owners receive complete property tax exemption for their riparian property. This can include land up to 100 feet from a stream. In passing the program, the 1981 Oregon Legislative Assembly declared that "it is in the best interest of the state to maintain, preserve, conserve and rehabilitate riparian lands to assure the protection of the soil, water, fish and wildlife resources of the state for the economic and social well-being of the state and its citizens." Healthy riparian areas have been recognized as being critical for healthy watersheds and fish populations. 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.

Wildlife Habitat and Conservation Program

This program was established in 1993 (ORS 215.800 – ORS 215.808) to provide incentives to assist in the protection of wildlife habitats on farm and mixed farm-forest lands. House Bill 3564, passed by the 2001 Oregon Legislature, expanded the program to include all forested lands. This voluntary program removes tax disincentives for increased conservation on private lands within a participating county by reducing property taxes. This occurs when a landowner adopts a wildlife habitat conservation and management plan approved by the Oregon Department of Fish and Wildlife. Property tax rates drop from forest or farm to open space values. This also applies if the land's special assessment for forestry is maintained when land management emphasis switches from commercial timber to conservation of non-timber resources. Currently, landowners in three-quarters of Oregon's counties are participating in this program.

Forestry Incentives Program (FIP)

Federal cost-share payments are provided for timber stand management practices under the guidance of USDA Natural Resource Conservation Service (NRCS) and ODF. To participate in the FIP program, non-industrial private forest landowners must have a minimum of 10 acres that must be capable of producing at least 50 cubic feet of timber per

acre per year. Participants can be individuals, groups, associations, or corporations whose stock is not publicly traded. Approved practices include site preparation, tree planting, direct seeding and timber stand improvement thinning.

Conservation Reserve Program (CRP)

Administered by the USDA Farm Services Agency, this voluntary program encourages farmers to take highly erodible and other environmentally sensitive pasture or cropland out of production, and to implement a conservation plan that will reduce erosion, improve water quality, and provide or enhance fish and wildlife habitat. Participating farmers receive an annual rental payment for the term of a 10 to 15 year contract. Eligible practices include riparian buffers, field windbreaks, shelterbelts, and shallow water areas for wildlife.

Conservation Reserve Enhancement Program (CREP)

This program is a pilot expansion of the CRP program and is also administered by the USDA Farm Services Agency. Under CREP, landowners enroll agricultural lands along streams and rivers containing (or flowing into streams and rivers containing) federally listed threatened and endangered fish (e.g., salmon, steelhead). To be eligible, the landowners must agree to improve the functioning condition of the enrolled riparian area by conducting reforestation of the streamside land (up to a maximum of 180 feet from the stream). Participating landowners receive an annual rental payment for the term of a 15 year contract, cost-share assistance for the reforestation work, as well as incentive payments for participating and for getting adjacent landowners to participate.

Wetlands Reserve Program (WRP)

This voluntary program, administered by the NRCS, offers private landowners a chance to restore and protect wetlands on their property through conservation easements. In return for federal payments, landowners must agree to a restoration plan and place restored wetlands in an easement reserve where they cannot be drained or plowed. Wetlands that provide habitat for migratory birds and other wildlife are given priority.

Environmental Quality Incentives Program (EQIP)

This voluntary program, administered by the NRCS, allows agricultural landowners to enter into five to 10 year contracts for the purpose of receiving cost-share assistance for conducting watershed improvements on their lands. Landowners must develop a written enhancement plan. Approved practices are forest establishment, erosion control (seeding, road improvements), fish and wildlife habitat projects, fencing, riparian restoration and timber stand management (when approved by the appropriate basin working group).

B. Private programs

Forest Certification

Forest certification programs set forest management standards based on ecological, social, and economic sustainable forestry principles, and provide for independent review of the property's forest management as a means to determine whether the program standards are being met. Some programs are market-based and encourage landowners to practice sustainable forestry by providing them access to premium, certified wood products markets.

Examples of forest certification programs include the American Forest Foundation's Tree Farm program, the American Forest and Paper Association's Sustainable Forestry InitiativeSM, Forest Stewardship Council third party certification programs (e.g., Smartwood), Green Tag, Pan European Forest Certification and industrial standards such as International Standards Organization and Canadian Standards Association.

Oregon Biodiversity Partnership

The Oregon Biodiversity Partnership is an alliance of organizations and individuals involved in cooperative efforts to conserve Oregon's biological diversity. It is managed by the Defenders of Wildlife, and created to carry on the work of the Oregon Biodiversity Project (Oregon Biodiversity Project 1998). The project pioneered a new, collaborative approach to conservation planning that produced a big-picture view of conservation priorities for Oregon's native species and the habitats and ecosystems that support them. Building on that diverse base of support, the Oregon Biodiversity Partnership provides an umbrella for an array of efforts to implement the project's conservation strategies.

The Oregon Biodiversity Partnership has a conservation strategy based on: 1) improving stewardship of the "working landscape," with emphasis on incentives for private landowners; 2) expanding the existing network of conservation lands where management emphasizes long-term protection of biodiversity values; 3) improving biodiversity information management to enhance decision-making and adaptive management strategies; 4) expanding public awareness and understanding of biodiversity values and conservation needs; and 5) demonstrating and testing collaborative approaches to biodiversity conservation that could provide a model for other states or regions.

Land Trusts

Land trusts are non-profit groups that preserve and enrich the natural heritage of the countryside through direct land protection, using appropriate tools such as conservation easements, voluntary protection agreements, estate planning, land donations, and bargain land sales. Organized at local levels, land trusts provide people and communities with choices of how protected lands are used.

Two national organizations, regional land trusts, and a number of local trusts are actively working in the state. The Nature Conservancy (TNC), a national organization with an Oregon chapter (The Nature Conservancy of Oregon), has been integrally involved in protecting forested habitats in Oregon as part of their efforts to protect all life on earth. The Trust for Public Lands (TPL) is a second national organization dedicated to protecting lands to improve human enjoyment and well being, and has an Oregon office actively protecting forest lands. A regional land trust dedicated to preserving private, productive forestlands, The Pacific Forest Trust (PFT), specializes in facilitating, acquiring and stewarding forest conservation easements within the state of Oregon, as well as in other western states. PFT has an Oregon office and provides a range of services to forest owners in the state.

Local trusts that have expressed an interest, or are likely interested in the Forest Legacy Program in Oregon, include the Columbia Land Trust, Deschutes Land Trust, Greenbelt Land Trust, McKenzie Land Trust, North Coast Conservancy, Southern Oregon Conservancy and Three Rivers Conservancy. Oregon land trusts, the national Land Trust Alliance, TPL and TNC have all assisted in the development of this AON, and are interested in assisting ODF in the implementation of the Oregon Forest Legacy Program.

VI. Oregon's Forest Legacy Program

The *Cooperative Forestry Assistance Act of 1978*, as amended by the 1990 Farm Bill, created the national Forest Legacy Program to protect environmentally important forest areas on private land for future generations. This program recognizes that the majority of the nation's productive forest lands are in private ownership and that private landowners are under increasing pressure to convert their lands to non-forest uses such as agricultural, housing or commercial development.

Oregon's Forest Legacy Program addresses privately owned forest lands in Oregon that are currently threatened by urbanization, agricultural, and other conversion pressures. It is designed to help private landowners and communities protect commodity as well as non-commodity forest resources recognized by public policy as providing significant public benefits, i.e., water flows and quality; fish and wildlife habitat, especially for threatened and endangered species; stores of carbon; and biodiversity. It will facilitate state, local and private resource conservation initiatives by assisting with the purchase of conservation easements or fee-title of private forest lands.

A. Forest Legacy goals and program objectives

Goals

- ☒ Conserve private forest lands in areas where forests may be lost to non-forest uses.
- ☒ Sustain forest resources such as river flows and clean water, fish and wildlife habitat, carbon stores, soil productivity, commercial and non-commercial timber, scenic quality, recreational opportunity, and biodiversity.
- ☒ Strengthen communities and facilitate state, local and private partnerships in forest conservation.

Program Objectives

- 1) Protect significant site-specific ecological, social and/or economic forest related benefits.
- 2) Reinforce and expand upon existing networks of conserved forest land.
- 3) Encourage private landowners to work with communities, agencies, businesses and non-governmental organizations so as to strengthen their management of forest resources.
- 4) Secure additional conservation investments in private forest land.
- 5) Protect forested properties that face immediate threats to conversion to non-forest use.
- 6) Focus efforts where large areas of private forest land face the possibility of conversion to non-forest use within the next 10 years and where the consequences in terms of overall losses to important ecological, social and economic forest related benefits are large.

To be eligible to enroll in Oregon's FLP, lands must be located within a Forest Legacy Area identified in this Assessment of Need. For all enrolled properties, Oregon's FLP will also ensure the preparation and implementation of a long-term multi-resource management plan.

The plan will consider all the values from the timber resource to aesthetics, important habitat, and recreation opportunity.

The Oregon Department of Forestry's Forestry Assistance Program will manage the Forest Legacy Program in Oregon with assistance and oversight from the USDA Forest Service's Pacific Northwest Regional Office (Region 6). The Forest Service provides funding, staff support, and assistance, as well as required oversight. As with all state-federal cooperative programs, the program will be implemented in consultation and cooperation with the State Stewardship Coordinating Committee. All major decisions – including the adoption of this AON (e.g., legacy areas, site selection criteria) – have been approved by this committee.

ODF also has commitments of support from the Oregon Watershed Enhancement Board and the Oregon Natural Heritage Program to assist in the management of the program. OWEB will provide match funding through their grant programs as appropriate. OWEB has state funding dedication to the protection of watersheds and habitats, and may be critical to landowners and communities in providing match funding for easements, acquisitions and planning. OWEB will also provide some staff assistance, especially in regards to the development of conservation easements, appraisals, and other land acquisition rules. ORNHP will assist with updating the assessment, applying criteria to sites as necessary, and in working with land trusts and other partners.

B. Selection of Forest Legacy Areas

National eligibility criteria

Forest Legacy Areas must encompass forest lands with significant environmental, social and economic resource-based values. Legacy areas may also include non-forested areas such as farms and towns if they are an integral part of the landscape. Since legacy area boundaries may not correspond to property boundaries, tracts located partially within the geographically defined legacy area are eligible for the FLP, upon approval of a boundary adjustment. To be eligible as an Oregon Forest Legacy Area, the proposed area must meet the following nationally established criteria:

1. Proposed Forest Legacy Areas must represent an environmentally important forest area that is threatened by conversion to non-forest uses.
2. Proposed Forest Legacy Area must contain one or more of the following important public values: scenic resources; public recreation opportunities; riparian areas; fish and wildlife habitat; known threatened and endangered species; known cultural resources; and/or other ecological values.
3. Proposed Forest Legacy Area should provide opportunities for the continuation of traditional forest uses, such as timber harvesting, forest management or outdoor recreation.

Legacy area assessment process

Initial analysis

To select the Forest Legacy Areas identified in the AON, all forested areas in Oregon were evaluated. The state was divided into areas using the locations of private forest lands as well as ecoregional and county boundaries as the primary guides. Counties were used because planning and communities in Oregon are often organized at the county level. Ecoregions were selected because they are widely used by the State of Oregon, along with federal agencies and many private organizations, to organize natural resource information and to develop conservation plans.

Ecoregions are geographic areas with similar features, such as climate, vegetation, geology, geomorphology, soils, and ecosystem processes - which together support characteristic natural communities of plant and animal life. The Forest Legacy Program selected eight ecoregions in Oregon to help analyze forest losses and the priorities for potential legacy areas. The eight ecoregions are based on work by the Environmental Protection Agency's (EPA) Research Office in Corvallis (Pater *et al.* 1998). These same ecoregions have been adopted by the Oregon Watershed Enhancement Board and by the Oregon Progress Board for planning and analysis (Figure 13).

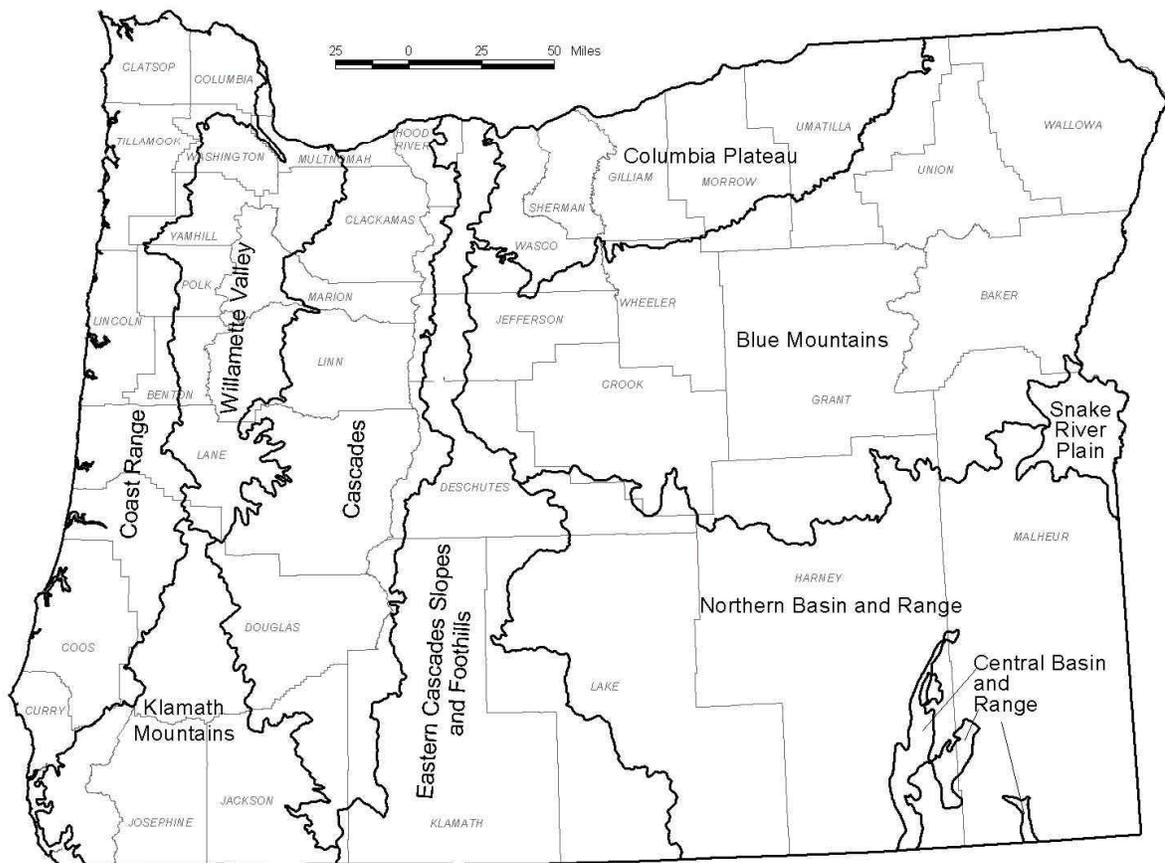


Figure 13. Ecoregions of Oregon from the Environmental Protection Agency.

The EPA ecoregional mapping process actually identified 10 ecoregions in Oregon. Two of the regions, the Snake River Plain and the Central Basin and Range, just enter the state in southeastern Oregon. For the purpose of this AON, and for most other Oregon planning efforts, both of these ecoregions have been combined with the Northern Basin and Range ecoregion. The eight selected ecoregions in Oregon are the Coast Range, Willamette Valley, Klamath Mountains, Cascades, Eastern Cascades Slopes and Foothills, Blue Mountains, Columbia Plateau, and Northern Basin and Range. Descriptions of these ecoregions and their forests are included in Appendix A.

A total of 36 areas were evaluated as potential Forest Legacy Areas. Legacy areas did not cross ecoregional boundaries and were generally restricted to within a county, although six areas included portions of two counties, and two areas included portions of three counties. Counties were combined when the amount of private forest lands in any one county was too limited for evaluation purposes. Occasionally counties would have more than one potential legacy area – usually because they occurred in more than one ecoregion (such as Douglas County, which goes from the Coast Range to the Cascades ecoregion). Only three counties, Lane, Josephine and Klamath, had more than one potential legacy area in the same ecoregion. In this case, there were large non-forested areas located between the potential legacy areas, so they were separated.

Figure 14 shows the locations of the original 36 evaluated Forest Legacy Areas. Descriptions of all 36 evaluated areas are available from the Oregon Natural Heritage Program. The boundaries and shape of these preliminary potential legacy areas were identified to allow for the analysis to take place.

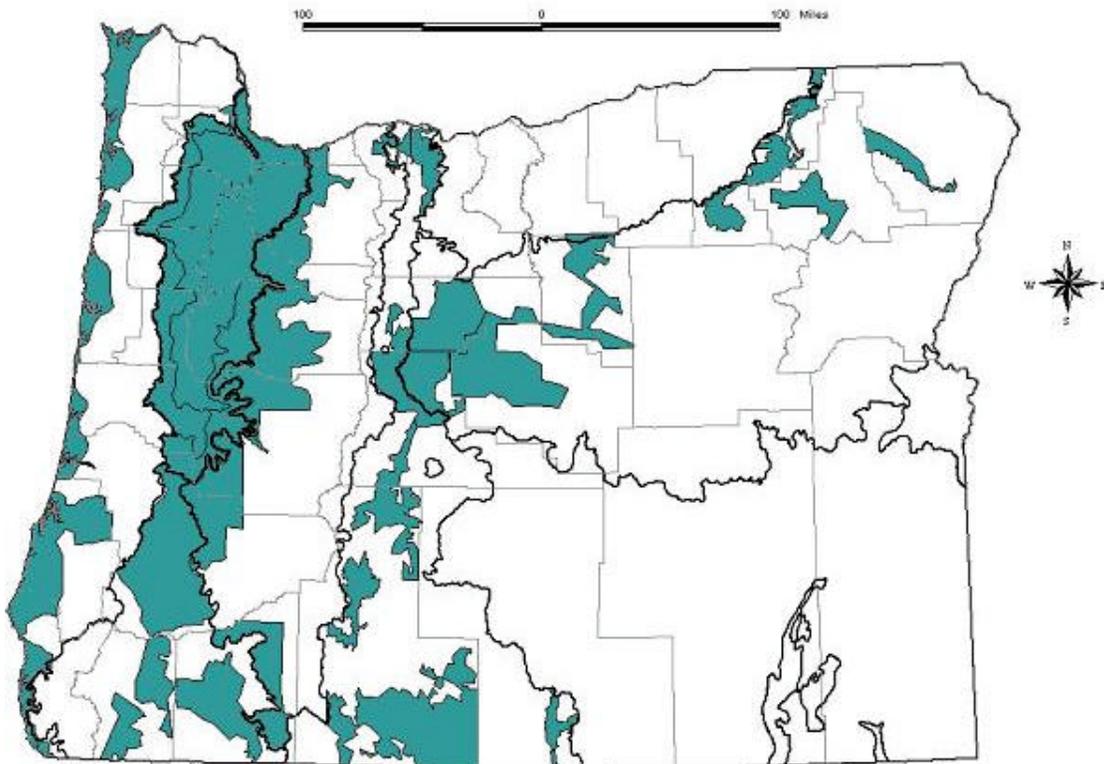


Figure 14. The 36 potential legacy areas evaluated.

The initial analysis looked at two factors only: the presence of significant amounts of private forest lands and the presence of threats of forest conversion over the next 10 years. When these two criteria were applied to the 36 potential areas, a total of 17 potential legacy areas were selected. These included any sites with threats of forest conversion over the next 10 years with significant amounts of private forest lands. When going from the 36 to the 17 potential legacy areas, some boundaries were adjusted. A few potential areas were combined, while large agricultural, industrial, or urban – non-forested areas were excluded. A map showing these 17 areas is included as Figure 15, below.

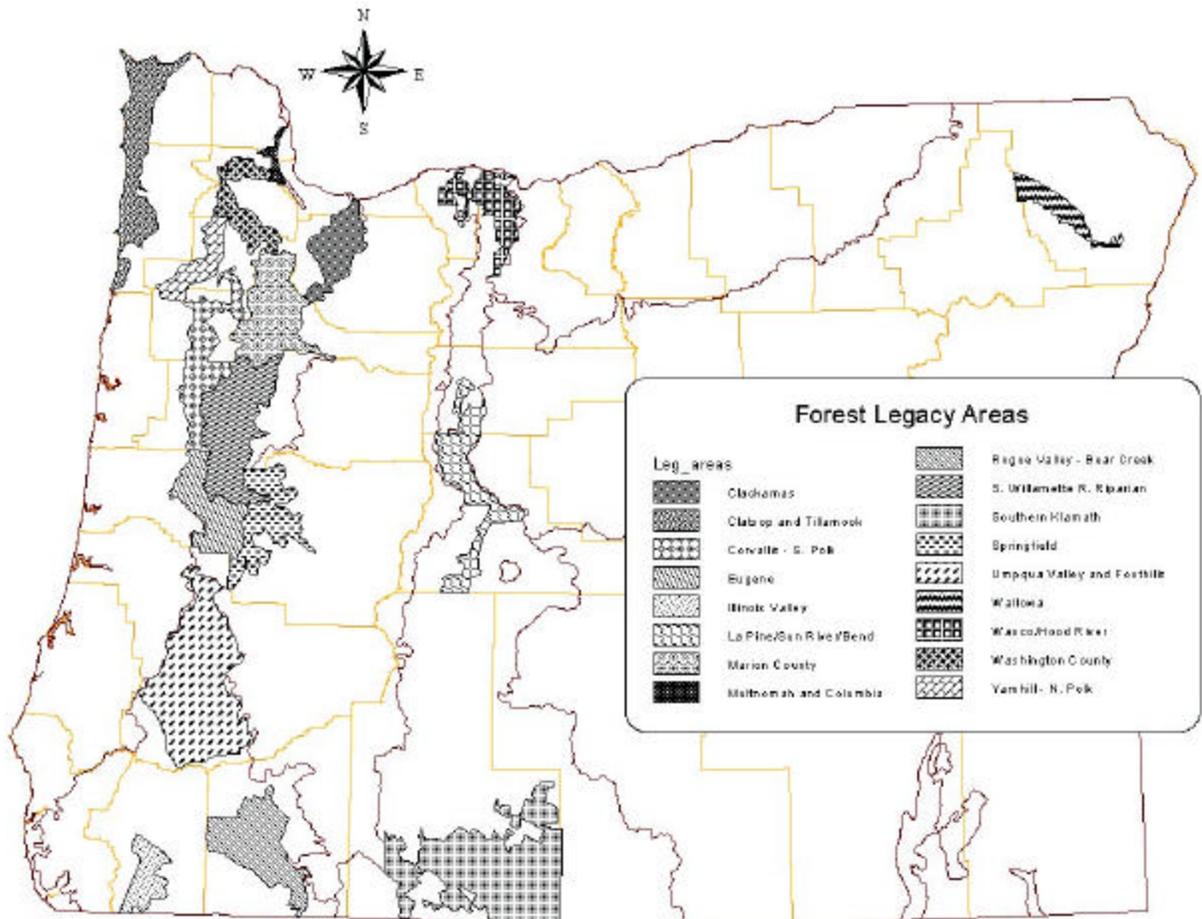


Figure 15. Original 17 potential legacy areas evaluated as meeting minimum criteria.

Secondary analysis

The prioritization and analysis of the potential Forest Legacy Areas involved a more comprehensive assessment of ecological, social, and economic factors. The following criteria were used:

Biological - Ecological

- a) Rare, threatened and endangered species occurrences and habitat
- b) Acreage of all private forest lands
- c) Acreage of priority forest habitats (oak-woodlands, riparian bottomlands and ponderosa pine forest types)

- d) Importance of Forest Legacy Area to priority wildlife species
- e) Viability of the remaining forests in the area
- f) Ability of forests to add to or provide buffers for existing national forests, state forests, state parks, or other protected areas

Social

- a) Immediacy, significance and magnitude of conversion threats as defined by:
 - ☒ Acreage of forest habitats lost between 1974-1994 (in western Oregon)
 - ☒ Acreage of forest habitats estimated to be lost by 2005 (in western Oregon)
 - ☒ Acreage of forest habitats lost since European settlement (approx. 1850)
 - ☒ Increase in population based on 1990-2000 census increase by county
- b) Community interest in Forest Legacy Program
- c) Existence of local partners, including county and city governments
- d) Potential for matching funds
- e) Public recreation opportunity

Economic

- a) The significance of private forest land to the local economy:
 - ☒ The significance of timber to the local economy
 - ☒ The presence of distressed county or local community

Appendix B includes detailed descriptions of each of the data layers, as well as details as to how they were used in the analysis.

The boundaries and the priorities of the potential legacy areas were a major focus in the public outreach and public hearing process. Using comments obtained from the public and the State Stewardship Coordinating Committee, some legacy areas were combined, some lines were redrawn, and one additional legacy area (South Coast) was added. The final outcome was the identification of 15 Oregon Forest Legacy Areas, and the application of priorities to these areas. Figure 16, below, shows the names and boundaries of the final Oregon Forest Legacy Areas.

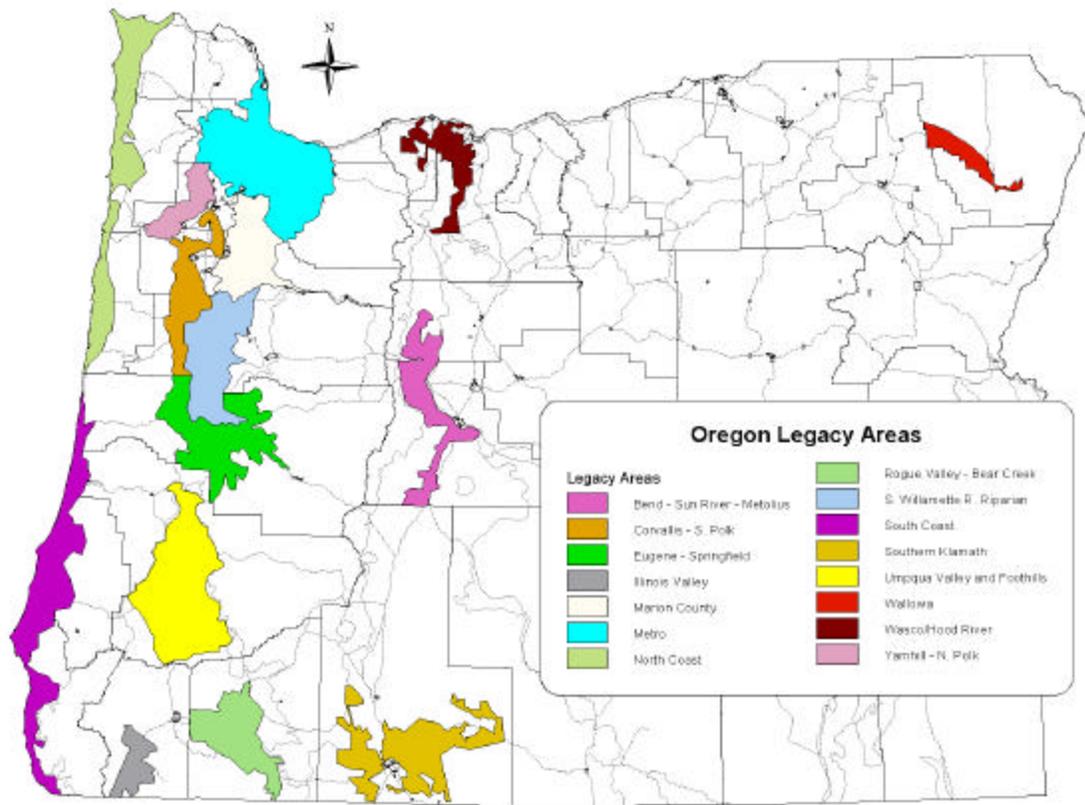


Figure 16. Names and boundaries of the final Oregon Forest Legacy Areas

Figure 17 shows the final priorities assigned to the final areas. As described above, they were assigned with the use of a numerical analysis of the ecological, social and economic data (see Appendix B for details). The priorities are on a scale from one to seven, with one being the highest priority and seven being the lowest. The one to seven scale was chosen because it best represented the spread of values obtained.

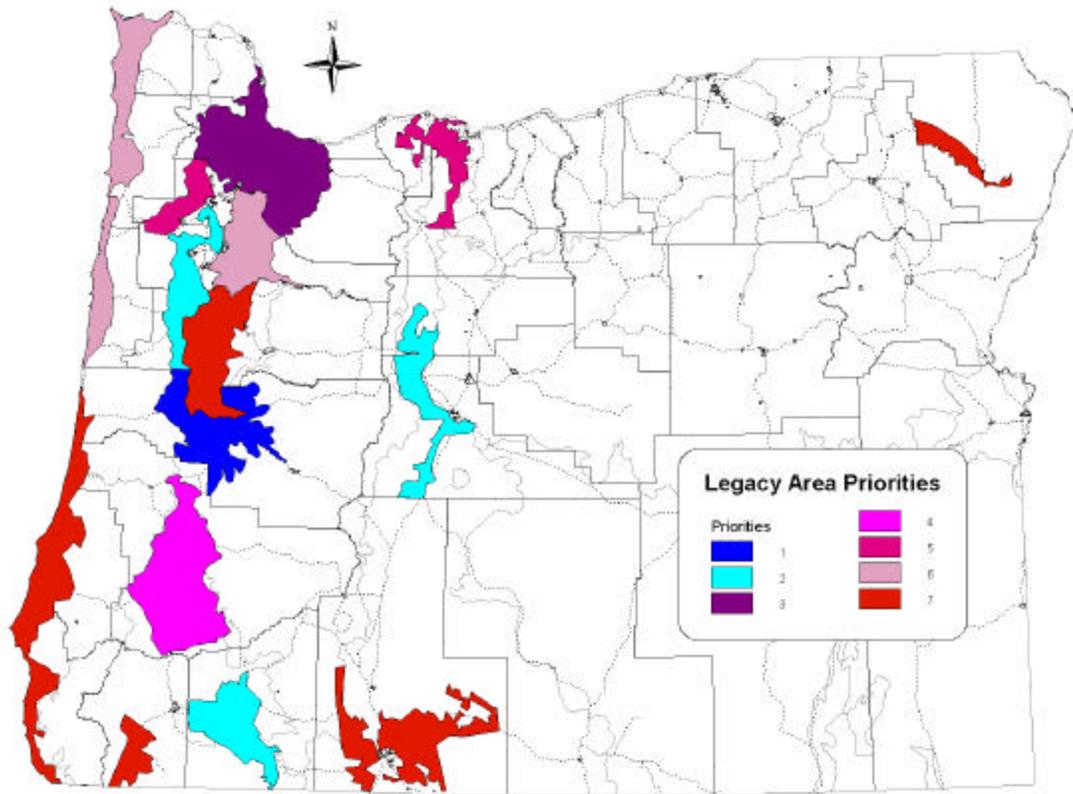


Figure 17. Oregon Forest Legacy Area priorities

C. Landowner participation and site selection

Guidelines for participation

All owners of private forest land located entirely or partially within a designated Forest Legacy Area are eligible to participate. If a landowner has property partially within a legacy area, the Oregon Forest Legacy Program has the discretion to make minor adjustments to the boundaries of any area.

To participate, owners may apply to enroll interest in (via a conservation easement) or title to their lands in the state's FLP. Participation of any landowner in the program is strictly voluntary, and under no circumstances will the right of eminent domain be used for the taking of any private property rights.

If a landowner chooses to apply for the FLP, owners must also prepare either a Forest Stewardship Plan or a multi-resource management plan as part of the approval process. All FLP acquisitions, whether fee-title or through a conservation easement, are perpetual and binding on subsequent owners. Future owners of the rights that are not acquired by the FLP shall be subject only to those restrictions which the present landowner has sold or donated to the local, state or federal government, per the terms of the sale or agreement. As outlined in the federal law, only federal, state or local governments may currently hold these permanent interests in land acquired through the Forest Legacy Program.

Program implementation

The following outlines the steps the Oregon Department of Forestry will need to take to implement Oregon's Forest Legacy Program on individual sites:

- ✍ Publicly announce that Oregon is an active state in the Forestry Legacy Program and eligible to receive forest legacy funds for Fiscal Year 2002 (October 1, 2001 through September 30, 2002) under the state grant option.
- ✍ Establish enrollment periods for receiving letters of interest from landowners (and partners) for forest legacy funds for the acquisition (easement or fee title) of specific properties.
- ✍ Establish guidelines for the desired content and format for writing letters of interests.
- ✍ Review letters of interest upon receipt and screen them to ensure that minimum program eligibility requirements are met by the property in question and for those properties meeting the minimum requirements, make an initial determination of site significance based on the criteria for evaluating and selecting sites (discussed below).
- ✍ Notify landowners of the results of this screen.
- ✍ Secure a go forward agreement with eligible landowners owning significant sites.
- ✍ Identify which local government or state agency will hold title and the type of transaction (fee title or easement).
- ✍ Identify who will be responsible for monitoring and the availability of monitoring funds.
- ✍ Conduct property due diligence where go forward agreements have been obtained.
- ✍ List and rank properties with completed (or near completed) due diligence.
- ✍ At least annually, meet with the State Stewardship Coordinating Committee to review listed properties and select transactions for funding based on available funds. Maintain a list of desired transactions which could not be funded due to a lack of forest legacy funds.
- ✍ Close on transactions where funding is available (both forest legacy and required match).

For example, landowners who want to participate may submit a letter of interest to the Oregon Department of Forestry's Forestry Assistance Program. To enroll their lands in the FLP, interested landowners should supply information about the property and identify any partner organization. Landowners have the option of donating a conservation easement or fee-title to the FLP or applying to have an easement or title purchased through the FLP.

ODF plans to develop guidelines for landowners to use in the inquiry process. Many of these will be adopted from other states' successful Forest Legacy programs. At a minimum, landowners will have to submit information which identifies the location of the property, the primary values of the site, and the primary reasons they wish to participate in the program.

Once a letter of interest is received, ODF will screen the site to assure that it meets the minimum requirements of the program. The minimum requirements are that the property must be privately owned, forested, and threatened with conversion within 10 years. If the property does not meet the minimum requirements, the landowner will be notified that their property is not eligible for the Forest Legacy Program.

If the property does meet the requirements, ODF will also make an initial determination of the site's significance. This determination, and the final determination of which sites are selected, is based on similar ecological, social and economic criteria as was used in the analysis of legacy areas in this AON.

Criteria for evaluating and selecting sites

Given the limited funding available for the Forest Legacy Program in Oregon and the very high property values for many of Oregon's forests threatened with conversion, the program must be able to set priorities for site selection.

Five criteria have been selected to be used for this prioritization. The criteria, listed in priority order, are:

1. The significance of ecological, social and/or economic values on the property
2. The viability and importance of the site to other forest lands
3. Local support, and presence of partners and/or match funding
4. Immediacy of threats to the site
5. The priority of the legacy area

The Oregon Forest Legacy Program will use these criteria to evaluate all of the properties with interested landowners who apply. The five criteria will be the major determination of whether or not a site is selected for participation. While numeric values for each of these criteria have not been assigned, the Oregon Forest Legacy Program anticipates that the first of these will receive the most credit, the second criterion slightly less, and so on. Details of the criteria and how they will be applied are discussed below.

1. The significance of ecological, social or economic values

This includes the primary values present on the property. It includes the forest habitats present, with priority habitats as well as high quality examples of forest types given more credit. It also includes the presence of priority forest wildlife species, endangered species or their habitat, riparian habitat, or the other ecological values discussed in this AON. Social values include scenic or recreational benefits the site provides. Important economic factors are primarily any important local economic value, including significance for local mills or industries, as well as any potential significance of the site to recreational industries. These are the most important factors, and will weigh the highest, allowing sites in any of the Oregon Forest Legacy Areas to compete for selection.

2. The viability and importance of the site to other forest lands

The second most important value is the overall ecological, social and/or economic social context of the site to other adjacent lands. Since many Forest Legacy properties may be quite small, protection of a small or isolated tract may limit the overall ecological, social and/or economic benefits of protecting it. Sites which add to existing protected lands (county parks, state parks, national forests, state forests, and other federal investments, etc.) will receive additional points. Of particular interest are properties adjacent to lands with forest protection easements, particularly sites currently protected by the Oregon FLP. Higher value will be placed on properties that are part of a recognized corridor or that provide important buffer for ecological values. Similarly, higher values will be placed on properties which located together add up to a large, protected block of forest land. For example, if a number of forest landowners are interested in protecting a site, this can have important benefits, and increase the ranking for forest legacy funding.

3. Local support, the presence of partners and/or match funding

The amount of local support for the inclusion of any property in the FLP has been a key factor in all states participating in the program. Given the limited ability of ODF to monitor conservation easements acquired through the Forest Legacy Program, local partners are especially key in Oregon. As such, properties with lots of local support will receive higher ranking. Partners agreeing to provide long-term monitoring, match funding, or long-term management of any included properties will be favored. Similarly, projects will rank higher for providing very large amounts of matching funds. Sites will also rank higher if they are part of an existing local plan, such as the Metro Greenspaces Program, the Eugene 2050 plan, or another public document which has identified the property as important.

4. Immediacy of threats to the site

The significance and immediacy of threats is another key criteria identified for site selection. Both the State Stewardship Coordinating Committee and the public felt that threats were important, but that selecting sites which were either partially developed, or well down the road toward development might result in much higher funding costs. Sites lacking any threats are not eligible. However, the goal is to protect the most threatened sites before threatened development makes costs prohibitive. Basically, the objective is to include the most threatened sites possible while protecting the most forest acres possible.

5. The priority of the legacy area

Initially, the overall priority of the legacy area in which a project was located was to be a primary criteria. However, based on public comments and those of the State Stewardship Coordinating Committee, opinion clearly indicated that all very important sites should be eligible and receive high priority for funding, regardless of which legacy area it is located in. However, there was agreement that if projects ranked equally with respect to the other criteria, sites in the highest priority legacy areas (see Figure 17) should be funded first.

Final site selection procedures

The Forest Legacy Program will evaluate sites on an annual basis. Applications for properties which ODF determines meet the minimum criteria will be initially rated based on a preliminary evaluation of the criteria listed above as a means to gauge the application's potential for funding. ODF will notify the landowners of this funding potential. If the landowner remains interested and is willing to commit to completing a forest stewardship (or equivalent) plan, the application will receive further consideration. The forest stewardship (or equivalent) plan will need to demonstrate the significance of the ecological, social and economic values to be protected if the property remains in forest use.

All new and existing unfunded projects will be evaluated each year with the best possible projects being selected for funding. All non-selected applicants will continue to remain eligible as long as they are interested, and will not have to re-apply to be considered for funding in subsequent years. Ratings for all evaluated projects will be made available.

VII. Oregon's Forest Legacy Areas

A total of 36 areas were originally evaluated for inclusion in the Oregon Forest Legacy Program. Of these, 17 met the minimum criteria by having significant amounts of private forestland threatened with the possibility of conversion to non forest uses within the next 10 years. These were presented to the public at public hearings, on the Internet, and in other public forums. Following the public participation process, boundaries were changed, some areas were combined, and 15 Forest Legacy Areas were selected for inclusion in the program. Due to public comments, the south coast area was added, several areas in the Willamette Valley were combined into one and the boundaries for some of the selected areas were modified significantly from those first presented to the public. Each of the legacy areas is described below in the context of the ecoregion in which they occur.

Each legacy area is summarized as follows. First, there is a general description of the area. Next, there is a summary of the significant ecological, social and economic benefits to be gained from protecting private forests from conversion in these areas. Then there is a review of the threats of conversion in the legacy area. Finally, there is an identification of the specific goals and objectives for the area. The goals and objectives are designed to serve as performance measures for evaluating the implementation of the forest legacy program in Oregon. The goals and objectives of each legacy area are not meant to be comprehensive. Rather they are to identify the key issues tied to forests in these legacy areas. The overall goal for implementing forest legacy in Oregon is to protect private forest lands from conversion such that these forests make positive contributions in addressing these issues.

A. Coast Range Forest Legacy Areas

While three areas were initially evaluated, two legacy areas were selected, covering the majority of the private forest lands in the Oregon Coast Range found in the rapidly growing coastal strip.

North Coast Forest Legacy Area

Priority - 6

Description: The north coast includes the private coastal strip in Clatsop, Tillamook and Lincoln counties. It extends east along the Columbia River to include the small town of Knappa, but generally covers the areas along the coast where recreational and residential development is occurring. The southern end of the boundary is just south of Yachats. The legacy area was almost entirely forested with Sitka spruce when the first European settlers arrived in Oregon.

Significant Ecological, Social and Economic Values: Sitka spruce and shore pine forests are the most widespread forest types within this legacy area, which includes important wetland and saltmarsh forest habitats. Forests and their streams produce the most productive and threatened salmon streams in Oregon. The area is important to threatened and endangered plants and wildlife as well. The North Coast Conservancy and both county and city governments are potential Forest Legacy partners.

Threats of Conversion: This area is growing the fastest of any area on the coast, due primarily to its proximity to the large population centers in the northern Willamette Valley. Because of the rapid development of second homes and resorts, it is the coastal area where the most forest conversion is occurring. Most of the forests being lost on the north coast are

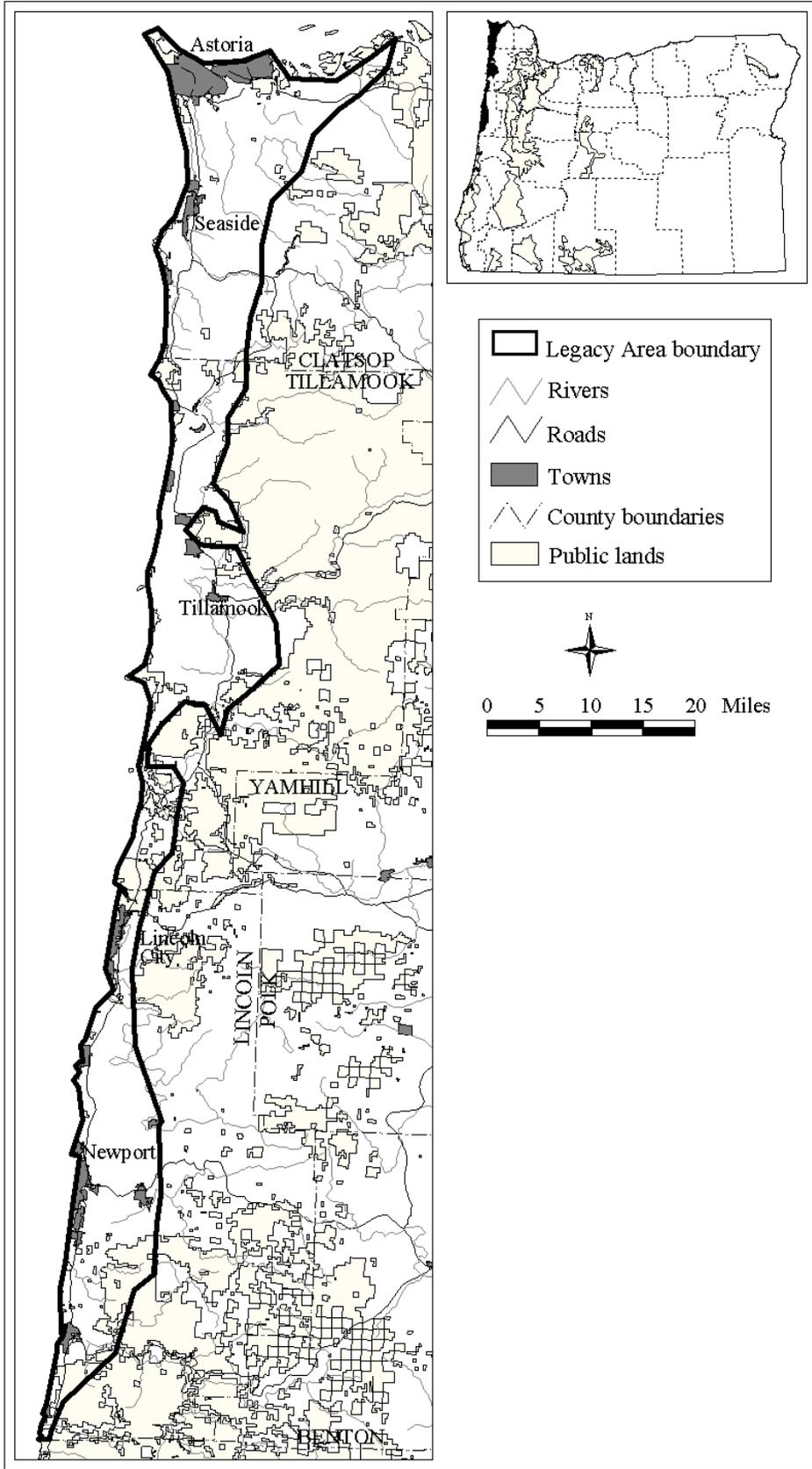


Figure 18. Map of North Coast Forest Legacy Area

found within the Sitka spruce zone, usually within a few miles of the ocean. Forest conversions are concentrated around the towns of Astoria, Seaside, Cannon Beach, Tillamook, Lincoln City, and Newport.

Losses and Threats		Significant Values threatened by Conversion	
Forests habitats lost since 1850	+583 acres ¹	Total private forest left	382,564 acres
Forests lost 1974-1994	- 6,388 acres	Priority forest habitats ² left	764 acres
Forest loss predicted	- 15,389 acres	Miles of T&E fish habitat	724 miles
Population growth in 1990's	+ 10,511 people	T&E species occurrences	228
		Priority wildlife species	5
		Economic – 0-10% dependant on timber	
		Social – Forest recreation critical to economy	

¹ Forests have expanded here since 1851

² Riparian, oak, and pine forests and woodlands

Goals and Objectives:

- 1) Prevent important forested wetlands, estuarine and freshwater habitats from being converted to recreational and suburban uses, in order to reduce flooding and improve salmon habitat.
- 2) Provide a tool for local governments and watershed councils for riparian forests and shorepine wetland protection to help achieve the goals of the Oregon Plan for Salmon and Watersheds.
- 3) Protect key spruce headland forests to block-up the near shore network of parks, preserves, and national forests.

Description: This legacy area now includes all the private coastal forests from southern Lane County (Florence) to the California border, generally covering the areas along the coast where recreational and residential development is occurring. This includes the Oregon Dunes National Recreational Area, and some of the most spectacular coastal scenery in the state. This area was excluded from the initial list due to slower population growth and more limited threats. However, public comments and local interest resulted in including these diverse forests as an Oregon Forest Legacy Area, with new boundaries.

Significant Ecological, Social and Economic Values: The legacy area includes Sitka spruce forests and the largest coastal dune ecosystem in the lower 48 states. It has exceptional Port-Orford-cedar forests threatened by an introduced root disease. Mature Port-Orford-cedar forests have almost vanished from the coastal lowlands. Oregon white oak, tan oak, grand fir, Douglas-fir and coast redwood forests can all be found on private forests in this legacy area. Remaining coast redwood forests exist mostly on private industrial and public lands, although much of the historical range of coast redwood has already been converted to residential and recreational use. In general, private forestlands in this legacy area are an important source of timber supply for the local, resource dependent economy.

Threats of Conversion: While growth is occurring more slowly in this area than most of the other legacy areas, these coastal communities cannot afford much private forestland conversion. This is because these private forests have replaced the public forests as a source of needed timber for local natural resource based economies. While protection of remaining redwood groves in Oregon is important, conversion of private redwood forests is generally low. Retirement houses, second houses, and increased agricultural development are threats, as well as conversion of some of these forests to cranberry bogs, especially in the old marine terraces between the towns of Bandon and Port Orford.

Losses and Threats	Significant Values threatened by Conversion
Forests habitats lost since 1850 – 78,227 acres	Total private forest left 460,644 acres
Forests lost 1974-1994 – 9,276 acres	Priority forest habitats ¹ left 13,844 acres
Forest loss predicted – 13,710 acres	Miles of T&E fish habitat 645 miles
Population growth in 1990’s + 4,316 people	T&E species occurrences 396
	Priority wildlife species 9
	Economic – 5-10% economically dependent & economically distressed counties
	Social – Forest recreation important to economy

¹ Riparian, oak, and pine forests and woodlands

Goals and Objectives:

- 1) Prevent important forested wetlands and riparian habitats from being converted to recreational, agricultural and suburban uses, in order to reduce flooding and improve salmon habitat.
- 2) Protect key forested sites from conversion to increase the viability and security of the near-shore network of parks, preserves, and national forests. Potentially focus on the Elk River-Sixes River, Coquille River, South Slough, and the Siuslaw estuary.
- 3) Protect viable examples of a coastal marine terrace, near shore Oregon oak savanna, Sitka spruce-grand fir, coastal redwood and Port-Orford-cedar forest.
- 4) Maintain productive private timberlands as a source of timber supply for local wood products industries.

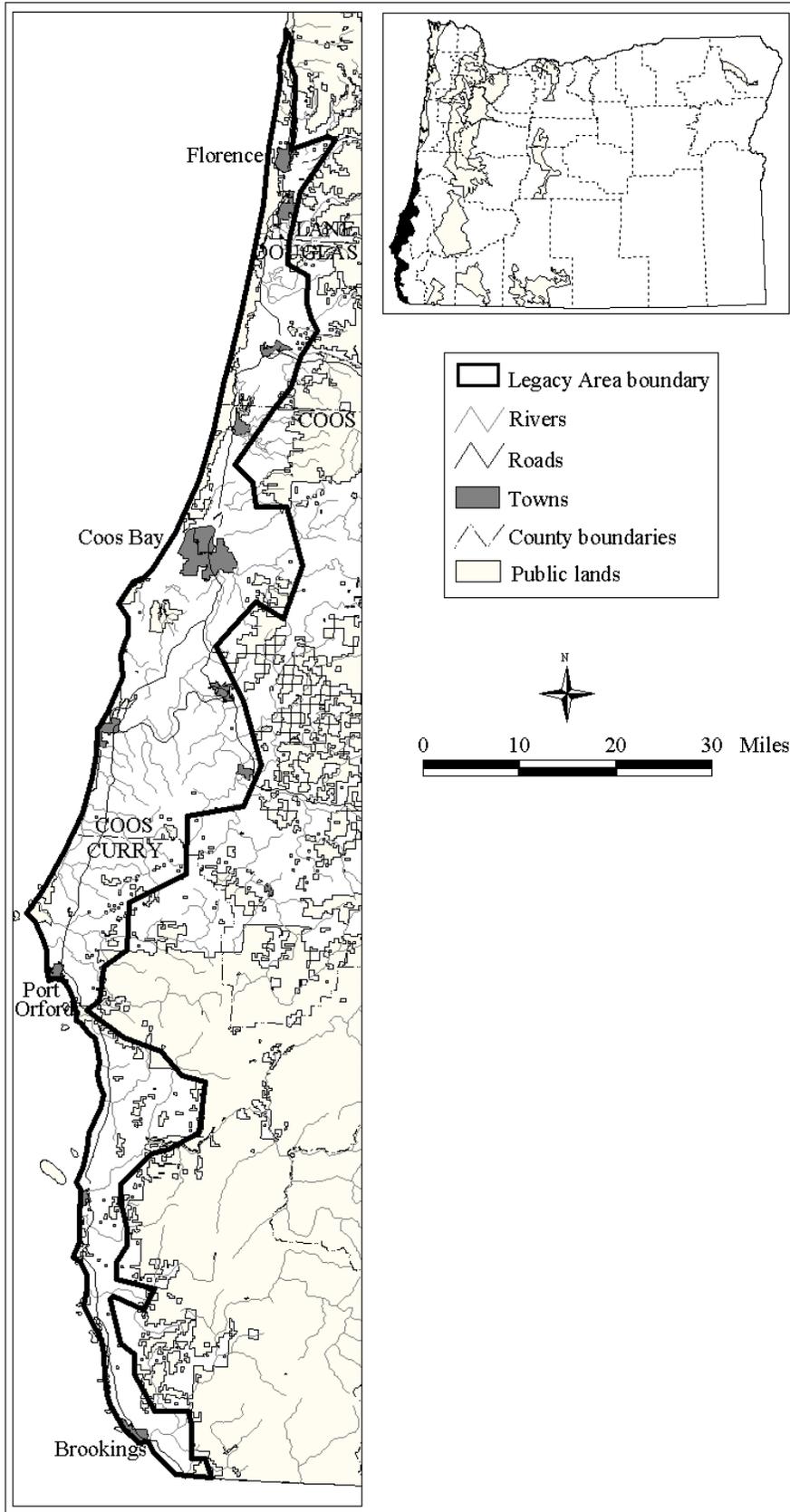


Figure 19. Map of South Coast Forest Legacy Area

B. Willamette Valley Forest Legacy Areas

Eleven potential legacy areas were evaluated in the Willamette Valley. This is the only ecoregion that was evaluated in its entirety, since it is the only ecoregion which has forests throughout, and which is almost entirely in private ownership. Initially, the potential legacy areas were selected by county within the valley, but following public comments and hearings, a number of sites were combined, based on community interest and similarities.

Generally, the forests that remain undeveloped are foothill margin and valley hill Oregon oak and mixed conifer forests. Floodplain forests remaining along the Willamette River in Lane, Benton and Linn counties were extensive enough that this valley bottomland was also included and grouped as the Southern Willamette River Riparian area. Because of the immediate development pressure on the forests in the Willamette Valley, all of the evaluated legacy areas were included in the final list with the exception of the Linn County Foothills. It was determined that the private forestlands within the Linn County Foothills would not likely face major conversion threats within the next 10 years.

The statewide existing vegetation data from the Gap Analysis Project does a poor job of showing remaining forests and woodlands in urban areas. The Metro Regional Government (Metro) recently contracted with Ecotrust, a nonprofit organization promoting conservation-based development, to create a high-resolution vegetation map for the entire metro area. This map was used to show the extent of forests in the region, but was not used by ODF or ORNHP in evaluating forest losses.

Metro Forest Legacy Area

Priority – 3

Description: This area includes the portions of the Portland Metropolitan Area located within the Willamette Valley ecoregion. Initially, three potential legacy areas were evaluated in the metro area, west Multnomah – Columbia counties, Washington County, and Clackamas – east Multnomah County. Based on public comments, these three areas have been combined into one legacy area encompassing the greater Portland metro area and surrounding forest lands. Remaining low-elevation conifer bottomlands, some cottonwood, alder and ash riparian, oak woodlands and mixed hardwood forests make the area very diverse – in spite of the very extensive development.

Significant Ecological, Social and Economic Values: The Metro Legacy Area lacks some of the ecological significance of a few other areas, with fewer acres of priority habitats, endangered fish and wildlife, and priority wildlife habitat. The private forests provide habitat for the rare rock white larkspur, and endangered salmon and steelhead. Its overall priority remains high because it has some of the greatest opportunities for public recreation and protection of scenic values, along with the greatest threats of conversion and large historic losses.

The metro area has demonstrated significant interest in the Forest Legacy Program, and has a number of partners, including Non-Governmental Organizations (NGOs) and Metro, the local regional government. In particular, Metro has recently passed a bond measure to help protect forests in the area, called Metro Greenspaces. The Metro Greenspaces program has worked with the U.S. Fish and Wildlife Service, the Oregon Natural Heritage Program, and the Oregon Department of Fish and Wildlife to identify sites which are the most significant for wildlife habitats and ecological values. The Columbia Land Trust also has expressed an interest in assisting with the implementation of the Forest Legacy Program in this legacy area, while the Three Rivers Land Trust also works in the area. Local watershed councils, while not involved in the Forest Legacy Program to date, also provide significant partnership opportunities.

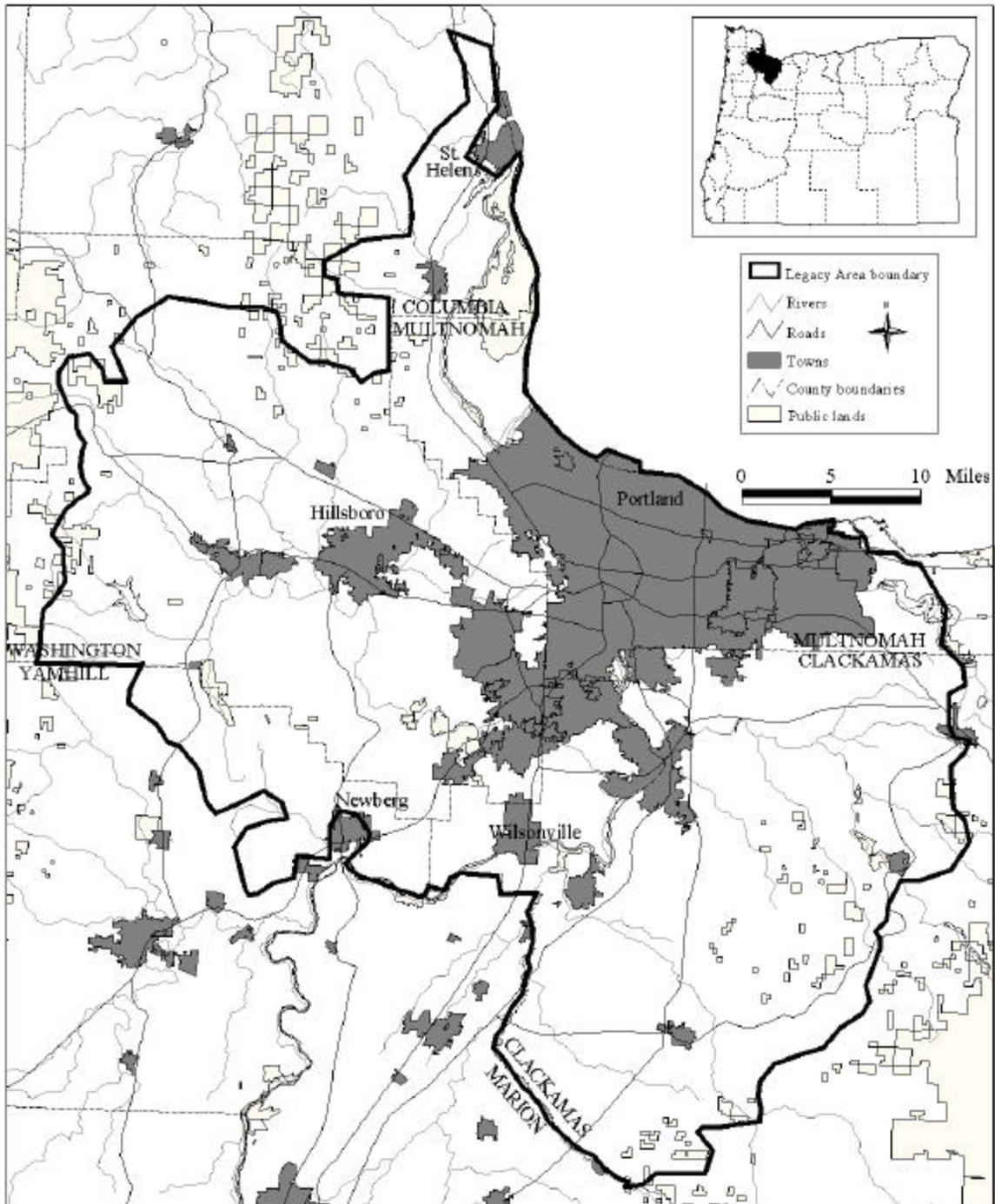


Figure 20. Map of Metro Forest Legacy Area

Threats of Conversion: This is the most urbanized area in the state, as well as the area which has experienced the most growth over the last decade. It has experienced the greatest historical losses of forests, and continues to lose forests at a rapid rate. The greatest threats of conversion are from residential, industrial and commercial development and population growth.

Losses and Threats	Significant Values threatened by Conversion
Forest habitats lost since 1850 – 316,761 acres	Total private forest left 366,191 acres
Forests lost 1974-1994 – 66,577 acres	Priority forest habitats ¹ left 30,772 acres
Forest loss predicted – 150,623 acres	Miles of T&E fish habitat 737 miles
Population growth in 1990's + 269,928 people	T&E species occurrences 99
	Priority wildlife species 4
	Economic – < 5% economically dependent
	Social – Private forests key to recreation, open space and water quality

¹ Riparian, oak, and pine forests and woodlands

Goals and Objectives:

- 1) Complement the existing Metro Greenspaces program to assist in the protection of important forest parcels to promote recreational opportunities and provide open space.
- 2) Reduce conversion of key forested riparian and wetland habitats to urban and suburban uses to reduce flooding, improve water quality and improve salmon habitat. Upland forest buffers identified by watershed councils and metro governmental plans may also be key.

Description: This area includes limited valley bottom and riparian hardwoods, and some of the largest remaining oak woodlands in Oregon, such as the open oak forests between McMinnville and Sheridan, as well as those in the Coast Range foothills in northern Polk County. Boundaries on this legacy area were modified as a result of public comments.

Significant Ecological, Social and Economic Values: The oak woodlands in this legacy area are ecologically significant, containing some of the largest remaining blocks in the Willamette Valley. Many of these oak woodlands appear to have slower rates of Douglas fir invasion, making them potentially easier to restore or maintain. The Oregon Forest Legacy Program may have to work to develop local partnerships.

Threats of Conversion: Growth is occurring throughout this legacy area; however, it is not as concentrated or as immediate as some of the other Willamette Valley legacy areas. Forests are being converted to housing developments and to expanding agriculture, specifically vineyards and nurseries.

Losses and Threats	Significant Values threatened by Conversion
Forest habitats lost since 1850 – 16,686 acres	Total private forest left 124,663 acres
Forests lost 1974-1994 – 2,557 acres	Priority forest habitats ¹ left 21,961 acres
Forest loss predicted – 1,560 acres	Miles of T&E fish habitat 144 miles
Population growth in 1990’s + 26,280 people	T&E species occurrences 44
	Priority wildlife species 1
	Economic – < 5% economically dependent
	Social – Forests important to water quality
	¹ Riparian, oak, and pine forests and woodlands

Goals and Objectives:

- 1) Protect viable occurrences of oak woodlands or savanna habitats.
- 2) Enhance watersheds by protecting key forested riparian habitats from being converted to agricultural and suburban uses to improve water quality and protect salmon habitat.

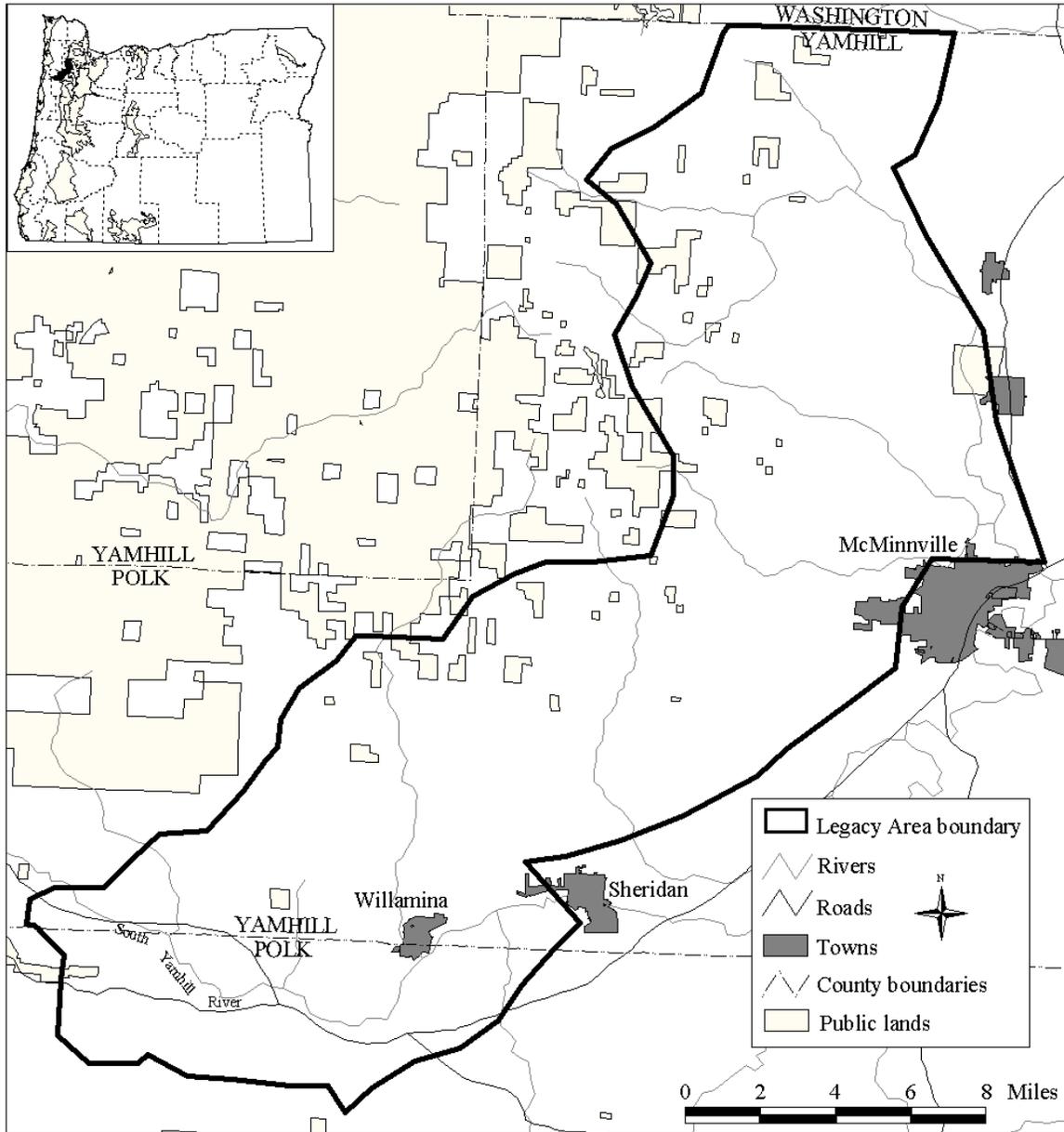


Figure 21. Map of Northern Polk – Yamhill County Foothill Forest Legacy Area

Description: This area includes forest lands east of Salem and Silverton, south to the Linn county border and to the north of Woodburn. The forests and woodlands in the center of this legacy area are those which have shown the greatest percentage of conversion over the last 20 years. As a result of this conversion, many of the best forest lands in Marion County have been developed already, especially in Salem and the foothills south and west of town. Remaining forests in this area tend to be smaller and fragmented, lowering the priority of this legacy area overall.

Significant Ecological, Social and Economic Values: This area contains some high quality oak woodlands, along with some riparian bottomlands and conifer forests as well as important wildlife habitats. The most significant private forests are known from the Highway 22 corridor, particularly along the North Santiam River and some forested buttes in the eastern part of the county.

Threats of Conversion: This Marion County legacy area has experienced the greatest forest losses of any of the evaluated areas over the last 20 years, based on the ODF data. Indeed, so many of the forests around the Salem area have been lost that this area almost was excluded because the remaining forests are barely viable. Residential development, particularly in the foothills south and east of Salem, continues to cause forest losses.

Losses and Threats	Significant Values threatened by Conversion
Forest habitats lost since 1850 – 163,449 acres	Total private forest left 89,119 acres
Forests lost 1974-1994 – 28,773 acres	Priority forest habitats ¹ left 15,770 acres
Forest loss predicted – 23,499 acres	Miles of T&E fish habitat 451 miles
Population growth in 1990’s + 56,351 people	T&E species occurrences 81
	Priority wildlife species 3
	Economic – < 5% economically dependent
	Social – Forest recreation, open space, and water quality dependant on forests
	¹ Riparian, oak, and pine forests and woodlands

Goals and Objectives:

- 1) Assist watershed protection and enhancement programs by protecting municipal drinking watersheds and key forested riparian habitats from being converted to agricultural and suburban uses.
- 2) Decrease fragmentation of the forests around Salem.
- 3) Assist in protecting endangered species habitat, including habitat for Nelson’s checkermallow and listed salmon.

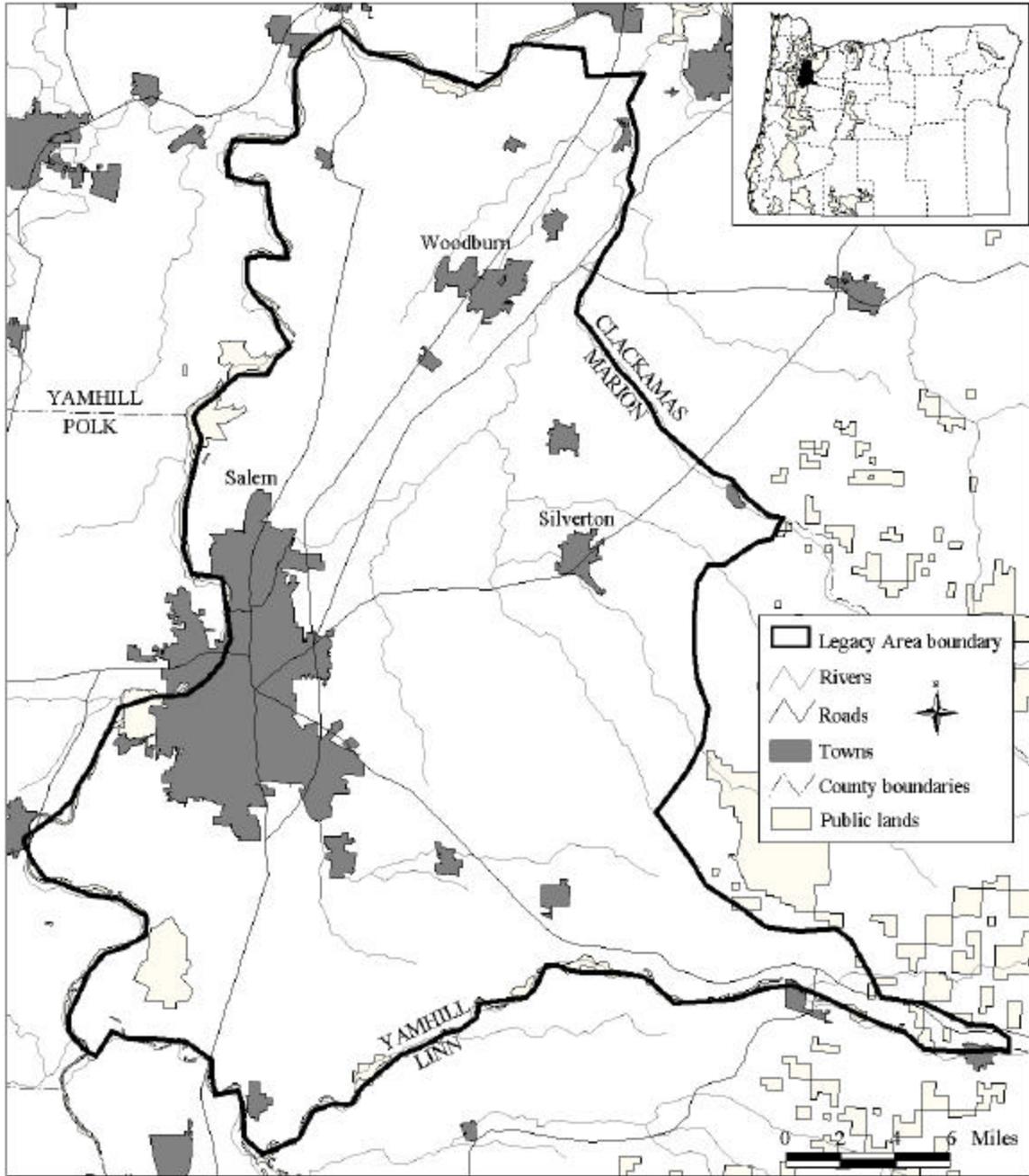


Figure 22. Map of Marion County Forest Legacy Area

Description: This area includes the foothills surrounding the communities of Philomath, Corvallis, Albany, Dallas and west Salem. It is mostly Oregon oak woodlands and Douglas fir forests, mostly along the margins of the Oregon Coast Range.

Significant Ecological, Social and Economic Values: This area has some outstanding remnants of valley margin Oregon white oak woodlands and savannas. These habitats are home for a number of endangered fish, wildlife and plant species, making this area one of the most significant from an ecological perspective. The Greenbelt Land Trust, Benton County and the City of Corvallis have all expressed an interest in working with the Forest Legacy Program to protect open space, recreational opportunities, and significant habitats.

Threats of Conversion: All of the communities in or near this legacy area are growing rapidly, often by expanding residential development onto private forests. The forests north and west of Corvallis, and along the corridor between Philomath and Corvallis are under particular threat, as are those in southern Polk County between Salem and Albany, and Albany and Corvallis.

Losses and Threats	Significant Values threatened by Conversion
Forest habitats lost since 1850 ¹ – 10,999 acres	Total private forest left 197,931 acres
Forests lost 1974-1994 – 11,758 acres	Priority forest habitats ² left 29,483 acres
Forest loss predicted – 5463 acres	Miles of T&E fish habitat 146 miles
Population growth in 1990's + 13,342 people	T&E species occurrences 123
	Priority wildlife species 1
	Economic – < 5% economically dependent
	Social – Forest recreation and open space

¹ Historic grasslands and oak savannas have become forests, which are now declining

² Riparian, oak, and pine forests and woodlands

Goals and Objectives:

- 1) Protect key forest habitats, including oak woodlands. Focus on the foothills between Corvallis and Philomath, and the foothills west of Salem.
- 2) Protect or provide buffers for key endangered species habitats, including populations of Fender's blue butterfly, Nelson's checker-mallow, and Willamette daisy.
- 3) Provide a tool for watershed councils and local governments to protect key forest riparian and wetland habitats along the Mary's River and Muddy Creek from being converted to agricultural and suburban uses.
- 4) Decrease the fragmentation of the forests and increase recreational opportunities or open space around Corvallis.

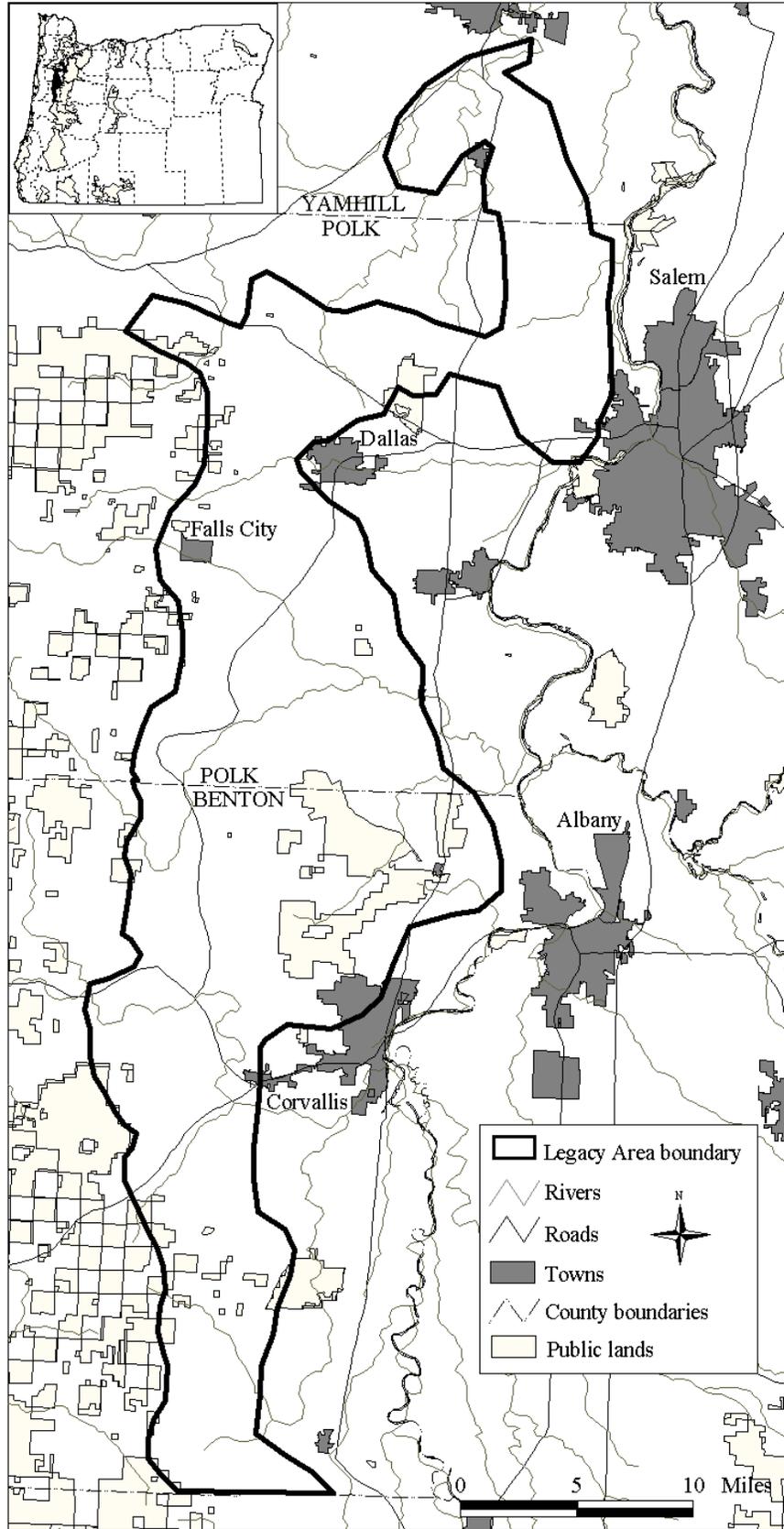


Figure 23. Map of Benton County – Corvallis Foothills – Southern Polk Forest Legacy Area

Description: Eugene and Springfield are on the southern boundary of the area, while the northern boundary is just south of Salem. The area goes west past the town of Corvallis and as far east as Lebanon. This area includes the riparian hardwood forests of the lower Willamette River and its major tributaries in Lane, Benton and Linn counties.

Significant Ecological, Social and Economic Values: These forests are critical to the health of the Willamette River, particularly to its native fish and there are a number of efforts to protect and restore these forests through the Oregon Plan for Salmon and Watersheds. This makes the Oregon Watershed Enhancement Board and the Willamette Restoration Initiative excellent partners in this area.

Threats of Conversion: This area has experienced the greatest decline in riparian woodlands and forests in western Oregon – primarily from earlier agricultural development, and more recently from residential growth. Several watershed councils including the Long Tom, McKenzie, Calapooia, Mid Fork Willamette and South Santiam are working on protecting riparian forests in this area and as a result these forests are much less threatened than other Willamette Valley forested areas. However, riverside areas are very attractive to developers, and habitats in Eugene, Corvallis, Harrisburg, and other towns along the Willamette continue to produce new houses.

Losses and Threats	Significant Values threatened by Conversion
Forest habitats lost since 1850 – 83,239 acres	Total private forest left 65,487 acres
Forests lost 1974-1994 – 8,769 acres	Priority forest habitats ² left 10,558 acres
Forest loss predicted – 8,104 acres	Miles of T&E fish habitat 441 miles
Population growth in 1990’s + 11,842 people ¹	T&E species occurrences 299
	Priority wildlife species 3
	Economic – < 5% economically dependent
	Social – Forests critical to water quality & fish

¹ Linn County population growth

² Riparian, oak, and pine forests and woodlands

Goals and Objectives:

- 1) Prevent forest conversion by protecting key forested riparian habitats from being converted to agricultural and residential uses.
- 2) Assist activities of the watershed councils to improve habitat for salmon, Oregon chub, and other key aquatic species.
- 3) Reduce agricultural runoff and assist in improving water quality.

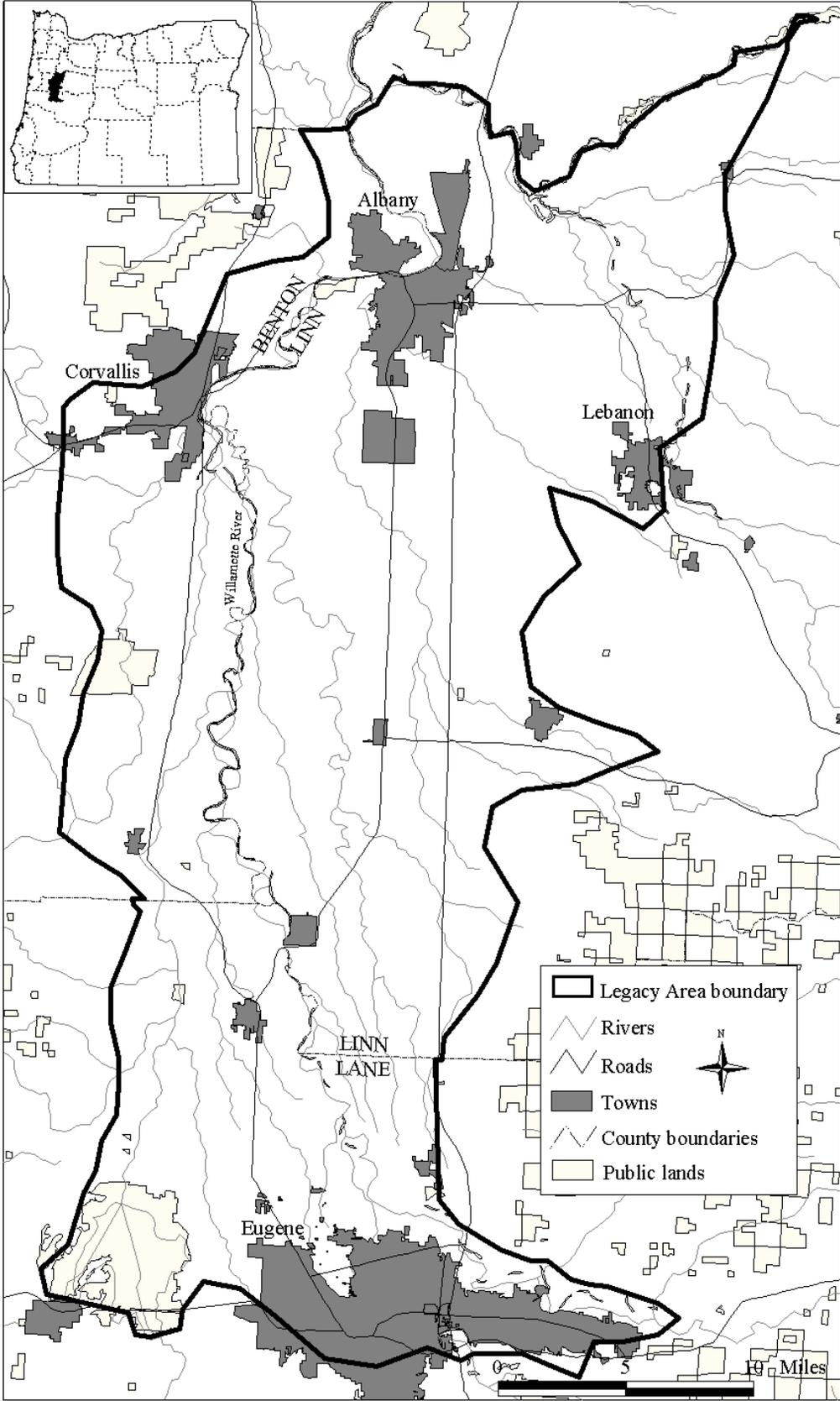


Figure 24. Map of Southern Willamette River Riparian Forest Legacy Area

Description: This area includes the Lane County foothills in and around the communities of Eugene and Springfield. It follows the western edge of the Willamette Valley between Veneta and Cheshire, contains the southern Willamette Valley foothills, and the Coberg Ridge area. It includes extensive and diverse oak woodlands and conifer forests, as well as some important riparian forests.

Significant Ecological, Social and Economic Values: The foothills of Lane County include the best quality and most diverse oak woodlands remaining in the Willamette Valley. They have the most northerly stands of California black oak, as well as some of the best remaining oak savannas and mixed conifer woodlands. This legacy area also includes important habitat for many endangered species, including some endemic to forests and woodlands in this area, such as the wayside aster. Together, the ecological values are among the highest in the state.

Lane County and the local, regional government, Lane Council of Governments, are both interested in the protection of forest resources. The McKenzie Land Trust, the City of Eugene and the City of Springfield, as well as The Nature Conservancy have all expressed interest in working with the Forest Legacy Program to protect forests in this area.

Threats of Conversion: Threats are as high here as anywhere in the state with the exception of the Portland metropolitan area and developing areas near Bend. Rural residential development is widespread on the hills south and west of Eugene, and surrounding Springfield. This development continues to lead to forest conversions and fragmentation. The development has also made fuel management, fire suppression, and maintenance of the oak savannas more difficult and expensive.

Losses and Threats	Significant Values threatened by Conversion
Forest habitats lost since 1850 – 79,584 acres	Total private forest left 326,140 acres
Forests lost 1974-1994 – 30,883 acres	Priority forest habitats ² left 85,209 acres
Forest loss predicted – 14,620 acres	Miles of T&E fish habitat 212 miles
Population growth in 1990’s + 40,047 people ¹	T&E species occurrences 383
	Priority wildlife species 8
	Economic – 5-10% dependant & distressed
	Social – Forest recreation and open space

¹ Lane County population growth

² Riparian, oak, and pine forests and woodlands

Goals and Objectives:

- 1) Protect key forest habitats, including oak woodlands. The primary focus initially would be on the foothills adjacent to Eugene and Springfield.
- 2) Protect or provide buffers for key endangered species habitats, including populations of Fender’s blue butterfly, wayside aster, Bradshaw’s lomatium and Willamette daisy.
- 3) Increase protection of open space, reduce fragmentation of the forests, and increase recreational opportunities by focusing on the forest ridgetop trail system around Eugene and Springfield.
- 4) Reduce fuels and increase ability of managers to use fire to maintain oak and conifer savannas.

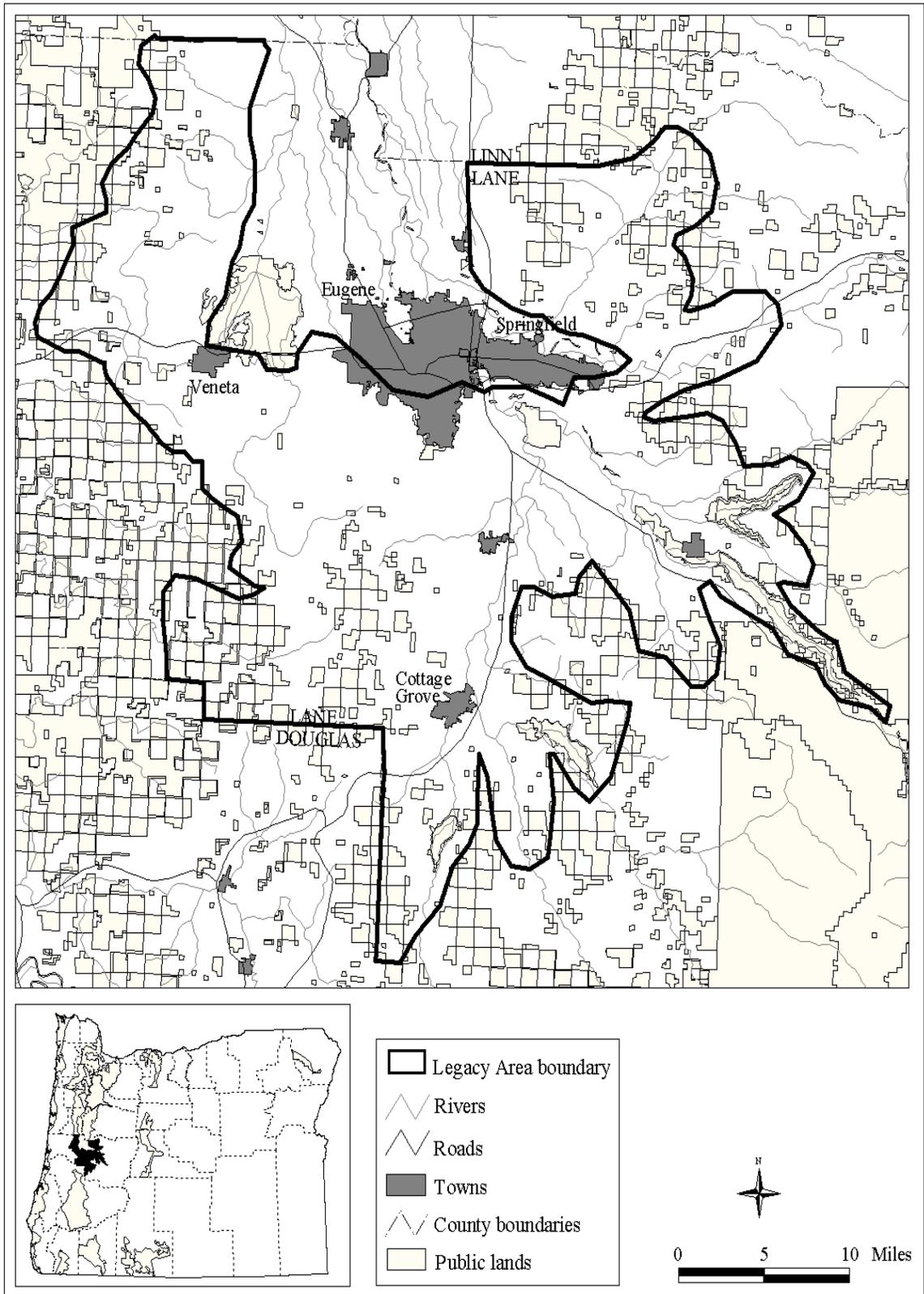


Figure 25. Map of Eugene – Springfield Forest Legacy Area

C. Klamath Mountains Forest Legacy Areas

Many of the forests are well represented on the federal lands that comprise 51 percent of the ecoregion. The region also has large and diverse federally and state owned protected areas which have excellent examples of most of the forest types, although these tend not to include the lower elevation, oak and pine woodlands. Over the last 20 years, most of the population growth has been centered in the Rogue River Valley, between Medford and Ashland. The remainder of the region has been growing more slowly, but pressure may increase in the near future, especially in the Grants Pass and southern Josephine County areas. Four potential legacy areas were evaluated, and three were selected for inclusion in the Oregon Forest Legacy Program.

Umpqua Valley and Foothills Forest Legacy Area

Priority – 4

Description: This is a large area which is a mix of oak savanna, farmlands, pastures, small towns, and conifer forests. There are actually a number of small valleys and foothills centered around the larger central Umpqua Valley, near the confluence of the North and South Umpqua Rivers.

Significant Ecological, Social and Economic Values: This area contains some of the largest remaining oak savannas and woodlands in Oregon, with Oregon white oak, California black oak, madrone and mixed hardwood-conifer forests as well. This area also has some of the best low-elevation examples of mixed conifer and Ponderosa pine forests and woodlands – and very little public land. This legacy area has a large number of endangered species occurrences, and important priority wildlife value.

The county and the town of Roseburg have expressed an interest in the Forest Legacy Program, and there is potential interest from local land trusts and the Umpqua Basin Watershed Council. Douglas County has been one of the most timber-dependent communities, and remains economically stressed due to limited timber availability.

Threats of Conversion: The area is rural, but the towns of Roseburg, Sutherland, Oakland have been growing steadily. Growth has been steady in Douglas County, and development pressure on valley margin forests continues to exist. Conversion also greatly decreases the ability of federal land managers to address natural fire patterns, to fight fires and complete prescribed burns.

Losses and Threats	Significant Values threatened by Conversion
Forest habitats lost since 1850 – 209,582 acres	Total private forest left 284,857 acres
Forests lost 1974-1994 – 25,486 acres	Priority forest habitats ¹ left 98,091 acres
Forest loss predicted – 16,665 acres	Miles of T&E fish habitat 810 miles
Population growth in 1990’s + 5,750 people	T&E species occurrences 430
	Priority wildlife species 6
	Economic – > 10% dependant on forests and Economically distressed area
	Social – Forests key to recreation & economy
	¹ Riparian, oak, and pine forests and woodlands

Goals and Objectives:

- 1) Protect key forest habitats, including oak woodlands, Ponderosa pine woodlands and mixed conifer forests.
- 2) Protect or provide buffers for key endangered species habitats, including populations of Columbia white-tailed deer, hairy popcorn flower and pink-root yampah.

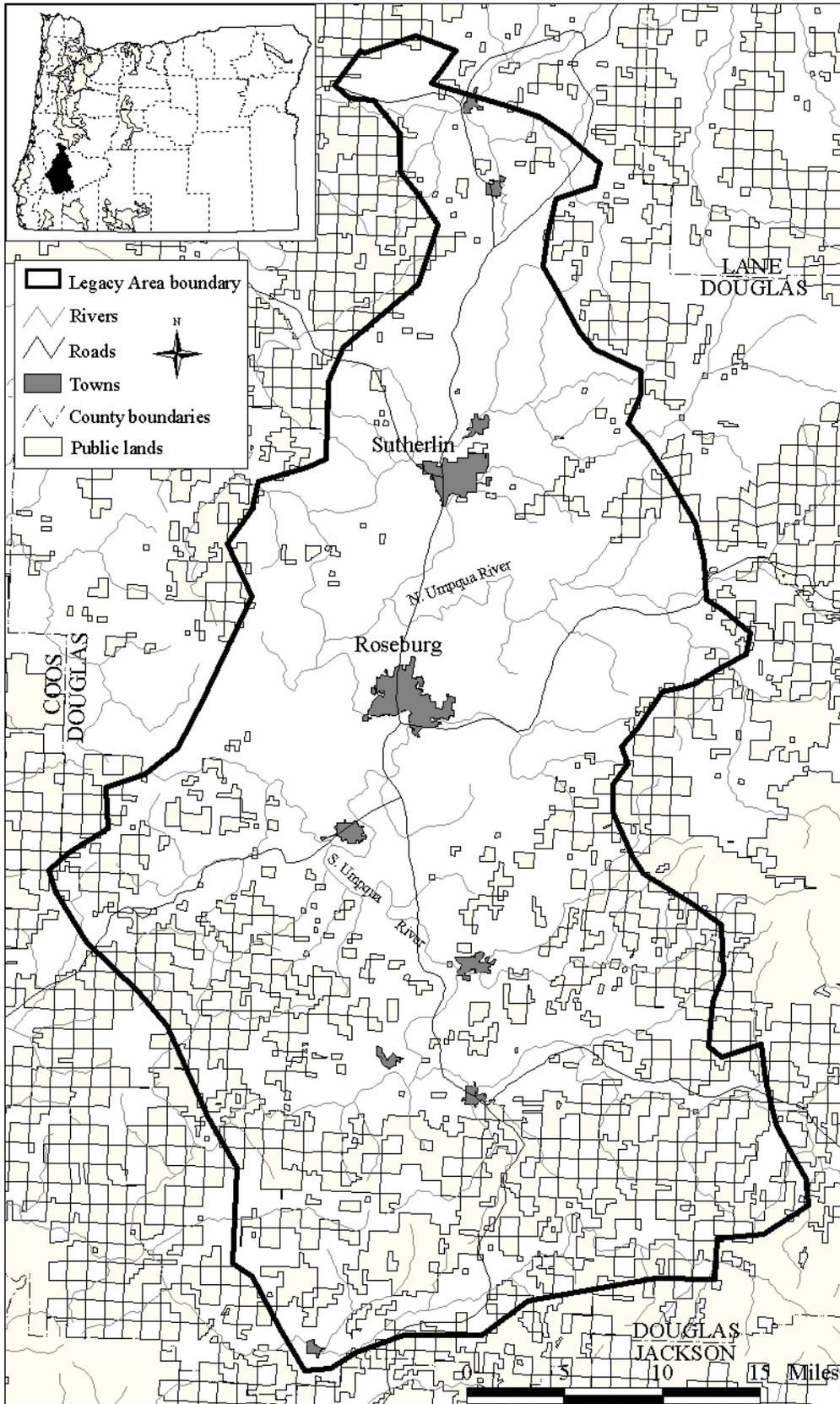


Figure 26. Map of Umpqua Valley and Foothills Forest Legacy Area

- 3) Assist the watershed protection and enhancement programs by protecting key forested riparian habitats along the North and South Umpqua rivers, and major tributaries from being converted to agricultural and rural residential uses.
- 4) Maintain productive private timberlands as a source of timber to supply local wood products industries.
- 5) Increase ability of managers to address fire hazards, assist in wildland fuels management, and increase managers' ability to use prescribed fires, especially in the wildland-urban interface.

Description: This area contains the forest lands of the Illinois River valley, a large tributary of the Rogue River. It goes from the California border, north to the town of Selma, with most of the population centered around Cave Junction. It includes forests, farmlands, and some rangelands, but is becoming increasingly residential.

Significant Ecological, Social and Economic Values: This area includes Oregon’s greatest concentration of rare and endangered plant species, and some very significant forest habitats found nowhere else. Part of an area with unusual, heavily mineralized (serpentine) soils, the forests contain Oregon’s best examples of knobcone pine, Jeffrey pine, Port-Orford-cedar and canyon live oak. The legacy area has good examples of Oregon white oak woodlands, Ponderosa pine woodlands, and mixed serpentine forests. It is also one of the most important for endangered fish and for priority wildlife species, making it one of the most ecologically significant sites in the state. The area has also long been heavily dependent on timber production, and the maintenance of the private timber base is critical to the local economy. To date, the local community has focused largely on public forest land issues.

Threats of Conversion: The Illinois Valley has experienced extensive forest conversion, particularly for rural residential development. However, especially over the last few years, development has slowed, currently occurring more slowly than in the Rogue Valley, the Willamette Valley or the Bend area. Rural residential development, based on retirement and recreation, continues to provide sources of forest conversions.

Losses and Threats		Significant Values threatened by Conversion	
Forest habitats lost since 1850	– 9,223 acres	Total private forest left	87,256 acres
Forests lost 1974-1994	– 10,984 acres	Priority forest habitats ¹ left	29,085 acres
Forest loss predicted	– 5494 acres	Miles of T&E fish habitat	118 miles
Population growth in 1990’s	+ 13,077 people	T&E species occurrences	570
		Priority wildlife species	2
		Economic – 5-10% dependent on forests & economically distressed area	
		Social – Forests key to economy and recreation	

¹ Riparian, oak, and pine forests and woodlands

Goals and Objectives:

- 1) Protect key forest habitats, including oak (white oak, black oak, madrone and canyon live oak) woodlands and low-elevation pine (Jeffrey, knobcone, Ponderosa and sugar) woodlands. The primary focus would be on the foothills adjacent to Cave Junction, as well as near the small towns of Selma, O’Brien and Takilma.
- 2) Protect or provide buffers for key endangered plant species (state listed species, federally listed species, and state and federal candidate species).
- 3) Assist the protection of listed fish, and watershed protection and enhancement programs by protecting key forested riparian habitats along the Illinois River from being converted to agricultural and suburban uses.
- 4) Maintain productive private timberlands as a source of timber to supply local wood products industries.
- 5) Enhance ability of managers to address fire hazards and assist in wildland fuels management, especially in the wildland-urban interface.

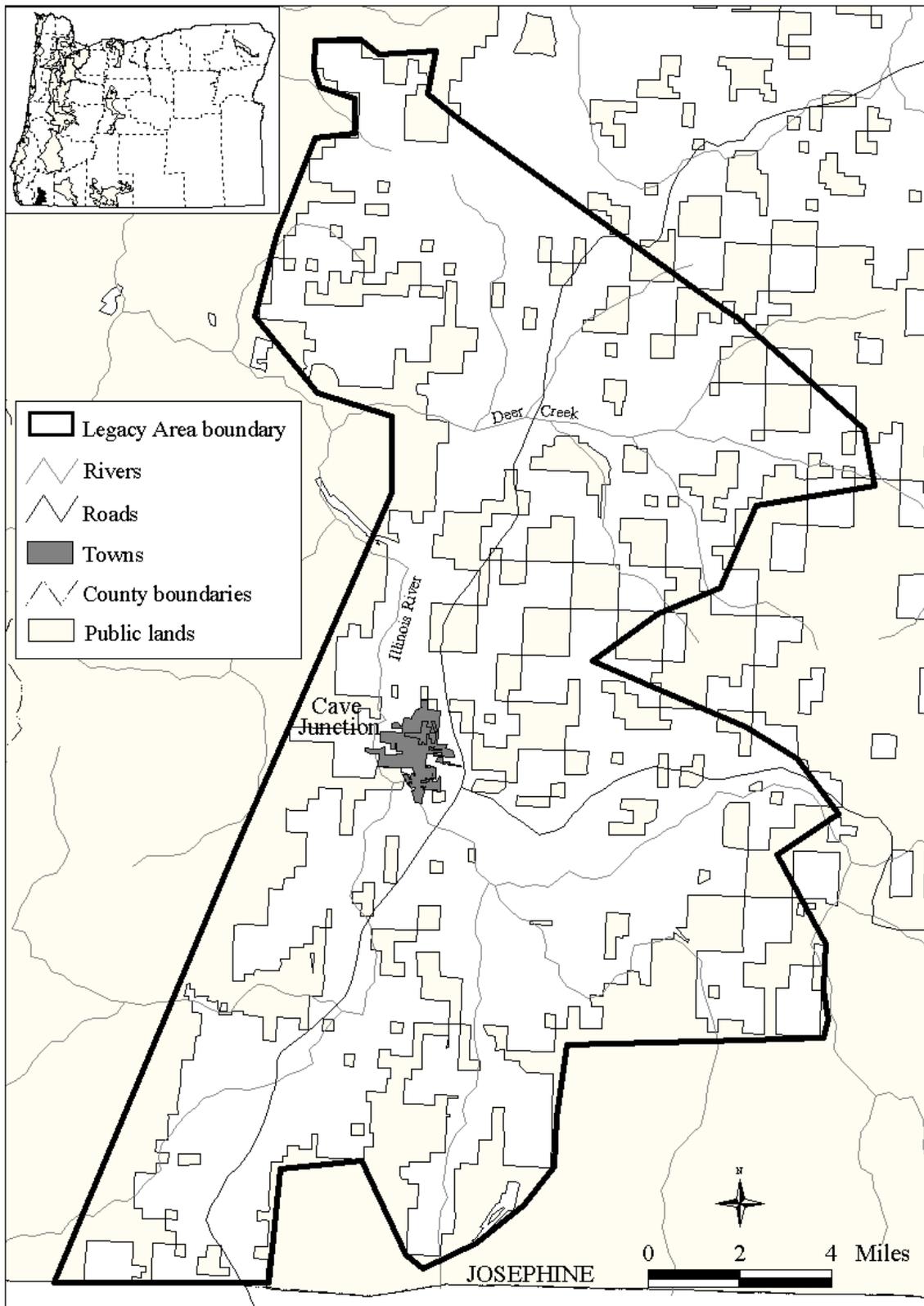


Figure 27. Map of Illinois Valley Forest Legacy Area

Description: This large valley heads from Shady Cove south almost to the California border and the foothills of Ashland. Centered around the city of Medford, it includes oak, pine, and Douglas fir forests and woodlands, industrial centers, extensive orchards and agricultural development. This area is also a major focus for tourism in the state.

Significant Ecological, Social and Economic Values: This area contains excellent examples of oak savanna, oak woodlands, riparian bottomland forests, and low-elevation ponderosa pine forests and woodlands. The area has large concentrations of endangered fish, wildlife and plant species, and has the densest concentrations of priority forest wildlife species. The overall ecological values are as high as any area in the state.

The valley margins and foothills are a mix of BLM and private lands, and this mix of ownership creates the opportunity for numerous partnerships. The Southern Oregon Land Conservancy and The Nature Conservancy are both working on protecting forest legacy priority habitats in this area. Jackson County has worked hard through its land-use plans to assure that the highly productive forests lands continue to be protected from development. However, they feel the Forest Legacy Program might provide an additional tool to assist private landowners interested in protecting their forests from development.

Threats of Conversion: The Rogue Valley and foothills are the fastest growing area in this ecoregion, second in the state only to Bend and the Portland metro area. Rural residential and suburban development is occurring throughout the area, and agricultural and recreational development of forests is increasing.

Losses and Threats	Significant Values threatened by Conversion	
Forest habitats lost since 1850 – 185,123 acres	Total private forest left	160,604 acres
Forests lost 1974-1994 – 15,525 acres	Priority forest habitats ¹ left	67,344 acres
Forest loss predicted – 12,301 acres	Miles of T&E fish habitat	117 miles
Population growth in 1990’s + 34,880 people	T&E species occurrences	324
	Priority wildlife species	14
	Economic – 5-10% dependent on forests	
	Social – Forest recreation important	

¹ Riparian, oak, and pine forests and woodlands

Goals and Objectives:

- 1) Protect key forest habitats, including oak woodlands and savanna, Ponderosa pine woodlands, and unique riparian forested habitats.
- 2) Protect or provide buffers for key endangered species habitats, including populations of the vernal pool fairy shrimp, Cook’s desert parsley and large-flowered wooly meadow foam.
- 3) Assist the protection of listed fish, and watershed protection and enhancement programs by protecting key forested riparian habitats along Bear Creek and the Rogue River from being converted to agricultural, urban and suburban uses.
- 4) Maintain productive private timberlands as a source of timber to supply local wood products industries.
- 5) Increase ability of managers to address fire hazards and assist in wildland fuels management.

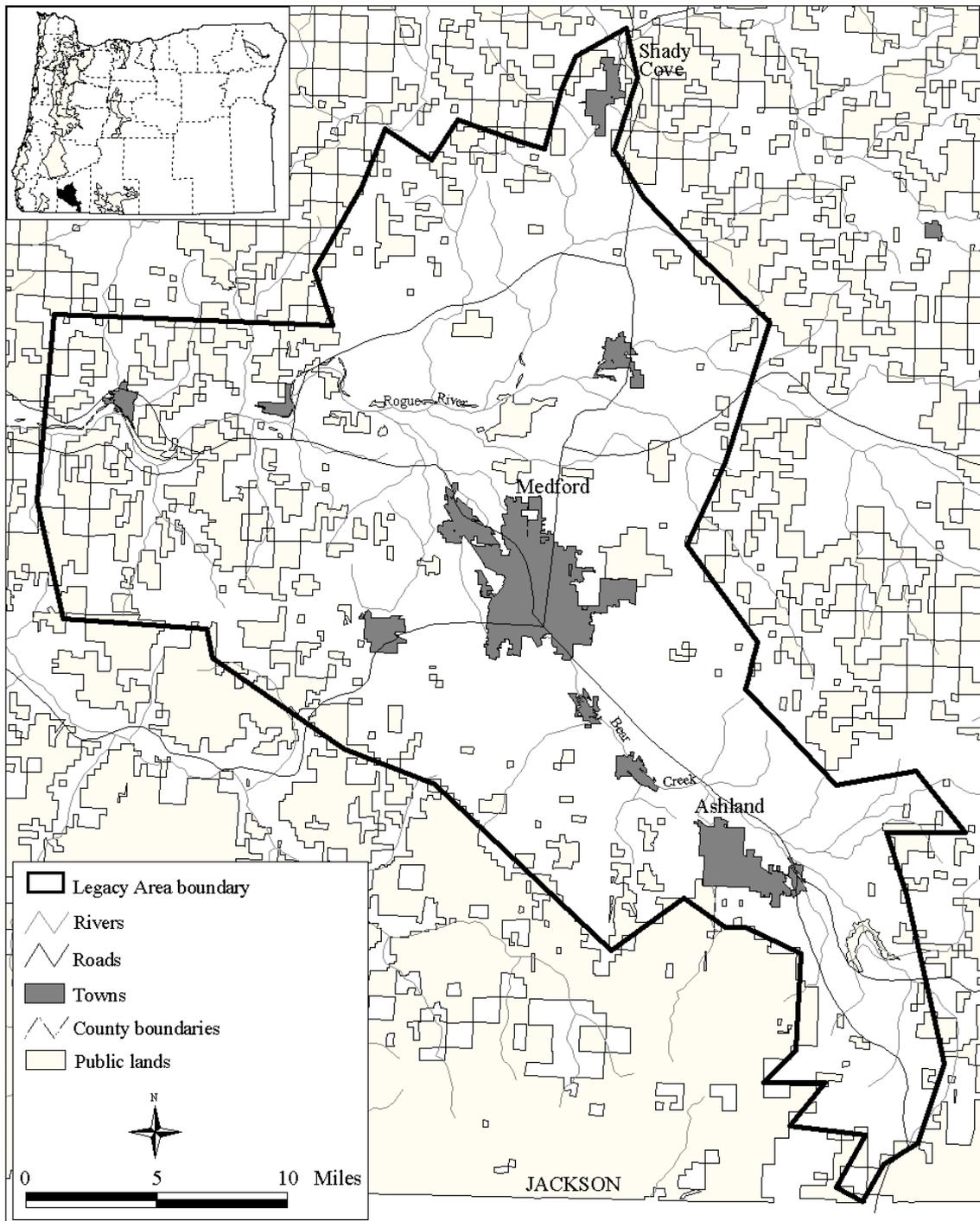


Figure 28. Map of Rogue Valley – Bear Creek Forest Legacy Area

D. East Cascades Forest Legacy Areas

Most of the East Cascades Slopes and Foothills Ecoregion is publicly owned, although there are some large, forested private landholdings, mostly located around Bend, Klamath Falls and the Columbia Gorge ? the locations of the three legacy areas.

Wasco ? Hood River Forest Legacy Area

Priority – 5

Description: This area includes the private forest lands within the Columbia River Gorge, the margins of the Hood River Valley, the foothills of The Dalles, and the lowest slopes of the East Cascades south to the White River canyon. It includes the northeastern limit of Oregon oak in the state, spectacular cliffs and scenery, and is among Oregon’s centers of tourism.

Significant Ecological, Social and Economic Values: The area is particularly diverse, with a number of western Oregon tree species, most notably Oregon white oak, traveling through the Columbia Gorge to create unique habitats here. The oak woodlands and savannas, and oak-ponderosa pine forests are particularly significant. Many of these forests are protected on public lands, and funding provided by the establishment of the Columbia Gorge National Scenic Area has greatly increased forest protection. However, forest acquisitions have resulted in local concerns over removing lands from the tax base. Therefore, easements are likely to be more successful in this legacy area than fee title acquisitions. The Columbia Land Trust and the Deschutes Land Trust have expressed an interest in working with forest landowners in this area.

Threats of Conversion: Impacted by growth in and around the Columbia River Gorge, forest habitats around Hood River and The Dalles have declined. Rural residential and recreational housing continues to expand into forested areas, although not as quickly as most of the other legacy areas.

Losses and Threats		Significant Values threatened by Conversion	
Forest habitats lost since 1850 ¹	+15 acres	Total private forest left	134,104 acres
Forests lost 1974-1994	NA	Priority forest habitats ² left	80,116 acres
Forest loss predicted	NA	Miles of T&E fish habitat	147 miles
Population growth in 1990’s	+ 5,616 people	T&E species occurrences	58
		Priority wildlife species	2
		Economic – < 5% economically dependent	
		Social – Forests & recreation key to economy	

¹ Forests have expanded here since 1851

² Riparian, oak, and pine forests and woodlands

Goals and Objectives:

- 1) Increase capacity for fire hazard reduction and wildland fuels management, and improve forest health especially in the wildland-urban interface near The Dalles and Hood River.
- 2) Protect oak woodland and ponderosa pine habitats, and restore natural fire regimes critical to these habitats.
- 3) Assist in protecting riparian forests for key streams, including the White River, Hood River and Mill Creek.
- 4) Protect endangered species including fish and the obscure buttercup.
- 5) Protect the forests within transition zone between the commercial forests and the urban zone.

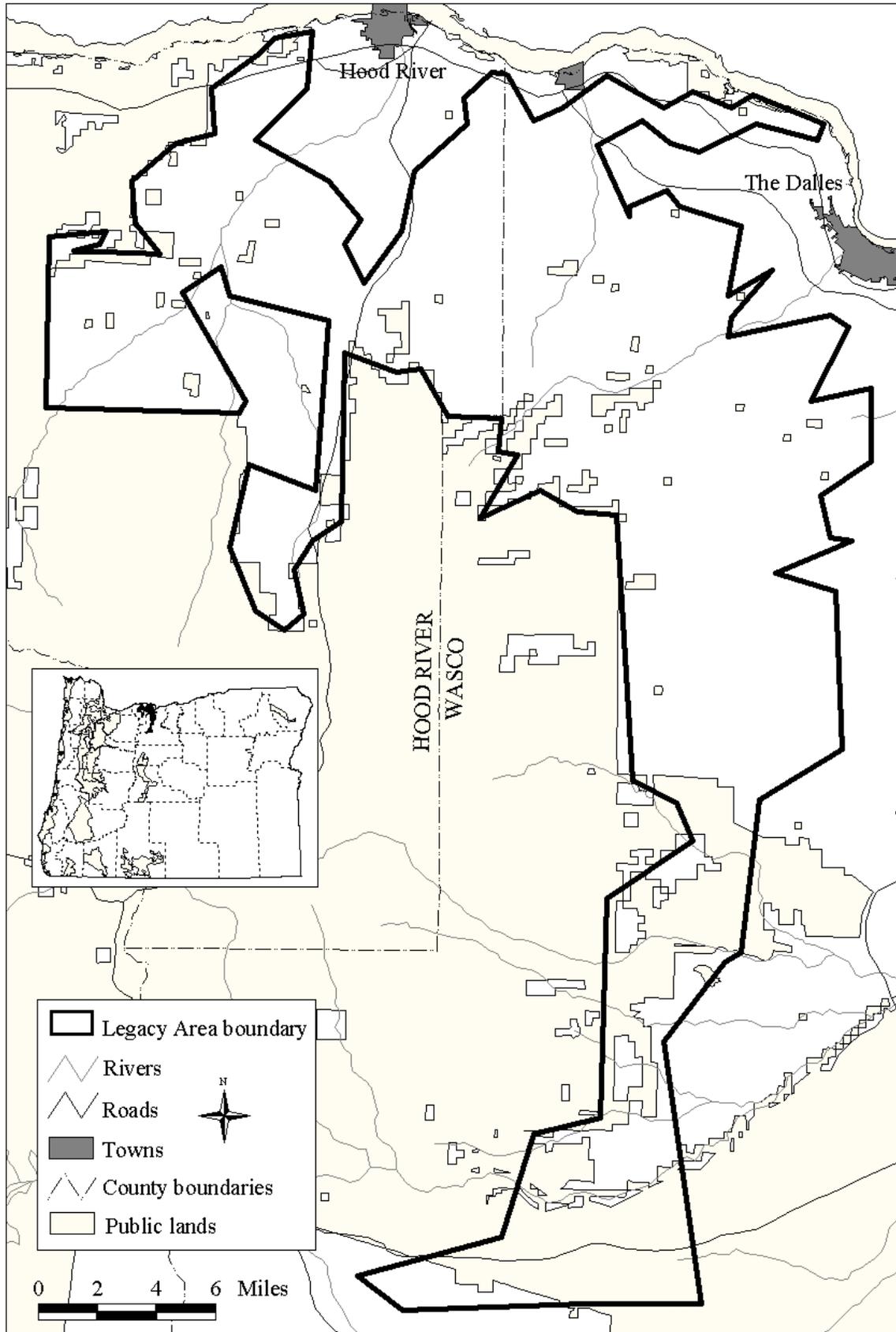


Figure 29. Map of Wasco ? Hood River Forest Legacy Area

Description: This area includes the large, rapidly developing Bend region, extending from the recreational Metolius area to the north, south to La Pine and the Sun River Resort. It is primarily ponderosa pine forests in the East Cascades region of Deschutes and southern Jefferson County, but includes mixed pine and western juniper, as well as some extremely high quality riparian forests and shrublands along the Deschutes and Metolius Rivers.

Significant Ecological, Social and Economic Values: This area has the largest concentration of Ponderosa pine forests and woodlands in Oregon, a priority habitat type. While the legacy area includes more public lands than the other areas, the pine forests in the public-private matrix are ecologically and socially important. The area includes riparian habitats, extensive wetlands, and western juniper. All of these forests types are important for wildlife, endangered species and bull trout. Peck’s penstemon is an endemic plant found only in Ponderosa pine forests in this legacy area. Both the Deschutes Land Trust and the Pacific Forest Trust are working in this area, and the local community is interested in the Forest Legacy Program.

Threats of Conversion: This legacy area includes the second fastest growing area in Oregon. Pine forests are giving way to housing and recreational and urban development throughout the region. Recreational growth, primarily of summer homes, is prevalent on the private lands throughout the area, from Sun River to the Metolius. Expansion of winter recreation also has lead to forest conversion. Population growth has also greatly influenced the health of the adjacent wildland forests, since natural fire is critical to the maintenance of pine forests. Using prescribed fire to lower fuel levels, and restoring natural fire regimes has become increasingly difficult with the expansion of housing in these forests.

Losses and Threats		Significant Values threatened by Conversion	
Forest habitats lost since 1850	– 7560 acres	Total private forest left	186,673 acres
Forests lost 1974-1994	NA	Priority forest habitats ¹ left	95,248 acres
Forest loss predicted	NA	Miles of T&E fish habitat	30 miles
Population growth in 1990’s	+ 40,508 people	T&E species occurrences	32
		Priority wildlife species	9
		Economic – < 5% economically dependent	
		Social – Recreation key to economy	
		Riparian, oak, and pine forests and woodlands	

Goals and Objectives:

- 1) Protect key forest habitats, primarily Ponderosa pine forests and woodlands, but also some riparian forests. Help restore a more natural fire regime to these forests and improve forest health.
- 2) Provide a critical buffer in the transition zone between the commercial or federal forests and the communities of Bend, La Pine, Sun River, Metolius and other large residential zones, to allow for prescribed fires and assist fire fighting.
- 3) Protect or provide buffers for sensitive species habitats, including bull trout and Peck’s penstemon, as well as critical deer and elk wintering areas.

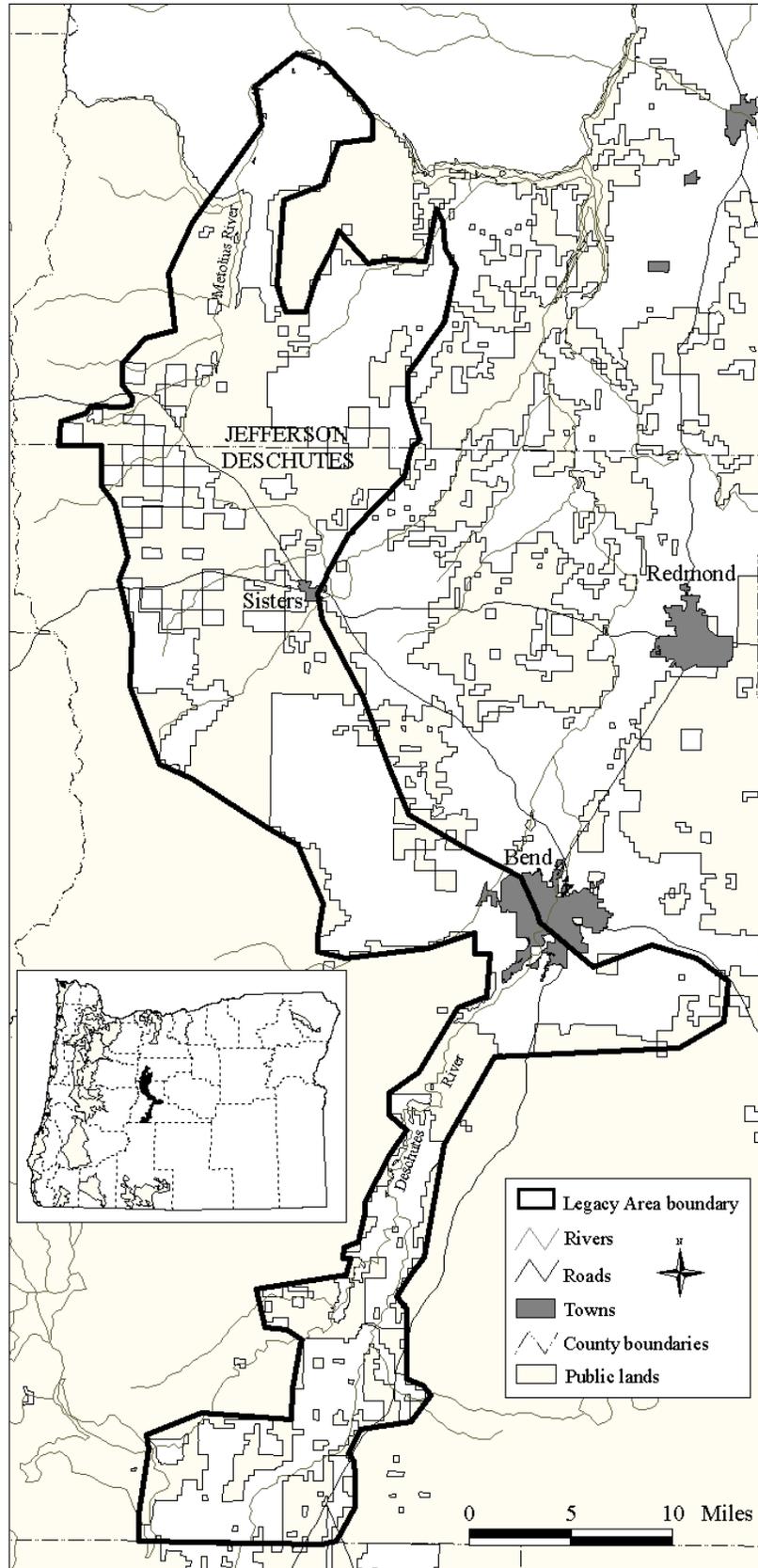


Figure 30. Map of Bend – La Pine – Metolius Forest Legacy Area

Description: This area is most of the southern portions of Klamath County in the East Cascades Ecoregion. It includes the foothills west of Klamath Falls, south to the California border and east almost to Lake County. It mostly includes low foothills of mixed Ponderosa pine and western juniper, agricultural and pasture lands, and some large remnant wetlands. The large, private industrial timberlands on the eastern edge of this area were excluded due to lack of conversion threats.

Significant Ecological, Social and Economic Values: This is a diverse mix of open ponderosa pine forests and woodlands, western juniper woodlands, and sagebrush steppe. It includes a very unusual oak woodland area, well outside its normal range, and is one of the areas in eastern Oregon with the greatest historical forest losses. The large areas of adjacent wetlands make this area very important to wildlife. Forests provide shade to cool streams for endangered species, including salmon and two species of sucker important to the local tribes, and are used for roosting by the largest wintering concentration of bald eagles in the country. Local partners have not been identified here.

Threats of Conversion: Historically, the area has seen major conversions of forest lands to agriculture, especially in the southern part of this legacy area. The northwestern area is close to Klamath Falls, which has seen some expansion of rural residential development. However, growth and forest conversion have been occurring slowly over the last decade.

Losses and Threats		Significant Values threatened by Conversion	
Forests lost since 1850	- 174,966 acres	Total private forest left	257,020 acres
Forests lost 1974-1994	NA	Priority forest habitats ¹ left	143,662 acres
Forest loss predicted	NA	Miles of T&E fish habitat	69 miles
Population growth in 1990's	+6,073 people	T&E species occurrences	192
		Priority wildlife species	23
		Economic – > 10% dependent on timber	
		Social – Forest and wildlife recreation important	

¹ Riparian, oak, and pine forests and woodlands

Goals and Objectives:

- 1) Protect key forest habitats, including oak woodlands and Ponderosa pine forests.
- 2) Assist with riparian, wetland and watershed protection to improve fish habitats, increase water yields and protect sensitive species like the red-root yampah and the bald eagle.
- 3) Assist in the creation of a working forest with open canopy to allow for restoration of a more natural fire regime, to reduce fire damage and improve forest health.
- 4) Maintain productive private timberlands as a source of timber to supply local wood products industries.

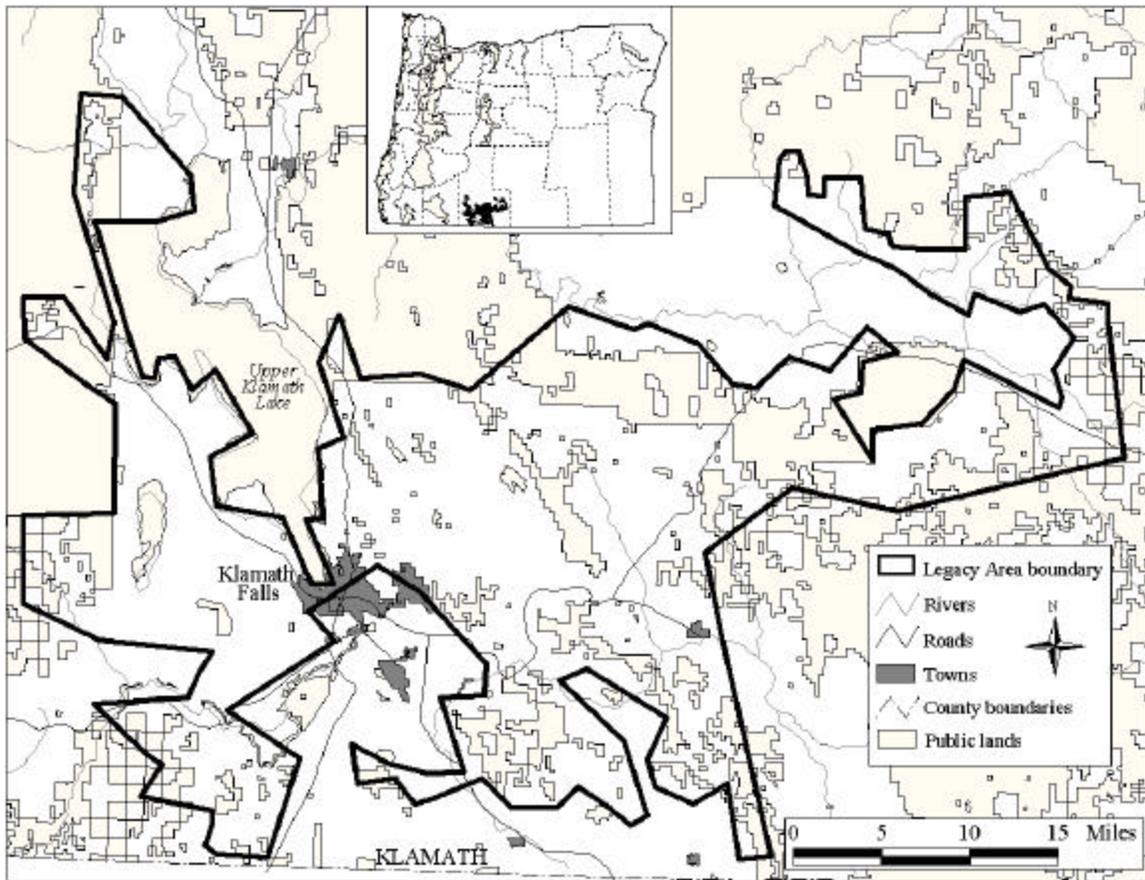


Figure 31. Map of Southern Klamath – Klamath Falls Forest Legacy Area

E. Blue Mountains Forest Legacy Areas

As was the case in the East Cascades, most of the forests in this ecoregion are publicly owned. Private forests tend to be owned by large timber companies, and operate outside of residential or urban areas. In general, population has not been increasing here, so threats of forest conversion to development are limited. However, the management of forests, both on private and public lands, and the restoration of natural fire regimes are key issues here.

Wallowa Forest Legacy Area

Priority – 7

Description: This region includes the Wallowa Valley, extending from Joseph on the east to just west of the town of Wallowa. It includes the large valley bottoms of mixed farmlands and wetland forests, and the southern flanks of the Wallowa Mountains, with Ponderosa pine and some grand fir, western larch and Engelmann spruce. It is among the most spectacular and scenic areas in Oregon.

Significant Ecological, Social and Economic Values: The cottonwood riparian woodlands of the Wallowa, Hurricane Creek and Lostine rivers represent the largest remaining riparian woodlands in the state. Their significance for fish and wildlife is well known, and the Grande Ronde Watershed Council is undertaking efforts to assure they are maintained and, if possible, expanded. The Wallowa Valley also includes some mountain alder-aspen-spruce bottomland forests which are found only there. These forests and their associated bogs and wetlands are priority habitats that are not well protected. Local concerns about increasing the public land base and decreasing the private land base make conservation easements preferable to fee title acquisition by the government. A Wallowa County NGO, Wallowa Resources, is working to promote forest products and sustainable forestry, and may be a local partner.

Threats of Conversion: Expanding recreational pressure is resulting in increased housing development and conversion of part of this area. Since overall population has declined in the county, the rate of development is much slower than some other legacy areas. However, the newer, recreational development has been focused on the foothill woodlands and the streamside areas, both of which are priority habitats for Oregon.

Losses and Threats		Significant Values threatened by Conversion	
Forests lost since 1850	- 38,050 acres	Total private forest left	34,091 acres
Forests lost 1974-1994	NA	Priority forest habitats ¹ left	1,638 acres
Forest loss predicted	NA	Miles of T&E fish habitat	236 miles
Population growth in 1990's	+ 315 people	T&E species occurrences	29
		Priority wildlife species	1
		Economic – 5-10% dependent & distressed	
		Social – Recreation & timber economy	
		¹ Riparian, oak, and pine forests and woodlands	

Goals and Objectives:

- 1) Protect key forest habitats, particularly the extensive cottonwood forests, and the unique aspen-mountain alder or spruce riparian forests. This will also assist in watershed protection and enhancement programs, and protect key listed fish spawning areas.
- 2) Maintain productive private timberlands as a source of timber to supply local wood products industries.
- 3) Reduce fire hazards, assist in wildland fuels management, and improve forest health especially in the wildland-urban interface.

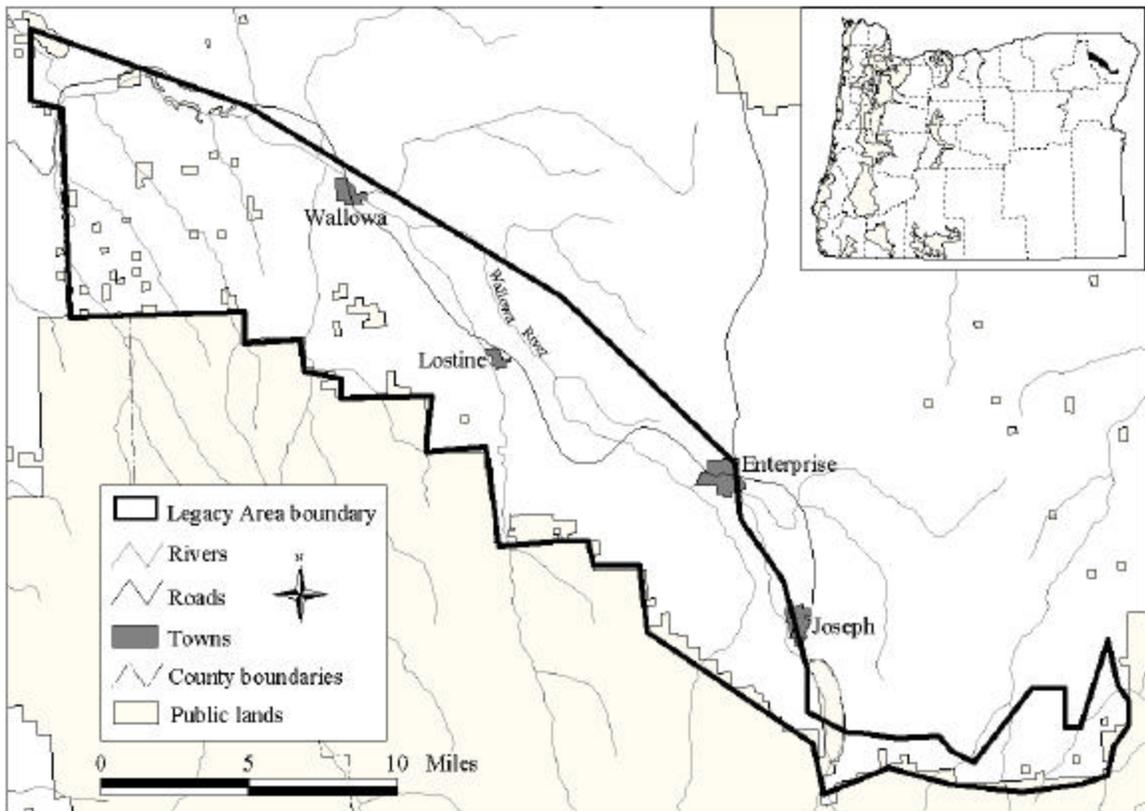
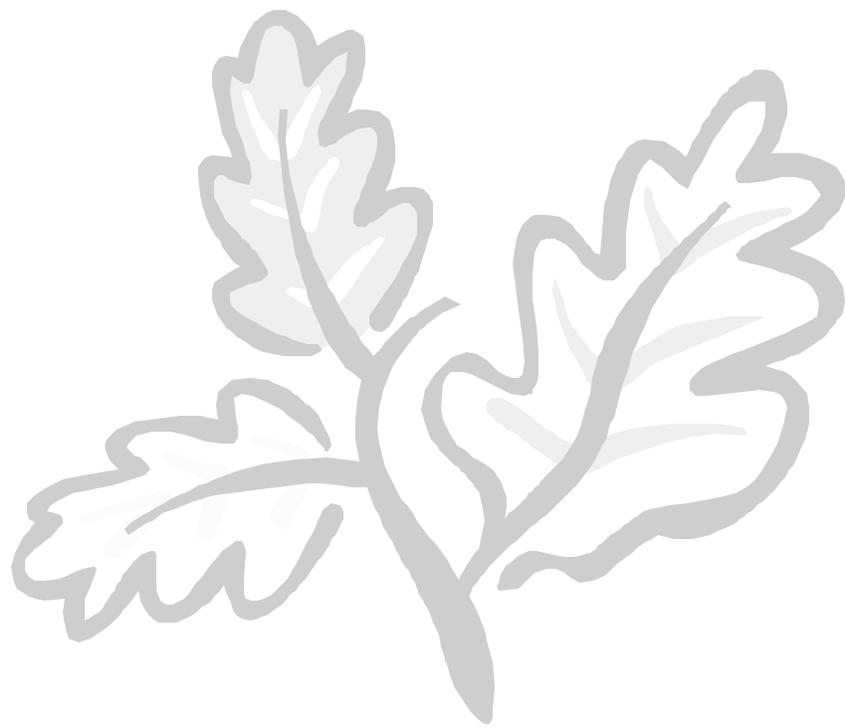


Figure 32. Map of Wallowa Forest Legacy Area.



VIII. Public Review and Comment

The development of the Assessment of Need was done to allow as much public participation as possible. Initially, ODF and ORNHP sent out a press release, asking for names, addresses, and emails of anyone interested in information on Forest Legacy in Oregon, or in the development of the AON. A copy of this press release, and the subsequent releases sent out in this process are included in Appendix C. A mailing list of all respondents was included, and all drafts, notices, new changes and meeting dates were sent to these citizens. In response to ODF and ORNHP outreach efforts, a Forest Legacy Steering Committee was formed in May 2001. This committee included all interested parties willing to commit the time necessary to review documents, data, criteria and maps created during the development of the AON. This committee included members of local governments, non-governmental agencies, state agencies and the Forest Service, some of who are also members of the State Stewardship Coordinating Committee. The current members of the SSCC are listed on the cover page of this AON.

The following individuals and organizations made up the steering committee:

Hillary Abraham * – The Nature Conservancy
Ray Abriel * – USDA Forest Service, Region 6
Brenda Brown * – Trust for Public Lands (Brenda replaced Sam Hodder of TPL in June)
Rick Brown * – Defenders of Wildlife
Jim Cathcart – Oregon Department of Forestry
Steve Gordon – Lane Council of Governments
Jimmy Kagan – Oregon Natural Heritage Program
Wally Rutledge * – Oregon Department of Forestry

Individuals with an asterisk are those who also serve on the State Stewardship Coordinating Committee. The committee currently has one vacancy, a forest landowner. The remaining members of the SSCC include:

Jeff Boechler - Oregon Department of Fish and Wildlife
Dick Courter - Consulting Forester
Ed Hendrix - Forest Products Industry
Dan Logan - General Public
Steve McClure - Local Government
Scott Reed - OSU Extension Service
Fred Ringer - Farm Services Agency
Philip VanDoren - Forestland Owner
Craig Ziegler - Natural Resources Conservation Service

This State Stewardship Coordinating Committee is significant since the Forest Legacy legislation requires that this committee be established and oversee the implementation of the Forest Legacy Program.

To assure that the public was able to participate, a Public Participation Plan was developed and reviewed by the committee. The plan, included in Appendix C, was modified from plans developed by the Indiana and North Carolina Forest Legacy Programs. The steering committee decided that it would be beneficial to receive public comment on the following areas of the Assessment of Need before finalizing the AON.

- ✍ The extent and boundaries of proposed Forest Legacy Areas.
- ✍ The priorities established for the proposed Forest Legacy Areas.
- ✍ Site selection criteria and the priority order (or weighting) of the selection criteria.
- ✍ Specific goals and objectives for proposed Forest Legacy Areas.

As soon as the first draft AON was developed, it was posted as a PDF file on the ODF web page. Public meetings were set up in 10 locations around the state, and a second press release was prepared, requesting the public attend these meetings or provide comments regarding the draft plan. A copy of the meeting announcement and schedule is in Appendix C. The second press release resulted in articles in newspapers in at least four cities: Portland, Salem, Eugene, and Roseburg. As a result, many comments were received, and both the criteria and legacy area boundaries were modified. The forest legacy program has compiled a compendium containing all of the letters and emails obtained during the development of the AON. This compendium is available upon request from ODF. Key visits, along with the results of the public meetings and additional comments are summarized below.

Public Meetings and Comments

Public meetings were held in ten different locations throughout the state of Oregon to facilitate public understanding, review and comment on the Forest Legacy Program as developed in the Assessment of Need. These meetings were attended by staff from both the Oregon Department of Forestry and the Oregon Natural Heritage Program. The meetings opened with a presentation that explained the history and purpose of the Forest Legacy Program. The presentation explained what data were used to identify potential legacy areas and to evaluate each potential legacy area with respect to ecological, social and economic values as well as threats to conversion. The presentation also discussed how the program would be administered by the Oregon Department of Forestry and ended soliciting public comment on the AON. In addition to the presentation, printed maps showing the boundaries of the legacy areas, pre-settlement vegetation and current vegetation cover (key data used to understand historical trends in forest losses), and ecoregional boundaries were posted on the walls for public viewing. All the meetings were recorded on audio cassette.

Portland Area Meeting, 13 August 2001, 1:30-3:30 p.m.

The meeting was attended by two members of the public as well as two members sitting on both the steering and State Stewardship Coordinating Committees. All supported the effort to secure federal funding and move forward with the Forest Legacy Program in Oregon. Interest was expressed in written descriptions of the legacy areas to go with the maps in the AON and it was pointed out that this would be a component of the final AON. The spreadsheet (see Appendix B) showing the evaluation of the proposed legacy areas with respect to the ecological, social and economic data and threats to conversion was also requested and provided for their review. There was discussion of active public outreach and suggestions that local interest and funding would be very important factors. No one was in favor of dropping any of the proposed 17 legacy areas, and the criteria for choosing sites within those areas was discussed. It was suggested that how threatened a site was (i.e., the immediacy of the threat) should be added to the list of criteria. It was pointed out that threat data was used to pick the legacy areas, but it should also be included within the areas on a

site-by-site basis as what is happening in the larger legacy area may be different than on individual parcels within the area. It was also suggested that the cost efficiency of the proposed site should also be included as a site selection criterion. That is, sites should also be evaluated with respect to the purchase price of the conservation easement or fee-title and the number of acres of forestland protected from conversion.

In addition to the public comments at the meeting, interest in and support for the program, through email and verbal communications came from the staff of the Metro Greenspaces Program, the Oregon Field Office of the U.S. Fish and Wildlife Service, the Oregon Department of Fish and Wildlife in Portland, the Mayor of Portland, and a number of citizens.

Salem Area Meeting, 13 August 2001, 7:00-9:00 p.m.

The meeting was attended by two members of the public. Both supported the effort to secure federal funding and move forward with the Forest Legacy Program in Oregon. Both attendees are private landowners and were interested in what this would mean for them in particular. Interest in keeping a broader perspective in regards to the number of legacy areas in the state was expressed. The criteria for prioritizing a site within a legacy area were also discussed and they felt that although threats had been assessed when determining the overall priority of a Forest Legacy Area, the degree of threat should also be a site selection criteria. Standards for appraisals were also discussed.

Eugene Area Meeting, in Springfield, Oregon, 14 August 2001, 1:30-3:30 p.m.

The meeting was attended by 10 members of the public, one of whom was also a member of the Forest Legacy Steering Committee. All supported the effort to secure federal funding and move forward with the Forest Legacy Program in Oregon. A question was asked on how the process for submitting areas for consideration would work and it was suggested that a point/ranking system might be good similar to the North American Wetlands Conservation Act (NAWCA) system. It was explained that details were not worked out yet, and that details depends some on response, but it would be a grant type application procedure. Those present from the city of Eugene were very supportive of the draft AON and thought the accelerated schedule so that fiscal year 2002 monies could come to Oregon was good. The city of Eugene is ready to move forward with specific sites for enrollment in the Forest Legacy Program. Eugene feels well positioned and has the expertise available to work with landowners in identifying proposed sites. The city of Eugene sees an immediate threat to oak woodlands/savannas. The general feeling was that this program would be good for saving upland forests rather than riparian areas which were being saved through other programs. Having a more narrow set of geographic areas was preferred by the city of Eugene as this would allow for larger contiguous blocks rather than smaller, isolated fragments. It was pointed out that site selection may want to look beyond immediately threatened sites and focus on acquiring those lands facing the possibility of conversion in the future so as to get more land (i.e., forest protection) for your money.

Lane County representatives thought that the science used in the analysis was supported and the multiple objective approach taken in the AON was a good one, as were the overall direction for the Forest Legacy Program and criteria to be used to select individual sites. However, the Lane County representatives pointed out that they were looking beyond ten years and wondered if the AON should go beyond that timeframe. They thought that points should also be awarded to an application if the land to be acquired was already part of a local plan. This is because occurrence in a local plan indicates community support and identification of the significance of the site.

It was also mentioned that it might be good to combine the proposed Springfield Forest Legacy Area with the Eugene Forest Legacy Area. ORNHP and ODF staff indicated that boundaries for legacy areas could be modified and welcomed any input or additional data/maps local interests could provide. It was also suggested that the maintenance or management component of an application should deserve points, as well as possibly adding points for forest restoration efforts.

Additional comments came from other staff of the City of Eugene, the City of Springfield, the McKenzie Land Trust, and local citizens. Specific comments included support for the inclusion of oak woodlands and savannas as priorities for Forest Legacy protection.

Corvallis Area Meeting (Philomath, Oregon), 14 August 2001, 7:00-9:00 p.m.

The meeting was attended by five members of the public. All supported the effort to secure federal funding and move forward with the Forest Legacy Program in Oregon. Support was expressed for keeping the extent of Forest Legacy Areas broad and not excluding any of the proposed legacy areas. Further, it was felt that the priority of the Forest Legacy Area should not weigh heavily in the selection of individual sites for funding. There is the possibility of a unique parcel within a lower priority Forest Legacy Area that warrants protection on its own and that could serve as a nucleus or outreach piece. This then could be used for further education and awareness on the use of conservation easements as a tool for protecting private forests from conversion. The site selection criteria were discussed and they thought that smaller communities may not have forest protection and land-use plans, and that awarding points based on this criterion may favor larger communities. The stability of long term management of the site after inclusion in the Forest Legacy Program was discussed and how partner organizations and a forest stewardship plan would play a role in that stability. There would be spot checks by ODF, but it was more likely that a partner organization would be doing the monitoring and that neighbors would be a good source for learning whether a forest stewardship plan was being followed.

Roseburg Area Meeting, 15 August 2001, 1:30-3:30 p.m.

The meeting was attended by three members of the public and two employees from the Oregon Department of Forestry. All supported the effort to secure federal funding and move forward with the Forest Legacy Program in Oregon. Interest was expressed in keeping the geographic extent of the proposed Forest Legacy Areas broad and possibly including more legacy areas than were shown on the map (i.e., include the South Coast Forest Legacy Area).

Concern was expressed that the private forest land areas near Coos Bay and Florence were not included in a Forest Legacy Area and should have been. It was suggested that specific sites chosen for funding should be distributed around the state and an effort made to include rural communities that may not be as prepared/organized as other areas such as Eugene. It was suggested that program dollars for funding sites be allocated based on population or a ratio of people vs. private forest lands affected. There was also some concern about liabilities/responsibilities that might be incurred by local governments in holding the conservation easements bought with Forest Legacy (i.e., federal) money.

Medford Area Meeting, 15 August 2001, 7:00-9:00 p.m.

The meeting was attended by two members of the public. Both supported the effort to secure federal funding and move forward with the Forest Legacy Program in Oregon. They felt that the identification of the proposed Forest Legacy Areas and the analysis determining their overall priority in the AON was well supported by the existing data. They offered to provide additional data for the immediate area and surrounding areas. They felt that all of the proposed Forest Legacy Areas should be left in as eligible in the final AON. They also thought that prioritizing sites ecologically should be considered more, since threats will always be there.

Klamath Falls Area Meeting, 16 August 2001, 1:00-3:00 p.m.

The meeting, on the campus of Oregon Institute of Technology, had no public attendees.

Bend Area Meeting, 16 August 2001, 7:00-9:00 p.m.

The meeting was attended by three members of the public. All supported the effort to secure federal funding and move forward with the Forest Legacy Program in Oregon. They felt that the geographical extent of all of the proposed Forest Legacy Areas was better than a narrower set of areas; feeling it would involve more communities and not leave any one area out. However, figuring out a way for specific sites to compete across such a broad area may be challenging. Those attending liked the idea of combining local interest and whether land was included in an existing local land-use plan as a criteria for individual site selection for funding. There was concern expressed for Crown Pacific (a private timber corporation) forestlands to the west of Bend as these lands could face development pressures in the future. It was indicated to them that large industrial timber companies could apply to participate in the program as long as the lands in question were included within a final Forest Legacy Area. There were also questions about the boundaries of the proposed Forest Legacy Areas in central Oregon. Attendees wanted to make sure it met the urban growth boundary to the west of Bend. There were also questions about the White River canyon area in Wasco County, Pine Mountain in Deschutes County, and the Ochoco and Prineville areas of Crook County. Comments indicated that the boundary of the Metolius area in Jefferson County may have excluded key private forest lands threatened with development. It was agreed that the Forest Legacy Area boundaries would be adjusted based on maps to be provided by the attendees. It was also suggested that the existence of other conservation easements or sites consistent with the Forest Legacy Program near a proposed site might be a good criteria for evaluating sites for funding.

LaGrande Area Meeting, 21 August 2001, 7:00-9:00 p.m.

The La Grande meeting had no public attendees.

Other comments from northeastern Oregon included those from Ben Boswell, a Wallowa County Commissioner, indicating concerns with the program. While he felt that recreational and residential losses of productive forests were a concern, his view was that federal programs had not helped Wallowa County over the last 10 years. Loss of federal timber and their associated, family jobs was the greatest threat, and he did not feel that the Forest Legacy Program could help in this regard.

The Dalles Area Meeting, 22 August 2001, 7:00-9:00 p.m.

The meeting was held in the classroom at the Columbia Gorge Discovery Center - Wasco County Historical Museum. It had no public attendees but was attended by a local ODF representative from The Dalles Unit office and a representative of the USDA Forest Service State and Private Forestry programs.

Other comments from the area came from Judge J. Mabury, a Wasco County commissioner, who expressed strong reservations against removing any lands from the tax rolls, as well as concerns about landowners' choices being limited by government. After learning more about the program, he felt that easements would be the best option in Wasco County, but he could not support Forest Legacy acquisitions there.

IX. Bibliography and References

- Abbott, C., D. Howe, and S. Adler, Editors. 1994. *Planning the Oregon Way: A Twenty-Year Evaluation*. Oregon State University Press, Corvallis, OR.
- Azuma, D.L., K.R. Birch, P. DelZotto, A.A. Herstrom, and G.J. Lettman. 1999. Land-use change on non-federal in western Oregon, 1973-1994. USDA Forest Service, Pacific Northwest Research Station, and Oregon Departments of Forestry, Land Conservation and Development, and Agriculture.
- Birch, Kevin, Coordinator. 2000. *First Approximation Report – Oregon’s Forests at the Millennium*. Salem, Oregon: Oregon Department of Forestry. (Available at: <http://www.odf.state.or.us/rp/FAR/FARdefault.html>)
- Beuter, J. 1996. *Legacy and Promise: Oregon's forests and wood products industry*. Oregon Business Council and Oregon Forest Resources Institute.
- Beuter, John H., K. Norman Johnson and H. Lynn Scheurman. 1976. *Timber for Oregon’s Tomorrow*. Research Bulletin 19. Corvallis, Oregon: Forest Research Laboratory, School of Forestry, Oregon State University. 111 p.
- Forest Ecosystem Management Assessment Team. 1993. *Forest ecosystem management: An ecological, economic, and social assessment [Portland, Oregon:]* United States Department of Agriculture, Forest Service; United States Department of Commerce, National Oceanic and Atmospheric Administration, National Marine Fisheries Service; United States Department of the Interior, Bureau of Land Management; United States Department of the Interior, Fish and Wildlife Service; United States Department of the Interior, National Park Service; Environmental Protection Agency. [Paginated by chapter].
- Greber, Brian J., K. Norman Johnson and Gary Lettman. 1990. *Conservation plans for the northern spotted owl and other forest management proposals in Oregon: the economics of changing timber availability*. Corvallis, Oregon: Forest Research Laboratory, College of Forestry, Oregon State University. 50 p.
- Kagan, J.S., J.C. Hak, B. Csuti, C.W. Kilsgaard, and E.P. Gaines. 1999. *Oregon Gap Analysis Project Final Report: A geographic approach to planning for biological diversity*. Oregon Natural Heritage Program, Portland, OR. 72 pp. + appendices.
- Keisling, P. 1999. *Oregon Blue Book, 1999-2000*. Secretary of State’s Office, Salem, OR. Tim Torgerson, Editor. 431 pp.
- Knapp, A. and A.C. Nelson. 1992. *The Regulated Landscape: Lessons on State Land Use Planning from Oregon*. Lincoln Institute of Land Policy, Cambridge, MA.
- Lettman, Gary J. 1988. Technical Editor. *Assessment of Oregon’s Forests*. Salem, Oregon: Oregon Department of Forestry, Forest Resources Planning Section. 263 p.

- Miller, R.F. and J.A. Rose. 1995. The historic expansion of *Juniperous occidentalis* (western juniper) in southeast Oregon. *Great Basin Naturalist*, Vol. 55, No. 1: 37-45.
- Olson, D.H., J.C. Hagar, A.B. Carey, J.H. Cissel, and F.J. Swanson. 2001. Wildlife of westside and high montane forests, in *Wildlife-Habitat Relationships in Oregon and Washington*, D.H. Johnson and T.A. O'Neil, eds. Oregon State University Press.
- Oregon Biodiversity Project. 1998. Oregon's Living Landscape: Strategies and Opportunities to Conserve Biodiversity. Defenders of Wildlife, Lake Oswego, OR.
- Oregon Department of Forestry. 2001. Oregon Forests Report, 2001. ODF, Salem, OR.
- Oregon Forest Resources Institute. 1999. Forest Fact Book: Answers to frequently asked questions about forests and forestry in Oregon. OFRI, Portland, OR.
- Oregon Natural Heritage Program. 2001. Rare, threatened and endangered plants and animals of Oregon. Oregon Natural Heritage Program, Portland, OR. 94 pp.
- Oregon Natural Heritage Program. 1998. Oregon Natural Heritage Plan. Natural Heritage Advisory Council, State Land Board, 775 Summer St. NE, Salem, 97310. 138 pp.
- Oregon Natural Heritage Program. 1998. Oregon Natural Heritage Plan. Natural Heritage Advisory Council, State Land Board, 775 Summer St. NE, Salem, 97310. 138 pp.
- Oregon State of the Environment Report Science Panel. 2000. State of the Environment Report. Oregon Progress Board, 775 Summer St. NE, Salem, 97310. 215 pp.
- Pater, D.E., S.A. Bryce, T.D. Thorson, J.S. Kagan, C. Chappell, J.M. Omernik, S.H. Azevedo, A.J. Woods. 1998. Ecoregions of Western Washington and Oregon. EPA map and poster, EPA, Corvallis, OR.
- Quigley, T.M, R.W. Haynes, and R.T. Graham, tech. eds. 1996. Integrated scientific assessment for ecosystem management in the interior Columbia basin and portions of the Klamath and Great Basins. Gen. Tech. Rep. PNW-GTR-382. Portland, OR: USDA Forest Service, PNW Research Station. 303 pp.
- Sessions, John. 1990. Coordinator. Timber for Oregon's Tomorrow – The 1989 Update. Corvallis, Oregon: Forest Research Laboratory, College of Forestry, Oregon State University. 183 p.
- Stere, David H., Blair R. Hopps and Gary Lettman. 1980. 1980 Oregon timber supply assessment – projections of future available harvests. Salem, Oregon: Oregon State Department of Forestry. 165 p.
- Wiley, P. 2001. No Place for Nature. Defenders of Wildlife, Lake Oswego, Oregon. 69 pp.
- Willamette Restoration Initiative. 2001. Restoring a River of Life. Willamette Restoration Initiative, Salem, OR. 40 pp. On line at: http://www.oregonwri.org/WRS_OVER.pdf

APPENDIX A: Oregon ecoregion descriptions

Coast Range Ecoregion

The Coast Range Ecoregion includes the entire Oregon coastline and the northern and central Oregon Coast Range Mountains. It also extends north through the state of Washington to southwestern British Columbia on Vancouver Island, and south into California. Elevations in the Oregon Coast Range Ecoregion range from sea level to 4,000 feet, and the marine climate creates the most moderate and wettest habitats in the state. Average annual precipitation of 60 to 180 inches supports spectacular stands of temperate rainforests. Vegetation is characterized by forests of Sitka spruce, western hemlock, Douglas-fir and red alder.

The Oregon coast has other unique ecological features. Sand deposits from coastal streams and rivers (primarily the Umpqua and Columbia rivers) have created major coastal dune systems, the largest located at the Oregon Dunes National Recreation Area. On the north coast, steep headlands and cliffs are separated by stretches of flat coastal plain and large estuaries. The south coast includes the warmest areas, with rugged headlands and very mild winters, supporting local endemic species such as the coast redwood and Port-Orford-cedar.

Almost 40 percent of the region is in public ownership, primarily in national forest and state forest lands. Population is dispersed in many small towns, most located within a few miles of the ocean. Forest products, tourism and fisheries are the mainstays of the local economy. The Coast Range Ecoregion includes all of Oregon's coastal resources, including all of the intertidal, marine and estuarine cells. These resources are currently not well represented in Oregon's system of protected natural areas. The publication of the Territorial Sea Plan (Oregon Ocean Policy Advisory Council 1994) has created an excellent opportunity to improve protection of Oregon's marine and intertidal resources.

Coast Range forests

Forests are predominant in this ecoregion. Indeed, Coast Range forests are key to Oregon's national identity. Douglas-fir and western hemlock are the most important trees, covering most of the forests in the ecoregion. The coastal fog belt is dominated by Sitka spruce, occupying 10 percent of the region. The rare, southwestern Oregon Port-Orford-cedar forests are found on 1.6 percent of the region.

Over 95 percent of the ecoregion is forested, and over 60 percent of the forests are privately owned. Large timber companies own the majority of Coast Range forests. These forest lands provide a significant amount of Oregon's timber, and in this ecoregion still drive the economy. Because of the high productivity and economic value of the Coast Range forests, threats of forest conversion are generally low. According to Oregon Department of Forestry's analysis of forest conversion from *Forests, Farms and People* (Azuma *et al.* 1999), Coast Range forest conversions are largely restricted to the narrow coastal strip. The population of the Coast Range has remained about the same over the last 10 years. However, the pattern of growth has changed dramatically. Towns in southwestern Oregon such as

Brookings, Coos Bay, and Reedsport, which have relied on timber production from public lands, have either shown little growth or have lost population. Towns along the northern Oregon coast which rely on recreation, such as Seaside, Cannon Beach, Lincoln City and Newport, have grown substantially. In these fast-growing, ocean-side towns, private forests are being converted to residential homes. In these areas, the forests that are being lost are almost entirely dominated by Sitka spruce.

Willamette Valley Ecoregion

The Willamette Valley Ecoregion spans the area between the Coast Range and the western Cascades in northwestern Oregon, and includes Oregon's largest river valley. From Oregon it extends north to include the Vancouver, Washington bottomlands. The valley is characterized by broad, alluvial flats and low basalt hills. Soils include deep alluvial silts from river deposits and dense heavy clays from pluvial deposits in the valley bottom's numerous oxbow lakes and ponds.

The abundant rainfall and fertile soils have made the valley Oregon's most important agricultural region since the first settlers arrived. As a result, the Willamette Valley is Oregon's most altered ecoregion. Originally, the valley was a mosaic of gallery riparian forests and wetlands, open white oak savannas and prairie, with valley margins of oak, ponderosa pine and Douglas-fir woodlands. American Indians maintained the prairies, oak savannas and woodlands by regularly burning most of the valley. With settlement, the prairies have been largely farmed and the open oak savannas and oak-conifer woodlands have been logged or have overgrown into closed-canopy forests.

The Willamette Valley's location on the Pacific Flyway makes it a crucial area for migrating and wintering waterfowl. Geese and shorebirds benefit from flooded agricultural lands, and the Willamette River and its many tributaries support salmon and steelhead runs, mostly of hatchery origin due to the large number of dams in the system. The valley's few remaining fragments of native prairie support many special plant species and endemic invertebrates, while the remaining wetlands provide habitat to the Oregon chub, the western pond turtle and many other sensitive animal species.

The Willamette Valley is home to most Oregonians, with more than 70 percent of the state's population, the majority of its industry, and almost half of its farmland. It is also the fastest growing ecoregion, with the human population expected to double in the next 25 years. As a result of this growth ? and the importance of the region to Oregon's people, wildlife and endangered species ? the Willamette Valley has been the focus of numerous studies. Two recent reports describe some of these investigations into the impacts of changes in the valley on people, the river, wildlife, and habitats. The Willamette Restoration Initiative (2001) published an overview of their strategies and analyses called *Restoring the River of Life* and the Defenders of Wildlife published a report entitled *No Place for Nature: The Limits of Oregon's Land Use Program in Protecting Fish and Wildlife Habitat in the Willamette Valley* (Wiley 2001).

Willamette Valley forests

As with all the other habitats in the Willamette Valley, its forests, woodlands and savannas have been dramatically changed over the last 150 years. In fact, the most significant shifts from forest to developed uses in western Oregon have occurred on private land in or near the Willamette Valley, particularly in areas close to Portland (Azuma *et al.* 1999). In particular, the riparian gallery forests that characterized the Willamette River bottomlands and the huge expanses of Oregon white oak savanna are almost entirely gone. The complex open woodlands in the valley foothills were dominated by white oak with ponderosa pine and Douglas-fir in the north, and by a diverse mix of hardwoods and conifers, including incense cedar, ponderosa pine, Douglas-fir, Oregon white oak, California black oak and madrone.

Klamath Mountains Ecoregion

The Klamath Mountains Ecoregion covers most of southwestern Oregon and northwestern California, and includes the Siskiyou Mountains, California's Marble Mountains and Trinity Alps, and the interior valleys and foothills between these mountain ranges. Elevations range from 100 feet to over 7,500 feet. Valley bottoms in the interior generally range between 450 feet elevation in the north around Roseburg to almost 2,000 feet at Ashland near the California border.

This ecoregion has the oldest landscapes in Oregon and is one of the few areas of the state not largely shaped by volcanism. It is also by far the most geologically diverse, having large areas of metamorphic and sedimentary rocks such as serpentine, limestone and gabbro, as well as granites and basalt. Topography ranges from steep, dissected mountains and canyons to gentle foothills and flat valley bottoms. This ecoregion also has major climatic extremes. Far western portions receive more than 100 inches of rain per year, with relatively mild temperatures year-round. The southern interior valleys are much drier, with locations receiving less than 20 inches of rain per year and summer high temperatures averaging more than 90° F.

The combination of exceptional climatic, geologic, and topographic variation supports the most diverse habitats in Oregon. In addition, the Klamath Mountain Ecoregion is a floristic crossroads, including flora and fauna of the Sierra Nevada Mountains, the Sacramento Valley and Coast Range Mountains of California; the Cascade Mountains of Oregon and Washington; and the Great Basin to the east.

Because of its geologic age, stable climate, and many unusual habitats, the ecoregion is also a major center of species endemism for vascular plants. Of the 4,000 native plant species or subspecies occurring in Oregon, about half are found in this ecoregion, with about a quarter of these known only here. The region is also known for its diversity of conifers, with 30 different species. (In Oregon, the West Cascades Ecoregion has the second largest number of conifer species, with 18 species).

Prior to European settlement, most of the landscape was forested, with Douglas-fir, pine, and oak most prevalent, but with a very diverse array of forest plant communities found in the area. Other significant communities include native grasslands and chaparral which dominated the presettlement valley bottoms, and Port-Orford-cedar forests, which have been devastated by logging and disease. All of the natural habitats have changed since aggressive fire suppression policies became effective in the early 20th century. The region has a high frequency of dry, summer lightning storms, leading to a natural fire frequency of less than 40 years, and closer to 20 years in the valleys and eastern portions of the region. By now, over 50 years of fire suppression have dramatically altered the ecology of the forests, savannas and shrublands in this region. Most significant are the expansion of white fir and other fire sensitive forest species, along with declines in Port Orford cedar, incense cedar, native pines, and other fire dependent conifers. In many areas, forest understories have changed from open, grass and forb dominated to dense, tall shrublands.

The human population of the ecoregion is concentrated in the valleys along the Interstate 5 corridor. Forest products, agriculture and tourism are the foundations of the local economy. The region is currently growing at a rate second only to the Willamette Valley.

Klamath Mountain forests

Most of the Klamath Mountain Ecoregion is forested, dominated by three major vegetation types: Douglas-fir forests, oak woodlands and ponderosa pine woodlands. The diversity of forest habitats in the Klamath Mountains is nationally acclaimed, especially that of the conifer forests. This is the only region in Oregon with endemic tree species: Brewer spruce and Baker cypress are found only in the ecoregion (in Oregon and California). Also common are Port-Orford-cedar, Jeffrey pine, tan oak, grey pine (previously called digger pine), canyon live oak, California black oak, sugar pine, and Shasta red fir. In addition, the region also is the southern limit for many northern species, such as Alaska-cedar, Pacific silver fir and subalpine fir.

Cascades Ecoregion

The West Cascades Ecoregion extends from southern British Columbia south almost to the California border. This mountainous, heavily forested ecoregion is bounded on the west by the farms and woodlands of the Puget Trough and the Willamette Valley, and the drier forests and valleys of the Klamath Mountains. To the east, it spills over the crest of the Cascade Mountains to the drier ponderosa pine forests of the East Cascades Ecoregion.

The crest of the Cascade Range is dominated by a series of volcanic peaks. In Oregon Mount Hood is the highest at 11,245 feet, and a dozen others top 8,000 feet. The western slopes of the range feature long ridges with steep sides and wide, glaciated valleys. Most of the rivers draining the northern two-thirds of the ecoregion flow into the Willamette Valley and then to the Columbia River system; the southern third drains to the Pacific Ocean through the Umpqua and Rogue river systems. The climate varies with elevation and, to a lesser extent, latitude. Higher elevations receive heavy winter snows. The drier southern half has a fire

regime similar to the Klamath Mountains, with frequent lightning-caused fires. In the northern half, the natural fire regime has historically produced less frequent but more severe fires.

This ecoregion is almost entirely forested, and the flora and fauna are similar to that of the Coast Range Ecoregion. Alpine areas feature a variety of habitats ranging from dwarf shrubs, grasses and forbs, to wetlands and barren expanses of rocks and ice.

Forests have long been the foundation of the local economy in the west Cascades, and decades of logging put the region at the center of controversies surrounding the northern spotted owl, logging of old-growth forests, and management of federal lands. Most of the ecoregion's population is found in small towns in the river valleys where increasing recreation use supplements the traditional timber-based economy.

West Cascades forests

Douglas-fir/western hemlock forests prevail over large areas up to elevations of about 3,300 feet. However, most of the previously harvested forests of the lowlands and lower slopes now support mixed conifer-deciduous forests, with young Douglas-fir and western hemlock forests found in a mosaic with hardwood species such as bigleaf maple and red alder. Pacific silver fir-mountain hemlock forests occur at mid-elevations. Pacific silver fir, often referred to as a subalpine species, is common between 2,600 and 4,200 feet. Mountain hemlock is most common between 2,200 and 6,000 feet. In the higher areas, mountain hemlock or occasionally Alaska-cedar, subalpine fir, or whitebark pine woodlands open into alpine parklands with patches of forest interspersed with shrub and meadow communities.

Eastern Cascades Slopes and Foothills Ecoregion

The East Cascades Ecoregion is a transition zone that extends from below the crest of the Cascade Range east to where the ponderosa pine zone meets the sagebrush-juniper steppe. This ecoregion also extends north into Washington and south into California. In Oregon, this ecoregion is variable, including extensive lodgepole forests on deep Mazama ash, montane and foothill ponderosa pine forests, Klamath Basin lakes and wetlands, and many other diverse montane forests.

The eastern slopes of the Cascades are drier than the western slopes, with annual rainfall ranging from 14 to 26 inches per year. This ecoregion is less steep and cut by fewer streams than the west side of the mountain range. It is also predominantly covered by conifer forests growing on volcanic soils. The northern two-thirds of the East Cascades is drained by the Deschutes River system, which includes a series of large lakes and reservoirs near its headwaters. The southern third is drained by the Klamath River, which flows south and west into California.

The Klamath Basin, which extends into the Modoc Plateau in California, is a broad, relatively flat mid-elevation valley that historically supported a vast expanse of lakes and marshes. Oregon's largest lake, Upper Klamath Lake, is the biggest remnant of this wetland system. Most of the basin's wetlands have been drained and converted to agriculture.

The mountains on the northern and eastern edges of the Klamath Basin lack a commonly accepted name, but include a series of peaks and ridges extending from Paulina Peak near Bend southward through the headwaters of the Williamson, Sprague and Chewaucan rivers to the Warner Mountains east of Lakeview. These mountains are generally forested, but the valleys and flats between them include large marshes, irrigated meadows and pastures, and arid juniper and sagebrush steppes. These habitats are a critical component of the Pacific Flyway, supporting vast numbers of shorebirds and waterfowl, the densest wintering concentration of bald eagles in the world, and many other wildlife species.

Also of significance is the ecologically diverse corridor within the Columbia River Gorge on the northern end of this region – the only area in eastern Oregon where the Oregon white oak can be found. This Columbia Gorge transition zone, along with the extensive ponderosa pine forests and woodlands, and the vast wetlands of the Klamath and upper Deschutes Basin are typical of this region.

The ecoregion's human population is concentrated in Hood River, The Dalles, Bend, and Klamath Falls. Forest products, agriculture, recreation and tourism are the biggest contributors to local economies.

East Cascades Slopes and Foothills forests

The East Cascade Slopes and Foothills Ecoregion is characterized by ponderosa pine, and include the largest remaining pine forests in Oregon. This ecoregion also includes a large area in northern Klamath and southern Deschutes counties that have very deep ash deposits, dropped when Mt. Mazama exploded to create Crater Lake. This large area contains Oregon's only climax lodgepole pine forests, providing home to many unique forest communities. This ecoregion also has the northernmost extension of the Warner Mountains, with Oregon's only examples of Washo pine, and some of Oregon's best western white pine forests. Along with the forests in the Blue and Klamath Mountains, changes in the natural fire regime have had significant impacts on the east Cascades. Through Governor Kitzhaber's Eastside Forest Health Task Force, the U.S. Forest Service and the Oregon Department of Forestry are working hard to restore fire to these forest ecosystems.

Blue Mountains Ecoregion

The Blue Mountains Ecoregion occupies nearly all of northeastern Oregon and extends into small portions of southern Washington and western Idaho. It encompasses three major mountain ranges: the Ochoco, Blue and Wallowa mountains. Landscapes include deep, rocky-walled canyons, glacially cut gorges, dissected plateaus, broad alluvial river valleys, and numerous mountain lakes, forests and meadows. Due to sharp differences in elevation, the climate varies over broad temperature and precipitation ranges. Overall, this ecoregion is characterized by short, dry summers and long, cold winters.

The flora is intermediate between the eastern Cascades and the western Rocky Mountains of Idaho and Montana. Species composition changes with altitude. Sagebrush and grassland steppes dominate the entire eastern length of the region along with significant areas in the south. The stands of western juniper on the western and southern reaches represent the

largest and most diverse representation of this species in the world, found in over 30 plant communities. Ponderosa pine woodlands are characteristic at mid-elevations while mixed coniferous forests dominate at higher altitudes. Barely half the ecoregion is forested, and vast sections at all elevations are treeless due to dry conditions and the harsh climate. Extensive grasslands occur in and north of the Wallowa Mountains.

Most of the region is thinly populated, with small towns in the major valleys, and rural residents scattered throughout the smaller valleys among the mountains. Rapid population growth and increasing recreational uses east of Bend and around Prineville and Redmond have increased development pressures dramatically in the juniper woodlands and sagebrush steppes of this area. Timber, ranching, agriculture and tourism provide the foundations for the local economy in most areas.

The diversity in elevation, soils and climate yields diverse habitats and many endemic plant species. The Wallowa Mountains alone have more than 10 plants species found nowhere else. Bighorn sheep, elk and large mammal populations here are among the largest in the state. The variety of habitats ? including low-, mid- and high-elevation grasslands, shrublands, and forests ? results in this ecoregion having more habitat diversity than all but the Klamath Mountains Ecoregion.

Blue Mountains forests

Although they do not contain quite the amazing forest diversity of the Klamath Mountains, Blue Mountain forests are the second most diverse in the state. The Wallowa, Elkhorn and Strawberry mountains have forests typical of the Rocky Mountains: stands of limber pine, Engelmann spruce, whitebark pine, lodgepole pine, and subalpine fir are common, along with the ubiquitous Douglas-fir, ponderosa pine and grand fir forests. These mountains have Oregon's only large western larch forests, and the Blue Mountains also contain some of the largest and best quality cottonwood riparian forests remaining in Oregon (e.g. in the Wallowa Valley and throughout Hells Canyon).

Forests in the Blue Mountains face considerable threats. An introduced pathogen, the white pine blister rust, is destroying whitebark pine forests and woodlands throughout the west, and is just beginning to impact this part of Oregon. Years of fire suppression have also made the extensive ponderosa pine forests vulnerable to insect outbreaks and destruction by overly intense wildfires that come with excess fuel build-up. This forest health issue was the focus of the recent U.S. government assessment of all the lands in the interior Columbia River Basin (Citation).

Columbia Plateau Ecoregion

The Oregon portion of the Columbia Plateau Ecoregion (sometimes referred to as the Umatilla Plateau) extends from the eastern slopes of the Cascades Mountains south and east along the Columbia River to the Blue Mountains. This ecoregion also extends northward throughout most of eastern Washington, and includes a small portion of west central Idaho. The region includes the Columbia Basin proper, and the Palouse.

The Columbia River, with its historic floods and large deposits of loess (wind-borne silt and sand) from the end of the last ice age, has greatly influenced the region. Most of the Oregon portion of the ecoregion is a lava plateau broken by basalt canyons carved out by the Deschutes, John Day, and Umatilla rivers and other streams that flow into the Columbia River. The climate is arid, with cold winters and hot summers. Most of the ecoregion receives less than 15 inches of precipitation per year (some areas as little as eight inches), much of that in the form of snow.

The majority of the ecoregion's natural vegetation is native bunchgrass prairie, often called palouse prairie because of the deep, loess soils and plentiful bunchgrass. The majority of the ecoregion in Washington was originally sagebrush steppe. Sandy deposits along the Columbia River support open dunes, bitterbrush steppe and western juniper. A few species of ground squirrels and plants (milkvetches among others) adapted to these habitats. The rivers are generally characterized by intermountain riparian vegetation, with black cottonwood, willows, chokecherry and aspen covering the riverbanks. Less common are riparian habitats dominated by black hawthorn and white alder.

Early travelers along the Oregon Trail found vast natural grasslands broken by brushy draws and tree- and rimrock-bordered streams with numerous springs. Because of the deep loess soils, mild climate (due to low elevations), and the presence of adequate water (either from wells or from the Columbia, Snake and Umatilla rivers), much of this region provided model farmland. The human population is concentrated in the northeastern portion of the ecoregion, where Pendleton, Hermiston and other smaller communities serve as commercial centers for the agricultural economy.

The Columbia Plateau Ecoregion is second only to the Willamette Valley in the percentage of landscape converted to non-native habitats and human uses. Protected areas and public lands are very limited in this region ? the only vegetation types that have not declined dramatically are found on lands that cannot be farmed: the steep canyon grasslands and scablands.

Northern Basin and Range Ecoregion

The Northern Basin and Range Ecoregion is the large sagebrush zone of southeastern Oregon and northern Nevada. In this AON, it also includes Oregon's portions of the Snake River Plain Ecoregion and the Central Basin and Range Ecoregion. It includes southeastern Oregon's high desert and extends south into Nevada to Reno, and to extreme northeastern California. This ecoregion's name reflects its topography and geology, with numerous flat basins separated by isolated, generally north-south mountain ranges. Many of the mountains are fault blocks, with gradual slopes on one side and precipitous basalt rims on the other. In Oregon, elevations range from 4,100 feet in the lowest basin to more than 9,700 feet on Steens Mountain. Soils are generally rocky and thin, low in organic matter and high in minerals.

An important influence in the ecoregion is the geology, which is mostly of volcanic origin. Over large portions of the landscape, soils have been derived from underlying layers of basalt and rhyolite, or occasionally from sedimentary layers that have been exposed by erosion. Of more interest than these are soils derived from volcanic ash and welded tuffs, which are found in distinct sites such as Leslie Gulch and Succor Creek near the Idaho border, or the

extensive recent lava flows such as Jordan Craters, Saddle Butte, Diamond Craters, or Christmas Valley Lava Fields. The weathering of the exposed volcanic ash has resulted in unique soils with a high clay content and an unusual chemical composition. The adaptational challenge these peculiar soils present for plants has given rise to a relatively rich flora of endemic species. The welded tuffs in these areas have also produced remarkable rock formations that rival more well-known erosion-based formations in the national parks of Utah's Colorado Plateau country.

The climate is arid, with extreme ranges of daily and seasonal temperatures: the Alvord Desert (Oregon's driest location) receives less than seven inches of rain annually. Runoff from precipitation and mountain snowpacks often flows into flat, alkaline playas, where it forms seasonal shallow lakes and marshes.

Also known as the sagebrush desert or high desert, the Northern Basin and Range Ecoregion contains many diverse habitats. The most significant of these are the sagebrush steppe types, salt desert scrub, riparian and wetland types, and mountain-mahogany and aspen woodlands. The large wildlife refuges here support substantial populations of pronghorn antelope, white pelicans, sandhill cranes, and waterfowl, and are well known for their wildlife diversity.

Most of the ecoregion is uninhabited. The only towns with more than a few hundred residents are Ontario, with a population of about 9,400, and Burns and Lakeview, with populations of about 3,000 each. Livestock, agriculture and tourism are the foundations of the regional economy. Lumber production, formerly a major source of employment in the Burns and Lakeview areas, has declined with lower harvests on nearby national forests.

Diverse sagebrush steppe communities dominate most of the ecoregion, including Wyoming big sagebrush, basin big sagebrush, mountain big sagebrush, silver sagebrush, black sagebrush, low sagebrush and rigid sagebrush communities. Mountain-mahogany woodlands are very well developed, and the riparian habitats are very important to fish and wildlife, as they are in most arid regions of the West.



Appendix B. Details of the legacy area analysis

This appendix includes details for the information used in the analysis, locations of the data sets, and information on how they were applied. Complete tables and data are available at ORNHP, 1322 SE Morrison St, Portland, OR. The data includes ecological, social, and economic data.

Biological - Ecological

a) Rare, threatened and endangered (T&E) species occurrences and habitat

Data from the Oregon Natural Heritage Program's T&E species databases (Figure 1). Maintained in ArcInfo and Advanced Revelation at ORNHP, 1322 SE Morrison St, Portland, OR. The analysis used number of occurrences of all sensitive species, based on the Association for Biodiversity Information's national ranking system. Evaluated were all species ranked G1-G3 (Globally critically endangered – threatened) and S1-S2 (State Endangered). Occurrences were given points based on the rank, with G1 occurrences given 5 points; G2, 3; and G3, S1, or S2 1 point. The total number of occurrences, the area they occupied, and the points based on threats were used in the analysis. For endangered and threatened fish occurrences, miles of stream was used instead of area of habitat occupied.

b) Acreage of all private forest lands

This information was based on the 1999 USGS Gap Analysis Land Use – Land Cover map (Figure 6). The cover is maintained by the Oregon Natural Heritage Program, which is the Oregon Gap Analysis Program (OR-GAP), office. It was based on satellite imagery from 1991-1993, and has a resolution of 320 acres, so it is fairly coarse. Forest habitats were aggregated, and overlapped with the Land Ownership coverage of Oregon, also developed by OR-GAP. The data is based on 1:100,000 statewide information, from BLM maps, updated with higher resolution information (1:24,000) from the individual BLM, USFS and state agency offices. The data used in the analysis was the acreage figure for private forest lands.

For the Willamette Valley legacy areas, ORNHP used an aggregated vegetation coverage developed from three pieces. The first was a 1:24,000 vegetation map of the Willamette Valley, excluding the Portland Metro Area, developed by the Oregon Department of Fish and Wildlife. The vegetation was mapped and on Ortho-Photo U.S.G.S. quadrangles, and digitized by ODFW. It resides at their Corvallis Office. The second was a vegetation map produced by Ecotrust for the Metro Government's Greenspaces Program. This used recent satellite imagery and mapped areas as small as one acre. The third was a cover developed by the U.S. Forest Service, Forest Sciences Lab, affiliated with Oregon State University's Department of Forestry. This cover was used to fill in areas not covered by the other two.

c) Acreage of priority forest habitats (oak-woodlands, riparian bottomlands and ponderosa pine forest types)

For the statewide analysis, the OR-GAP Land-Use Land-Cover map was used to determine the acreage of these priority habitat types within each potential legacy area. Previous analysis (OR-GAP, Oregon Biodiversity Project, and State of the Environment

Report) identified these as the priority forest habitat types statewide. These previous analysis looked at a combination of factors, primarily historical acres lost and current acres of each type protected.

d) Importance of legacy area to priority wildlife species

This coverage was also based on the OR-GAP datasets and results, on file at the Oregon Natural Heritage Program. Priority wildlife species were identified in the OR-GAP final report, based on a combination of factors, including the percentage of each species current and historic habitat protected as well as the percentage of current and historic habitat lost (due to habitat conversion or range contraction). Details of this analysis are found in the OR-GAP final report (Kagan *et al.* 1999), and the data is available from ORNHP. For the forest legacy analysis, the subset of the priority species which use or are found in forests was used, determined by the wildlife habitat relationships database, and refined by ORNHP staff. There were 64 species included which are:

Species name	Species name
Dunn's salamander	Red-eyed vireo
Southern torrent salamander	Wilson's warbler
Cascade torrent salamander	California towhee
Columbia torrent salamander	Savannah sparrow
Red-legged frog	Yellow-headed blackbird
Foothill yellow-legged frog	Purple finch
Northern leopard frog	Broad-footed mole
American bittern	Western small-footed bat
Green heron	Spotted bat
Wood duck	Townsend's big-eared bat
Green-winged teal	Brazilian free-tailed bat
Harlequin duck	Snowshoe hare
Hooded merganser	Western gray squirrel
Osprey	California kangaroo rat
Northern harrier	Western harvest mouse
Peregrine falcon	Pinon mouse
Willet	White-footed vole
Long-billed curlew	California vole
Black tern	Pacific jumping mouse
Marbled murrelet	American marten
Band-tailed pigeon	Fisher
Yellow-billed cuckoo	Wolverine
Short-eared owl	Mountain lion
Lewis's woodpecker	Canada lynx
Acorn woodpecker	Bobcat
Hammond's flycatcher	White-tailed deer
Pacific slope flycatcher	Western pond turtle
Ash-throated flycatcher	Side-blotched lizard
Pinyon jay	Night snake
Pygmy nuthatch	Common kingsnake
Mockingbird	Striped whipsnake
Hutton's vireo	Pacific coast aquatic garter snake

For the analysis, two factors relating to these 64 species distributions were evaluated. The first was the overall priority species richness for each legacy area, based on the sum of the acreage of all these species in each legacy area. The second was the number of species for which any legacy area provided a significant amount of their habitat (at least 10%). In the final analysis, we used only the second factor.

- e) Viability of the remaining forests in the area and ability of forests to add to or provide buffers for existing national forests, state forests, state parks, or other protected areas

This was based on the average size of the private forests in each of the potential legacy areas. It used the statewide OR-GAP Land-Use Land Cover map overlain with the ownership map to differentiate private and public forests. For each legacy area, the mean size of forested patches was calculated, and the average area for the forested patches remaining was calculated. Unfortunately, the data available for all but the Willamette Basin was not reliable enough to allow us to use this excellent measure of private forest viability in the final legacy area analysis.

Social

- (a) Immediacy, significance and magnitude of conversion threats as defined by:

- ☞ Acreage of forest habitats lost between 1974-1994 (in western Oregon)

This western Oregon coverage was developed by ODF (Figure 10). It is maintained at the ODF Office in Salem and the ODF contact is Gary Lettman. Complete information on how the coverage was developed is outlined in the ODF publication, *Forests, Farms and People* (Azuma *et al.* 1999). The coverage was developed by comparing air photographs of forests from 1974 with those from 1994, and comparing changes. For the forest legacy analysis, the total acreage of habitat lost in each of the western Oregon legacy areas was used.

- ☞ Acreage of forest habitats estimated to be lost by 2005 (in western Oregon)

This map was based on modeled data (Figure 12). It was developed by Jeff Kline and others at the OSU Forest Sciences Laboratory, in Corvallis. It was used in this analysis by totaling the acreage of predicted forest losses by 2005 in each potential legacy area.

- ☞ Acreage of forest habitats lost since European settlement (approx. 1850)

The data used in the analysis was determined by subtracting the forest acreage within each potential legacy area based on the existing OR-GAP Land-Use Land Cover map (Figure 8), from the acreage figure determined from the Presettlement Vegetation Cover, 2001 edition (Figure 7). The OR-GAP Land-Use Land-Cover map is described above and maintained at ORNHP.

The Presettlement Vegetation Coverage, 2001 edition was developed by and is maintained by ORNHP. This cover shows the vegetation of Oregon from approximately 1850. The forest information in this cover is from two sources. The first is an Oregon-Washington forest map obtained from the OSU Forest Sciences Lab, and developed by H.J. Andrews in 1936. This cover maps forest types, based on surveys done in the 1930's. There is no clear scale, but based on the polygon sizes and details, it is estimated at approximately 1:100,000. Generally Andrews' types were used, although a few classes, such as "balsam fir" were reclassified into "grand fir, subalpine fir, Pacific silver fir, and red fir-white fir", based on geography and elevation. The few areas mapped by Andrews as recent clearcuts or burns were reclassified by Jimmy Kagan of ORNHP and Jim Stritholt of the Conservation Biology Institute into the most appropriate adjacent forest class.

The second source was a 1:24,000 presettlement vegetation coverage developed and maintained by ORNHP based on the General Land Office surveyor's notes. These coverages are complete for the entire Willamette Valley, the Umpqua Valley, and for most of the Oregon Coast. The GLO notes were transcribed, and using surveyor's maps, notes and topographic maps, presettlement vegetation was mapped. When the 2001 cover was compiled, the GLO cover was applied over the Andrews cover for the forest map. ORNHP also mapped oak and pine forests in the Rogue Valley, based on personal knowledge at 1:250,000 (development of 1:24,000 GLO maps of the Rogue is just underway). This coverage, including detailed metadata and information on the non-forested habitats is available at ORNHP.

☞ Increase in population based on 1990-2000 census increase by county

This is the US Census County Level Data. It is maintained by the census bureau, downloaded from their web site (www.census.gov) or locally from Portland State University at (www.upa.pdx.edu/cprc) as a database, and transformed by ORNHP staff into a GIS coverage. For the analysis, the threats were determined by the actual increase in population for each county.

Threat of conversion was one of the most important factors used in the analysis. In the analysis, each of the potential legacy areas was ranked from 1-9, with 9 being the highest value. These ranks were obtained by combining the four threat factors above (where all four factors were available, or for eastern Oregon using only the last two data layers).

(b) Community interest in Forest Legacy, existence of local partners, including county and city governments, potential for matching funds, and public recreation opportunity

There were no statewide or regional datasets available to look at these factors. So, in the analysis, ORNHP staff rated each of the potential legacy areas 0-5, based on a number of factors. These included 1) the presence of partners and local interest in forest legacy; 2) Contacts by the public, public agency staff or elected officials; 3) presence and interest of private or public partners; and 4) the potential for forest legacy to provide recreational opportunities.

Economic

a) How significant is private forest timber or recreation to the local economy by:

☞ The significance of timber to the local economy (Figure 4)

This data was developed by ODF to look at the local dependence on timber.

The data is summarized by county, and the value was averaged for legacy areas in more than one county. The ODF contact for information is Gary Lettman.

☞ The presence of distressed county or local community (Figure 5)

This is a map developed by the Oregon Economic Development Department.

It looks at the presence of economic distress, much of which is directly related to declines in timber and mill closures.

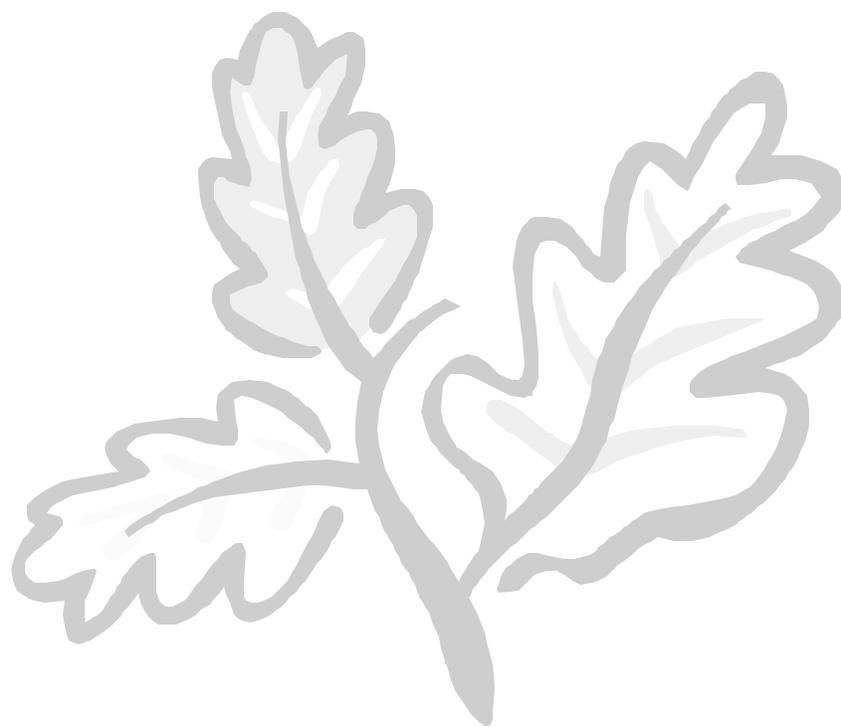
The economic data from the two data layers above were combined by ORNHP staff into an overall economic value from 0-5, with 5 being the area most stressed and dependant on timber.

The table below shows the summary of the data, and final results. The index formula used the log of the sum of the first six factors (with priority habitats weighted over the acreage of forest losses and private forests) + the Economic, Social and Threat Factors. These last three factors carried the greatest weight.

Legacy Area Priority Table

Legacy Area	Weighted Eos	Miles of T&E fish	Priority Wildlife *	Private Forest (acres)	Priority Habitats (acres)	Forest Losses (Acres)	Economic	Social	Threat	Index	Priority
Eugene - Springfield	1209	212	8	326140	85209	79584	2	4	8	18.65	1
Corvallis - S. Polk	382	146	1	197931	29483	10999	2	5	7	18.04	2
Bend - La Pine - Metolius	194	30	9	186673	95248	7560	1	3	9	17.68	2
Rogue Valley - Bear Creek	1064	117	14	160604	67344	185123	2	3	8	17.55	2
Metro	325	737	4	366191	30772	316761	0	4	9	17.26	3
Umpqua Valley and Foothills	1202	810	6	284857	98091	209582	3	3	5	15.72	4
Yamhill - N. Polk	141	144	1	124663	21961	16686	1	3	7	15.07	5
Marion County	291	451	3	89119	15770	163449	1	4	6	14.98	5
Wasco/Hood River	146	147	2	134104	80116	-15	2	3	5	14.61	5
North Coast	663	724	5	382564	764	-583	2	3	5	13.45	6
South Coast	1285	645	9	460644	13844	78227	3	1	5	13.01	7
Illinois Valley	1586	118	2	87256	29085	9223	3	2	4	13.22	7
Wallowa	75	236	1	34091	1638	38050	3	1	5	12.22	7
S. Willamette R. Riparian	1010	441	3	65487	10558	83239	1	3	4	11.88	7
Southern Klamath	561	69	23	257020	143662	174966	3	1	2	10.87	7

* This is the number of priority wildlife species with 10% of their statewide distribution in the legacy area.



Appendix C. Public information and comments

Included below are the public participation plan, the press releases prepared for the development of this AON. A compendium of all the public comments received, through letters or emails, is available from ODF upon request.

Oregon Forest Legacy Program – Assessment of Need: Public Involvement Plan

Everything in the process of developing the Oregon Forest Legacy Assessment of Need will include as much public involvement as possible. Public participation will be sought in both the development of the plan, in review of the draft plan outline, and in the review of the draft plan. The basic process will include:

- 1) Public Notice of the AON process. ORNHP drafts and ODF sends out a press release, announcing that the AON is being developed and asking for interested parties. The press release is widely distributed.
- 2) A subcommittee of interested citizens is established to assist ODF and ORNHP in the development of the AON. This includes everyone who expressed an interest in the program.
 - a. Meetings are held irregularly, but all meetings, minutes, and decisions are developed providing information by email to all interested parties.
 - b. Any key decisions regarding potential legacy areas, criteria for selection of legacy areas or sites, data to be used in the assessment will be sent by email (or regular mail) to all interested parties.
- 3) Meet with the ODF State Stewardship Coordinating Committee, to obtain their approval of the goals, objectives and the methods used to develop the AON.
- 4) Once an initial list of potential legacy areas is developed, local leaders will be notified of the Forest Legacy Program, and visited by staff in person or over the phone to obtain local contacts, and to ascertain potential interest.
- 5) Public meetings, to review the draft AON strategy, including potential Forest Legacy Areas, and criteria to be used in selecting legacy areas, will be located throughout the state. Locations selected at the beginning of the process include:

Portland, Salem, Corvallis, Eugene, Roseburg, Medford, La Grande, Bend, Klamath Falls and Coos Bay.

Since there are limited threats in the Coos Bay area, and the potential legacy areas along the south coast ranked so low, we may choose to skip Coos Bay. Similarly, Klamath Falls may also be eliminated, or replaced with Tillamook or The Dalles, which remain as potential locations for potential legacy areas. The final list of proposed sites is:

Portland, Salem, Corvallis, Eugene, Roseburg, Medford, La Grande, Bend, Klamath Falls, and The Dalles.

At the public meetings, use forms developed by North Carolina to obtain input on potential legacy areas, boundaries, goals and objectives, and other important values. If possible, obtain input on objectives used to evaluate legacy areas, potential sites to be selected for enrollment, and to identify local partners.
- 6) Accumulate the comments from the public meetings, and develop a first-draft AON. Distribute the AON to all members of the SSCC, and the Forest Legacy subcommittee for their review.

- 7) Take the draft AON and post it on the Internet as a PDF file, on the ODF and ORNHP web pages, and send out a final news release indicating the availability of the draft AON. Send copies of the AON to all parties not able to access the file over the Internet.
- 8) After the AON is approved by the SSCC, the Oregon Department of Forestry and the Regional Office of the US Forest Service, print 500 copies and create a PDF file and a Oregon Forest Legacy Web Page. Include the AON, description of Forest Legacy contacts, as well as necessary forms allowing interested landowners to submit properties to enroll in the program.

NEWS

Oregon Department of Forestry
2600 State Street
Salem, OR 97310
(503) 945-7422



News Release 01-39
May 25, 2001

Contacts: Rod Nichols & Wally Rutledge
(503) 945-7425 / (503) 57392

PUBLIC INPUT SOUGHT ON FOREST LEGACY PROGRAM

To help keep private forestland intact, the Oregon Department of Forestry is working with other government agencies, non-profit organizations, and the public to begin Oregon's participation in the Forest Legacy Program. Funded by the U.S. Forest Service Cooperative Forestry program, Forest Legacy provides federal grants to states to protect private forestland from being converted to non-forest uses (urban, residential or agricultural).

Forest Legacy programs are guided by an individual state plan describing the need for the program, identifying where forests are being converted and explaining how the state proposes to manage the program. These state plans are called an Assessment of Need and are shaped by public involvement.

Over the next few months, the Oregon Department of Forestry will be working with the Oregon Natural Heritage Program, the Oregon Watershed Enhancement Board (OWEB) and others to determine how the program will work here. The Oregon Natural Heritage Program and the Oregon Department of Forestry will create and distribute a draft Assessment of Need, with public meetings to be held in late July.

Forest Legacy is a completely voluntary program. Funds are available to acquire either interest in land (easements) or the land itself from landowners wanting to participate. In most cases, title to these lands or interests in lands will be vested in the state or local governments.

Forest Legacy requires landowners to prepare a multiple-resource management plan, which may include timber harvest. Protecting private forests from development is a key objective. However, lands included in the program do not have to be managed for timber production, and owners of non-commercial forests are welcome to participate. The idea is to maintain forestlands that provide wildlife habitat, soil and watershed protection, timber products, recreational opportunities and aesthetics.

The Forest Legacy program is small. The President has proposed to the Congress a funding level of \$30 million nationally for the Forest Legacy Program in fiscal year 2002. Currently, 22 states and one territory are enrolled in the Forest Legacy Program, with several more preparing state plans for entry into the program.

To get your name on a mailing list to receive a copy of the draft Assessment of Need and public meeting notices contact Gail Barnhart, Oregon Department of Forestry, 2600 State Street, Building 3, Salem, 97310, or call (503) 945-7378. To learn more about Forest Legacy in Oregon contact ODF's Forestry Assistance Director Wally Rutledge at (503) 945-7392 or by e-mail at wrutledge@odf.state.or.us <<mailto:wrutledge@odf.state.or.us>>

To obtain more information on participating in the Assessment of Need development, contact Jimmy Kagan, Director, Oregon Natural Heritage Program 1322 SE Morrison Ave., Portland, OR, 97214, (503) 731-3070 ext. 111 or jimmy.kagan@orst.edu

More information about the Forest Legacy Program can be found on the U.S. Forest Service web site at <http://www.fs.fed.us/spf/coop/flp.htm>.

NEWS

Oregon Department of Forestry
2600 State Street
Salem, OR 97310
(503) 945-7422



FOR IMMEDIATE RELEASE

August 1, 2001
01-60

Arlene Whalen/Gail Barnhart/Major Media

503-945-7427/503-945-7378

Note: State Map available upon request
503-945-7421

OREGON DEPARTMENT OF FORESTRY SEEKS PUBLIC'S HELP IN KEEPING PRIVATE FORESTLANDS INTACT

Oregonians are invited to attend any one of a number of public regional meetings being held across the state this month to provide feedback and input to Oregon's participation in the Forest Legacy Program. Funded by the U.S. Forest Service Cooperative Forestry program, the Forest Legacy Program provides states with federal grants to protect private forestland from being converted to non-forest uses (urban, residential or agricultural).

Development of the nation's forested areas poses an increasing threat to maintaining the integrity of our country's valuable forestlands. The Oregon Department of Forestry is working with other government agencies, non-profit organizations, and the public to begin Oregon's participation in the Forest Legacy Program and help keep private forestlands intact.

The program is completely voluntary. The Forest Legacy Program focuses on the acquisition of partial interests in privately owned forestlands. Funds are available to acquire either interest in land (conservation easements), or the land itself from landowners wanting to participate.

These conservation easements are legally binding agreements that transfer property rights from one party to another without removing the property from private ownership. Conservation easements restrict development, require sustainable forestry practices, and protect other values such as wildlife habitat, water quality, soil, aesthetics, and recreational opportunities.

Forest Legacy programs are guided by individual state plans describing the need for the program, identifying where forests are being converted and explaining how the state proposes to manage the program. Each state plan is called an "Assessment of Need," and is shaped by public involvement. Lands included in the program do not have to be managed for timber production, and owners of non-commercial forests are welcome to participate.

ODF officials have discussed the loss of forestland in western Oregon in meetings with the Oregon Natural Heritage Program, the U.S. Forest Service, and others, and have identified sixteen geographic areas constituting environmentally important forestlands that may be in need of protection from conversion and encroachment. A map of these areas is available.

Upcoming dates and locations for Oregon’s “Forest Legacy” public meetings are as follows:

<u>City</u>	<u>Date & Time</u>	<u>Address</u>	<u>Phone #</u>
Portland	Monday August 13 1:30 – 3:30 p.m.	Benson Hotel 309 SW Broadway Windsor Room – 2 nd Floor Portland	503-228-2000
Salem	Monday August 13 7:00 – 9:00 p.m.	Oregon Department of Forestry PCR 2600 State Street, Salem	503-945-7378
Eugene	Tuesday August 14 1:30 – 3:30 p.m.	Oregon Department of Forestry East Lane District 3150 Main Street Springfield	541-726-3588
Corvallis	Tuesday August 14 7:00 – 9:00 p.m.	Oregon Department of Forestry West Oregon District 24533 Alsea Highway Philomath	541-929-3266
Roseburg	Wednesday Aug. 15 1:30 – 3:30 p.m.	Oregon Department of Forestry Southern Oregon Area Office 1758 Airport Road Roseburg	541-440-3412
Medford	Wednesday Aug. 15 7:00 – 9:00 p.m.	Oregon Department of Forestry Southwest Oregon District 5286 Table Rock Road Central Point	541-664-3328
Klamath Falls	Thursday August 16 1:00 – 3:00 p.m.	Oregon Department of Forestry Klamath / Lake District 3200 Delapp Road Klamath Falls	541-883-5681

Bend	Thursday August 16 7:00 – 9:00 p.m.	Red Lion Inn – North 1415 NE 3 rd Avenue Bend	541-382-7011
La Grande	Tuesday August 21 7:00 – 9:00 p.m.	Oregon Department of Forestry Northeast Oregon District 611 20 th Street La Grande	541-963-3168
The Dalles	Wednesday Aug. 22 7:00 – 9:00 p.m.	Columbia Gorge Discovery Center Wasco County Historical Museum 5000 Discovery Drive The Dalles	541-296-8600

To learn more about Forest Legacy in Oregon contact ODF’s Forestry Assistance Director Wally Rutledge at (503) 945-7392 or by e-mail at wrutledge@odf.state.or.us <<mailto:wrutledge@odf.state.or.us>>

For more information about the Forest Legacy Program, visit the U.S. Forest Service web site at <http://www.fs.fed.us/spf/coop/flp.htm>.



NEWS

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FOR IMMEDIATE RELEASE

August 9, 2001

Arlene Whalen/Gail Barnhart

503-945-7427/503-945-7378

Note: State Map available on ODF web site

SECOND NOTICE: PUBLIC NEEDED TO HELP IDENTIFY PRIVATE FORESTLANDS THREATENED BY CONVERSION

Oregon invites public participation in identifying geographic areas that could be eligible for federal grant dollars through the Forest Legacy Program to protect important private forestland from conversion. A public meeting is scheduled in Portland on Monday, August 13, at the Benson Hotel, 309 SW Broadway, Windsor Room, from 1:30 p.m. to 3:30 p.m. to provide information about the program, answer questions and record public comment on priorities and the selection of Forest Legacy Areas.

Those who live in Multnomah, Clackamas, Washington, Columbia, Clatsop, Tillamook and Yamhill counties, which are areas that have been identified as having potential Forest Legacy Areas, are encouraged to attend—particularly those who reside in and near the Gresham, Milwaukie, Hillsboro, Beaverton, Tigard, Tualatin, Lake Oswego, Oregon City, Gladstone, West Linn, Wilsonville, Forest Grove and Newburg communities.

The Forest Legacy Program, which is a completely voluntary program funded by the U.S. Forest Service, helps eligible states protect privately owned forestlands from conversion to urban, residential or agricultural non-forest use. The federal funds are used to acquire conservation easements or to purchase land from landowners wishing to participate in the program. The program provides private landowners a means to conserve the special environmental, economic and social values of their land for future generations.

The Legacy program is based exclusively on the “willing seller – willing buyer” concept and does not involve eminent domain taking or condemnation of property. Through the use of conservation easements, owners maintain property rights and usually continue to live on and work or manage the property. The easements are legally binding agreements that transfer property rights from one party to another without removing the property from private ownership.

“The Forest Legacy Program can help define how we can avoid implementing further environmental regulation and offer incentives to achieve the common objectives of all Oregonians,” said Jim Kagan, Director of the Oregon Natural Heritage Program. “The trend has been for state and local governments to take action through planning and tax policy incentives. Private land trusts are also helping to purchase and protect such

forestland, but they, alone, can't conserve all that are environmentally important. The Forest Legacy Program can help us accomplish even more.”

While 22 states have already completed their *Assessment of Need*, which describes how the program will work, Oregon is the only state to hold public meetings before legacy areas were selected, according to Kagan. Legacy areas are the places in which landowners are eligible to participate in the program. The meetings have been scheduled in several communities throughout the state: Portland, Salem, Eugene, Philomath, Roseburg, Central Point, Klamath Falls, Bend, LaGrande and The Dalles. The Oregon Natural Heritage Program is working in conjunction with the Oregon Department of Forestry and other government agencies and nonprofit organizations, such as the Trust for Public Lands and the Nature Conservancy, to guide the state's plan describing the need for the program, identifying where forests are being converted and explaining how the state proposes to manage the program.

Several tools have been used to narrow down the list of potential legacy areas in Oregon to 17 areas that meet the program's minimum criteria for eligibility. These resources include, but are not limited to, land-use studies, census maps projecting population change, studies that summarize existing and predicted forest loss, as well as studies identifying a loss of habitat for sensitive endangered species. The public will be invited to comment on legacy areas that have been identified through careful screening.

The Forest Legacy Program was created by Congress in the 1990 Farm Bill. Its purpose is to help landowners, state and local governments and private land trusts identify and protect important forestlands that are threatened by present and future conversion to non-forest uses.

Public comment regarding the selection of Forest Legacy Areas in Oregon will be accepted through August 27, 2001, and may be directed to Jim Kagan, Director of the Oregon National Heritage Program at (503) 731-3070, ext. 111, or by e-mail at jimmy.kagan@orst.edu. He may also be contacted for more information about the Forest Legacy Program.

Wally Rutledge, Oregon Department of Forestry, may also be contacted for further information about the program at (503) 945-7392 or by e-mail at wrutledge@odf.state.or.us. Additional information is also available on the U.S. Forest Service web site at <http://www.fs.fed.us/spf/coop/flp.htm> or the Oregon Department of Forestry web site at www.odf.state.or.us. A draft of the *Assessment of Need* can be found in PDF format on the ODF web site.

Accommodations for people with disabilities, and special materials, services or assistance can be arranged by calling the ODF Public Affairs Office at least 48 hours prior to the meeting, 503-945-7424, text telephone (TTY) 1-800-467-4490 (outside Salem), 945-7213 (in Salem).