



Washington State

Forest Legacy Program Assessment of Need

October 2004



WASHINGTON STATE DEPARTMENT OF
Natural Resources

Doug Sutherland - Commissioner of Public Lands

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the Washington State Department of Natural Resources
Doug Sutherland, Commissioner of Public Lands
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ACRONYMS

AON	Assessment of Need
CTED	Washington Sate Department of Community, Trade and Economic Development
DNR	Washington State Department of Natural Resources
ESA	Endangered Species Act
FLA	Forest Legacy Area
FLP	Forest Legacy Program
GIS	Geographic Information System
GMA	Growth Management Act
IAC	Washington State Interagency Committee for Outdoor Recreation
ISU	Iowa State University
LWV	League of Women Voters of Washington Education Fund
NRCS	Natural Resources Conservation Service
NRI	National Resource Inventory
OFM	Washington State Office of Financial Management
USCB	United States Census Bureau
USDA	United States Department of Agriculture
USFWS	United States Fish and Wildlife Service
WAU	Watershed Administrative Unit
WDFW	Washington Department of Fish and Wildlife
WFPA	Washington Forest Protection Association

Contents

Page	Chapter /Section
	PREFACE
1-1	CHAPTER 1 INTRODUCTION AND SUMMARY
1-2	Taking a New Look at Washington's Program
1-4	Using Lessons from a Decade of Success
1-7	Summary of Key Program Revisions
2-1	CHAPTER 2 FOREST RESOURCES ARE VALUED ASSETS
2-2	The Nature of Washington's Forests
2-3	Soil Productivity
2-6	The Need for Washington's Forests
2-6	Timber and Other Forest Products
2-8	Water Resources
2-10	Fish and Wildlife Habitat
2-12	Cultural and Historical Resources
2-14	Mineral Resources
2-14	Recreation
2-15	Aesthetic and Scenic values
2-16	Partners in Protecting Forest Landscapes
3-1	CHAPTER 3 TRENDS RELATED TO CONVERSION OF FORESTS TO NON-FOREST USES
3-1	Rate and Location of Conversion
3-5	Population Growth
3-7	Forest Land Ownership
3-8	Economic and Regulatory Impacts
4-1	CHAPTER 4 PROGRAM DIRECTION
4-2	Goals and Objectives
4-5	Focus and Priorities

Continued on next page

5-1	CHAPTER 5 IMPLEMENTING THE PROGRAM
5-2	Parcel Evaluation and Prioritization
5-5	Forest Legacy Area
5-11	Parcel Evaluation Criteria
APPENDIXES	
A-1	A. Public Involvement
B-1	B. Ecoregion Biota
C-1	C. Project Nomination Form
D-1	D. Watershed Administrative Units included in the 2004 Forest Legacy Area
E-1	E. Parcel Evaluation Worksheet
REFERENCES	

List of figures

1.1	Puget Sound Corridor Legacy Area, 1993
1.2	2004 Forest Legacy Area
2.1	Ecoregions of Washington
2.2	The Hydrologic Cycle
2.3	Foothills Forest Conservation Initiative
3.1	Rate of Forest Conversion – percentage lost per year
3.2	Washington State Population 1870 – 2030
3.3	Population Density
3.4	Forestland Ownership in Washington
5.1	Parcel Evaluation And Prioritization Process
5.2	Forest Legacy Area
5.3	Parcel Evaluation Criteria

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Preface

Since 1993, Washington State has participated in the federal Forest Legacy Program as a means to protect environmentally important forestland from conversion to other uses. The federal program is administered by the USDA Forest Service, and the state's participation in the program is managed by the Washington State Department of Natural Resources (DNR).

The federal program requires each participating state to prepare an Assessment of Need (AON), which Washington did in 1993. Through an evaluation of forest resources, uses and trends, the AON documents Washington's need for inclusion in the Forest Legacy Program and defines how the program will be applied in the state.

A growing population and increasing development pressures in the state over the past decade prompted DNR, together with Washington's State Forest Stewardship Coordinating Committee, to review the state's program. The result is this document, which updates and amends the 1993 AON.

This updated AON revises the Eligibility Criteria used in identifying important forest areas to be proposed as a Forest Legacy Area (the area in which the program will be applied); proposed boundaries for the Forest Legacy Area; specific goals and objectives to be accomplished by the program in Washington State; and the process that DNR will use to evaluate and prioritize projects to be considered for inclusion in the Forest Legacy Program.

This update also addresses changes in conditions affecting the state's forest resources and the need for participation in the Forest Legacy Program.

As a significant amendment to the 1993 AON, this updated version must be approved by the Chief of the Forest Service (or designee) before the program changes can go into effect.

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Chapter 1

Introduction and Summary

WASHINGTON'S FOREST LEGACY PROGRAM

- Driven by federal criteria and state goals and objectives
- Supporting landscape-wide strategies
- Leveraging benefits
- Coordinating with partners
- Helping privately owned forests provide benefits for generations to come

In 1990, Congress created the Forest Legacy Program to protect environmentally important forest areas threatened by conversion to non-forest uses. Washington was one of the first states to participate, and for ten years, it has successfully implemented the program in the most urbanized part of the state. During that time, the program has been embraced by the conservation community and private forest landowners.

Washington's goals for the program have been not only to protect forestland from conversion, but also to protect water quality, habitat and timber management opportunities. These goals were first defined in 1993, in the federally required Assessment of Need (AON), which also described the state's need for the program and defined the boundaries of the Forest Legacy Area, the area in which the program would be applied in Washington State.

At the time, the Puget Sound Corridor Forest Legacy Area, focusing on portions of Snohomish, King and Pierce counties, was designated because of its statewide contribution of forest resources (commodity as well as non-commodity) and the high rate of conversion of forestlands to non-forest uses. Despite having the largest share of the state's population and highest percentage of population growth, this region was still important for its forest resources contribution.

The 1993 AON recognized that "there may be future opportunity to propose additional Forest Legacy Areas within Washington." Now, a decade later, such an opportunity exists. Social, physical, legal and environmental changes have prompted DNR to update the AON, revisiting Washington State's need for the program and how and where to apply it.

- ▶ This new, updated AON defines Washington's Forest Legacy Program as one that is driven by the federal criteria and state goals and objectives—from the definition of the Forest Legacy Area to parcel evaluation and selection. It's a program that supports landscape-wide conservation strategies across the state, leverages conservation benefits, and coordinates partnership objectives, so that Washington's privately owned working forests can continue to be a source of timber, forest products, habitat, water quality, and other valuable environmental, social and economic benefits for generations to come.

Taking a new look at Washington's program

As the 1993 AON anticipated, there has been interest in extending the Forest Legacy Program beyond the Puget Sound corridor. The Washington State Forest Stewardship Coordinating Committee (Forest Stewardship Committee), stakeholders, and members of the public have expressed a desire to expand the program to other parts of the state, to include any of Washington's environmentally important private forestlands that are most threatened with conversion.

The desire to expand the program reflects Washington's expanding population, which increased by 21 percent between 1990 and 2000, and which is expected to nearly double by 2050. The Puget Sound Corridor

Forest Legacy Area established in 1993 limited the program to portions of the three most populous counties (plus two watersheds shared with two adjacent counties), but many other parts of the state are now experiencing similar losses of forestlands to development and fragmentation.

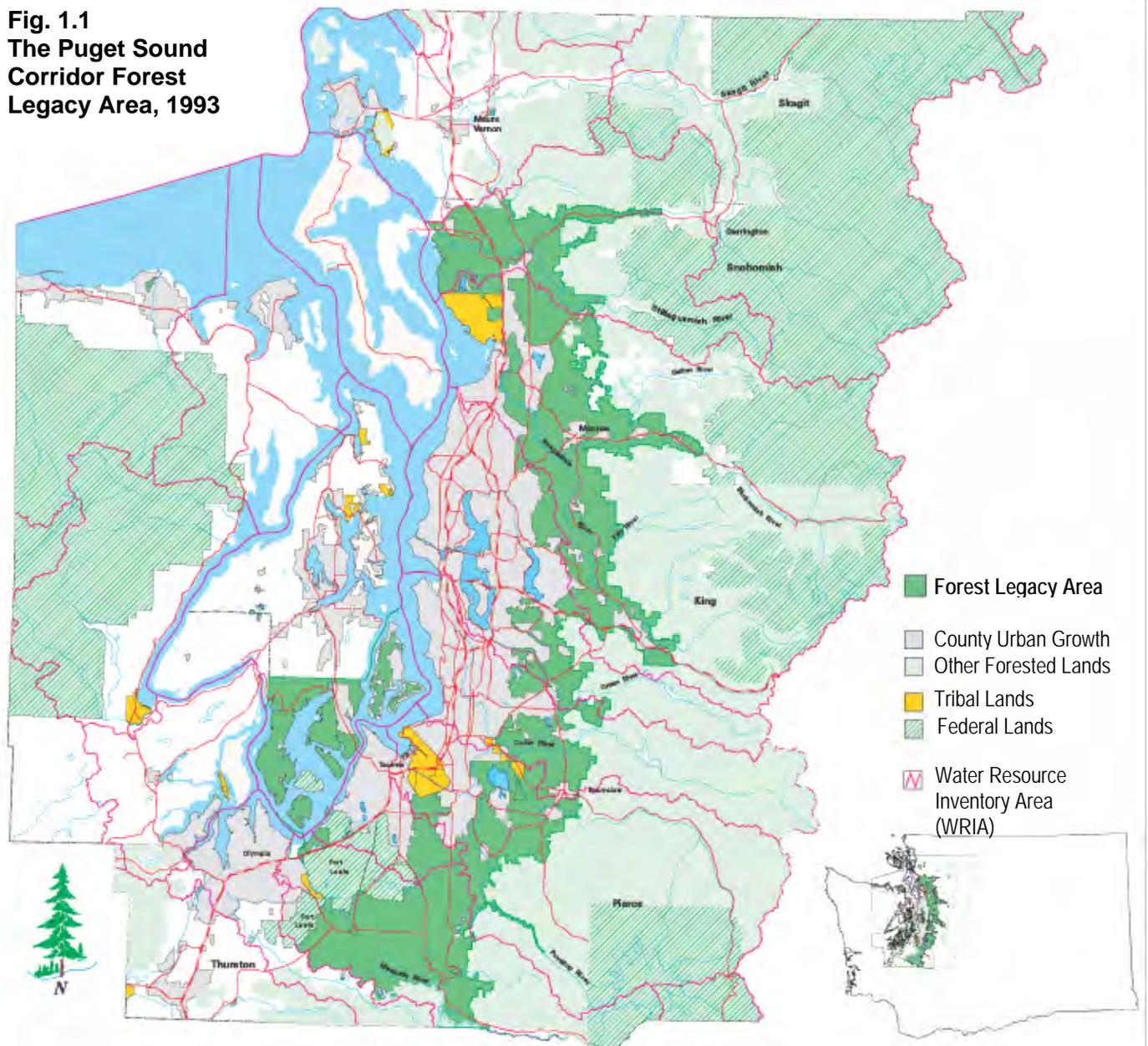
There also has been concern about limiting the program to the rural transition lands of the "Rural Residential Zone" —the lands lying between the areas that counties have designated for urban growth and the areas they have designated as resource lands of long-term commercial significance under the state's Growth Management Act. The 1993 AON included only these rural transition lands in the Forest Legacy Area. It failed to recognize that some of Washington's forestlands most threatened with conversion are in the "Forest Zone"—lands zoned for long-term forest use. In fact, many of the Forest Legacy projects in Washington have been in the Forest Zone, near the boundary with rural transition lands, and have required a Forest Legacy Area Boundary Adjustment.

In addition, concerns about the timber market and changes in forestry regulations have increased the economic appeal of conversion for some landowners, putting certain lands at risk of conversion that had not been considered at risk in 1993. (See Chapter 3.)

The Update Process

In late 2002, the Forest Stewardship Committee—a group of forest landowners, conservation organizations, public agencies, tribal interests, consulting foresters and others that advises DNR on implementing the federal Forest Stewardship Program in Washington State—formally recommended that DNR program staff update the 1993 Assessment of Need, including a reassessment of the boundaries of the Forest Legacy area and an evaluation of the criteria for parcel selection, to meet these concerns.

Fig. 1.1
The Puget Sound
Corridor Forest
Legacy Area, 1993



The Forest Stewardship Committee updated state goals for the program to set forth guidance for defining the Forest Legacy Area, and for updating the parcel evaluation criteria. Based on an analysis involving stakeholders, government officials, interest groups, and the public to identify trends that would define Washington’s program, the committee felt strongly that Washington’s program should focus its efforts to help mitigate the threat of conversion of working forest to non-forest uses, to protect water quality, and to protect wildlife habitat. The committee also reaffirmed its commitment to meeting the intent of the authorizing legislation.

Working in conjunction with the Forest Stewardship Committee, DNR staff updated state objectives, parcel selection criteria, and the Forest

Legacy Area based on federal and state intent of the program. Staff used census, forest resource, land ownership, and ecological resource data to delineate the boundaries of the Forest Legacy Area. The proposed final boundaries of the Forest Legacy Area and the parcel selection criteria were presented to the Forest Stewardship Committee in August 2004.

Updating the Assessment of Need was shaped not only by the guidance of the Forest Stewardship Committee but also by an extensive outreach process. DNR staff contacted planning officials in every forested county in Washington. The outreach process also included six public workshops located around the state and the development of a website that offered both the latest information about the program and an opportunity to make comment via e-mail. Public comments received, while not extensive, did reaffirm the goals of the state program and the importance of working forests, and did consistently reinforce the message that the Forest Legacy Program can and should be applied to areas of the state outside the Puget Sound Corridor. See Appendix A.

Using lessons from a decade of success

With a 10-year history of program success behind it, the 2004 AON does not start at square one—it is an update, based not only on new information but also on experience. Over the past decade, several things have become clear:

Since 1993, about 13,000 acres of forests have been protected through Washington State's participation in the Forest Legacy Program

- **The original 1993 goals of the program (to protect water quality, habitat, and timber management opportunities) continue to reflect values of the citizens of the state.**

In the decade since the program goals were established, forest-related issues in Washington have continued to focus on water quality, habitat and timber management opportunities: Additional forest wildlife species have been listed as threatened, under the federal Endangered Species Act. The Governor's Office has developed a Salmon Recovery Plan. The state Small Forest Landowners Office has been created to promote the economic and ecological viability of small forest landowners. The state legislature mandated new forest practices rules based on the Forests and Fish Report, the product of a landmark agreement between forest landowners, state and federal agencies, and natural resource interests, aimed at improving water quality and supporting a harvestable supply of fish while still maintaining the economic viability of Washington's timber industry.

Conflicts between efforts to meet different goals have arisen, but the conflict (and resolution) has shown that the goals are still valued. For example, rules concerning forest road and culvert maintenance

inadvertently created financial hardships for some small forest landowners, putting forests at risk of conversion and salmon at risk for loss of habitat. New legislation worked to create opportunities to meet the needs of both the fish and the landowners.

In addition, public input and the State Forest Stewardship Coordinating Committee have directly affirmed that these goals are still appropriate for Washington’s Forest Legacy program.

Some of the most productive low-elevation forestland — capable of producing 120 cubic feet per year—is under threat of development.

■ **Building protected landscapes of working forests creates a living legacy for the citizens of the state now and into the future.**

Protection of working forest opportunities is very important in Washington State. Working forests not only provide important ecological benefits, but also sustain social and economic factors.

Some of the most productive low elevation working forestlands are under intense pressure of development. Many landowners believe they can’t afford to manage the lands for commodity use because of increased population pressures, changing regulations, and economic pressures to sell for the highest and best use. The Forest Legacy Program provides private landowners with an alternative to giving up productive forestland by being compensated for the development potential (higher and best use value) today. The landowner can reinvest the development value of the property, and continue to manage the lands for commodity production.

These lands then become a buffer between developed areas and remaining working forestland blocks that in turn provide water quality, habitat, and other benefits. The buffers too, contribute to communities by providing not only commodity production and habitat protection, but also by providing open space, recreational opportunities, and a connection with the natural environment.

■ **The state’s Growth Management Act (GMA) does not fully protect forestland reserved for long-term resource production from development.**

Under the GMA, counties identify resource lands (agricultural, forest or mineral resource lands) of long-term commercial significance and adopt standards and regulations to protect them.

The 1993 AON assumed that protection provided by the GMA was adequate, and therefore limited the Forest Legacy Area to the rural transition lands. However, development of higher and higher densities continues to push into lands designated for long-term resource production. Forestlands most threatened by conversion to

non-forest uses are those nearest existing development in both the Forest Zones and Rural Residential Zones (under the GMA). Counting on the GMA alone to protect resource lands seems risky.

- **Partnerships with local land trusts, national conservation groups and other governmental agencies are essential for coordinated conservation efforts.**

Partnerships help meet the needs of local citizens where there is a demonstrated desire to see land retained in productive forests and all associated benefits that accompany them. Often, land trusts provide services that make this program possible and have greatly contributed to its success. With their connections to the local community, they have been able to identify appropriate parcels, brought attention to landscape planning components, and brokered deals.

Conservation initiatives that protect threatened landscapes provide statewide benefits. For the past ten years, Forest Legacy Program acquisitions have supported these initiatives, and the policy should be continued. The “Mountains to Sound Greenway” I-90 corridor conservation effort, and the “Cascade Foothills Initiative” in Snohomish, King, Pierce and Kittitas counties are good examples.

- **Existing state and federal land acquisition programs actively used in Washington State can leverage conservation benefits of the Forest Legacy Program.**

For example, the State of Washington Natural Areas Program uses state funds to purchase lands to conserve/preserve lands with unique characteristics; the State of Washington Riparian Open Space Program uses state funds to perpetually protect channel migration zones on private lands; USFWS Cooperative Endangered Species Conservation Fund (Section 6) Program provides grant opportunities for preservation of habitat for recovery of ESA species; the state manages approximately 2 million acres of State Trust working forest lands, many of which are in the forest transition areas where the state intends to focus Forest Legacy Program acquisitions; and many counties actively conduct conservation programs.

- **Washington State needs the Forest Legacy Program to support comprehensive conservation efforts in the state.**

The Forest Legacy Program is unique, filling a vital niche for conservation of working forestlands with important ecological characteristics. Most programs that protect lands are for preservation, and are not designed to allow continued traditional use of the property by the landowner. Used in concert with other

conservation and preservation efforts, the Forest Legacy Program becomes a powerful tool for big-picture conservation strategies.

Through the Forest Legacy Program, working forests are recognized as conservation lands. The conservation community has embraced the program as an alternative to houses, supermarkets, and pavement, while forest landowners see an alternative to abandonment of productive forestland and relocation to places where they can more effectively manage their lands. The Forest Legacy Program is not intended to act alone in the landscape to provide conservation opportunities.

Summary of key program revisions

The program revisions defined in this update support Washington’s Forest Legacy Program intent to focus conservation acquisitions in the state where the need is the greatest, based on the federal guidelines and the state goals and objectives. (See chapters 4 and 5 for details.)

Goals and Objectives

As seen below, the revisions to the goals seem minor, and in some ways are. Three of the four original goals have been retained. However, the two new goals—one to protect landscapes to discourage fragmentation and the other to incorporate federal goals—are important changes. The first recognizes that long-term protection is more likely to be achieved if whole landscapes are protected rather than isolated parcels. The second recognizes that the state program relies on the federal program, and unless the federal intent is met, the state program will be less effective.

1993 Goals	2004 Goals
Provide present or future timber management opportunities	Provide present and future timber management opportunities
Protect water quality	Protect water quality
Provide habitat for native fish, wildlife or plants	Provide habitat for native fish, wildlife and plants
Determine Forest Legacy Area based on natural rather than artificial (political) boundaries	Protect existing landscapes to discourage further fragmentation
	Incorporate federal program goals when evaluating proposals to ensure Washington’s projects meet the intent of the authorizing legislation

Forest Legacy Area

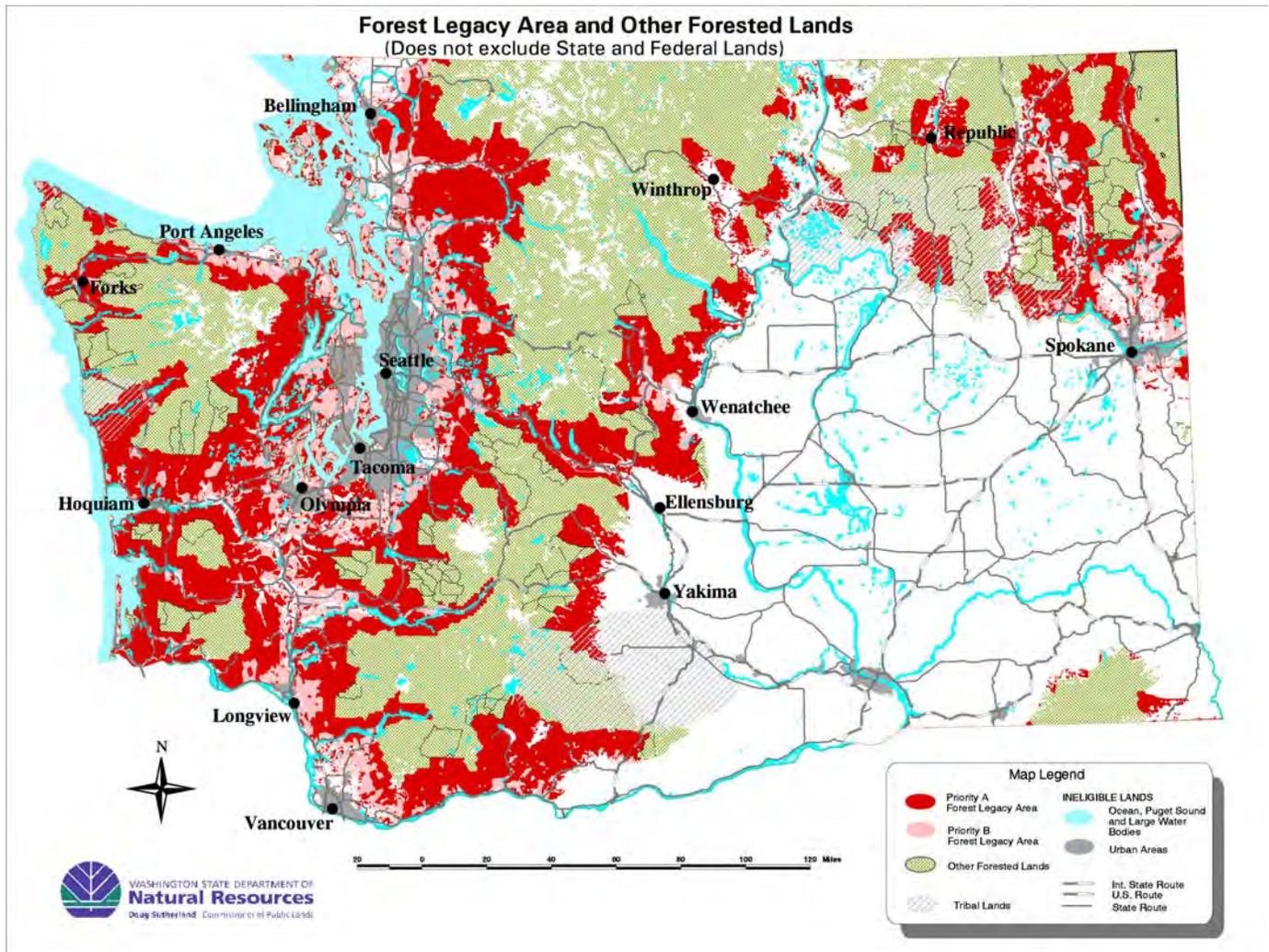
The new Forest Legacy Area (FLA) expands the program to include more areas of the state. The new FLA reflects population growth as the major cause of conversion of forestlands, and uses watershed boundaries as a way of defining landscapes.

The FLA is established through a GIS (Geographic Information System) mapping process, which uses data on forest cover and population density (household/acre).

The 2004 FLA is defined as:

All forestlands lying outside the designated urban growth areas, but within Watershed Administrative Units (WAUs) that contain lands populated with at least one household unit per 40 acres, plus adjustments as identified on 2004 FLA List of WAUs. (See Appendix D.) (Note: State and Federal lands are included in the FLA, but are not eligible for the program.)

Fig 1.2 2004 Forest Legacy Area (See larger version in Ch. 5.)



Priority areas are established in the FLA Map to focus acquisitions on forestlands in transition, not on rural lands in transition. Acquisitions in Priority A areas will create a buffer against development, while acquisitions in Priority B areas will support a transition to those buffers.

Priority A -- Lands in the FLA mapped at less than one household per 40 acres.

Priority B – Lands in the FLA mapped at one or more households per 40 acres.

Parcel Evaluation and Prioritization

The parcel evaluation and prioritization process helps focus limited land acquisition funding where it can have the greatest effect to protect the most critical forest landscapes. The process is in two parts: screening and ranking.

Screening identifies proposed parcels that do not qualify for the program because they do not support either the main purpose of the federal program or the focus and priorities of the state program. For a parcel to qualify, “yes” must be the answer to each of the following questions:

- Is the parcel at least 75 percent forested?
- Is the parcel privately owned?
- Is the proposal within the Forest Legacy Area (FLA)?
- Is the parcel part of a recognized forest landscape conservation effort with an established plan to achieve sustainable benefits, based on goals that complement the Forest Legacy Program (conserve working forests, wildlife habitat, and water quality)?

Ranking evaluates qualifying proposals. The first step in ranking is to determine if a parcel is in the Priority A or the Priority B portion of the FLA Map. A technical evaluation committee will rank projects within each priority category (A or B). This initial ranking within priority category is based on scores from applying evaluation criteria to each parcel. The criteria are based on critical goal and objectives and important values of the Forest Legacy Program. Each evaluation criteria category is individually weighted, to help focus available funds on the most important parcels. (See Ch. 5 for specific criteria.) Priority A parcels will be ranked above Priority B parcels.

The initial ranked list will be reviewed by the Forest Stewardship Committee, which will forward its recommendations to the State Forester for further review.

WEIGHTING OF EVALUATION CRITERIA

Max. Value	Evaluation Criteria Category
24%	Threat of Conversion
16%	Working Forest
13%	Water Quality
13%	Fish and Wildlife
12%	Protection of Existing Landscapes – Leveraged – Discourages Fragmentation
10%	Readiness – Cost Share
9%	Other Important Values (cultural, historic, scenic, recreation)
3%	Conservation Easements

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Chapter 2

Forest Resources are Valued Assets



Washington is appropriately known as “the Evergreen State.” From along its shores to the flanks of its mountain peaks, conifer-dominated forests are a key part of Washington’s landscape—they cover about half the state.

Forests have always been instrumental in the lives of the people who live here. Native peoples—both coastal and inland tribes—traditionally used a wide variety of forest products. Much of the state’s early modern settlement and development relied on its timber industry. And today, Washington State’s residents continue to value its forests. They rely on forestlands for employment; investment; inspiration; recreation; water for drinking, irrigation and vital fisheries; wildlife habitat; construction materials; and more.

Privately owned forests provide many of these benefits. In fact, about 40 percent of the forestland in Washington is privately owned, and private ownership is split almost evenly between industrial forests and non-industrial or family forests.

The Forest Legacy Program is designed to protect environmentally important forestlands threatened by conversion to other uses, specifically forests that provide timber and other forest commodities, scenic resources, public recreation opportunities, riparian areas, fish and wildlife habitat, known threatened and endangered species, known cultural resources, and other ecological values.

These multiple uses and benefits are at risk of being lost when forests are converted to non-forest uses. Understanding these benefits, the forests that provide them, and the partners working to support those forests is key to understanding the Forest Legacy Program in Washington State.

The nature of Washington's forests

Washington's forests are part of a rich and diverse natural heritage. Although Washington is known as the Evergreen State, vegetation types range across a wide spectrum from temperate rainforests on the Olympic Peninsula to grasslands and shrubs of the steppes and semi-deserts in the Columbia Basin.

This extreme variation in vegetation and habitats is a result of Washington's geologic history and dramatic changes in physical characteristics over relatively short geographic distances.

The Cascade Range and Columbia Plateau are volcanic, while the Olympic Mountains have been thrust up by the interaction of the earth's continental and oceanic crustal plates. Continental glaciers carved out Puget Sound and left deposits of rock, sand and gravel on both sides of the Cascade Range, and massive glacial flooding left a patchwork of scablands and rich soils on the Columbia Plateau in eastern Washington.

The result is topography with elevations that range from sea level at the coast to 14,411 feet at the summit of Mt. Rainier. Precipitation ranges from 200 inches annually in parts of the Olympic Mountains to only seven inches annually in some areas east of the Cascades, a result of the interaction between Washington's topography and moist air coming off the Pacific Ocean.

Together with soils, such variations in precipitation and elevation shape Washington's forests. Like the rest of the state's geography, Washington's forests are diverse. Coastal rain forests and lowland forests share the state with montane forests and the alpine and sub-alpine forests of the Olympic Mountains and the Cascade Range. The Cascade Range divides the state into two major, contrasting zones: the wetter, more temperate western half of the state, and the drier eastern half, which has more extreme temperatures and a shorter growing season.

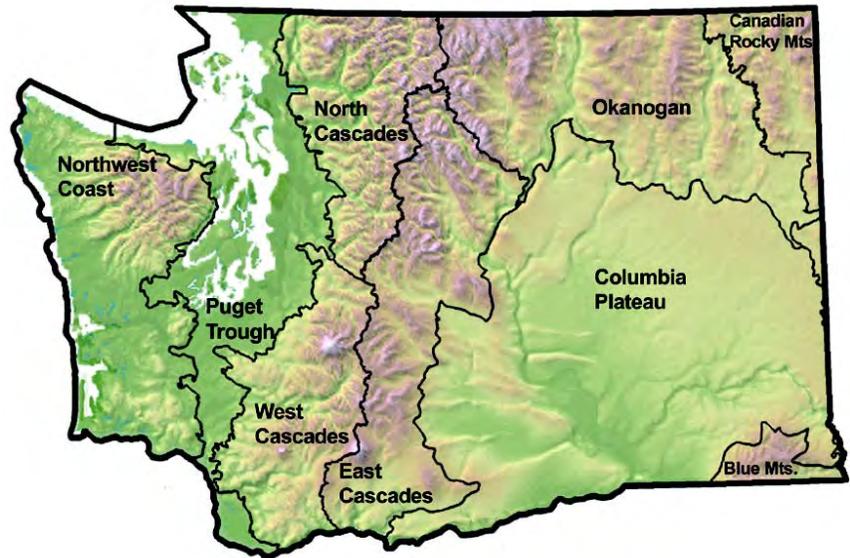
Eight of Washington's nine ecoregions are characterized by forests, and support working forest landscapes. (The Columbia Plateau ecoregion is characterized as shrub-steppe. See Fig. 2.1.) While many of the same tree species can be found in more than one ecoregion, the character and composition of forests differ among them. Even within a single ecoregion, the composition of lowland forests differs from that of highland forests. Depending on location, a Washington forest may feature Douglas fir, spruce, hemlock, redcedar, fir, pine, larch, alder, oak, maple or madrone—or a combination of species. (See Appendix B for a more detailed description of the forests of each ecoregion.)

Fig 2.1 – Ecoregions of Washington**BIG TREES
GROW HERE**

The largest known specimens of several commercially valued conifer species are found in the state of Washington:

- Douglas fir
- Western hemlock
- Sitka spruce
- Western redcedar
- Alaska -cedar
- Pacific silver fir
- Noble fir

Source: American Forests
2004-2005 National
Register of Big Trees



The combination of soils and climate has made Washington forests among the most productive in the world. With the exception of only the highest elevations, virtually all of western Washington's temperate forests extending to sea level produces some of the largest timber volumes in the world. However, development over the past 100 years has resulted in the conversion of 2 million acres of forest to other uses. Much of this has been in the low elevation Douglas fir plant communities on the west side of the Cascade Range, near population centers where some of the most productive forest soils and favorable terrain exists.

Soil Productivity

Soil is a fundamental basic medium for forest growth and rooting, and the storehouse of mineral nutrients and water required by the forest community. Among the most important soil related properties affecting or affected by forest management activities are topography, soil texture, rock fragment content, soil drainage characteristics, the parent material from which the soil was derived, soil depth, and amount, character and distribution of soil organic matter. Soil is the product of interaction of climate, organisms, parent material, topography and time.

Site indexes of forest productivity are generally higher in non-glaciated areas. Generally in Washington, most private non-industrial forestlands contain higher-site classes. These lands are typically lower in elevation and more often associated with valley bottoms and low-lying foothills.

On the west side of the Cascade Range, for example, low elevation site classes will generally be Douglas Fir Site I to Site III. Site II Douglas Fir

soils are widely distributed in most areas below 1,500 feet in elevation. Timber stocking on 40- to 60-year-old naturally established conifer stands range from 25,000 to 40,000 board feet, Scribner Log Scale per acre. Ironically, these are areas where many of Washington's urban centers are located.

East of the Cascade Range, forest soils are generally more glaciated and less productive and human population is sparser than in much of western Washington, but it is still primarily the valleys and the lower elevations that have been settled and that have the more productive soils and accessible sites.

Although eastern Washington soils may not support the giant firs and cedars found on the coast, they do support sizeable, valuable pine, and larch forests that are adapted to a drier climate and more marginal soils.

Not all forested lands with productive soils in Washington are well suited for timber production. Unstable soils in many areas reduce operational flexibility for roads and harvest options. This results in increased costs and some inoperable sites. When the more operable, productive areas are converted to other uses, these inoperable or less stable sites cannot substitute.

The events and conditions that shape Washington's soil are largely climatic and geologic, and cannot be easily reproduced or re-created elsewhere. The Forest Legacy Program helps protect the benefits these forests provide—literally from the ground up.

GENERAL SOIL CHARACTERISTICS OF FORESTED ECOREGIONS IN WASHINGTON STATE

- **Northwest Coast** – In the southern part of this ecoregion, the Willapa Hills area was not subject to scouring by glaciation during the Pleistocene period; its absence has produced a region largely covered by relatively mature surface soils. The long time during which soil forming processes have been active have produced an area characterized by deep, medium to fine textured soils. In the northern part of ecoregion, the Olympic Mountains area is characterized by high annual precipitation and soils with generally shallow to moderate depths. The shallow to moderate soil depths have been generally influenced by a combination of glacial activity centered in the Olympic Range, the character of the geologic parent material, and recent geomorphologic processes.
- **Puget Trough** – Within the maximum extent of the continental glaciation, soil patterns are very complex with much local variation. Parent materials range from various bedrock, outwash sands, and gravel to glacial tills. At the extent of continental glaciation, approximately south of Olympia, soils are more influenced by volcanic components. Due to the relative youth of most soils in the region (less than 13,000 years), characteristics of the parent materials have been little altered by soil forming processes. Most of these soil types do contain Mazama ash in upper horizons.
- **North, West, and East Cascades** – Soils in these regions are perhaps the most diverse. Variations in elevation, precipitation, parent material, topography, and vegetation contribute to a wide range of soils. Soil depths generally vary with elevation. Glaciation, erosion, and mass wasting have left large areas of exposed rock and shallow soils. In other areas are large areas of deep and moderately deep solids formed on a variety of parent materials, including volcanic-ash deposits and deeply weathered bedrock.
- **Okanogan and Canadian Rocky Mountains** – Like the Cascade Range to the west, these ecoregions contain a wide range of environments and soils. Elevation and rain shadow effect of the Cascade Range has a great effect on mean annual precipitation, forest communities and soils. The area has been extensively glaciated. Glacial outwash and till deposits are the predominant soil parent materials; glacial lacustrine deposits are also common in some areas. Wind-deposited soil materials (predominantly silt, and volcanic ash deposits) blanket much of the area and overlie the glacial deposits.
- **Blue Mountains** – This ecoregion has climatic characteristics similar to those of the Okanogan Ecoregion, but with slightly lower maximum can annual precipitation at higher elevations. The area is underlain primarily by basalts. Glacial deposits of basaltic material are found at higher elevations, while wind deposited parent materials (loess) become common at the lower elevations. Evidence of volcanic ash-fall materials is common in many soils in the area.

Adapted from Forest Land Management Program Final Environmental Impact Statement.
DNR. 1983.

The need for Washington's forests

Washington's forests play many important roles. As native ecosystems, they support wildlife, filter water, supply oxygen and more. And as a source of natural resources, they support human lives, lifestyles and livelihoods.

Dependence on natural resources, particularly timber and fish, is a long-standing aspect of the cultural heritage and identity of Washington State. Forest resources not only provide significant economic benefits through timber production, mineral extraction, grazing, and tourism, they also are an important part of the state's heritage, culture and scenic character.

The valuable assets and uses discussed in the remainder of this chapter are protected when forestlands remain in forest uses. These assets can be found on public and private forests throughout the state. Because the Forest Legacy program promotes long-term protection and fosters traditional forest uses by providing private landowners with a mechanism to continue forest production on lands that would otherwise be converted to other use, the program can help Washington maintain these valued aspects of its heritage, identity, culture and economy:

- Forest products
- Water resources
- Fish and wildlife habitat
- Cultural and historical resources
- Minerals
- Recreation
- Scenic values

Timber and Other Forest Products

Forest products historically have been an important part of Washington's economy, and are currently a significant industry in the state. In 2002, about 45,000 people were employed in the forest products industry in Washington: Lumber and wood products related jobs employed 31,000 people while paper and allied products employed 14,000. The wages from these jobs are significant, especially in the less urban portions of the state.

Washington's \$176 billion gross state product (1997) included \$2.2 billion from lumber and wood products (1.2% of the total). Paper and allied products contributed another \$1.3 billion in the same year. New technology and changes in manufacturing processes continue to create new products for use throughout the world. Washington's numerous deep-water ports aid in the efficient transportation of these forest products.

WOOD PRODUCTS

Mills and manufacturers in Washington turn timber into:

- lumber
- plywood
- oriented strand board
- paneling
- decking
- doors
- furniture
- pallets
- trusses
- crates
- paper
- cardboard
- engineered wood
- millwork
- compressed fuel logs
- wood pellets, hog fuel
- landscaping bark

Historically, international markets were important to Washington forest landowners. The downturn in the economies of many Pacific Rim nations, together with increased supply from other regions, has negatively impacted the financial returns of many Washington forest landowners. The premium paid for export quality logs has decreased dramatically in recent years throughout the Pacific Northwest. The reduction in the price paid for export logs has reduced the number of logs which have been exported, and this has helped contribute to an increase in the domestic log supply in the Pacific Northwest and a lowering of stumpage prices paid to landowners for logs. For some landowners, reduced returns may provide incentive to sell their forestland or convert it to other uses. Improvements in the economies of Pacific Rim nations and in the United States will provide increased economic returns to Washington forest landowners but rates are not expected to increase significantly.

Harvests from Washington forest landowners support sawmills, veneer production, veneer logs, poles, piling, and pulp production in a variety of ways. Most small forest landowners sell their timber directly to a logger who harvests the timber and sells logs directly to domestic mills or exporters. Some small landowners and many medium sized owners sell their logs directly to one of the dozens of lumber and pulp mills located throughout the state or to a logs broker. Some large private landowners process a portion of their timber in their own mills. The majority of forest revenue comes from marketing timber or timber products.

The harvest of timber in Washington State are highly regulated by the state's Forest Practices rules. In 1999 the state adopted the "Forests and Fish Report" as the standard for forest stewardship of non-federal forestlands. The rules based on this new standard provide protection for salmon and other aquatic species. For example, under the "Forests and Fish" rules all road culverts that block fish passage are being identified and must be replaced.

Special forest products

Special forest products provide another opportunity for Washington's forest landowners to market products from their lands. Special forest product revenues to forest landowners come mainly from product sales in the following categories: floral greens, Christmas ornamentals and evergreen boughs, mushrooms, landscaping plants, dried flowers, edibles, herbs, and medicinals. This industry is growing both in diversity and in overall total revenues for products, and special forest products are marketed both domestically and internationally. The size and scope of these operations can be as small as children picking wild huckleberries or as large as a company with 150 employees shipping containers throughout the world. While it is difficult to measure all of the elements within this industry, the current market in the Pacific Northwest may be as high as \$250 million.

Grazing

While cattle, sheep, and horses are not forest products per se, grazing is often part of forestland management in eastern Washington. It can be a source of income while timber is maturing. Landowners typically manage the livestock themselves or lease the land to ranchers who need supplemental forage for their stock. Few grazing opportunities exist in western Washington. Some landowners in western Washington have experimented with sheep and goats, although the primary purpose was for brush control, not revenue from livestock.

Many forest areas that produce high quality forage have become wildlife management areas. One of the primary limitations for elk and mule deer populations on the east slope of the Cascade Range is the availability of winter forage and browse. Some landowners lease their property to the Washington Department of Fish and Wildlife or wildlife conservation groups as a source of income.

Grazing on forestlands is less prevalent now than it was in the past. Heavy tree stocking rates and wildfire prevention measures have allowed the canopies to shade out grass and forage in some areas that formerly could support livestock.

Water Resources

A look at the differences between forests on the west and east sides of the state clearly shows the influence of water. However, the forests themselves are a major influence on Washington's water resources. The vast majority of watersheds that produce water in excess of what is used by plants, stored in the soil, or lost by evaporation are forested under natural conditions. Therefore, forestland is a significant source of water for stream flows and aquifer recharge in Washington. Forests play an important role influencing the timing, quantity, and quality of water and maintaining riparian and in-stream habitat.

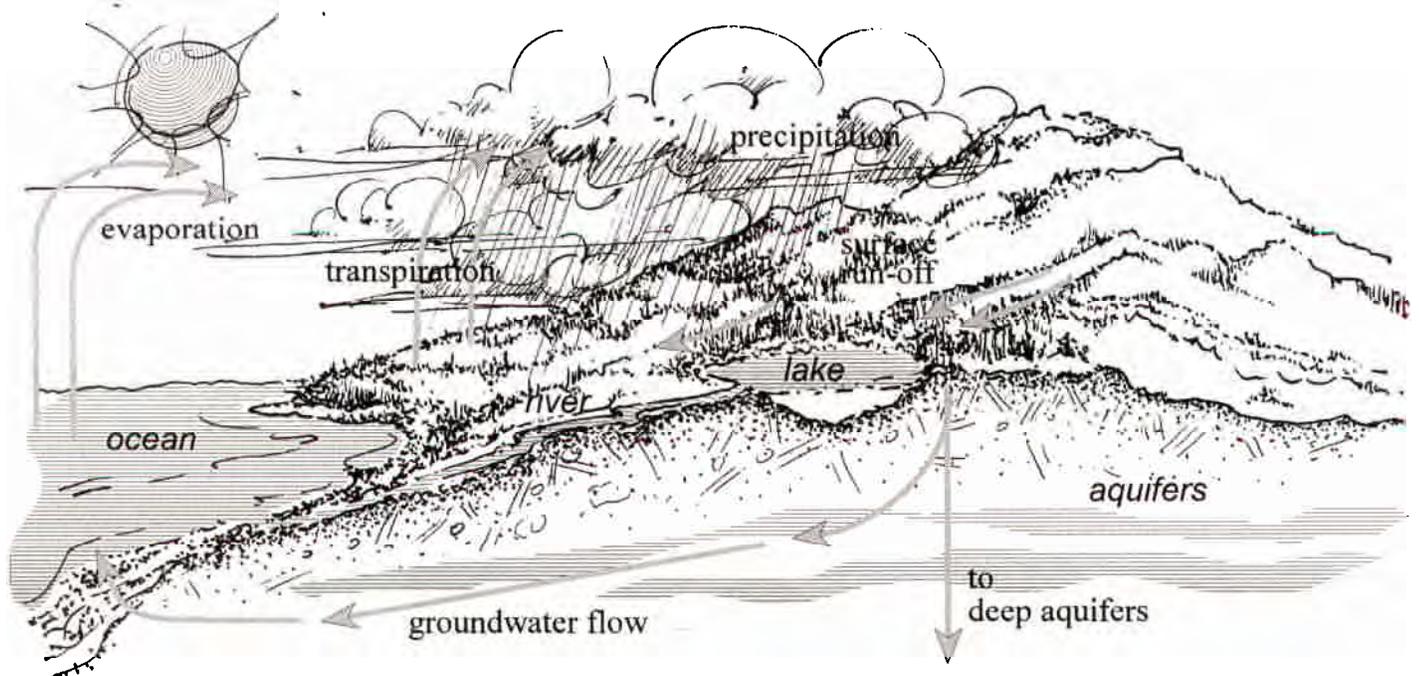
Forests influence when snowmelt is released and how quickly water reaches stream channels. In areas where a snow pack accumulates over the winter, shade from forest vegetation reduces the rate of melt in the spring. Snowmelt rates are also lower under the forest canopy than in the open during rain-on-snow events that are often associated with winter flooding. Forest soils generally have high infiltration capacities because of the proportion of organic material in the upper horizons and the macropores associated with root systems of forest vegetation. Consequently, most snowmelt and rain that reaches the forest floor infiltrates into the soil, and water not held in the soil column is available for aquifer recharge or for lateral subsurface transport to stream channels. Forest cover not only cleans water resources, it is critical for recharge for groundwater reserves.

Forest vegetation influences the quantity of water available for aquifer recharge and stream flows in two ways. Tree crowns and understory vegetation intercept a portion of precipitation before it reaches the forest floor. Most of this water is lost to the atmosphere through evaporation. Some of the water that infiltrates into the soil is extracted by plant roots to be incorporated into the vegetation or lost to the atmosphere through the transpiration process. Water extracted from the soil must be replaced before excess water is available for aquifer recharge or stream flows.

The quality of surface water is enhanced by the presence of forest vegetation. Trees in the riparian areas of forest streams provide shade to protect water temperature as well as minimize bank erosion with their deep root systems. Because overland flow is uncommon in undisturbed forests, delivery of sediment to surface water by sheet and rill erosion is also uncommon. Although mass wasting naturally occurs on steep slopes in several areas of Washington, forest vegetation moderates the frequency and severity of these events because of stabilizing root systems and to some extent the reduction of positive pore pressure that is often the triggering mechanism of a land slide.

Competing demands for water for irrigation, consumption and habitat needs are making Washington's forests increasingly important for meeting the state's water supply needs.

Fig. 2.2 The Hydrologic Cycle





**FOREST WILDLIFE
SPECIES IN
WASHINGTON THAT
ARE FEDERALLY
LISTED AS
THREATENED OR
ENDANGERED**

Terrestrial species

Grizzly bear
Woodland caribou
Columbian white-tailed
deer
Gray wolf
Canada lynx

Avian species

Bald eagle
Marbled murrelet,
Northern spotted owl

Aquatic species

Nine species of sockeye,
chinook, and chum salmon
Four species of steelhead
Bull trout

Fish and Wildlife Habitat

Washington's forests are habitat – the natural home for many fish and wildlife species, from large mammals to tiny insects, from resident populations to seasonal migrants. Some of the animals in Washington's forests are game animals, but many more are not. Washington's fish and wildlife are valued for sport, commerce, viewing, cultural significance, and as creatures with a place in the ecosystem.

One “critter” that relies on Washington's forests is a Northwest icon – salmon. Salmon are important in the state's history, culture, and economy. Salmon, as well as steelhead trout and other species, depend on forests to shade (and thus cool) streams and other bodies of water. Salmon also need clean gravel for spawning, and riparian forests filter runoff, keeping silt out of streams. Large woody forest debris that falls into the water provides hiding places and nutrients for young salmon. Riparian vegetation is also an important source of nutrition for aquatic invertebrates.

Protecting lower elevation forestlands and riparian areas is necessary for sustaining salmon runs. The Washington State Forest Practices rules are dedicated to the protection of fish and wildlife habitat. Also, many Habitat Conservation Plans help protect habitat on private, local government, and state working forestlands.

Washington salmon runs, in turn, feed other forest species, such as bears, as well as a national icon – the bald eagle, which feeds off the dead carcasses of spawned out salmon. Migratory and year-round resident eagles in Washington make up the largest population of bald eagles in the contiguous 48 states.

Marine species (residents of salt water) such as shellfish, also rely on Washington's forests. When rivers and streams flow from the forest into estuaries, bays and inlets, they provide a source of clean water and nutrition, becoming part of salt-water ecosystems and species habitat. And at sea, the salmon that rely on Washington forests are food for seals, sea lions, and Orcas.

Forest habitat is a key part of such connections in the food chain, but the connections on the ground are also important for Washington's wildlife. Wildlife corridors are needed by migrants and residents alike to get from one place to the next, from wintering grounds to breeding grounds, from foraging sites to resting sites. Also, some species in Washington require large individual territories. A male cougar, for example, requires a home range of up to 100 square miles.

The location and type of forest are also important. Some species are adapted to various forest types and can be found across the state. Others have more restrictive habitat needs. For example, elk can be found on

both sides of the Cascade Range, but the marbled murrelet (a forest-dwelling seabird) is found only within about 65 miles of the coast.

Threatened and endangered species

In Washington State, 30 species of wildlife are federally listed as threatened or endangered. Twenty-two of these are associated with forests (see list). Salmon and bull trout are the focus of land management concerns statewide, and in western Washington, considerable attention also has been focused on the northern spotted owl and the marbled murrelet. Similarly in eastern Washington, attention has been focused on the Canada lynx, and in the northeast portion of the state, on the Woodland caribou.

In Washington, much of the protected habitat for threatened or endangered species is on state and federal lands. On these lands, the policies of these agencies result in protection being provided to not only the species themselves, but also the ecosystem upon which they depend. Protecting whole ecosystems is particularly important for protecting the many species that remain poorly described and poorly studied, especially insects, mollusks, and other invertebrate species which are more directly related to key ecosystem processes than well-known vertebrate species.

On private lands, protection under the Endangered Species Act has been focused on habitat protection for individual animals, and has not focused on diverse ecosystems, which is only moderately effective in preventing degradation of habitat. Many large forestland holders are entering into Habitat Conservation Plan Agreements with the US Fish and Wildlife Service. These agreements have helped shift the focus to ecosystems and landscapes.

State-listed species

Many wildlife species in Washington State are not federally listed but are still of concern because they are at risk of being extirpated from the state. Some of these species may be candidates for federal listing. The northern spotted owl was on the state's list of threatened and endangered species two years before the federal government listed it.

In western Washington, these state species of concern include the pileated woodpecker, great blue heron, northern goshawk, golden eagle, Dunn's salamander, larch mountain salamander, Van Dyke's salamander, American marten, fisher (which already may be extirpated from the state), Yuma myotis, Keen's myotis, and Townsend's big-eared bat.

In eastern Washington, a recent assessment of habitat of sensitive species in the Interior Columbia River Basin identified species that are vulnerable because the habitat types that best support successful reproduction are in decline. Several of these species are associated with forest habitats, including the white-headed woodpecker, white-breasted nuthatch, pygmy

nuthatch, Lewis' woodpecker, northern goshawk, flammulated owl, American marten, fisher, Vaux's swift, Hammond's flycatcher, three-toed woodpecker, Silver-haired bat, hoary bat and western bluebird. Many of these species are associated with habitat elements (e.g., large dead standing and down trees) that have become increasingly rare and are difficult to restore once they have been lost.



Cultural and Historical Resources

Washington's forests have long been at the center of people's history, identity, economics and culture.

Tribes of the Pacific Northwest have depended on a myriad of forest resources—animal, vegetable, and mineral—as the means for survival and integral parts of the people's cultural and spiritual bonds to the land and each other. Thousands of years of experimentation have made the Indians of the Pacific Northwest experts on forest resources. As skilled fishers, hunters and plant collectors, as well as skilled artisans and technicians, they used an astonishing array of species for specific purposes and still do today. Salmon are particularly important to some tribes. Water quality and protection of habitat will be critical for protecting basic cultural values. The connection to forests is not merely an aspect of their past, it is an essential part of their future, too.

For the tribal peoples in Washington, places also were and are resources. Many places are identified with a particular spirit. Prominent geological and geographic features are often sources of spiritual power and have been incorporated in the peoples' myths and legends. Other isolated places are used to store ceremonial gear that is an integral part of yearly ceremonies. Such types of sites are known as Traditional Cultural Properties.

At the time of historic contact there was a large native population in Washington. Although there are hundreds of recorded prehistoric sites, much of the state has not been surveyed. Very little work has been done in dealing with Traditional Cultural Properties (TCP). Many known sites have not been inventoried or protected. It is important to preserve even well-studied sites as new knowledge leads to new discoveries. Major threats to prehistoric sites are natural processes and construction and development.

In addition to cultural sites historically associated with tribal use, there are remnants of the past two centuries of settlement in Washington that may still be found in the forests. Euro-Americans, like Native Americans, used the state's forested lands for resource extraction. However, the scale and intensity was much greater and the relationship with the land much different.

The Pacific Northwest was first visited by Euro-Americans during the late 1700's, with explorers charting and describing the coastline. Fur traders were the first Euro-Americans to set up residence. The fur traders were representatives of large corporations involved in international trade.

The best known of these fur trade companies was the Hudson's Bay Company with posts at Vancouver, Nisqually, Okanogan, Colville, etc. By the late 1830s, the Hudson's Bay Company had expanded into agricultural production, maintaining large farms in the lowlands around Fort Vancouver and Nisqually and in the lower Cowlitz.

The earliest American settlers tended to cluster a short distance away from the trading posts. Many of the settlers were drawn by the promise of farmland and tended to settle in the rich alluvial plains. Many however, came to exploit the region's timber and mineral wealth.

The state's timber industry began in the 1850s and loggers concentrated on large trees close to coastlines and the major rivers. The next stage, after these trees had floated to the mills, was using teams of oxen to haul logs to water along skid roads. These roads may still be found in waterlogged settings. Mechanized logging began in the 1880s using steam locomotives and steam donkeys. In addition to skid roads, sites associated with logging include railroad grades and tracks, trestles, skid trails, logging roads, construction and logging camps, splash dams, stumps cut with springboard notches, and a variety of equipment.

Mining also has left its traces throughout the state. On the west side of the state, coal was the primary resource. On the east side of the state a variety of minerals and gems were mined. In addition to large, open pit mines and haul roads, traces of past mining occur as mining prospects, miners' camps and mineshafts.

Future values

Although the historical value of Washington's forests is rooted in the past, their cultural value extends into the future. New cultural sites are created as Washington's people continue to use and value its forests. New traditions are created for forest resource use. Many benefits may not yet be realized or even anticipated. For example, a century ago, who would have foreseen forests being valued for cleaning polluted air and storing carbon?

Forests are deeply engrained in the state's culture. Even the state's nickname – the Evergreen State – shows the impact of forests in Washington State.

Mineral Resources

Today in Washington, metallic mineral deposits (and production) are limited, although there are deposits of gold, lead, and zinc with significant production history, as well as some other metal deposits.

A variety of nonmetallic mineral deposits have been explored in Washington, but by far the most important economically have been sand and gravel associated with the glacial moraines and the floodplains of the state's river systems, as well as the basalts quarried for crushed rock, rip rap, and jetty stone. These aggregate and stone resources are widely distributed across the state. They remain the most economically significant mineral products in the state. A major market for these aggregate and stone resources has been the road, railroad, port, and similar infrastructure to support Washington's continued growth. Also, many rock pits and quarries exist for the construction and maintenance of forest roads.

The growth in Washington is concentrated in the easily developed Puget Lowlands and the floodplains along the major rivers. This growth pattern limits access to the aggregate materials in these areas. One result of this development pattern is to push the extraction of these needed resources into forest and agricultural areas, with the resulting acceleration of the conversion of these lands to alternative uses.

Recreation



A 2002 report from Washington's Interagency Committee on Outdoor Recreation (IAC), titled *An Assessment of Outdoor Recreation in Washington State*, shows that more than half of the state's population participates in some form of outdoor recreation. The report identifies 15 major categories of recreation. Some activity from nearly every category takes place in a forest setting in Washington. About 10 million acres of public land are managed in whole or in part for outdoor recreation, habitat, and environmental protection. The vast majority are federal lands, including three forested national parks, several national recreational areas and six national forests. More than 2 million acres are forested state trust lands, which are managed for multiple use and allow recreation as long as it does not conflict with trust management goals. In addition, some state-owned forested areas have been dedicated to recreation (State Parks) and others are dedicated to species, habitat or ecosystem protection but allow specific forms of recreation. Some city and county parks also are forested.

Private campgrounds and resorts also provide recreation in forested settings as their main business. Other private forest landowners, including large timber companies, accommodate public recreation. In this respect, private timberlands resemble forested state trust lands, where

recreation is allowed as long as it does not compromise the owner's ability to manage for business purposes.

RECREATION IN WASHINGTON FORESTS

- walking/hiking
- nature activities (bird watching, photography, etc.)
- sightseeing
- bicycle riding
- picnicking
- fishing
- camping
- water activities (boating, canoeing, etc.)
- off-road vehicles
- hunting/shooting
- horseback riding
- snow activities (cross-country skiing, snowmobiling)
- air activities (hangliding, paragliding)

Up until the 1980s most of the larger forest landowners allowed free and unfettered access to their lands on a year-round basis for hunting and fishing purposes. Due to garbage dumping, drug production activities (methamphetamine labs), theft, potential for forest fires, increasing security costs, vandalism to property, and an increasingly litigious society, most of these companies have gated their property and currently require walk-in access or open gates for a short period of time for hunters. Some are beginning to charge access fees for hunting or fishing. Although this practice is common on forestlands throughout much of the United States, this is a relatively new event within Washington State and is somewhat controversial.

Privately owned forestlands could potentially provide outstanding recreation opportunities and access for the public, but major stumbling blocks are liability, protection of resources, impacts on resource production and harvest. Some of the impacts of these issues can be reduced by public education, and state laws that limit liability, but most of the risk cannot be mitigated.

Some forested public lands also have been gated and recreation sites have been closed because of lack of adequate funding for maintenance. Funds have diminished at the same time that maintenance costs have increased due to increases in problems such as those outlined above.

Access to most public forested lands is also less convenient than many recreationists prefer. The IAC report notes that nearly half the recreation visits – of all types – are to local government facilities. However, the bulk of forested opportunities are located on state and federal lands, and most federal lands are at higher elevations distant from populated areas, and able only to host relatively low-participation



Aesthetic and Scenic Values

For most Washington residents, forests are a backdrop to their daily lives. Forests surround most of the state's cities. Both residents and visitors passing through the state are quickly made aware of the presence of the forest. Travelers on the two interstate highways that bisect the state (one north-south, the other east-west) or on the ferries that service Puget Sound and the Olympic Peninsula have their trips enhanced by views of nearby forest stands or distant forested and snow-capped mountains.

The aesthetic value of Washington's forests is a major attraction. In addition to the Columbia Gorge National Scenic Area, Washington contains three forested national parks and numerous national recreational areas and monuments, known throughout the nation and world.

The 1997 *Washington State Visitor Profile* from the Washington Department of Community Trade and Economic Development identified relaxing and sightseeing as the Number 1 trip activity for travelers in the state in 1995/1996, with 54 percent of the trips involving this activity. Visiting a state park or national park ranked fourth and fifth, respectively. Half of the travelers were Washington Residents.

Washington's outstanding scenery is an important factor in the quality of life for both residents and visitors. Forests are only a part of that scenery, but much of the image and identity of the state is derived from the visual character of the state's forests.



Partners in protecting forest landscapes

Although most forest landowners have differing missions, many share common goals and objectives; these stakeholders can easily become partners in conservation effort that shape the landscape, and working together, can create better results.

While the largest forest landowner in the state is the federal government, throughout Washington the state manages forestland for commodity production and conservation purposes. In combination, these management objectives make a considerable contribution to benefit values associated with forestlands. Private industry, local government, the public, and non-profit entities also make a significant contribution to conservation and preservation with their forestland ownership.

Conservation of forestlands through the Forest Legacy Program directly contributes to the conservation of values discussed earlier in this chapter: The program is designed to permanently protect timber management, fish, wildlife, scenic, recreation, cultural, and riparian resources for future generations.

Land trusts, private interests, and government recognize the critical role that working forest landscapes play, especially near population centers where threat of forest conversion is greatest. The state implements the Forest Legacy Program, in cooperation with interest groups and local government, to provide opportunities for conservation of connective forest landscapes.

Land trusts and local governments have contributed millions of dollars toward conservation efforts that directly complement and leverage Forest Legacy Program transactions. Combining other programs, strategies, and funding with Forest Legacy Program projects provides unparalleled focused conservation benefits. When positioned strategically, lands acquired and managed through these programs can complement the

goals and objectives of the other. For example, efforts such as the Mountains to Sound Greenway and the Cascade Foothills Initiative provide a common goal and a means to connect and coordinate various landowners and programs in order to focus their multiple efforts for on-the-ground effectiveness.

Fig. 2.3 Cascade Foothills Initiative



Washington State is carefully assessing how conservation and preservation land acquisitions complement management of working forest landscapes, and how they contribute to sustaining of biodiversity, good water quality, local communities, recreation, and other values.

Washington State intends to use available resource data and other sources to evaluate how Forest Legacy project proposals support land acquisition goals, objectives and criteria, and to prioritize potential land transactions for inclusion in the Forest Legacy Program. The contribution of the individual parcel in the larger conservation landscape is of critical importance; evaluation resources could include: Ecoregion Assessments, Department of Natural Resources Region Assessments, Geographic Information Systems products, Nature Serve Program, Local Habitat Conservation Plans (HCPs), Forest Practice and Regulatory requirements, Pertinent Land Management Plans, Growth Management Plans, and more.

The Washington State Department of Natural Resources (DNR), which manages the state Forest Legacy Program also manages other land

acquisition and conservation programs that in conjunction with the Forest Legacy Program, complement each other to provide excellent landscape benefits.

- *Washington Natural Heritage Program* maintains a database on rare species and native ecosystems, and recommends lands for acquisition to protect them.
- *Natural Areas Program* acquires lands for preservation of ecological values and protection of native ecosystems and habitat for endangered, threatened, and sensitive plants and animals.
- *Riparian Open Space Program* provides funding to private landowners for acquisition lands in Channel Migration Zones to protect riparian function.
- *State Trust Land Management Program* manages about 2.1 million acres of forestland to generate revenue for state trust beneficiaries.

Through DNR, the state also participates in other federal grant programs that, when used in combination with the Forest Legacy Program, can provide greater benefit and leverage important conservation transactions. Such programs include the Cooperative Endangered Species Conservation Fund and National Coastal Wetlands Conservation Program—both from the Department of the Interior.

Chapter 3

Trends Related to the Conversion of Forests to Non-forest Uses



In the state of Washington, many factors contribute to forestland conversion. Research and analysis, conducted in the course of developing this Assessment of Need (AON), point toward development and growth in rural areas as the most imminent threat to working forests in the State of Washington.

To implement the Forest Legacy Program so that it effectively protects environmentally important forest areas from being converted to non-forest uses, it is essential to understand the trends and patterns that are related to forestland conversion. This AON looks at some of these: the rate and location of conversion, population growth, ownership patterns, and economic and regulatory impacts.

Rate and location of conversion

The Natural Resources Conservation Service (NRCS) has reported that “Washington’s forestland is being converted to other uses at a rate that exceeds the rate of conversion in the Pacific Northwest region and the nation as a whole” (Clinton and Lassiter 2002).

Since the 1930s, Washington has lost approximately 2 million acres of private forestland to non-forest uses (Clinton and Lassiter 2002). Between 1982 and 1997, Washington State lost approximately 263,000 acres of forestland to non-forest uses. Washington is losing non-federal forestland at an average rate of 17,500 acres (net loss) per year (ISU 2000).

The pressure of population growth is reflected in the NRCS-National Resource Inventory figures for conversion of non-federal rural resource lands (including forestlands) to urban and rural transportation uses in Washington (Clinton and Lassiter 2002):

- Between 1982 and 1997, an average of about 37,000 acres were converted per year; about 17,500 acres of these were converted from forestland.



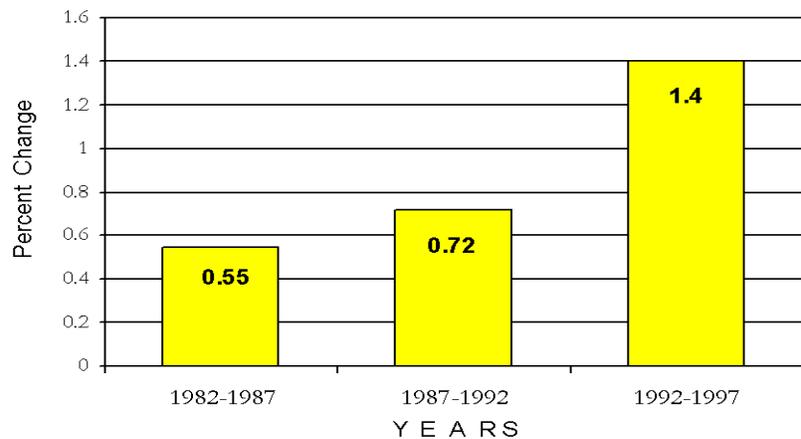
- Between 1992 and 1997, an average of about 44,000 acres were converted per year; 21,000 acres of these were converted from forestland.
- Since 1997 the conversion of forestland to urban, rural and transportation uses has begun to outpace that of the conversion of agricultural lands.



It is not surprising that much of the conversion of forestlands is taking place in western Washington along the I-5 and I-90 corridors near the larger metropolitan areas. These areas continue to expand. Unfortunately, these areas also are highly suitable for forestry because they contain some of the nation’s most productive forest soils—capable of producing 120 cubic feet per year—on gentle slopes in close proximity to existing infrastructure. The USDA Forest Service reports that in the I-5 corridor between Olympia and the Canadian border (King, Kitsap, Pierce, San Juan, Skagit, Snohomish, Thurston and Whatcom counties), it is estimated that 159,000 acres of private timberlands were converted between 1979 and 1989, or about 15,000 acres annually (MacLean and Bolsinger 1997).

Forest conversion is happening throughout most of the state, not just in the Puget Sound region (which was the focus of the 1993 Washington Forest Legacy Area). For example, Clark County, in the southwestern portion of the state, has become a bedroom community to Portland, Oregon, which lies just across the Columbian River. Clark County has the third highest population density in Washington and has lost more than 15,100 acres of forestland to development between 1982 and 1997. Also, in eastern Washington, Spokane County ranks in the state’s top ten counties for forestlands being converted to non-forest uses. This is consistent with Spokane County being the eighth most densely populated county in the state and with the City of Spokane being the major metropolitan area in eastern Washington.

Fig. 3.1 Estimated Rate of Conversion of Nonfederal Forestland in Washington State



Data Source: 1997 National Resource Inventory

Growth Management



Washington's Growth Management Act (GMA) was intended to prevent uncoordinated sprawl across the state's landscape. By focusing growth in designated urban growth areas, public services and utilities could be delivered more efficiently, landscape character could be deliberately maintained or developed, conflicts in development could be reduced, and needed natural resources could be assured for the long term. However, forestland conversion still occurs in areas zoned under Growth Management laws, both in the areas zoned to promote development and residential use, and in areas zoned to protect long-term forest uses.

Counties allow development on forestlands in different densities. The higher densities are usually located near the interface with areas designated as Rural Residential. Densities typically range from 1 home per 10 acres (and less) to 1 home per 80 acres.

County planners for King and Pierce counties (two of the counties in the 1993 Forest Legacy Area) have indicated that 40 acres is the smallest parcel size that can sustain working forests. Properties zoned for long-term forestry near Rural Residential areas and high growth areas are under pressure of development. It isn't uncommon to see 40-acre or larger parcels zoned for long-term forestry purchased for single family residential use; these lands are less likely to support working forestry. As more properties zoned for long-term forest use are purchased to support residential use, counties are put under more pressure to allow increased densities for residential use.

To combat this trend, King County has proposed rules that greatly restrict residential use on lands zoned for long-term forestry, but the public has been slow to support them without a strategy for long-term acquisition or compensation.

Growth management zoning designations effectively only slow development into areas zoned for long-term forestry, they don't provide protection for it. The Growth Management Act has not protected working forest lands from the effects of urban (rural) sprawl. County planners agree that segregation into smaller parcels impacts the transition of the forest zone. Without stronger regulations of development on lands zoned for long-term forestry, the most productive low elevation forest ecosystems in the state are likely to continue to become residential neighborhoods.

Even forestlands in less populated counties are being threatened. For example, Kittitas County is located due east of King County, and is beginning to feel the crunch of rapid expansion. The commuting distance to a Seattle-area job from as far as Kittitas County now seems acceptable, with good Interstate highway access (average commute of

just over 1 hour). The exact number of individuals who commute daily to jobs in King County is not known. However, according to local residents and county planners, that number has been steadily increasing over the last 10 years.

Kittitas county is typical of those counties located on the eastern slopes of the Cascade Range, where the western part of the county is dominated by large stands of privately owned forest lands, while the eastern portion is considered to be agricultural. Large private industrial forestland owners in the western portion of the county have begun selling large tracts of forestlands to developers. One such development adjacent to the city of Cle Elum (population 1,755) is a reported 8,000 acres and when fully developed will contribute a planned 4,400 new living units to the area. Another 10,000 acres of forestland was recently optioned to a private developer in the same vicinity.



Effects of Forest Conversion

The effects of forest conversion in Washington's low elevation ecosystems make all forestlands in the transition zone environmentally important and a priority for protection.

Conversion of forest watersheds to other land uses can significantly alter the timing, quantity, and quality of water as well as riparian and in-stream habitat. Land uses that create impermeable surfaces can accelerate water transport to stream channels, causing increases in peak flows. Removal of forest vegetation can shorten spring snowmelt periods and increase the volume of water delivered to streams during rain-on-snow events. The quantity of excess water is generally increased when forest vegetation is removed. However, the amount for aquifer recharge may be reduced when impermeable surfaces direct water to streams rather than allowing it to percolate downward. Land uses that cause overland flow will tend to increase the chance of sedimentation by sheet and rill erosion. The removal of forest on unstable slopes may increase the frequency and severity of mass wasting. Conversion of forest riparian areas to other uses can increase water temperatures and reduce channel stability causing damage to aquatic habitat.

For watersheds that are not set aside solely for the purpose of producing a water supply or are not protected by county critical areas ordinances, maintaining land use under sound forest management is an effective way to protect the water resource. Combined county, state, local and private conservation efforts normally require coordination to protect forest lands at a watershed scale.

Population growth

Population growth, with the development it brings, creates pressure to convert forestlands to non-forest uses, and the size and rate of population growth in Washington State is noteworthy.

Washington's population rose by 21 percent between 1990 and 2000. (OFM 9/2002) This ranked the state as the tenth-fastest growing state in the U.S., with a growth rate much higher than the national average of 13.2 percent. The population increase also meant the state ranked seventh in overall population change and made Washington State the fifteenth most populated state in the nation (USCB).

Seventy-two percent of that growth took place in counties located west of the Cascade Range, specifically King, Pierce, Snohomish, and Clark counties (OFM 9/2002) .

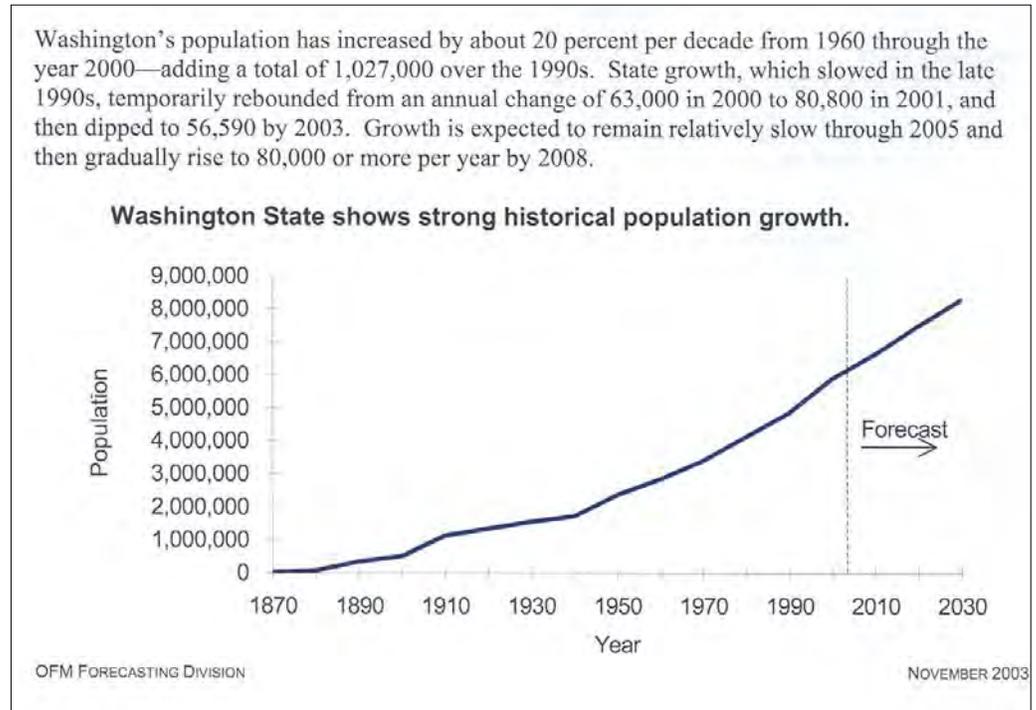
According to the National Census Bureau, Washington's population was about 5.9 million in 2000 (USCB). By the year 2025, the total state population is expected to be more than 7.8 million, and by 2045, approximately 11 million, according to the Washington State Office on Financial Management (OFM). The Washington State population grew by more than 1 million persons during the 1990s. The majority of growth is expected to continue to take place west of the Cascade Range, while eastern Washington counties that currently have a total population greater than 50,000 are each expected to have a 50 percent increase to their populations in the same period (OFM 1/2002).

As the following graph (fig. 3.2) shows, the past decade's growth and the growth forecast for the future are a continuation of strong historical trend of population growth:

- Washington's population more than doubled between 1960 and 2002. Over that period, approximately 50 to 75 percent of the population change was due to net migration (in-migrants minus out-migrants) and the remainder was due to natural increase (births minus deaths).
- Migration into and out of state in the 1980s responded to the severe economic recession of the early 1980s and the aerospace expansion of the late 1980s.
- The prolonged California recession, which resulted in out-migration of about 400,000 Californians per year in the early 1990s, contributed to Washington's high net migration figures. Even though economic growth in Washington was slow in the early 1990s, it still outperformed California.

- Non-economic factors, including movement of retirees to Washington, also contributed to strong population growth in the 1990s.

Fig. 3.2 – Washington State Population – 1870 to 2030

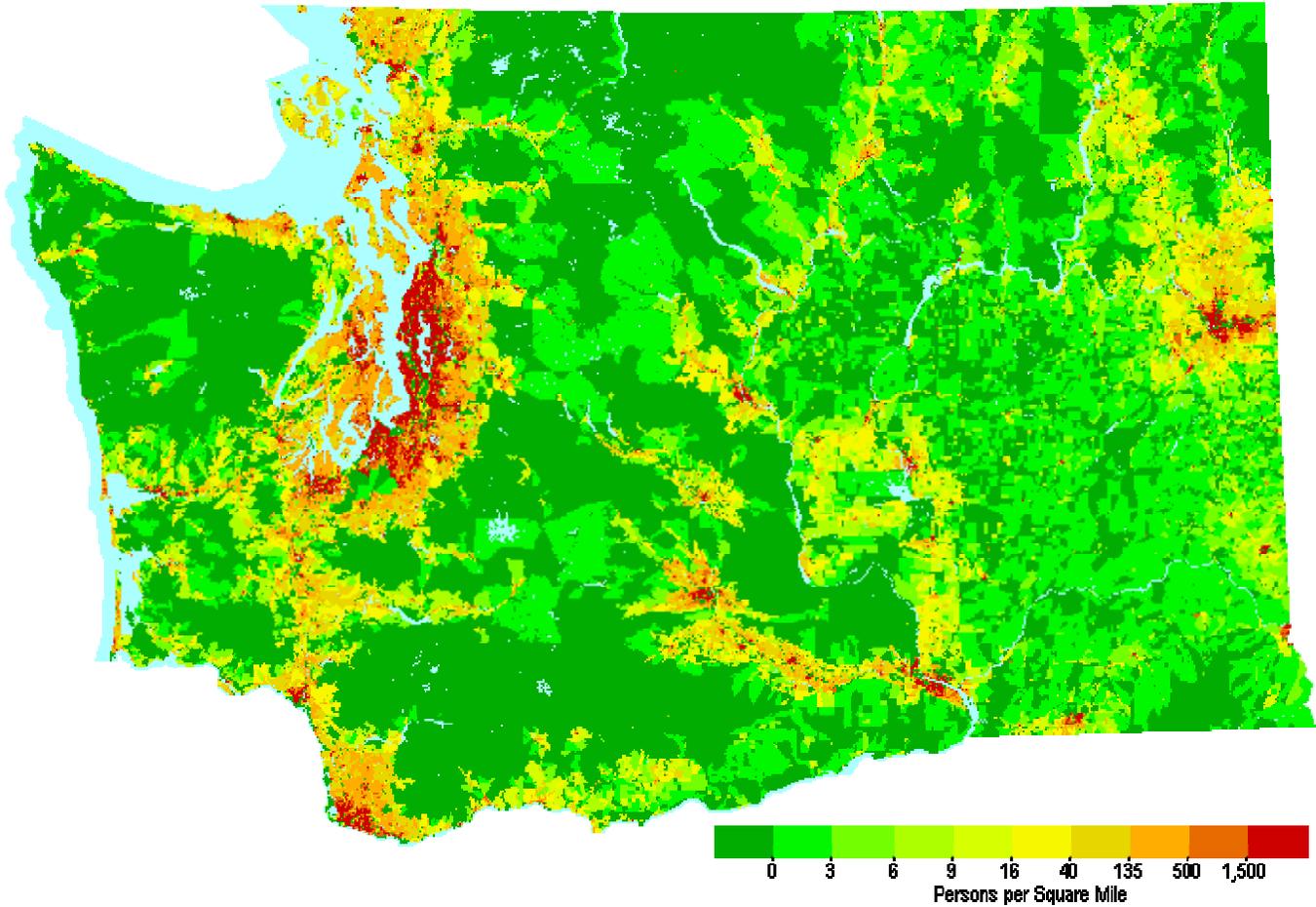


The growth rate for the state as a whole is expected to slow but remain higher than the national average. This slow down will be due in part to a change in the age of the state's population. In 2000, 11.2 percent of the state's population was over the age of 65. By 2025, 18.1 percent of the state's population is projected to be age 65 or older. As the population becomes older, the percentage of current population participating in the work force is expected to decline. This is predicted to result in a net immigration as the current work force needs to be replaced (OFM 1/2002).

As the state's population continues to grow, there is pressure to convert forestlands to non-forest uses. Population density information can be used as an indicator to identify where development pressure is likely in the landscape, and as a result, where forestland is at higher risk of conversion as development spreads out from the more densely populated areas.

Fig. 3.3 – Population Density 2000

Source: Washington Office of Financial Management



Forestland ownership

Of the 42.6 million acres that make up the state of Washington, 21.9 million acres are considered forested. Of these forested acres, 39 percent (or 8.5 million acres) are privately owned. The remaining 61 percent of forestlands in Washington State are owned by government agencies (WFPA 2002). The vast majority of private lands in Washington (forested and non-forested) are below the 3,000-foot elevation level (IAC 2001).

Many of the forestlands lost to development are from small forest landowners. These properties are usually smaller areas of forestland in lower elevations located closer to existing development that is taking place in what is commonly referred to as the Rural Residential Zone, and they are usually on milder slopes having well-drained soils, making them more desirable for building sites. Although these forestlands are very threatened by conversion, opportunity for protection of meaningful

landscapes that conserve water quality, habitat and timber management opportunities is reduced in the Rural Residential Zone.

Many large industrial forestland owners also are selling their forestland investments. Some parcels may be sold to small forest landowners, others are sold off for development, making them unsuitable for forestry. Current zoning laws have not had a significant impact on slowing this trend.

Fig. 3.4 Forestland Ownership in Washington

Total Government-Owned Forestland	61%	13,350,000 acres
State Trust Land	10.4%	2,270,000 acres
County and City	1.2%	270,000 acres
Tribal	5.8%	1,269,000 acres
Federal	43.6%	9,541,000 acres
■ National Parks		1,451,000 acres
■ U.S. Forest Service		8,037,000 acres
■ Wildlife Refuges		3,000 acres
■ Bureau of Land Management		50,000 acres
Total Privately Owned Forestland	39%	8,542,000 acres
Industrial Private Landowners	19.7%	4,305,000 acres
Non-industrial Private Landowners	19.3%	4,237,000 acres

Data Source: Washington Forest Protection Association 2002

Economic and regulatory impacts

Economic and regulatory impacts can provide pressure for landowners to convert their forestlands. In some cases, these are linked together.

Washington State regulates forest practices, and regulations result in higher compliance cost to all forestland owners, whether large or small. *Compliance cost* is defined as the loss of current revenue and assets in addition to higher operating cost. In Western Washington much of the compliance cost is associated with protection of the riparian management zone, and in Eastern Washington the brunt of this cost come from road maintenance and stream crossings. These regulations are associated with protecting several species of fish and wildlife that have been listed under the federal Endangered Species Act.

The impact of compliance costs is clearly an issue in Washington State. As originally written, recent requirements for road maintenance and abandonment plans and correction of fish passage barriers created unintended financial burdens for small forest landowners. There was a clear risk that small landowners would not be able to afford to keep their lands in forestry. If they instead opted to convert their forestland to other uses, the habitat the rules were meant to protect would be lost. The outcry about this regulatory/economic pressure was great enough to prompt a revision of the rules and the creation of a financial assistance program to help small forest landowners correct fish passage barriers.

Exports of Washington timber products have been on the decline since the early 1990s, in part due to increased international competition and the recent Asia economic climate. Timber exports have declined 26 percent since 1999 alone. Forest products used to be the second highest export in the state, as measured in dollars, after exports from the aircraft industry. According to the Washington State Department of Community, Trade and Economic Development, wood and articles of wood have dropped to the seventh highest export commodity in 2001, with Japan being the major trading partner for wood products (CTED).

The shift in exports is also reflected in the makeup of Washington's work force. In the past two decades timber-related employment has been on the decline--in part due to advances in technologies and in part due to market conditions and decreased demand. During this same period, overall unemployment rates have been lower, which indicates individuals are seeking new employment in other industries.

Timber-dependent communities and mills have been hard hit by reduced timber harvest on federal, state, and private lands. Timber-dependent communities and struggling mills reside in both high population density areas and in more isolated communities around the state.

Increased costs, timber supply, poor timber market conditions in Asia, falling timber prices, lower-cost wood from abroad, and high demand for urban/rural development resulting from population increase all provided economic incentives for landowners to convert their forestlands to non-forested uses.

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Chapter 4

Program Direction



The federal guidelines for the Forest Legacy Program establish the program's purpose: to ascertain and protect environmentally important forest areas that are threatened by conversion to non-forest uses. The program promotes protecting forestland and other conservation opportunities, such as protecting important ecological values and scenic, cultural, fish, wildlife, and recreational resources. Traditional forest uses, including timber management, are accepted as consistent with the purpose of the program. As a result, the Forest Legacy Program can help protect both the traditional uses of private forestlands and the public resources that those lands provide.

Washington State recognizes that the Forest Legacy Program is unique in fulfilling a vital niche for conserving working forestlands that have important environmental characteristics. Many programs preserve lands but do not allow continued traditional use of the property by the landowner. However, the Forest Legacy Program is designed to conserve traditional uses of forestland, and when it is used with other conservation and preservation efforts, it becomes a particularly powerful tool for implementing comprehensive conservation strategies in landscapes.

Both the conservation community and private forestland owners in Washington have embraced this program that provides alternatives to development and incompatible non-forestry uses. The program is particularly valuable where landowners consider abandoning productive forestland to relocate away from populated centers, in favor of more isolated lands.

Washington State participates in the Forest Legacy Program to support comprehensive conservation efforts in the state. The state program focuses acquisitions under the program into important landscape conservation efforts to avoid a "scatter gun" approach, and it puts priority on protecting important forest watershed landscapes that are in transition to non-forest uses. Washington State's approach to the program begins with its goals and objectives and extends to the designation of the Forest Legacy Area and to the parcel evaluation and selection criteria and process.

Goals and objectives

The goals and objectives below are the basis for implementing the Forest Legacy Program in Washington. They provide a vision for managing the state program: The goals define the program intention, and the objectives declare how that intention should be met and provide tactical direction.

Goals

The goals for Washington's program reflect the values that the state's people place on natural resources and the pressures that population growth is placing on those same resources.

The goals were developed through a comprehensive process that involved the public, local government, state government, interest groups, stakeholders, and partners. The Washington State Forest Stewardship Coordinating Committee (private, state, federal, interest group and forestry professionals acting as an advisory group) reviewed comment and input from numerous sources, and adopted the goals for the Washington State Forest Legacy Program.

Working forestlands threatened by development were identified as the most critical for enrollment in the Forest Legacy Program. These lands rapidly are being converted to non-forest uses, and they contribute to protection of economic, environmental, cultural, and social factors. Also important is supporting conservation of ecologic and social values: water quality, habitat, important species, cultural, aesthetic, scenic, and recreation benefits.

The Goals

- Provide present and future timber management opportunities.
- Protect water quality.
- Provide habitat for native fish, wildlife and plants.
- Protect existing landscapes to discourage further fragmentation.
- Incorporate federal program goals to ensure Washington's projects meet the intent of the authorizing legislation.

The committee recommended priority be given to proposals that are working forestlands threatened by conversion to non-forest use; that are part of an organized state, federal, local or private planning effort or "Initiative" where long term protection of forests is the goal; and that provide the best water quality and wildlife habitat benefits.

Objectives

While the goals give the general intent of the program, the objectives sharpen the vision of the program by identifying the kinds of lands to include in the program. A series of objectives is tied directly to each goal. Although the list below separates the objectives by goal, close examination will show how these objectives are tied to each other, a reflection of the program's focus—support of comprehensive conservation efforts.

Acquire interest in forestland properties that:

Timber Management Opportunities

- Promote the continued or potential use of lands for commodity production (Working Forests).
- Link working forest landscapes.
- Promote continued use of the most productive forests within the major ecological forest types of the state (relates to soils, site, mass wasting potential).
- Best protect habitat and water quality through appropriate forest management regimes.
- Contribute to large forest landscapes—1,000 acres or greater—that are actively managed for forest use and are not overly fragmented with developed parcels, promoting sustainable multiple use forest management practices.

Water Quality

- Protect important riparian functions such as properties with shore lands, wetlands, water bodies, rivers and year round streams.
- Enhance recharge benefit to important aquifers and/or enhance protection of priority watersheds.
- Make upland connections to salt water ecosystems.

Habitat

- Protect critical habitat for Threatened or Endangered Species.
- Enhance and/or buffer important habitat.
- Promote protection of wildlife corridors.
- Protect dwindling or uncommon ecological forest communities.

Landscapes



- Link protected forest landscapes (Example: Private with Conservation Easement, State, Local Government, Federal Lands).
- Provide recreational opportunities whenever possible.
- Contribute to the protection of forest landscapes that are part of an organized state, federal, local or private planning effort or “Initiative” where long term protection of forests make up a critical component of the plan. (Mountains to Sound Greenway and The Cascades Foothills Initiative are examples).
- Buffer currently unthreatened forest land base by protecting transitioning forest lands.
- Support goals of the state fire plan.

Federal Intent

- Provide landowners with alternatives to development of forest properties.
- Protect the most threatened lands from conversion to other uses;. For example, lands both in the Forest Resource Zone and Rural Residential Zone will soon be in transition to non-forest uses.
- Slow or eliminate development potential of adjacent forest properties.
- Protect or enhance lands with special scenic values.
- Preserve and protect existing cultural or historic resources sites.
- Leverage other funding sources (preferably non-federal) or are part of projects that can directly contribute toward the cost of the Conservation Easement.
- Complement other federal lands and investments.
- Provide for increased public access.

Focus and priorities

The goals and objectives provide vision for Washington’s Forest Legacy Program, but to implement the program more effectively, the state program has identified additional focus and priorities. These reflect the goals and objectives, and help shape the Forest Legacy Area and the project evaluation process and criteria. (See Chapter 5.)

Focus

Because Washington State has found that the Forest Legacy Program is particularly effective when it is combined with local, private, and federal conservation efforts, the state has chosen to participate in the program as a means to support comprehensive conservation efforts in Washington.

Focusing acquisitions under the program into important landscape conservation efforts avoids a “scatter gun” approach, which could dilute the effectiveness of the program. Individual Legacy parcels will not stand alone, but will be part of a combined effort to protect sustainable landscapes.

For the past ten years, Washington State’s AON limited Forest Legacy Program acquisitions virtually to three counties. The state is now proposing expanding the Forest Legacy Area into other counties, if the parcels meet federal and state program goals.

The state will target landscapes strategically, as it has in the past (e.g., Mountains to Sound Greenway), focusing Forest Legacy acquisitions in support of program goals, and encouraging other similar programs, strategies and efforts to protect sustainable landscapes

Combined efforts not only make the program more effective over the landscape, they also protect larger forest landscapes that better sustain the goals and objectives of the program.

Washington State is proposing expansion of the Forest Legacy Area into other counties that can justify acquisitions based on federal and state program goals.

Priorities

Many forested parcels may be threatened with conversion to non-forest uses. The Washington Forest Legacy Program places priority on protecting not just parcels, but important forest landscapes (at watershed level) that are in transition to non-forest uses. A landscape is considered “in transition” where working forestland is prone to fragmentation, and development.

Working forestlands near population centers are often segregated into smaller parcels when lands change ownership. The likelihood of a parcel

being managed as a working forest diminishes as the land is segregated into smaller and smaller ownerships, and 40-to-80-acre parcels seem to be the point of diminishing returns for landowners. Landowners who can't afford to manage the lands for commodity use because of increased population pressures and changing regulations may feel economic pressure to sell.

The state program intends to give acquisition priority to private forestlands that are in the portions of watershed administrative units near rural developed land, and that are still designated resource lands of long-term significance (Forest Resource Zoned) by county comprehensive plans.

Focusing acquisitions in this area will target transitioning forest resource lands and at the same time better protect water quality, habitat, timber management, and the establishment of viable landscapes. Properties that connect with adjacent working forest landscapes can become a buffer against development for remaining working forestland blocks.

Chapter 5

Implementing the Program



As the Washington State lead agency for the Forest Legacy Program, the Department of Natural Resources (DNR) elected to participate in the program under the State Grant Option in 1997. Under this option, the USDA Forest Service will provide Federal grants to the state to carry out the Forest Legacy Program, including the acquisition of lands and interest in lands. Grants must be consistent with federal uniform administrative requirements.

With direction established through the federal program guidelines and the state goals and objectives, the key to implementing the program lies in identifying appropriate parcels to include in the program.

DNR will seek proposals for inclusion in the program from willing landowners and stakeholders. Willing landowners will be asked to self-evaluate their property. Interested parties will be asked to submit a project nomination (see Appendix C). Parcels that show good potential for the Washington State Forest Legacy Program will be further reviewed and evaluated.

Industrial as well as small forestland owners are encouraged to participate in the program. Proposals will be evaluated to see if they meet the goals of the federal and state program and how they compare with other parcels that are proposed for the program.

Parcel evaluation and prioritization

The parcel evaluation and prioritization process provides the mechanism to mesh federal and state program goals and objectives, and to focus limited land acquisition funding where it can have the greatest effect to protect the most critical forest landscapes.

The process has two phases: screening and ranking. Together, they ensure that potential future land acquisitions support the primary goals and values of the Forest Legacy Program. Figure 5.1 diagrams the process.

A key tool in the parcel evaluation and prioritization process is the Forest Legacy Area—the geographical area in which the program can be applied. (Washington's Forest Legacy Area is also subdivided into priority levels A and B.) Also key is the parcel evaluation criteria, which provides a means of comparing one parcel to another. See details on these two key tools later in this chapter.

Screening

Screening identifies parcels that have been proposed but that do not qualify for the program because they do not support either the main purpose of the federal program or the focus and priorities of the state program. The screening is accomplished through a series of questions with "yes" or "no" answers. A "no" to any of the following questions disqualifies a parcel from being included in the Washington State Forest Legacy Program.

- 1. Is the parcel at least 75 percent forested?** The federal intent is to protect forestlands at risk of conversion. (The parcel is considered 75 percent forested if non-forest area such as rock outcrops, bare land not supporting native forest stands, human-caused disturbance, agricultural land, etc. does not exceed 25 percent of the current proposal. County roads and roads used for forest management are defined as forestland)
- 2. Is the parcel privately owned?** Private forestlands are those most threatened with conversion in Washington State.
- 3. Is the proposal within the Forest Legacy Area?** The federal guidelines require that a Forest Legacy Area be designated. To support the state program priority for protecting forest landscapes in transition, Washington's Forest Legacy Area is based on: the Watershed Administrative Units (WAUs) containing private forestlands that are not in the Urban Growth Area and that are the most threatened, based on population density data.

4. Is the parcel part of a recognized forest landscape conservation effort with an established plan to achieve sustainable benefits, based on goals that complement the Forest Legacy Program (conserve working forests, wildlife habitat, and water quality)?

Washington has chosen to focus its program on supporting comprehensive conservation efforts. Proposals must contribute to the protection of forest landscapes that are part of a recognized state, federal, grass roots, local or private planning effort or "initiative" in which long-term protection of forests is a critical component of the plan and which is actively supported by partners and stakeholders. (Mountains to Sound Greenway and the Cascades Foothills Initiative are two examples.)

Ranking

Proposals that clear the screening phase are evaluated and ranked by priority. The first step in ranking is to determine if a parcel is in the Priority A or the Priority B portion of the Forest Legacy Area Map (see Figure 5.1)

Priority A portions of the FLA are those forested landscape areas that contain less than one household per 40 acres. They are the top priority because the state places the greatest importance on protecting land base area that is most capable of sustaining working forest, habitat and water quality values for future generations in large, contiguous, undeveloped blocks.

Priority B portions of the FLA are those forested areas that contain one or more households per 40 acres, and are less likely to have land base in contiguous blocks large enough to sustain working forest, habitat, and water quality values when compared to Priority A parcels.

In the evaluation process, Priority A parcels are ranked separately from Priority B parcels, though the evaluation criteria are the same for both levels.

The evaluation criteria are based on critical goals and objectives and important values of the Forest Legacy Program. Evaluation results in a ranking of parcels, to ensure that the proposals selected for inclusion in the program are the best ones, and with A parcels ranked above Priority B parcels.

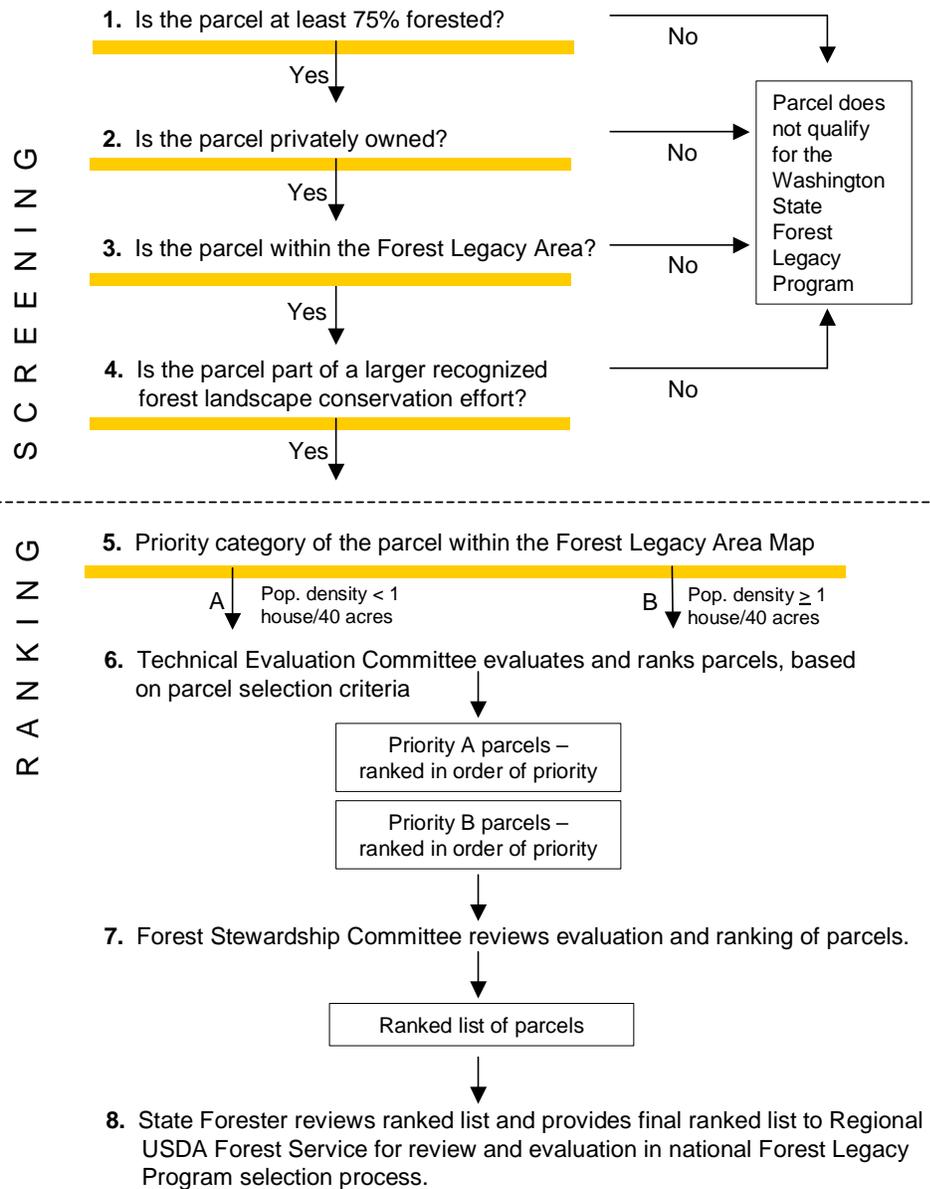
A Technical Evaluation Committee will be formed to evaluate and rank parcels, based on the parcel evaluation criteria. The committee will be made up of natural resource professionals chosen by DNR, and their specialties and expertise will reflect the major goals of the program. The Technical Evaluation Committee will recommend a ranked order of parcels to the Forest Stewardship Committee for further review. When evaluating benefits of proposals for the parcel ranking process, both

committees will have access to current resources and data such as County Growth Management information, eco-regional assessments done in cooperation with The Nature Conservancy and DNR, and state studies and reports.

The Forest Stewardship Committee will consider the evaluation and recommendations of the Technical Evaluation Committee and recommend a ranked list in order of priority to the State Forester. The State Forester is responsible for providing the final Washington State ranked priority list to the USDA Forest Service for consideration in the regional and national Forest Legacy Program selection process. (See page 5-11 for more on the state ranking process.)

Fig. 5.1 Parcel Evaluation and Prioritization Process

Parcels are evaluated through the steps below. Steps 1-4 screen out unqualified parcels, while steps 5-8 sort qualifying parcels into two categories and rank them. Qualifying for the state program does not guarantee inclusion in the program (funding).



Forest Legacy Area



The federal guidelines for the program require that each participating state program designate a Forest Legacy Area—the geographical area in which the program will be applied. Selection of the area can be tailored to help the program focus its efforts to most effectively support its goals. Washington's 2004 Forest Legacy Area reflects not only the program intent, but also the changes in the state since its original Forest Legacy Area was defined more than a decade ago.

Background

The Forest Legacy Area (FLA) identified in Washington's 1993 Assessment of Need (AON) included parts of five counties, with the bulk of the FLA in three: Snohomish, King and Pierce. Within these counties, the Urban Growth Area and Forest Resource Zone, as defined by the state's Growth Management Act (GMA) were excluded from the FLA, leaving only the Rural Residential Zone available for inclusion in the Forest Legacy Program. Forestlands in the Rural Residential Zone were considered the most threatened by development, and lands in the Forest Zone were considered lower priority because of the Growth Management protections in place.

The 1993 AON failed to recognize that lands designated in the Forest Zones are converting to non-forest use and that the GMA doesn't provide sufficient protection. Also, meaningful forest landscapes needing protection and providing the best economic and ecological benefits cross GMA lines.

During the first ten years of the program, almost all of Washington's Forest Legacy acquisitions have been on the interface of the Rural Residential Zone and in the Forest Zone. The Forest Legacy Program has protected approximately 13,000 acres of threatened forestlands, 93 percent of which were in the Forest Zone. Proposals that reached into the Forest Zone have all required boundary adjustments to be considered in the program. Since 1993, a total of seven boundary adjustments have been requested by DNR, on behalf of the state program, and approved by the USDA Forest Service.

Threatened forest landscapes cross growth management boundaries. Regardless of GMA designation, forestlands near high population densities are in transition to non-traditional uses. Inclusion of these lands in the Forest Legacy Area will greatly reduce the need for boundary adjustments in the future.

2004 Forest Legacy Area

Washington's new Forest Legacy Area places the highest priority for acquisition on areas that are zoned for long-term forestry but that are also threatened by development. Rural Residential lands are included, but are a secondary priority. It's critical to focus on areas zoned for long-term forestry in order to protect sustainable working forest landscapes for traditional forest uses. This concept is supported by local conservation efforts and initiatives targeting the forest transition zone. For example, Mountains to Sound Greenway Trust, Cascade Conservation Partnership, and Cascade Land Conservancy all support efforts of the Cascade Foothills Initiative to protect the forest transition zone in Cascade foothills. Threat of conversion and landscape/watershed conservation are the primary characteristics shaping the Forest Legacy Area

The Forest Stewardship Coordinating Committee, stakeholders, and the public asked the Department of Natural Resources to consider establishing a new Forest Legacy Area that included all areas of the state that should have access to this program, based on state and federal goals of the program. The process began by examining the entire state and through successive steps, using readily available data, focused on areas that have a high potential to have important forestlands that may be threatened by conversion to non-forest uses. This approach supports the federal program goals of protecting threatened private forestlands from development and providing protections in landscapes in lieu of ad hoc unconnected strategies.

The Forest Legacy Area maps the private forestland facing the greatest imminence of threat, based on the trends that threaten the conversion of forest landscapes to non-forest uses. The FLA map provides a statewide view of the most threatened lands and associated watershed boundaries. Tighter geographic focus is provided by the screening criterion that requires proposals be part of an existing forest landscape conservation effort. (E.g., the Mountains to Sound Greenway Conservation Corridor, Cascade Conservation Partnership, the Cascade Land Conservancy - Foothills Forest Initiative, and the Western Rivers Conservancy Hoh River Conservation effort.)

Mapping the Forest Legacy Area

The following explains the steps for defining and mapping the Washington State Forest Legacy Area (FLA). DNR created the map using Geographic Information System (GIS) data and software.

1. START with forestland with household densities equal to or greater than one household per 40 acres. Based on experience and observation, it is assumed that forestland is likely being converted from traditional forest uses to residential use when household densities are equal to or greater than one household per 40 acres. When mapped, this trend can be used as an indicator to locate the leading edge of forest transition lands. Identifying this edge supports Washington's Forest Legacy Program priority to protect forest landscapes that are in transition to other uses.

Greater density of human population on the land indicates the lands are subject to fragmentation and reduced viability for sustainable forest resource management. Forestlands in Step 1 are mostly located within the Rural Residential Zones, and although they are very threatened, they generally do not provide the landscape benefits needed for sustainable forest, wildlife, or water quality management. These are Priority B.

Household densities were interpolated, using 2000 Population Density data provided by the Washington State Office of Financial Management, and the 2000 Census. The 2000 US Census found that average household size in Washington State was 2.53 persons. Forest cover data is from DNR Forest Practices GIS.

2. ADD the Watershed Administrative Units (WAUs) that contain the lands identified in Step 1. While Step 1 identifies the outer edge of transitioning forestlands, it is critical to extend the FLA into the abutting WAUs to conserve viable landscapes. Protection of forest landscapes is a fundamental strategy supported by the program goals, objectives, focus and priorities. Watershed designations provide natural outlines for identification of potentially important landscapes for protection of water quality, habitat, and timber management. The Forest Legacy Area should include important watersheds to adequately achieve all of the ecological, economic, and social goals and objectives of the program.

Lands on the fringe of the forest transition zone are the highest priority for Forest Legacy Program acquisition in Washington State, in order to provide for the best multiple use forest management practices into the future. Lands in these WAUs that are not Priority B are designated Priority A.

WAU information was obtained from DNR.

3. SUBTRACT all lands that fall within the state's urban growth areas (as designated under the GMA). These lands have been identified by local jurisdictions to be either currently or projected to be urbanized, and are not likely to support sustainable forestland base. These lands were excluded from the 1993 AON as well as the current updated AON .

GMA information was obtained from county planning departments.

4. ADD forestlands known to be or expected to be in transition but which do not show up in steps 1 and 2. Depending on the boundaries of census tracts and WAUs, some forest landscapes may be in transition, but may not show up in steps 1 or 2. For example, a transition land may be adjacent to an area with more than 1 household per 40 acres, but be just over the ridgeline, in a different WAU. Inclusion in the FLA would not be triggered by Step 2, but local access and development patterns show it is in a transition area.

Lands added in this step may be entire WAUs or only portions thereof. The addition of these areas to the FLA is largely a judgment call, based on the experience and observation of DNR program staff, but in alignment with the intent of the program.

5. SUBTRACT forestlands known to be at little risk of conversion. Again, the census tracts and WAU boundaries may have identified some areas for the FLA that are actually at little risk of conversion. For example, the upper reaches of a particularly long WAU may be at little risk.

Lands subtracted in this step may be entire WAUs, but in almost every case are only portions thereof. The subtraction of these areas from the FLA is largely a judgment call, based on the experience and observation of DNR program staff, but in alignment with the intent of the program.

State and federal lands

Lands under state or federal ownership do not qualify for the program. However, land exchanges are a commonly used tool in Washington, and what is state land today, could easily be private land tomorrow. Leaving these lands in the FLA assures that the FLA boundaries are not based on ownership, and it allows for future changes in ownership of parcels that may in every other way be viable candidates for the program.

Even though state and federal lands are technically within the FLA, they are screened out in the first phase of the evaluation process.

Description of Forest Legacy Area

Based on forest cover data and 2000 census and population data as interpolated and mapped by DNR:

All forestlands lying outside the designated urban growth areas, but within Watershed Administrative Units (WAUs) that contain lands populated with at least one household unit per 40 acres, plus adjustments as identified on 2004 FLA List of WAUs. (See Appendix D.) (Note: State and Federal lands are included in the FLA, but are not eligible for the program.)

Priority areas are established in the FLA to focus acquisitions not on rural lands in transition, but on forestlands in transition. Acquisitions in Priority A areas will create a buffer against development, while acquisitions in Priority B areas will support a transition to those buffers.

Priority A -- Lands in the FLA mapped at less than one household per 40 acres.

Priority B – Lands in the FLA mapped at one or more households per 40 acres.

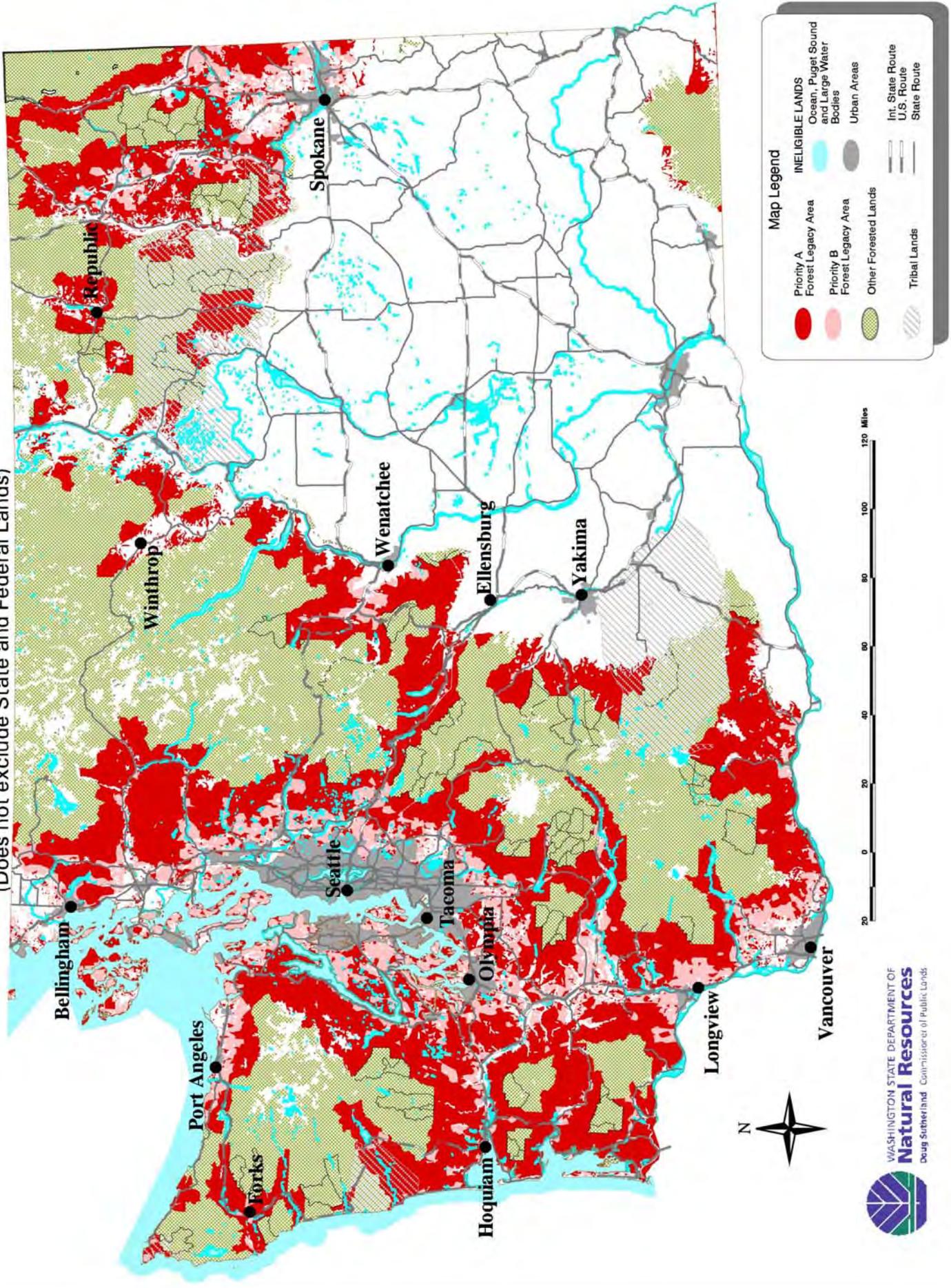
Reading the Map

On the accompanying FLA map, Figure 5.2, lands in **red** are the primary priority lands for acquisition (Priority A). These lands are dominated by Forest Resource Zoning, and are close to where people live. These are the forest transition lands most threatened by development.

Lands shown in **pink** contain at least one house per 40 acres and greater densities. These lands are dominated by Rural Residential Zoning, and are consider a secondary priority in the FLA (Priority B).

Figure 5.2 Forest Legacy Area Map

Forest Legacy Area and Other Forested Lands
(Does not exclude State and Federal Lands)



Parcel evaluation criteria

Parcel evaluation criteria are the key to the ranking phase of the parcel evaluation and prioritization process.

The criteria Washington has selected are based on the federal program guidelines and on the goals and objectives of the Washington Forest Legacy Program. The criteria provide a means to compare proposed parcels that qualify for the program and to rank them by priority for inclusion in the program.

Priority A and Priority B parcels (as identified in the FLA) are ranked separately, but using the same criteria. The list that the Technical Evaluation Committee prepares will identify rank and priority level (A or B) and will rank all Priority A projects ahead of Priority B projects.

The Forest Stewardship Committee or State Forester may revise the ranking in their reviews.

Ranking Parcels

The parcel evaluation criteria are weighted to give top priority to forest parcels that are threatened by conversion to non-forest uses; protect working forests, water quality, fish and wildlife habitat; and best contribute to connective landscapes.

The following chart (Figure 5.3) shows the evaluation criteria categories (based on the goals or guidelines), specific criteria in each category, and the relative weight or value of the category in the evaluation process. The weight of each category is shown as "Max. Value" — the percentage of total possible evaluation points (100%) that are assigned to that category. "Readiness" and "Other Important Values" are intended to further prioritize parcels that are not separated by the higher weighted criteria.

Priority A parcels that score less than 14 percent in the "Threat of Conversion" category will be re-categorized as Priority B parcels and will be ranked with other Priority B parcels.

Specific scoring values are meant to follow the percentage values shown in Figure 5.3 as a guide, but must be flexible for adjustment of goals in the national parcel ranking process (federal process). Because state and federal goals are intertwined, these ranking values are documented as a guide for implementation of the parcel evaluation and prioritization process. The scoring values noted in this document cannot change unless recommended by the Washington State Forest Stewardship Committee to the State Forester.

A copy of the Parcel Evaluation Worksheet can be found in Appendix E.

Fig. 5.3 Parcel Evaluation Criteria and Relative Value by Category

Max. Value	Criteria Category	Specific Evaluation Criteria
24%	Threat of Conversion	<ul style="list-style-type: none"> ■ Stops development (parcel removes an in-holding or blocks critical access) ■ Hinders development (parcel buffers unprotected forest lands) ■ Imminently threatened by conversion (See definition; parcel will be converted within 5 years) ■ High potential for development due to property characteristics (parcel has characteristics that make it desirable for present or future development including favorable terrain, soils, proximity to utilities, roads and amenities such as scenic views and waterfront)
16%	Working Forest	<ul style="list-style-type: none"> ■ Parcel is currently managed as working forest ■ Part of large, 1000 acres or greater, (existing) contiguous block of working forestland ■ Parcel is made up of tax lots not less than 80 acres in size ■ Landowner is willing to fix parcel lot size at not less than 160 acres in size ■ Landowner is willing to reduce the number of tax lots on the property
13%	Water Quality	<ul style="list-style-type: none"> ■ Riparian area (parcel has over 500' of shoreline) ■ Substantially provides clean water for wildlife ■ Contributes to a regional drinking water aquifer (parcel provides recharge for an aquifer or lies within a mile of a public water supply lake or drains into such a lake) ■ Water quality (parcel is located in a priority watershed listed by the Department of Ecology)
13%	Fish and Wildlife	<ul style="list-style-type: none"> ■ Fish and wildlife (parcel provides a diverse mix of fish and wildlife habitats) ■ Threatened or endangered species (parcel supports state or federally listed species, communities or associations) ■ Acquisition supports current or future opportunities to provide habitat for recovery of ESA species (HCP, in management plan, Links Protected Habitat to Working Forest Landscapes) ■ Includes ecological communities that are dwindling or uncommon as listed in a state or federal plan. (Example: State Natural Heritage Plan)
13%	Protection of Existing Landscapes – Leveraged – Discourage Fragmentation	<ul style="list-style-type: none"> ■ Property is adjacent to similarly protected forest lands (local government, state, federal, private, non-profit) ■ Protects a vulnerable in-holding in a forest landscape ■ Legacy parcel is only part of a larger leveraged project or proposal ■ Designated or identified in a statewide plan or is part of an initiative having local significance

Max. Value	Criteria Category	Specific Evaluation Criteria
10%	Readiness –Cost Share	<ul style="list-style-type: none"> ■ Option to purchase signed by the parties ■ Forest Stewardship Plan and Due Diligence started ■ Forest Stewardship Plan and Due Diligence completed ■ Leverage commitment from applicant and/or demonstrated willingness to cost share ■ Demonstrated ability to monitor, administer and enforce the program over time (landowner agrees to provide funds) ■ Evidence of timely use of federal funds (funds can be spent within the grant cycle or within one year of obligating grant)
9%	Other Important Values	<ul style="list-style-type: none"> ■ Public recreation (parcel provides access for public use) ■ Has frontage on a designated Scenic Route or is part of an important view shed ■ Cultural or Historic Interest (parcel contains sites listed on federal or state database)
3%	Easements	<ul style="list-style-type: none"> ■ Favor conservation easements over fee interest acquisition.
	Additional Factors	<p>These factors should only be used to break ties or close calls encountered in the Parcel Evaluation Process:</p> <ul style="list-style-type: none"> ■ Favor parcels that better support state fire prevention goals ■ Favor a previously funded project ■ Favor lower cost per acre projects

Definitions

Threatened by conversion to non-forest use

Forest lands in transition to rural residential use.

75 percent forested

Forest cover is at least 75 percent. Non-forest area does not exceed 25 percent (E.g., rock outcroppings, bare land not supporting native forest stands, human-made disturbance, agricultural land.). County and forest management roads count as forested land.

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Appendix A

Public Involvement Process and Comments

The public involvement process has been critical for development of the 2004 Washington State Assessment of Need (AON), and defines how the Department of Natural Resources (DNR) will manage the Forest Legacy Program into the next decade.

The public involvement process began well before any major drafting of the new AON. Public and stakeholder input started almost as soon as Forest Legacy Program land transactions began after the 1993 AON was completed. Very early in the program, it became evident from comment and experience that the Rural Residential Zone contained limited opportunity for conservation of undeveloped open working forest landscapes for sustaining multiple use goals. The 1993 Assessment of Need (AON) designated the Rural Residential Zone as the Forest Legacy Area of the program. The state, partnering land trusts, and stakeholders found that in order to best meet the goals of the AON (protection of present and future timber management opportunities, habitat for native fish, wildlife or plants, and water quality), limited resources also should be used conserving lands in the Forest Resource Zone. Comments received during this time focused on requests for expanding the program to other parts of the state, including the Forest Resource Zone, for future transactions.

When Washington State initiated the public process for amending the 1993 AON, the primary questions asked, in addition to updating goals, objectives and criteria were: 1. Should the program place priority on land acquisition in threatened parts of the Forest Resource Zone? And 2. Should the program be expanded geographically to other parts of the state that can demonstrate the need?

The Washington State Forest Stewardship Coordinating Committee (SFSCC) selected a sub-committee to provide guidance for amendment of the AON, and it assembled to meet for the first time February 28, 2002, and again on March 13, 2003. The sub-committee recommended guidelines for amending the AON, and program goals for development of objectives and parcel evaluation criteria. The SFSCC is made up of consulting foresters, environmental and conservation organizations, representatives of the forest products industry, land trusts, local, state and federal government.



NEWS RELEASE

June 5, 2002

Contact: Jane Chavey, 360-902-1721

No. 02-52

DNR Forest Legacy Program Welcomes Public Input

OLYMPIA — The Washington State Department of Natural Resources (DNR) is seeking public recommendations for revisions to the Washington State Forest Legacy Program direction.

The US Forest Service Forest Legacy Program, run with participating states, was established to work with private and public landowners to protect forestlands that are threatened with encroaching development. The federal Forest Legacy funding helps acquire conservation easements for private “working forestlands”— those in forestry – which have been determined to be in danger of conversion to commercial or residential development.

Maintaining intact working forests and forest corridors provides benefits through the protection of habitat for native fish and wildlife, soil and watershed protection, timber products, aesthetics, and recreational opportunities.

In 1993, after receiving public comments on the proposed program goals, the Washington State Forest Legacy Assessment of Need was originally written. The Assessment identified areas of need for protection from advancing development, and how Washington proposed to carry out the program. Washington State was one of the first states to participate in this US Forest Service program. Its Forest Legacy program and Washington’s forest landowners have been very successful in competing for funding at the national level.

Public process begins

DNR, as the Forest Legacy program manager in the state, has determined the need to revise the state’s Forest Legacy Assessment of Need because of rapid population growth in many areas of the state, which affects many forestlands throughout Washington. The public is invited to participate in program modifications during the next several months.

DNR is seeking input about whether the areas to be included in Forest Legacy purchases should be expanded, and if so, into which parts of Washington State. The current program document, Washington’s Forest Legacy Assessment of Need, and information about the program, is posted at DNR’s website: http://www.wa.gov/dnr/htdocs/amp/forest_legacy/legacyhome.html

Prior to **July 1, 2002**, please submit written recommendations for the state’s Forest Legacy program to the Washington State Department of Natural Resources, Forest Legacy Assessment of Need, P.O. Box 47014, Olympia, WA 98504-7014. Or, email: forest.legacy@wadnr.gov

Future opportunities for public comment will follow update of the assessment.

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NEWS RELEASE

August 30, 2002

Contact: Jane Chavey, 360-902-1721

No. 02-86

DNR to hold Public Workshops on Forest Legacy Program *Public comments wanted for program that protects forestlands from development*

OLYMPIA – The public is invited to meetings to be held by the Washington State Department of Natural Resources (DNR) to gather ideas about the proposed expansion of the Forest Legacy Program in Washington State. DNR is preparing to make revisions to the state’s Forest Legacy “Assessment of Need,” which defines the program goals and criteria. DNR is seeking comments for changes to this plan.

DNR Forest Legacy staff will present information about the program and the assessment, and take public comments. Public meetings will be held during September throughout the state:

- September 12, at 7:00 p.m. at the Cle Elum Senior Center, 719 East 3rd Street in Cle Elum
- September 16, at 7:00 p.m. at Foorest Park — Kitchen #1 off Exit 82 in Centralia
- September 17, at 7:00 p.m. at Lower Columbia Community College Student Center, Conf. Rms B and C, off 15th Ave in Longview
- September 18, at 7:00p.m, at 1730 10th Ave NW, across from Costco in Issaquah
- September 19, at 7:00 p.m. at Deer Park City Building, 316 E Crawford in Deer Park
- September 24, at 7:00 p.m. at DNR’s Office, 919 N. Township St., Sedro Woolley
- September 25, at 7:00 p.m. at Peninsula Community College, 1502 E Lauridsen, Room A-12 in Port Angeles

The Forest Legacy Program works with willing landowners to protect forestlands that are threatened with the encroachment of residential or commercial development. This federal conservation program is run in conjunction with participating states, which compete for acquisition funding for conservation easements for these private forestland parcels. Maintaining intact forestlands provides public benefits through the protection of fish and wildlife habitat, soil and watershed protection, aesthetics, timber products, and recreational opportunities.

Washington State’s Forest Legacy Assessment of Need (Assessment) was written in 1993 after receiving public comments. Washington was one of the first states to participate in this US Forest Service program and has helped landowners to be successful in competing for the funding. DNR is revising the state’s Assessment because rapid population growth pressures are affecting many forestlands throughout the state. The current Assessment and information about the Forest Legacy Program is posted on DNR’s website: <http://www.wa.gov/dnr>

DNR would like to have the public examine such issues as the criteria for parcel selection including habitat for at-risk species, recreational opportunities, and locations related to public forestlands. Public input is also desired concerning whether the Forest Legacy area boundaries
(MORE)

should be expanded and, if so, to which parts of Washington State, and whether the goals identified in the 1993 plan should remain in effect or be expanded upon.

Please submit comments for changes to the Washington State Forest Legacy assessment to the following email address: forest.legacy@wadnr.gov, or send written comments to Washington State Department of Natural Resources, Forest Legacy Assessment of Need, P.O. Box 47014, Olympia, WA 98504-7014. Comments should be sent prior to September 30, 2002.

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Appendix B

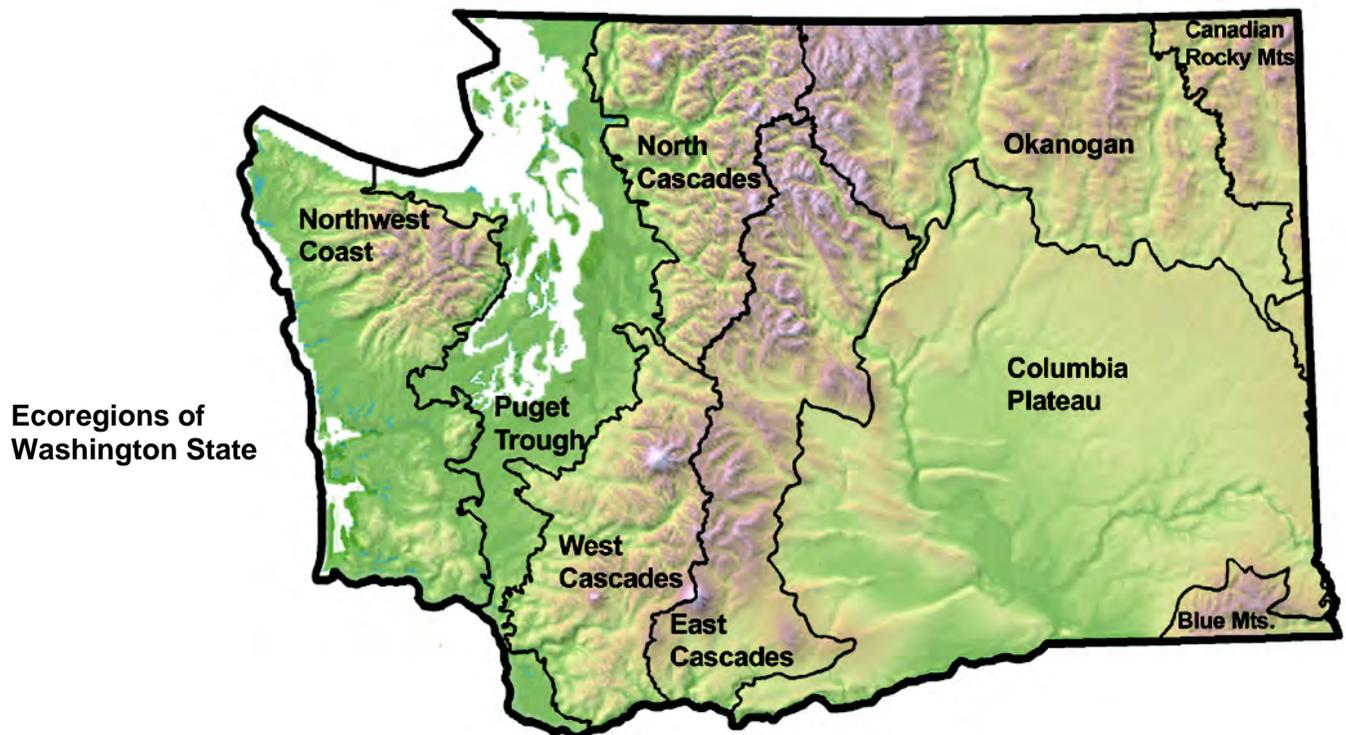
Ecoregion Biota

The following map and descriptions of the biota of each of Washington's ecoregions have been excerpted from the State of Washington's 2003 *Natural Heritage Plan*, published by DNR.

Pacific Northwest Coast Ecoregion

Coniferous forests dominate the vegetation of the ecoregion. Lowland forests are dominated by western hemlock, Douglas-fir, and western redcedar. In the coastal fog belt, Douglas-fir is rare and Sitka spruce becomes abundant. Forests in the mountains are mostly dominated by Pacific silver fir and mountain or western hemlock. High elevations in the Olympic Mountains have subalpine parkland and alpine habitats.

Two of the largest estuaries on North America's west coast are part of this ecoregion. Other special habitats include coastal dunes, wetlands, riparian areas, and sphagnum bogs. The Olympic Mountains are rich in rare plant species due to their isolation, the number of unusual habitats, and the presence of steep environmental gradients. They include species endemic to the Olympic Mountains as well as species that are disjunct from other mountainous areas.



Puget Trough Ecoregion

The vegetation of the Puget Trough is dominated by Douglas-fir forests with western hemlock and redcedar as the primary late-successional species. Oregon white oak, Pacific madrone, bigleaf maple, and red alder forests are frequent components of the landscape. Grassland habitats are often associated with oak habitats and support a number of rare species, including the federally threatened golden paintbrush and a number of butterfly species. Historically, frequent fires maintained these grasslands and the adjacent open oak woodlands. Many rare grassland species are declining as this landscape becomes more urbanized and fire suppression leads to more densely forested areas. Other special habitats within the ecoregion include wetlands, riparian areas, bogs and estuaries.

North Cascades Ecoregion

The vegetation of the North Cascades ecoregion in Washington consists mostly of western hemlock – Douglas-fir – western redcedar forests at low elevations, Pacific silver fir – western hemlock forests at middle elevations, and a mosaic of mountain hemlock – silver fir forests and subalpine parkland at high elevations. Natural stand replacement fires occur at irregular intervals of 90 to 250 years. Above the timberline, alpine heaths, meadows and fellfields are interspersed with barren rock, ice, and snow. Special habitats include riparian areas dominated by broadleaf trees, avalanche chutes dominated by Sitka alder or vine maple, and wetlands. Rare plant species in this ecoregion are often circumboreal species on the southern edge of their range, with populations scattered in the high Cascades. This ecoregion is one of the few in Washington with a variety of large carnivores, including gray wolf, grizzly bear, and wolverine. Salmon are found in most of the large rivers.

West Cascades Ecoregion

Conifer forests dominate the vegetation of the West Cascades ecoregion. Douglas-fir – western hemlock forests are typical at low elevations. Middle elevations characteristically have Pacific silver fir, western hemlock, Douglas-fir, and noble fir. High elevations have mountain hemlock – silver fir forests and subalpine parklands. Higher elevations on volcanic peaks support alpine heath, meadows, and fellfields among glaciers and rock. Special habitats include riparian areas dominated by broadleaf species, wetlands, grassy balds, and oak woodlands. Mount Rainier supports a few endemic rare plant species, as does the Columbia River Gorge. Both are areas of high plant diversity. The Columbia River Gorge has added biogeographic significance because of the mixing of coastal and interior floras.

East Cascades Ecoregion

Conifer forests dominate the East Cascades ecoregion. They are usually more open and patchy than forests of ecoregions west of the Cascades. Grand fir – Douglas-fir – ponderosa pine forests are characteristic types. Oregon white oak woodlands appear at lower elevations in the southern half of the ecoregion, and subalpine fir – mountain hemlock – Engelmann spruce types are found at higher elevations. Douglas-fir – western hemlock – Pacific silver fir forests are present and can be locally abundant near low divides of the Cascades. Whitebark pine, lodgepole pine, and western larch are common components of these forests.

Historically, stand replacement fires occurred at irregular intervals from 10 years in the lowland foothills to 150 years or more at high elevations. Decades of fire suppression have resulted in large areas of dense, fire-prone forests.

Shrub-steppe vegetation occurs along the foothills and higher south-facing slopes in the ecoregion, generally composed of big sagebrush or antelope bitterbrush with native bunchgrasses. Alpine and subalpine parklands occur on the highest ridges, more commonly so north of Snoqualmie Pass.

Okanogan Ecoregion

Conifer forests dominate the mountain ridges and low hills in the ecoregion, while valleys and lowlands are often non-forested. The conifer forests are more open and less continuous, consisting of smaller stands, than are forests west of the Cascade crest and in the Canadian Rockies. Douglas-fir – ponderosa pine form the ecoregion's characteristic forests. They transition to shrub-steppe in the low broad valleys in the eastern part of the ecoregion, and to grasslands in the western part. Subalpine fir – Engelmann spruce forests occur at higher elevations. Whitebark pine, lodgepole pine, and subalpine larch form parklands in the highest elevations, often associated with dry alpine or subalpine meadows. The moister forests are dominated by Douglas-fir, with western larch, western white pine or quaking aspen as common components.

Historically, stand replacement fires occurred at irregular intervals from 10 years in the lowland foothills to 150 years or more at high elevations. Decades of fire suppression have resulted in a landscape composed of dense, fire-prone forests.

Canadian Rockies Ecoregion

Coniferous forests dominate this ecoregion. The composition of the forests reflects variation in moisture, temperature and elevation. Douglas-fir – ponderosa pine forests occur at low elevations; grand fir – western hemlock – western redcedar forests are characteristic of mid-montane elevations; and subalpine fir – Engelmann spruce forests are found at

higher elevations. Whitebark pine, lodgepole pine, and subalpine larch form parklands in the highest elevations. Western larch and western white pine can be major components of the moister forests.

Fire has played a significant role in the development of the forests in this ecoregion, with a 10-year return interval in the lowland foothills and a 150-year return interval at high elevations and in protected canyons. Decades of fire suppression have resulted in dense, fire-prone forests.

Grasslands occur along the foothills and on higher elevation, south-facing slopes. These grasslands are variously dominated by green fescue, Idaho fescue, or rough fescue.

Blue Mountains Ecoregion

The Blue Mountains ecoregion is dominated by coniferous forest, but because of its characteristic abrupt topography and wide elevation ranges, it also supports grasslands and shrublands along low dry canyons, on broad plateaus and in subalpine meadows. Douglas-fir – ponderosa pine forests are characteristic of the low and middle elevations, with subalpine fir – Engelmann spruce types occurring at higher elevations. Western larch, lodgepole pine, and western white pine are components of mesic forests. Canyon grassland vegetation occurs on the steep slopes above the Grande Ronde and Snake Rivers. Plateau grasslands appear within the forest matrix. Dense shrublands occur in the higher canyons along the Oregon border.

Historically, stand replacement fires occurred at irregular intervals from 10 years in the lowland foothills to 150 years or more at high elevations. Decades of fire suppression have resulted in a semi-natural to natural landscape composed of dense, fire-prone forests.

Columbia Plateau Ecoregion

The ecoregion is most often characterized as shrub-steppe dominated by various species of sagebrush and bunchgrasses. Most of the ecoregion's remaining native vegetation occurs on steep canyon sides and on the shallower soils of basalt scablands. Bitterbrush and three-tip sagebrush steppe appear along the foothills of the Cascades. Douglas-fir – ponderosa pine forests occur on the moister sites near the foothills of the surrounding mountains. Special habitats include sand dunes, gravelly areas, basalt cliffs, steep canyons, alkali lakes and vernal pools.

Many grassland and shrub-steppe species in this ecoregion are declining. Isolation and fragmentation of intact habitat is a primary factor. Non-native, weedy plant species are also a factor; they are a persistent and increasing feature of the limited semi-natural and natural landscape.

Appendix C

Project Nomination Form

The following form will be used to nominate projects/parcels for inclusion in the Forest Legacy Program in the 2007 funding cycle. Modifications may be made for clarity as needed. Content also may be modified made to reflect modifications to the program in future years.

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Forest Legacy Program Requests for FY 2007 Project Proposals

INSTRUCTIONS

To nominate a tract of forestland into the Washington State Forest Legacy Program (FLP), review these instructions, visit the DNR and US Forest Service websites, and complete this project proposal.

www.dnr.wa.gov/htdocs/amp/forest_legacy/legacyhome.html
<http://www.fs.fed.us/spf/coop/programs/loa/flp.shtml>

Project Proposals are Due: _____

The proposed Tract will be evaluated and prioritized for inclusion in the program based on information provided on this two-part proposal: Part I - FLP Project Nomination Form; and Part II - Project Brief. The project brief should reflect the Goals of the Forest Legacy Program found in the 2004 State of Washington Assessment of Need (see the websites).

Please call Brad Pruitt, Cooperative Conservation Programs, Project Administrator before submitting the Proposal Form and Project Brief to ensure your proposal meets State and Federal Forest Legacy Program requirements.

When preparing the Project Nomination Form and Project Brief, use of computer software that is compatible with Microsoft Word is encouraged. Hand written forms are discouraged, but will be accepted. Map(s) and photo(s) are required as part of the proposal, and should show the tract, project area, adjacent ownership, conservation benefits, threats, emphasize strategic importance, and identify any adjacent landscape conservation planning efforts.

Tract: Parcel(s) or area(s) being considered for inclusion in the FLP in FY 2007. Represents the interest in land to be purchased in the FY 2007 FLP funding request.

Project Area: A larger landscape project or conservation strategy that may require phases and/or multiple sources of funding to complete; of which the current Tract (request for federal funding) is a part.

Provide 3 paper copies of the proposal (including color maps and photos) to the address below, and an electronic copy by E-mail. Maps and photos should be submitted as .jpg image files if possible.

Where To Send Proposal Packets: Washington State Department of Natural Resources, Forest Legacy Program, Attn: Brad Pruitt, Asset Management and Protection Division, 1111 Washington St. SE, PO Box 47014, Olympia, WA 98504-7014.

E-mail the to forest.legacy@wadnr.gov

PART II

FY 2007 Proposed Project Nomination Brief

The Proposed Project Nomination Brief is a written description of the tract and project that will to be used in the competitive parcel (tract) selection process. Each Tract will be evaluated in both the *state and federal* ranking processes using the format below; and **final ranking will be based primarily on the information provided in this parcel brief**. Limit each bullet to 288 characters or less, and limit total length of the parcel brief to three 8" X 11" sheets of paper at font size 10. Parcel briefs longer than three pages will not be accepted.

1. CURRENT PROJECT PARCEL DESCRIPTION

(General location, position in the landscape, description of the Tract and its contribution to the larger Project, and summary why this parcel should get funding based on the AON.)

2. FUNDING REQUEST AND NON-FEDERAL MATCH *(Projected funding for all phases of the project)*

Year of Funding	Projec Phase(s) (I, II, III, ..)	FLP Federal Request (\$)	Non-Federal Match (\$)	Other Funding Sources(\$)	Total Project Funds(\$)	Total Project Acres
FY 2006						
FY 2007						
FY 2008						
Totals						

FLP Federal Request is the federal FLP contribution to the tract (can't be more than 75% of the Project funds).

Non-Federal Match is the required 25% cost share provided by the landowner, non-profit organization, state (can be a direct contribution to the conservation easement and /or a contribution to the Project).

Other Funding Sources is other federal, state, or private funding not accounted for in the total project and not included in the 25% Non-Federal Match.

3. IMPORTANCE

- **Productive Forest Land** *(forest productivity, soils, and site information):*
- **Suitable for Resource Production** *(long-term potential as working forest, commodity production):*
- **Wildlife and Habitat Benefit** *(discuss benefits, diversity, identify species, connectivity, plant communities):*
- **Contains Critical Habitat** *(federally recognized species, state species):*
- **Water Quality Protection** *(priority watershed, aquifer recharge, affects tributaries/rivers, riparian areas, shellfish):*
- **Fisheries** *(presence of important species, spawning and rearing):*
- **Recreational Values** *(hunting, fishing, hiking, etc.):*
- **Scenic and Cultural Values** *(scenic highways, scenic areas, cultural resources):*

4. THREATENED

- **Identify Development Potential/Threat** *(segregated, planned development, etc.):*
- **Potential for Conversion** *(for sale to developer):*
- **County Zoning Designation** *(rural, urban, forest, potential change in status):*
- **Adjacent Land Use**
- **What will happen if property isn't conserved within three years?**

5. STRATEGIC

How project would:

- **Support Federal/State conservation efforts/plans** (*i.e. USFS Northwest Forest Plan, Spotted Owl Recovery Plan, WADNR Habitat Conservation Plan, buffers state/federal lands*):
- **Complement state and/or federal land investments in the area** (*land base, land management, land purchase, conservation programs*):
- **Be part of an organized land conservation effort** (*state, regional, local, land trust, initiatives*):
- **Be supported by organizations, partners, stakeholders** (*big picture, supports organized landscape conservation effort*):

6. READINESS

- **Landowner commitment** (*willing seller, status of negotiations, agreements; written, verbal, purchase options*):
- **Status of transaction/due diligence** (*appraisal, conservation easement document, purchase and sale agreement, environmental assessment, baseline documentation, management plan*):
- **Describe sources and amounts of non-federal match:**
- **Describe sources of other federal or private funds and amounts.**

7. ATTACHMENTS (*Map and Photos*)

Appendix D

Watershed Administrative Units included in the 2004 Forest Legacy Area

The list of Watershed Administrative Units (WAUs) is being developed and will not be finalized until the proposed Forest Legacy Area (FLA) is approved by the Chief of the USDA Forest Service.

The list identifies the WAUs shown on the FLA map, and provides an easier means for the state program, partners and landowners to determine whether or not a property is within the FLA.

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Appendix E

Parcel Evaluation Worksheet – FY 2007

Point values are based on the relative priority of the criteria as listed in the State Assessment of Need.

I. THREAT OF CONVERSION (24 Points Possible):

- A. Stops threat of development on project area; removes in holding; blocks critical access.
(6 points)
 - B. Hinders development; is located in the Forest Resource Zone and abuts Rural Residential zoning
(4 points)
- OR
- is located in the Forest Resource Zone and is within 4 miles of Rural Residential Zoning.
(2 Points)
 - C. Imminently threatened by conversion to non-forest use (see definition), parcel will be converted within 5 years. (7 points)
 - D. High potential for development due to property characteristics that make the parcel desirable for present or future development including favorable terrain, soils, proximity to utilities, roads, and amenities such as scenic views and waterfront. (7 points)

Score _____ of 24

If score is less than 14 for this section, the parcel is categorized as Priority B for ranking.

II. WORKING FOREST (16 Points Possible):

- A. Parcel is currently managed as working forest, for commodity production, and landowner agrees to a management plan supporting commodity production in the future
(5 points)
- B. Parcel is part of a 1000 acre, or greater, contiguous block of working forest
(4 points)
- C. Parcel is greater than 80 acres in size
(4 Points)

- D. Landowner is willing to fix the number of potential land-owners on the property: i.e., no more than x landowners on a given area, or parcels not broken down to less than x acres, or landowner is willing to work with the county to desegregate to reduce the number of tax lots on the property (3 points).

Score _____ of 16

III. WATER QUALITY (13 Points Possible):

- A. Riparian area; if parcel has over 500' shoreline along a water body or wetland (3 points)
- B. Contributes to a regional drinking water aquifer; provides recharge for an aquifer or lies within a mile of a public water supply or drains into water supply (3 points)
- C. Parcel is in a priority watershed listed by the Department of Ecology (4 points)
- D. Substantially provides clean water for wildlife; contains a water body or system (3 points)

Score _____ of 13

IV. FISH AND WILDLIFE (13 Points Possible):

- A. Fish and Wildlife Habitat; (4 points if parcel contains a mix of fish and upland wildlife habitats; 2 points if only fish; or 1 point if upland wildlife habitat)
- B. Threatened or Endangered species (4 points if parcel supports state or federal species communities, or associations; 2 point if suitable habitat exists and will be sustained for threatened or endangered species)
- C. Parcel includes ecological communities that are decreasing or uncommon as listed in the State of Washington Natural Heritage Plan or a federal plan (3 points)
- D. Acquisition supports current or future conservation plans, initiatives or opportunities to provide habitat for recovery of ESA species; i.e. supports established HCP, supports existing management plan, protects important habitats (2 points)

Score _____ of 13

V. LANDSCAPE FOCUS (12 Points Possible):

- A. Abuts protected private, city, county, state, or federal lands; project will increase overall protected area in one contiguous block
(1-3 points based on number of sides that abut)
- B. Proximity to protected land
(less than 1 mile distance: 3 points; 1-5 miles: 3 points, greater than 5 miles=1 point)
- C. Part of a larger conservation acquisition or project with the similar goals as the legacy program.
(3 points)
- E. Parcel is part of a recognized forest landscape conservation effort with an established plan considering protection of lands in the Forest Resource Zone critical for protection of conservation values as a major focus of the plan
(3 points)

Score _____ of 12

VI. READINESS/COST SHARE/LEVERAGE (10 Points Possible):

- A. Forest Stewardship Plan; completed (2 points), started (1 point)
- B. Option to purchase signed by parties
(2 points)
- C. A component of due diligence completed; appraisal, title search, survey, Phase I environmental assessment
(1 point)
- D. Leverage commitment from applicant and or demonstrated willingness to cost share.
(2 points)
- E. Demonstrated ability to monitor, administer and enforce the program over time. Funding will be proved for monitoring
(2 points)
- F. Timely Use of Federal Funds. Can funds for the project be spent within one year of federal funding.
(1 points)

Score _____ of 10

VII. OTHER IMPORTANT VALUES (9 Points Possible):

- A. Public Recreation; entire parcel has access for public use (4 points) or; if access is limited (2 points)
- B. Scenic; parcel has frontage on a designated Scenic Route or is part of an important scenic view shed. (3 points if on scenic route; or 1 point if in view shed)
- C. Cultural or Historic interest: parcel contains sites listed on federal or state database (2 points)

Score _____ of 9

VIII. CONSERVATION EASEMENT (3 Possible Points):

- A. Conservation Easement Favored over Fee Interest Acquisition (3 points)

Score _____ of 3

TOTAL SCORE OUT OF POSSIBLE 100 POINTS _____

ADDITIONAL FACTORS:

- Favor parcels that better support state and federal fire prevention goals
- Favor a previously funded project
- Favor a project with lower cost per acre land values
- Favor a project that protects a wildlife corridor

Definitions

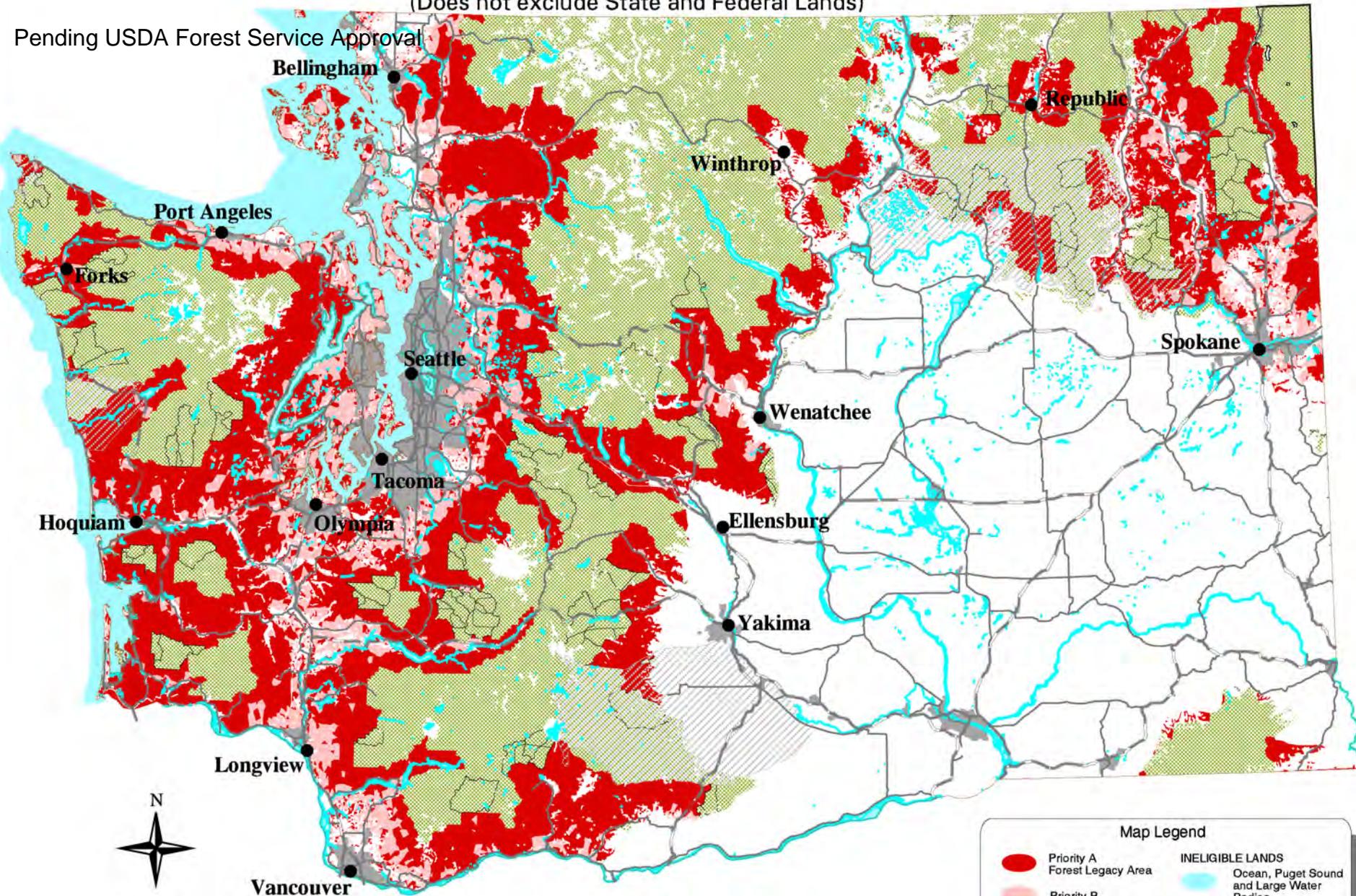
Threatened by conversion to non-forest use
Forest lands in transition to rural residential use.

75 percent forested
Forest cover is at least 75 percent. Non-forest area does not exceed 25 percent (E.g., rock outcroppings, bare land not supporting native forest stands, human-made disturbance). County and forest management roads count as forested land

Forest Legacy Area and Other Forested Lands

(Does not exclude State and Federal Lands)

Pending USDA Forest Service Approval



Map Legend

- Priority A Forest Legacy Area
- Priority B Forest Legacy Area
- Other Forested Lands
- Tribal Lands
- INELIGIBLE LANDS
Ocean, Puget Sound and Large Water Bodies
- Urban Areas
- Int. State Route
- U.S. Route
- State Route

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Chapter 3

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