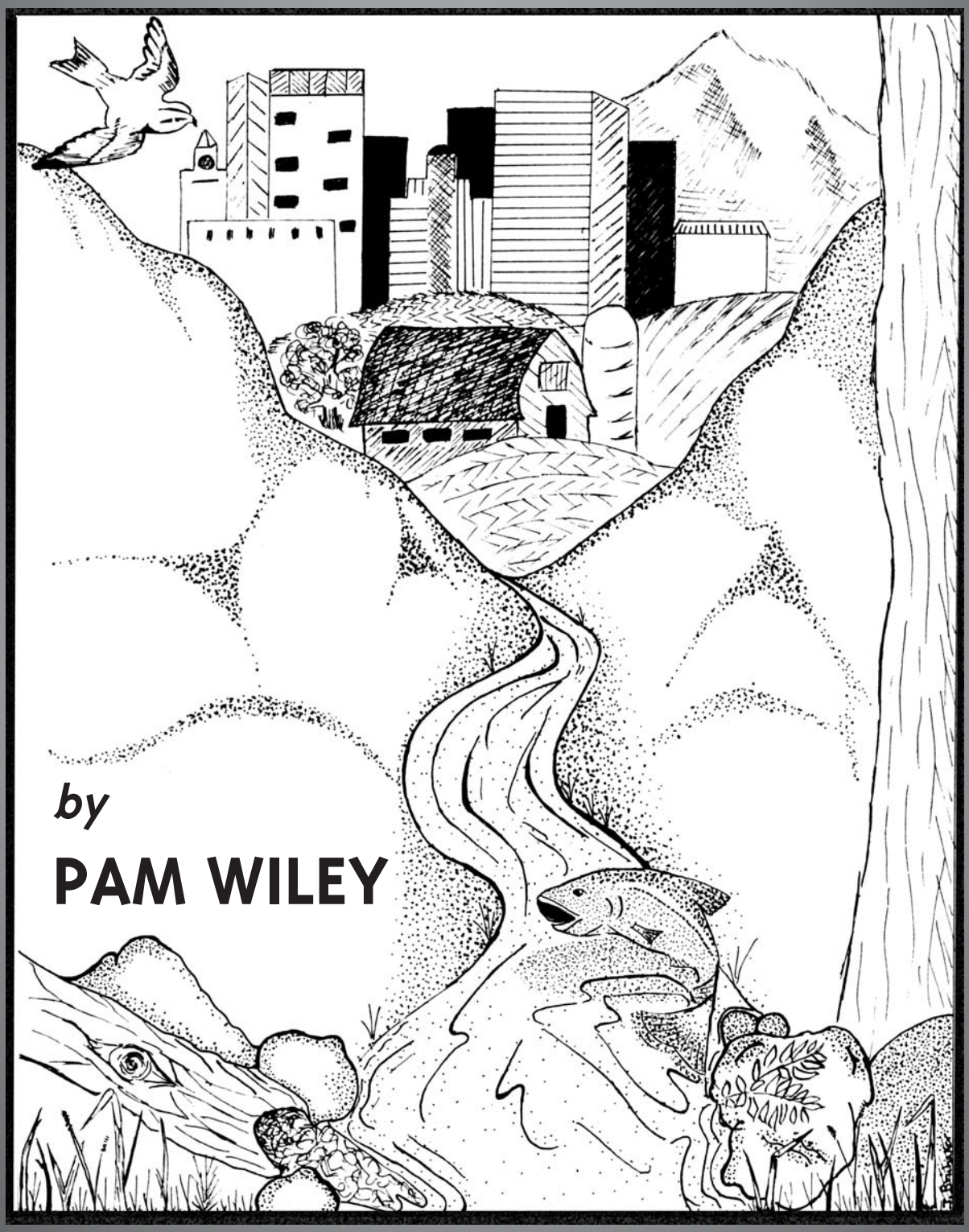
NO PLACE FOR NATURE

THE LIMITS OF OREGON'S LAND USE PROGRAM IN PROTECTING FISH AND WILDLIFE HABITAT IN THE WILLAMETTE VALLEY



by

PAM WILEY

DEFENDERS OF WILDLIFE

WE GRATEFULLY ACKNOWLEDGE THE SUPPORT OF

THE SURDNA FOUNDATION

IN THE CREATION OF THIS REPORT

• • •

AUTHOR
Pam Wiley, consultant, Portland, Oregon

PROJECT MANAGER
Bruce Taylor, Oregon Biodiversity Program manager, Defenders of Wildlife

PRODUCTION
Map images by the Oregon Biodiversity Partnership
Photographs by Jeannie Heltzel, Geoff Pampush, Bruce Taylor, and Sara Vickerman
Technical assistance by Maria Cecil, Defenders of Wildlife

COVER IMAGE
Pen and ink drawing by Jenne Reische

DEFENDERS OF WILDLIFE
National Headquarters
1130 17th Street NW
Washington D.C. 20036
202-682-9400
www.defenders.org

NORTHWEST OFFICE
1880 Willamette Falls Drive #200
West Linn, Oregon 97068
503-697-3222
www.biodiversitypartners.org

ABOUT DEFENDERS OF WILDLIFE
Defenders of Wildlife is a leading nonprofit conservation organization recognized as one of the nation's most progressive advocates for wildlife and biodiversity conservation. The West Coast Office emphasizes alternative approaches to environmental decision-making through partnerships that engage a broad spectrum of participants to help find common ground and constructive solutions.

NO PLACE FOR NATURE

THE LIMITS OF OREGON'S LAND USE PROGRAM IN PROTECTING FISH AND WILDLIFE HABITAT IN THE WILLAMETTE VALLEY

by

PAM WILEY

DEFENDERS OF WILDLIFE

West Linn • Washington D.C.

Contents

Foreword

Sprawl, the seemingly relentless expansion of urbanization into America's rural landscapes, has captured considerable attention the past few years as one of the most visible threats to the nation's biological diversity.

by BRUCE TAYLOR
Oregon Biodiversity Program Manager
Defenders of Wildlife

But our experience here in Oregon suggests that stopping sprawl won't in itself do much to conserve biodiversity. In the Willamette Valley, vulnerable native species have continued their slide toward extinction despite land use planning laws that have helped contain urban development for three decades.

It was against this backdrop that Defenders of Wildlife asked Pam Wiley to explore the role of Oregon's land use planning system in protecting habitat for native fish and wildlife. We asked her to focus her report on the Willamette Valley, where Oregon's growth pressures are strongest. Wiley was an obvious choice for the assignment. One of the founders of the Oregon Biodiversity Project and a former member of the state's Land Conservation and Development Commission, Wiley has been working on the front lines of these issues for years.

Wiley's report should provide plenty of food for thought, for Oregonians who cherish their land use planning system, and for conservationists who wish it would do more to protect fish and wildlife habitats.

The report should also be of value to those working to address sprawl issues in other communities and regions. Pam Wiley's analysis highlights some important lessons from the Oregon experience about the role of land use planning in biodiversity conservation.

More important, she has framed the challenges we all face in working to ensure that the landscapes of the future include a place for nature. We hope this publication will spur more public discussion of these issues, and we look forward to the debates.

Introduction

Former Oregon Governor Tom McCall's reputation as an ardent defender of the state's environment was built on his efforts to clean up the Willamette River and his leadership in establishing Oregon's statewide land use planning program. Great progress was made on both those fronts in the years during and immediately after his administration. Interest in the land use program has remained strong over the years, and it has become a vital, though sometimes controversial part of the fabric of civic life in Oregon. Interest in the Willamette River, on the other hand, has ebbed and flowed.

The conservation of Oregon's biological diversity is a statewide challenge greatly exacerbated in the Willamette Basin, the state's most populous region, by the pressures of urbanization.

Recently, there has been a resurgence of interest in the Willamette, and in the immense watershed through which it flows. Two state-appointed committees have been formed to study and make recommendations regarding the management of the river and its floodplain and the protection and restoration of the watershed. In addition, the University of Oregon and a large group of partners have been engaged in a $10 million, five-year study of alternative growth and development scenarios in the Willamette Valley.

During the course of these initiatives, questions have been raised about Oregon's statewide land use planning program. The program is widely viewed as a model state/local partnership and a ready-made vehicle for addressing evolving land use issues. The statewide planning goals provide an opportunity to standardize local approaches to protecting resources that extend across jurisdictional boundaries. Accordingly, stakeholders have wondered whether the program is - or might become - an effective tool for addressing some of the Willamette Basin's many complex fish and wildlife habitat problems.

The purpose of this report is to explore some of those questions. The report has four

parts. The first part is a summary of the status of fish and wildlife habitat and biodiversity in the Willamette Basin. The information presented in this section was drawn primarily from three recent reports:

- *Restoring the Willamette Basin: Issues and Challenges,* by Jennifer Allen, Autumn Salamack and Peter Schoonmaker (September 1999);

- *Oregon's Living Landscape,* by the Oregon Biodiversity Project and Defenders of Wildlife, 1998; and

- *Oregon State of the Environment Report 2000,* by the Center for Watershed and Community Health.

The second part of the report provides an overview of Oregon's land use program, focusing on those elements of the program most relevant to habitat conservation. The third section reviews the efforts of a number of county and regional government organizations in the Willamette Basin to address habitat and biodiversity issues through the land use program.

The fourth and concluding section of the report offers some observations about the current situation and makes a number of recommendations regarding improvements and alternatives to the current way of approaching planning for habitat and biodiversity needs in the basin.

With a few exceptions, this report looks almost exclusively at the efforts of county governments. Others have looked more closely at cities' efforts; their work is summarized in relevant sections of the report. Although the report focuses on the Willamette Valley, many of its observations are likely applicable throughout the state. The conservation of Oregon's biological diversity is a statewide challenge greatly exacerbated in the Willamette Basin, the state's most populous region, by the pressures of urbanization.

Finally, it should be noted that this report is not intended to be an evaluation of the land use program or of counties' implementation of the program with respect to natural resources. Instead, the report focuses on the much narrower question of whether the land use program does, or could with modifications, play an effective role in addressing habitat conservation in the Willamette Valley. To set the stage for that inquiry, it is useful to review the status of fish and wildlife habitat in the valley and the role currently played by the land use program in addressing conservation of that habitat.

STATUS OF BIODIVERSITY IN THE WILLAMETTE VALLEY

HISTORIC AND CURRENT LANDSCAPES

The Willamette Valley is the "Eden" to which so many would-be Oregonians have been drawn over the years — and the place that most, once arrived, have made their home. Bisecting and defining the valley is the Willamette River. With its headwaters originating in the Coast and Cascade mountain ranges, a mainstem that meanders nearly 200 miles to its confluence with the Columbia, and a flow ranking it as one of the nation's ten largest rivers, the Willamette is truly a signature feature of Oregon.

Although the Willamette Valley retains its open feel to this day — appearing as a level alluvial plain dotted with scattered basalt hills — it is now a highly altered ecoregion. Fire suppression, the construction of dams and impoundments and the draining of marshes and wetlands have profoundly affected natural processes.

The large drainage basin that shares the Willamette's name owes much of its physical character to the river, for at one time the Willamette wandered across a broad floodplain, creating sloughs and wetlands and flooding forests and prairie in the process. A deciduous forest of Oregon ash, black cottonwood, and willow flanked the river and its major tributaries. Beyond the floodplain, the open valley landscape was dominated by prairie and savanna vegetation.

As the valley floor gave way to the foothills of the Cascades and the Coast Range, vegetation became denser, characterized by widely spaced Oregon white oak, California black oak, Douglas fir or Ponderosa pine, and a number of grasses and forbs. Above the foothills, the moist slopes of the mountains supported dense conifer forests. These uplands provided cool, clear water to the Willamette Valley, high-quality spawning habitat for salmon, and diverse habitat for other species.

Historically, the openness of the valley landscape was created and maintained by the Kalapuya Indian practice of annual burning. These frequent, large-scale fires ended with

permanent settlement of the valley. Coupled with the pioneers' introduction of agriculture, the cessation of annual burning led to changes in the vegetation of the valley floor. Most of the floodplain forest was cleared and converted to agricultural use. Native prairie grasses were replaced by introduced domestic grass species.

Although the Willamette Valley retains its open feel to this day — appearing as a level alluvial plain dotted with scattered basalt hills — it is now a highly altered ecoregion. Fire suppression, the construction of dams and impoundments, and the draining of marshes and wetlands have profoundly affected natural processes. Commercial forestry has changed the structure, composition, and extent of forests. Livestock grazing and the introduction — both intentional and unintentional — of non-native plants and animals have further altered the basin's historic character.

The valley floor has been converted to cities, farms, and suburbs. It contains 70 percent of Oregon's population and continues to be the fastest-growing region in the state. There are 70 incorporated cities in the basin, which has a population density of 37 people per square mile. Over 95 percent of the valley floor (below 500 feet) is privately owned and devoted to agricultural or urban use.

The situation in the upper watershed of the basin is somewhat different, with 60 percent of the land federally owned and managed under the Northwest Forest Plan. Timber harvest levels have been greatly reduced under the plan, and more emphasis is being placed on protection of fish and wildlife habitat on federal lands. The remaining 40 percent of the Willamette's upper watershed are privately owned. Most of these private lands are low-elevation commercial timberlands subject to the management requirements of the Oregon Forest Practices Act.

Habitat Types in the Willamette Valley

Conifer forests of Douglas and grand fir, western red cedar, western hemlock, and big leaf maple dominate upland habitats, found primarily at the perimeter of the basin in the Coast and Cascade mountain ranges.

The valley, in turn, has six major habitat types: open water, bottomland forest, bottomland prairies, emergent wetlands, upland forests, and foothill savanna/ prairie. A 1999 report prepared for the Willamette Restoration Initiative (Jennifer Allen, Autumn Salamack, and Peter Schoonmaker, Institute for the Northwest, "Restoring the Willamette Basin: Issues and Challenges") described these six habitat types as follows:

- **OPEN WATER.** Open water habitats include primary and secondary river channels, tributary reaches, sloughs, ponds, and oxbow lakes. According to the WRI report, as a result of channelization only 400 miles of fish habitat is left along the river today, compared to nearly 1400 miles in pre-settlement times.

Sixty-one fish species inhabit the Willamette Basin — fully half of them introduced. Native salmonids include spring Chinook salmon, winter steelhead, cutthroat, and bull trout. In addition, salmon and trout from other parts of the Northwest and eastern brook trout have been planted in the Willamette system. Wild salmonids have declined precipitously over the past century.

- **BOTTOMLAND FOREST.** All forest- and shrub-dominated riparian and wetland habitats are included in this category, which once covered approximately ten percent of the valley. This habitat type has been reduced by more than two-thirds from its historic extent. Remaining bottomland forests have been altered by changes in flood regimes, groundwater changes, and the invasion of non-native species like Himalayan blackberry. Most riparian stands along the Willamette, originally ranging from one to seven miles wide, have shrunk to only a few hundred feet or less. Many streams have only thin strips of vegetation, some none at all.

The critical role riparian areas play in providing habitat for many species of fish and wildlife and in contributing to overall watershed health and function is well documented. Among the 35 at-risk species dependent on bottomland forests are the northern red-legged frog, sharptail snake, bald eagle, and Townsend's big-eared bat.

- **BOTTOMLAND PRAIRIES.** Bottomland prairies in the Willamette Valley originally included both wet and mesic (non-wetland) sedge and grass-dominated habitats. Scientists estimate that the extent of bottomland prairie has been reduced by an estimated 99 percent from pre-settlement times. The remaining fragments of this habitat type are home to at least 36 at-risk species.

- **EMERGENT WETLANDS.** These are marshes dominated by herbs and grasses, including two plant associations — the Columbia sedge marsh and the wapato marsh — that are thought to be mostly restricted to the Willamette Valley. Emergent wetlands cover less than half the area they once did. The 29 at-risk species dependent on emergent wetlands include the dusky Canada goose and a number of snails, mussels, insects, and plants.

- **UPLAND FORESTS.** Upland forests are found mostly at the margins of the Willamette Valley and in interior areas left unaffected by pre-settlement burning practices. Open woodlands occurred in other areas, characterized by scattered Douglas fir with an understory of hazel, vine maple, and other shrubs. This habitat has been reduced by nearly 90 percent to around 50,000 acres. More than 30 at-risk species rely on upland forest habitat,

including most sensitive mammal species in the valley, the Cascade seep salmander, olive-sided flycatcher, and many other rare animals and plants.

- **FOOTHILL SAVANNA/PRAIRIE.** Once a dominant habitat type of the Willamette Valley, the foothill savanna/ prairie has been converted almost entirely to other uses. A characteristic feature of the savanna habitat is the widely spaced Oregon white oak. Scientists estimate that oaks covered over 1.5 million acres of the Willamette Valley in pre-settlement days, spaced evenly across open grassy areas or in small groves. Only about 200,000 acres remain, now mostly oak woodlands rather than the more open savanna as a result of fire suppression. These stands are found mostly in relatively small patches surrounded by agricultural or suburban development.

Oak savanna and woodlands provide important habitat for a wide variety of birds (nesting habitat for nearly 200 species), amphibians, mammals, and reptiles in the Willamette Valley. Many are considered at-risk, including the western gray squirrel, western bluebird, grasshopper sparrow, and Oregon vesper sparrow.

Challenges and Opportunities

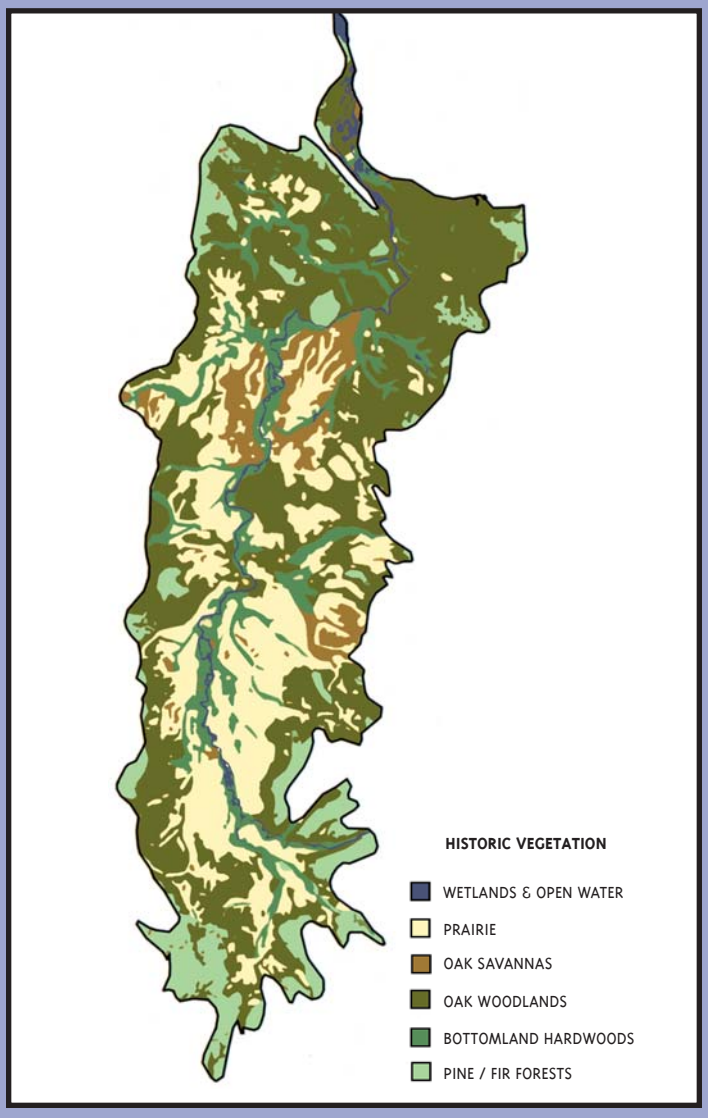
In addition to the threats created by the substantial loss and fragmentation of native habitats, fish and wildlife in the Willamette Valley face threats from non-native species, changes in flood regimes, degraded water quality, and reduced fire frequency.

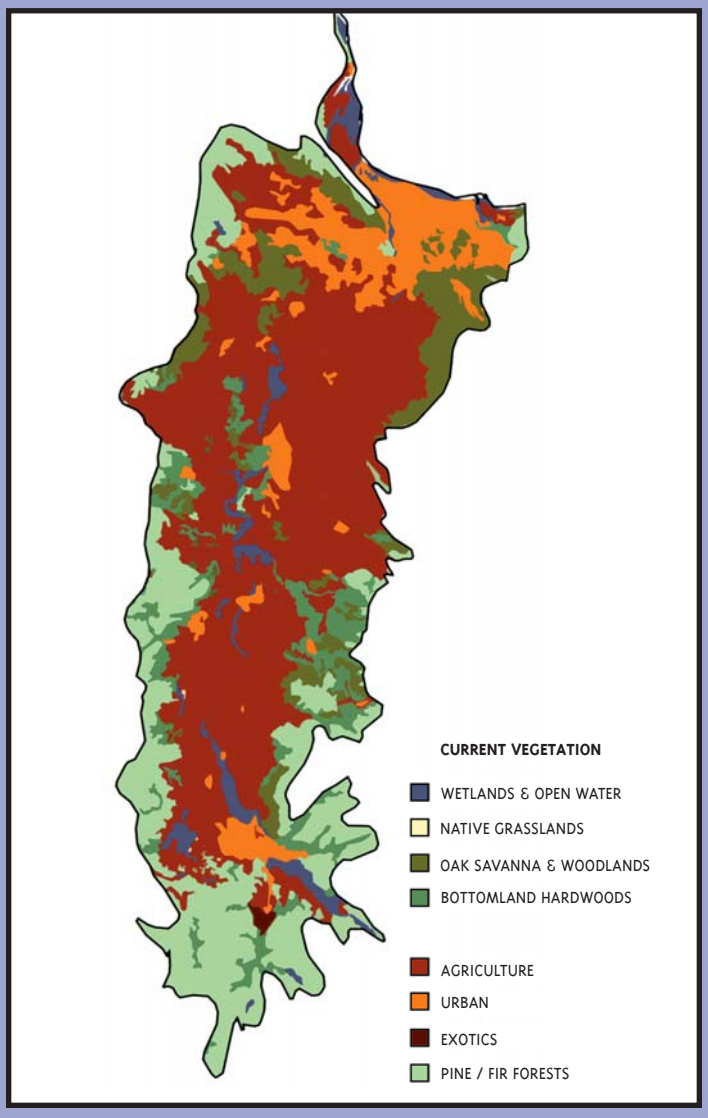
- **NON-NATIVE SPECIES.** Non-native species have been introduced to the Willamette Basin from a variety of sources — for example, for agricultural and horticultural purposes, in ship ballast, and with livestock. Examples of introduced species that impact native fish and wildlife and their habitats are bullfrogs, Scot's broom, starlings, and many non-native fish and perennial grasses.

- **CHANGES IN FLOOD REGIMES.** The mainstem of the Willamette has been greatly simplified as the river has been channelized and dredged for navigation. Natural disturbances like floods that once created off-channel aquatic habitat, gravel bars, and deep channel pools have been reduced. The floodplain is managed and confined by dams and dikes to such an extent that it no longer functions as a healthy ecosystem.

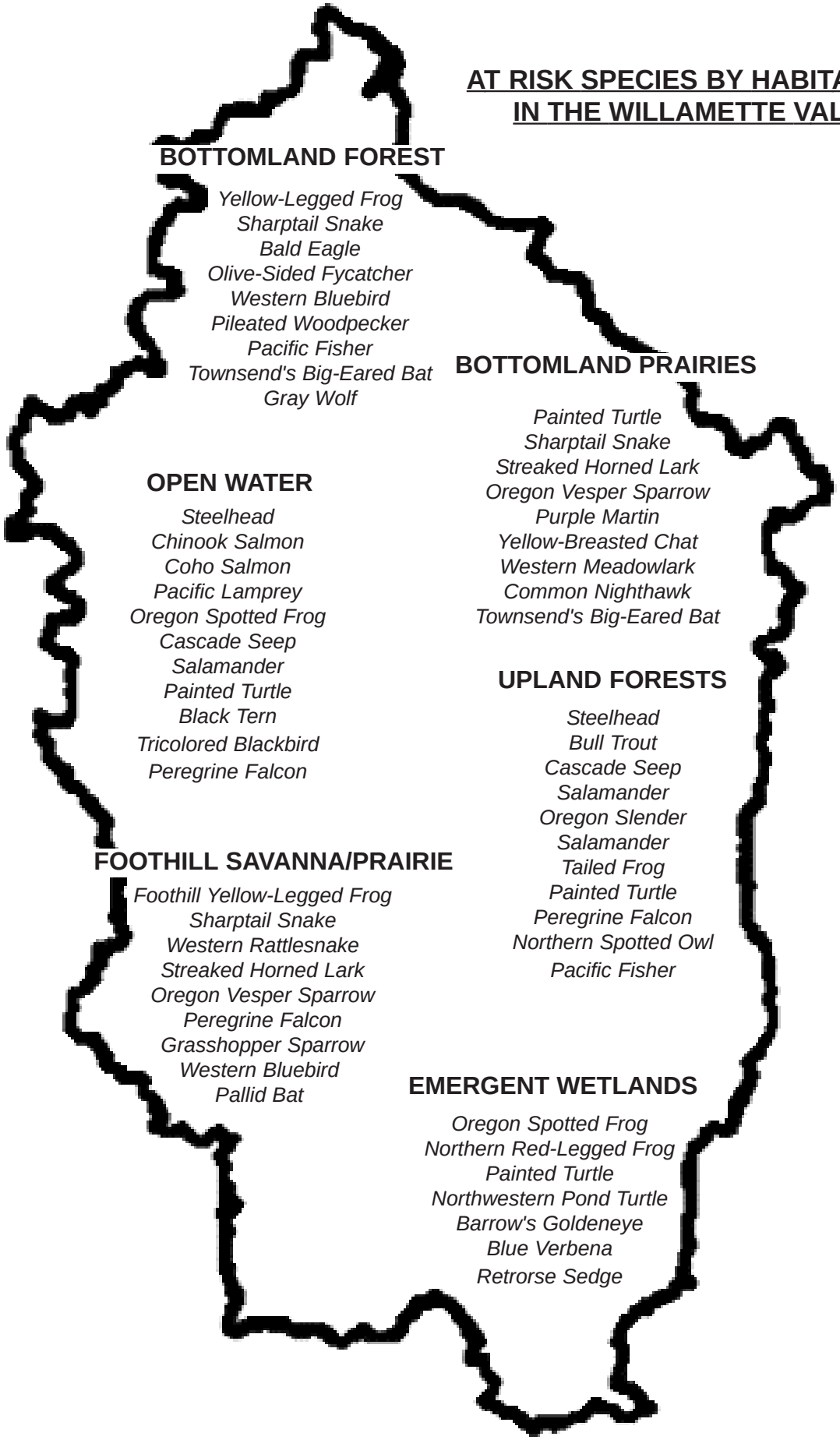
- **WATER QUALITY.** The Willamette's declining water quality is once again attracting public and agency attention.

HISTORIC AND CURRENT VEGETATION IN THE WILLAMETTE VALLEY





AT RISK SPECIES BY HABITAT TYPE IN THE WILLAMETTE VALLEY



BOTTOMLAND FOREST

Yellow-Legged Frog
Sharptail Snake
Bald Eagle
Olive-Sided Fycatcher
Western Bluebird
Pileated Woodpecker
Pacific Fisher
Townsend's Big-Eared Bat
Gray Wolf

BOTTOMLAND PRAIRIES

Painted Turtle
Sharptail Snake
Streaked Horned Lark
Oregon Vesper Sparrow
Purple Martin
Yellow-Breasted Chat
Western Meadowlark
Common Nighthawk
Townsend's Big-Eared Bat

OPEN WATER

Steelhead
Chinook Salmon
Coho Salmon
Pacific Lamprey
Oregon Spotted Frog
Cascade Seep Salamander
Painted Turtle
Black Tern
Tricolored Blackbird
Peregrine Falcon

UPLAND FORESTS

Steelhead
Bull Trout
Cascade Seep Salamander
Oregon Slender Salamander
Tailed Frog
Painted Turtle
Peregrine Falcon
Northern Spotted Owl
Pacific Fisher

FOOTHILL SAVANNA/PRAIRIE

Foothill Yellow-Legged Frog
Sharptail Snake
Western Rattlesnake
Streaked Horned Lark
Oregon Vesper Sparrow
Peregrine Falcon
Grasshopper Sparrow
Western Bluebird
Pallid Bat

EMERGENT WETLANDS

Oregon Spotted Frog
Northern Red-Legged Frog
Painted Turtle
Northwestern Pond Turtle
Barrow's Goldeneye
Blue Verbena
Retrorse Sedge

Note: This is only a partial list of at-risk species by habitat type. For a complete list refer to “Status of At-Risk Species, Habitats, and Conservation Activities in the Willamette Valley Ecoregion, Oregon.” Available from The Nature Conservancy or U.S. Fish and Wildlife Service, Oregon.

Much of the Willamette mainstem is water quality limited for temperature, bacteria, fish deformities, and dissolved oxygen. Some streams and rivers have high temperatures and insufficient flows during summer and fall. The Portland Harbor area of the lower Willamette was recently listed as a federal Superfund site.

- **FIRE SUPPRESSION.** Fires originating from the land management practices of Native Americans shaped the Willamette Basin's habitats for thousands of years prior to settlement. These partly controlled fires were allowed to burn up into the forests, keeping the valley margins open and suppressing the establishment of Douglas fir in open areas. Fires also prevented the seedlings of woody plants from becoming established in prairie and savanna habitats. Beginning in the 1850s, fire suppression led to changes in species composition and tree density and allowed trees and shrubs to invade prairies, savannas, and seasonal marshes.

The overall picture for fish, wildlife, and other elements of biological diversity in the Willamette Basin is one of loss, fragmentation, and declining quality and functionality. It will be difficult to reverse or slow these trends in the face of continued population growth and development. As the WRI report observed:

> *…much of the original forest and savanna/prairie habitat has been converted outright, or has undergone a successional process in the absence of disturbance. These native habitats and the species that rely on them are rare. The likelihood of increasing the acreage of these habitats is low, as landowners have invested in alternative uses that can be quite profitable.*

The Oregon Biodiversity Project noted that the Willamette Valley ecoregion contains the smallest percentage of land managed for biodiversity conservation of all the ecoregions in Oregon. The remnant native habitats located within the valley's existing network of conservation lands are limited to a few small isolated locations managed by The Nature Conservancy and state and federal agencies. The majority of known at-risk plant species are outside the current conservation network in the Willamette ecoregion.

There are some hopeful signs and opportunities. First, there is a great deal of relatively healthy, intact, protected forest habitat in the upland regions of the Willamette Basin. In the valley, significant remnants of bottomland forest and instream habitat still exist (largely because it has been historically difficult to develop). The valley floor still contains large tracts of degraded but functional wetland habitat, including marshlands, flooded fields, and old river channels used by migrating and wintering waterfowl. Fragments

of the Willamette Greenway provide important protected riparian habitat.

Several major parks and wildlife refuges are located in the valley, including Sauvie Island and Fern Ridge state wildlife areas, Willamette Mission and Elijah Bristow state parks, and the Finley, Baskett Slough, Tualatin River and Ankeny national wildlife refuges. The Nature Conservancy has protected important habitat at Kingston Prairie near Stayton and at Willow Creek in West Eugene. Outside of urban areas, many lands retain their potential to support native habitats, given adequate investments in restoration and long-term management.

Landowners and managers, government agencies, and concerned citizens have a wide range of tools and resources to build on and connect these fragments of opportunity. Public and private money is available to support watershed restoration and conservation work. Watershed assessments, endangered fish recovery plans, and the previously mentioned studies focused on the Willamette Basin are pulling together valuable data and providing different models of institutional arrangements. There is broad acknowledgement that the key to progress is to provide a mix of regulatory controls, public education, and landowner incentive programs.

At the same time, there is a sense that some vital pieces and players are missing from the current deliberations. In particular, stakeholders have looked to Oregon's statewide land use planning program and its unique balance of state policy-making and local implementation. What role does the program currently play in addressing the basin's environmental challenges?

Could it — and should it — do more?

Overview of Oregon's Land Use Planning Program

HISTORY

Tom McCall called it the "Oregon mystique" — that sense shared by most Oregonians that the state in which they live is somehow "more special" than other places. Asked to explain why, they point proudly to the state's colorful history, its spectacular geography, and to a progressive political tradition that has put Oregon at the forefront of social and environmental policy since statehood. That tradition has yielded many innovative programs over the years, from the nation's first bottle bill to publicly owned beaches and the so-called "death with dignity" act. For many Oregonians, however — and for civic leaders and urban planning professionals throughout the country — the state's land use planning program sets Oregon apart from other places like nothing else.

The Willamette Valley lost 500,000 acres of farmland to development between 1955 and 1970. As each farm was developed, property taxes on neighboring farms shot up, making it harder for those farms to stay in business and creating a vicious cycle of sprawl.

Oregon law has authorized cities and counties to adopt comprehensive plans since 1947. Not until the 1960s, however, did the state require that local governments plan and regulate land use. By mid-century, Oregon's population growth was surging — with attendant problems such as untreated sewage flowing into rivers and onto public beaches and "sagebrush subdivisions" platted far from municipal services in central and eastern Oregon. The Willamette Valley lost 500,000 acres of farmland to development between 1955 and 1970. As each farm was developed, property taxes on neighboring farms shot up, making it harder for farms to stay in business and creating a vicious cycle of sprawl.

At the same time the environmental movement was gaining traction at both the national and state levels. A spate of landmark federal environmental legislation was passed. A number of states, including New Jersey, Vermont, and Florida began to experiment with state-level land use programs.

In Oregon, too, key state leaders — most notably Governor McCall — recognized that many of the state's environmental problems stemmed from poorly planned growth and development. In response, in 1968 McCall's staff and an interim legislative committee on agriculture took the first stab at writing legislation to introduce state-level land use planning. One of the four bills produced was Senate Bill 10, which contained nine land use "goals" calling for the protection of open spaces and prime farmland "commensurate with the character and physical limitations of the land." The bill required all local governments to complete zoning plans to meet the nine goals within two years. Perhaps more important, it established the precedent for state oversight of local planning.

The deadline for local governments to adopt comprehensive zoning came and went in 1971, with few having responded to the mandate. In the meantime, Oregon's population continued to grow — by five percent between 1970 and 1972 — with most of that growth concentrated in the Willamette Valley. Large-scale developments like Washington Square and Charbonneau raised property taxes on agricultural land and changed the character of rural landscapes in highly visible locations.

The lukewarm response of local governments to the 1968 legislation was not enough for Tom McCall. Approaching his last legislative session as governor in 1972, McCall was determined to draw public and political attention to the issue and finish his tenure with a more effective land use program in place. In Salem, McCall directed his staff to develop a new land use proposal. Linn County dairy farmer and state senator Hector McPherson, long an ardent advocate of land use planning to protect important farmland, joined McCall's staff in the effort to draft an "ideal" land use bill.

At the same time, McCall embarked on a yearlong public education crusade to convince Oregonians of the need for a comprehensive, state-guided approach to protect its treasured farms and forests. At the heart of the campaign was "Project Foresight," a task force charged to look at different scenarios of growth and development in the Willamette Valley — one based on "sound planning" and compact growth patterns, the other projecting a continuation of the current pattern of sprawl.

The proposal put together by McCall's staff and Hector McPherson was introduced in the 1973 legislative session as Senate Bill 100. Finding little legislative interest in the bill, McPherson turned to Senator Ted Hallock for help. Hallock, a liberal Democrat from Portland and chair of the Senate committee with oversight of land use and the environment, convened a task force of lobbyists to develop compromise legislation. The resulting bill, which retained its legislative identity as Senate Bill 100, passed both houses handily and was signed into law by McCall on May 29, 1973.

General Program Description

The landmark legislation adopted in Oregon in 1973 is built on 19 statewide planning goals covering a range of resources and issues including citizen participation, farm and forestland, transportation, public facilities, natural resources and open space, and coastal resources. The language of the goals themselves is broad. The purpose of Goal 5, the natural resources goal, is simply "to protect natural resources and conserve scenic and historic areas and open spaces," while Goal 6, the air, water and land resources quality goal, seeks to "maintain and improve the quality of the air, water, and land resources of the state." The goals are supported and further defined by a set of policy guidelines and more detailed administrative rules adopted and amended over time by the Land Conservation and Development Commission (LCDC).

Primary responsibility for implementing and enforcing the goals and guidelines is shared by the Department of Land Conservation and Development, the Land Conservation and Development Commission, and the cities and counties of Oregon. The most important job of the department and commission is to review local plans and make sure they conform to the statewide planning goals. Historically, the legislature has appropriated several million dollars in each biennium for grants to cities and counties to assist them in keeping plans and ordinances current and in conformance with the goals.

Other state agencies, especially the departments of Agriculture, Fish and Wildlife, Forestry, Housing, Transportation, and the Division of State Lands play supporting roles. For example, field biologists for the Oregon Department of Fish and Wildlife often are included in internal reviews of local development applications, and make recommendations regarding how development may proceed to minimize impacts on fish and wildlife habitat (e.g. building densities, setbacks, fencing heights, etc.). Many counties defer decisions regarding development applications in wetlands to the Division of State Lands, which administers the state's law regulating the removal and fill of material in waters of the state, including wetlands.

Oregon's law requires cities and counties to adopt comprehensive plans and implementing regulations to address the goals applicable to their jurisdiction. Once the jurisdiction has adopted its plans and ordinances, they must be reviewed and approved ("acknowledged") by LCDC as complying with the goals. Jurisdictions are required to go through a "periodic review" process at certain intervals of time in order to revise and update plans and ordinances to meet changing conditions and state requirements.

The goals for which Oregon's land use program is perhaps best known are those aimed at protecting farm and forest lands for productive resource use (Goals 3 and 4) and the urbanization goal (Goal 14), which requires the establishment of urban growth

boundaries. By containing urban sprawl and protecting large unbroken tracts of agricultural and forested lands, these three goals alone provide some important benefits for biodiversity and native fish and wildlife habitat.

In addition, at least four other goals — those relating to air, water and land resources, natural hazards, and the Willamette River Greenway — have some relationship to or potential impact on fish and wildlife habitat and biodiversity in the Willamette Valley. However, these goals contain no explicit guidance for habitat protection. That job is left to Goal 5, the natural resources goal, discussed below.

Goal 5: The Natural Resources Goal

The state planning goal most explicitly designed to address the needs of fish and wildlife is Goal 5: Natural Resources, Scenic and Historic Areas, and Open Spaces. The Goal 5 administrative rule went through a comprehensive review and revision process in the mid-1990s. An amended Goal 5, along with revised procedures and requirements for compliance, was adopted by LCDC in August 1996.

Unlike Goal 3, a highly prescriptive goal requiring protection of farmland resources consistent with explicit state direction regarding what farmland local governments must protect (in terms of soil types and economic productivity) and how it is to be protected (exclusive farm use zoning), Goal 5 can best be described as a process goal. Although it requires that local governments identify significant natural resources and adopt programs to protect them, trade-offs can be made, and the kind of program that must be adopted to protect natural resources "for present and future generations" is unspecified.

In general, Goal 5 and its supporting administrative rule require that local governments do the following:

- Conduct an inventory of natural resources within the jurisdiction. "Inventory" is defined as a survey, map, or description of one or more resource sites prepared by a local government, state or federal agency, private citizen, or other organization that includes information about the resource values and features associated with such sites.

- Determine the significance of the resources identified in the inventory based on the location, quantity, and quality of the resource;

- Identify uses that may conflict with the resource use;

- Determine the "impact areas" around the resource use;

- Conduct an ESEE (economic, social, environment, and energy) analysis to identify the economic, social, environment and

energy consequences that could result from a decision to allow, limit, or prohibit an identified conflicting use.

- Based on the ESEE analysis, decide whether to allow, limit, or prohibit identified conflicting uses for significant resource sites;

- If a decision is made to prohibit identified conflicting uses, develop a program to achieve the goal for that resource.

Goal 5 can best be described as a process goal. Although it requires that local governments identify significant natural resources and adopt programs to protect them, trade-offs can be made, and the kind of program that must be adopted to protect natural resources "for present and future generations" is unspecified.

These steps in the Goal 5 process are explained in greater detail below.

Inventory and Significance Determination

The purpose of the inventory is to compile or, in some cases, update a list of the jurisdiction's significant Goal 5 resources. The Goal 5 administrative rule sets out four distinct steps in the inventory process:

a) Collect information about Goal 5 resource sites;

b) Determine the adequacy of the information;

c) Determine the significance of the resource sites; and

d) Adopt a list of significant resource sites.

It should be noted that Goal 5 generally does not require local governments to develop new inventories, allowing them to rely instead on existing information. (An exception to this is the requirement to conduct wetland inventories for areas inside urban growth boundaries.)

The rule specifies that when collecting information about potential Goal 5 sites, the local government must at a minimum notify state and federal resource management agencies and request current resource information, as well as consider other information submitted in the local process. To be deemed "adequate," the information collected on a particular Goal 5 site must include the location, quality, and quantity of the resource. The "quality" determination regarding a resource must address the site's value relative to other known examples of the same resource type, and include an estimate of the relative abundance or scarcity of the resource.

The determination of the significance of the site is based primarily on the quality, quantity, and location information. The rule gives local governments two options for approaching the significance issue: (1) the standard Goal 5 inventory and significance

Goal Five:
The Natural Resources Goal

Conduct an **inventory** of natural resources that includes information about resource values and features.

Determine the **significance** of the resources identified in the inventory.

Identify uses that may **conflict** with the resource use.

Determine the **impact areas** around the resource.

Conduct an economic, social, environmental and energy analysis (ESEE) to identify consequences from use.

Decide whether to **allow, limit or prohibit** uses based on the ESEE analysis.

Develop **a program to achieve the goal** for resources.

determination process, where significance is determined based on inventory information regarding its quality, quantity and location, and (2) a "safe harbor" methodology. The "safe harbor" provisions allow local governments to be deemed to meet Goal 5 significance determination requirements for riparian areas, wetlands, wildlife habitat, and other resources as follows:

- For riparian areas, by using a standard setback distance from all fish-bearing lakes and streams shown on Oregon Department of Forestry stream classification maps, National Wetland Inventory maps, ODFW maps indicating fish habitat, and several other named references. The "safe harbor" setback distance from identified streams is 75 feet upland from the top of bank for streams with average annual flow of 1,000 cubic feet per second (cfs), and 50 feet from the top of bank for streams with an annual flow of less than 1,000 cfs. [Note that the setback distances are set at 75 and 50 feet exactly, rather than "not less or greater than" those distances. The setback was established in this manner in response to requests from the home-building industry for greater certainty in the rule.]

- For wetlands within urban growth boundaries (UGBs) and urban unincorporated communities (UUCs), by determining which wetlands are significant using criteria adopted by the Division of State Lands (DSL) and adopting the list of significant wetlands as part of the comprehensive plan or as a land use regulation. For areas outside urban growth boundaries or urban unincorporated communities, either adopt the statewide wetland inventory as part of the local comprehensive plan or use it to notify DSL of applications for development permits affecting wetlands in the inventory.

- For wildlife habitat (local governments may determine that the term "wildlife" does not include fish, which are presumed to be covered by the riparian provisions of the goal), identify as significant only those sites where one or more of the following conditions exist:

  a) The habitat has been documented to perform a life support function for a wildlife species listed by the federal government as threatened and endangered or by the state of Oregon as a threatened, endangered, or sensitive species;

  b) The habitat has documented occurrences of more than incidental use by a federal or state threatened, endangered, or sensitive species;

c) The habitat has been documented as a sensitive bird nesting, roosting, or watering resource site for osprey or great blue herons pursuant to the Oregon Forest Practices Act and administrative rules;

d) The habitat has been documented to be essential to achieving policies or population objectives of an ODFW "wildlife species management plan"; or

e) The area is identified and mapped by ODFW as habitat for a wildlife species of concern and/or as a habitat type of concern (e.g. big game winter range and migration corridors, golden eagle and prairie falcon nest sites, or pigeon springs).

It is worth noting that the rule also requires that "natural areas" listed in the Oregon State Register of Natural Heritage Resources must be inventoried as significant by local governments.

Local governments are required to complete the Goal 5 process only for those resources they determine to be significant. No further planning or regulatory action is needed for resources not determined to be significant.

Conflicts, Impact Areas, and the ESEE Analysis

Following the determination of which resources are "significant," the local jurisdiction must identify conflicting uses that exist, or could occur, that could affect significant Goal 5 resource sites. The local zoning code is examined to identify land uses allowed outright or conditionally within the zones applied to the resource site and its impact area. The "impact area" includes the area in which the allowed uses could adversely affect the resource site, and defines the geographic limits within which the ESEE analysis will be conducted.

Through the ESEE analysis, the local government must analyze the economic, social, environmental and energy consequences of a decision to allow, limit, or prohibit a conflicting use. The local government has a variety of options for how to approach the ESEE analysis. Based on the results of the analyses, the local government must determine whether to allow, limit, or prohibit conflicting uses.

Program to Achieve the Goal

Finally, for each resource site, the local government must develop a "program to achieve the goal" — that is, a plan or course of action either to prohibit, limit or allow uses that conflict with significant Goal 5 resources, adopted as part of a comprehensive plan and land use regulations. The latter may include zoning standards, easements, cluster development, preferential assessments, acquisition of land or development rights, or other protection methods.

The rule gives special consideration to riparian areas by requiring local governments to amend acknowledged plans in order to both inventory and provide programs to achieve Goal 5 for riparian corridors prior to or at the first periodic review after rules were adopted.

Other Land Use Goals Affecting Fish and Wildlife Habitat and Biological Diversity

Although Goal 5 is the goal most specifically aimed at addressing fish and wildlife habitat, several other goals have implications for these resources in the Willamette Valley.

Goal 6: Air, Water, and Land Resources Quality

The purpose of Goal 6 is to "maintain and improve the quality of the air, water and land resources of the state." The goal goes on to state that all "waste and process discharges from future development, when combined with such discharges from existing developments shall not threaten to violate, or violate applicable state or federal environmental quality statutes, rules and standards." The state's guidelines for Goal 6 define "waste and process discharges" to include "solid waste, thermal, noise, atmospheric or water pollutants, contaminants, or products there from."

The Goal 6 guidelines also recommend that comprehensive plans "buffer and separate those land uses which create or lead to conflicting requirements and impacts upon the air, land and water resources." The guidelines encourage local governments to use carrying capacity as a "major determinant" in providing for the "maintenance and improvement" of these resources.

While its provisions are general, Goal 6 has been interpreted by some local governments to provide broad authority to regulate land uses in ways that address water quality issues. As a result, this goal may play a greater role in the future as non-point source pollution and salmon recovery issues take on larger significance. Some jurisdictions, including Metro and Clackamas County, have already begun to use Goal 6 to address these issues.

Goal 7: Areas Subject to Natural Hazards and Disasters

Goal 7 is designed to protect life and property from natural disasters and hazards — "areas that are subject to natural events that are known to result in death or endanger the works of man." Examples of natural disasters and hazards are stream flooding, ocean flooding, groundwater, erosion and deposition, landslides, earthquakes, and weak foundation soils.

Floodplain management has been a major focus of Goal 7. The Department of Land Conservation and Development manages Oregon's participation in the Federal Emergency Management Agency's National Flood Insurance Program (NFIP). All 255

Oregon cities and counties subject to flooding have adopted floodplain management ordinances.

Goal 7 has been the subject of renewed attention in recent years following the extensive flooding and landslides in 1996 and 1997. Although the goal is aimed at preventing problems rather than protecting resources, its implementation could benefit fish and wildlife, particularly in urban areas, by limiting development in riparian corridors and floodplains. The Goal 7 guidelines ask that land uses not requiring protection by dams, dikes, or levees be preferred over those that require such protection in floodplains. Instead, "low density and open space uses that are least subject to loss of life or property damage" are preferred, and planning for hazard areas should include "an evaluation of the beneficial impact on natural resources and the environment from letting such events naturally recur."

One county planner interviewed for this report noted that while goals 5 and 7 are in some respects complementary, they have fundamentally different purposes. Federal government-backed flood insurance is available in communities that agree to adopt and enforce floodplain management ordinances to reduce future flood damage. Better rates are available for communities that go beyond the minimum ordinance standards, including taking such actions as designating wetlands for stormwater retention.

The federal standards do not prohibit development in either the floodway or the floodplain, or provide incentives to encourage development to locate at the floodplain fringe. Strengthening the federal standards would decrease flood-related losses and allow for improved fish and wildlife habitat along rivers and streams.

Goal 15: Willamette River Greenway

The idea of a state-owned greenway running along the length of the Willamette River was initially conceived by state Treasurer (and later Governor) Bob Straub during his 1966 gubernatorial campaign against Tom McCall. Begun as a program through which state highway funds were granted to local governments to acquire land, the idea was embraced and expanded by McCall once he became governor.

The first Willamette River Greenway legislation was enacted in 1967. In 1973, the Greenway statute was amended to establish a clear link between the Greenway and the state's new land use planning law. Goal 15 extended that link to the local government planning process envisioned in SB 100.

As is the case with the other goals, the purpose language in Goal 15 is broad and general, and mimics statutory language regarding the Greenway: "[T]o protect, conserve, enhance, and maintain the natural, scenic, historical, agricultural, and economic and recreational qualities of lands along the Willamette River as the Willamette River Greenway." The goal further states that the qualities of the Greenway "shall be protected,

conserved, enhanced and maintained consistent with pre-existing lawful uses." Within the boundaries of the Greenway corridor, "special Greenway considerations" must be taken into account so that the corridor maintains its natural, scenic, historical, agricultural, economic and recreational qualities.

The boundaries of the Willamette River Greenway are defined by statute as "all lands situated within 150 feet from the ordinary low water line on each side of each channel of the Willamette River" not to exceed 320 acres per mile. Goal 15 required the inventory within this area of a variety of resources including significant natural and scenic areas and vegetative cover, fish and wildlife habitat, and "ecologically fragile" areas. "Significant" fish and wildlife habitats within the Greenway were to be protected, and the natural vegetative fringe along the river "enhanced and protected" to the "maximum extent practicable." The goal also required that a setback line be established to keep structures away from the river.

In some ways, the Greenway concept offered a better model for conservation than the rigid, "big block" rural lands zoning model eventually institutionalized in the state's land use laws. Planning for the resource followed the resource, across jurisdictional lines, with implementation shared by the state and local governments.

With respect to local governments, the goal required that each city and county in which the Greenway is located incorporate portions of the approved Greenway Plan into its comprehensive plan and implementing ordinances and other measures. Comprehensive plans were to show the Greenway boundaries and designate land uses found to be consistent with the plan, its authorizing statute, and the goal. Those uses were required to include exclusive farm uses, floodplain, and open space zoning.

All Willamette Basin county plans and ordinances address the Greenway goal. Nevertheless, the Greenway is viewed by many as a lost opportunity. The vision of a publicly owned corridor along the river was seriously undermined by an implementation strategy that relied on state highway right-of-way agents to negotiate land acquisitions. According to one veteran planner, these agents employed tactics more commonly used in highway development, bringing up the possibility of condemnation rather than approaching landowners with a more long-term, incremental strategy. As a result, the Greenway program became mired in controversy early on and never really recovered.

Ironically, in some ways, the Greenway concept offered a better model for conservation than the rigid, "big block" rural lands zoning model eventually institutionalized in the state's land use laws. Planning for the resource followed the resource, across jurisdictional lines, with implementation shared by

the state and local governments. Well before the advent of geographical information systems, the drafters of the Greenway statute recognized that multiple public values, including cultural and historic sites, fish and wildlife habitat, and recreation could be addressed and protected in a long, relatively narrow corridor.

Fish and Wildlife Habitat and Local and Regional Planning

The preceding overview of the land use program focused primarily on the strengths and weaknesses of the state's requirements of local government. This section focuses on how local governments have responded to these requirements, and how they and others feel about the results.

Review of County Programs

Plans and/or zoning ordinances from six of the nine Willamette Valley counties (Clackamas, Linn, Lane, Marion, Polk, and Yamhill) were reviewed for this report. Each county's planning director was interviewed, as were staff at the Department of Land Conservation and Development. Natural resources staff at the Lane Council of Governments and at Metro, the regional planning agency for the Portland metropolitan area, also were interviewed.

All the counties reviewed for this report work with plans and regulations acknowledged by LCDC as meeting statewide planning goals and guidelines. All the counties' plans and ordinances include provisions for protecting fish and wildlife habitat, either through the Willamette River Greenway goal, Goal 5 (Open Space, Scenic and Historic Areas, and Natural Resources), Goal 6 (Air, Water, and Land Resources Quality) or Goal 7 (Areas Subject to Natural Hazards).

Counties adopted plans and ordinances at different times, but in general Willamette Valley communities were among the "early adopters" of the program, with most counties initially acknowledged in the mid-1980s. As a result, most relied upon general goal language when dealing with natural resources, as the first Goal 5 administrative rule was not adopted until after many counties' plans had been acknowledged.

Although the policy, plan and ordinance language regarding fish and wildlife habitat varies somewhat from place to place, the overall approach and the tools employed are fairly consistent. In particular, the counties share similar approaches to the "front and back ends" of the process — inventory and

implementation (protection) programs, as summarized below.

Inventory

When conducting Goal 5 and other resource inventories, all counties place major reliance on information available from the Division of State Lands (National Wetland Inventory and wetlands of state significance) and ODFW (for big game winter range, sensitive bird nesting and roosting sites, pigeon springs, heron rookeries, "Class I streams" and "fish-bearing streams," etc.). Larger counties, regional entities, and cities are also likely to contract with consultants or hire technical staff to conduct inventories.

As communities work with Goal 5 during periodic review, they may also invite interest groups and concerned citizens to participate in a more detailed inventory process. In Lane County, including such groups in the process resulted in the addition of about a dozen new resource sites to the county's inventory. In addition, more detailed, site-specific inventories may be done at the time development is proposed.

Implementation

Riparian Areas

As noted earlier, riparian areas provide essential habitat for numerous species and contribute significantly to water quality. All the ordinances reviewed included riparian setbacks, varying in size from 25 feet from top of bank to three times stream width or 100 feet from top of bank (whichever is less). One county uses a variable setback depending on stream size, while another uses a standard of 50 feet from top of bank.

In at least one county, the setback provisions apply only when the applicant has enough land to comply and still build the desired structure. If the applicant doesn't have enough land, the setback area can be encroached upon to the extent necessary to locate the structure on the parcel. In most counties, the setback applies to structures with foundations only, so a deck or porch may be permitted to encroach into the riparian zone.

Several counties have limits on vegetation removal, and the "new" Goal 5 safe harbor language for riparian areas includes such a limit. Typically, the ordinance prohibits the removal of more than 25 percent of the vegetation within the riparian area on a given property. County planners interviewed for this report acknowledged great difficulty in enforcing vegetation removal restrictions. Unless a neighbor or concerned citizen reports a violation, it is likely to go unpunished. Once the vegetation is removed, it may take years to replace it with comparably sized plants.

It should be noted that most riparian provisions apply only to streams of a certain size or streams identified as "fish-bearing." Intermittent streams generally are not considered "significant" by local governments in the Goal 5 process. An exception to this general

rule is Metro, which has addressed intermittent streams in both its water quality protection and Goal 5 work.

Lane County's approach to riparian area protection is worth special mention. Lane County's ordinance permits no structure (other than a fence) closer than 100 feet from ordinary high water of any Class I stream designated for protection in resource areas (Forest Land or Exclusive Farm Use districts) in the county comprehensive plan. In non-resource areas, the setback is 50 feet from ordinary high water. This requirement may be modified for structures, but only with appropriate conditions to protect resource values. These provisions have been in effect since 1991, and were used as a reference by LCDC when Goal 5 was reviewed and revised in the mid-1990s.

The county also has drafted a proposed "Critical Habitat Conservation Zone" in response to the listing of spring chinook and bull trout in portions of Lane County under the Endangered Species Act. The proposed ordinance is more restrictive than and supercedes the Class I stream riparian regulations in areas where it applies. It defines standards for the alteration, removal, destruction, or replacement of indigenous vegetation. It also regulates the construction or placement of a structure within two setback areas ("inner" and "outer") based on stream size as follows:

- Large streams — Inner and outer setback areas of 75 feet for total riparian management area of 150 feet;
- Medium and small streams — Inner setback area of 50 feet, outer setback of 75 feet for total riparian management area of 125 feet.

The inner area is proposed as a "no disturbance" zone, while the outer area would allow limited disturbances, including structures on substandard parcels, with a variance and mitigation plan approved by the planning director. The ordinance was developed with assistance from the Upper Willamette Spring Chinook Working Group (scientists from ODFW, DEQ, EWEB, Weyerhaeuser, NMFS, etc.), and has been approved by the Lane County Planning Commission. Once the county board has adopted the ordinance, the county plans to use it as the basis for applying to NMFS for a "take limit" under the Endangered Species Act. The proposed regulations also contain provisions aimed at erosion control and pending state regulations regarding "Total Maximum Daily Loads" (TMDLs) in the Willamette River.

The state's response to Lane County's work has been mixed. On the one hand, DLCD recognizes the challenges facing local governments as they attempt to deal with ESA issues within the framework of the state planning laws. The direction taken by Lane County may become a de facto model for the rest of the state.

On the other hand, Lane County's riparian setbacks are significantly wider than those set

in the safe harbor standards for riparian areas. In order to deviate from those standards, Lane County must perform an "adequate" ESEE analysis, which the state believes they have not done.

Wetlands

Planning for and protecting wetlands — one of the most important and threatened of Willamette Basin habitat types-is a multi-jurisdictional process in Oregon, involving federal, state and local jurisdictions. Comprehensive wetland legislation adopted by the Oregon legislature in 1989 authorized counties to defer to the state wetland permit program (administered by the Division of State Lands) in areas outside urban growth boundaries. Over the past decade, most counties have elected to do just that. If a permit applicant's proposal appears to affect a wetland identified on the National Wetland Inventory map, the applicant is referred to the state to obtain a permit. (Some counties take a more active role in identifying and regulating wetlands within urban growth boundaries, where development pressures are greater.)

County planners interviewed for this report acknowledged great difficulty in enforcing vegetation removal restrictions. Unless a neighbor or concerned citizen reports a violation, it is likely to go unpunished. Once the vegetation is removed, it may take years to replace it with comparably sized plants.

The 1996 amendments to Goal 5 recognized this approach. The cost and complexity of conducting a countywide wetland inventory at the level of detail necessary to make permitting decisions is simply prohibitive for most local governments. Moreover, even if a local government determines a wetland not to be significant, a state permit is still required.

Overlay Zones

Another widely used tool for dealing with fish and wildlife habitat at the county level is the overlay zone. Overlay zones provide the opportunity and rationale for imposing restrictions and conditions on development in addition to those in the "base" or underlying zone.

The overlay zones used most commonly to address habitat issues are the "sensitive bird habitat overlay" and the "big game habitat overlay," both of which are provided by ODFW. The sensitive bird habitat over-lay applies to sensitive bird sites, largely the nesting and roosting sites of birds identified by ODFW as "state sensitive."

Big game habitat overlay may apply to winter range, migration corridors or other needs of game like deer and elk. In some areas, two overlay zones are used for big game — "major" and "peripheral." "Major" habitat overlay zones cover broad geo-graphic areas and are used to impose restrictions or conditions on new development. "Peripheral"

overlays are more limited in scope but can be used to require setbacks and limit removal of vegetation cover.

Big game habitat overlays occasionally do impact the location of dwellings. In rare cases ODFW's recommended density of one dwelling per 40 acres in a big game habitat overlay area might be used to deny a permit for a dwelling. In any event, most big game habitat in the Willamette Basin is in forested areas subject to the state Forest Practices Act and specifically exempted from Goal 5.

The Willamette Greenway is also protected by an overlay zone which deals primarily with the siting of structures, docks, etc. and vegetation removal.

Permit Conditions and Restrictions

Goal 5 normally results in county identification of a set of specific "Goal 5 resource sites" to be fully protected, partially protected, or fully developed. A majority of Goal 5 inventory sites that make it through the significance determination and ESEE analyses are designated for "partial protection."

Accordingly, development may occur at or near the area with appropriate restrictions or conditions to protect the resource values. Such restrictions are determined through multi-agency review of the development application and consultation and negotiation with the applicant.

Metro

The Goal 5 rule makes specific provisions for Metro, the regional planning body for the Portland metropolitan area. The goal requires that local governments within Metro's planning jurisdiction complete the Goal 5 process for all "regional resources" identified by Metro during the first periodic review following Metro's adoption of a "regional resources map." Metro has the option of adopting a functional plan or plans to address Goal 5 and provide time limits for local governments to respond. The requirements of the functional plan may differ from the requirements of the Goal 5 administrative rule.

Over the past several years, Metro has undertaken a comprehensive effort to address regional resource needs. In June 1998, the Metro Council adopted "Title 3," a regional approach to water quality issues designed to address land use Goals 6 and 7 through erosion control, floodplain cut and fill regulations, and the identification of water resource management areas. That work has been acknowledged by LCDC and is on an implementation schedule.

More recently, Metro has embarked on a new regional planning process aimed at better fish and wildlife habitat protection. The area of planning is the entire area under Metro's jurisdiction. The Metro process will follow the Goal 5 process within the urban growth boundary. First, a resource inventory will be conducted, and a "regional resources map" will be adopted showing regionally significant resources. (Metro will acknowledge the map by resolution.) An ESEE analysis will be

conducted, and programs to protect resources will be developed.

Once these "basic" Goal 5 steps have been completed, the Metro Council will adopt "functional plan language" — language that makes it binding on local governments to incorporate Metro's work into their own comprehensive plans and ordinances. Municipalities that have done their own Goal 5 inventory work since 1996 can wait for periodic review before responding. Metro intends to include regional safe harbor provisions in its work, but has indicated that the safe harbors will be more inclusive than those adopted by LCDC.

Metro will include streams, rivers, and other riparian resources and uplands in its Goal 5 planning work. A broad vision adopted by the Council as a prelude to the Goal 5 process describes a continuous vegetated corridor on all streams comprised of a "management area" extending 200 feet from both sides of the watercourse and, within that, a more narrow protected strip of streamside vegetation. This corridor will be connected to significant upland habitats over time through a variety of means including land acquisition (through Metro's Greenspaces acquisition program) and habitat restoration. The ultimate goal is to create an interconnected, functional system of fish and wildlife habitat in the metropolitan area.

Examples of Local Programs

Planners in the Willamette Basin have overcome significant challenges to develop strong habitat conservation programs using both traditional (Goal 5) and non-traditional tools. Three of these initiatives are highlighted below.

West Eugene Wetlands

The wetlands system in west Eugene is a remnant of seasonal wet prairies that once covered much of the floor of the Willamette Valley. The 1987 "discovery" of these wetlands — in the midst of an area already planned and serviced for major industrial growth — generated a great deal of public and property owner concern. Accordingly, in 1989, Eugene embarked on a program to identify and protect the most important of the remaining wetlands, restore others, and allow urban development to take place where appropriate.

The result of the city's efforts was the West Eugene Wetlands Plan, a wetlands management/land use plan adopted by the City of Eugene and Lane County in 1992. The plan was adopted following standards and procedures set forth in Oregon law for wetland conservation plans, which are deemed under ORS Chapter 196 to comply with the requirements of statewide planning goals relating to wetlands.

The plan was developed by an interdepartmental and interagency team including representatives from the City of Eugene, Lane

County, the Lane Council of Governments, and The Nature Conservancy (TNC). It was adopted by the Oregon Division of State Lands and the US Army Corps of Engineers in 1994, paving the way for greater environmental and development certainty in the area, a streamlined permitting process, and a massive acquisition and restoration program which is still being implemented.

The West Eugene Wetlands Program is notable for several reasons in the context of this report. First, while considered under state law to comply with Goal 5, the plan was developed under separate statutory authority (ORS 196.600 — Wetland Conservation Plans). Focused on a single, unique resource site, the planners were able to begin by engaging citizens in a visioning process that established a strong foundation of support in the community.

*Faced with such a large, important area, with many key wetland parcels held by private owners, planners and supporters recognized that an implementation scheme based on regulation alone would never succeed. Instead, the **West Eugene Wetlands Program** has been implemented through a mix of regulations, mitigation banking, land acquisition, restoration and education.*

Equally important is the way in which the plan has been implemented. Faced with such a large, important area, with many key wetland parcels held by private owners, planners and supporters recognized that an implementation scheme based on regulation alone would never succeed. Instead, the West Eugene Wetlands Program has been implemented through a mix of regulations mitigation banking, land acquisition, restoration and education.

Armed with a community vision, broad political support and their own sustained commitment, local planners and policymakers have attracted over $20 million in acquisition and restoration funds to the project. They are now in the process of studying how the West Eugene Wetlands can be linked to other natural resources in the region to provide a system of "rivers and ridges" that supports fish and wildlife as well as meets public recreation needs.

Title 3 of Metro's Urban Growth Functional Management Plan

Metro's policy for managing growth and protecting natural resources is expressed in the Urban Growth Functional Management Plan, adopted in November 1996. This plan sets forth policies that apply to all 24 cities and three counties in the Metro region. Title 3 of the plan is focused on protecting the beneficial uses and functional values of water resources by limiting or mitigating the impacts of development activities.

Title 3 establishes setback standards for protecting "vegetated corridors" around streams and wetlands as follows:

- 50 feet from top of bank on both sides of streams with less than 25 percent slope;

- 200 feet from top of bank on either side of streams with a slope greater than 25 percent that drain more than 100 acres;

- 30 feet from top of bank for streams draining 50-100 acres.

Title 3 does not address, and was not intended to comply with, Goal 5. Rather, it complies with goals 6 and 7 and sets a time-line for identifying a more comprehensive set of Goal 5 resources (discussed previously).

Clackamas County Riparian Protection

Clackamas County revised its Goal 5 program within the past several years, and is close to state approval. A primary focus of the county's Goal 5 program is protection of riparian corridors. Riparian areas are addressed in several sections of the county comprehensive plan and implementing ordinances (i.e., river and stream conservation area ordinances, riparian setback and vegetation preservation regulations, restrictions on flood-plain development, and the Willamette Greenway overlay).

In Clackamas County, the width of the buffer for structure setback is related to the size (flow in cubic feet per second or cfs) of the stream. Regulations apply to land within 100 feet of the mean high water line for "large" streams (annual average flows of 10 cfs or greater), within 70 feet of mean high water for "medium" streams with average annual flow of between two and ten cfs, and 50 feet for "small" streams having an annual average flow of less than two cfs. Regulations in these areas address building location and footprint, sewage disposal, and vegetation preservation.

A separate item in the "regulatory bundle" employed by Clackamas County is a surface water management ordinance. This ordinance, which was adopted by the county surface water management agency in response to Title 3 of Metro's Functional Growth Management Plan, addresses erosion control and stormwater management. The county's floodplain management ordinance provides an additional layer of regulation and permit review for structures within the floodplain management district.

• • •

The examples sited above share several characteristics. First, both the West Eugene Wetlands and Metro Title 3 work address resources within a regional context. In Eugene, the entire wetland complex is included in the project area. Metro's work looks at stream and wetland resources across jurisdictional boundaries, while Clackamas County's work nests within the Metro context.

Finally, each project or program has a nontraditional relationship with Goal 5. Metro acknowledges that Title 3 addresses Goals 6 and 7, but not Goal 5. Metro is in the process

of a comprehensive Goal 5 project, described elsewhere in this report, which will complement Title 3's water quality and floodplain management provisions. The plan for the West Eugene Wetlands was developed under statutory authority for wetland conservation plans which is distinct from, albeit linked to, the land use planning program and Goal 5. Clackamas County has reinforced its Goal 5 program with surface water management and erosion control ordinances adopted under Goals 6 and 7.

RECOMMENDATIONS

As the preceding discussion has shown, counties in the Willamette Basin have applied the state's land use program to a wide variety of natural resources including fish and wildlife habitat. While confident that their efforts comply with the statewide planning goals, some Willamette Basin planners express doubt about the effectiveness of those efforts.

There can be little doubt that Oregon's land use planning laws have benefited fish and wildlife. The program's focus on preventing development on productive resource lands has resulted in long-term protection of large, unbroken tracts of forest and agricultural land.

Based on some planners' comments and the "paper review" of state goals and local plan and ordinance provisions conducted for this report, several general observations can be made. First, over the past 25 years the land use program has provided some protection for fish and wildlife habitat in the Willamette Valley and elsewhere in Oregon. Second, additional technical and financial resources and a number of program modifications are needed to make the program more effective in addressing habitat issues. Finally, structural and political realities limit the ultimate effectiveness of the program, and should be acknowledged. These observations, and related recommendations, are discussed below.

Acknowledging the Contributions of Oregon's Land Use Planning Program

There can be little doubt that Oregon's land use planning laws have benefited fish and wildlife. The program's focus on preventing development on productive resource lands has resulted in long-term protection of large, unbroken tracts of forest and agricultural land. While most of this land is managed for economic uses, in many cases it also serves to provide nesting, feeding and cover areas, migration corridors and other essential components of habitat for fish and wildlife. Rural subdivisions, widely regarded as threats to habitat conservation in most of the West, are of less concern in Oregon.

Second, flawed though it may be, Goal 5 has resulted in the recognition and at least partial protection by local governments of habitat resources that might otherwise have been lost entirely. As local governments apply the "new" Goal 5 in the future, it may accomplish more.

More Could Be Done

Although local governments are required to — and do — address fish and wildlife habitat under the state land use program, they and the state have not adequately protected natural resources other than farm and forest land. Improving the program's performance in this area will require a number of changes, some of which are described below.

Define more clearly the "state's interest" in protecting fish and wildlife habitat.

One of the unique features of the Oregon planning program is its reliance on local government to implement state-defined goals and guidelines. When the state's interest is clear and well-defined in the guidelines, as in the case of protecting farms and farmland or containing urban sprawl, the program works well. When the state's interest is less well-defined, as is the case with fish and wildlife habitat, the program doesn't work as well.

In the context of land use planning, the state's interest in protecting natural resources is most fully expressed through Goal 5, the purpose of which is stated in the most general of terms: "to protect natural resources and conserve open space." Historically, Goal 5 has been a "process goal" providing local governments with great flexibility regarding which resources to protect and how to protect them. Revisions to the goal adopted by LCDC in 1996 provide more specific guidance regarding some resources; primarily through safe harbor options local governments may elect to apply to be "deemed" to comply with the goal. Use of safe harbors, however, is optional.

As local governments update the Goal 5 elements of their comprehensive plans in the coming years, the state must provide clearer direction regarding its interest in the protection of natural resources. An example of a more specific goal with particular relevance for the Willamette Basin is the habitat goal adopted by the Willamette Restoration Initiative: "[H]abitats for native species are abundant and provide the natural processes necessary for self-sustaining populations." The state's adoption of a habitat goal with similarly specific language would provide much clearer evidence of its interests and priorities (native species, natural processes, self-sustaining populations) and might launch a whole new approach to natural resources planning in the Willamette Basin.

None of this is likely to happen unless state government asserts — affirmatively — the importance of habitat protection and restoration in the Willamette Basin, and

makes an explicit connection to the land use program through legislative or administrative action.

Provide or endorse spatially explicit descriptions of particular habitat or vegetation types considered most critical to protect.

In addition to providing clearer goal language, the state needs to provide better information on significant resources. The Willamette Valley is an ecoregion with functionally related pieces scattered across a wide geographic area. While work has been done to develop a better understanding of the regional ecological context, this information has not been conveyed to county planners. Thus, planners lack a key tool needed to link or integrate independent local planning efforts to reflect the interconnectedness of natural systems across jurisdictional boundaries. For example, currently there is no "regional consciousness" of the importance of oak savanna habitat, once widespread in the Willamette Valley and now confined to small, widely scattered fragments. As pointed out in an earlier section of the report, oak savanna is a highly threatened Willamette Valley habitat type. At the same time, it would not necessarily be identified as significant through the Goal 5 process. For local governments to address oak savanna throughout the ecoregion, some entity with legitimacy within the state/local framework must say, "this kind of habitat is important, and here is where it is located in your jurisdiction."

None of this is likely to happen unless state government asserts — affirmatively — the importance of habitat protection and restoration in the Willamette Basin, and makes an explicit connection to the land use program through legislative or administrative action.

Twenty years ago, this information was hard to come by, especially in a spatially explicit format. Over the past two decades, however, great progress has been made in both the collection of the basic data and the means to store, display, and query that data, primarily through geographic information systems. Moreover, several independent projects, including the Oregon Biodiversity Project and the more recent University of Oregon study of alternative growth scenarios in the basin, have gathered and organized a tremendous amount of relevant information. This body of work must now be acknowledged or certified by the state so it can be used confidently by local planners.

Move toward ecosystem-based planning for natural resources. Although highly altered, the Willamette River basin is a watershed and continues to function — at least to some degree — as a system of interrelated parts. The land use program, on the other hand, tends to focus on one goal or, within Goal 5, one resource at a time. Furthermore, the land use program is implemented by a multitude of local governments throughout the basin. At present, the planning program carries no

requirement that these entities coordinate their approaches to, for example, riparian corridors that may extend across several jurisdictions.

If the land use system is to play a more effective role in addressing fish and wildlife needs, it must move away from this site-by-site, resource-by-resource, jurisdiction-by-jurisdiction model. At a minimum, the program should require that significant resources be identified on a watershed basis and evaluated as a system so that important ecological relationships can be addressed in the planning process.

Local governments must also be encouraged to consider all the goals relating to natural resources — Goals 5, 6, and 7 and the Greenway goal — at one time when planning for habitat and other resource needs in their communities. The spatial and functional relationships between water quality, flooding, and riparian and wetland habitats are well recognized in the scientific community. Among local and regional governments in the Willamette Valley, Metro stands out for its current effort to integrate multiple resource issues and programs in one planning process.

One way to help planners in more rural areas start thinking more about systems instead of sites or individual goals is to improve the link between local planning agencies and watershed councils. Planning agencies have the planning and analytical skills needed by watershed councils. Councils, on the other hand, are well-versed in watershed systems and processes, often have access to scientific expertise, and possess a working knowledge of a broad range of implementation tools. The relationship between planning agencies and watershed councils needs to be explored more fully and encouraged where needs and skill sets are complementary.

PROVIDE BETTER INFORMATION AND EDUCATION FOR COUNTY PLANNING AND OTHER PERSONNEL ABOUT A BROADER RANGE OF IMPLEMENTATION TOOLS THAN IS TYPICALLY CONSIDERED IN THE PLANNING PROCESS.

Oregon's land use system places major reliance on zoning and subdivision ordinances as the primary tools for implementing comprehensive plans. In many cases, other kinds of implementation tools will work better to protect areas identified through the planning process as being environmentally significant. For example, conservation easements sold or donated to local land trusts, or participation in federally-funded conservation programs like the Conservation Reserve Enhancement Program and the Wetland Reserve Program, may achieve better long-term protection of riparian vegetation than riparian setbacks while providing landowner incentives and compensation.

In addition, research could be done to improve the effectiveness of permit conditions for application to areas where the intent is to allow development to occur while also protecting resource functions and values. For example, many cities are experimenting with

new approaches to managing storm-water to improve water quality; some of these may have broader ecosystem benefits.

Address ecosystem planning needs in urban areas.

Although this report is focused primarily on habitat issues in rural areas, the contributions made by urban areas to fish and wildlife habitat must not be overlooked. The Willamette Basin is laced with riparian and upland habitats that extend across urban growth boundaries and city limits. They serve an array of important functions from water quality and floodplain protection to meeting recreational needs. And while the State of the Environment report contends that Oregon's land use laws "were not written to address ecological issues, such as clean water or ecosystem function within urban boundaries," the program clearly applies to both counties and cities.

Fish and wildlife habitat issues need to be addressed by the planning processes of local jurisdictions, regardless of their urban or rural nature. With patience and creativity, urban communities can embrace the concepts of "designing with nature" and still provide adequate buildable land for housing and job creation. Metro has engaged local governments in the Portland metropolitan area in a process to achieve both sets of goals in a regional context. The West Eugene Wetlands Program has already been cited for its progressive efforts to provide for resource protection and economic development. Other jurisdictions can learn from these experiences.

Improve the Goal 5 process.

Goal 5 has always been controversial. Environmentalists have seen it as a complex, exhaustive process rife with opportunities for local governments to remove resources from consideration for protection. They have viewed the goal as largely ineffective in accomplishing its stated purpose. Developers dislike the uncertainty of the process and its outcome, and have long advocated for "clear and objective" standards in the Goal 5 rule.

Revisions made in 1996 resulted in some improvements, at least on paper. The goal now contains different standards for different kinds of resources, and provides incentives to local governments to adopt state-sanctioned standards rather than setting their own. Improved inventory requirements provide a stronger starting point for a more inclusive planning process.

In addition, the establishment of "safe harbor" approaches to the conservation of particular resources provides incentives for local governments to apply new and improved standards for resource protection while providing developers with more certainty. Interim protection is allowed for significant sites when existing development regulations are inadequate to prevent irrevocable harm to affected resources during the time necessary to complete the process and develop a program.

SUMMARY OF RECOMMENDATIONS

- Define more clearly the "state's interest" in protecting fish and wildlife habitat.
- Provide or endorse spatially explicit maps of particular habitat or vegetation types considered most critical to protect.
- Move toward ecosystem-based planning for natural resources.
- Provide better information and education for county planning and other personnel about a broader range of implementation tools than is typically considered in the planning process.
- Improve the Goal 5 process.
- Improve other goals affecting natural resources.

Still, even the revised Goal 5 has shortcomings — shortcomings acknowledged by both DLCD and local planners. First and foremost among the problems with Goal 5 is that it is likely to be some time — years, in fact — before counties are required to address the "improved" Goal 5 administrative rule adopted in 1996. The Goal 5 elements of a majority of the county plans reviewed for this report were developed and acknowledged under broad goal language, before the first Goal 5 administrative rule went into effect. Several counties have updated their Goal 5 work since acknowledgement, and others are (or were) scheduled to address Goal 5 during forthcoming periodic reviews. However, the 1999 legislature revised the periodic review schedule for most jurisdictions and directed that periodic review focus on urban growth and transportation.

With respect to the goal itself, a few of the most glaring problems with Goal 5, and some suggestions for how to make it a more effective tool for protecting fish and wildlife habitat, follow:

Comprehensive, reliable, spatially explicit natural resource information is now available to planners at the local level, but lacks legitimacy because it is not referenced in the goal or rule.

As already noted, several credible sources have developed data bases and maps of critical fish and wildlife habitat conservation opportunities and priorities over the past several years. However, that information has been generated outside traditional state government channels, and therefore lacks critical legitimacy in the eyes of some local planners. As a result, planners continue to rely on state agencies like the Division of State Lands and the Oregon Department of Fish and Wildlife. Those agencies, in turn, have their own problems and priorities.

To address this situation, DLCD could convene a panel of state-approved scientists to review the Oregon Biodiversity Project, the University of Oregon "alternative growth scenario" project, Metro's 2040 inventory and other recently-developed information and determine whether they should be included in the goal as required sources of inventory information. Guidance regarding how local governments should regard the significance of key conservation areas identified by these sources would be included in the recommendations.

There are too many points in the Goal 5 process where an important site may be dropped from consideration for protection.

Because of the lack of good resource data, a site may not make it onto the inventory in the first place. A local government's determination of "significance" may take sites out of further consideration. Having better inventory information, and a better understanding of how local resources relate to identified regional priorities, will begin to address this problem. State review of the adequacy of current safe harbor standards for significance is also needed.

Sites determined to be significant may still be allowed to be disturbed or not protected (by allowing conflicting uses fully) if the ESEE analysis shows that the conflicting use is sufficiently important and indicates why measures to protect the resource should not be provided.

A study conducted by Portland Audubon and 1000 Friends of Oregon in 1994 ("Pave It or Save It") found that of 795 resource sites identified by six study jurisdictions, nearly three-fourths ultimately received a "limited protection" designation. The authors concluded that a loss of resource value and function would likely result from this designation because of vegetation removal, filling of wetlands, or the placement of buildings, roads, parking lots, utilities and other development-related disturbances.

To some degree, local governments frequently apply the "limited protection" designation because to "fully protect" the resource requires a level of regulation that may be legally or politically infeasible. If acquisition is an option, the local government may not have the funds needed. The solution

to the problem is two-fold. First, at both the state and local levels the program must give more attention to the design, application and monitoring of conditions placed on development in "limited protection" areas. It will not always be possible or advisable to "fully protect" a significant resource site. The track record for protecting resource value and function while proceeding with development must be improved.

Second, the range of tools available for implementing the "full protection" designation must include both regulations and non-regulatory incentives, especially for sites where full protection is needed on the entire parcel to protect a significant resource. Full protection of some larger habitat areas will require setting them aside for those values. Setting them aside, in turn, may be a long-term process requiring willing landowner participation and compensation.

The "safe harbor" provisions of the amended Goal 5 provide some incentives for local governments to be more inclusive in their approaches to identifying significant habitat. According to some, however, the safe harbor standards are inadequate.

For example, the buffer width in the "safe harbor" provisions for riparian areas is set at 50 feet from top to bank, a distance far less than the riparian setbacks being considered by federal agencies as the minimum for complying with ESA requirements for listed fish in the Willamette system. These standards, like the standards for significance determinations, need to be reviewed and strengthened where review warrants that action.

Goal 5 fails to address the interconnectedness of many of the resources listed in the rule.

For example, the Goal 5 rule makes a distinction between fish habitat, which is focused on riparian areas, and wildlife habitat, which is focused on upland areas. Riparian corridors are defined as narrow strips providing water quality and fish benefits. Little consideration is given to their role in providing cover and other habitat functions for terrestrial species, or their importance as a transition zone between different habitats. Some planners believe this artificial distinction creates a bureaucratic hurdle for local governments wishing to be more holistic in their approach.

To address this problem, the rule should incorporate provisions requiring local governments to consider the wildlife habitat functions of riparian areas instead of the fish/water quality functions alone.

The goal includes no requirement for cross-jurisdictional coordination, even though many important resources extend across jurisdictional boundaries.

The rule should be revised to incorporate provisions addressing cross-jurisdictional coordination of significance findings and programs to protect the resource for those resources extending across jurisdictional boundaries.

IMPROVE OTHER GOALS AFFECTING NATURAL RESOURCES.

Changes to three other goals — Goal 15 (the Willamette River Greenway goal), Goal 6 and Goal 7 — would also improve the effectiveness of the land use program in addressing habitat issues. The standards in all three should be reviewed to determine whether they are consistent with current understanding of floodplain management and restoration science, and whether they support the findings and recommendations of the Willamette Restoration Initiative and other recent studies of the basin.

The Limits of the Land Use Program

As noted, Oregon's land use program has done much to protect the natural resources of the Willamette Basin and, with some modifications, could accomplish even more. At the same time, the program has some inherent limitations when it comes to addressing the fundamental issues of habitat loss, fragmentation, and degradation. These limitations — some structural, some legal, and some practical — are discussed below.

STRUCTURAL LIMITATIONS

Program Design

Land use historians in Oregon give a great deal of credit to the national environmental movement of the 1970s as a factor in Oregon's adoption of a statewide land use planning program. And Oregon wasn't alone in experimenting with planning approaches to environmental problems. As already noted, several states adopted some form of state land use or environmental planning program in that era.

Environmental concerns were embraced as well by the professional planning community. For example, a 1978 report published by the American Planning Association went to great lengths to describe how to identify wildlife habitat, called for the development of open space/wildlife corridor systems, and even included a section entitled "the planner as wildlife manager." In his book The Last Landscape, noted regional planner William H. Whyte's promoted cluster development as one way of balancing development and wildlife needs. In Design with Nature, landscape architect Ian McHarg (sometimes called the "father of ecological planning") advocated the identification and conservation of corridors and other areas containing multiple resource values, including habitat. In Oregon, however, habitat issues took a back seat to another issue receiving considerable attention at both the state and national level in the 1970's — farmland preservation. The issue held a special cachet in Oregon, where anyone driving

through the Willamette Valley could see prime farmland giving way to pavement.

Consequently, Oregon's approach to land use was designed around the primary concern of protecting farmland from urban sprawl and rural residential development. It is a two-part system — one part focused on urban or developed lands and the other on rural or "resource" lands — separated by an urban growth boundary. Outside the boundary, zoning ordinances based on very large minimum parcel sizes serve to protect a "working landscape" of farms and forests from the direct and indirect effects of development.

The context for planning, the state's priorities, and scientific understanding of how natural systems work have all changed dramatically since the 1970s. Certainly, Oregonians continue to place a high value on farming, and farmland continues to be lost to development in Oregon. But studies have shown that Oregon is losing far less farmland to development than other states, in part because of the state's land use laws.

Now, as it enters the 21st century, Oregon is faced with the loss of another treasured regional icon — wild Pacific salmon. And the needs of salmon, and many other elements of the region's natural heritage, are quite different from the needs of agriculture.

Oregon's land use program is designed based on human systems, not natural ones. Human systems are characterized by fragmented property ownerships, multiple jurisdictions and diverse management needs and priorities. Thus, the outlines of zoning districts tend to follow property and jurisdictional lines, as do urban growth boundaries. Natural systems, on the other hand, are characterized by interconnected and overlapping processes — functions and habitats that serve multiple purposes at the same time. Natural systems flow across property ownerships and jurisdictional borders; planning and zoning standards may be quite different across the same lines.

The northern spotted owl gave Oregon its first serious indication that merely setting large blocks of "undevelopable" land aside does not guarantee healthy fish and wildlife populations. Endangered salmon runs, dwindling numbers of amphibians and songbirds — including the Western meadowlark, Oregon's state bird — provide a continuing reminder.

Allocation vs. Management

Land use planning and zoning in Oregon, as elsewhere, is primarily a matter of allocating different land uses to different locations or, as stated earlier, separating "incompatible" land uses and guiding development. In Oregon, these tools have done a pretty good job of protecting large tracts of rural land from development.

In addition to this "separation" function, zoning and other land use regulations may be used to influence development at the site level through setbacks, building height limitations and other conditions. These site-based tools have long been accepted as necessary to the

protection of public welfare and the quality of life in urban areas.

Outside urban areas, however, zoning (and by direct association in Oregon, the state land use program) has not generally been used to influence land management. On industrial forestlands, that job has been given by state statute to the Oregon Department of Forestry. There is no equivalent state program regulating management of private agricultural lands, although farmers and ranchers are subject to a range of regulations related to everything from food safety to livestock waste management.

Oregon's land use program is designed based on human systems, not natural ones. Human systems are characterized by fragmented property ownerships, multiple jurisdictions and diverse management needs and priorities. . . Natural systems, on the other hand, are characterized by interconnected and overlapping processes, functions and habitats that serve multiple purposes at the same time. Natural systems flow across property ownerships and jurisdictional borders; planning and zoning standards may be quite different across the same lines.

The LCDC subcommittee developing Goal 5 revision recommendations in 1996 was asked to consider including provisions requiring local governments to address riparian grazing and vegetation management in agricultural areas. Ultimately, however, the commission declined to include such provisions on the grounds that agricultural practices are not land uses, and that it would be inappropriate — and politically risky — for the state to require local governments to regulate these practices.

In fact, LCDC not only did not include such provisions, it specifically relieved local governments of the need to "regard agricultural practices as conflicting uses" during the ESEE analysis. Furthermore, the rule exempts farm and forestland outside UGBs from a requirement to consider removal of vegetation as a conflicting use in significant riparian areas. The commission took this action even though regulating vegetation removal is included in Goal 5 riparian safe harbor provisions for non-agricultural areas, and is a feature of many local ordinances.

This is not to say certain areas shouldn't be "set aside" for their ecological values. Such action is likely a necessary component of any serious and successful program to restore the Willamette Basin. This is especially true in urban areas, where such resources as stream buffers and wetlands become part of the "buildable lands" inventory and slated for eventual development if not specifically allocated to a protected class of land uses.

Protecting these areas to ensure continuation of their ecological functions is a difficult task. Traditional land use implementation tools like zoning and subdivision regulation need to be augmented by land acquisition,

conservation easements, tax incentives and landowner education programs. As Oregonians are learning, relying solely on regulatory approaches to limit the development of parcels deemed of critical ecological importance raises thorny legal and political issues that cannot easily be overcome.

Legal Limitations — The "Takings" Issue

The regulation of land use in Oregon and elsewhere in the U.S. is subject to provisions in the federal and state constitutions that private property not be taken for public use without "just compensation." Traditionally, the Oregon Supreme Court has not required compensation when a property's value has been "merely reduced" — for example, exclusive farm use zoning restricts the use of farmland to farming and farm-related dwellings instead of allowing it to be developed for housing.

Thus, local governments have always been faced with a delicate balancing act when regulating private property — when does a regulation cross the line from "merely reducing" a property's value to "taking" the property without "just compensation"? Has the line been crossed when zoning regulations are used to keep certain sites in a "natural" state, thereby preventing most, if not all, economic uses of the land?

Measure 7, passed by voters in November 2000, responds to these questions by requiring state and local governments to pay compensation if they enact or enforce a regulation that lowers the value of someone's property by restricting its use. The measure singles out certain types of regulation as requiring compensation, including those requiring property owners to act to protect "certain natural resource…values."

Measure 7 also attempts to clarify the standard for determining when a taking occurs. By making that standard whenever a state or local law has the effect of causing any reduction in the fair market value of property by restricting its use, it is sure to cast a cloud over state and local government efforts to address habitat issues through the land use program. Further, Measure 7 defines "reduction in fair market value" to include costs to protect habitats or similar environmental resources or open space, and requires that landowners be compensated for costs associated with an "affirmative obligation to protect, provide or preserve wildlife habitat."

Clearly, Measure 7 has huge implications for the questions examined in this report and the land use program generally. Planners interviewed in the wake of the measure's passage confirmed that — in addition to scrambling to understand what the measure means for current and past work — they will approach future planning obligations, including Goal 5 and work related to fish recovery efforts, warily.

It should be noted that Measure 7 also contains a provision declaring that state and local governments may impose a regulation to implement a requirement of federal law

without payment of compensation, but only to the "minimum extent required." Of course, determining what "minimum requirements" are will not be easy. Many local governments are likely to wait for the federal government itself to define "minimum requirements" before proceeding, for example, with regulatory programs intended to address endangered species recovery.

Planners, land use and property rights advocates, elected officials and others are concerned about the implications of Measure 7. In February 2001, a Marion County Circuit Court judge ruled Measure 7 unconstitutional on procedural grounds related to the ballot initiative process. That ruling is likely to be appealed. In the meantime, the Oregon legislature has held hearings and begun deliberations on a possible legislative compromise.

Clearly, Measure 7 has huge implications for the questions examined in this report and the land use program generally. Planners interviewed in the wake of the measure's passage confirmed that . . . they will approach future planning obligations, including Goal 5 and work related to fish recovery efforts, warily.

Practical Concerns

A handful of other limitations deserve mention. First, the cost of Goal 5 is a serious obstacle for many local governments. The Goal 5 process is expensive and time-consuming. Local governments often have to hire consultants to conduct inventories and other technical work. The goal requires a great deal of public process (as it should), which can also be expensive. Furthermore, programs to protect significant Goal 5 resources rely on a range of tools including public education, regulation and acquisition. As evidenced by the West Eugene wetlands project, successful implementation requires sustained financial and political commitment by multiple partners over years, even decades. Measure 7 may add another significant cost consideration.

In addition to cost, several planners noted that most rural planning agencies have limited capacity to address fish and wildlife issues. Although some larger, more urban counties may have natural resource specialists on staff, most must rely on consultants or technical assistance provided by ODFW and other state or federal agencies. Accord-ing to the planners interviewed, the quality of the technical information provided by these agencies, and the responsiveness and availability of technical personnel to county planning offices, is mixed.

Moreover, county planning offices have their own priorities and other state mandated responsibilities. They can tackle only so much at once. Without additional resources, their ability and enthusiasm for taking on technically complicated, politically sensitive and fiscally challenging work of applying the land use program to habitat issues is understandably limited.

Looking Ahead

We've been planning the way we plan in Oregon for so long that it's almost inconceivable to imagine doing it differently. Yet we can; even in Oregon local and regional agencies are looking beyond the process, as we know it, relying on the most fundamental of planning questions to light the way. Where are we? Where do we want to go? How are we going to get there?

> *Opportunities for large-scale restoration of native landscapes (in the Willamette Valley) are limited...Broad-scale conservation strategies will need to focus on restoring more natural ecosystem processes and functions within a landscape that is managed primarily for other uses.*
>
> *—The Oregon Biodiversity Project*

If all the changes recommended in the preceding section were made tomorrow, county land use plans of the future would have stronger programs in place to protect fish and wildlife habitat and other Goal 5 resources. Even if that were to happen, however, many of the central problems affecting habitat in the Willamette Basin — the absolute decline in the amount of habitat available to fish and wildlife and the continuing fragmentation and declining quality and functionality of the habitat that remains — would persist.

The problem of restoring healthy, functioning ecosystems in the Willamette Valley cannot be solved by the land use program alone. Allocation of land uses can prevent fragmentation of farmland, but can do little to prevent native prairie grasses, fencerow hedges or native streamside vegetation from disappearing. It can require that development be set back from rivers, streams and wetlands to help improve water quality, but cannot restore the functioning of the Willamette River's floodplain.

Viewed in this light, land use planning can be seen more realistically as one part of an integrated, multi-tiered approach to addressing fish and wildlife needs in the Willamette Basin. One possible model for such an approach is discussed below.

Put Restoration Planning in a Regional Framework

At the state level, the land use planning program provides a consistent policy framework for addressing resource issues and sets up a sort of "local distribution network" for state goals and priorities. What is sometimes missing is a regional filter for those state priorities. The concept of regional planning is nothing new. In the 1970s federal funds were provided to encourage the creation of regional planning agencies nationwide. There are several regional planning bodies in place in Oregon (e.g. Metro, Lane Council of Governments, Rogue Valley Council of Governments), and some of them are involved in "cutting edge" planning efforts to address habitat issues.

Currently, however, those holding primary responsibility for implementing the statewide planning goals in Oregon are cities and counties. This structure makes sense in a system dependent on city and county regulations to implement its purposes. But in bypassing a regional framework, the system also loses an opportunity to refine state priorities to reflect regional realities or to weigh and coordinate local concerns in a broader context.

Viewing the Willamette Basin as a region for planning purposes is consistent with the evolution of the planning program. In 1993, the Legislature passed a law to encourage cities and counties to address growth management problems on a regional basis, "rewarding" this approach by allowing local governments to consider solutions not fully in compliance with certain statewide planning rules. The 1999 statute addressing periodic review requires that updates of city and county plans in a region be undertaken simultaneously where possible.

This is not meant to imply that all planning in the Willamette Valley should suddenly come under the jurisdiction of a Metro-like planning agency. Rather, it is to gently suggest that planning for the needs of fish and wildlife begin in the context of the ecoregion or river basin, with local governments integrally involved and taking their cues from that work. This is a different perspective than that currently taken by local governments or the state with respect to the land use planning program.

Set Realistic Goals

As pointed out at the beginning of this report, the status of fish and wildlife habitat in the Willamette Basin, and especially the Willamette Valley, is declining. Additionally, the extensive development of the region makes it difficult to reverse the trend. The Oregon Biodiversity Project put it this way:

> *Opportunities for large-scale restoration of native landscapes (in the Willamette Valley) are limited…Broad-scale conservation strategies will need to focus on restoring more natural ecosystem processes and functions within a*

landscape that is managed primarily for other uses.

The Oregon Biodiversity Program also pointed out that "[I]n many areas of Oregon, restoration of native ecosystems is simply not feasible. However, restoration of more natural ecological processes, including disturbance and hydrology, can help re-establish basic ecosystem functions that are critical to the state's biological diversity." Both these observations seem worth keeping in mind when setting an overall goal for habitat restoration in the Basin.

Build on Existing Conservation Opportunity Areas in the Basin

Significant progress has been made in the identification of a handful of "conservation opportunities" scattered throughout the basin. The WRI recently adopted the conservation scenario map of the University of Oregon growth alternatives project as its conservation strategy for the region. That study, and the Oregon Biodiversity Project, have identified areas like the West Eugene wetlands complex, parts of the Willamette River floodplain, the Muddy Creek area in Benton County, and North Corvallis as key conservation opportunities. Other building blocks can be found among the lands acquired through Metro's Greenspaces program and the other state, regional and local parks, state and national wildlife refuges and forests and other existing public lands in the Basin.

Both the above-mentioned projects used sound methodologies to develop a spatially explicit conservation strategy for the basin. There is no reason to reinvent the wheel. Their work should be used as a starting point for more detailed planning and the exploration of a range of implementation tools at the regional and local levels.

Follow Successful Planning Approaches

The West Eugene Wetlands program is perhaps the most successful model of integrated natural resource planning and protection in the basin. The following features of the West Eugene program are worth noting for their general applicability to conservation planning in developed areas:

- In West Eugene, the community first identified and inventoried a significant resource. The resource was determined to be significant by virtue of its ecological values and the regulatory challenges it presented — not by having survived a Goal 5 ESEE analysis.

- Planners for the West Eugene wetlands worked with the community to create a compelling and broadly supported vision for the resource area. They established an interagency, interdisciplinary, multi-jurisdictional team to devise a plan to move

toward that vision. They articulated the many public benefits of the plan, which included not just habitat protection but flood protection, stormwater management, improved water quality and public recreation.

- The resulting plan was linked to the land use planning program via legislation focused on wetlands. The plan didn't result from a Goal 5 process, but because it met certain statutory requirement it was "deemed to comply" with Goal 5.

- The planners worked with a full range of implementation tools, including state and federal wetland regulations, wetland mitigation banking, state land use laws, land acquisition, habitat restoration and public education to achieve their goals. It wasn't always easy, and it was sometimes controversial. However, because their vision was long-term, it was also flexible.

- Supporters of the project built on the community and interagency interest to develop a political constituency that could advocate for continued funding for both acquisition and restoration.

- The project is now over a decade in the making, with many more years of work before the full vision will be realized. However, its supporters are already beginning to imagine how to link to the wetlands complex other significant habitat areas to create a functioning network of habitat and recreation nodes and corridors.

The success of the West Eugene wetlands program has many implications for those seeking to restore the Willamette Basin. The first steps have been taken to develop a vision and identify conservation opportunities. At this point, perhaps interagency teams could be established at the sub-basin level to take a closer look at those opportunities and begin to develop more detailed plans for their protection, restoration and management. The teams could be made up of those responsible for implementing the plans — local planners, state agencies, watershed councils, land trusts, land managers and owners, and other stakeholders.

Sub-regional teams may also be best suited to review and make recommendations regarding the range of implementation tools needed to move from planning to implementation. State, federal, regional and local funds for land and easement acquisition, federal agricultural programs aimed at conservation, zoning and subdivision controls and public education programs are just a few of the possibilities. In more urban or developing areas, it may be possible to create "riparian mitigation banks" and other sources of restoration funding from development fees. Legislation could be developed to forge a connection between the land use program and sub-regional restoration plans, as was done for wetlands.

In the West Eugene example, supporters have only recently begun to think about how the West Eugene wetlands might be linked to a regional network of conservation/recreation opportunities. At the regional level, those kinds of connections need to be thought through early on, as part of the refinement planning for conservation opportunity areas.

Conclusion

Something has happened to change our assumptions about the living landscape in Oregon. In one generation we have gone from a sense of abundance and satisfaction to a sense of want and worry about our natural resources. We have also gone from wondering how to "keep Oregon, Oregon" to trying to figure out how to get it back.

Because Oregon's land use program has been successful in some important ways, it is tempting to imagine that it can help accomplish an even wider set of goals. An ocean resources goal was added to the program as recently as the late 1980s — why not ask LCDC to take on agricultural practices and endangered species recovery? The answer is two-fold. First, in spite of its successes, the program is still vulnerable — witness Measure 7. Loading it up with politically sensitive issues could place unbearable strain on a system already heavily burdened with conflicting public expectations.

Second, the land use planning program just may not be a very good fit for the kind of major work that needs to be done to bring the Willamette Valley to the point at which "habitats for native species are abundant and provide the natural processes necessary for self-sustaining populations." Pieces of that work, such as protecting large blocks of land from development, setting riparian buffers and placing design and other conditions on developments to protect specific sites can and should be addressed by local plans and planners. Their efforts, however, must be placed within a broader regional context and should be viewed as supporting, rather than leading, the major work of restoration.

In a 1994 "20-year evaluation" of Oregon's land use system, Planning the Oregon Way, Elizabeth Howe and Robert Einsweiler observed that the Oregon planning system's natural resource categories are first and foremost economic uses — farming and forestry. They noted that other kinds of resource categories, like "natural process lands" and "ecological communities," are "often not treated spatially in land use plans" as they "are not considered to be legitimate economic uses."

Einsweiler and Howe also observed, as this report has found, that the Oregon land use system lacks a conceptual framework for addressing, through land policy, contemporary environmental concerns like habitat conservation and ecosystem health. They called the "linking of economic and ecological considerations spatially the next great challenge in land use management," and concluded that Oregon is uniquely qualified to lead the way.

Perhaps Oregon will lead the way. To do so, however, will require considerable political will, openness to the possibilities as well as the threats of change, and a re-thinking of some pretty basic assumptions about the land use program. In the meantime, there is work to be done in the Willamette Basin. It is work that will rely on good planning but not on Goal 5 alone; work that will be guided by goals, but not necessarily those set by LCDC; work that can protect habitat, but only if it embraces a wide range of implementation strategies. It is work that should not be discouraged by the limitations of the land use program, but rather, build on its lessons.

Acknowledgments

The author gratefully acknowledges the generous assistance of the county and regional planners who provided both information and insight during the preparation of this report. Bruce Taylor and Rick Brown at Defenders of Wildlife caught a number of structural problems and factual errors; their willingness to plow through and make editorial suggestions on very early drafts was extremely helpful.

The author would also like to thank Steve Smith of the Oregon Department of Fish and Wildlife, Mike Houck of Portland Audubon and Rob Hallyburton of the Department of Land Conservation and Development for their thoughtful comments on the final draft of the report. John Lilly of the Division of State Lands graciously provided a "history lesson" on the Willamette Greenway.

While those acknowledged provided both background and factual information for the report, any errors or misstatements belong solely to the author, as do the report's conclusions and recommendations.

About the Author

Pam Wiley, an independent consultant since 1994, has assisted a variety of public and private clients — including Defenders of Wildlife and the Oregon Biodiversity Project — with strategic planning, project management, and facilitation. She served on the Oregon Land Conservation and Development Commission from 1992 to 1996.

Wiley was government relations coordinator for The Nature Conservancy of Oregon from 1991 to 1994. She served as management analyst and deputy director for the Oregon Division of State Lands from 1986 to 1991. Before moving to Oregon in 1985, she was executive director of the Council of Great Lakes Governors in Madison, Wisconsin.

Wiley received a Master's Degree in Urban and Regional Planning from the University of Wisconsin in 1977. She lives in southeast Portland with her husband and two children.