Oregon's Wetland Conservation Strategy

Issue Analysis, Public Discussions & Recommendations

Oregon Division of State Lands
Wetland Conservation Strategy Workgroups
March 1995

Oregon's Wetland Resources

A letter from the Oregon State Land Board

Known by various names, such as marshes, swamps, and bogs — depending on their type — wetlands were historically viewed as sources of disease and obstacles to productive use of the land. Wetlands were converted to other uses, often with governmental assistance. One of the primary means was the Swamp Land Act of 1860, which encouraged European settlement and agricultural production by transferring land from the federal domain to private individuals if they agreed to drain the land. Since that time, we have learned much more about wetlands and the important functions they provide to society.

Many wetlands play an important role in floodwater reduction. Some stream-associated wetlands absorb and store floodwater, reducing flood peaks, and then release the water slowly. Research has shown that in watersheds with healthy wetlands, streams are more likely to flow through the summer.

Wetlands are also important to wildlife for water, shelter, and food. More than seventy percent of animal species that occur in Oregon's coniferous forests use wetlands at some stage of their life. Wetlands also support a high number of threatened or endangered species, many that occur only in wetlands.

Wetlands act as natural water cleaners. The soils and vegetation remove excess nutrients, bacteria, and even some metals and other toxins from water. The city of Cannon Beach uses wetlands to further treat sewage to meet Oregon's water quality standards. Constructed wetlands are increasingly used for on-site treatment of stormwater, animal waste, runoff from nurseries, and to provide the final "polish" of treated sewage.

Oregon's estuarine and riverine wetlands are critical to salmon and steelhead. Juvenile fish feed in tidal marshes, gaining size and strength before they migrate to the ocean. During floods, young fish in the upper reaches of streams find shelter in streamside wetlands. Wetlands also produce an abundance of food that supports healthy fish populations. Healthy wetlands and watersheds support healthy salmon populations.

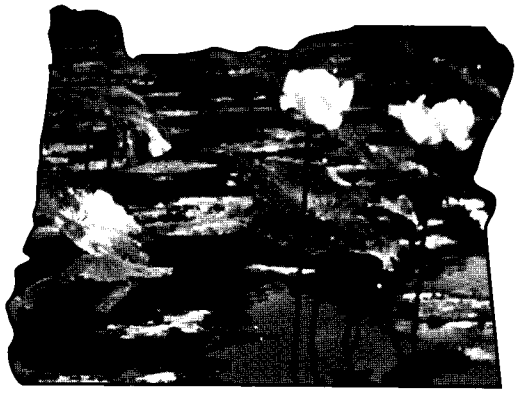
Wetlands perform many important functions in urban settings and are valued for the services they provide. The citizens of Eugene have developed a wetland conservation plan for part of the city that integrates wetland protection with open space corridors, stormwater management, water quality improvement, and flood reduction. Their efforts have received national recognition.

Oregon's efforts to manage wetlands for the benefit of all citizens have also been recognized nationally. Oregon's Wetland Conservation Strategy incorporates the successes to date as well as the issues and needs that remain to be addressed. We, the members of the State Land Board, are pleased to have a part in managing Oregon's wetlands. Oregon has lost approximately thirty-eight percent of its original wetlands. This Wetland Conservation Strategy provides a framework for how we, as a state, might manage the remaining wetlands in Oregon for the benefit of all the people.

John Kitzhaber
Governor

Phil Keisling
Secretary of State

Jim Hill
State Treasurer



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Compiled by Nancy Leibowitz
March 1995

Acknowledgments

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Oregon Division of State Lands
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Seaside School District
Oregon Department of Education
Soil and Water Conservation Districts
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Oregon Extension Service, 4-H
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U.S. Soil Conservation Service
METRO
U.S. Fish and Wildlife Service
Bureau of Land Management
U.S. Forest Service
Oregon Department of Environmental Quality
Oregon State University
Lane Council of Governments
Common Ground Urban Land Council
Association of Oregon Counties
Oregon Department of Land Conservation and Development
Klamath Falls City Planning Department
Oregon Parks and Recreation Department
Portland Audubon Society
Oregon Department of Revenue
U.S.D.A. Agricultural Stabilization and Conservation Service
Sierra Club
Stoel, Rives, Boley, Jones, and Grey
Oregon State Homebuilders Association
Black Helterline
The Oregon Natural Heritage Program
Land Conservation and Development Commission
Eugene Planning Commission
Oregon Department of Transportation
Oregon Water Resources Department
Confederated Tribes of Umatilla Indian Reservation
City of Albany
Mark Wilson
Urban Stream Council
National Marine Fisheries Service
National Wildlife Federation
Bonneville Power Administration
Oregon Coastal Wetland Joint Venture
Oregon Department of Energy
Oregon Economic Development Department

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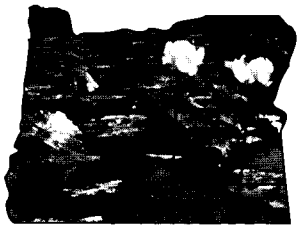
Preface



Background

"Wetland" is a term that conjures up images of water, lush vegetation, abundant wildlife and—more recently—raging controversy. The management of this resource has drastically changed through time.

In the early days, settlers in Oregon—and in the rest of the country—viewed wetlands as an impediment to efficient development. The Swamp Land Acts of 1849, 1850, and 1860 provided public domain wetlands to any individuals who would drain them and put them to "productive" use. Drainage and urban renewal ordinances continue to reflect the view that ponded or saturated soils (wetlands) are a nuisance to be eliminated. This view originated with the early settlers, whose vivid experiences taught them that ponded water served as a breeding area for mosquitoes. Additionally, in their agrarian-based society, the settlers' very survival depended upon producing successful crops, and their farming practices often required draining soils for production.

Today, current developments in conservation tillage and crop residue practices are changing the ways farmers work the land, and new information on the linkages of watersheds and land management practices is changing the way many landowners view wetlands.

Increased awareness of the public value of wetlands led to legislative actions in the 1970s. The Removal-Fill Law, enacted by the Oregon Legislature in 1971, found that "unregulated filling in the waters of the state for any purpose may result in interfering with or injuring public navigation, fishery and recreational uses of the waters." During 1973, Oregonians expressed their concern about protecting wetlands in landmark land-use legislation; Statewide Planning Goals 5, 15, 16, and 17 all specifically mention wetland resources. Then, in 1989, the Oregon Legislature adopted a policy stressing the *importance* of wetlands (ORS 196.668 and 196.672); the Legislature focused on integrating wetland planning and permitting. From these origins, Oregon's wetland management program has emerged.

Purpose

This report suggests direction and establishes priorities for the Oregon Wetland Conservation Strategy, an integrated state wetland program. The recommendations in the report are aimed toward improving the effectiveness and efficiency of Oregon's efforts to conserve, restore, and protect wetlands, recognizing that many wetlands occur on private property. The goal of the Strategy is to:

> *"Ensure the long-term protection and management of the state's wetland resources through both regulatory and non-regulatory measures by (a) providing protection of wetlands and restoration sites (b) conserving and managing functions, values, and acreage of wetlands, and (c) encouraging restoration of wetlands for watershed, water*

quality, and/or wildlife objectives, while accommodating necessary economic activities. Also, to manage Oregon's wetlands through partnerships that improve education, communication, cooperation, and consistency among agencies, organizations, and the public."

The Strategy's ultimate goal is "no net loss" of wetlands in terms of acreage, functions, and values. Implementation of the Oregon Wetland Conservation Strategy will assist in attaining the Oregon Progress Board's Benchmark of maintaining at least 100 percent of the 1990 wetland acreage.

Acronyms & Symbols

State Agencies

	DEQ	Department of Environmental Quality
	DLCD	Department of Land Conservation & Development
	DOR	Department of Revenue
	DSL	Division of State Lands
	DOGAMI	Department of Geology & Minerals Industries
	EXT.	Oregon State University Extension Service
	GISSC	Geographic Information System Service Center (ODOE)
	GOV	Governor's Office
	GWEB	Governor's Watershed Enhancement Board
	MB	Oregon State Marine Board
	ODA	Oregon Department of Agriculture
	DOEd	Department of Education
	DOE	Department of Energy
	OACD	Oregon Association of Conservation Districts
	ODF	Oregon Department of Forestry
	ODFW	Oregon Department of Fish & Wildlife
	ODOT	Oregon Department of Transportation
	EDD	Oregon Economic Development Department
	OHD	Oregon Health Division
	OSU	Oregon State University
	PRD	Parks & Recreation Department
	SWMG	Strategic Water Management Group
	WRD	Water Resources Department

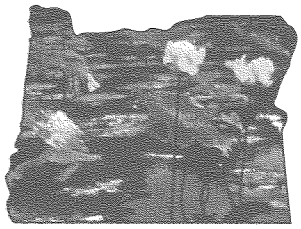
Federal Agencies

	BLM	Bureau of Land Management
	BPA	Bonneville Power Administration
	BOR	Bureau of Reclamation
	COE	Army Corps of Engineers (Corps)
	EPA	Environmental Protection Agency
	FSA	Farm Services Agency
	NMFS	National Marine Fisheries Service
	NPC	Northwest Power Planning Council
	NRCS	Natural Resources Conservation Service
	USFS	U.S. Forest Service
	USFW	U.S. Fish and Wildlife Service
	USGS	U.S. Geological Survey

Other Participants

	CRG	Columbia River Gorge Commission
	ENV	Environmental Groups
	FND	Foundations
	IND	Indian Tribes
	LO	Landowners
	LT	Land Trusts
	LG	Local Governments
	OCWJV	Oregon Coastal Wetland Joint Venture
	OFB	Oregon Farm Bureau
	SWCD	Soil and Water Conservation District
	UNV	Universities
	URB	Urban Groups

Introduction



Background

Oregon's Wetland Conservation Strategy provides the focus and framework for an integrated state wetlands program designed to conserve, protect, and manage Oregon's wetland resource base. The Strategy contains the recommendations of several workgroups representing federal, state, and local agencies, as well as individual citizens and interest groups. This document presents priorities and actions for conserving Oregon's wetlands in a watershed context.

The report assumes that federal guidance on wetland management will change through time. The state of Oregon will work closely with the federal government to ensure that state guidance supports and complements federal efforts.

What's a Wetland?

Wetlands are defined as "those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support,

Wetlands are essential habitat for waterfowl using the Pacific Flyway.

a prevalence of vegetation typically adapted for life in saturated soil conditions." They comprise approximately 2 percent of the surface area of Oregon (Dahl, 1990). Oregon's wetlands are highly diverse in structure and position in the landscape and include such areas as saltwater and freshwater marshes, swamps, bogs, floodplain wetlands associated with rivers, "wet meadows," farmed wetlands, saltgrass and greasewood flats, shallow lakes, and vernal pools. Oregon is known as a "green" state, yet annual precipitation varies from more than 12 feet on the northwestern coast to less than 5 inches in the southeast desert. The state's varied landforms support an immense diversity of wetlands from coastal bogs and salt marshes, to alpine meadows, to interior valleys with meandering river sloughs and wet prairies, to desert sinks and flats. It is estimated that Oregon has approximately 1,393,900 acres of wetlands (Dahl, 1990) and 1,700,000 acres of hydric soils (T. Thorson, Natural Resources Conservation Service, personal communication).

Wetlands perform a multitude of functions for society. The 1989 Oregon Legislative Assembly found that wetlands provide:

- flood control and storm damage protection, which prevent loss of life and property;
- essential spawning, rearing, feeding, nesting and wintering habitats for a major portion of this state's fish and wildlife, including threatened and endangered species;
- essential habitat for waterfowl using the Pacific Flyway and for the rearing of salmon and other anadromous and resident fish;
- water quality improvement through absorption and filtration of sediments, nutrients, metals, and toxic materials that would otherwise degrade groundwater or the water quality of adjacent rivers, lakes, and estuaries; and
- significant opportunity for public recreation, environmental and ecological research, education, scenic diversity, and aesthetic value as open space.

As we deliberate on "wetland" policy, we must be continually bear in mind that wetlands are inseparably interrelated to the rest of the aquatic system and the terrestrial ecosystems within the watershed.

We're Losing Wetlands

Approximately 38 percent of Oregon's historic wetlands have been converted to agricultural, commercial, and other uses (Dahl, 1990). The conversion of wetlands has been accompanied by a decline in water quality, loss of wildlife habitat, and increased risk of flood damage and erosion. Much of the conversion of wetlands was a result of public policies that provided funding and technical assistance to drain and dike wetlands, as well as incentives to purchase cheap or free public "swampland" for conversion to "productive" use.

Changes in public policy during the last two decades have attempted to reverse the trend of wetland conversion and to redirect regulatory, landowner incentive, and management efforts. These changes in public policy are reflected in federal and state regulations and in planning mechanisms aimed at protecting natural resources (see Table 1).

Despite the changes, many observers believe the federal and state regulatory programs aimed at protecting wetlands are not comprehensive, consistent, or sufficiently effective (General Accounting Office, 1988; The Conservation Foundation, 1988; U.S. Advisory Commission on Intergovernmental Relations, 1992). Factors such as overreliance on regulatory programs, an inadequate wetland inventory, the limited scope of regulatory programs, duplication and

Table 1. Wetland management initiatives affecting Oregon

Law	Date
Oregon Removal-Fill Law	1971
Clean Water Act (Section 404)	1972
Oregon Statewide Land-Use Planning Program	1973
Executive Order 11990 Protection of Wetlands	1977
Swampbuster provisions of Food Security Act	1985
President Bush's pledge of "no net loss" of wetlands	1986
Oregon Wetland legislation (Senate Bill 3)	1989
Food, Agriculture, Conservation, and Trade Act (Farm Bill)	1990
The Oregon Benchmark to maintain the 1990 wetland base	1991
President Clinton's wetland plan	1993

Conversion of wetlands to commercial, agricultural, and other uses has resulted in a loss of 38 percent of Oregon's historic wetlands.

inconsistency in permit processes, limited budgets, and a lack of non-regulatory programs to promote protection and restoration on public and private lands all contribute to this problem (World Wildlife Fund, 1992).

Policy conflicts and changes create the need to evaluate the existing structures and their effectiveness in achieving stated policy goals. At this time of new policy initiatives, it is appropriate to step back and evaluate the pressures the state now faces and will face in the years to come, to evaluate our track record, and to develop a vision for the future of wetland resources in Oregon.

The 1989 Oregon Legislature asserted that the state's wetland regulatory program was uncoordinated and ineffective in providing resource protection or development certainty to the public trying to sort their way through regulations. The Legislature adopted several non-regulatory policies to promote wetland conservation. They included:

- protection, conservation, restoration, effective mitigation, and best use of wetland resources;
- use of a single wetlands definition for regulatory and planning purposes;
- development and distribution of a statewide wetland inventory and public information on wetlands;
- integration of the regulatory program to reduce delays, uncertainty, and duplication in the permit processes; and
- development of landowner incentives for wetland conservation.

However, the Legislature did not provide funding to accomplish all of these policies.

Guiding Principles and Components

Strategic planning through the statewide land-use planning process has provided substantial protection for more than 99 percent of Oregon's remaining tidal marshes. The strategy used to manage Oregon's estuaries was the application of an estuary classification system and a goal to maintain diversity of systems. The strategy identified estuarine management units for protection, conservation, or development (DLCD, 1987; Bella, 1974). Oregon's estuarine planning approach has successfully protected the public trust held in intertidal and subtidal lands.

Freshwater wetlands pose a significantly greater challenge for conservation. A conservation strategy is needed—to a large extent—because so many wetlands are on private land, and landowners are motivated by their own objectives, which often require draining or filling of wetlands. Unfortunately, society's ability to change the environment far exceeds the ability to foresee the ecological or social consequences of such change (Bella and Overton, 1972). Therefore, resource management and economic development principles and strategies should be integrated to avoid ecological and societal crises.

The time is ripe to develop and implement an integrated program to conserve, protect, and manage the state's wetland resources. Coordination of local, state, federal, and interest group resources, tools, and expertise can lead to a resolution of wetland management conflicts and improve the effectiveness and efficiency of wetland conservation efforts. The overall goals of this Strategy are to:

- *ensure the long-term protection and management of the state's wetland resources through both regulatory and non-regulatory measures by (a) providing protection of wetlands and restoration sites;*

(b) conserving, and managing functions, values, and acreage of wetlands; and (c) encouraging restoration of wetlands for watershed, water quality, and/or wildlife objectives, while accommodating necessary economic activities;

- *manage Oregon's wetlands through partnerships that improve education, communication, cooperation, and consistency among agencies, organizations, and the public.*

The Strategy is based on the following principles:

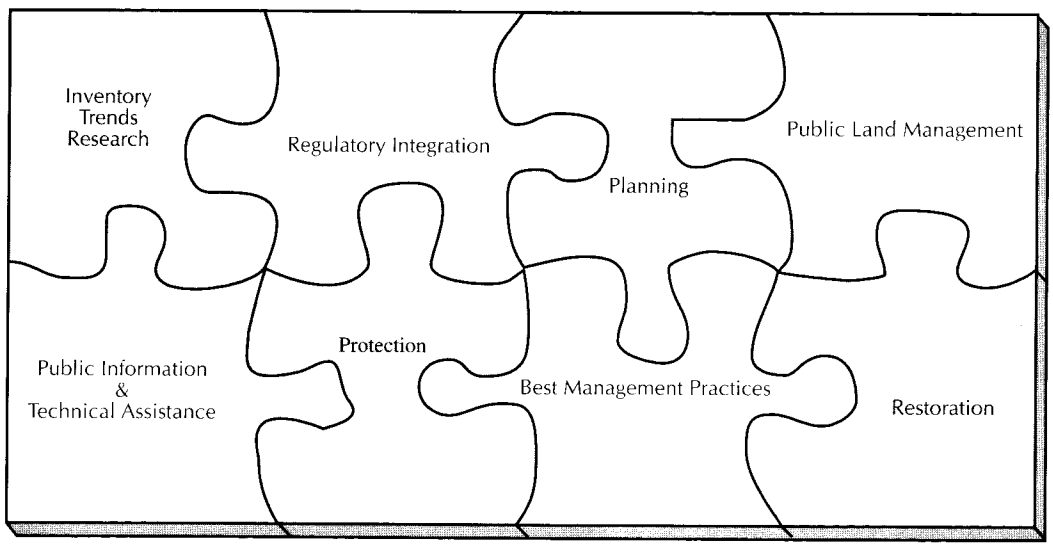
1. Wetland planning should be integrated with watershed management, economic development, transportation and infrascructure programs, floodplain and stormwater management, point and non-point water quality control programs, and habitat management planning efforts as a means to prevent adverse wetland impacts and resolve land-use conflicts.
2. Public agencies should form partnerships to facilitate exchange of services, data, personnel, and funds in order to eliminate duplication of effort, resolve policy and management differences that currently exist for wetland and riparian areas, and promote maximum effectiveness in use of public funds and personnel.
3. Where possible, conservation activities should be conducted within a watershed or landscape context to assure long-term sustainability of the resource. Piecemeal regulation, management, and conservation of wetland and riparian habitat is ineffective in conserving and sustaining the resource and addressing societal needs for clean water, wildlife habitat, and floodplain protection.
4. Recognizing that a significant percentage of Oregon's wetlands are privately owned, a key to effective wetland management is cooperation with private landowners. Providing information, technical assistance, and incentives to encourage voluntary participation in wetland conservation programs and opportunities should be promoted.
5. Consistent regulation and management of wetlands on public and private lands is necessary to protect the resource in Oregon. Local, state and federal public land agencies should provide additional protection and stewardship of wetlands on public lands.
6. The state should develop standards, policy, and funding sources to implement a proactive non-regulatory program aimed at restoration and protection of wetlands. State efforts should complement federal efforts to achieve these ends.
7. The current regulatory program must be made more effective, efficient, and responsive to the public and to landowners.
8. The state must strive to implement an integrated wetland strategy that is comprehensive, flexible, and regionally focused, and that and helps achieve Oregon Benchmarks to:
   - preserve the 1990 wetland resource base,
   - improve watershed health,
   - increase the water quality of Oregon's rivers and streams,
   - increase Oregon's groundwater quantity and quality,
   - decrease the incidence of species that are threatened, endangered, or rare in Oregon,
   - increase the recreational opportunities in the state,
   - increase the number of visually attractive rural highway miles, and
   - increase the percent of industrial lands actually suitable for development.
9. Adequate resources must be pursued to ensure program implementation.

Process

The Division of State Lands served as facilitator, mediator, and integrator of this Strategy process.

Literature review, interviews with representatives from key government agencies and interest groups, and topical wetland strategy workgroups were utilized to identify issues and develop recommendations for the Strategy. Representatives from the development community; environmental groups and consultants; agriculture; academia; and federal, state, and local governments served on nine advisory committees that met from June 1992 to February 1993 to address specific issues, develop consensus recommendation, and guide Strategy development. Workgroups discussed and developed recommendations for the Strategy components illustrated in Figure 1. Each workgroup drafted a background paper with consensus recommendations for improving wetland conservation efforts. Collectively, the recommendations and implementation guidelines establish a cooperative wetland conservation strategy for the state. Priority recommendations are denoted by a ☛ in each chapter.

Figure 1. The pieces of Oregon's Wetland Conservation puzzle.



Issues

Regulatory Integration

Wetland regulations are implemented at three governmental levels: federal, state, and local. Questions have recently arisen about the efficiency and effectiveness of regulatory programs. Duplication of effort at a time of declining resources is not supportable. Effective integration that eliminates duplication is necessary.

Planning

While State Planning Goal 5 requires local governments to plan for the protection of wetlands and other natural resources, these governments typically have avoided the effort because they lack the data and resources needed for successful implementation. To ensure that local governments can comprehensively and proactively develop wetland conservation plans for their communities, these resources must be made available. To achieve Oregon's wetland conservation goals, wetland regulation and planning programs must be better integrated and should be augmented by non-regulatory wetland management approaches. The ongoing evaluation of State Planning Goal 5 should be completed with an eye to making changes that better focus the local and state requirements.

Public Lands

More than half of Oregon's land base, including some of the state's most important wetlands, is owned and managed by the federal and state governments. Increased coordination and active wetland stewardship is needed to improve management of these public wetland resources. Stewardship of these lands can significantly assist in meeting the Oregon Benchmark of "no net loss" of wetlands and provide examples for private land management.

Protection

Oregon has not identified protection priorities for wetland types or sites. A prioritization system could help make future management decisions more predictable. Oregon's Goal 5 planning requirement can be used to identify sites for protection, if modified to do so.

Restoration

More than 1 million acres of wetlands in Oregon have been drained, diked, or in some way converted to other uses. The state should identify and prioritize ecologically important regions and sites for wetland restoration. The state has abundant policies to protect wetlands but no policies to restore historically lost wetlands.

Public Information

While there has been much public debate about wetland management issues, little information about the resource is available to the public. Public information about Oregon's wetland resources would increase public awareness and facilitate intelligent debate.

Data Needs

There is much to learn about Oregon's wetland resources. Basic inventory data and studies of ecological function and wetland trends are needed to focus Oregon's wetland management and public information programs precisely.

Priority tasks for the Wetland Conservation Strategy—and avenues for implementing them—were identified based on the following: (a) how frequently they were mentioned during the Strategy development process; (b) how feasible it would be to implement them; and (c) whether it would be possible to measure progress toward achieving:

- effective wetland resource conservation,
- coordination and consistency among public agencies for wetland regulation and stewardship, and
- landowner and public support for implementation of the Strategy.

Efforts to protect, restore, and conserve the state's wetlands will be monitored, evaluated, and reported relative to achieving the Oregon Benchmark and the other guiding components of the Strategy. Program performance measures (for effective wetland conservation, coordination, and consistency among public agencies, as well as landowner and public support and implementation of the Strategy) will be used to monitor progress toward achieving the goals of the Wetland Conservation Strategy.

Wetland vistas are part of Oregon's open space heritage.

Regulation

Issue and Needs

In Oregon, wetland regulations are implemented at three governmental levels: federal, state, and local (Table 2). The most comprehensive regulatory programs for wetlands are the state Removal-Fill Law (ORS 196.800-196.990), the Oregon Wetland program (ORS 196.668-196.692), and the federal Clean Water Act program, under Sections 401 and 404. The objective of each regulatory program is to conserve, protect, and manage water resources for the benefit of present and future generations.

Questions have arisen recently about program and process efficiencies due to duplication and the complexity of resource protection efforts. Overlapping jurisdictions and complex regulations confuse the public and fail to promote the best use of limited resources.

The multiple federal, state, and local programs to regulate, manage, and protect state waters have not been fully effective in protecting wetland resources. This is due in part to the reactive nature of the permitting process and in part to the following gaps or weaknesses in the current programs:

- The state and federal regulatory programs do not encompass all activities that alter wetlands (e.g., vegetation removal and drainage).
- Some agriculture and forestry practices affect waters of the state despite current regulations.
- Current regulations do not protect riparian areas adjacent to streams and wetlands on public or private lands outside of the Forest Practices Act and a limited number of local government plans.
- There is no systematic regulation of sediment from upland construction sites of less than 5 acres.
- The state's Removal-Fill Permit Program does not regulate wetland fills of less than 50 cubic yards.
- State and federal permit processes are not fully integrated with local comprehensive plans, water quality and quantity management strategies, and watershed action plans.
- No common database exists to help federal, state, and local agencies assess permit status and/or assess the cumulative impacts of permits in an area. No ongoing program exists to monitor program effectiveness and cumulative effects.

Increased interagency coordination is needed to redirect the regulatory program to prevent wetland impacts and to increase public information about the wetland regulatory programs. The regulatory program needs to be evaluated in its effectiveness to manage and prevent loss of

Table 2. Primary local, state, and federal tools used to regulate or manage Oregon's wetlands

Agency	Tool	Description
Local governments	Oregon Statewide Planning Program ORS 215.010 et seq.	Comprehensive land-use plans and ordinances developed to comply with statewide planning goals.
DSL	Removal-Fill Law ORS 196.800 et seq.	Regulates filling and removal in waters of the state.
WRD	Water rights ORS 537.130	Authorization to use water for wetland mitigation, restoration, and water storage projects.
DOF	Forest Practices Act ORS 527.610 et seq.	Management of forest practices, affects wetlands in forested areas.
DOA	Confined Animal Feed Operations ORS 468.200 et seq.	Wastewater containment and runoff control.
DOGAMI	Mined Land Reclamation Act ORS 517.750 et seq.	Surface mining operations that may encompass wetlands areas.
DEQ	NPDES discharge permits OAR Chapter 340, Div. 41 & Section 402 of Clean Water Act	Regulates point source discharges into state waters.
DEQ	Section 401 of the Clean Water Act, OAR Chapter 340, division 48	Water quality certification of proposed federal permits and licenses to "protect beneficial uses."
DLCD	Coastal Zone Management Act	That federal and state programs and plans must be in compliance with the Coastal Zone Management Act. DLCD determines whether federal permits or licenses are consistent with the state program.
COE, EPA	Section 404 of the Clean Water Act	Regulates discharge of fill into waters of the U.S.
PRD, DSL	Scenic Waterways Law ORS 390.805 et seq.	Prohibits all removal/fill in certain waters of the state, except by approval of the State Land Board. Prescribes management of designated waterways.
BLM, USFS	Wild & Scenic Rivers Act	Protects "outstanding, remarkable values," (i.e., water quality, fisheries, wetlands, scenery on designated rivers).
NRCS	Food Security Act	Regulates wetland on lands of USDA program participants. Establishes the Wetlands Reserve Program.
DEQ	Section 303 of the Clean Water Act ORS 468.030	Identified pollutants load that can be discharged into waters of the state and still achieve identified water quality standards.
DLCD	Goal 5 ORS 197.005 et seq.	Requires local government to conserve open space and protect natural and scenic resources.

significant wetland resources in a manner that is more responsive to the public. The overlap between state and federal programs must be examined together to evaluate:

1. program efficiency and effectiveness,
2. future opportunities for partial or full assumption of Clean Water Act Section 404 responsibilities, and
3. actions necessary to ensure a timely process, certainty, and predictability for the regulated public.

In addition, recognizing that the regulatory program does not sufficiently conserve Oregon's wetlands, workgroup members strongly advocated the use of non-regulatory programs to protect, restore, and conserve the state's wetland resource base. Non-regulatory measures—including cooperative restoration programs with landowners, acquisition of title or easements on priority wetlands, coordination of public lands management, and education—were proposed as important measures for the achievement of an effective regulatory wetland program.

Mitigation as a Regulatory Policy

Mitigation, defined as avoidance, minimization, or compensation for unavoidable adverse environmental effects, is an important element of Oregon's wetland regulatory program. The regulatory reliance on mitigation—and the effectiveness of mitigation in replacing wetland functions and acreage—have been reviewed in Oregon (Kentula et al. 1992, Franklin and Shaich 1993). Net loss of Oregon's wetlands is occurring because of ineffective project design and lack of clear policy. Recommendations for addressing and improving the wetland mitigation program include:

1. placing greater emphasis on avoidance of impacts,
2. developing clear mitigation policy and criteria,
3. regulating mitigation siting in a landscape context, and
4. exploring compensatory alternatives (e.g., mitigation banking, joint projects, payment in lieu, etc.).

Wetland Delineation

The National Academy of Sciences is conducting an analysis of wetland delineation. Meanwhile, Oregon recognizes the need to refine and develop scientifically valid wetland criteria for application to the different ecoregions of the state. Once the National Academy of Sciences has completed its analysis of wetland delineation, the state will review the applicability of the results to Oregon.

Categorization

Wetland **assessment** or **classification** means the scientific description of functional assessments based on measurable physical, chemical, or ecological attributes. Assessments have been instrumental for wetland inventory, research, and planning efforts. Conversely, wetland **categorization** means the assignment of value-based rankings derived from aggregated wetland attributes. Categorization implies management or regulatory priorities for wetlands. Categorization is a two-tiered process, involving (a) developing categories, and (b) allocating wetland sites or wetland types to categories, often with management implications for each category.

Wetland categorization is highly controversial. Potential benefits include protection of higher value wetlands, heightened certainty and predictability for the regulated public, better consistency in decision-making, and enhanced economic growth opportunities. Potential problems include concerns about increased losses of "lower value" wetland resources and decreased effectiveness of wetland protection. Wetland categorization is currently being conducted in Oregon within local Wetland Conservation Plan areas; wetlands are assigned to categories of protection, conservation, or development based upon ecological functions and attributes, threat, public need, and infrastructure investment within the planning area.

Cumulative Impacts

The cumulative impacts of wetland loss are the sum of all individual impacts occurring over time and space (Leibowitz et al., 1992). Cumulative impact analysis is technically difficult to conduct. Both the direct and indirect loss and degradation of wetland resource functions and acreage have not been evaluated through time. Oregon's ability to control cumulative impacts has a direct bearing on whether the state can meet the national and state antidegradation goals of protection, maintenance, and enhancement of existing resource quality and biological integrity.

Oregon scientists are currently conducting wetland assessments, based on measurable physical, chemical and ecological attributes, and analyzing cumulative impacts of wetland loss.

Recommendations

Regulatory Process

- A range of options was proposed to address the regulatory overlaps of the Removal-Fill program, the federal 404 permit program, and the state water quality certification program. The proposed options listed in Appendix B are presented to prompt further discussion and resolution by the decision-making parties in the state and federal governments, and they do not represent consensus of the workgroup members. The proposed options build upon the following themes:
  - Eliminate duplicate permit processes in a manner that increases regulatory efficiency without increasing the current workload.
  - Pursue coordination and co-location opportunities among personnel of the Department of Environmental Quality, Division of State Lands, and the U.S. Army Corps of Engineers.
  - Explore the feasibility of delegating permit authority to other agencies and levels of government, based on proficiency and standards.
  - Conduct proactive watershed plans and Wetland Conservation Plans as a context for permits.
  - Develop an interagency-coordinated database for permit tracking.
  - Pursue legislation, administrative rule, or policy changes to cover significant gaps in wetland protection.
  - Implement and coordinate monitoring activities to assess program effectiveness and progress toward "no net loss."

The proposed options need to be further articulated, and specific options identified for resolution.

- Multiple recommendations were suggested to (a) consolidate and simplify the permit process and (b) develop consistent interagency permit standards. The detailed recommendations are listed in Appendix B. The recommendations address development of:
  - clear and objective standards for wetland permitting;
  - common definitions for terminology;
  - written guidance for conducting alternatives analysis;
  - a single application form for Removal-Fill, Section 404, water rights, and 401 certification permits;
  - an accessible database for planning and permit evaluation that is compatible with GIS;
  - tools for securing water rights for wetland mitigation, restoration, and preservation activities;
  - a dispute-resolution framework for difficult permit issues; and
  - educational materials explaining the wetland permitting process.

The challenges to implementation of these recommendations are significant. The regulatory overlap, program gaps, and technical issues are often extremely complex. Institutional conflicts arising from the different roles and approaches of state and federal agencies make it difficult to resolve the regulatory issues solely at the state level.

- ☛ Strengthen efforts to protect wetland resources under the current regulatory system by implementing the following:
  - ◆ Promote the adopted policy to protect wetlands ORS 196, ORS 197, Goal 5, Goal 16, etc., (see Appendix A) through integrated regulation and planning processes.
  - ◆ Develop state policy that emphasizes avoidance and sets forth mitigation guidance and criteria.
  - ◆ Fully utilize and strengthen wetland enforcement efforts by increasing the enforcement resources and heightening enforcement-related restoration efforts and regulatory education. The state should continue to seek alternative staffing mechanisms to implement these efforts.
  - ◆ Address specific program gaps and refine the wetlands regulatory program by:
    1. continuing to monitor the implementation and effectiveness of the Removal-Fill Law, Forest Practices Act, and Water Quality Standards to assure the programs are successful in meeting their stated policy goals (see specific recommendations in Appendix B);
    2. coordinating interagency efforts to research the effects of management practices on the ecological integrity of wetlands; and
    3. developing wetland management strategies for water quality limited stream basins.

Mitigation

- ● The state should continue to develop a wetland mitigation policy that promotes avoidance, compensatory mitigation alternatives (e.g., mitigation banking, restoration, payment in lieu, and protection), and the use of buffers. Detailed recommendations are listed in Appendix B. Program efforts and success in avoiding wetland impact should be tracked and reported. The cost effectiveness of mitigation options for replacing wetland acreage and functions must be addressed. Compensatory mitigation should be seen as field experiments that can provide information on ways to improve projects through time.
- ☛ Mitigation banking opportunities in Oregon should be pursued as a means to consolidate fragmented landscape impacts and highway impacts within the same watershed. This will more likely result in wetland projects that are sustainable, as well as properly located, designed, and managed. It will be necessary to examine and evaluate the effectiveness of the current statute (ORS 196.60 (3) and (8)). Refer to Appendix B for further mitigation banking recommendations.
- ☛ The process to obtain water rights for wetland mitigation projects should be facilitated. The effectiveness of the 1993 legislation (HB 2107) should be evaluated.

- Mitigation project success goals and criteria should be defined in the context of watershed and wetland restoration activities. Efforts should build upon existing mitigation assessments, literature, reference sites, and the Oregon Freshwater Wetland Assessment Methodology. A mitigation design manual that highlights methodologies to achieve successful projects should be developed for regulatory personnel and the public.
- The state should develop specific wetland management policies for water quality limited stream basins where existing wetlands assist local jurisdictions in meeting the basin water quality criteria established by the Oregon Department of Environmental Quality.

Agricultural Wetlands

- General confusion about federal and state definitions of agricultural wetlands complicates administration of programs for regulating, protecting, and restoring wetlands. Recommendations include:
  - Promote and encourage consistency in federal and state policy and regulations for agricultural wetlands. Examine the state and federal definitions and technical criteria. Promote consistent use of terms wherever not prevented by law. Promote sharing of wetland determinations between all agencies for use in the state and federal regulatory framework.
  - Clarify the distinctions between prior converted cropland and farmed wetlands relative to the state wetland regulatory process.
  - Clarify who may make prior converted cropland determinations. Develop informational text and a matrix that explains the definitions and technical criteria of agricultural wetland categories for federal and state permits.

Wetland Categorization

- Oregon should explore the development of a wetland categorization scheme to improve the state's wetland management decisions. Categorization should be conducted in a landscape context, with consideration for landscape goals, wetland condition, and available information about wetland functions and values. In its categorization process, the state should seek to minimize the loss of valued ecological functions by ranking wetlands in terms of comparative ecological risk due to wetland loss or degradation in the landscape. Wetland categorization should be conducted either by the local land-use planning process, by wetland conservation planning or by watershed planning efforts.
- Wetland categorization efforts must consider:
  - primary land-use characteristics of the basin,
  - water quantity and quality and land-use issues within each watershed,
  - information from the Oregon Freshwater Wetland Assessment methodology and the priority wetlands identification process,
  - periodic review of the proposed categories when new information is available,
  - management goals for the basin or planning area.

Cumulative Impacts

- Oregon needs to evaluate the status of wetland systems in the state and evaluate the effects of cumulative impacts to the state's wetland systems. To do such an evaluation would involve developing goals, policies, and methodologies to evaluate cumulative impacts. This effort will require baseline data on wetland functions and wetland types. The ultimate goal is to influence future management decisions and clarify policy.
- Oregon currently does not have a mechanism for addressing cumulative impacts. A proposed approach to addressing and ultimately quantifying cumulative impacts includes:
  - collecting and compiling baseline data;
  - identifying the condition of priority watersheds;
  - identifying historical and existing functions and the condition of wetlands in priority watersheds;
  - identifying changes in forcing functions (e.g., hydrology);
  - assessing and prioritizing risks and opportunities for wetland protection, restoration, and management;
  - incorporating these risks and opportunity considerations into state policy; and
  - encouraging the incorporation of these assessments into local comprehensive plans, state land management plans, and federal land management plans.

  As an interim surrogate for cumulative impact assessments, the state should track wetland permit activity and wetland loss by watershed.

Wetland Planning

Issue and Needs

Wetland planning is an effective means to address cumulative environmental effects. Planning is a proactive approach to wetland management that offers certainty for development and greater protection and conservation of wetlands in a manner that maintains landscape integrity.

Planning requires the evaluation of future actions before impacts occur. Planning decisions should acknowledge that the Oregon landscape has experienced nearly 150 years of alterations.

In 1973, Oregon pioneered a land-use planning program that established 19 statewide planning goals. Planning Goals 16 and 17 protect Oregon's estuarine resources and coastal shorelands; Planning Goal 5 provides a framework for protecting natural resources and open spaces.

Goal 5 requires each city and county to inventory the location, quantity, and quality of wetlands once information is available and requires cities and counties to develop a land-use program to protect significant wetlands after evaluating conflicting use through the economic, social, environmental and energy (ESEE) assessment. However, the Goal 5 process has not been effective in protecting Oregon's wetland resources because the process lacks specific standards and data, and local governments lack resources to inventory and make planning decisions about wetlands.

In 1989, Oregon passed Senate Bill 3, which (a) established an optional local planning process (Wetland Conservation Plans) to provide a context for wetland permitting and (b) required the Division of State Lands to develop and maintain a statewide wetland inventory. As part of the statewide wetland inventory, standards were developed to ensure consistent wetland information. Wetland Conservation Plans (WCPs) provide an alternative to Goal 5. They give local governments an opportunity to address future resource protection and development needs and to address wetland resource decisions in context with other land-use needs. Wetland planning in urban areas (through WCPs and Goal 5 planning mechanisms) creates certainty for development, as well as creating opportunities to improve floodplain capacities, improve water quality, and preserve wildlife corridors, open space, recreation, and aesthetics. Although Oregon has developed innovative planning approaches through Goal 5 and through WCPs, implementation has been limited to relatively small areas in cities and counties.

Planning that incorporates larger landscapes is necessary to ensure long-term integrity of wetland resources. Planning must integrate activities related to water quality and quantity, fish and wildlife resources, and land use. Large-scale wetland planning integration (e.g., watershed, basin, ecoregion) could create a more useful context for wetland regulation, protection, and restoration. Therefore, Oregon's wetland planning goals, priorities, and planning processes should be integrated with ongoing resource and region-specific efforts. To augment Oregon's wetland

planning efforts aimed toward protection and restoration of the resource, the following are needed:

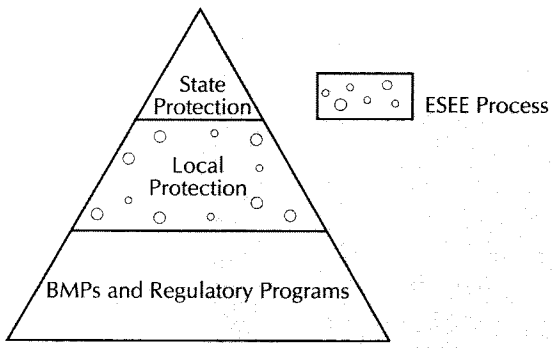
- a complete and accurate wetland inventory data,
- a functional assessment methodology,
- additional funding sources, and
- improved coordination between interest groups and local, state, and federal government.

Urban planners can take the landscape context into account by integrating wetlands into greenways, floodplains, and water quality and improvement efforts. Wetlands often provide urban dwellers the open space to explore and learn.

Recommendations

- The state should pursue a basin planning approach that effectively integrates activities related to water quality and quantity, fish and wildlife resources, wetlands, and compatible land uses in a watershed. The Strategic Water Management Group proposal (SWMG Policy Workgroup, 1992) provides a process that could be used integrate these efforts effectively.
- The state should continue to integrate wetland planning and wetland regulation as a means of achieving greater wetland protection. To reach this objective, a tiered ranking system that clarifies the roles of governments and integrates goal-based wetland planning, wetland regulations, and long-term wetland protection measures (e.g., acquisition) should be developed. Rankings should be based on existing information and guidance (e.g., the Oregon Freshwater Wetland Assessment Methodology and proposed wetland protection criteria). Rankings should allocate wetland resource sites for either (a) public agency and interest group acquisition, (b) protection through the planning process, or (c) conservation through the use of best management practices (BMPs) or the permit process. Rankings would be aligned closely to wetland tiers proposed under the regulatory section. The anticipated wetland resource hierarchy would identify:
  - outstanding wetland sites designated for protection through acquisition, conservation easements, and other uses of public funds,
  - significant wetlands protected through the local planning process, and
  - other wetlands conserved by regulatory and best management practice processes.

  The following is a diagrammatic representation of the tiered ranking system for wetland planning and protection:



  Development of a ranking system is necessary to promote and advance the local planning process for wetlands and to ensure state protection of priority wetlands through acquisition and other long-term protection measures.
- The state should identify federal regulatory mechanisms to integrate Wetland Conservation Plans with the Corps of Engineers' responsibilities under the Clean Water Act. Procedural consistency between Wetland Conservation Plans and the federal 404 (b) (1) guidelines should be pursued. If federal regulatory mechanisms that accommodate local plans are not feasible under present law, the Division of State Lands should work with interested parties to amend the Clean Water Act during reauthorization.

- The state should consider amending Goal 5 to address wetlands by:
  - defining the role of existing state and federal wetland regulations in the planning process;
  - providing clear definitions of wetland and watershed values to be protected;
  - developing a clear and objective approach for establishing "significance" for wetlands;
  - defining state and local roles in the Goal 5 process;
  - identifying regions of high risk, using criteria such as population growth rates, percent of residential lands, and land-use designations as priorities for wetland planning;
  - developing inventory guidance defining wetland location, quantity and quality;
  - deletion of the option of not including wetlands in comprehensive plan reviews (1(b) option in current rule); and
  - providing funding to local governments for their planning expenses.
- The state should assess the differences between rural and urban wetland planning goals and tools, recognizing that rural and urban wetlands differ in quality, type, diversity, adjacent land-use impacts, and development pressures. Given these differences, most planning advisory workgroup members recommend:
  - dividing Goal 5 for wetlands into two categories, (a) urban and rural development areas and (b) resource lands. Different planning requirements should be developed for these categories (e.g., conduct intensive wetlands inventories within urban and developing areas and exempt resource land from this requirement).
- The state must continue program development for Wetland Conservation Plans. Guidance is needed for wetland functional assessments; compatible uses; practicable alternatives; protection, conservation, and development designations; and minimum requirements for mitigation, monitoring, and maintenance plans.
- State and local governments should develop a stable funding source for local wetland planning efforts. Possible funding sources include private foundations, dedicated state taxes, bonds, fees, and other sources are identified in Appendix D.
- Local planning should avoid wetland impacts and resolve land-use and resource protection problems by promoting the use of planned unit developments, the transfer of development rights, and other planning mechanisms. Urban planning that takes into account the landscape context should be promoted (e.g., integrating wetlands into greenways, floodplains, and water quality and habitat improvement efforts).
- Pursue planning and data collection efforts aimed at developing maps of wetlands and riparian sites with priority for restoration and protection in high-priority watersheds. (See proposed processes and criteria for prioritizing wetland sites for protection and restoration in the Wetland Protection and Wetland Restoration chapters.)
- An interagency working group has developed the Oregon Freshwater Wetland Assessment Methodology. The methodology incorporates both landscape (watershed) and site-specific approaches. To some extent, the methodology is tailored to the state's different ecoregions. Guidance should be developed to describe how the Oregon Freshwater Wetland Assessment Methodology will be used for different programs.

Wetland Protection

Issue and Needs

An important goal of the Wetland Conservation Strategy is to assess and evaluate existing and proposed mechanisms designed to protect outstanding wetlands and riparian areas for present and future generations. Protection is defined as long-term management of a resource to ensure its sustainability and its natural values. Existing regulations and permitting processes do not provide long-term protection of wetlands that are unique, difficult to replace, or that provide water quality improvement, provide habitat for threatened and endangered species, or act as wildlife corridors. The goal should be implemented through voluntary and cooperative efforts.

State wetland protection efforts should include:

1. planning to identify priority wetlands within watersheds, based on functional value and regionally representative wetland types (see page 32 for possible criteria for identifying priority wetlands);
2. identification of areas for protection by Wetland Conservation Plans;
3. development of acquisition and other long-term protection strategies; and
4. providing information about the management of wetlands to ensure the continued integrity and existence of natural resource values.

Program policy, standards, funds, and interagency and interest group coordination are necessary to implement these efforts. Outlined below are the workgroup's recommendations for programs to protect wetlands through the local planning process, as well as suggestions for a establishing a process to identify high-priority wetlands.

Recommendations

- Wetland protection policies embodied in state statute are adequate, but are not applied in a manner that effectively promotes the Wetland Strategy goal (see Appendix B). The following steps should be taken to strengthen wetland protection policy:
  - Develop effective incentive programs for protecting wetlands and riparian areas. Identify current obstacles to wetland protection. Promote effective incentive programs and inform the public about them. Evaluate the effects of the current state property tax structure on wetland protection and restoration.
  - Clarify the planning requirements under Oregon's statewide planning program.
  - Assess the economic costs and feasibility of various approaches to protecting wetland sites (e.g., acquisition, purchase of conservation easements, and other protection measures; see Appendix C).

- Develop a method to reserve water rights for protected and restored wetlands.
- Develop interagency resource management strategies that protect priority wetlands within the context of watershed management and protection.
- Develop standards for wetland protection that promote and ultimately ensure the long-term sustainability of protected wetland ecosystems. These standards should include:
  1. the assurance of long-term sustainability (available water source, compatible adjacent land use, and best management practices);
  2. the establishment of stormwater discharge regulations to ensure that affected wetlands will be protected;
  3. the development of buffer standards and other resource protection measures;
  4. the monitoring, reviewing, assessing, and reporting of protection efforts; and
  5. the establishment of guidelines for site management and stewardship; a site management plan should be required for each protected site and should address buffers, management strategies, and compatible uses of the protected site (e.g., access, recreation, research, and education).

☛ Oregon should identify and designate priority wetlands within watersheds, based on functional value and representative wetland types, and then provide them with long-term protection.

☛ A systematic process for identifying and assessing priority wetlands and implementing wetland protection efforts is needed. A process should be developed that is standardized, documentable, and flexible. It should include agency and landowner participation, and it should ultimately aid in identification of wetlands protected under Statewide Planning Goals 5 and 17. Resource protection would be implemented through both the local planning process and the state-level protection and acquisition efforts. Potential steps in the process are listed below and are further described in Appendix C.

- Identify criteria for wetland protection.
- Identify watershed objectives; involve the public as well as landowners, and educate interested participants in how to provide wetland protection.
- Coordinate with other wetland management efforts.
- Prioritize sites for management, acquisition, or other approaches, addressing any private property issues that might exist.
- Protect sites through the use of local planning mechanisms and acquisition.

☛ A stable, long-term funding source for wetland protection should be developed. Currently available incentive programs and competitive funding sources are listed in Appendix D. Cost-match programs, funding sources for regional mitigation banks, and cooperative acquisition initiatives should be explored. The state should coordinate funding and protection priorities with other cooperators (e.g., Oregon Coastal Wetlands Joint Venture, American Fishery Society; see Table 3).

In addition, Oregon should explore future options of obtaining dedicated program funds from the lottery, bonds, excise taxes, vanity license plates, and/or property transfer taxes.

Private landowners should be encouraged to pursue wetland protection funds from the programs outlined in Appendix D.

Table 3. Wetland protection cooperators

Federal Agencies
- Bonneville Power Administration
- Agricultural Stabilization and Conservation Service
- Bureau of Reclamation
- U.S. Forest Service
- Bureau of Land Management
- National Park Service
- U.S. Army Corps of Engineers
- U.S. Fish and Wildlife Service
- Environmental Protection Agency
- National Oceanic and Atmospheric Administration—Coastal Zone Management Program
- Natural Resources Conservation Service

State Agencies
- Department of Land Conservation and Development
- Oregon Department of Fish and Wildlife
- Oregon Department of Forestry
- Division of State Lands
- Water Resources Department
- Parks and Recreation Department
- Department of Environmental Quality
- Economic Development Department
- Oregon Department of Transportation
- Governor's Watershed Enhancement Board
- Oregon Department of Higher Education
- Community and Private Colleges and Universities
- Soil and Water Conservation Districts

Local Governments
- Cities
- Counties
- Regional governments

Interest Groups and Organizations
- American Fisheries Society
- Ducks Unlimited
- The Wildlife Society
- Fish and Wildlife foundations
- The Wetlands Conservancy
- Utilities
- Oregon Trout
- Oregon Bass and Panfish
- Special districts—water diking, drainage, Unified Sewage Agency
- Land trusts (e.g., Wetlands Conservancy, Trust for Public Lands, Oregon Coastal Wetlands Joint Venture, etc.)
- Pacific Flyway Council
- Private property owners

Tribes

Ports

- Oregon should actively support the activities of land trusts in their efforts to secure conservation easements, acquire land, establish management agreements, and sort out the legal aspects of making a charitable donation for wetland resource protection and management.
- In order to more completely implement wetland protection efforts, staffing must be provided. Staffing will be needed to develop policy, pursue funds, provide technical assistance to local governments, and identify priority wetlands for protection, as well as to develop criteria, conduct and coordinate the planning process, and validate and prioritize eligible sites for protection.
- The success of Oregon's wetlands protection efforts should be monitored and evaluated on a regular basis.

Criteria for identifying priority wetlands should include the following:

- **High functions or multiple functions**—This includes single-function wetlands that are rated high for water quality, water quantity, or habitat functions and wetlands that provide multiple functions.
- **Rarity**—This includes wetlands where threatened and endangered species occur or wetland types that are remnant or sparsely represented in the region.
- **Ecological viability**—This is determined by the condition and sustainability of the wetland system; based on adjacent land-use practices, water availability, connectedness, contaminants, restorability, and controllable noxious species.
- **Threat**—This includes water quality conditions and trends, water quantity trends, adjacent land use, and wetland land use; the magnitude and impact of threat to proposed functions and values of the sites should be considered, as well as the objectives of the protection plan.
- **Cultural benefits**—This includes opportunities for access, education and outreach, research, and passive recreation. Open space, aesthetically pleasing sites, sites that contain historic gathering places, and local or regional archaeological and cultural sites can also provide cultural benefit.
- **Identification by local, state, or federal programs or plans for protection or acquisition**—This includes sites identified by Goals 5, 15, 16, 17; the Statewide Comprehensive Outdoor Recreation Plan; Pacific Flyway Habitat plans; etc.
- **Management feasibility and costs**—Ownership (public, private, tribal, ports, or special districts); political and social considerations; economics (cost/benefit ratio); and management costs must be considered when identifying priority wetlands.

Wetland Restoration

Issue and Needs

Restoration of degraded or drained wetlands presents one of the greatest opportunities to maintain or increase Oregon's wetland resource base (The Conservation Foundation, 1988; Oregon Senate Bill 3). It also helps achieve the Oregon Quality of Life Benchmark for Wetlands. Until now, wetland restoration opportunities have been pursued on a limited basis, primarily through cost-share programs of the U.S. Fish and Wildlife Service's Private Lands Initiatives and Agricultural Stabilization and Conservation Services.

Integration of policy and programs will foster development of uniform standards and coordination of implementation. Priority areas for restoration need to be identified. Wetland restoration opportunities should be inventoried by watershed to provide information for local and regional groups.

The Oregon Scientific Wetlands Restoration Workgroup defined restoration as *"the process of intentionally altering a degraded wetland or historic wetland to produce an attainable wetland ecosystem and associated ecosystem processes to achieve regional or local ecological goals. The intent of the work is to emulate the natural hydrology, structure, function, diversity, and dynamics of the defined indigenous ecological system."*

Distinctions between wetland creation, restoration, and enhancement can be made in the following manner:

Creation—conversion of a non-wetland area into a wetland.

Restoration—the intentional alteration of degraded or historic wetlands to emulate the natural hydrology and functions of an indigenous wetland system.

Enhancement—the alteration, maintenance, or management of existing wetlands for long-term improvement of particular functions or values (often to the detriment of other functions or values).

Wetland restoration objectives developed by the Wetland Restoration Workgroup include the following:

1. Restore wetlands to sustain and improve the ecological structure and function of the associated landscape unit (e.g., riparian areas and buffers within a watershed). Restoration goals and the criteria by which their achievement is evaluated should incorporate temporal expectations, ecoregional differences, ecological changes over time, and linkages with other landscape features.
2. Where possible, restore historic wetlands ("historic" is loosely defined as before European settlement). Project feasibility and availability of data should both be considered when deciding whether to restore wetlands historically lost from a landscape.

3. Re-establish a wetland's identified ecological functions, such as productivity and wildlife habitat.
4. Recognize and restore wetland functions that satisfy human needs. Examples of human need include water quantity and quality, flood control, recreation, education, and research.
5. Ensure that restored wetlands persist over time and require minimal management.
6. Set statewide priorities for restoration, and focus resources based on criteria including: historic loss, threat, feasibility and availability of site, ecological context, functions, human need, and sustainability of the site.

Recommendations

☛ In order to develop wetland restoration policy and implement that policy, the state should do the following:

- ◆ Convene a restoration advisory panel (or coordinate with an existing group) to develop standards to guide wetland restoration efforts.
- ◆ Develop technical information materials for landowners; provide them with guidance for setting wetland restoration objectives; and provide landowners with technical assistance in establishing and implementing restoration projects.
- ◆ Promote consistent application of restoration standards on private and public lands, and encourage public agencies to restore wetland and riparian areas.
- ◆ Cooperate with others in wetland restoration planning and include restoration planning in state efforts to: (a) identify priority watersheds and focus immediate efforts toward their restoration and (b) plan and implement wetland restoration during the next decade by using a statewide restoration inventory. Statewide wetland restoration planning efforts should:
  1. enhance the wetlands base or watershed health of a basin,
  2. establish regional priorities for restoration of wetland ecosystems,
  3. identify potential restoration sites within wetland conservation planning areas,
  4. establish compensatory mitigation or mitigation bank opportunities with the potential to meet regional or state restoration goals,
  5. provide guidance for wetland regulatory decisions at the watershed level, and
  6. identify opportunities for wetland restoration to improve water quality.
- ◆ Develop a centralized digital database to aid in identifying and prioritizing wetland restoration sites. Data needed to identify potential restoration sites includes: existing wetlands, hydric soils, hydrologic information, geomorphology, existing land use, and zoning.
- ◆ Prioritize potential restoration sites based on:
  - **current threat** and historic loss of wetlands in the landscape,
  - **biological information** (threatened and endangered species, migratory bird routes, and anadromous fish),
  - **water quality problems** (contaminants and non-point source pollution), including water availability,

- **connectedness with other wetland ecosystems,**
- **ecological viability,**
- **available data,**
- **political and social considerations,**
- **potential cooperative opportunities,** and
- **cultural benefits.**

◆ Develop state priorities to assist in targeting the Wetland Reserve Program in Oregon.

◆ Clarify the water right requirements for wetland restoration. Continue to explore opportunities to acquire water rights or registrations for restored wetlands and reserve rights through the Oregon Department of Fish and Wildlife, the Parks and Recreation Department, and the Department of Environmental Quality.

◆ Promote research on the effects that restored wetlands have on wildlife and fisheries habitat, water quality improvement, flood control, and watershed health and develop public information materials to describe the results.

◆ As funding allows, the state should conduct research on reference sites, which are relatively undisturbed natural systems used as models for restoration projects. Reference site data helps define attainable restoration goals and evaluate the functional performance of restoration projects.

Restoration feasibility criteria must address ecological suitability and cooperative opportunities (see Appendix E). These proposed criteria need to be refined and field tested.

◆ Conduct and coordinate cooperative restoration activities with interagency groups and interest groups. (Refer to Table 4 for restoration cooperators.)

● Develop informational materials that describe permits needed to conduct wetland restoration. Explore ways to streamline regulatory processes for wetland restoration.

● Pursue funding for restoration planning and implementation. Federal, state, and local governments, as well as private and non-profit groups, should all play a role in funding, implementing, and managing restoration projects (see Appendix E). Funding programs for wetland restoration are summarized in Appendix D.

● Establish plans for managing wetland restoration sites that will:

1. define site management objectives that are compatible with identified watershed objectives;
2. promote public interest and involvement in restoration planning, implementation, and management;
3. obtain funding to manage restoration projects that maintain the ecological viability of the project through time and changes in ownership;
4. include protection of water sources and compatible land uses needed to maintain the site; and
5. ensure long-term site protection via acquisition, conservation easements, and other protection mechanisms.

Table 4. Primary wetland restoration cooperators

Federal Agencies

- Natural Resources Conservation Service
- Consolidated Farm Services Agency
- U.S. Fish and Wildlife Service
- Bureau of Land Management
- U.S. Forest Service
- U.S. Army Corps of Engineers
- Bonneville Power Administration

State Agencies

- Strategic Water Management Group
- Governor's Watershed Enhancement Board
- Oregon Department of Fish and Wildlife
- Water Resource Department
- Division of State Lands
- Department of Environmental Quality
- Department of Forestry's Stewardship Incentives Program
- Department of Parks and Recreation

Local Governments

- Cities
- Counties
- Soil and Water Conservation Districts
- METRO Greenspaces Program
- Councils of Governments

Interest Groups and Organizations

- Ducks Unlimited
- Land Trusts (e.g., Wetlands Conservancy, Trust for Public Lands)
- Coastal and Intermountain Wetlands Joint Venture
- Oregon Watershed Improvement Coalition
- Pacific Northwest Rivers Council
- Central Oregon Lands Issues Forum
- Oregon Coast Wetlands Joint Venture

Landowners

Public Information

Issue and Needs

Increased public information and technical assistance are needed to promote public awareness of wetland resource issues and clarify issues relating to wetlands. Landowners, the general public, public officials, and resource managers have identified the need for information on permitting processes, wetland functions and values, the role of wetlands in the landscape, property rights and public values, and the variety of wetland types in Oregon. Greater appreciation of wetland functions and clearer understanding of regulatory and management programs could lead to improved public support for the stewardship actions and commitments necessary to sustain and enhance Oregon's wetland resources.

Recommendations

- Because the public finds the wetland regulatory program confusing and frustrating, the state should develop informational materials and programs that clarify the regulatory process. Specific approaches should include (a) producing a brochure on wetland regulations, (b) producing a permit application booklet and "form guide" (describing activities permitted, appropriate permit timelines, and agencies involved), (c) scheduling periodic interagency training sessions, and (d) developing a public outreach program.
- Cooperative partnerships should be developed to provide educational and technical assistance on wetland stewardship issues, including protection, restoration, enhancement, management, and incentive opportunities. This assistance should be aimed toward the specific needs of rural and urban audiences. Demonstration projects should be used to show how cooperative efforts work and what local benefits are available.
  - Priority elements for rural stewardship include brochures on Best Management Practices (BMPs), training and informational meetings led by experts on land management principles, and tours of in-progress and successful demonstration projects.
  - Priority urban stewardship education efforts include promotion of teacher intern opportunities in non-profit groups and agencies, implementation of class and field elements of the "Adopt a Wetland" curriculum as part of the natural resource curriculum for public schools, and use of volunteers to conduct wetland assessments for the regulatory agencies. (High school students could be used as volunteers in monitoring and mentoring programs; this would support students' efforts toward the educational Certificate of Initial Mastery required under House Bill 3565.) Cooperative development of an auditory and tactile "wetlands in the watershed" exhibit at the Oregon Museum of Science and Industries also could be pursued.

- ☛ In order to sensitize the public to wetland functions and values and wetland management issues, the state should increase public awareness of the variety of wetland types in Oregon and the role of wetlands in the landscape. Wetland types (including saltwater and freshwater marshes, bogs, forested wetlands, wet meadows, saltgrass and greasewood flats, and vernal pools) and their associated functions and values in both rural and urban landscapes should be depicted in brochures, posters, and videos that are widely distributed. A wetland stewardship brochure should also be developed. Information about the value of wetlands for local landowners should be developed.
- Funding and implementation of wetland education for individuals and interest groups should be promoted. (A rural example is Operation Stronghold, an effort conducted by Dayton Hyde in Chiloquin, Oregon, that promotes maintenance of both wildlife habitat and ranch productivity. The Oregon Watershed Improvement Coalition also actively promotes education to resolve difficult watershed management issues.)
- A "Wetlands Hall of Fame" could be created to recognize landowners and developers who have conducted exemplary wetland restoration projects. If it is publicized, this effort will increase public awareness of the functions and values of wetlands in the landscape.
- The state should develop and distribute a wetland education "toolbox," or notebook of available flyers and brochures on wetland types, functions and values, and stewardship opportunities in Oregon. This notebook should be distributed to any interested people or groups.
- Use of the Environmental Protection Agency's Wetlands Hotline (1-800-823-7806) should be encouraged. A statewide interagency 800 number for information on wetlands and wetland management programs also could be developed and promoted.
- Information on the balance between property rights and public values should be incorporated into wetland educational materials that are distributed to landowners, planning commissions, planners, resource managers, and the general public.
- The state should pursue funding sources for interest group and interagency implementation of these wetland education strategies. Refer to Appendix D for education funding sources.

Best Management Practices

Issue and Needs

Land management practices, including development that is vital to Oregon's economy (such as development for residential, industrial, and commercial purposes, or for timber and agricultural crop production), can damage the ecological integrity of wetlands and riparian systems. Conservation measures that reduce negative impacts and protect, maintain, and enhance wetlands and riparian areas must be promoted. Voluntary management practices that sustain wetland hydrology, acreage, and functions should be described. Landowner and trade organizations should be used to implement conservation efforts.

Recommendations

- The state should identify and promote management practices that protect and maintain wetlands and the functions they perform. Inadvertent destruction, eradication, and degradation of wetlands should be prevented, as should cumulative impacts to wetland systems.
- Develop guidelines for Best Management Practices (BMPs) for wetlands and riparian areas. Although many current conservation practices and management procedures are sound, BMPs could be developed that relate directly to the conservation of wetland and riparian areas. These include:
  - stormwater management,
  - fertilizer and pesticide management, including storage and application,
  - road construction and construction of stream crossings,
  - vegetation removal,
  - management of exotic species (e.g., nutria, *Phlaris, Lythrum, Spartina,* etc.),
  - construction practices,
  - agricultural practices (e.g., land development, diking, draining, grazing, and livestock and waste management practices),
  - erosion control (e.g., stabilization of exposed soil, minimization of soil disturbance, use of suitable material, removal of temporary fill),
  - mining, and
  - forest practices in a joint effort with the Department of Forestry.
- Public and private groups should provide technical assistance to landowners interested in implementing stewardship demonstration projects.
- Use existing landowner and trade networks to disseminate information and technical assistance.

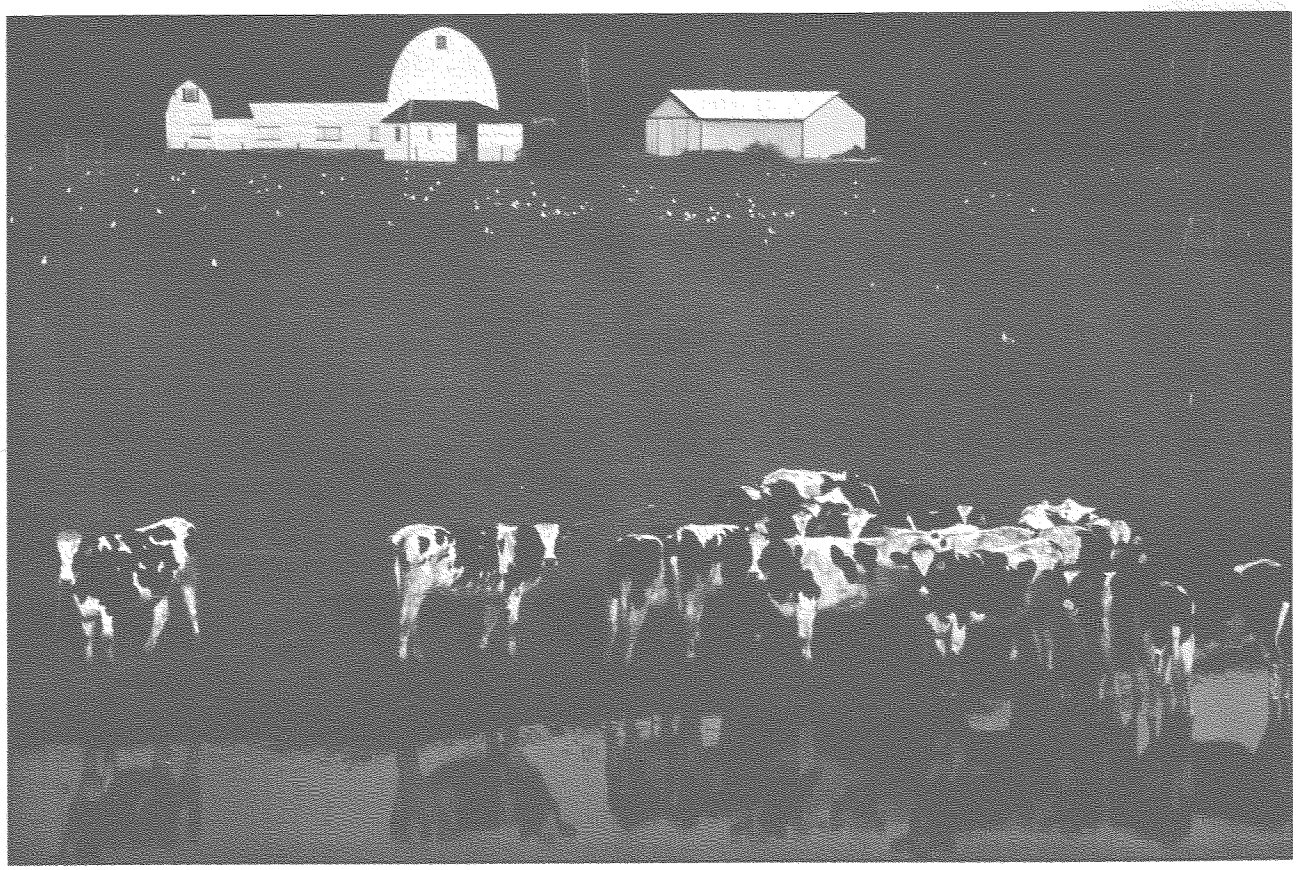
- ◆ Provide assistance to agricultural landowners through Soil and Water Conservation Districts, Oregon Association of Conservation Districts, the Farm Bureau, the Oregon Extension Service, the Oregon Coastal Wetlands Joint Venture, etc. Agricultural BMP demonstration projects could be implemented through Soil and Water Conservation Districts and in coordination with the Farm*A*Syst Program, which provides educational material about environmental and safety issues around the farm.
- ◆ Assist interested forest landowners through the OSU Extension, the Service Foresters, the Small Woodland Association, the Soil Conservation Service, and the Oregon Coastal Wetlands Joint Venture.
- ◆ Assist urban landowners through land trusts. ("Urban Groups" in Table 5 on page 49.)

☛ Encourage use of flexible building specifications, zoning options, and urban BMPs to minimize degradation of wetlands. Promote use of buffers and setbacks that are adequate to maintain a wetland's water quality, quantity, and aesthetic appeal.

● Develop informational materials on zoning options to protect wetlands and other sensitive resources.

☛ Eliminate barriers and disincentives to implementation of demonstration projects.

BMPs should be developed for agricultural practices such as livestock grazing and waste management.



Public Lands Management

Issue and Needs

More than 50 percent of the land in Oregon is owned and managed by the federal government. An additional 5 percent of the state is owned and managed by state agencies. Currently, the objectives, priorities, and activities for wetland resource protection and stewardship are not well-defined by public land management agencies. Coordination of state and federal land management, stewardship, and maintenance programs is needed to protect, maintain, or improve the condition and extent of wetlands on public lands and to improve the condition of publicly owned and managed watersheds. Coordination would help eliminate duplication of effort, resolve policy and management differences between agencies, and promote maximum effectiveness in the use of public funds and personnel. Better coordination and information exchange would lead to better informed decision-making and improved wetland management of Oregon's public lands.

Recommendations

- Develop and implement a formal Memorandum of Understanding (MOU) between the state and federal land management agencies concerning the protection of Oregon's wetland and riparian resources. The MOU should establish a coordinated, watershed-based approach to managing wetlands on public lands and should include the Division of State Lands, Department of Parks and Recreation, Department of Forestry, Department of Transportation, Department of Fish and Wildlife, U.S. Fish and Wildlife Service, U.S. Bureau of Land Management, U.S. Forest Service, U.S. Army Corps of Engineers, and the National Park Service. The intent of the interagency coordination would be to:
  - identify common regional priorities and opportunities for wetland restoration and protection projects;
  - establish compatible goals, objectives, and management approaches for wetlands statewide;
  - promote a common understanding of wetland functions and values; and
  - develop a common inventory of wetlands on Oregon's public lands.
- The MOU cooperators should actively participate in an interagency wetlands workgroup to accomplish several tasks, including identification of criteria for wetland protection and restoration, selection of priority or opportunity sites to manage cooperatively, and development and implementation of an evaluation element.
  - The Division of State Lands will convene and lead the interagency wetlands workgroup and its activities.

- Public agencies should develop wetland inventories at a common scale and cooperate in planning and implementing wetland protection, management, restoration, and wetland-related education activities.

- Interagency wetland workgroup members, supported by staff and resources from the cooperating agencies, should also:
  - integrate lessons learned from cooperative management projects into each agency's master planning processes and future land management operations,
  - develop outreach programs for internal agency training and public education,
  - promote data acquisition, research, and information-sharing opportunities between the agencies, and
  - identify state policy options to implement this effort and coordinate with other applicable management plans.

Coordination of state and federal land management, stewardship, and maintenance programs will lead to improved condition and extent of wetlands on Oregon's public lands.

Wetlands Inventory, Trends, & Research Needs

Issue and Needs

Lack of information on wetland location, acreage, type, and ecological function has hampered efforts to manage Oregon's wetlands effectively. To monitor implementation of Oregon's Benchmark for Wetlands, the state needs:

1. digital mapping and compilation of numerical data on the state's wetlands and hydric soils,
2. an evaluation of wetland loss by ecological region or political subdivision, and
3. research on the ecological functions of wetlands in the landscape.

Cooperative opportunities for data gathering and research should be pursued. Completion of the wetland data layer in accordance with the state's GIS plan should be a priority.

Discussion

Oregon is required to compile and maintain a comprehensive statewide wetlands inventory (ORS 196.674.) The U.S. Fish and Wildlife Service has completed the National Wetlands Inventory (NWI) for the state, including 1,869 wetland maps at a scale of 1:24,000. (The NWI data is derived primarily from aerial photointerpretation of 1982-1986 CIR photography.) Large portions of the Coast Range, Umpqua Valley, and south coast wetlands maps need to be updated because of inferior map quality and map scale. Very little map information has been digitized. Wetland areas that have been digitized include: (a) much of the Columbia River Gorge; (b) Coquille River Basin; (c) Columbia River Estuary; (d) Clackamas, Multnomah, and Washington counties; and (e) a small portion of the Harney and Malheur Lake area. A statewide digital wetlands database is necessary for more effective wetland planning and management.

The National Wetlands Inventory provides wetlands information on a regional or statewide scale, but more detailed wetland inventories are needed in areas with high growth rates. The Division of State Lands has developed guidance and rules for conducting local wetland inventories, and such inventories have been completed for multiple localities (e.g., West Eugene, Grants Pass, Albany, Cannon Beach, Rockaway Beach, and Clatsop Plains) utilizing planning funds from the Environmental Protection Agency and the Oregon Economic Development Department.

Other digitized natural resources data—especially information regarding soils—would supplement the wetland data and provide additional analytical capability. Soils information can help identify soil-wetlands relationships, identify appropriate areas for wetland restoration, and help to estimate the historic wetlands base or wetland losses for the state. A statewide digital soils map and database is available at a scale of 1:250,000. It is anticipated that by 1997, approximately 30 percent of the state will have digital soil survey data available at a scale of approximately 1:24,000. Soils mapping and digitizing is being completed by the U.S. Natural Resources Conservation Service in cooperation with other federal agencies, state agencies, local governments, and private interests.

Data on wetland location, hydric soils, wetland changes through time, and ecological functions of wetlands would facilitate the analysis of wetland and waterway data, aid in the identification of priority areas for wetland protection and restoration, and provide improved and more accessible information for regulatory and planning purposes.

Recommendations

Wetlands Inventory

- ☛ Update the National Wetlands Inventory to a constant base by bringing the older, poor-quality Coast Range and south coast NWI maps up to statewide standards (estimated cost: $135,000).
- ☛ Digitize the NWI for the entire state (estimated cost: $250,000). If funding constraints require a staged approach, high-priority regions are:
  - ◆ **Coast and Coast Range**—Concerns include anadromous fish habitat management; development pressure along the coast.
  - ◆ **Willamette Valley**—Needs include increasing development pressure; important fisheries, including anadromous fish; and wetland restoration potential.
  - ◆ **Columbia River Basin**—Concerns include anadromous fisheries habitat management and restoration; water quality; and conflicting water quantity and water quality uses (irrigation, hydroelectric power, fish).
- ● Develop local wetland inventories within urbanizing areas to augment the statewide wetlands inventory. Together, state agencies and local jurisdictions should prioritize urbanizing areas for conducting large-scale local wetlands inventories according to state standards (OAR 141-86-110 to 141-86-240).
- ● The Division of State Lands should obtain, archive, and develop a database of wetland determination, creation, and restoration information generated by all agencies and private parties for use in updating the statewide wetland inventory.
- ● Establish a biennial state budget item for developing and maintaining the statewide wetlands inventory. Funds would thus be available to cost-share local wetlands inventories and to create and distribute the digital statewide wetlands inventory information.
- ● The state government should investigate options to cooperate with the U.S. Fish and Wildlife Service for periodic updates of the statewide wetlands inventory.
- ● Identify and pursue cooperative opportunities for digitizing completed soil surveys at scales of 1:24,000 or 1:20,000.

Wetland Trends

- ☛ Conduct a wetlands trends analysis. Various approaches should be explored, the most detailed of which would involve acquiring new (1990s) CIR photography digitizing both the 1980s and 1990s photography.

  Another approach would be to select locations and regions around the state for wetland trend analysis. Areas representing urban growth, rural pressures, and coastal growth issues could be selected for analysis.

Research Needs

- Develop a method to determine the "in stream flow" or the water storage needed to protect and maintain a wetland system. The Water Resources Department requires such a methodology to be in place before it can consider an in-stream water right to protect wetlands.
- Document the functions of specific wetland types. Consider applying the recently developed hydrogeomorphic approach statewide.
- Encourage research on the effects of agricultural and forest management practices on wetland functions. Address the effects of pesticides and herbicides on wildlife that uses agricultural lands. Encourage research on the off-site and on-site impacts of vegetation removal from wetlands.
- Encourage or conduct research to develop criteria for locating priority landscape positions to protect or restore wetlands in order to meet societal needs for water quality and habitat improvement.
- Encourage research to determine the role and size of buffers necessary for wetland restoration and protection.
- Sponsor or encourage research on the hydrologic regimes and taxonomic classification of problematic Oregon hydric soils.
- Determine the critical information needed to design and implement successful wetland mitigation projects in a landscape context.
- Compile results from research on the cumulative impacts of wetland loss.
- Determine the conditions and management that would be required to control pest plant species and to successfully plant wetland species. Collect data on the relationship of soil and hydrology characteristics to successful wetland vegetation re-establishment.
- Determine the quantitative indicators of ecological function and the appropriate frequency, duration, and intensity of monitoring needed to document wetland creation and restoration success.
- Identify and pursue cost-share and other cooperative opportunities for inventory, data analysis, and research.
- All state resource agencies should pursue a data management system that is compatible (and conversant) with other systems and provides readily available wetland inventory data and other data to state and federal agencies, local communities, and the public.

DSL has developed guidance and rules for conducting detailed wetland inventories.

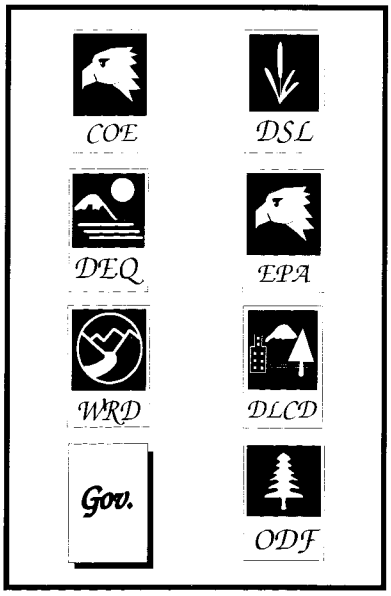
Summary

Analysis of Oregon's wetland management program has identified numerous tasks that must be completed if long-term conservation of the resource is to be achieved. Oregon must resolve current program issues, initiate implementation of the non-regulatory components of the program, and build the informational database necessary to manage the resource and monitor progress of the Strategy. On the following pages, priority tasks are summarized, and key implementation cooperators for each task are identified.

The Oregon Wetland Conservation Strategy must be a coordinated effort of public and private agencies and groups. Its implementation will necessitate a network arrangement rather than a consolidation of authority. Lead agencies and key cooperators for Strategy tasks are listed in Table 5.

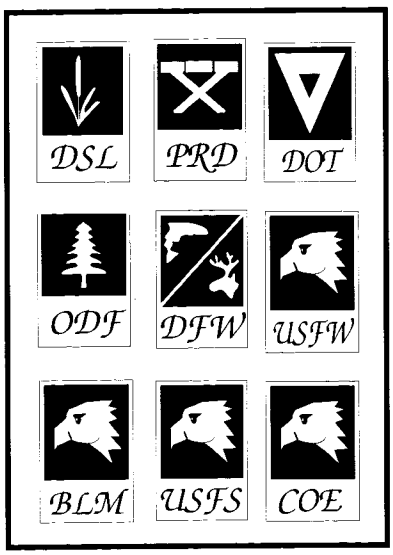
Program Resolution

The existing conflicts and inefficiencies in state and federal government wetland regulatory and land management programs have resulted in wetland loss and public confusion. Although some progress has been made, significant challenges remain. Interagency partnerships are needed to promote coordinated and consistent wetland regulations and public land management approaches. Key tasks include the following.



Regulatory Integration

The overlap between the federal and state regulatory programs must be eliminated. Appendix B lists options for reducing program duplication; these should be addressed and resolved. The wetland regulatory process should be streamlined and integrated, and standards for wetland permitting should be clearly articulated. Regulatory agencies should develop a common permit database that is accessible to local governments and to the public. The implementation and effectiveness of the program should be monitored to assure that the programs are successful in meeting their stated policy goals.

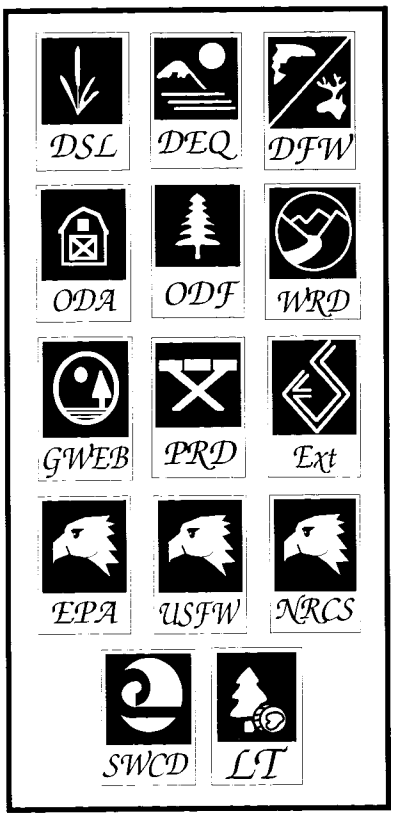


Public Lands Management

A state and federal Memorandum of Understanding (MOU) for cooperative management of wetlands on public lands should be completed. MOU cooperators should actively participate in interagency wetlands workgroups to identify criteria for wetland protection and restoration, select sites for cooperative wetland management, develop wetland inventories for priority parcels, and evaluate completion of interagency objectives.

Non-Regulatory Program Development

The Division of State Lands should initiate a focused effort to develop public information and provide technical assistance to the public. Education, restoration, planning, and protection efforts hold the greatest promise for resolving issues of public confusion, resource fragmentation, and resource conservation. Cooperative efforts are needed to implement non-regulatory program elements on private lands. Priority program elements for implementation include the following:



Public Information and Technical Assistance

Form cooperative partnerships to develop educational materials and programs and to provide landowners, developers, and agency personnel with technical assistance on wetland stewardship issues, including protection, restoration, enhancement, management, and incentive opportunities in rural and urban areas. This would address the need to:

- increase awareness about the variety of wetland types in Oregon and the role of wetlands in the landscape;
- promote implementation of the "Adopt a Wetland" program cooperatively by students and neighborhood groups;
- identify and promote management practices that landowners and developers can use to protect and maintain wetlands and the functions they perform. (The state should develop BMP guidelines to cover multiple activities);
- provide landowners and local governments with information and technical assistance on protection mechanisms available for wetlands.

Table 5. Key participants in implementation of wetland conservation

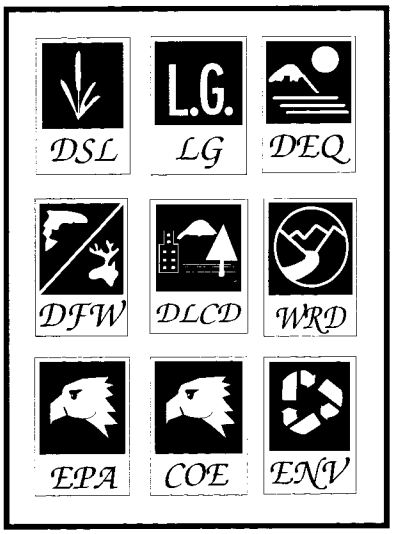
	State Agencies	DSL	DEQ	ODFW	ODA	ODF	EDD	DLCD	WRD	GWEB	Governor's Office	PRD	OSU Extension	SWMG	ODOT	DOR	DOEd	Universities (state)	**Federal Agencies**	EPA	NRCS	USFWS	COE	RC&D	FSA	BPA	BLM	USGS	FEMA	NMFS	USFS	**Local Government**	SWCD	**Other**	OACD	Foundations	Environ. Interest Groups	Land Trusts	Farm Bureau	Columbia Gorge Comm.	Coastal Wetland Venture	Landowners	Urban Groups
Program Resolution																																												
Regulatory Integration		*	K			K		K	K		*									K			*									K					K							
Public Land Mgmt.		*		K		K						K			K							K	K				K				K												
Non-Regulatory Prog. Dev.																																												
Public Information		*	K	K	K	K$			K	$		K	*				K			$	$	K		K	$	$						K			$		K						
Wetland Planning		*	K	K			$	K												K$			K									*					K						
Watershed Planning		K	K	K	K	K	$	K	*	K				*						K	K	K	K			$	K				K	*	K				K			K			
Protection		*	K	K		K		*				K											K			$	K					K	*				$		K		K	K	K
Restoration		K	K	K		K			K	$		K									*	*	K		$	$	K				K		K					K			K	K	
Wetland Resource Info.																																												
Inventory Trends & Anal.		*	K				$													$	K	$*				$	$				$												
Research		K		K																*	K										K					$							

* = Lead Agency K = Key Player $ = Funding

Refer to pages 7, 8, and 76 for complete names of agencies and organizations.

Wetland Planning Implementation

Oregon has pioneered a planning program to create a context for wetland regulation. Planning approaches that address large-scale issues have been recognized in the governor's budget and in deliberations of the 1989 and 1993 Legislatures. Effective implementation of these programs can involve the public in wetland decisions, provide priorities for limited public resources, and focus attention on conflict resolution.

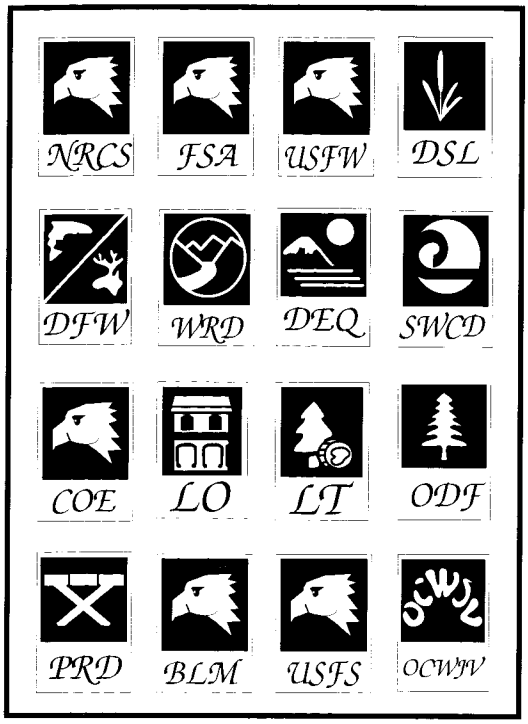


Planning for Wetlands in Local Comprehensive Plans

Continue to promote, fund, and implement wetland planning as a context for regulatory and management decisions. The Division of State Lands should work closely with the Land Conservation and Development Commission's review of State Planning Goal 5 to provide better wetland protection. Promote the use of zoning and planning mechanisms to resolve land-use and resource-protection conflicts.

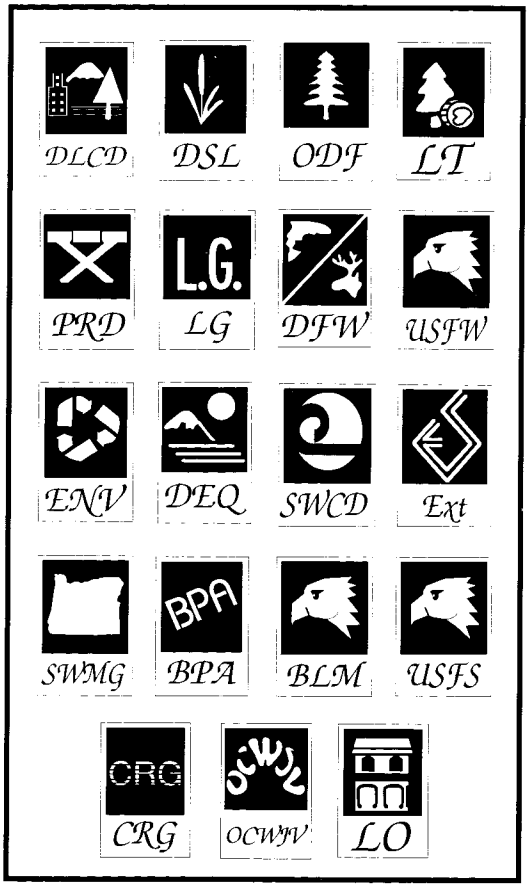
Watershed Planning

Use watershed planning approaches to identify watersheds at risk of ecological degradation. Implement wetland management efforts in priority watersheds where restoration needs are known and public interest is high. Focus public information, technical assistance, and restoration, protection, and cooperative public land management in these high-priority areas.



Restoration

Use watershed planning approaches to identify needs and opportunities for restoration. Actively promote and participate in the Wetlands Reserve Program. Provide technical assistance to landowners interested in restoring their wetlands. Develop the policies and database needed to promote wetland restoration for compensatory mitigation, for stormwater treatment, or as an urban amenity.

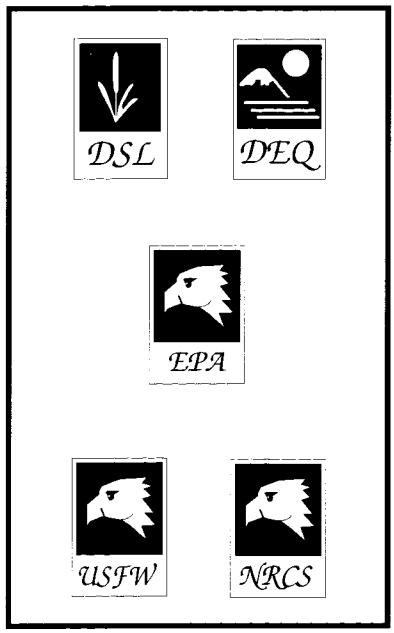


Protection

Consider modifying the statewide land-use planning program to identify priority wetlands for protection. Develop standards and criteria to identify priority wetlands. Initiate a systematic process to identify high-priority wetland sites for protection.

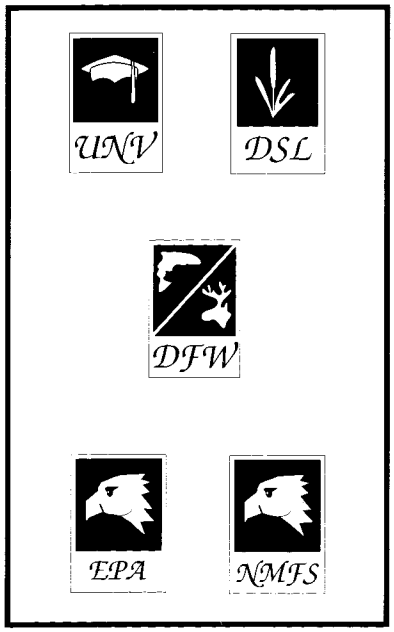
Wetland Resource Information

Without good information, it is difficult to manage a resource effectively. Information on wetland location, acreage, type, and ecological functions is required in order to manage the resource and monitor progress toward both the goal of this Strategy and the 1990 Oregon Benchmark for Wetlands. Wetland resource information needed includes:



Inventory and Trends

Update and digitize the statewide wetland inventory and conduct a wetlands trends analysis for the state.



Research

Conduct research and document functions of specific wetland types. The research results are high-priority elements of an educational program on wetlands.

Strategic Implementation

Successful implementation of the Wetland Strategy would be characterized by:

- implementation of strategy elements,
- coordination and consistency among public agencies,
- measurable long-term wetland protection, restoration, and management efforts on public and private lands,
- program flexibility that allows the state to take advantage of future resource opportunities, and
- enhanced cooperation between public and private parties.

To achieve this vision, several key steps must be taken:

1. **Endorsement of the Strategy by the State Land Board and the Strategic Water Management Group.** Commitment from the governor's office and the Strategic Water Management Group will facilitate resolution of agency conflicts on highly visible and complex issues in need of policy coordination (e.g., Goal 5 revisions). The Division will coordinate and facilitate development of the formal Strategy network; convene interested parties to develop consensus policies on wetland restoration and other priority topics; and track, report, and evaluate Strategy progress. In addition, the Division will pursue stable, long-term funding sources and legislation required for successful implementation of the Wetland Conservation Strategy. To achieve these goals, the Division will work closely with the State Land Board, the governor's office, the Strategic Water Management Group, and the Environmental Protection Agency.
2. **Obtain financial and political support from the executive branch and Legislature.** Resources are needed to fund Strategy elements, landowner incentives, state coordination efforts, and landowner implementation efforts. The governor and Legislature have the opportunity to allocate resources and explore funding mechanisms needed to provide stable, long-term financing for the Strategy. If resources are not increased for this effort, advancements in the wetlands program will only occur slowly.
3. **Develop educational materials and provide technical assistance and guidance from the state, federal, and local governments and interest groups.** Lack of available resources to provide public information will directly inhibit advancement of wetland protection, restoration, and coordinated management efforts.
4. **Program evaluation.** The Division of State Lands will monitor the Strategy's progress, measure it against the Strategy's goal and the Oregon Benchmark for Wetlands, and report the results yearly to the State Land Board and the Oregon Progress Board. Strategy performance measures will quantify efforts toward wetland regulatory integration; cooperative public land management; education; restoration; protection; restoration; policy development; and inventory, trends, and research as related to work plan progress toward the Oregon Benchmark.

Priorities

The Strategy suggests numerous significant tasks necessary to achieve long-term conservation of wetlands in Oregon. The Strategy's highest priority actions should achieve the following goals:

- effective wetland resource conservation,
- coordination and consistency among public agencies, and
- landowner and public support and implementation.

These goals establish priorities **for the existing program.** If these goals are to be reached, efforts must be focused on the following four areas:

- **Reduce regulatory overlap and duplication.** This challenge has been initiated by Strategy workgroups, but requires significant additional focus. Clarifying wetland conservation goals and monitoring the effect of the existing regulatory program will help. Making the regulatory program comprehensible will garner public support and result in more effective wetland protection.
- **Clarify and resolve wetland planning programs.** There is significant frustration with the existing planning approach as it applies to wetlands. For Goal 5 planning requirements to be resolved, policy must be made clear, and funding mechanisms must be identified. Implementation of Strategic Water Management Group watershed planning recommendations may provide a mechanism to address rural issues. Clarification of urban planning and large-scale planning requirements, outcomes, and regulatory results could help increase wetland resource protection.
- **Implement cooperative management of wetlands on public lands.** Coordination of state and federal land management, stewardship, and maintenance programs will lead to improved condition and extent of wetlands on public lands.
- **Develop and distribute public information.** Clear, well-illustrated public information can help dispel misconceptions and fears. Better information and public presence can engender public support for policy objectives.

The Strategy's goals also provide priorities for program enhancement. The Environmental Protection Agency has established a grant program for states and Native American tribes that wish to improve their wetland programs. Priority efforts in Oregon would include the following.

- **Develop a wetland restoration policy.** This would position the state to respond to the Wetland Reserve Program. Significant tasks include:
  1. integrating restoration needs into watershed planning,
  2. developing guidance for wetland restoration,
  3. preparing and distributing public information, and
  4. providing technical assistance to landowners.

  Partnerships with landowners and public land management agencies will be important to the success of this program.
- **Develop a technical assistance program.** Using agency staff to assist landowners in wetland conservation efforts on private lands has not been a funded priority. Public agencies can present a significantly different image by providing direct assistance to landowners. An inter-agency technical assistance team could significantly benefit wetland conservation in Oregon.

Implementation of the Oregon Wetland Conservation Strategy is necessary to maintain and improve the condition of the wetlands resource, as required by federal and state laws and benchmarks. Consequences of delayed implementation of the Strategy include continued public confusion and frustration; continued degradation and fragmentation of the resource; increased listings of endangered species; regulatory conflict; failure to protect resources; and inefficient and duplicative use of public funds and personnel.

The Strategy recommends the development of a wetland restoration policy.

Research, financial support, and public support are needed if the Strategy is to be successfully implemented.

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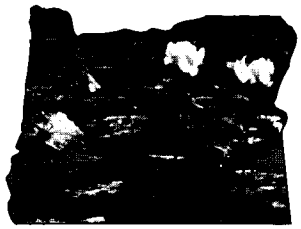

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Glossary

Benchmark
A measurable standard for achievement. In 1991, the Oregon Progress Board adopted a goal of maintaining at least 100 percent of the state's 1990 wetland acreage. This is referred to as the Oregon Benchmark for Wetlands.

Best management practices (BMPs)
Techniques and methods (determined through scientific study and past experience) for using a resource in a way that will maximize public and private benefits and minimize the use's adverse effects on the environment.

Buffers
Areas adjacent to wetlands that are necessary to maintain, protect, or restore wetland functions and values.

Consent
A group agreement on an action or opinion.

Conservation
Management of wetlands and water sources according to a plan that encourages practices designed to maintain and provide for wetland hydrology, acreage, and wetland functions and values.

Coordination
The cooperative planning, funding, and implementation of management practices and the sharing of lessons learned from joint efforts.

Creation
The conversion of a non-wetland to a wetland.

Cumulative impacts
The interaction or sum of all individual impacts occurring over time and space.

Enhancement
The alteration, maintenance, or management of existing wetlands for long-term improvement of particular functions or values (often to the detriment of other functions or values).

ESEE
A process that local governments employ to balance competing *economic, social, environmental,* and *energy* uses and goals.

Mitigation
The reduction of a proposed project's adverse effects by considering, in the order presented, the following options:

a. avoiding the impact altogether by not taking certain action or parts of an action;
b. minimizing impacts by limiting the degree or magnitude of the action and its implementation;
c. rectifying the impact by repairing, rehabilitating, or restoring the affected environment;
d. reducing or eliminating the impact through time by preservation and maintenance operations during the life of the action; and
e. compensating for the impact by replacing or providing comparable substitute wetland area or water resources.

Protection
The management of a resource in a way that will ensure continued existence of its structure and functions.

Restoration
The intentional alteration of degraded or historic wetlands to emulate the natural hydrology and functions of indigenous or self-sustaining wetland systems.

Riparian area
The area immediately adjacent to a freshwater stream or river, typically forested.

Standards
Established approaches or measures to determine quality, quantity, extent, or value.

Stewardship
An individual's responsibility to manage life and property with proper regard to the rights of others.

Sustainability
The continued physical existence of a system and its forcing functions, and the maintenance of ecological diversity, processes, and functions over long periods of time.

Watershed
The entire land area drained by a stream or system of streams, with all stream flow that originates in the area being discharged through a single outlet.

Water right
A legal authorization to apply water to a beneficial use under a valid water-use permit or certificate.

Wetlands
Areas that are inundated or saturated by surface or groundwater long enough to support (and that under normal circumstances *do* support) a prevalence of vegetation typically adapted for life in saturated soil conditions.

Wetland Conservation Plan (WCP)
A written land management plan for a designated geographic area of Oregon that contains detailed and comprehensive policies, standards, criteria, and implementing measures to guide public and private uses and protection of wetlands, waters, and related adjacent uplands.

Appendix A

Current State Policies on Wetland Protection, Restoration, Conservation, & Creation

Current State Wetland Protection Policy

ORS 196.672.1
Promote the protection, conservation, and best use of wetland resources, their functions and values through the integration and close coordination of statewide planning goals, local comprehensive plans, and state and federal regulatory programs.

ORS 196.672.6
"... provide mechanisms for expedited permit review consistent with protection and conservation of wetland resources."

ORS 196.672.7
Continue to meet the requirements of federal law in the protection and management of wetland resources, while asserting the interests of this state. ...

ORS 196.672.8
Develop and provide information to the general public concerning the functions, values, and distribution of wetlands of this state to raise public awareness of these resources.

ORS 196.672.9
Promote the protection of wetland values on private lands by developing and using public recognition programs, incentives, and other non-regulatory actions.

ORS 196.681.2(3)
Designation of wetlands for protection, conservation, and development (in WCP) is consistent with the resource functions and values of the area and the capability of the wetland area to withstand alterations and maintain important functions and values.

ORS 196.805.1
The protection, conservation, and best use of the water resources of this state are matters of the utmost public concern. ...

ORS 197.230
In preparing, adopting, and amending LCDC goals and guidelines ... consider the existing comprehensive plan of local government ... preserve the functional and local aspects of land conservation and development ... give consideration to the following areas and activities: estuarine areas; tide, marsh, and wetland areas; lakeshore areas; floodplains; and unique wildlife habitats.

State Planning GOAL 5
Conserve open spaces, scenic and historic areas, and natural resources. Protect scenic and historic areas and natural areas for future generations. Promote healthy and visually attractive environments in harmony with the natural landscape character. The location, quality, and quantity

of the following resources shall be inventoried ... fish and wildlife areas and habitats, ecologically and scientifically significant natural areas, wetlands. ... Where no conflicting uses for such resources have been identified, such resources shall be managed so as to preserve their original character.

State Planning GOAL 16
To recognize and protect the unique environmental, economic, and social values of each estuary and its associated wetlands; and to protect, maintain, where appropriate develop, and where appropriate restore the long-term environmental, economic, and social values, diversity, and benefits of Oregon estuaries.

ORS 196.610
The Director of the Division of State Lands can receive funds under the federal Emergency Wetland Resources Act of 1986, PL99-645 for the voluntary acquisition of wetlands and interest therein according to the wetlands provisions of the Statewide Wetlands Resources Act of 1986. ...

ORS 196.650
The Division of State Lands may use the moneys in the Oregon Wetlands Mitigation Bank Revolving Fund Account for the following purposes: (a) for the voluntary acquisition of land suitable for use in mitigation banks, (b) to pay for costs incurred for alterations needed to create, restore, or enhance wetland areas for purposes of carrying out provisions of ORS 196.600 to 196.655, ... 5) of the dispersal of funds received under the Federal Emergency Wetlands Resources Act of 1986, PL 99-645, for the voluntary acquisition of wetlands and interest therein as identified in the wetlands provisions of the Statewide Comprehensive Outdoor Recreation Plan.

Current State Restoration Policy

ORS 196.672.5
Establish the opportunity to increase wetland resources by encouraging wetland restoration and creation where appropriate.

ORS 196.672.4
Maintain a stable resource base of wetlands through the mitigation of losses of wetland resources and the adoption of the procedural mitigation standard currently used by federal agencies.

ORS 196.674
In compiling and updating the Statewide Wetlands Inventory, the Division [of State Lands] shall identify opportunities for wetland creation, restoration, and enhancement when the information is available.

State Planning GOAL 16
To recognize and protect the unique environmental, economic, and social values of each estuary and its associated wetlands; and to protect, maintain, where appropriate develop, and where appropriate restore the long-term environmental, economic, and social values, diversity, and benefits of Oregon estuaries.

Current State Wetland Conservation Policies

ORS 196.805.1
The protection, conservation, and best use of the water resources of this state are matters of the utmost public concern.

ORS 196.672.1
Promote the protection, conservation and best use of wetland resources, their functions and values through the integration and close coordination of statewide planning goals, local comprehensive plans, and state and federal regulatory programs.

ORS 196.672.6
"... providing mechanisms for expedited permit review consistent with the protection and conservation of wetland resources."

ORS 196.672
Continue to meet the requirements of federal laws in the protection and management of wetland resources, while asserting the interests of this state.

ORS 196.681.2(c)
Designation of wetlands for protection, conservation, and development (in WCPs) is consistent with the resource functions and values of the area and the capability of the wetland to withstand alterations and maintain important functions and values.

State Planning GOAL 5
Conserve open spaces, scenic and historic areas, and natural resources. Where no conflicting uses for such resources have been identified, such resources shall be managed so as to preserve their original character.

Division of State Lands Rangeland Policy
The policy states that "over the next two years, the Division will concentrate on ensuring that grazing management plans are developed and adopted for each of the Division's larger leaseholds, and those leaseholds containing significant wetland areas or which are important to achieve watershed management objectives."

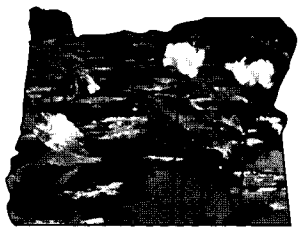
ORS 527.630
"... it is declared to be the public policy of the State of Oregon to encourage economically efficient forest practices that assure the continuous growing and harvesting of forest tree species and the maintenance of forestland for such purposes as the leading use on privately owned land, consistent with sound management of soil, air, water, fish and wildlife resources and scenic resources within visually sensitive corridors as provided in ORS 527.755 that assures the continuous benefits of those resources for future generations of Oregonians."

Creation Policy

ORS 196.672.10
Encourage wetlands as an interim use of mining and construction sites on lands that were not originally wetlands and are designed for other than wetland purposes in an acknowledged comprehensive plan, while insuring that interim wetland use does not limit the future use of such sites for mining and construction.

State Planning Goal 5 calls for the preservation of open spaces, historic areas, and natural resources, when no conflicting uses have been identified.

Appendix B
Supplemental Recommendations of the Regulatory Workgroup



The Wetlands Regulatory Workgroup proposed the following supplemental recommendations for improving Oregon's wetland regulatory program. Their recommendations fall into three categories:

a. proposals for addressing regulatory overlap,
b. suggestions for developing regulatory process, and
c. recommendations for improving mitigation.

Proposals to Address Regulatory Overlap

Proposals to address overlap of the Removal-Fill Law with other federal and state programs affecting wetlands were discussed.

Issue 1

As the Oregon Department of Environmental Quality develops standards for wetlands, care should be taken to minimize overlap in considerations and to integrate considerations of mitigation made by the Division of State Lands. The development of water quality standards could provide guidance on stormwater and pollutant discharges.

Issue 2

Several options were proposed for resolving the overlap of the federal 404 program and the state's removal-fill regulations.

1. The Corps of Engineers could issue a State Program General Permit or a regional permit for specific classes of activities or specific geographic regions. The Corps is currently considering this option for issuing permits in Wetland Conservation Plan areas. The option appears to work well when federal interagency communication is excellent (e.g., New Hampshire, Maine, Massachusetts, etc.).
2. In 1982, Oregon's assistant attorney general conducted a detailed analysis of the state's legal authority to assume the Section 404 permit program. The state should continue to move toward assumption of the 404 program. This option would significantly reduce duplication of effort. The state would benefit from federal oversight of program actions; federal-state partnerships would be enhanced.
3. The Division of State Lands could retain permitting authority solely for activities currently (a) covered under either Corps of Engineers Nationwide Permits or (b) not regulated by the Corps of Engineers. This option would result in a workload one-third less than that of the current state program, assure resource protection for these areas, and allow the state to reallocate staff to other efforts.
4. Another way to address and resolve the overlap in federal and state regulatory programs would be for the state to eliminate its Removal-Fill program in order to focus efforts on planning. The assumption would be that the federal government is adequately regulating dredge and fill of waters within the state.

General Program Recommendations

To facilitate resource protection under the current regulatory system, the Wetland Strategy Workgroup recommended the following actions:

- The state should promote the adopted policy to protect wetlands and should develop state policy that sets forth mitigation guidance and criteria.
- The state should strengthen wetland enforcement efforts through (a) an increased program resources, (b) restoration, and (c) education. The state should continue to seek alternative staffing mechanisms to implement these efforts.
- The state should retain the program exemptions listed in ORS 196.905. Specific recommendations to address program gaps and refine the wetlands regulatory process include:
  - The Division of State Lands should print a summary of Oregon state policy for wetlands protection and regulation. The summary should merge the language and the intent of ORS 196.805, 196.668, and 196.672.
  - The Division of State Lands should consider development of separate policies for specific categories of fill and removal activities that occur in waters of the state (e.g., wetlands alteration, gravel removal, and streambank restoration).
  - The state should continuously monitor the implementation and effectiveness of the Removal-Fill Law, Forest Practices Act, and Water Quality Standards to assure that the programs are successful in meeting their stated policy goals. Coordinated interagency efforts are needed to research the effects of management practices on soil, water, and habitat integrity of wetlands. Assessment of the relationship among these ecosystem components is needed before the policy direction of current programs can be refined. Coordinated monitoring will allow the state to make best use of limited resources.

Process Recommendations

The Wetland Strategy Workgroup had several recommendations for consolidating and simplifying the permit process and developing consistent permit standards.

- The state should develop a set of clear, objective standards and guidelines for wetland permitting. This task is expected to promote consistent, predictable permit evaluations. Through the use of narrative statements with a standard format or a standards checklist, the Division of State Lands should document permit evaluation and finding decisions.
- Administrative rules should be developed to provide written guidance on impact avoidance and minimization. This effort should be coordinated with federal agencies, and it should include terminology and approaches to addressing statewide planning goals. The rules should define how the planning process would be integrated into the permit process.
- The state should consider adopting rules that recognize National Environmental Protection Act documentation for federal projects as adequate for meeting the state alternatives test.
- Using input from state and federal commenting agencies, the Division of State Lands, Army Corps of Engineers, Water Resources Department, and Department of Environmental Quality should develop a single permit application form. Directions should be

clearly explained in "plain English," should employ the use of examples, and should include a glossary. Applicants should be provided with technical assistance, and they should be given a brochure that identifies the information they must provide for each type of removal-fill project if the permit application is to be evaluated in a timely manner.

- The state should promote coordination between regulatory and resource agencies, promote feedback within the regulatory programs, and conduct cooperative staff training on issues related to wetlands regulation, enforcement, and management.
- The state should evaluate the effectiveness of the water right registration for wetland mitigation, restoration, and preservation activities.
- A process to expedite resolution of disputes between applicants and state and federal agencies should be encouraged. Dispute resolution, with explicit resolution time frames, should be encouraged both early in the permit process and at the contested case stage. Funding options for this process will be provided.
- Wetland Conservation Plans and regional permits are encouraged as a means to improve wetland planning and avoid the case-by-case permit application process.
- As soon as feasible, educational materials on the process of issuing wetland permits should be developed for permit applicants, industry and interest groups, planners, and the general public.

Mitigation Recommendations

Mitigation, defined as avoidance, minimization, or compensation for unavoidable adverse environmental effects, is an important element of Oregon's wetland regulatory program. The regulatory reliance on mitigation for replacing wetland functions and acreage—as well as the effectiveness of mitigation—have both been reviewed and challenged.

Net loss of wetlands in Oregon is occurring under the existing permit program. Recommendations for addressing and improving the wetland mitigation program include (a) greater emphasis on avoidance of impact, (b) provision of clear mitigation criteria and guidance, (c) mitigation siting in a landscape context, and (d) exploration of compensatory alternatives, including mitigation banking, restoration, gravel mining opportunities, and use of protection funds.

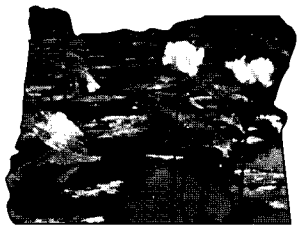
- Mitigation program and site-specific goals aimed at restoring species and watersheds—along with the criteria to determine their success—should be defined. Mitigation program goals, guidance, site-specific-success criteria, and species success criteria should be developed. These efforts should build upon existing mitigation assessments and literature. Success criteria must address project objectives and projected timelines, succession, historic loss, and design considerations. A mitigation design manual that highlights methods to achieve successful projects should be developed.
- The state wetland mitigation policy should:
  - Place increased emphasis on wetland avoidance and rely less upon compensatory mitigation.
  - Encourage net gain in acreage, functions, and values in highly impacted watersheds.

- Allow compensation for project impact at off-site areas within the same watershed, provided the off-site compensation replaces lost wetland functions.
- Promote widespread use of planning options to avoid wetland impacts. Encourage planners to promote use of flexible building specifications and zoning or development ordinances to avoid direct wetland loss.
- Actively promote compensatory mitigation alternatives (including restoration of historic wetlands, mitigation banking, and use of protection funds), while exploring the appropriate use and limitation of mining-site reclamation opportunities and wetland enhancement.
- Explore means by which applicants could be provided with technical assistance in the development of mitigation proposals. Explore alternative ways to conduct mitigation project evaluations.
- Explore legislative options to enable the Division of State Lands to promote a site's future integrity by requiring buffers around created or restored wetlands and waterways.
- The state should clearly articulate mitigation guidance and criteria. To facilitate the process, complete permit and mitigation information should be required at the time of application.

● Alternatives to site-by-site mitigation requirements should be seriously considered.

- The Wetland Regulatory Workgroup supported mitigation banking in a watershed planning context and considered it appropriate for at least two distinct situations: (a) fragmented landscape impacts and (b) highway impacts within the same watershed.
- Opportunities to enhance or create wetlands in gravel mining ponds were encouraged as a means of meeting general program goals, but should not yet be promoted as an option for compensatory mitigation. The Department of Geology and Minerals Industries should be encouraged to promote opportunities for wetland creation or restoration at mined sites. Various approaches for wetland creation or restoration within a stream, parallel to a stream, and on uplands should be pursued. Technical information materials should be developed.
- The workgroup promoted restoration of historic wetlands as a preferred form of compensatory mitigation. To meet watershed objectives, restoration should be conducted in a watershed context. Proposed projects must replace the functions, values, and acreage of the impacted site.
- Protection funds were encouraged as an option for compensatory mitigation. The goal of the protection option is to protect and preserve wetlands superior in type and qualities to the wetlands proposed for impact. Sequencing and minimal in-kind mitigation must be accomplished prior to allocating funds for wetland protection. A high compensatory ratio should be required. Protection efforts should build upon the state effort to identify and protect high-priority wetland sites.

Appendix C
Supplemental Recommendations of the Priority Wetland Workgroup



Vision for Network of Protected Wetland Sites

Designate and provide long-term protection to the state's highest priority wetlands, based on high functional value and representative wetland types. The purpose of this effort is to assure that these outstanding wetlands are preserved for present and future generations.

Need for Network of Protected Wetland Sites

Ensure the long-term protection of Oregon's priority wetlands (through acquisition, management agreements, conservation easements, or other appropriate means) in order to maintain these areas for present and future generations. The Priority Wetland Workgroup recognized that the current regulatory program does not guarantee long-term protection to these significant sites.

Nomination Framework and Process

A process for identifying, ranking, and implementing wetland protection efforts is needed. The process should be standardized and flexible; it should include multi-agency and local participation, and should ultimately aid in identification of "significant" Goal 5 resources.

The workgroup recommends that phased implementation, criteria development, and implementation measures be established.

The proposed steps for selecting high-priority wetlands are outlined below:

1. **Identify criteria.** Efforts should be conducted by a multi-agency group and should include local and interest group participation. The Division of State Lands should be the lead agency, with assistance from and coordination with other state and federal agencies.
2. **Identify protection objectives.** The interagency technical team and watershed councils (if they exist) should identify protection objectives, involving the public and interested participants.
3. **Develop protection criteria.** Identify those criteria that would identify unique, rare, or important wetland types in Oregon. Develop indicators and limitations for identifying priority sites.
4. **Implement protection provisions.** Implementation through statewide planning goals or other means will be required.

Interim and Long-Term Protection Measures

Table 6 lists proposed protection measures for wetlands, each of which is assigned a rating that evaluates its effectiveness for both short-term and long-term protection.

Implementation

Implementation of the wetland protection network must include the following elements (refer to the Strategy Protection chapter for further explanation of these elements):

- legal tools needed to facilitate the wetland protection process,
- long-term funding sources and incentives for the program,
- collaboration of efforts between agencies, local governments, interest groups, and the public, and
- establishment of implementation staff in state agencies.

Table 6. Proposed wetland protection measures

Key—Effectiveness Rating

***	Excellent Long-Term	000	Excellent Short-Term
**	Moderate Long-Term	00	Moderate Short-Term
*	Fair Long-Term	0	Fair Short-Term

	Rating
PERMANENT APPROACH	
Donations	
Bequest. A donation to a non-profit or public agency made at the time of death and provided for in a will.	*** 0
Leaseback. Property is donated to an agency or non-profit organization, but the original owner leases back the use of the land for a specified period of time.	*** 00
Outright Gift. All rights to the land in fee simple are given to a government agency or non-profit organization.	*** 000
Reserved Life Estate or Remainder Interest. The landowner donates the land to a recipient (agency or non-profit) through a provision in the deed, but reserves the right to use the property until death.	*** 00
Sales to Agency or Non-Profit	
At Fair Market Value. A sale at fair market value is a sale in which the owner gets the full market price for his/her property.	*** 000
Bargain. In a bargain sale, the property is sold for less than its market value.	*** 000
Installment. There are two types of installment sales. In one, a price is agreed on, title to the entire property is transferred, and payment is received in installments. In the other, a price for the entire property is agreed on, but the property is physically divided to transfer title in stages, with payment at each stage.	*** 000
Option. This is a contract between the owner and a potential buyer that states the buyer may purchase the property at an agreed-upon price within a certain period of time, often 90 days to a year. The buyer makes a payment for this option that is forfeited, if the option is not exercised.	** 00

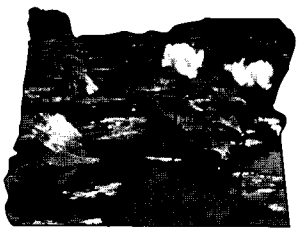
Table 6. Proposed wetland protection measures—Cont.

	Rating	
PERMANENT APPROACH—Cont.		
Donations—Cont.		
Reserved Life Estate. With a reserved life estate, the landowner sells property to an agency or organization with the agreement that the owner and/or specific heirs may continue to use the land during their lifetimes. This is handled similar to a donation with reserved life estate.	***	00
Right of First Refusal. The right of first refusal is a legally binding agreement that takes effect once the property is placed on the market. It specifies that a particular agency or non-profit organization has the right to match any bonafide offer made on the property within a given period of time. This is a useful agreement should you wish to allow the agency or organization the option of purchasing the land in the event of your death. When granted in perpetuity, the property will qualify as a charitable contribution for federal income, estate, and gift taxes.	*	0
Transfers with Conditions in Perpetuity		
Conservation Easement. A conservation easement is a legal agreement that a property owner enters into to restrict certain uses of the land. The easement is recorded on the property deed and therefore "runs with the land." It legally binds all present and future owners of the land to the specified instructions, thus providing permanent or long-term protection. To set up a conservation easement a "holder" or "grantee" must be named as the willing recipient responsible for oversight of the terms. This would be a government agency or a private non-profit. If this mechanism is a gift, it may also qualify as a charitable contribution.	***	000
Deed Restrictions. If a recipient of a conservation easement is not available, a deed restriction can be applied. Deed restrictions are similar to conservation easements in that they are recorded on the deed and run with the land.	**	00
Mutual Covenants. A group of landowners can limit the future use of their land through the imposition of a mutual covenant. This tool is often used when no agency or non-profit organization can be found to accept a conservation easement.	*	00
LESS THAN PERMANENT APPROACHES		
Long-Term Lease. For some unique situations, a landowner may have the option of granting a lease to a land management agency or non-profit organization.	**	00
Non-Binding Agreement. This is an agreement between the landowner and an agency or non-profit organization that each will have certain responsibilities in regards to the property management.	*	0
Management Agreements. This is a more formal, but still temporary, enlistment of property protection assistance from an agency or organization. First, a stewardship plan is drawn up and agreed to by both parties. The organization then provides professional management assistance and monitors compliance with the plan. These agreements can usually be cancelled with 30 days' notice and are renewed on an annual basis.	*	0
Property Tax Deferral. Property tax increases can be deferred, based upon a "frozen" property value, as long as property is kept in certain conditions (e.g., wetland). Once the condition changes, the deferral is lost and the deferred taxes are owed.	**	000

Table 6. Proposed wetland protection measures—Cont.

	Rating	
LIMITED APPROACHES		
Land Exchange. Land exchange can be used if the landowner is willing to accept another property of "like kind" from the party interested in special features on the current parcel. The interested party may be a government agency or conservation organization. The exchange may be for equal values, or values may be equalized by a cash payment. This approach enables the landowner to defer capital gains tax.	***	00
Limited Development. Limited development is sometimes the only feasible way to preserve a piece of property in an area with high land values or in a situation where the owner finds all other options unaffordable. In limited development, a part of the property that is less sensitive is developed to provide the owner with the funds needed to preserve the sensitive area. To permanently preserve the remaining sensitive features from further activity, a conservation easement is the preferred option.	**	00
Regulatory Approaches		
Open-Space Zoning. The significant wetland is zoned for conservation by the city or county, allowing only limited uses that do not impact the wetland values. This can be coupled with a property tax deferral as an incentive.	**	00
Conditional-Use Requirements. Local government requires changes in the property to go through a review process to assure that the wetland values are not compromised by development.	*	00
Planned Unit Development (cluster development). Planning for a large area of land that balances approriate building siting options with conservation of natural resources and open space. Concentrating development on a portion of the site leaves a larger portion of the site undeveloped and available for open space values; this scenario would not be possible when planning is conducted unit by unit. This type of planning is accomplished by using planned unit development ordinances.	*	00
Transfer of Development Rights. If the landowner is allowed to sell or otherwise transfer development rights (including rights to develop to a specified density) to a third party for use on other property, the transfer is sometimes termed a "transferable development right." Again, the effect is less development on the parent parcel and more development (than otherwise would be permitted by the local zoning code) elsewhere.	***	000
OTHERS		
Registration. This is similar to Natural Heritage Program; the landowner voluntarily registers a site with agreement to manage wetland.	*	0

Appendix D
Evaluation of Wetland Funding & Incentives*



Introduction

The purpose of this project was to compile, summarize, and evaluate federal, state, and non-profit non-regulatory wetland incentive programs currently available in Oregon. The information is intended for use by the Oregon Division of State Lands, cooperating agencies, and interest groups as they go about the task of implementing elements of the Oregon Wetland Conservation Strategy. The Strategy promotes various approaches for protection, conservation, and restoration of wetlands in a watershed management context. Since no single program offers incentives for all major elements of the Strategy, each incentive program is evaluated as just one of several tools for implementing the Strategy.

The purpose of this report was to answer several questions:

- What incentive programs are currently available for wetland conservation, education, enhancement, planning, protection, and restoration in Oregon?
- What wetland issues or functions does each program address?
- What are the strengths and weaknesses of each program?
- Do any of the programs offer a useful model for developing incentives for wetlands conservation by the state of Oregon?

Information Gathering

Data summarized in this report was compiled by reviewing available materials and interviewing representatives of appropriate agencies and organizations. A draft containing active and inactive programs both in-state and out-of-state was then reviewed by the Wetland Strategy Policy Incentives Workgroup, which helped edit the summaries and suggest priorities. Programs were rated as high priority if they were focused on wetlands and contained funding incentives for landowners or agencies. A list of contacts for each program appears at the end of the report.

Overview

Review of non-regulatory wetland incentive programs revealed the following:

- There are opportunities to improve educational efforts as an incentive to wetland conservation.
- There are opportunities for improving partnerships among government agencies, business, and environmental groups.
- A lack of state funding is limiting opportunities for cost-sharing.

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* *Prepared for the Oregon Division of State Lands by Jay R. Lorenz, 990 NW Highland Terrace, Corvallis, OR 97330. February, 1993.*

- Several state programs with laudable goals have no budget or offer a negligible financial incentive.
- Property taxes may be an issue in cases where wetlands are sold or donated to a public agency because of loss of local tax revenues.
- A number of programs are successful, as indicated by high rates of application that exceed funding capabilities.

Teaching people about the functions and values of wetlands can stimulate resource conservation and protection. Several decades ago, landowners were taught that "wetlands were wastelands" and were offered financial incentives to drain them. Today, financial incentives for conserving, protecting, and restoring wetlands should go hand in hand with programs that teach landowners about the ecological values of wetlands. Funding and educational organizations must coordinate their messages with landowners to achieve a high level of conservation and protection.

Partnerships are a growing paradigm in resource management of the 1990s and one deserving greater application in wetland conservation. They are a democratic method of enlarging financial resources, avoiding potential conflicts, and creating mutual understanding. Excellent examples of partnerships include Minnesota's Critical Habitat Matching Program, Wetlands for Iowa, Oregon Coastal Wetlands Joint Venture, and Oregon Watershed Improvement Coalition. The latter two organizations are not summarized in this report because they do not award landowners or agencies funds for resource conservation. However, all four offer ideas for fund raising and methods for communication between groups with varied interests.

Reviewing wetland incentive programs provides an opportunity to evaluate successes and failures. Some tax policies—such as reducing personal tax liability by donating property to charitable organizations—are successful because they offer incentives for many people. In contrast, the Oregon Resource Conservation Trust is a program in name only because it receives no funding from the Legislature. An indirect result of this lack of funding is reduced opportunities for cost-sharing with other funding sources. The Riparian Tax Habitat Tax Credit and its companion Fish Habitat Improvement Tax Credit, laudable in intent, offer little in the way of financial incentive. In designing new wetland conservation strategies, we should learn from our mistakes and emulate success.

Review of incentive programs suggests that the state is falling behind as an active participant in providing incentives for conservation and restoration. Of Oregon's few incentive programs, several of the best (e.g., Non-Point Source Water Quality Control, Stewardship Incentive Program, and Land and Water Conservation Fund) operate with federal funds. Most federal programs require matching state funds. Landowners and agencies, such as Oregon Coastal Wetlands Joint Venture, are finding it increasing difficult to take advantage of federal programs when matching state funds are scarce.

Land trusts often can provide landowners with advice on tax consequences of protecting property. Lands receiving tax deferrals or exemptions reduce local property tax revenue. The effect of reducing property taxes should be kept in mind as new programs are promoted.

A number of planning and zoning techniques can be used for natural resource conservation and protection. A report by the Lane Council of Governments, Metropolitan Natural Resources Special Study (dated March 1991, available from Steve Gordon, phone 503-687-4426), lists and evaluates potential revenue raising and zoning techniques that currently are not widely applied by Oregon

planners. While not the subject of this report, creative planning and zoning could contribute to resource conservation.

Interest in resource conservation, protection, and restoration appears high, as indicated by the large number of people who apply or volunteer in such programs as the U.S. Fish and Wildlife Service's Private Lands Initiative, the Governor's Watershed Enhancement Board, and the Oregon Department of Fish and Wildlife's Salmon Trout Enhancement Program. Streamlined permitting processes, better coordination between agencies, adequate funding, and an organized framework for implementation would encourage more people to participate. Linking resource management to economic development, increasing educational efforts, and facilitating partnerships all have the potential of continuing the positive steps already underway toward conserving, restoring, and protecting Oregon's wetlands.

Programs summarized in the matrix beginning on page 77 were organized according to who may receive funding: landowners, landowners or agencies, and agencies. The matrix ends with a fourth category, "other opportunities," which includes programs with innovative concepts that offer models for Oregon's Wetland Strategy to pursue.

Each program was given a priority rating. High priority (denoted by * in the matrix) was given to programs or opportunities that are effective in conserving, protecting, enhancing, or restoring wetlands and have a dedicated source of funding. Medium-priority programs are less effective because they are limited by funding, geographic coverage, or degree of wetland work. Expansion or revision of medium-priority programs could make them effective in Oregon. Low-priority programs were deleted from the matrix because they lacked financial incentives, had limited geographic coverage, were inapplicable to wetlands, or were not oriented toward conservation. Major revisions to program objectives and increased financial incentives would be required to make low-priority programs effective. Low-priority programs that were reviewed include: Disaster Relief Act, Fish Habitat Improvement Tax Credit, Food Security Act (1985)—Conservation Easements, Forestry Incentives Program, General Habitat Improvement (Green Forage Program), Natural Heritage Conservation Area Exemption, Oregon Resource Conservation Trust Fund, Riparian Habitat Property Tax Exemption, Water Bank Program, Water Development Loan Program, and Water Projects with Public Benefits.

A list of people and agencies that can supply information about programs or refer inquiries to program leaders and local offices can be found on page 94.

Organization and Program Abbreviations Used in Table 7

ACP	Agricultural Conservation Program
ASCS	Agriculture Stabilization and Conservation Service
BLM	Bureau of Land Management
BPA	Bonneville Power Administration
CRP	Conservation Reserve Program
DEQ	Oregon Department of Environmental Quality
DSL	Oregon Division of State Lands
EFU	Exclusive Farm Use (Zone)
EPA	Environmental Protection Agency
F	Forestry (Use Zone)
FEMA	Federal Emergency Management Agency
FHA	Farmer's Home Administration
GWEB	Governor's Watershed Enhancement Board
ISTEA	Intermodal Surface Transportation Efficiency Act
MBHHCS	Migratory Bird Hunting and Conservation Stamp Act
MPO	Metropolitan Planning Organization
N/A	Not Applicable
NOAA	National Oceanic and Atmospheric Administration
NPS	Non-Point Source (Pollution)
NRCS	Natural Resources Conservation Service
OACD	Oregon Association of Conservation Districts
ODA	Oregon Department of Agriculture
ODF	Oregon Department of Forestry
ODFW	Oregon Department of Fish and Wildlife
ODOT	Oregon Department of Transportation
ORS	Oregon Revised Statutes
OWIC	Oregon Watershed Improvement Coalition
RC&D	Resource, Conservation and Development
RCWP	Rural Clean Water Program
SIP	Stewardship Incentive Program
STEP	Salmon Trout Enhancement Program
SWCD	Soil and Water Conservation District
TNC	The Nature Conservancy
UGB	Urban Growth Boundary
USDA	U.S. Department of Agriculture
USDI	U.S. Department of the Interior
USFS	U.S. Forest Service
USFWS	U.S. Fish and Wildlife Service

Program	Administrator	Type	Summary	Eligibility	Technical Assistance	Funding Availability	Duration	Geographic Coverage	Evaluation	Application Guidelines
Landowners										
*Agricultural Conservation Program (ACP); two subprograms are Wildlife Habitat for Food and Cover, and Shallow Water Areas for Wildlife.	ASCS	RPEC	To restore and protect nation's land and water resources and preserve the environment. To help prevent soil erosion and water pollution; protect and improve productive farm and ranch land; conserve water used in agriculture; preserve and develop wildlife habitat; and encourage energy conservation measures.	All farmers and ranchers who establish the need for cost-share assistance in solving resource conservation problems. Erosion and pollution problems receive the highest priority.	NRCS, USFS, State forestry agencies, Extension Service.	Examples: permanent vegetative cover, development of seeps, seeps and wells; environmental and wildlife enhancement, rehabilitation of shallow water areas to support wildlife. Allocation from federal to state and county committees. This is a cost-share program. Maximum of $3,500 per person per year, or up to 75% of the cost (varies according to county) to install practices (higher if approved by Sec. of Ag.). In recent years, about 10% of annual ACP money (or $33,500) spent on wildlife program. Amount directed to wetland habitat not known.	Annual contracts, although some management plans are designed for implementation over several years.	Statewide.	• Producers may enter into pooling agreements to jointly solve mutual conservation problems. • Not specific to wetlands, although they may be addressed in the context of wildlife and erosion control functions. • Wetlands and shallow ponds were created in Benton, Polk, and Yamhill counties. • Projects are funded according to county priorities. Wetland work most likely in counties that recognize wetlands as a priority.	Apply through local ASCS committees.

*Effective, high priority program or opportunity
Type: C=Conservation, E=Enhancement, Ed=Education, P=Protection, Pl=Planning, R=Restoration

Program	Administrator	Type	Summary	Eligibility	Technical Assistance	Funding Availability	Duration	Geographic Coverage	Evaluation	Application Guidelines
Landowners										
*Open Space Deferral.	Department of Revenue, County planning department.	C	Provides a tax incentive by assessing property for its open-space use and not the "highest and best use."	Landowner applies for designation through county planning office. Landowner must obtain comprehensive plan change of parcel to "open space" designation.	No.	N/A	Permanent unless withdrawn by landowner.	Within UGB.	• Wetlands are permitted open-space use. However, by 1990 only 8,500 acres were protected statewide; few were wetlands. • Tax penalty for taking land out of deferral. • Program is frequently used to provide buffers between UGB and EFU zones. • Program has potential for greater use for protecting wetlands. • Disincentives to program include reduced property tax revenue, "red tape" with county planning office, and potential burden on future sale as a result of restricted use.	
Salmon Trout Enhancement Program (STEP).	ODFW	EREd	To restore and enhance salmon and trout habitat. Volunteers assist ODFW in agency projects, including in-stream, watershed, and education projects.	Anyone interested in volunteering—individuals, landowners, agencies, people who have skills or equipment to offer.	ODFW	Technical assistance by ODFW with limited funds available for materials. Education and field projects supported. About $900,000 per year from state and federal sources.	Most projects are completed within annual funding cycle.	Statewide.	• STEP projects get involved in riparian and watershed enhancement activities (education and on-ground) that may involve wetlands. • Stream Scene curriculum includes watershed perspective. • Needs to expand to include more work in associated riparian and wetland habitat.	

Program	Administrator	Type	Summary	Eligibility	Technical Assistance	Funding Availability	Duration	Geographic Coverage	Evaluation	Application Guidelines
Landowners										
* Stewardship Incentive Program (SIP).	ASCS, in cooperation with Oregon Department of Forestry.	CPER Ed	Federal/state program with woodland owners to protect and enhance all the forest resources with an emphasis on tree planting and timber stand improvement activities. Program aimed at soil and water protection and wildlife improvements.	Woodland owners (individual, partnership, or corporate) with forest land or land suitable for growing trees. Must own 5 to 1,000 acres of forest land in western Oregon or 10 to 1,000 acres in eastern Oregon. Owners with 1,000 to 5,000 acres may request a waiver through Dept. of Forestry.	ODF	Approved management practices such as tree planting, timber stand improvement, site preparation, non-commercial thinning, wildlife and fisheries enhancement, windbreaks, and recreation and riparian improvement. $10,000 annual limit. Cost-sharing from 50 to 75% of actual or estimated cost. About $475,000 available in Oregon.	Annual.	National.	• Wetlands receive the benefit of management to the extent they are addressed in the management plan. • Focus on wetlands, wildlife, and water quality enhances opportunities for funding. • Research and educational assistance supplied by OSU Extension Service. • ODF has demonstrated interest in exploring cooperative opportunities to protect and restore wetlands with special orientation toward soil and water protection and wildlife improvement. • 10 wetland projects have been funded.	
*USFWS Private Lands initiatives (A.K.A. Partners for Wildlife)	USFWS	RCE	To restore, create, and enhance fish and wildlife habitat on private lands, especially wetlands and riparian areas.	Private landowners.	USFWS, NRCS, state resource agencies.	Cost-sharing for construction and implementation of management practices $10,000 per landowner per year. Phased, multi-year projects are possible. About $800,000 to 1.0 million per year for 7 western states with Oregon receiving $100,000 to 125,000. Project proposals compete for funding at regional level with about 70% approval for Oregon.	Funded annually, projects in place for minimum 10 years. Some projects are in perpetuity. Repayment required if practices are not maintained.	National.	• A common practice is to link money available from this source with other ASCS programs to create a conservation package that is larger than any single program. Chances for funding and conservation impact is greater with linkages. • This program is administratively understaffed. Back-log of potential projects numbered 40 to 50 as of Dec. 1992. • Acquiring necessary permits for work in waterways sometimes takes 2 years, which drops proposal out of current funding cycle, requiring re-submission in competitive grant process.	Open. Proposals initiated by landowner, often upon recommendation of NRCS.

Program	Administrator	Type	Summary	Eligibility	Technical Assistance	Funding Availability	Duration	Geographic Coverage	Evaluation	Application Guidelines
Landowners										
*Wetlands Reserve Program.	ASCS	RP	To purchase easements by ASCS from willing landowners of eligible land. To restore the hydrology and native vegetation close to its original condition. To protect functions and values of wetlands. Goal was to enroll 1 million acres by 1995.	Agricultural landowners who owned the land for at least the preceding 12 months prior to the end of the sign-up period (with two exceptions).	Yes, NRCS in consultation with USFWS and other cooperators.	None currently in Oregon. Purchase of easement. Cost-share to landowner for implementing management plan.	Open.	Program still in pilot phase operating in nine states. Eligible land includes riparian areas, wetlands farmed under natural conditions, farmed wetland, or prior converted wetlands.	• Rumored that funds will be available in Oregon for 1993. • Program has potential, if adequately funded. • Need to conduct focused lobbying effort and link funding to state goal for wetland restoration and protection. • To ease fears and uncertainty, educate landowners about ramifications of perpetual easements and effects on private property rights. • Program offers a major opportunity for wetland conservation strategy if adequately funded.	Apply through local ASCS committee.
Landowners										
Conservation Reserve Program.	ASCS	CR	To conserve highly erodible lands by taking them out of production. Permanent cover is planted on lands.	Funds may be used by landowners or agencies to conserve highly erodible lands. Limited to 25% of cropland in any given county.	Extension Service, NRCS State Forestry, local soil and water conservation districts.	Compensation for land taken out of production. Up to 50% of the cost of establishing vegetative cover. Maximum of $50,000 per year per farm.	Landowner agrees to plant permanent cover and maintain for duration of a project. Part of Food Securities Act of 1985. 10-year management agreement with landowner, with first ones due to expire in 1996.	National, according to eligibility criteria. Potential of 40-45 million acres.	• Nationally, this program has had little effect on wetlands, and virtually none in Oregon. Shallow water provisions were deleted in 1990 and placed in Wetland Reserve Program. • Oregon stayed away from allocating funds for shallow water areas in anticipation of Wetland Reserve Program. • Assess potential for using this program for restoring riverine and gully areas. • Explore opportunities for water storage areas for wildlife.	

Program	Administrator	Type	Summary	Eligibility	Technical Assistance	Funding Availability	Duration	Geographic Coverage	Evaluation	Application Guidelines
Landowner or Agency										
EPA Environmental Education Grants.	EPA	Ed	EPA supports a competitive environmental education grants program. Regional and national awards are made.	Non-profit organizations.		Environmental education. $12 million nationally. In 1992, Region 6 received eight regional and ten national awards.	Annual.	National.	• This is a new program with one granting cycle complete.	Proposals due Jan. 15.
*Governor's Watershed Enhancement Board.	GWEB, state (OR).	EREd	Grants for watershed restoration, improvement, enhancement and management. Emphasizes on-the-ground activity. Includes educational projects. Interagency coordination and volunteers are encouraged. Funded projects are selected through a competitive process.	Unrestricted, public and private landowners, organizations. Each SWCD may apply for $2,000 per biennium.	Yes, cooperative agencies include NRCS, ODF, BLM, Extension Service, USFS, ODFW and others.	Grants awarded annually. $500,000 proposed for 1993-1995 biennium. Matching funds from other sources required (federal, state, or private). Most project grants are less than $20,000. Funding from lottery revenues.	Money must be spent within the biennium in which it is awarded. Five-year post-project monitoring.	Statewide.	• Budgeted lottery revenue not always available although full amount received last biennium. • Number of grant applications far exceeds funding capabilities. • Few applications and projects for wetland enhancement. • Need to educate landowners with wetlands about GWEB criteria. • Grants awarded on basis of individual merit with relatively little focus on geographic priority or priority problem areas.	Apply Nov. 1 to Feb. 28; awards made once each spring. Contact GWEB for application packet.

Program	Administrator	Type	Summary	Eligibility	Technical Assistance	Funding Availability	Duration	Geographic Coverage	Evaluation	Application Guidelines
Landowner or Agency										
Migratory Bird Hunting and Conservation Stamp Act and companion Wetland Loon Act.	USFWS	CP	Duck stamps are sold to all waterfowl hunters and any other interested parties. Funds are used to purchase migratory bird habitat for National Wildlife Refuge System. Over 3.7 million acres acquired since 1934. See also: Emergency Wetlands Resources Act.	Agency and non-profit groups.	No.	Purchase of migratory waterfowl habitat for National Wildlife Refuge System. Dependent on purchase of Duck Stamps. Continuous since 1934.	Acquisition by federal government protects held in perpetuity.	National.	• A highly effective acquisition program placing conservation and management in federal jurisdiction. • Program directed primarily toward waterfowl habitat. • Although anyone can purchase a Duck Stamp or visit a wildlife refuge, primary financial burden falls to one interest group—hunters. • Decline in number of hunters is reducing the number of stamps purchased. Price of Duck Stamps purchased increased to offset decline in number of hunters.	
*Northwest Power Act.	Northwest Power Planning Council/ Bonneville Power Authority.	CRP	The Council develops policies and facilitates partnerships between agencies that are directed toward hydroelectric mitigation for fish and wildlife, including restoration. The Council is required to identify the unmet mitigation needs of the Columbia River system. The Council directs BPA funding to achieve fish and wildlife goals.	N/A	Cooperating agencies.	Congressional and BPA appropriations fund agency projects that follow the Council's policy directives. For FY 93, the Council was instrumental in getting $8 million for the Forest Service in Region 6. They have secured $30-35 million for salmon and steelhead projects.	On-going.	Columbia River watershed.	• Policy directives have stressed importance of watershed level management, including conservation and protection of wetlands. • Some fish and wildlife monies have been spent on wildlife habitat projects including purchase of wetlands. • Currently negotiating with Oregon on unmet wildlife mitigation needs.	N/A

Program	Administrator	Type	Summary	Eligibility	Technical Assistance	Funding Availability	Duration	Geographic Coverage	Evaluation	Application Guidelines
Landowner or Agency										
*Resource, Conservation and Development.	NRCS, federal.	PREd	Federal grants to RC&D areas to accelerate resource projects and programs in multi-county areas as a base for economic development and environmental protection.	Landowner association and interest groups. Local councils award money from RC&D areas.	Cooperating agencies and groups.	$50,000-75,000 per area per year.	Annual grants.	Statewide; projects on district basis.	• Linkage to wetlands appears to be 1) environmental protection in the course of economic development or 2) using wetlands as a strategy for economic development. • This is an excellent source of funds for demonstration projects.	
*Section 319, Non-Point Source Water Quality Control Program.	Department of Environmental Quality with funds from EPA.	CEEd R	To support on-the-ground conservation, enhancement and education projects directed toward mitigating non-point source pollution, including wetland mitigation or restoration.	Eligibility based on how well proposal matches state NPS program needs and issues as assessed in NPS and management plan.	Cooperating agencies, NRCS, ODA, ASCS.	Examples include riparian protection, protection of surface and groundwater quality, public awareness and increase in-stream water supplies. 40% or more non-federal match required.		Statewide.	• Wetlands are a statutorily designated priority. • Rare and endangered species are also a priority. • Linkage to wetlands through water quality functions, especially in watershed context and related to mitigating non-point source pollution. • A good source of matching funds for GWEB projects.	No application deadline.

Program	Administrator	Type	Summary	Eligibility	Technical Assistance	Funding Availability	Duration	Geographic Coverage	Evaluation	Application Guidelines
Landowner or Agency										
Wetland Program Enhancement Grant.	EPA	PRC	EPA supports wetland program enhancements as needed to plan, augment, and implement a regulatory and non-regulatory wetland management program.	State agencies.		Regional and national awards have been offered and received for planning, protection, restoration, education, regulation, planning and public land management elements. Funds cover staff, policy development workshops, and document preparation and publication.			• Wetland Program Enhancement has been instrumental in enhancing the Oregon wetlands program during the past 3 years.	
Agencies & Organizations										
The Bullitt Foundation. The Environment Program.	The Bullitt Foundation.	PCEd	Seeks permanent solutions to environmental problems in the Northwest. Goals are to encourage a healthy environment, a robust economy, and an exciting culture.	Non-profit organizations in the Northwest.		Funds development of organizational capacity of the environmental movement; cooperative efforts among environmental movement; cooperative efforts among environmental groups, business and government; research; public education; litigation; and land acquisition. Two programs: one for grants <$10,000, one for grants >$10,000.		Northwest.	• Has provided funding to numerous environmental organizations and land trusts in the Northwest. • Strong focus on protection, restoration, and conservation of natural resources.	Deadlines for grants <$10,000 are Dec. 1, Apr. 1, and Aug. 1. Applications >$10,000 are due Jan. 1, May 1, and Sept. 1.

Program	Administrator	Type	Summary	Eligibility	Technical Assistance	Funding Availability	Duration	Geographic Coverage	Evaluation	Application Guidelines
Agencies & Organizations										
Coastal Wetlands Planning, Protection and Restoration Act (1990), Coastal Wetland Conservation Grants.	USFWS	CRP	Authorizes funding from the Sport Fish Restoration Account for coastal and Great Lakes wetland conservation projects. Priority given to acquisition of natural estuarine wetlands. Funds are also available for resource restoration, enhancement or management.	State agencies apply for grants (e.g. ODFW, DSL).	State agencies.	50-50 Federal to State Match, or 75-25 if state has a land trust for acquisition of wetlands or open space. Between $5 and $7 million available, nationally. Grant program receives 18% of Sport Fish Restoration Account, 70% of which is earmarked for Louisiana.	Program began in 1990; one granting cycle completed.	Coastal and Great Lakes states, primarily for coastal wetlands.	• Dependent on matching funds from state. • No grants awarded in Oregon yet, largely due to lack of state matching funds and effective land acquisition trust program.	
COORS Brewing Company, Pure Water 2000.	COORS Brewing Company, Golden, CO 80401-1295.	CPEd	The Pure Water 2000 program awards grants to clean up, preserve, or conserve water on lakes and rivers across the country. Proposals should focus on water quality and quantity, include community involvement, be nonpartisan, have matching funds, include awareness and education, and be administered by an organization with a track record of completing projects.	Open with listed guidelines.	None by granting company.	In 1991, $600,000 for 150 projects.	According to proposal.	Nationwide.	• COORS has funded wetlands projects. • Program appears to be a potential source of matching fund for GWEB type projects.	Open.

Program	Administrator	Type	Summary	Eligibility	Technical Assistance	Funding Availability	Duration	Geographic Coverage	Evaluation	Application Guidelines
Agencies & Organizations										
*Emergency Wetlands Resources Act (1986).	USFWS	CP	This is an act designed to generate funds for another program—Migratory Bird Conservation Fund. The act generates money for Migratory Bird Conservation by allocating a percentage of entrance fees to wildlife refuges, deleting requirement to repay Wetlands Loan Act, increasing price of Duck Stamp, and transferring import duties on arms and ammunition to fund. Establishes a national wetlands priority plant to purchase wetlands.	N/A	N/A	70% of entrance fees at selected wildlife refuges and an amount equal to import duties on arms and ammunition goes to Migratory Bird Conservation Fund. Increased purchase price of Duck Stamps.	N/A	National.	• This legislation requires states to develop wetland acquisition priorities. • The legislation allows acquisition of wetlands using Land and Water Conservation Fund monies.	
Fish Restoration and Enhancement Program.	ODFW	ER	To restore state-owned fish to hatcheries, enhance natural fish production, expand hatchery production, and provide additional public access to fishing waters.	Any public or private non-profit organization.	Applicants may seek assistance from state and federal agencies.	Half funding toward hatcheries and half to enhancement projects, including in-stream and riparian restoration. Approximately $4 million per biennium, $3.5 million from fees and $.5 million from lottery funds. Money raised from surcharge on sport.	Since 1989. Grants must be spent within the biennium in which they are awarded.	Statewide.	• Competitive grant program. Proposals with matching funds given extra weight. • Linkage to wetlands through fisheries production. • There is potential to link upland projects with this source of funding such as larger landscape level projects production. • Potential source of funds for salmon restoration and management.	No due dates on submissions proposals reviewed and awards made quarterly.

Program	Administrator	Type	Summary	Eligibility	Technical Assistance	Funding Availability	Duration	Geographic Coverage	Evaluation	Application Guidelines
Agencies & Organizations										
Intermodel Surface Transport-ation Efficiency Act of 1991 (ISTEA).	ODOT	PRC Ed	Enhance the cultural and environmental value of the state's transportation system. Proposed projects must meet one or more enhancement categories and have a direct relationship with a transportation system via function, proximity, or impact.	Funds are oriented primarily toward local government, wetland protection, restoration, or enhancement. Must be identified as a priority of the local government. In addition, the project must support intermodel transportation, be consistent with local, state and federal plans, and be supported by local cost-share (to support maintenance of the ecosystem).	Federal, state, and local government (MPO) agencies and other interested parties.	Acquisition of scenic easements and scenic or historic sites. Mitigation of water pollution due to highway runoff. Funds could be oriented towards conservation, protection, and enhancement of existing wetlands impacted by highway improvements. The program will explore its support of funding mitigation banks and interpretive areas. Matching funds of 10.27% required.	Program initiated in 1992. Projects funded for a 2-year duration. Program will need to be re-approved in 1996.	Statewide examples include the North Santiam Highway area, estuarine areas (Siletz Bay) and priority wetlands adjacent to highways or proposed highways.	• Feasible for wetland conservation, restoration, and protection efforts post-1987, especially if WCPs are prepared. • Opportunity to marry this effort with Wetland Mitigation Bank efforts. • Has increased potential if re-authorized in 1996.	
Land and Water Conservation Funds.	Oregon Dept. of State Parks and Recreation.	CREd	Provides matching grants to states and through states to local governments for acquisition and development of public outdoor recreational areas and facilities. Wetland and natural areas may be included as part of recreational area.	Local governments.	N/A	Acquisition and development of outdoor recreational areas and facilities. 50-50 matching between state and local government. $356,000 available in FY 93. 20% of projects funded.	Since 1965.	National.	• State funding from National Park Service has fluctuated between $0.2 and $3.0 million. • Potential source of funding for wildlife viewing area and wetland interpretation center. • Funds may not be used for maintenance.	Apply Oct. 1 to Jan. 1 for funds in the following federal fiscal year.

Program	Administrator	Type	Summary	Eligibility	Technical Assistance	Funding Availability	Duration	Geographic Coverage	Evaluation	Application Guidelines
Agencies & Organizations										
Meyer Memorial Trust.	Meyer Memorial Trust.	CEd	This is a non-profit foundation that provides grants to a variety of projects including natural resources.	Non-profit organizations.		Small grants program ranges between $500 and $8,000. General grants of $100,000 have been awarded.		Oregon only.	• Meyer Trust has a record of awarding grants to land trusts, American Fisheries Society, and other environmental groups.	Quarterly deadlines for small grants. Open for general grants.
Northwest Areas Foundation.	Northwest Areas Foundation.	PCEd	Promotes economic revitalization of the region and improving the quality of life for the most vulnerable citizens. Alleviate rural and urban poverty and promote sustainable development. Promote public education and policy development to resolve conflicts.	Non-profit organizations.	Foundation staff and board.	Funds resolution of contentious issues, data gathering to inform the public and policy makers, management plans, and community education. Criteria include project need, public benefit, cooperative implementation, likelihood of success, plan to disseminate results of the project, and congruence with Foundation goals. One in ten projects received funding.	Multi-year projects are considered.	8-state area: IA, ID, MN, MT, ND, OR, SD, WA.	• Foundation is concerned about environmental issues. • Large (six figure) grants have been awarded. • Competition for grants is stiff, and applications must respond to rigid criteria.	

Program	Administrator	Type	Summary	Eligibility	Technical Assistance	Funding Availability	Duration	Geographic Coverage	Evaluation	Application Guidelines
Agencies & Organizations										
*Pittman-Robertson and Kingell-Johnson Acts.	USFWS, state fish and wildlife agencies (ODFW in Oregon).	CR	Federally collected money allocated to states for fish and wildlife research and habitat restoration.	ODFW or sub-contractors (e.g., Dept. of Fish and Wildlife, Oregon State University).		Funds are used for habitat enhancement, maintenance and acquisition, research, aquatic and hunter education, surveys and fish production. Wetlands acquisition, restoration, and management are eligible. Funds collected from taxes on hunting and fishing equipment, as well as a portion of the gasoline tax. About $350 million collected annually.		National.	• Linkage to wetlands is through fish and wildlife function of wetlands. • States have broad leeway in how funds will be spent. • Greater emphasis on wetlands would probably require strong political directives. • Need to explore potential for directing more research to wetlands. • Need to lobby ODFW to give more financial support to wetland habitat for wildlife.	
Planning Assistance to States.	Army Corps of Engineers.	PI	Provides grants to agencies. Projects must be completed by Corps staff.	State agencies.	COE	$10,000 available. 50-50 match required.	Annual.	State.	• Type of project is open ended.	
*Public Law 566 Watershed Program.	NRCS	ECPR	Federal grants for planning, flood protection, and implementation for watershed protection and management.	State agencies or qualified local organizations. Maximum size of 250,000 acres.		Reduction of soil erosion, siltation, and flooding; agricultural water management; improve fish and wildlife resources; provide recreation; recharge groundwater reservoirs; and provide for water quality management. Awards limited to $5 million per Council. Maximum of $1 million can be authorized by state NRCS, above to Washington D.C. for approval.		National.	• Linkage to these funds for wetlands is through functions: water quality, groundwater recharge, recreation, fish and wildlife resources. • Explore opportunities for cooperative watershed health and improvement efforts.	

Program	Administrator	Type	Summary	Eligibility	Technical Assistance	Funding Availability	Duration	Geographic Coverage	Evaluation	Application Guidelines
Agencies & Organizations										
*Resource Management Improvement Grants. Coastal Zone Management Act (1972).	NOAA	PEd	Resource Management Improvement Grants for acquisition projects that preserve valued coastal resources. Educational, interpretive, and management costs can also be obtained. Established the Estuarine Research Reserve System, which sets aside reserves representative of the 27 biogeographical zones in the U.S. States sponsor sites.	Biogeographically representative sites sponsored by state agencies.		Funds may be used for acquisition, restoration, management or enhancement of coastal or Great Lakes wetlands. 50-50 match with state for initiation; approximately $3.0 million per state for NOAA.		Coastal areas, generally one per state.	• Limited geographic scope. • Funds broad-scope education, acquisition, and management. • Unlikely that additional sites in Oregon will be sponsored. However, program at South Slough is expanding.	Initially from local community, with nomination by governor.
Rural Clean Water Program (RCWP).	ASCS in cooperation with soil conservation districts and other state and federal agencies.	R	Provides financial and technical assistance to agricultural landowners and operators in 21 selected areas throughout the U.S. where there are significant agriculture-related water pollution and water quality problems. Best management practices adopted to reduce pollutants entering a stream or lake or underground water or to prevent pollutants from leaving their source. Must provide long-term community-wide benefits for assistance.	Participants must demonstrate a significant water quality problem and must have an approved water quality plan designed to treat the problem. Privately held agricultural lands, Indian tribal lands and land owned by irrigation districts are eligible.	NRCS, Extension Service, EPA, state water quality agency, state forestry.	Practices to improve water quality, which may involve wetlands. 75% cost-share, no annual limit but total limit to a participant is $50,000. Currently, none in Oregon.	Cost-share practice must be maintained for a minimum of 5 years or for life span of the contract if more than 5 years.	Tillamook County (project now complete, although contract is still in effect).	• Limited to agricultural, Native American, and irrigated land. • This program was designed primarily for the Midwest and East. Only one project was funded in Oregon. • ASCS would like to expand the program. • Need to explore potential for watershed planning and implementation efforts.	

Program	Administrator	Type	Summary	Eligibility	Technical Assistance	Funding Availability	Duration	Geographic Coverage	Evaluation	Application Guidelines
Other Successful & Potential Funding Models										
Critical Habitat Private Sector Reinvest in Minnesota. (Reinvest in Minnesota Resources).	Minnesota Department of Natural Resources.	PR	Provides a means for private individuals and groups to help fund the cost of acquiring and developing critical fish and wildlife habitat. Contributions to the program are matched dollar-for-dollar with state funds appropriated to the account.	Anyone with money or land to donate.		50-50 state and private match.	On-going.	Minnesota.	• A private-public partnership to raise money in a state that has lost 85% of its wetlands and 99% of its tall-grass prairie.	
State-level dedicated taxes for conservation.	Various states.	CPR	These programs address how to generate income for environmental protection and conservation without having to compete with other agencies for general fund revenue. Possibilities include: • Excise taxes • Tax on property transfers • Sales tax • Bonds • Fees • Lottery • Severance tax						• Creates dedicated funding source that has worked well in FL, LA, WA, and TN. • In Oregon, GWEB, and ODFW receive lottery funds. • New taxes currently unpopular with Oregon voters.	

Program	Administrator	Type	Summary	Eligibility	Technical Assistance	Funding Availability	Duration	Geographic Coverage	Evaluation	Application Guidelines
Other Successful & Potential Funding Models										
Wetlands for Iowa Program.	Iowa Natural Heritage Foundation (Ben Van Gundy, Tel. 515/288-1846).	PC	To conserve and protect wetlands in Iowa, including all wetland functions. Projects are primarily acquisition (most with matching funds) and enhancement. They operate as a land trust, arranging purchase of wetland or easement, then donating or selling (often bargain sales) land to county conservation boards, state, or federal agencies.	Membership organization open to public.	State and federal agencies.	Land acquisition funded on membership donations and matching funds from private and public sources.	In perpetuity.	Iowa.	• A program completely dedicated to wetlands. Literature emphasizes wildlife values, although all wetland functions included. • Partnerships between Iowa Natural Heritage Foundation, private, and public organzations critical to success of program. First 3 years of program were spent opening lines of communication between conservation, business, and government interests. • Member donations matched with public and private foundation money to acquire wetlands and enhancement projects. • Recipient organization pays local property taxes. • 2,200 acres protected between 1984 and 1988 ranging in size from 10 to 1,000 acres. • Although program is a success, there is mixed response from landowners. Some wetland owners have been eager to sell or donate property, but some still maintain the attitude that wetlands are wastelands, undeserving of conservation. • Has an Adopt-An-Acre program as fundraiser and enticement to join organization.	Open.

Program	Administrator	Type	Summary	Eligibility	Technical Assistance	Funding Availability	Duration	Geographic Coverage	Evaluation	Application Guidelines
Other foundations.	• Oregon Community Foundation, 621 SW Morrison, Suite 725, Portland, OR 97205. • Metro Green Spaces, 2000 SW First St., Portland, OR 97201. Tel. 221-1646. • Collins Foundation. • Tektronix Foundation. • Portland General Electric Co. • Ford Foundation, 320 E 43rd St., New York, NY 10017. Tel. (212)586-8621. • Standard Oil Co. Corp. Contributions and Community Affairs. Tel. (216)586-8621. • American Natural Resources Community Investment Program, 1 Woodward Ave., Detroit, MI. • ARCO Foundation, 515 Flower St., Los Angeles, CA 90071. Tel. (213)486-3342. • Weyerhaeuser Co. Foundation, Tacoma, WA 98477. Tel. (206)924-3157.	Granting agencies.	Non-profit organizations.		Variable.			• These foundations support natural resource projects and should be explored in greater detail.		

List of Contacts

The following people and agencies can supply information about programs or refer inquiries to program leaders and local offices.

Agricultural Conservation Act

Conservation Reserve Program

Rural Clean Water Program

Wetland Reserve Program
Betty Lissman
U.S. Department of Agriculture/Agriculture Stabilization and Conservation Service
P.O. Box 1300
Tualatin, OR 97062-1300
Tel. 503/692-6830 ext. 225

Private Lands Initiative (Partners for Wildlife)
Pat Wright
U.S. Fish & Wildlife Service
2600 S.E. 98th Ave., Suite 100
Portland, OR 97266
Tel. 503/231-6179

Stewardship Incentive Program
Mike Barsotti
Oregon Department of Forestry
2600 State St.
Salem, OR 97310
Tel. 503/945-7385

Salmon Trout Enhancement Program
Tony Nigro
Oregon Department of Fish & Wildlife
2501 S.W. 1st Ave.
Portland, OR 97207
Tel. 503/229-5400

Open Space Deferral
Irv Iverson
Revenue Department
955 Center St. N.E.
Salem, OR 97310
Tel. 503/378-3381

Dingell-Johnson Act

Emergency Wetlands Resources Act

Migratory Bird Hunting and Conservation Stamp Act

Pittman-Robertson Wildlife Restoration Act

Wetland Loan Act
Ed Murzek
U.S. Fish & Wildlife Service
911 N.E. 11th Ave.
Portland, OR 97232
Tel. 503/231-6171

List of Contacts—Cont.

Northwest Power Planning Council
John Marsh
620 S.W. 5th Ave.
Portland, OR 97204
Tel. 503/222-5261

Resource, Conservation and Development
Public Law 566 Watershed Program
Dave Patterson
Soil Conservation Service
1220 S.W. 3rd, Room 1640
Portland, OR 97204
Tel. 503/326-2991

Non-Point Source Water Quality Control, Section 319
Roger Wood
Oregon Department of Environmental Quality–Water Quality Division
811 S.W. 6th Ave.
Portland, OR 97204
Tel. 503/229-6124

Governor's Watershed Enhancement Board
Lorraine Stahr
Water Resources Department
3850 Portland Rd. N.E.
Salem, OR
Tel. 503/378-3739

Environmental Protection Agency Education Grants; Wetland Program Enhancement Grant
Susan Hanley
Environmental Protection Agency
1200 – 6th Ave.
Seattle, WA 98101
Tel. 206/553-1287

Coastal Zone Management Act (National Estuarine Research Reserve System)
Mike Graybill
South Slough National Estuarine Reserve
P.O. Box 5417
Charleston, OR 97420
Tel. 503/888-5558

Coastal Wetland Conservation Grants (Coastal Wetland Planning, Protection and Restoration Act)
Cary Smith
U.S. Fish & Wildlife Service
911 N.E. 11th
Portland, OR 97201

Fish Restoration and Enhancement Program
Pam Omar
Oregon Department of Fish & Wildlife
2501 S.W. 1st Ave.
Portland, OR 97207
Tel. 503/229-5410, Ext. 361

List of Contacts—Cont.

Land and Water Conservation Fund
Marilyn Almero
Oregon Department of State Parks
525 Trade St. S.E.
Salem, OR 97310
Tel. 503/378-6378

Intermodal Surface Transportation Efficiency Act
Ken Husby
Oregon Department of Transportation
Region 2
2960 State St.
Salem, OR 97310
Tel. 503/378-2626

Planning Assistance to States
Kurt Loop
Army Corps of Engineers
CENPP-PE-RR
Box 2946
Portland, OR 97208
Tel. 503/326-2473

COORS Brewing Company, Pure Water 2000
COORS Brewing Company
Golden, CO 80401-1295

Meyer Memorial Trust
1515 S.W. 5th, Suite 500
Portland, OR 97201
Tel. 503/228-5512

Critical Habitat Matching Program
Jay Rendall
Minnesota Department of Natural Resources
500 Lafayette Rd.
St. Paul, MN 55155-4007
Tel. 612/296-3344

Wetlands for Iowa
Ben Van Gundy
Iowa Natural Heritage Foundation
505 – 5th Ave., Suite 1005
Des Moines, IA 50309
Tel. 515/288-1846

Appendix E

Recommendations of the Wetland Restoration Policy Workgroup

The Wetland Restoration Workgroup convened September 14-15, 1992, in Hood River, Oregon, to develop recommendations on wetland restoration policy. Suggestions for state and local roles in restoration, restoration permits, databases, and priority areas for restoration are listed below.

Statewide Approach to Wetland Restoration

Wetland restoration planning and implementation should be accomplished at two separate scales and on two different time frames:

1. during the first 2-5 years after implementation of the strategy—restoration in high-priority basins, and
2. during the next 5-10 years—statewide planning and implementation using a statewide wetland restoration evaluation and prioritization process.

Initial wetland restoration planning and implementation in high-priority basins would be used to develop and refine a methodology for accurately establishing wetland restoration priorities. Priority basins would be identified using the physical and biological criteria. For example, historic loss, threatened and endangered species, or non-point source problems might give a region a high priority for restoration. Table 8 lists the regions and watersheds proposed for wetland restoration that appear to meet ecological and feasibility criteria. As cooperative funding opportunities arise, wetland restoration planning and implementation should be conducted in these regions. Within these regions, potential restoration sites would be identified using the proposed criteria and associated data (GIS layers).

Statewide prioritization should be accomplished using a statewide wetland restoration planning program. A statewide restoration plan would:

- establish regional priorities for restoration of wetland ecosystems within watersheds,
- identify potential restoration sites within wetland conservation planning areas,
- establish large-site restoration options for compensatory mitigation or for mitigation banks,
- establish potential sites for stormwater and effluent based wetland restoration.

Once high-priority regions and watersheds have been selected for restoration, local watershed councils could plan and implement restoration efforts cooperatively. The local watershed council might comprise (or include advisory input from) representatives of planning commissions, Soil and Water Conservation District offices, state and federal agencies, local planners, landowners, interest groups, etc.

Feasibility Criteria

Restoration feasibility criteria must address ecological sustainability, cooperative opportunities, and management issues pertaining to the restored sites. Restoration of a proposed site must be attainable in both the ecological and political context.

- ❑ **Ecological viability.** The ease of the restoration effort and its long-term success or sustainability, based on current and future water availability, adjacent land-use practices, and water quality at the site. Consider the objectives of the restoration plan and the magnitude of its impact on the proposed functions and values of the site.
- ❑ **Available data** on function and values.
- ❑ **Political and social considerations** in planning and implementing projects, including landowner willingness to participate; local political capacity and knowledge.
- ❑ **Potential cooperative opportunities** and funding sources.
- ❑ **Cultural benefits** or human need (e.g., education, recreation, research, aesthetics, interpretive value, etc.
- ❑ **Identification** by local, state, or federal programs or plans for restoration, based on community needs and opportunities. Sites identified in Wetland Conservation Plans, within the estuary plans, or recommended by statewide land-use planning goals.

TABLE 8. Proposed priority regions/watersheds for wetland restoration

Priority areas for wetland restoration, based on ecological, political, and economic feasibility factors, included the following:

Area	Rationale, criteria
Coastal Estuaries:	Historic loss, ease of restoration with predicted high success rates.
Columbia River Estuary	Rare habitats, staging and wintering areas, raptors, etc. (Blind Slough).
Coastal Freshwater Wetlands	Loss of habitat, rapidly urbanizing areas (Gearhart Bog, Neskowin Marsh).
Floodplain Features of Lower Columbia River	Diminished by cessation of floods from dams and diking (shallow lakes, and willow flats of Sauvie and Government islands).
Rapidly Urbanizing Areas	Great historic loss, threat to resource.
Interior Valleys:	
Willamette Valley	Historic loss, land owner interest, proximity to development.
Wet Prairie & Forested Wetlands	
Willamette Greenway	Greatest historical loss, rapidly urbanizing areas, water quality issues, rare plant species and wet meadow and shrub habitat types.
Rogue Valley	Great historical loss, rapidly urbanizing areas, water quality issues. T and E species, rare plant species, and vernal pool habitat. (highest priority area—Agate Desert).
Umpqua Valley	Great historical loss, rapidly urbanizing area, water quality issues. Rare plant species and wet grassland habitat (highest priority area—Sutherland).
Klamath Basin	Endangered fish (lost river and short nose sucker), Pacific flyway, water quality and quantity problems, loss of habitat, staging and wintering areas for raptors, staging area for waterfowl and shorebirds, fur bearers.
Oregon High Desert	
Closed Basin Wetlands	
Warner Basin	Important flyway stopover, rare fish and plant species, and rare habitat types.
Malheur Basin	Important flyway stopover, rare fish and plant species, and rare habitat types.
Serpentine Bogs	Rare habitat with high number of rare plant species. Impacts from historic and current mining and water diversion. Mining pressure is increasing.

TABLE 8. Proposed priority regions/watersheds for wetland restoration—Cont.

EPA Priority Basins	Water quality problems.
TIER I—Lower Columbia Tillamook Bay Willamette River Grande Ronde	Lots of data, research.
TIER II—John Day; Coos and Coquille R./Bays	Moderate amount of data, research.
TIER III—Klamath NOMINATED—Illinois, S. Umpqua	Candidates—(more information needed).
DEQ Critical Basins	Water quality problems.
Tualatin, Garrison Lake, Bear Cr., Clear Lake, Yamhill River, Columbia R. Willamette R., Pudding River Coquille River/Estuary, Klamath River Columbia Slough, Grande Ronde River S. Umpqua River, Rickreall Creek Umatilla River	
Riparian Areas	
John Day River	Salmon and steelhead, water quality and quantity, loss of riparian community types.
Grande Ronde	Salmon and steelhead, water quality and quantity, loss of riparian community types.
Sycan River	Important wetland habitat, tributary to Klamath River, water quality and quantity issues.
Crooked River	
Upper Deschutes	
Grand Ronde	