



Applying knowledge to improve water quality

Summer 2003
PNWWATER 017

Pacific Northwest

Regional Water Program

A Partnership of USDA CSREES
& Land Grant Colleges and Universities

Environmental Restoration



Overview

In our efforts to domesticate our lands and waters to the benefit of man, we have inadvertently degraded their ability to provide other uses. For example, by altering riparian areas and wetlands, we have affected their ability to provide fish and wildlife habitat as well as provide stream bank stability, flood protection, and water quality protection. Throughout the Pacific Northwest there are significant efforts underway to restore landscapes and ecosystems to better protect water quality and fish and wildlife habitat. The four land grant universities are actively engaged in research activities and outreach efforts that directly relate to watershed restoration. The universities have also developed a wide range of research-based educational materials on soils, plants, planting techniques, land management, and other topics directly related to environmental restoration.

Desired Outcomes

- Ecological systems are restored
- Restoration efforts are more successful
- Water resources are better protected
- Individuals have a greater knowledge and ability to implement restoration activities



Pacific Northwest Regional Publications: (note: these publications can be obtained from publication offices at Oregon State University, Washington State University and the University of Idaho)



- PNW 552** Taking Care of Streams in Western Washington, Western Oregon, and Coastal Alaska
- PNW 557** Taking Care of Streams in Eastern Washington, Eastern Oregon, and Idaho: A Homeowner's Guide to Riparian Areas
- PNW 558** Taking Care of Streams in Western Washington, Western Oregon, and Coastal Alaska: A Landowner's Guide to Riparian Areas
- PNW 559** Taking Care of Streams in Eastern Washington, Eastern Oregon, and Idaho: A Landowner's Guide to Riparian Areas
- PNW 560** Taking Care of Streams in Washington, Oregon, Idaho, and Alaska: A Guide to Riparian Areas in Rangelands

PNW 561 Taking Care of Streams in Washington, Oregon, Idaho, and Alaska: A Recreationist's Guide to Riparian Areas

PNW 562 Taking Care of Streams in Washington, Oregon, Idaho, and Alaska: A Developer's Guide to Riparian Areas

ALASKA Contacts

Dave Barnes, Associate Professor of Environmental Engineering, Fairbanks, (907) 474-6126, ffdlb@uaf.edu

Bob Wheeler, Forestry Specialist, Fairbanks, (907) 474-6356, ffraw@uaf.edu

Fred Sorensen, Water Quality Coordinator, Anchorage, (907) 786-6311, dffes@uaa.alaska.edu

ALASKA Publications

GWQ-00548 Protecting Alaska's Water Resources

FWM-00113 Tree Production and Planting Considerations

HGA-00335 Transplanting Trees Successfully

IDAHO Contacts

Robert L. Mahler, Water Quality Coordinator, Moscow, (208) 885-7025, bmahler@uidaho.edu

Chuck Harris, Human Dimensions of Ecosystem Management; Policy and Planning, Moscow, (208) 885-6314, charris@uidaho.edu

Jim Kingery, Rangeland Ecologist; Wildland Vegetation Management, Moscow, (208) 885-7503, jkingery@uidaho.edu

Jeff Braatne, Stream and Riparian Ecology; Riparian and Wetland Plants, Moscow, (208) 885-9712, braatne@uidaho.edu

IDAHO Publications

CIS 887 Idaho's Water Resource

SB 61 Are Your Streams Healthy? Stream Quality Survey for Managing Private Forest Ecosystems

Order 624 Forestry BMPs for Idaho

Order 723 Trees Against the Wind

Order 7048 Riparian Water Quality Study — Clark County

OREGON Contacts

Derek Godwin, Extension Watershed Management Agent, Salem, (503) 566-2909, derek.godwin@oregonstate.edu

Mary Holbert, Extension Agent, Newport, (541) 574-6534 Ext. 30, mary.holbert@oregonstate.edu

Dan Edge, Fish Habitat and Fishery Restoration, Corvallis, (541) 737-2910, daniel.edge@oregonstate.edu

John Bolte, Watershed Processes and Restoration, Corvallis, (541) 737-6303, john.bolte@oregonstate.edu



OREGON Publications

- EC 1407** Understanding Natural Wetlands
- EC 1408** Using Constructed Wetlands to Improve Water Quality
- EC 1489** Stream Temperatures: Some Basic Considerations
- EM 8714** Watershed Stewardship: A Learning Guide
- EM 8738** Life on the Edge: Restoring Riparian Function
- EM 8761** Stream*A*Syst: A Tool to Help You Examine Stream Conditions on Your Property
- VTP 021** We All Live Downstream video (28 min.)
- VTP 029** After the Rain video (30 min.)

WASHINGTON Contacts

Robert Simmons, Land restoration techniques for fish and wildlife habitat improvement, Shelton, (360) 427-9670
Ext. 690, simmons@wsu.edu

Shulin Chen, Water quality monitoring, watershed assessment, water quality management, watershed modeling, and evaluation of best management practices, Pullman, (509) 335-3743, chens@wsu.edu

Barry Moore, Lake and stream ecology and restoration, Pullman, (509) 335-4006, bcmoore@wsu.edu

WASHINGTON Publications

- EB 0440** Trees of Washington
- EB 1446** Steppe Vegetation of Washington
- EB 1505** Planting Landscape Plants
- EB 1579** Landscape Plants for the Inland Northwest
- MISC 0132** Is There a Place for Fish and Wildlife in Your Woodland?
- MISC 0133** Riparian Areas: Fish and Wildlife Havens
- MISC 0141** Managing Small Woodlands for Grouse
- MISC 0158** Managing Ponderosa Pine Woodlands for Fish and Wildlife
- MISC 0160** Managing Small Woodlands for Cavity Nesting Birds
- MISC 0161** Trout in Small Woodland Areas
- MISC 0164** Managing Small Woodlands for Elk
- MISC 0169** Hawk, Eagle and Osprey Management on Small Woodlands
- MISC 0179** Wetlands as Varied as our Region
- MISC 0187** Managing Quail on Small Woodlands
- MISC 0189** Managing Deer in Small Woodlands
- MISC 0196** Beaver, Muskrat, and Nutria on Small Woodlands
- MISC 0229** Interior Cedar-Hemlock-White Pine Forests: Ecology and Management
- MISC 0232** Ponderosa Pine: The Species and its Management
- MISC 0249** Forest Vegetation of Eastern Washington and Northern Idaho
- MISC 0267** Landscaping with Native Plants in the Inland Northwest
- MISC 0273** Grow Your Own Native Landscape: A Guide to Identifying, Propagation and Landscaping with Western Washington Native Plants
- MISC 0274** Winter in the Woods: A Winter Guide to Deciduous Native Plants in Western Washington
- MISC 0337** Plant it Right: Restoration Planting Techniques
- PNW 0500** Plant Materials for Landscaping: A List of Plants for the Pacific Northwest
- VT 0082** Keep it Clean Downstream
- VT 0113** Plant it Right: Restoring Our Streams



Pacific Northwest Regional Water Quality Coordination Project Partners

Land Grant Universities

Alaska

Cooperative Extension Service
Contact Fred Sorensen:
907-786-6311

<http://www.uaf.edu/ces/water/>

University Publications:

<http://www.alaska.edu/uaf/ces/publications/>

Idaho

University of Idaho
Cooperative Extension System
Contact Bob Mahler: 208-885-7025

<http://www.uidaho.edu/wq/wqhome.html>

University Publications:

<http://info.ag.uidaho.edu/Catalog/catalog.html>

Oregon

Oregon State University
Extension Service
Contact Mike Gamroth: 541-737-3316

<http://extension.oregonstate.edu/>

University Publications:

<http://extension.oregonstate.edu/catalog/>

Washington

Washington State University
WSU Extension

Contact Bob Simmons:
360-427-9670 ext. 690

<http://wawater.wsu.edu/>

University Publications:

<http://pubs.wsu.edu/>

Northwest Indian College

Contact Dan Burns:
360-392-4328

dburns@nwic.edu or

<http://www.nwic.edu/>

Water Resource Research Institutes

Water and Environmental Research
Center (Alaska)

<http://www.uaf.edu/water/>

Idaho Water Resources
Research Institute

<http://www.boise.uidaho.edu/>

Institute for Water and
Watersheds (Oregon)

<http://water.oregonstate.edu/>

State of Washington
Water Research Center

<http://www.swwrc.wsu.edu/>

Environmental Protection Agency

EPA, Region 10

The Pacific Northwest

<http://www.epa.gov/r10earth/>

Office of Research and Development,
Corvallis Laboratory

<http://www.epa.gov/wed/>

For more information contact
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The Project

Land Grant Universities, Water Research Institutes, and EPA Region 10 have formed a partnership to provide research and education to communities about protecting or restoring the quality of water resources. This partnership is being supported in part by the USDA's Cooperative State Research, Education, and Extension System (CSREES).

Our Goal and Approach

The goal of this Project is to provide leadership for water resources research, education, and outreach to help people, industry, and governments to prevent and solve current and emerging water quality and quantity problems. The approach to achieving this goal is for the Partners to develop a coordinated water quality effort based on, and strengthening, individual state programs.

Our Strengths

The Project promotes regional collaboration by acknowledging existing programs and successful efforts; assisting program gaps; identifying potential issues for cross-agency and private sector collaboration; and developing a clearinghouse of expertise and programs. In addition, the Project establishes or enhances partnerships with federal, state, and local environmental and water resource management agencies, such as by placing a University Liaison within the offices of EPA Region 10.



National Water Quality Program Areas

The four land grant universities in the Pacific Northwest have aligned our water resource extension and research efforts with eight themes of the USDA's Cooperative State Research, Education and Extension System.

1. Animal Waste Management
2. Drinking Water and Human Health
3. Environmental Restoration
4. Nutrient and Pesticide Management
5. Pollution Assessment and Prevention
6. Watershed Management
7. Water Conservation and Management
8. Water Policy and Economics

CSREES is the Cooperative States Research, Education, and Extension Service, a sub-agency of the United States Department of Agriculture, and is the federal partner in this water quality program.