



Applying knowledge to improve water quality

Pacific Northwest

Regional Water Program

A Partnership of USDA NIFA
& Land Grant Colleges and Universities

Fall 2004
PNWWATER 048

Pollution Assessment and Prevention



Overview

Water pollution occurs when contaminants wash into streams, lakes, and wetlands or infiltrate the soil reaching the groundwater. Water running off paved surfaces in urban areas often carries oil, heavy metals, pet waste, and toxic chemicals from industrial and residential areas into storm drains and eventually waterways. Agricultural operations can cause fertilizers, pesticides, and animal wastes to leach into groundwater or enter waterways through irrigation return flows and surface runoff. These diffuse sources (nonpoint source pollution) are considered the primary source of water quality problems nation wide, as well as in the Pacific Northwest. Pollution Assessment and Prevention programs focus on cultivating “water quality citizenship,” an active sense of “ownership” of global and local water quality by individuals, households, farms, and other businesses. The Pacific Northwest Regional Water Quality Program provides community-based volunteer water quality monitoring and watershed stewardship training programs. These programs enable volunteers and individual land managers to understand watershed processes and empower them to address water quality issues, either on their own land or in local waterways. Members of the Pacific Northwest Regional Water Quality Program team are engaged in research supporting watershed management and provide a range of science-based educational materials addressing land-use management and pollution prevention techniques.





Desired Outcomes

- Water bodies are assessed and water quality problems are identified
- Empowered residents address and correct water quality problems
- Community members educated in watershed processes are involved in planning processes
- Water quality is protected and improved

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: A Homeowner's Guide to Riparian Areas

PNW 557 Taking Care of Streams in Eastern Washington, Eastern Oregon, and Idaho: A Homeowner's Guide to Riparian Areas

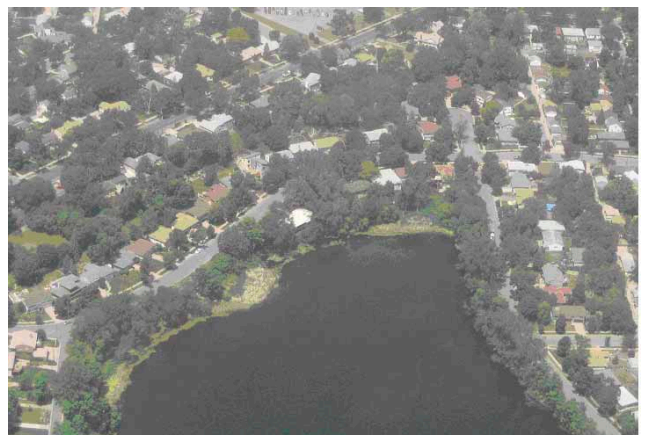
PNW 558 Taking Care of Streams in Western Washington, Western Oregon, and Alaska: A Landowner's Guide to Riparian Areas

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 Coastal 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

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

Bob Gorman, Land Resource Agent, Anchorage, 907-786-6300, ffrfg@uaf.edu

Richard Steiner, Marine Advisory Agent, Anchorage, 907-786-4156, afrgs@uaa.alaska.edu

ALASKA Publications

www.alaska.edu/uaf/ces/publications/

FGV-00242 Soil Fundamentals

GWQ-00547 Protect Water Resources-Understand Pesticide Movement

GWQ-00548 Protecting Alaska's Water Resources

HGA-00236 Lawn Maintenance & Pesticides

HGA-00239 Managing Alaskan Lawns

HGA-00334 Lawn Maintenance

HGA-00436 Tree Maintenance and Pesticides

IDAHO Contacts

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

Ronda E. Hirnyck, Ext. Pesticide Coordinator, Boise, 208-354-4046, rhiryck@uidaho.edu

IDAHO Publications

info.ag.uidaho.edu/

CIS 861 Pesticide Handling Practices to Protect Groundwater

CIS 865 Pesticides and Their Movement in Soil and Water

CIS 872 Nitrate and Groundwater

CIS 887 Idaho's Water Resource

CIS 893 Household Water – Dos and Don'ts

CIS 900 Groundwater in Idaho

CIS 907 Phosphates in Detergents



CIS 962 Best Management Practices for Nitrogen Management to Protect Groundwater

CIS 963 Best Management Practices for Phosphorus Management to Protect Surface Water

CIS 1053 Design and Construction of Earthen Embankments for Animal Liquid-Waste Containment

CIS 1070 Nutrient Management Plans: Who Needs Them and How to Prepare Your Own

CIS 1099 Idaho's Nitrate Areas of Concern

BUL 807 Irrigation Management in the HUA

BUL 808 Erosion Control Progress in the HUA

BUL 811 Groundwater & Wellhead Protection in the HUA

BUL 814 Public Attitudes about Water Quality in the HUA

BUL 817 Nutrient and Pesticide Management in the HUA

VID676 Forest Water Quality

VID675 Riparian Water Quality Study

Forestry BMPs for Idaho

OREGON Contacts

Mike Gamroth, Water Quality Coordinator, Corvallis, 541-737-3316, mike.gamroth@oregonstate.edu

Jeff Jenkins, Pesticide Extension Specialist, Corvallis, 541-737-5993, jenkinsj@ace.orst.edu

Derek Godwin, Watershed Management Specialist, Salem, 503-566-2909, derek.godwin@oregonstate.edu

Dan Sullivan, Soil Science Specialist, Corvallis, 541-737-5715, dan.sullivan@oregonstate.edu

OREGON Publications
extension.oregonstate.edu/catalog/

EC 1407 Understanding Natural Wetlands

EC 1489 Stream Temperatures: Some Basic Considerations

EC 1492 Gardening and Water Quality Protection: Understanding Nitrogen Fertilizers

EC 1493 Gardening and Water Quality Protection: Using Nitrogen Fertilizers Wisely

EC 1506 Working Together: Successful Partnerships

EC 1507 Working Together: Choosing Your Group's Structure, Mission, and Goals

EC 1508 Working Together: Effective Meetings Management

EC 1509 Working Together: Good Decision Making

EM 8651-E Twelve Simple Things You Can Do to Protect Your Well Water

EM 8714 Watershed Stewardship: A Learning Guide

EM 8738 Life on the Edge: Restoring Riparian Function

EM 8752 Keeping Your Well Water Well

EM 8761 Stream*A*Syst: A Tool To Help You Examine Stream Conditions on Your Property

VTP 019 Healthy Watersheds video

VTP 021 WE All Live Downstream video

VTP 029 After the Rain video

VTP 033 Life on the Edge video

**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.htm>

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 Charlotte Clausing:
360-392-4319

cclausing@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
Jan Seago at 206-553-0038 or
seago.jan@epa.gov

WASHINGTON Contacts

Curtis Hinman, Water Quality Coordinator, Pierce County,
(253) 798-3257, chinman@wsu.edu

Craig MacConnell, Community Environmental Education, Whatcom
County, (360) 676-6736, cbmac@wsu.edu

Michael Barber, Director, Washington Water Resources Center,
(509) 335-6633, meb@wsu.edu



WASHINGTON Publications: pubs.wsu.edu/

- EB 1631** Protect Your Groundwater: Survey Your Home Environment
- EB 1713** Protecting Groundwater: Managing Livestock on Small Acreage
- EB 1714** Farming Practices for Groundwater Protection
- EB 1761** Developing a Volunteer Program for Public Environmental Education
- EB 1721** Defining Water Quality
- EB 1744** Your Yard and Water Quality: Simple Things Gardeners Can Do To Prevent Water Contamination
- EB 1746-W11** Home*A*Syst Site Evaluation
- EB 1746-W6** Home*A*Syst: Household Wastewater Treatment
- EB 1746-F6** Home*A*Syst: Improving Household Wastewater Treatment
- EB 1810** A Ready Reference for Irrigation Manual of Practice
- MISC 0133** Riparian Areas: Fish and Wildlife Havens
- MISC 0134** Aquatic Pest Control
- MISC 0172** Experiencing Water Resources: A Guide to Your River Basin
- MISC 0179** Wetlands as Varied as Our Region
- MISC 0174** Washington's Water
- MISC 0225** Water Currents 1998 Highlights Issue
- VT 0082** Keep it Clean Downstream
- XB 1040** Effects of Burn/Low-Till on Erosion and Soil Quality

*This material is based upon work supported by the
National Institute of Food and Agriculture, U.S. Department of Agriculture,
under Agreement No. 2008-51130-04734.*