



Applying knowledge to improve water quality

Pacific Northwest

Regional Water Program

A Partnership of USDA CSREES
& Land Grant Colleges and Universities

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PNWWATER 079

Addressing Puget Sound's Shoreline Development Issues



Puget Sound is home to 3.8 million people, two-thirds of the state's population. By 2020, another 1.4 million people are expected to settle around the Sound, putting tremendous pressure on shoreline development. There are nearly 2,250 miles of shoreline, 800 of which currently have bulkheads or rip rap, altering the shoreline's natural functions. Shorelines and associated near shore habitats are critical to the health of Puget Sound and the ecosystem of the region. They are used as spawning, rearing, and feeding grounds for species that live in and around the sound, including fish, shellfish, birds, and marine mammals, as well as protect the shoreline from erosion and filter pollutants.

WSU Extension has a variety of programs that educates shoreline property owners about how they can best protect their piece of the shoreline. These programs include:

The Beachwatchers volunteer training program trains volunteers to lead and participate with their communities in watershed stewardship. Currently eight of the counties surrounding Puget Sound participate in the program. Every volunteer receives 100 hours of expert training from top instructors in such subjects as the beaches, environmental processes, geology, and marine life. Since 1989, more than 200 Island County citizens have completed Beachwatcher training. Every year Beachwatchers give back more than 15,000 hours of volunteer service — collecting data, evaluating water quality, talking with the public, conducting tours and classes, and doing hands-on work such as removing invasive weeds from fragile estuaries.



The Shore Stewards Program educates shoreline property owners and residents of waterfront communities with shared beach access to voluntarily follow 10 wildlife-friendly guidelines in caring for beaches, bluffs, gardens, and homes. Homeowners receive 100 hours of university level training that is free. Topics covered include groundwater and watersheds, geology, forestry, birds, marine biology, septic systems, solid waste and recycling, composting and worm bins, pesticides and fertilizers, aquaculture, climate change, Camano Island history, noxious weeds, native plants, salmon and the nearshore, shoreline regulations, forage fish, and more. There are several field trips during the training as well. In turn, homeowners receive official certification as Shore Stewards. The Stewards help create and preserve a healthy shoreline environment for fish, wildlife, and birds. The Shore Stewards Program is expanding to



Whidbey Island and other counties of Puget Sound.

WSU Extension also provides a series of shoreline homeowner workshops. Participants learn which plants are useful for stabilizing bluffs and filtering pollutants that drain from lawns and gardens. Native or water-wise plant lists are provided as well. A half-hour video about living along the shoreline and protecting their shoreline as well as the health of Puget Sound is available. The video can be viewed from the following website: <http://wawater.wsu.edu/> or ordered free from bulletin@wsu.edu by asking for publication EM4928E.



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/>

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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.

The highly popular Water Resource Education Program for Real Estate Professionals is designed to help brokers, salespersons, and appraisers



understand water resource issues as they relate to homeowners and property developers. The one and two day courses offered include Salmon & Streams, Septics & Groundwater, Shorelines, Wetlands, Water-Friendly Landscaping, Low-Impact Development, and Forest Practices. This is important since development practices and landscape modification

play significant roles in determining the long-term health of aquatic systems.

All of these programs reach thousands of shoreline homeowners annually. Coupling some of these programs with other Extension programs, such as the Master Gardener and 4-H programs, allows an even greater impact.

When planning and conducting these programs, WSU Extension educators team up with a variety of federal, state, local, and non-profit organizations to ensure that the most up-to-date and relevant information is provided to shoreline homeowners. For more information on these programs, please contact Whatcom, Skagit, Snohomish, Jefferson, Clallam, Island, Thurston, or San Juan County Extension offices.

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.