



Applying knowledge to improve water quality

# Pacific Northwest

## Regional Water Program

A Partnership of USDA NIFA  
& Land Grant Colleges and Universities

Winter 2009  
PNWWATER 149

### Save the Date:

## Stormwater Management: One Back Yard at a Time

On September 15, 2009 from 9 to 11:30 a.m., the PNW Water Program, partnering with WSU Extension's award winning video department, will bring a glimpse of what private citizens, city/county governments, and agencies are doing to prevent polluted runoff from rushing to water resources. The video team traveled to two high desert communities and a Puget Sound island to film strategies used in those diverse climates to manage rain and snow melt runoff.

Interviews held with local government officials, city engineers, developers, and homeowners tell the story of stewardship and social responsibility that progress through the populace of the Northwest. We found that local governments, even when no statutory language exists in ordinances, are proceeding toward that end by advocating to the construction industry that all runoff should be managed on-site.

The mayor of Coupeville, Washington told us that she, along with the planning and zoning staff are giving 'whole-hearted support' to development plans that incorporate rain gardens, vegetated or green roofs, and swales to allow for slowing and cleansing runoff before infiltration into the water table. Even though Whidbey Island is in Puget Sound where rain is prevalent, these are strategies that encourage a zero-runoff goal.



Off-street catchment area – Oak Harbor, WA.

Sharing the Island's central location with several farms, the Coupeville mayor envisions a time when the city and agriculture producers can partner on a bio-retention project that combines city street bio-filtered stormwater with irrigation supplies to water crops in the rainless summers. Farmers have offered fields close to the city to facilitate the future project.

During the filmed case study, we will tour the Island to see homes with rain gardens and swales catching rainwater. A non-profit community center has worked for several years to include green strategies in their properties as a show-case for ideas that may be adopted by other businesses and homeowners. Public buildings and parks are equipped with permeable surfaces, swales, and other on-site strategies.

Ketchum, Idaho and Bend, Oregon are in high elevation, arid climates that might seem to not need so much invested in runoff prevention. Speaking with builders, architects, and homeowners belies this theory. Ketchum may only receive 8 or so inches of rainfall per year; however, this small amount of precipitation comes in the form of storm cells producing gully-washers that rush runoff to blue-ribbon trout fishing in the Big Wood River. Snow melt is the main source of runoff. Up to twelve feet of snow can fall on Ketchum in the winter. At spring break-up the melt water carries a winter's worth of street debris contaminating fish habitat and causing stream banks to erode into the river.

The city engineer works with planners to assure that new construction follows the principle of mitigating runoff from properties. Several homeowners and builders we spoke with, keep this in mind when designing their site-plans.

Bend, Oregon's elevation is much less than that of Ketchum. The city began a stormwater utility with fees based on impervious surface areas of a site. As a state, Oregon has adopted language that regulates runoff from properties into waterbodies. Bend follows suit to protect property and human welfare as well as wildlife habitat areas from flooding.

Northwest Crossing, a five-year old planned community is the crowning jewel of the city's stance on zero-runoff. The community design code includes permeable paving for drives and walkways, rain gardens or swales at low-points of



## 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](mailto: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  
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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 National Institute of Food and Agriculture (NIFA).

### 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.

property, and use of drip lines and dry-wells to conduct and collect non-filtered stormwater. In Bend, we found home-owner/designers who have used available knowledge to prevent rain water and snow melt from becoming stormwater.

Many of the homes we filmed are certified LEED homes. Leadership in Energy and Environmental Design™ is a designation by the US Green Building Council that assures that buildings are energy efficient and environmentally friendly. While much of the certification deals with solar, both passive and VOC, there are guidelines to assure a building is planned so that stormwater is dealt with on-site. The stormwater mitigation guidelines were the basis for our questions to homeowners, developers, and architects.

Join this Northwest tour at 9 a.m. on September 15<sup>th</sup> either on your computer at <http://eces.wsu.edu/video/stream.html> or call your local Cooperative Extension Service to ask if they will host you and a community or government group for this exciting look at how the Pacific Northwest is stemming stormwater, one back yard at a time.

For information and assistance, please email Jan Seago at [seago.jan@epa.gov](mailto:seago.jan@epa.gov) or call 360-951-5536 to organize a group showing in your town.



*Permeable pavers and green space.*



*Northwest Crossing rain garden.*

### 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 National Institute of Food and Agriculture.

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

*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.*