



Applying knowledge to improve water quality

# Pacific Northwest

## Regional Water Program

A Partnership of USDA NIFA  
& Land Grant Colleges and Universities

Summer 2009  
PNWWATER 159

### At Puyallup:

## WSU Establishing a Regional Low Impact Development Research and Demonstration Site

The Washington State University (WSU) Puyallup Research and Extension Center is in the process of retrofitting the WSU Puyallup campus to significantly reduce stormwater runoff, as well as provide an excellent research and demonstration site. Stormwater runoff is a major source of pollutants in salmon-bearing waterways and ultimately in Puget Sound.

The project will employ “green” development practices including installation of permeable paving surfaces and stormwater bioretention facilities. The project is funded through a \$1 million grant from the Washington State Department of Ecology to the City of Puyallup and WSU, and was supported by the Puyallup Tribe. WSU will provide matching funds.

The retrofit project includes a significant research and monitoring component to measure the effectiveness of various low impact development practices. The retrofit also will be used as a public demonstration and education facility on “green” development techniques and materials.

Established in 1894, the center currently has no stormwater control or treatment infrastructure. Runoff from the campus is discharged directly into Woodland Creek, which flows into Clark’s Creek and eventually the Puyallup River.

“Our infrastructure dates from 1895 when the philosophy toward stormwater was to get it off your property as quickly as you can,” according to Jon Newkirk, director of WSU Puyallup. “This facility will be a great laboratory for determining how to retrofit old facilities to meet modern stormwater control needs.”

Mark Higginson, stormwater engineer for the City of Puyallup, sees the project as a tremendous opportunity. “I’m extremely excited,” Higginson says. “The research will be important to our industry, and this project is important to our community for both the city and WSU.”

Curtis Hinman, low impact development specialist with WSU Pierce County Extension, says the project has two important goals.

“First is to improve the infrastructure of WSU Puyallup campus with regard to controlling runoff, but equally important is the long-term research opportunity,” he says.



WSU Puyallup soil scientist Craig Cogger points out a parking lot at the Puyallup campus that will be retrofitted with permeable surfaces to reduce stormwater runoff.



## 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  
Jan Seago at 206-553-0038 or  
[seago.jan@epa.gov](mailto:seago.jan@epa.gov)

### 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.

Hinman says a variety of permeable surfaces will be used to retrofit paved parking lots and various retention facilities will be installed. That will enable him and other researchers to measure which approaches are not only most effective in directing stormwater back to the aquifer but to measure which do the best job at filtering out pollutants.



Attendees at a recent workshop approach a small demonstration rain garden already installed at the WSU Puyallup Research and Extension Center.

### 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.*