



Applying knowledge to improve water quality

Pacific Northwest

Regional Water Program

A Partnership of USDA NIFA
& Land Grant Colleges and Universities

Summer 2010
PNWWATER 183

10 Years of Regional Progress:

Stormwater Management Education and Outreach



Parking lot oil entering storm drain.

Stormwater is increased by impervious surfaces that are a by-product of urbanization and land changes from forests to strip malls and farms to housing developments. Rainwater and snowmelt runoff from streets, parking lots, and roofs adds to water pollution from heavy metals, trash, pet wastes, and the myriad of sources that increased population density produces. Since the census of 2000, Idaho has grown by 19.5 percent, followed by Washington State at 13.1 percent; Oregon and Alaska have both seen an increase in population of 11.8 and 11.4 percent, respectfully.

The Pacific Northwest Regional Water Program recognized the impacts these growth numbers were having in the suburban areas of the states and determined that public education and outreach was a logical response that the members of the team could accomplish. In 2001, a traveling one-day workshop was developed for the Interstate 5 corridor through Washington and Oregon. The Suburban Salmon Workshop focused on home and business owners whose properties bordered on woodland streams and introduced strategies people could implement that would create buffers between fertilized and manicured lawns and the habitat of endangered salmon and trout. As the workshop moved through the states, local experts spoke to groups of the need to slow down and infiltrate more of the annual runoff velocities to prevent habitat damage and flash flooding that cut away creek banks. The afternoon sessions of the workshop featured a field trip led by local watershed groups or Conservation District personnel. It was a small beginning of a large effort.

By 2005, US EPA prepared to target population densities lower than 100,000 with Phase II stormwater management requirements. One of EPA's Six Minimum Measures was public outreach and education. The PNW Water Team saw an opportunity to use strategies developed over the prior five years of the grant to offer educational materials on stormwater management.

The Team had been producing satellite and internet based video workshops on Watershed Management Issues as material to help build capacity for watershed groups since 2002. Using the format of video case studies and a panel of experts, live on camera, to answer the audience questions called or emailed during the airing of the filmed portion of program, three workshops were released. Beginning on the national scale, *Stormwater Management from a Watershed Perspective* investigated how different jurisdictions planned to manage stormwater. Northwestern North Carolina counties were doing first-line stream restoration to prevent bank cutting and siltation during large storm events. East of Cleveland, Ohio, townships and villages were restructuring building and code ordinances for new construction that preserved green spaces and infiltration zones. Portland, Oregon, a MS4 metropolis had been working with the stormwater permitting regulations many years. The city responded to neighborhood concerns offering partnerships, technical support, and grant monies that helped to manage runoff, on-site rather than through the combined sewer system. A national audience tuned into the program in one-hundred ninety-two registered sites with total numbers over 4,000. With this successful program posted to a web site (<http://eces.wsu.edu/video/StormwaterMgmt.html>) and available on DVD, the team pushed on to address Western specific issues.



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

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<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 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.

The second program, *Stormwater Management: Extreme Western Climates*, investigated how the arid Southwest handles monsoon rains that cause flash-flooding and silt movement across the landscape and Alaska's snow pile melts that move pollutants from streets to salmon-bearing streams. This program had a national audience; however the 17 western states were the target audience. Engineered snow piles, surface runoff, and stream restoration projects were the highlights. This program is also on the web site above by visiting <http://eces.wsu.edu/video/StormwaterMgmt.html>.

Moving onto a more specifically targeted audience of home and business owners, the third program, *Stormwater Management: One Backyard at a Time*, was released in 2009 to internet-based audiences throughout the Pacific Northwest. The cameras visited high, arid cities in Idaho and Oregon and a Puget Sound Island in Washington State. Low Impact Development strategies such as rain gardens, vegetated swales and roofs, and planned development were the highlights of this program. With a large PNW audience watching the internet-based program, the panel of experts from the land grant universities of Oregon and Washington, many questions were phoned and emailed for locally specific answers. This program is available on DVD and at the web site above.

Face-to-face workshops have not been abandoned for the larger audience of the internet. Washington and Oregon State University Extension agents hold workshops around their states with locally specific information for audiences who are eager for more details about what they can do in their own backyards.

For more information about these programs and other PNW responses to the need for more public education programming, please visit:

http://pnwwaterweb.com/storm_wat.htm.



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

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