



Applying knowledge to improve water quality

Pacific Northwest

Regional Water Program

A Partnership of USDA NIFA
& Land Grant Colleges and Universities

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PNWWATER 186

10 Years of Regional Progress:

Integrated Pest Management

Pesticides used for agricultural production and landscaping can enter surface and ground waters through misapplication, movement of treated soils, return irrigation flows, runoff from agricultural fields, storm water runoff, and leaching through soils. The land grant universities of the Pacific Northwest (PNW) region engage in a broad range of research activities, outreach, and educational programs to assist pesticide applicators and homeowners in properly managing pesticides for optimal crop production and environmental stewardship. With programs promoting carefully managing pesticide use and encouraging the use of integrated pest management (IPM), water quality can be maintained or improved.



The PNW Regional Water Program has long recognized the importance of IPM as a critical Best Management Practice (BMP) for water quality. For the past 10 years the program has identified and carried out specific projects and educational programs to enhance the use of IPM. With the adoption of IPM, which uses a combination of chemical and biological tactics, impacts to water resources can be reduced. In combination with proper application and storage of pesticides, IPM can help prevent contamination of ground and/or surface waters, because it reduces overall pesticide usage and encourages the selection of pesticides that will have less impact on the overall environment.

Partnership with the Western IPM Center

In order to more closely link IPM and water quality research and Extension activities, the PNW Regional Water Program developed a partnership with the USDA-NIFA Western IPM Center. The first joint activity was a brainstorming session to identify IPM and water quality program needs in the West. From that session, two symposia were developed for the western states. The first symposium was titled, “Water, Wildlife, and Pesticides in the West” and was held in Portland, Oregon. Eighty people attended and identified IPM/water quality priorities for the West. Panels of experts addressed issues such as pesticide detections in water, public policy and how to interpret the data, adopting solutions to prevent the entry of pesticides in waters, and protection of endangered species. The second symposium, held in Boise, Idaho, was titled, “Investigating the Connections between IPM and Water Quality.” The main outcome of this symposium was that it created a forum for IPM and water quality researchers and educators in the western region to explore possible collaborations.

In addition to these two symposia, grant money from the Western IPM Center was leveraged to support two IPM projects, both with the goal of water resource protection: 1) the Idaho OnePlan IPM planning tool, and 2) research on the use of green manure crops to reduce synthetic soil fumigants in vulnerable cropping areas. Outreach efforts from both of these projects enabled NRCS—EQIP cost shares for pest management practices.

Professional Development Training

A professional development training workshop was delivered for Extension Educators in the Pacific Northwest, focusing on implementation of IPM as a BMP to help protect water quality. An added outcome of the workshop was development of multi-state and multi-disciplinary partnerships across the region for future IPM and water quality research and



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:
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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.

Extension activities. Another project, the Integrated Soil Nutrient and Pest Water Quality Education Project (iSNAP), was developed in the region under the leadership of Oregon State University to deliver innovative education for agricultural professionals. Outcomes included the fact that agricultural professionals were able to assess and then communicate potential water resource benefits to producers and determine viable management alternatives to reduce pesticide impacts to the environment. Both of these professional development projects were jointly funded by the Regional Water Program and the Western IPM Center.

Education and Outreach

The regional water team produced a directory of IPM and water quality specialists in the region, along with relevant Extension publications at the four PNW universities. In addition, the regional pest management specialists publish annual Crop Protection Guides to assist agricultural professionals and homeowners with proper pesticide choices and pesticide safety information. Finally, pesticide safety educational curricula (PowerPoint presentations and Extension bulletins) have been developed by the team to provide current and relevant pesticide certification education to potential pesticide applicators.

Outcomes

- ◆ Producers are able to access NRCS cost-share funding for IPM practices that enhance water quality
- ◆ Producers and home gardeners are more aware of dangers from improper management of pesticides
- ◆ Improved water quality in return irrigation flows to rivers
- ◆ Groundwater is protected from contamination
- ◆ Landowners and agricultural producers better manage chemicals used to enhance landscapes and to grow crops

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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