



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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Symposium on IPM and Water Quality Yields Exciting New Ideas for Collaboration



An enthusiastic and fruitful discussion among participants at a recent PNW Regional Water Program and Western IPM Center sponsored symposium—“Investigating the Connections between IPM and Water Quality,” held on April 13 at the Pacific Branch Entomological Society of America’s Annual Meeting, in Boise, Idaho—yielded specific ideas for collaboration and catalyzed formation of a core group to seek funding for a region-wide IPM and Water Quality research, education, and Extension group in the West.

This outcome met the chief goal of the one-day symposium, which was to create a forum for IPM and water quality researchers and educators in the Western Region to explore possible collaborations and ways of funding them. To that end, the symposium’s morning hours were devoted

to speakers on current topics and research projects related to IPM and water quality in the West, and the shorter afternoon session was set aside for brainstorming.

During the last few years, researchers and educators in the National Institute of Food and Agriculture’s regional Water Quality and IPM programs in the West have been seeking ways to intersect and develop synergies. The Boise symposium built on and furthered discussions begun in 2008 at NIFA’s National Water Conference, in Sparks, Nevada, in a session entitled, “Improving Water Quality through Integrated Pest Management: Working Together.”

Morning Session: Speakers

Issues and research topics addressed during the symposium’s morning hours ranged from the effect of pesticides on aquatic ecosystems to the social science behind water quality programming.

Keynote speaker **Bob Nowierski**, USDA-NIFA, offered a history of IPM in the United States and highlighted national IPM programs, including those with impacts on water quality.

John Stark, professor in the Ecotoxicology Program at Washington State University, Puyallup, and director of the WSU Salmon Toxicology Research Laboratory, said even though IPM has been implemented in many crop systems, pesticides are still entering surface waters in the United States. They are usually found in low concentrations, but as mixtures, in almost every surface water system in the country. There is much that is not known about the effects of pesticides in aquatic ecosystems.

Parry Klassen, Executive Director of the Coalition for Urban/Rural Environmental Stewardship (CURES) and Board Chairman of the East San Joaquin Water Quality Coalition (ESJWQC), highlighted outcomes of the ESJWQC’s approach to addressing pesticide-related water quality issues.



Pacific Northwest Regional Water Quality Coordination Project Partners

Land Grant Universities

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University Publications:

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<http://www.uidaho.edu/wq/wqhome.html>

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Water Resource Research Institutes

Water and Environmental Research
Center (Alaska)

<http://www.uaf.edu/water/>

Idaho Water Resources
Research Institute
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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
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Phillip Janney, Ph.D. student, Oregon State University (OSU), shared results of a study he collaborated on that tested the effectiveness of riparian vegetation as a drift barrier between cherry orchards and surface water at two sites in Oregon. The study demonstrated that riparian vegetation would reduce the amount of pesticide that would reach the streams and therefore reduce the risk to aquatic life.

Ginger Paige, Assistant Professor, Department of Renewable Resources, University of Wyoming, Laramie, spoke about her development of a guidance document for designing water quality monitoring programs that successfully demonstrate the effectiveness of BMPs implemented to reduce nonpoint source pollution in stream systems.

Frank Zalom, Professor, University of California, Davis, discussed research on the effects of changing pest and site management practices in California almond production to reduce off-site movement of pesticides. Sampling of runoff at research locations showed that implementation of IPM, together with alternative site management practices, can significantly reduce the load of target pesticides leaving treated areas.

Robert Mahler, Professor of Soil Fertility, University of Idaho, gave a presentation on the crucial role played by social science methods in determining outcomes in his work with water quality issues. Mahler emphasized the importance of identifying desired short-, medium-, and long-term outcomes from the beginning of any program-planning process.

Afternoon Session: Group Brainstorming and Planning

Represented at the afternoon brainstorming session were IPM and water quality researchers and educators, the Natural Resources Conservation Service, the Agricultural Experiment Station program, the plant protection industry, and Cooperative Extension Farm Advisors.

Outcomes

In the course of the brainstorming session, the group decided to focus on pursuing funding for a Western Multistate Project. These projects are sponsored and coordinated by the Western Association of Agricultural Experiment Station Directors (WAAESD). This collaborative project would enable a wide range of land grant and non-land grant IPM and water quality researchers, educators, and practitioners representing the entire region to collaborate on IPM and water quality objectives on an ongoing basis. Desired long-term outcomes, from this project, included reducing pesticides and other contaminants in water and improving food and water security. Intermediate outcomes (behavior changes) included increased adoption and use of effective IPM BMPs by farmers, ranchers, institutions and municipalities, landscape professionals, and homeowners. Short-term outcomes (knowledge changes) included increased awareness and knowledge of water quality issues and increased expertise in appropriate IPM strategies among Master Gardeners, conservation districts, landscapers, Technical Service Providers, etc.

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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