

Pesticide Stewardship Partnerships in Oregon

Background

The Oregon Department of Environmental Quality uses Pesticide Stewardship Partnerships to identify potential problems and improve water quality associated with pesticide use around Oregon.

Established in 2000, the PSP approach uses local expertise combined with water quality sampling results to encourage voluntary changes in pesticide use and practices. These changes can lead to measurable environmental improvements, thus making water safer for aquatic life and humans. Healthier rivers and streams are essential for communities that may rely on them for drinking water or manufacturing processes, for people who swim and fish in these waters, and for myriad other uses.

What partnerships do

Pesticide Stewardship Partnerships do the following:

- Identify local, pesticide-related water quality issues
- Share water quality monitoring results early and often with local communities and all those who have a direct interest in the state's waters
- Explain data in relation to effects and water quality criteria or benchmarks
- Engage pesticide users and technical assistance providers to identify and implement solutions
- Use long-term monitoring to measure success and provide feedback to support water quality management

The partnerships use both water quality and crop quality as measures of success. Pest management and water quality management must both be effective for long-term stewardship of natural resources.

Early success stories

Working closely with local stakeholders in the early 2000s, DEQ started two pilot projects in the Columbia Gorge area: Hood River and Mill Creek. DEQ and others with direct interest in local water quality assessed whether current-use pesticides were detectable in local surface waters at concentrations of concern. In both basins, initial data showed repeated detections of the

pesticide chlorpyrifos at levels that didn't meet state water quality standards. Hood River also had ambient water quality that didn't meet standards for the insecticide azinphos methyl, and Mill Creek had elevated levels of the insecticide malathion. Local partners, including Columbia Gorge Fruit Growers and the Oregon State University Extension Service, used the water quality data and local expertise to change the region's pesticide management and application processes.

Both pilot projects showed substantial improvements in water quality associated with changes in pesticide management practices. Improvements in the Hood River watershed are shown on the graphs on page 3.

Projects launched since 2005

The Hood River and Mill Creek successes showed the Pesticide Stewardship Partnership approach could be an effective, timely alternative to traditional regulatory approaches dealing with "non point" sources of chemicals in water, such as agricultural lands and residential areas.

DEQ secured federal grant funds to start similar projects in other parts of Oregon. Between 2005 and 2007 four new partnerships formed with local stakeholders in the Walla Walla, Clackamas, Pudding and Yamhill River watersheds. In 2010, the most recent partnership formed in the Amazon Creek Watershed near Eugene, with the Long Tom Watershed Council taking the lead role.

Land uses near water sampling sites in these watersheds include a broad range of agricultural crops, managed forest lands, and urban and rural residential landscapes. Local and state partners involved in these projects include: OSU's Extension Service and Integrated Plant Protection Center, soil and water conservation districts, watershed councils, grower groups, tribal governments, agricultural chemical suppliers, and the Oregon departments of Agriculture and Forestry.

As in the pilot projects, reductions in organophosphate insecticide concentrations occurred in streams within these watersheds since the projects began, most notably in the Walla Walla watershed (see graph).



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In addition, the DEQ laboratory in 2009 increased the number of pesticides it analyzes from 15 to 100. As a result, the state can detect some newer-generation pesticides in PSP watersheds, while others have not been seen or are seldom detected. This data helps focus outreach and technical assistance efforts in the watersheds.

Future direction

The Oregon Water Quality Pesticide Management Team helps guide current and future direction for the Pesticide Stewardship Partnership program. The team includes DEQ, Oregon Health Authority, Oregon Department of Agriculture and the Oregon Department of Forestry. This inter-agency collaboration, along with the watershed-based partnerships, will ensure the program’s continued effectiveness and improvement.

For more information about this team and its activities, see the Oregon Department of Agriculture page at www.oregon.gov/ODA/PEST/water_quality.shtml.

For more information

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