

## Pesticide Stewardship Partnerships in Oregon

### Background

Established in 2000, the PSP approach uses local expertise combined with water quality sampling results to promote voluntary changes in pesticide use practices that result in improvements to water quality that benefit human health and aquatic life. Healthy rivers and streams are essential for communities that may rely on them for drinking water, manufacturing processes, and agriculture and for people who swim and fish in these waters.

At the statewide level, the PSP program is managed by the Oregon Water Quality Pesticide Management Team, which is composed of the Oregon departments of Agriculture, Environmental Quality, and Forestry; the Oregon Watershed Enhancement Board; the Oregon Health Authority; and Oregon State University. This Team uses PSP data and information to identify priority pesticides and potential problems, and work with local partners to improve water quality associated with pesticide use in Oregon.

In 2013, the Oregon legislature began fully funding the program through state general funds and pesticide registration fees. These funds are used to conduct water quality sampling, support watershed partners, provide grants for projects that reduce pesticide loading to water, and support the collection and disposal of waste pesticides around the state.

### What partnerships do

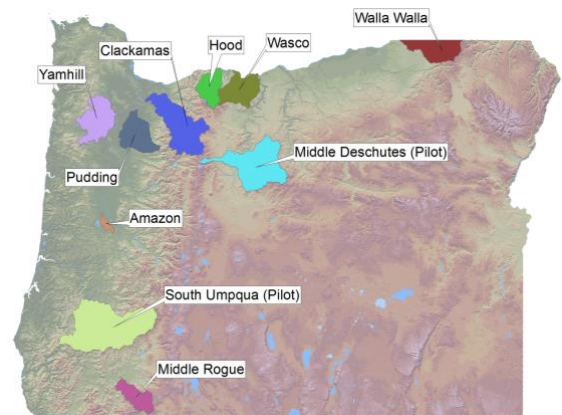
Pesticide Stewardship Partnerships do the following:

- Identify local pesticide-related water quality issues
- Share water quality monitoring results early and often with local communities and all those interested 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 pesticide reducing actions
- Use long-term monitoring to measure success and provide feedback to support water quality management
- Provide financial support to PSP partners to promote increased stewardship of pesticides to enhance water quality

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

### Pesticide Stewardship Partnership Projects

Currently there are nine designated partnerships in Oregon. There are two pilot studies ongoing to assess whether a PSP designation is warranted (Middle Deschutes and South Umpqua).



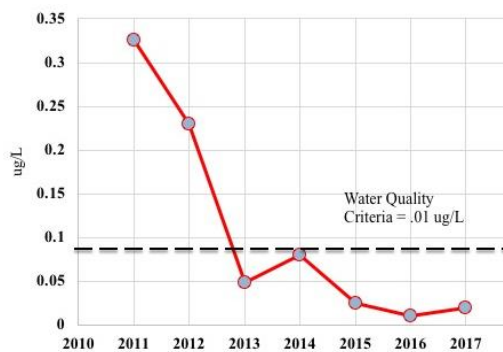
*Current (2018) Pesticide Stewardship Partnership and Study Areas*

Land use within each of the partnerships vary. In some areas watershed partners place an emphasis on urban pesticide use, in others agriculture and/or commercial forestry may be of greatest concern. This diverse mixture captures the vast majority of pesticide

application types and provides a balanced assessment of the effectiveness of current use practices and their impact on ground and surface water quality.

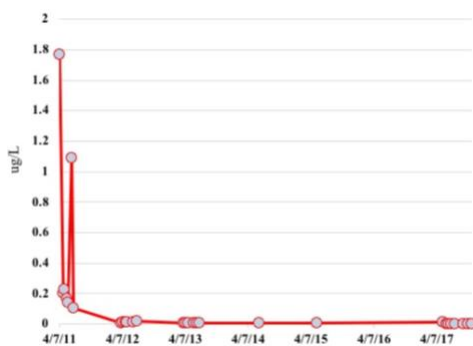
**Success stories**

In the early 2000s, DEQ began working closely with local stakeholders in two areas in the Columbia Gorge that expressed concern regarding exceedances of water quality criteria for the insecticide chlorpyrifos. Additionally, ambient water quality standards for the insecticide azinphos-methyl were not being met and elevated levels of the insecticide malathion were present. Local partners, including Columbia Gorge Fruit Growers and the Oregon State University Extension Service, used the water quality data and local expertise to improve the region’s pesticide management and application process.



*Average detected malathion concentrations in Wasco Pesticide Stewardship Partnership*

In 2012, significant increases in the detection of the herbicide diuron were noted and traced to its application in irrigation canals.



*Diuron detections at Walla Walla station 37084*

The irrigation district worked with the PSP partners and discontinued the use of diuron along ditch banks, resulting in significant decrease of diuron detections within a short period time.

Pesticide trends over the past five years generally shown decreases in concentrations or lack of pesticide detections in a majority of the PSP areas. Areas where pesticide concentrations fail to show decreases are confined to sub-basins requiring implementation of additional management measures.

**Advancements over time**

Since the beginning of the PSP, the number of pesticides that are monitored has increased significantly. Currently, the program monitors for 78 registered pesticides, 43 non-registered pesticides, and 11 pesticide metabolites. This number is expanded on an annual basis to consider new pesticides entering the marketplace.

The complexities of pesticide use in agricultural areas west of the Cascade Mountains has dictated that PSP evaluations be conducted on sub-watershed areas within the larger PSP designated areas. This allows for more precise allocation of education and outreach resources and limits the uncertainty associated with the evaluation of management measure effectiveness.

**Future Direction**

The Oregon Water Quality Pesticide Management Team helps guide current and future direction for the Pesticide Stewardship Partnership program. This interagency collaboration along with the watershed-based partnerships will ensure the program’s continued effectiveness and improvement.

**For more information**

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