

## Pesticide Stewardship Partnership 2015-17 Biennial Report

### Background

The Pesticide Stewardship Partnership Program (PSP Program) is a cooperative, voluntary effort that is designed to identify and address concerns regarding surface and groundwater affected by pesticide use within Oregon. Since 2013, the Oregon Legislature has supported the implementation and expansion of the PSP Program, that now addresses pesticides applied in watersheds that encompass applications from urban, forested, agricultural and mixed land uses. As part of the PSP program a report must be issued detailing the activities of the program at the conclusion of each biennium.

### 2015-17 Funding

The PSP Program budget for the 2015-17 biennium was \$1,695,009.00. These funds were utilized to support water quality monitoring in 11 watersheds throughout Oregon. These funds also supported local and regional technical assistance projects and the collection and legal disposal of waste pesticide materials.

### Water Quality Monitoring

Water quality data was collected in 11 PSP and pilot watersheds at approximately 54 specific locations during the biennium.

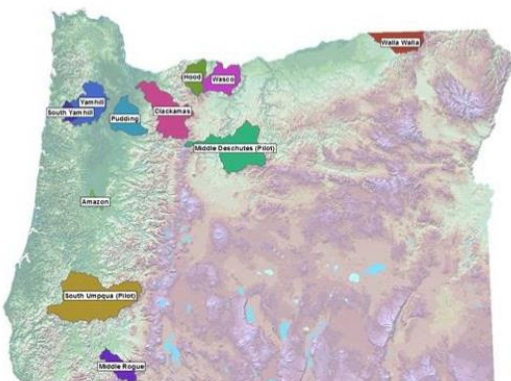


Figure 1: PSP Program areas active during the 2015-17 biennium

During the course of the biennium 1200 individual surface water samples were analyzed

for 89 currently registered pesticides, 26 non-registered pesticide and 18 pesticide breakdown products.

The results of sampling stations from which both 2013-15 and 2015-17 datasets were compared. 28% indicated either higher levels of at least one pesticide, or increased frequency of detection of at least one pesticide. During these time frames 72% of the monitored stations indicated improvements or remained unchanged in respect to pesticide occurrences. Those monitoring stations demonstrating declines in water quality generally represented small sub-basins within the larger PSP areas.

Specific improvements of note were:

**Amazon** The total number of pesticide benchmark exceedances in the Amazon watershed decreased from 5 in 2015 to 1 in 2017. Additionally, the median concentration of the fungicide propiconazole dropped from .56 µg/l in 2015 to .09 µg/l in 2017, an 83% reduction

**Clackamas** The overall concentrations of the insecticide chlorpyrifos declined over the past five years. The median watershed concentration measured for chlorpyrifos in 2012 was 0.38 µg/l and in 2017 that had dropped to 0.09 µg/l resulting in decrease of nearly 75%.

**Hood River** There were no benchmark exceedances in 2016 or 2017 for any pesticides except for one detection of imidacloprid in each of those years.

**Walla Walla** Between 2015 and 2017 in the Walla Walla watershed, the total number of pesticide detections in the watershed dropped from 58 to 24, and the total number of individual pesticide ingredients or degradates detected decreased from 18 to 7. In regards to the herbicide diuron which demonstrated significant concentrations in 2010 in the watershed, the

average concentration decreased from 1.53 ug/L in 2010 to .00914 ug/l in 2017 a 99.4% decrease.

**Wasco** The percentage of malathion detections above the Oregon water quality criterion of 0.1 µg/l in Wasco streams decreased from 86% in 2011 to 20% in 2017, and median water concentrations decreased by 95.6% during the same time frame.

#### **Technical Assistance and Outreach**

During the 2015-17 biennium, the PSP Program funded five grant projects. These projects were designed to address specific pesticide issues such as water quality protection, Integrated Pest Management (IPM) strategies and pesticide fate and transport. Recipients of these grants included:

- Oregon State University (3) projects
- Northwest Center for Alternatives to Pesticides
- Columbia Gorge Fruit Growers

A total of \$165,188.77 was awarded for these projects.

#### **Data Communication, and In-Kind Services**

As part of the PSP program, information and data was presented at numerous forums throughout the state. These included presentations at regional grower organizations, OSU pesticide re-certification courses and other continuing education programs, farm fairs, and other meetings dealing with pesticide management. The purpose of these presentations is to increase awareness and catalyze stewardship actions.

Information regarding water quality was presented to every designated PSP and pilot area, generally twice per year. The purposes of these presentations are to help interpret the data and assist the partners in the development of management actions that should be considered as a result of the water quality findings.

#### **Changes in Watershed Activities**

**South Yamhill** Water quality monitoring activities were discontinued in the South

Yamhill PSP area. The results of six years of water quality data yielded few detections of pesticide residues with the highest concentration slightly exceeding 10% of aquatic life benchmarks.

**Funding of PSP Partners** In response to significant federal funding available to support local water quality sample collection, the PSP program established “partner grants. These grants helped facilitate data collection, enhance education and outreach efforts, and begin the collection of stream flow data necessary to determine changes in pesticide loading to water bodies. The total amount awarded for these grants was \$52,375.00.

**Pilot Projects** Two pilot projects were continued in the 2015-2017 biennium, the South Umpqua and the Middle Deschutes. The South Umpqua is focused on evaluating impacts from commercial forestry and agriculture. The Middle Deschutes study is focused on pesticide impacts on water bodies from specialty crops and alfalfa. During the next biennium a decision will be made regarding whether to elevate one of both of these areas to PSP status.

#### **Waste Pesticide Collections**

Waste pesticide collection event were held at 16 locations throughout the state during the biennium. 237 individuals participated in the collection events which removed 142,336 pounds of material that would otherwise present a potential threat to water and land resources. The total costs of these events were \$241,370.00. The waste pesticide collection remains one of the most popular activities of the PSP program.

Contact Kevin Masterson, DEQ Toxics coordinator at (541) 633-2005 or [Masterson.kevin@deq.state.or.us](mailto:Masterson.kevin@deq.state.or.us)

Kirk V. Cook, RG, ODA Pesticide Stewardship Specialist at (541) 841-0074 or [kcook@oda.state.or.us](mailto:kcook@oda.state.or.us)