

2018 End of the Year Summary of Accomplishments Water Quality Pesticide Management Team

South Yamhill Pesticide Stewardship Partnership (PSP) Report

In August 2018, the WQPMT released the final report regarding the South Yamhill PSP. This area is located directly west of the Greater Yamhill PSP. Land use is predominately commercial forestry. Following the collection and analysis of seven years of water quality data from three monitoring locations within the South Yamhill PSP, the WQPMT concluded that further monitoring was not warranted due to the infrequency of pesticide detections and the low concentrations observed when detections did occur.

The report recommended that consideration be given to the establishment of another PSP that would provide further examination of the impact of pesticide use in commercial forestry and agricultural operations. The report also identified several improvements that could be made in monitoring and data analysis for current and future PSP's that would help to strengthen the program.

The final report can be found at:

<https://www.oregon.gov/ODA/shared/Documents/Publications/PesticidesPARC/SouthYamhillPSPReport.pdf>

WQPMT members have made presentations to the regional forestry practices committees that help advise the Department of Forestry. The response to the South Yamhill report has been favorable and has spurred interest among land owners and the WQPMT in continuing an evaluation of the potential effects of herbicide application on commercial forest lands. To that end discussions are presently occurring between local partners, forest land owners and the WQPMT regarding continuing the South Umpqua pilot study or elevating it to a formal PSP area.

2015-17 Pesticide Stewardship Partnership Biennial Report

In December 2018, the WQPMT released the 2015-17 biennial report on Pesticide Stewardship Partnership activities. The report details all the activities conducted within the PSP program including fiscal accounting, monitoring results, technical assistance and partner grants, and waste pesticide collections.

The report found that generally there have been improvements in water quality (i.e. pesticide reductions) across all PSP areas. However, the report also found that within several PSP areas, small sub-watersheds continued to demonstrate little to no improvement in water quality. The results found these smaller areas tended to skew the overall progress when viewing data results across the larger PSP areas. As a result, the report recommends that in upcoming biennium's greater attention be dedicated to areas that have continual pesticide concerns and less on areas demonstrating few to no pesticide detections.

The general report is accompanied by nine watershed specific summary reports for established PSP areas. These reports provide greater detail as to monitoring results, effectiveness of management measures, implemented technical assistance projects, and waste pesticide collection accomplishments.

These summaries can be found at:

<https://www.oregon.gov/oda/programs/pesticides/water/pages/pesticidestewardship.aspx>

The general report can be found at:

<https://www.oregon.gov/ODA/shared/Documents/Publications/PesticidesPARC/PSPBienniumReport2017.pdf>

Strategic Planning Activities

In response to inquiries from various member agencies and stakeholders regarding progress and impact the PSP program has made on lowering pesticide concentration in Oregon's water bodies, the WQPMT proposed a modification to operational practices. In September the WQPMT was presented with a proposal that would require each current and future PSP area to develop and implement a Strategic Plan. These plans would be developed by local coordinating councils with guidance from the WQPMT. The plan would include watershed level components for:

- a process to identify pesticides of concern in each watershed
- identification of key pesticide applications,
- a monitoring program based on land use and pesticide occurrence
- a list of feasible application methodologies
- an analysis of baseline water quality data
- feasible goals for determining success
- an outreach and education plan informed by data, land use, public concerns, and fiscal limitations, and
- documentation of the types of outreach and training efforts, and participants.

The heart of the Strategic Plan would be the definition of goals, evaluation of the effectiveness of management measures, plan for future technical assistance projects, and evaluation of additional fiscal opportunities to support PSP activities. These elements would be developed by the coordination councils and signed by the agency or organizational representative and be effective for a five-year period.

Currently, the Middle Rogue PSP is undertaking this effort with technical and financial support from the WQPMT through a \$32,000.00 technical assistance grant. A template has been developed for future PSP Plans and is currently under review by WQPMT members.

Outreach and Technical Assistance

In 2018, members of the WQPMT participated in numerous education and outreach events. Many of these events included continuing education opportunities for pesticide licenses and were

conducted in coordination with Oregon State University, and commodity organizations. The presentations made by WQPMT team members focused on the structure of the PSP program, water quality results, documented water quality improvements and discussions of the effectiveness of proven management measures implemented to reduce pesticide concentrations in water bodies.

The presentations and discussions of water quality data results is a key feedback loop in the PSP program. Presentations made to PSP partners including:

- Amazon
- Clackamas
- Hood River
- Pudding-Molalla
- Middle Deschutes
- Middle Rogue
- Wasco
- Greater Yamhill

As a result of the publication of the South Yamhill report in the fall of 2018, WQPMT members, representing DEQ, ODA, and ODF were asked to conduct several presentations focused on the results of that study as it related to the commercial industry. Those presentations have spawned renewed interest between the industry and the WQPMT to further investigate and assess potential links between herbicide application and water quality to include the effectiveness of Forest Practices Act in limiting herbicide residues in water.

Additional outreach was conducted to stakeholder organizations such as the Oregon Environmental Council, Oregonians for Food and Shelter, and the Oregon Farm Bureau. Stakeholder outreach is occurring, but could be improved. The WQPMT will examine ways to improve outreach to environmental and commodity organizations in 2019.

Significant technical assistance was provided to PSP partners in the establishment of a Strategic Planning process (Middle Rogue and Clackamas). In addition, technical assistance was provided in the evaluation of sediment data and the collection of stream flow measurements and the evaluation of pesticide loadings to water using that data.

Pesticides of Concern

A key component of the PSP Program is the designation of statewide Pesticide of Concern (POC's) and pesticide of interest (POI's). The current methodology was developed in 2012-13 and uses pesticide detection frequency and percentage of aquatic life benchmark as major elements in determining what is and what isn't a POC or POI. The methodology also uses the total water quality database in informing that decision. Upon further discussion, the WQPMT is proposing to replace the term POC with "High Level of Concern" and the term POI with "Moderated Level of Concern".

Recognizing the need to update the current methodology, the WQPMT has developed a proposed modification to the that methodology.

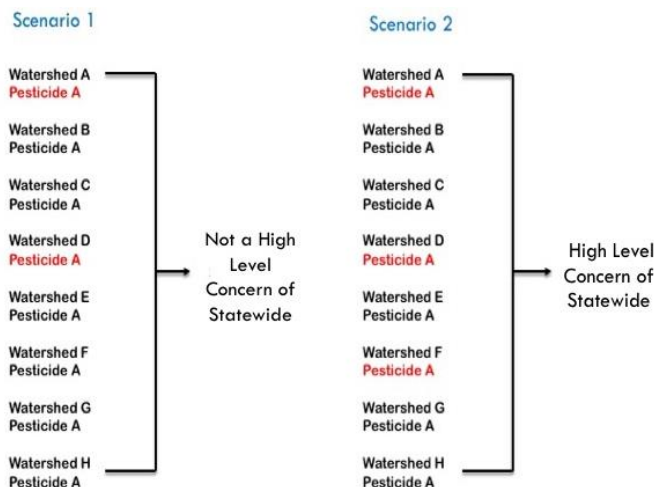
The new proposal significantly refines the matrix table to what is presented below.

Decision Matrix Based on Water Monitoring Data Detected concentration relative to aquatic life benchmarks (ALB) and frequency of detection				
Reference Level				
Frequency of Detection Last 5 Years	≥ 1 Detections at or above 50% of acute ALB	≥ 3 Detections at at or above 50% of chronic ALB	1-2 Detections at or above 50% of chronic ALB	No Detections over 50% of any ALB
100 – 75.1 %	High Level of Concern	High Level of Concern	High Level of Concern	Moderate Level of Concern
75 – 50.1 %	High Level of Concern	High Level of Concern	Moderate Level of Concern	Low Level of Concern
0 – 50%	High Level of Concern	High Level of Concern	Moderate Level of Concern	Low Level of Concern

Each Pesticide Stewardship Partnership area will determine the level of concern for detected pesticides. Pesticides that are deemed of high concern in over 33% of The PSP areas will be designated as statewide pesticide of high concern or statewide Pesticides of concern (POC's)

This proposal has been submitted to three region 10 states (Alaska, Idaho, and Washington) for consideration in using it as the uniform methodology for in the region. Recent conversations with Region 10 states indicate positive feedback for this proposal and the real potential of adoption regionwide of this single methodology. Additional comments are expected by mid-April at which time the WQPMT will submit this proposal to agencies and stakeholders for feedback.

Additionally, there would be a two-tiered system established, where by each existing PSP area would determine their pesticide of high concern and pesticide of moderate concern. In determining what would be designated as a statewide high concern, those designations would have to appear in 30% or more of the existing PSP areas.



A comparison of the results using the current methodology and employing the proposed methodology is presented below.

2013 Methodology		2018 Proposed Methodology	
High Concern	Moderate Concern	High Concern	Moderate Concern
Azinphos-methyl Carbaryl Chlorpyrifos Diuron Ethoprop Malathion	2,4-D Atrazine Methomyl Metolachlor Metribuzin Metsulfuron methyl Propiconazole Simazine Sulfometuron methyl	Chlorpyrifos Diazinon Diuron Imidacloprid Malathion Oxyfluorfen	Atrazine Bifenthrin Carbaryl Dimethenamid Metolachlor Sulfometuron methyl Simazine

If adopted this methodology will be used to establish management measure priorities statewide and will be used in reporting yearly progress to the U.S. Environmental Protection Agency.

In determining a statewide pesticide of moderate concern, the same 30% criteria would apply, *i.e.*, if a pesticide is designated as being of moderate concern in 30% or more of the watersheds, it would be considered a statewide pesticide of moderate concern. Additionally, a pesticide could be designated as a statewide pesticide of moderate concern if it failed to meet the 30% criteria for a pesticide of high concern, but was designated as a pesticide of high concern in between 20 and 29.9 % of the watersheds.

The results of an analysis of this proposed methodology indicates those pesticide making the list would truly be of concern statewide, and therefore a more accurate reflection of the state of Oregon’s water bodies in regards to pesticide residue occurrence. In addition, if there are pesticides that are of high or moderate level of concern in a small number of PSP’s, those pesticides would be recognized and specifically addressed in those impacted PSP’s.

The WQPMT will need to conduct an outreach component to this proposal for stakeholders explaining the need for this modification and the benefits to the state and pesticide users. That outreach will be conducted early 2019 and will occur prior to a final decision on adoption.

ODEQ PSP Data Viewer Application

In early 2018, Colin Donald (DEQ) presented the WQPMT with a prototype of a web-based application that would provide users with graphical analysis of PSP water quality data. The application allows the users to view data from any individual PSP area, any timeframe, and by any individual pesticide.

As development progressed, guided by the WQPMT, additional elements were added to include monitoring station location, and a reference section explaining the characteristics of each pesticide (including active ingredient and common trade name). In mid-2018, land cover maps for land use and crop type were added. In response to concerns from several stakeholder

organizations regarding data results and mapping locations, the Oregon Watershed Enhancement Board (WQPMT member agency) hosted a demonstration and discussion with upper management from several key WQPMT member agencies. As a result of that meeting the WQPMT will be developing language that discusses the concept of non-point source pollution, clearly identifies the limitations of some of the data layers, and further refines the reference section. These modifications should provide the general public with information necessary to fully understand the application. Additionally, when the modifications are completed, the applications will be presented to agricultural, forestry, and environmental interests prior to release to the general public. Currently, the web-based application is not due to go online until later Spring 2019.

Review and Examination of WQPMT Process and Goals

Beginning in September (Bend, OR meeting) the WQPMT began to review elements of how the “team” operates. This included:

- The interaction process between the WQPMT and watershed partners
- The technical assistance needs between WQPMT and watershed partners
- How the WQPMT can improve the interaction with stakeholders and member agency management
- Modification of the current MOU to include update of member agencies
- Examination of potential roadblocks to effective decision making
- Examination and potential modification of baseline establishment, and achievement of water quality goals statewide and within watersheds
- Development of outreach and education elements for use by watershed partners and general public and documentation of training and educational efforts.

These discussions continue into 2019. Refinement or development of pathways for these and other critical elements of WQPMT operations are expected to make the WQPMT more effective and transparent to member agencies, stakeholders, and the general public.

Recently, the WQPMT has discussed the possibility of establishing a stakeholder advisory group that would provide feedback to the WQPMT on a variety of issues prior to enacting or recommending actions that could impact pesticide use. A draft proposal is currently being developed that when completed will be discussed among WQPMT members then forwarded to agency management for input and potential implementation.