

# SAMPLING AND ANALYSIS PLAN

## Pesticide Stewardship Partnership

### SECTION A – PROJECT MANAGEMENT

#### A1. Title and Approval Sheet

This is a Sampling and Analysis Plan which falls under the parent/umbrella QAPP for “Pesticide Stewardship Partnerships” ([DEQ05-LAB-0022-QAPP](#))

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Kevin Masterson, Toxics Coordinator & Project Manager

Date

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Scott Hoatson, Quality Assurance Officer (QAO)

Date

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**Signed Copy on File at DEQ**

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### A3. Distribution List

The following personnel will be emailed regarding all aspects of this SAP. Deviations from this SAP must be communicated in writing (e-mail is acceptable) to all individuals identified in Table 1 by the person making the change and a revision to this SAP will be re-issued.

**Table 1 Distribution List / Responsibilities**

Name, Responsibility	Phone	Email
Kevin Masterson, Agency Toxics Coordinator & Project Manager	503.229.5615	<a href="mailto:Masterson.kevin@deq.state.or.us">Masterson.kevin@deq.state.or.us</a>
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Sarah Rockwell, Project Data Coordinator & Third Party Data Coordinator	503.693.5775	<a href="mailto:Rockwell.sarah@deq.state.or.us">Rockwell.sarah@deq.state.or.us</a>
RaeAnn Haynes, Inorganic Section Manager	503.693.5757	<a href="mailto:Haynes.raeann@deq.state.or.us">Haynes.raeann@deq.state.or.us</a>
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### A4. Problem Definition/Background

Since 1999, the ODEQ has been using a voluntary, collaborative approach called Pesticide Stewardship Partnerships (PSPs) to identify problems and improve water quality associated with pesticide use at the local level. This document consolidates the non-Hood basins and Hood basin into a single SAP. This SAP is for the continued sample collection and analysis for the Yamhill, Walla Walla, Wasco, Clackamas, and Pudding basins. This work is an effort to continue the monitoring program in Non - Hood River basins. Prior to this SAP each basin had its own SAP. The SAPs listed in Table 2 are to be archived with the approval of this SAP.

**Table 2: Archived SAPs**

Basin	Document Control Number Pre- 2009	Document Control Number 2009 - 2010
Hood	DEQ06-LAB-0044-SAP	DEQ06-LAB-0044-SAP
Yamhill	DEQ07-LAB-0012-SAP	DEQ09-LAB-0034-SAP
Walla Walla	DEQ08-LAB-0020-SAP	DEQ09-LAB-0034-SAP
Clackamas	DEQ06-LAB-0017-SAP	DEQ09-LAB-0034-SAP
Pudding	DEQ06-LAB-0009-SAP	DEQ09-LAB-0034-SAP
Wasco		DEQ09-LAB-0034-SAP

### A5. Project/Task Description

Water samples will be collected beginning approximately in March on a weekly / biweekly basis depending on basin and resources. These samples will be analyzed for all parameters listed in

the Quality Assurance Project Plan (DEQ05-LAB-0022-QAPP) including insecticides, fungicides and herbicides, total solids (TS), and general water chemistry parameters.

Yamhill Basin

Sampling Organization\*: Greater Yamhill Watershed Council  
Bernadette Hansen  
Watershed Coordinator  
P.O. Box 1517  
800 NE 2nd Street  
McMinnville, OR 97128  
gywc\_coordinator@co.yamhill.or.us  
Phone: 503.474.1047

Upper South Yamhill Basin

Sampling Organization: Confederated Tribes of Grande Ronde  
Rebecca McCoun  
41070 SW Hebo Road  
Grand Ronde, OR 97347  
office: 503-879-2396  
[Rebecca.McCoun@grandronde.org](mailto:Rebecca.McCoun@grandronde.org)

Mid Columbia Basin

Sampling Organization: Wasco SWCD  
Kate Conley  
2325 River Road, Suite 3  
The Dalles, OR 97058  
office: 541-296-6178 x 119  
[kate.merrick@or.nacdn.net](mailto:kate.merrick@or.nacdn.net)

Hood Basin

Sampling Organization: Megan Saunders  
Hood SWCD  
Hood River Soil & Water Conservation District  
3007 Experiment Station Road  
Hood River, OR 97031  
Office: 541-386-6063  
[hrwg@gorge.net](mailto:hrwg@gorge.net)

Walla Walla Basin

Sampling Organization: Walla Walla Basin Watershed Council  
Troy Baker  
P.O. Box 68, Milton Freewater, OR 97862  
office: 541-938-2170  
[troy.baker@wwbwc.org](mailto:troy.baker@wwbwc.org)  
wwbwc.org

Pudding Basin

Sampling Organization\*: Marion Soil and Water Conservation District  
Scott Eden  
650 Hawthorne Avenue SE # 130  
Salem, OR 97301  
office: 503-399-5741 x 118  
[www.marionswcd.net](http://www.marionswcd.net)

## Clackamas Basin

Sampling Organization\*: Clackamas River Basin Council  
Becki Walker  
P.O Box 1869  
Clackamas, OR 97015  
office: 503-558-0505  
[www.clackamasriver.org](http://www.clackamasriver.org)

Upper Willamette Basin – Long Tom – Amazon Creek  
Sampling Organization: Long Tom Watershed Council  
Jason Schmidt  
751 S. Danebo Avenue  
Eugene, OR 97402  
office: 541-338-7042  
[ltwc.jschmidt@gmail.com](mailto:ltwc.jschmidt@gmail.com)  
[www.longtom.org](http://www.longtom.org)

\* The Yamhill, Pudding, and Clackamas basins may be sampled by ODEQ laboratory staff as necessary.

Analytical Organization: Oregon LEAD and Environmental Assessment Division  
3150 NW 229<sup>th</sup> Avenue  
Suite 150  
Hillsboro, Oregon 97124  
Ph: (503) 693-5700  
Contact: Christopher L Redman

The general time frame for the project is as follows: As this project relies on the weather to determine the start of the sampling period this time outline may vary year to year. The number of sampling events is estimated at the beginning of the season. The actual number will depend on funding and laboratory capacity.

### **SPRING sampling events**

**February – March:** Confer with stakeholders and finalize SAP.

**Phase One:** Meet with local stakeholders to review historic data and discuss the current year sampling plan. Prepare draft SAP and QAPP and access agreements to conduct sampling. Preparation of equipment for water sampling

**March – July:**

**Phase One:** Collection of water samples. First sampling event will coincide with spring insecticide applications in late March and continue approximately weekly through early July.

**Phase Two:** Begin analysis of analysis of water samples.  
Begin initial data analysis and provide preliminary data reports to project partners, as data becomes available.

### **FALL sampling events – may occur, depending on resource availability**

**September – December:**

**Phase One:** Collection of water samples. Exact sampling period and sampling startup date TBD, but expected to begin in October and continue into early December.

**Phase Two:** Complete analysis and release data for spring/summer samples.

**January - July**

**Phase One:** Complete analysis and release data for fall/winter samples.

**Phase Two:** Data analysis and interpretation; Report preparation and completion.

**Phase Three: Continue cycle and start spring sampling event for next year.**

**Table 3: Planned Project Schedule**

ACTIVITY	ESTIMATED START DATE	EXPECTED TAT
Sample(s) Collected	March 19, 2012	
Laboratory Analytical Report		120 days from Receipt of samples
<b>Q Time Number:</b>	<b>TBD</b>	

## **A6. Quality Objectives and Criteria**

Samples will be collected, analyzed, and reported following the QAPP for the Pesticide Stewardship Partnership ([DEQ05-LAB-0022-QAPP](#)) that is in effect during the time of the work.

## **A7. Documentation and Records**

Samples collected from the field will be returned to the analytical laboratory with the current “Chain of Custody” form. The LEAD will maintain analytical records as prescribed by DEQ00-LAB-0004-SOP. Quality Systems documents will be maintained as described in DEQ02-LAB-0004-SOP.

# **SECTION B – DATA GENERATION AND ACQUISITION**

## **B1. Sampling**

Sampling design, collection, methods, and handling will be managed by the Sampling Organization identified in section A5. The sampling organization will ensure that all samples will be collected in the appropriate sample containers, preserved as identified in the appropriate reference methods, and transported to the analytical organization within the appropriate sample holding times, with the appropriate documentation, and under the appropriate sample transport conditions. The analytical laboratory assumes no responsibility for the quality of data resulting from samples that were collected, shipped, or stored under inappropriate conditions.

Table 4 lists the sample locations established for this project. Locations will be sampled each year based on availability of funding and other considerations, therefore, not all locations may be sampled in a given time period. Actual locations sampled will be identified on the Chain of Custody associated with each sampling event.

**Table 4: Summary of the possible sampling locations**

LASAR No.*	Yamhill Basin – Yamhill WSC		
	Site Name	Latitude	Longitude
28491	Lower Salt Creek at Hwy. 99W, north of Amity	45.1433	-123.2067
34039	North Yamhill River at Wennerberg Park	45.2918	-123.1897
34235	Middle Cozine Creek at Old Sheridan Road	45.1946	-123.1946
34234	Lower Cozine Creek at Davis St. Bridge	45.2048	-123.1952
28465	Yamhill Creek west of Hwy. 47	45.3372	-123.1881
10924	Yamhill River at Lafayette Locks Park	45.2402	-123.1084
34232	West Fork Palmer Creek at Webfoot Road	45.2119	-123.0854
34233	East Branch Palmer Creek at Stringtown Road	45.1968	-123.0839
LASAR No.*	Yamhill Basin – Grande Ronde Tribe		
	Site Name	Latitude	Longitude
36325	Rogue River at Hwy. 18 / Salmon River Hwy.	45.0602	-123.6580
36296	Agency Creek at SW Grand Ronde Road	45.0981	-123.6202
36297	Gold Creek at Gold Creek Road, third crossing from Fort Hill / Yamhill River Road	45.0250	-123.5491
LASAR No.*	Walla Walla Basin		
	Site Name	Latitude	Longitude
23487	SF Walla Walla River at Harris County Park	45.8293	-118.1651
23492	Walla Walla River at Day Road south	45.9010	-118.3332
32007	Walla Walla River at Grove School Bridge	45.9215	-118.3755
32008	Walla Walla River at Peppers Bridge	45.9880	-118.3742
32009	East Little Walla Walla River, N of Stateline Rd	46.0078	-118.4090
32010	West Prong Little Walla Walla R., N of Stateline Rd	45.9992	-118.4352
32012	Little Walla Walla River at The Frog	45.9449	-118.3940
33083	Little Walla Walla River, Mid West Prong	45.9744	-118.4172
33084	Little Walla Walla River, West Branch / Crocket	45.9699	-118.4106
LASAR No.*	Clackamas Basin		
	Site Name	Latitude	Longitude
32066	Sieben Creek at Hwy 212	45.4102	-122.5221
32068	Noyer Creek at Hwy 212	45.4172	-122.4082
32069	NF Deep Creek at Springwater Trail, Boring	45.4252	-122.3837
32074	Rock Creek at 172 <sup>nd</sup> , Stony Brook Court	45.4228	-122.4848
10868	NF Deep Creek at Hwy 212	45.4327	-122.3533



<b>LASAR No.*</b>	<b> pudding Basin Site Name</b>	<b>Latitude</b>	<b>Longitude</b>
31875	Little Pudding River at Rambler Road	45.0458	-122.8956
10646	Silver Creek at Brush Creek Road	45.0066	-122.8242
31872	Abiqua Creek at Gallon House bridge	45.0323	-122.7980
11516	Zollner Creek at Dominic Road	45.0860	-122.7860
10899	Zollner Creek at McKee-Monitor Road Bridge	45.1004	-122.8225
10917	Pudding River at Hwy 99E (Aurora)	45.2338	-122.7490
<b>LASAR No.*</b>	<b>Mid Columbia Basin – Wasco County Site Name</b>	<b>Latitude</b>	<b>Longitude</b>
36179	Fifteenmile Creek above Seufert Falls (aka Cushing Falls)	45.6119	-121.1176
25204	Threemile Creek at Hwy. 197	45.5980	-121.1350
28574	Mill Creek at 2 <sup>nd</sup> Street, The Dalles	45.6041	-121.1888
28575	Mill Creek at Wright Road	45.5932	-121.2093
30173	South Fork Mill Creek at Reservoir Road	45.5474	-121.3097
<b>LASAR No.*</b>	<b>Hood Basin Site Name</b>	<b>Latitude</b>	<b>Longitude</b>
13249	Odell Creek upstream of Odell WTPP outfall	45.6424	-121.5425
30174	Upper Neil Creek downstream EFIC	45.5983	-121.5004
11972	Lenz Creek at Mouth (Van Koten Property)	45.6438	-121.5152
13141	Neal Creek at Mouth	45.6637	-121.5246
<b>LASAR No.*</b>	<b>Upper Willamette Basin - Long Tom Tributary - Amazon Creek Site Name</b>	<b>Latitude</b>	<b>Longitude</b>
25624	Amazon Creek at 29th Street	44.0262	-123.0831
36389	Amazon Creek at Beltline Avenue	44.0497	-123.1731
36390	Amazon Creek at Bond Road	44.1233	-123.2360
36391	A1 Channel at Awbrey Lane	44.1278	-123.1907
25270	Amazon Creek at High Pass Road	44.2153	-123.2506

## B2. Sampling Methods, Sample Handling, and Custody

This Monitoring Project consists of solids and pesticides sample collection by watershed council and DEQ staff, with field parameters collected in some watersheds.

1. Field parameter measurements (temperature, conductivity, and turbidity) may be collected and recorded at each sample site where grab samples are collected
2. The grab samples for solids and pesticides will be collected, placed on ice, and delivered within holding times (holding time starts at the collection time of the first sample to the time in which the analysis begins) to the DEQ Laboratory.

Field Duplicates, Equipment/Transfer blanks, will be collected at a 10% frequency for each survey batch as defined in the QAPP. Multiple watersheds may be combined into one survey batch if collected on the same day by the same sampling team. Additional jars will be provided to accommodate the collection of the Matrix Spike / Matrix Spike Duplicate samples.

Extra containers for Matrix Spikes/Matrix Spike Duplicates will be collected at approximately 5% frequency. See Note 3 below.

A summary of the sampling containers, preservation requirements, and holding times is presented in Table .

**Table 5: Summary of sampling parameters**

Sample Type	Container	Preservation	Holding Time
Field parameters *	1000 ml P or 500 ml TSS	none	Immediate
Total Solids	1000 ml P or 500 ml TSS	Refrigerate (2 - 6°C) Shipped on ice	7 days
Pesticides/Herbicides by GC/MS CLLE, EPA 8270, Spring 2012	Amber glass 1250 mL (X)	Refrigerate (2 - 6°C) Shipped on ice	7 days to extract 40 days to analyze
Organic compounds by LC/MS/MS	Amber glass 1250 mL (X)	Refrigerate (2 - 6°C) Shipped on ice	7 days to extract 40 days to analyze
Phenoxy Herbicides + DCPA metabolites by SM6640 – Rogue/Umatilla **	125 mL amber glass (HV)	Refrigerate (2 - 6°C) Shipped on ice	7 days to extract 40 days to analyze

\* Field parameters may not be collected at all sampling sites or in all watersheds.  
 \*\* Based on sampling results, this analytical suite may be eliminated during the sampling season.  
 A complete list of analytes in each of these groups can be found in the Quality Assurance Project Plan for Pesticide Stewardship Partnerships (DEQ05-LAB-0022-QAPP).

Note 1: A standard set of sample containers will be 2 X jars, 1 HV jar, and 1 P or TSS bottle.

Note 2: A field duplicate set of sample containers will be 4 X jars, 2 HV jars and 2 P or TSS bottles per site and the field parameters will be done twice (if applicable).

Note 3: Two additional amber jars (X containers) and 2 additional small (HV) containers will be collected at one site every week (at least one per watershed, if possible, during the survey) to be used by the lab as needed for matrix spikes and matrix spike duplicates.

All samples submitted to the LEAD for analysis must be accompanied with the current “Chain of Custody” (COC) form. This form is a LEAD controlled records form ([DEQ06-LAB-0054-FORM](#)). The Data Coordinator will assist sampling organizations in acquiring and using the appropriate COC. In addition to biographical information typically required for COC’s, the LEAD requires the information listed in Table .

**Table 6: LIMS input data**

Basin	SAP ID	Sample Class	Subproject Key	Matrix
Hood	DEQ11-LAB-0003-SAP	Grab	510	SW
Yamhill	DEQ11-LAB-0003-SAP	Grab	1991	SW
Walla Walla	DEQ11-LAB-0003-SAP	Grab	874	SW
MidColumbia - Wasco	DEQ11-LAB-0003-SAP	Grab	633	SW
Clackamas	DEQ11-LAB-0003-SAP	Grab	871	SW

Basin	SAP ID	Sample Class	Subproject Key	Matrix
Pudding	DEQ11-LAB-0003-SAP	Grab	779	SW
Upper Willamette - Amazon	DEQ11-LAB-0003-SAP	Grab	2085	SW

### **B3. Analytical Parameters, Methods, and Quality Control**

Analytical parameters and method QC limits are defined in the associated QAPP.

Field instrument QC checks will be recorded on the field data sheets, if applicable. These results will be used to determine data quality of the field parameters. If an instrument passes pre-sampling QC but fails post-sampling QC, the field technician will request that the laboratory re-run the analysis in the lab (refer to the QAPP section [B4](#)). The Data Coordinator will determine if field values are to be qualified by using the control limits listed in appendix c (Data Quality Indicators) of the [Data Validation for the Lasar Database](#) guidance document.

The Walla Walla Basin Watershed Council will use a Hanna HI9828 portable multi-parameter meter to collect field data. QC check data will be recorded on the field sheets. This data will be used to determine field data quality levels. See product website at [HI 9828 Multiparameter Water Quality Portable Meter](#) for product specifications regarding range, accuracy and resolution.

### **B4. Data Management**

The Analytical Reports generated by the LEAD will be sent to the toxics coordinator and data coordinator as a link to an electronic PDF report. The LEAD will follow standard laboratory practices in generating the final analytical report. The official hard copy of the analytical report with signature(s) and supporting QC documentation will be kept on file at the LEAD. Copies of the report will be made available upon request. Unless otherwise arranged, data generated by the LEAD will be moved to the Laboratory Analytical Storage and Retrieval Database (LASAR) following release to the project coordinator. Data in LASAR is publicly available through the DEQ website at <http://deq12.deq.state.or.us/lasar2/default.aspx>.

## **SECTION C – ASSESSMENT AND OVERSIGHT**

Overall project assessment and oversight, including field activities, will be the responsibility of the project coordinator. Refer to the QAPP ([DEQ05-LAB-0022-QAPP](#)) for more specific details.

LEAD management and Quality Assurance Officers will provide assistance to the project coordinator as needed. The Quality Assurance Officers may conduct internal audits routinely or for cause. Any analytical anomalies or delays encountered during laboratory operations will be communicated to the Project Manager in writing (e-mail is acceptable). The Project Manager will also be notified in writing of any data quality limitations that may be the result of laboratory operations.

## **SECTION D – DATA VALIDATION AND USABILITY**

The LEAD will follow routine data review, verification, and validation procedures. Refer to the QAPP ([DEQ05-LAB-0022-QAPP](#)) for more specific details.

If it is call to the attention of the DEQ QAO that data quality issues exist, the QAO in their best judgment may flagged any and all data in the final analytical report that may be inaccurate, misleading, or otherwise fails to meet the LEAD's quality standards. Moreover, this data will be appropriately qualified prior to generating the final report.

**Only sample results of "A" or "B" quality will be reported and used by the Project Coordinator.**