

# Middle Rogue Pesticide Stewardship Partnership, 2023 Summary

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## Introduction

The Middle Rogue Pesticide Stewardship Partnership (MRPSP) was established in 2014 as part of the Oregon Department of Agriculture's statewide effort to monitor water quality, particularly in connection to agricultural practices. Each year the MRPSP team, led by Jackson Soil and Water Conservation District, collects water samples, which are analyzed by the Oregon Department of Environmental Quality. MRPSP uses the results to: identify pesticides of concern; assess their use; and inform outreach and education efforts about water quality and pesticide use with MRPSP's stakeholders. Stakeholders include agricultural applicators; state and county agencies; irrigation districts; landscape contractors; public and private forestry managers; urban and residential individuals and entities; industrial and commercial operations; and municipalities. The goal of the MRPSP is to keep pesticides on target and out of local rivers and streams.



**Figure 1:** 2023 MRPSP sampling locations. Regular sampling occurred on 16 dates from February to October.

## Monitoring

In 2023 the MRPSP collected water samples from three tributaries of Bear Creek: Jackson Creek, Lone Pine Creek, and Wagner Creek (Figure 1). Water samples were collected February to October.

### Terms to Know

#### **Aquatic Life Benchmark**

The concentration below which the pesticide is not expected to represent a risk of concern for aquatic life. The aquatic life benchmarks used are developed by the U.S. Environmental Protection Agency (<https://bit.ly/EPAaqualife>).

#### **Detection Frequency**

The proportion of grab samples in which a given chemical was detected above method reporting limits.

#### **Pesticide of Concern**

Pesticides that have been detected at concentration that approaches or exceeds aquatic life benchmarks. The States of Oregon, Washington, and Idaho use the same methodology for identifying pesticides of concern based on sampling data. MSRP prioritizes outreach and education on the pesticides detected most frequently and at concentrations that have the potential to harm aquatic communities.

## Results & Interpretation

During the 2023 sampling season, the MRPSP detected 13 different pesticides at least once. In total, there were 151 detections of pesticides. Herbicides were the most common type of pesticide detected.

As in 2022, the insecticide imidacloprid remains the primary pesticide of high concern in the Middle Rogue PSP. In nearly 10 percent of the samples taken, imidacloprid was detected at levels that exceeded the lowest, or most protective, Aquatic Life Benchmark that serves as a measure of the relative risk to aquatic species. During June, one sample that found concentrations of imidacloprid at 1,700 times the benchmark on Lone Pine Creek (the only creek it was detected in 2023 in the Middle Rogue).

**Table 1:** 2023 MRPSP pesticides of high concern.

Compound	Selected Trade Names	Number of Detections	Detection Frequency (%)	Number of Aquatic Life Benchmark Exceedances
<b>Imidacloprid</b> (Insecticide)	<i>Admire, Gaucho</i>	7	9	7
<b>Sulfometuron-Methyl</b> (Herbicide)	<i>Oust, Landmark</i>	11	14	0
<b>Metsulfuron-methyl</b> (Herbicide)	<i>Ally, Escort, Osprey</i>	20	30	0
<b>Diuron</b> (Herbicide)	<i>Karmex, Krovar, Direx</i>	11	14	0

Of the four watersheds sampled in 2023, Lone Pine Creek accounted for all the aquatic life benchmark exceedances and 86% of the total detections. Herbicides sulfometuron methyl, metsulfuron-methyl, and diuron are also pesticides of high concern and also most commonly found in Lone Pine Creek, though not exclusively. Glyphosate and AMPA are pesticides of moderate concern. Summary statistics regarding pesticides of high concern can be found in Table 1.

We continue to conduct additional sampling in Lone Pine Creek to better understand pesticide presence in the creek. We are also undertaking outreach efforts in the area to educate and inform residents and entities about the current conditions in the creek and best practices for pesticide use and water quality. We are hopeful that these efforts will result in lowered frequency of detections and concentrations of pesticides in this creek.

**Conclusion**

The MRPSP and its partners use the PSP sampling to monitor for the presence of pesticide residues in streams. The dataset is used to identify pesticides of high concern and prioritize education and outreach efforts to protect the health of local streams. The MRPSP has engaged in meaningful conversations with pesticide users

to discuss application strategies to reduce off-target movement and is working to develop further communication materials and strategies for the users of these chemicals. The intention of PSP monitoring is to guide education and outreach activities.

The MRPSP will continue to offer education and technical assistance regarding best management practices to minimize or prevent pesticides from entering the water.

**For further information visit:**

<https://www.jswcd.org/the-middle-roque-pesticide-stewardship-partnership>



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