

Ahtanum Creek

MARCH 2025

Summary of 2023 Surface Water Monitoring Program Results



Ahtanum Creek drains into the Yakima River just south of Union Gap, Washington. This creek provides spawning habitat for many species of endangered salmon and trout. Staff frequently observed juvenile fish of unknown species at the site.

In 2023, Washington State Department of Agriculture (WSDA) monitored 17 sites in Washington. Ahtanum Creek was one of three monitoring sites located in Yakima County.

Samples were analyzed at the Manchester Environmental Lab, Port Orchard, Wash.

WSDA compares detected pesticide concentrations to WSDA assessment criteria, which are half of state and federal water quality criteria. Each pesticide has its own assessment criteria, based on its toxicity to aquatic animals, insects, and plants.

Site information:

Years sampled: 2021 – 2023

Documented fish species: Spring Chinook and coho salmon; bull, rainbow, and summer steelhead trout (SalmonScape: apps.wdfw.wa.gov/salmonscape/)

Sampling dates:

14 weeks; March 27 – September 26

Water testing:

Samples were tested for 150 current and legacy chemicals (53 herbicides, 48 insecticides, 21 fungicides, 19 pesticide degradates, 5 legacy chemicals, 1 antimicrobial, 1 insect repellent, 1 synergist, and 1 wood preservative).



Results:

- There were 10 unique chemicals detected with a total of 24 detections in Ahtanum Creek. Of these, none were above WSDA assessment criteria.
- When multiple pesticides are detected simultaneously, the harmful effects can combine; multiple pesticides were detected almost every week Ahtanum Creek was sampled. Up to six pesticides were detected at each sampling visit.
- WSDA identifies some pesticides as Pesticides of Concern (POCs) when they have been detected above WSDA's assessment criteria and above established detection frequencies.

Watershed-specific POCs detected in Ahtanum Creek:

ICONS FOR ENVIRONMENTAL HAZARDS LISTED ON PESTICIDE LABELS



Chlorpyrifos - Insecticide



- *Common trade names:* Lorsban, Pilot, Vesper
- *Example uses within watershed:* golf course, ornamental, silviculture, turf
- As of 2023 chlorpyrifos is allowed for use on apples, alfalfa and sugarbeet in addition to non-food and feed crops in WA.
- A streamside no-spray buffer zone is required in Washington for chlorpyrifos to protect threatened and endangered Pacific salmon and steelhead.

gamma-Cyhalothrin - Insecticide



- *Common trade names:* Declare, Scion
- *Example uses within watershed:* alfalfa, corn, orchard, pasture, wheat

Products listed are for descriptive purposes only and do not imply endorsement by the author or the Department of Agriculture.

The calendar at right shows POC concentration in ug/L by their corresponding sampling date. This calendar does not include all the pesticides WSDA found during the growing season. Detected concentrations that exceed WSDA's assessment criteria have a higher potential to cause harm to aquatic ecosystems. Chlorpyrifos and gamma-cyhalothrin were not detected in 2023, however, they were still considered watershed POCs because of their exceeding detections in recent years at this site.

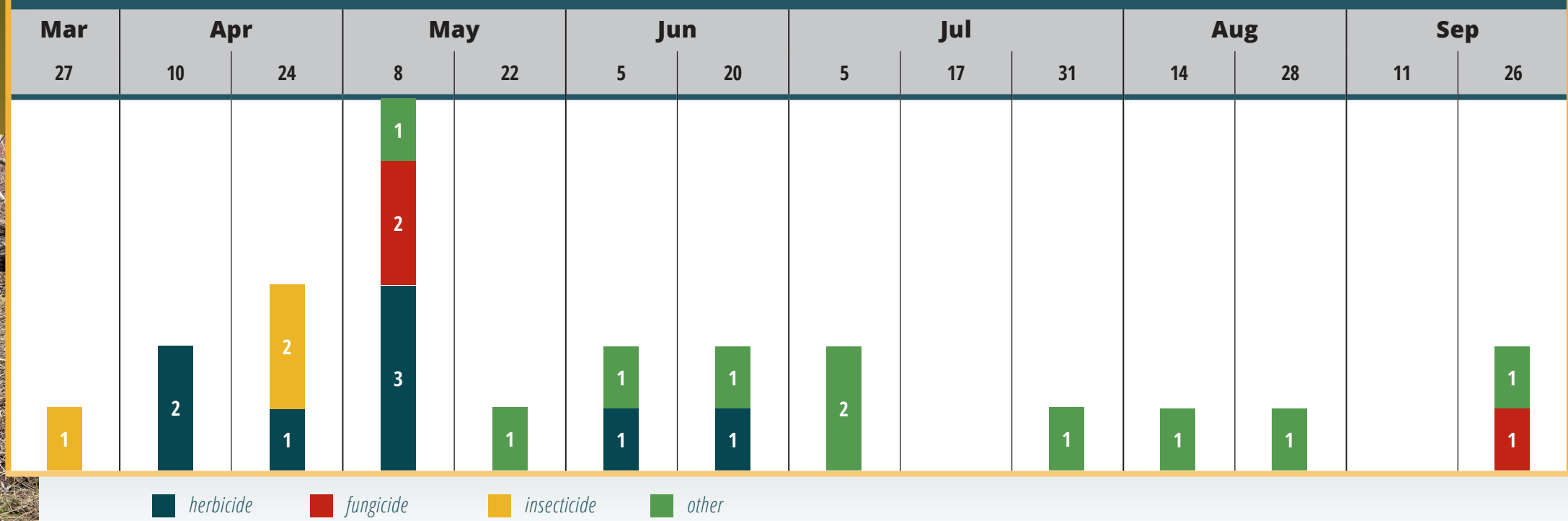
[*I: Insecticide]

Watershed Pesticides of Concern Detected and their Corresponding Sampling Dates and Concentrations

Month		Mar	Apr		May		Jun		Jul			Aug		Sep	
Day of the Month	Use*	27	10	24	8	22	5	20	5	17	31	14	28	11	26
Chlorpyrifos	I														
gamma-Cyhalothrin	I														
Suspended sediment concentration (mg/L)		10	111	51	83	66	25	15	14	5	4	3	6	3	6
Streamflow (cubic ft/sec)		91.5	133.0	115.0	354.0	348.0	109.0	38.4	19.7	13.1	11.8	8.5	13.1	11.3	21.9
Precipitation (total in/week)		0.16	0.41	0.25	0.01	0.03	0.00	0.04	0.00	0.17	0.00	0.00	0.25	0.04	0.18

The graph at right shows the total number of detections per sampling visit in each pesticide category. The category 'other' includes legacy, degradates, and additional pesticide-related chemicals. Note that the number of detections between categories cannot be directly compared due to the different number of chemicals in each category and variability in analysis methods used.

Total Number of Detections per Sampling Event by Pesticide Category



Recommendations:

Make use of natural protections

- Use buffers, filter strips, sediment basins, ground cover, and setbacks.
- Maintain vegetation along creeks and take care during spring time applications before vegetation along streams leaves out.

Be informed

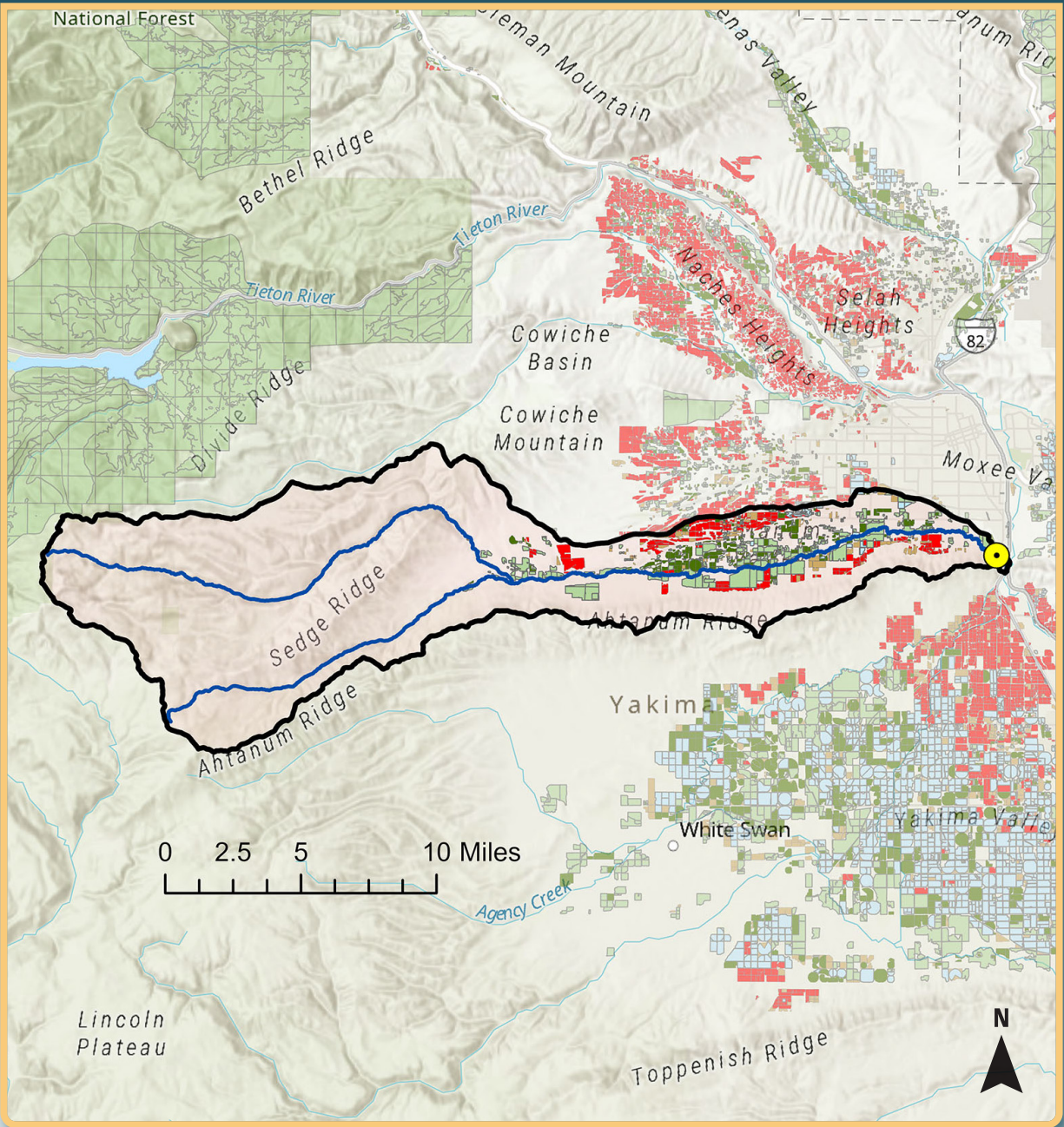
- Read and follow pesticide label directions.
- Check the weather forecast to reduce the chances of drift or runoff.
- Review WSDA's Pesticides of Concern and choose less-toxic pesticides when possible.






Care for your equipment and products




- Calibrate, maintain, and inspect application equipment.
- Properly dispose of all unneeded pesticides. Visit agr.wa.gov/wastepesticide to learn about waste pesticide collection events.

Please see agr.wa.gov/AgScience for more information.





Ahtanum Creek Crop Groups		acres
	Hay / Silage	1,853
	Orchard	2,816
	Fallow	978
	Pasture	4,923
	Other	343
Total Agriculture		10,914 acres
Non-Agriculture		98,326 acres
Watershed Total		109,240 acres

-  Sampling Location
-  Ahtanum Creek
-  Ahtanum Creek Watershed

To view mapped crop groups at the field scale, download the WSDA Agricultural Land Use data or view the interactive web map here: <https://agr.wa.gov/departments/land-and-water/natural-resources/agricultural-land-use>