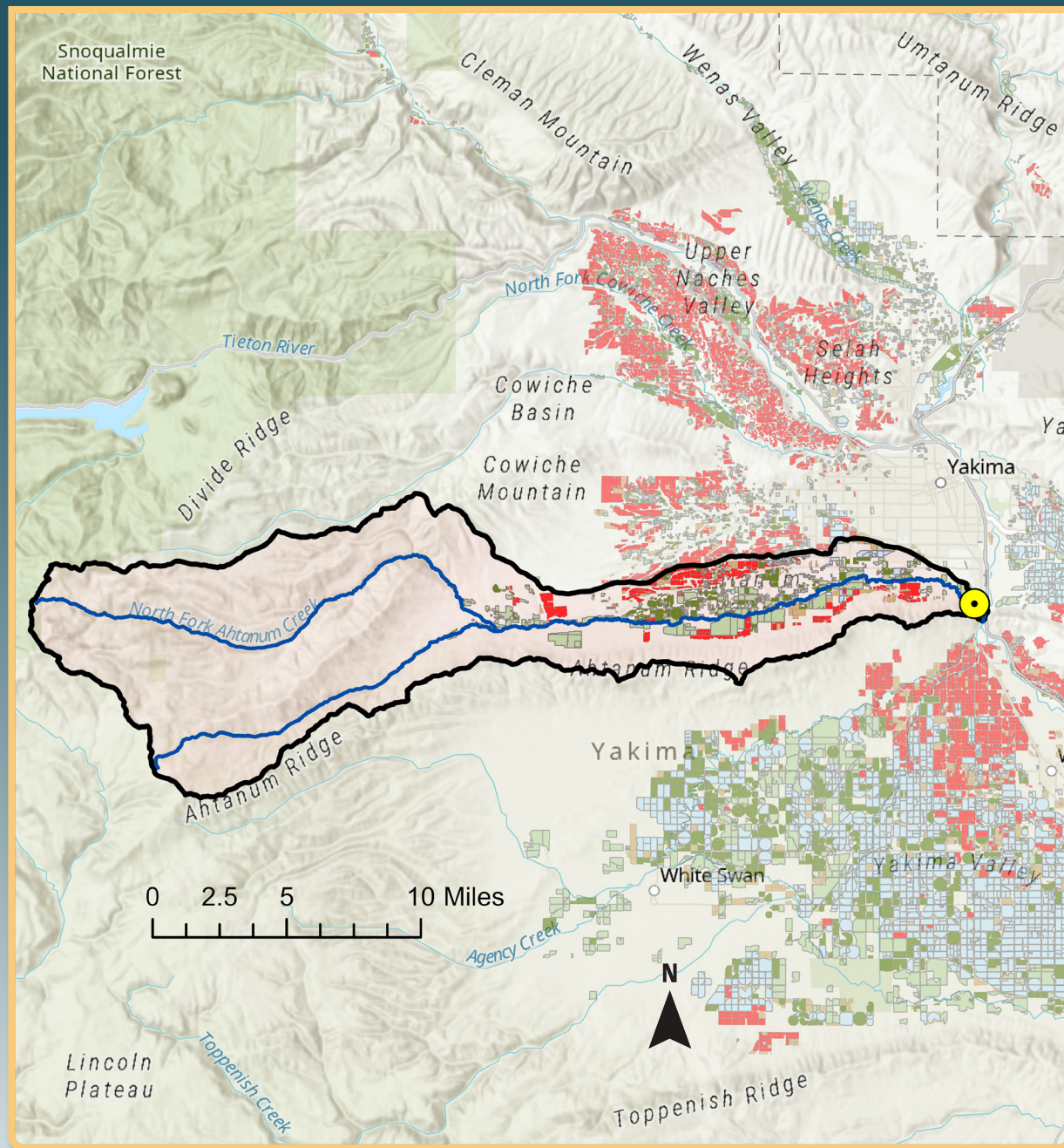


Ahtanum Creek

Summary of 2022 Surface Water Monitoring Program Results



- Sampling Location
- Ahtanum Creek
- Ahtanum Watershed

| Ahtanum Creek crop groupings | acres | Total Agriculture | acres |
|------------------------------|----------------|-------------------|--------------|
| Hay / Silage | 1,853 | Total Agriculture | 10,913 acres |
| Orchard | 2,852 | | |
| Fallow | 941 | | |
| Pasture | 4,923 | | |
| Other | 344 | | |
| Watershed Total | 109,240 | Non-Agriculture | 98,327 acres |

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>



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 2022, 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 – present
- Fish habitat:** Spring Chinook and coho salmon; bull, rainbow, and summer steelhead trout (SalmonScope: apps.wdfw.wa.gov/salmonscape)
- Sampling dates:** 13 weeks; March 28 – September 12
- 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 26 unique chemicals detected with a total of 52 detections in Ahtanum Creek. Of these, six detections were above WSDA assessment criteria.
- When multiple pesticides are detected simultaneously, the harmful effects can combine; multiple pesticides were detected every week Ahtanum Creek was sampled. Between 1 and 14 pesticides were detected at each sampling visit.
- WSDA identifies some pesticides as Pesticides of Concern (POC) when they have been detected above WSDA's assessment criteria and above established detection frequencies.

Watershed-specific POC detected in Ahtanum Creek:

ICONS FOR ENVIRONMENTAL HAZARDS LISTED ON PESTICIDE LABELS

- potential for spray drift
- potential for runoff
- potential to leach into groundwater
- highly toxic to bees
- toxic to aquatic invertebrates
- toxic to fish
- toxic to birds
- toxic to mammals

Chlorpyrifos - Insecticide

- Common trade names:** Lorsban, Pilot, Vesper
- Example uses within watershed:** golf course, ornamental, silviculture, turf
- As of early 2022, chlorpyrifos has been banned for use on food and feed commodities. It can still be applied to registered non-food commodities.
- A streamside no-spray buffer zone is required in Washington for chlorpyrifos to protect threatened and endangered Pacific salmon and steelhead.
- This chemical was also a POC in nine other monitored watersheds.

gamma-Cyhalothrin - Insecticide

- Common trade names:** Declare, Scion
- Example uses within watershed:** alfalfa, corn, orchard, pasture, wheat
- This chemical was also detected in six other monitored watersheds and a POC in all of them.

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 the concentration in µg/L and date sampled of each watershed POC detected. 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.

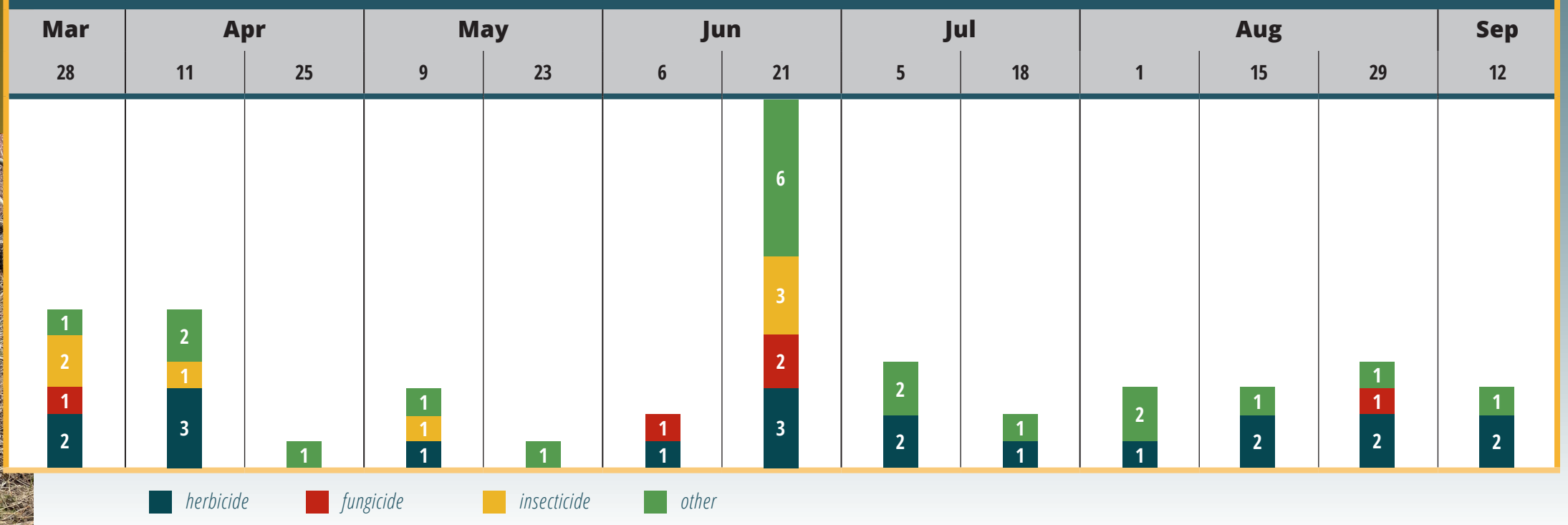
[*I: Insecticide]
exceeds assessment criteria

Watershed Pesticide of Concern Detected and its Corresponding Sampling Dates and Concentrations

| Month | | Mar | Apr | | May | | Jun | | Jul | | Aug | | | Sep |
|---|------|------|------|------|------|------|------|-------|------|------|------|------|------|------|
| Day of the Month | Use* | 28 | 11 | 25 | 9 | 23 | 6 | 21 | 5 | 18 | 1 | 15 | 29 | 12 |
| gamma-Cyhalothrin | I | | | | | | | 0.001 | | | | | | |
| Suspended sediment concentration (mg/L) | | 19 | 9 | 14 | 53 | 18 | 156 | 34 | 14 | 6 | 5 | 4 | 5 | 2 |
| Streamflow (cubic ft/sec) | | 86.8 | 71.3 | 83.2 | 149 | 95.9 | 231 | 104 | 44.4 | 33.7 | 13.5 | 17.8 | 18.6 | 17.2 |
| Precipitation (total in/week) | | 0.00 | 0.03 | 0.32 | 0.47 | 0.01 | 0.43 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

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.

