Snipes Creek
Summary of 2020 Surface Water Monitoring Program Results

The irrigation districts periodically releases water from the Sunnyside Canal into Spring Creek, a Snipes Creek tributary, and the Roza Canal into Snipes Creek during the irrigation season. The release of water from either canal influences the stream level downstream at the sampling location on Snipes Creek. In 2020, staff observed fall Chinook salmon spawning at the monitoring site.

Site information:

In 2020, Washington State Department of Agriculture (WSDA) monitored 16 sites in Washington. Snipes was the only monitoring site located in Benton County.

Years sampled: 2016 – present
Fish habitat: Chinook salmon, coho salmon, and summer steelhead trout (SalmonScape: apps.wdfw.wa.gov/salmonscape)

Sampling dates:
24 weeks; March 10 and 16, June 15 – November 9

Although staff typically collect samples during the spring and summer seasons when higher pesticide usage is expected, the sampling schedule was shifted three months later due to COVID-19 restrictions.

Water testing:

- Samples were analyzed at the Manchester Environmental Lab, Port Orchard, Wash.
- Samples were tested for 166 current and legacy chemicals (61 insecticides, 58 herbicides, 23 fungicides, 19 pesticide degradates, 2 synergists, 1 antimicrobial, 1 insect repellent, and 1 wood preservative)
- 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.

Results:

- There were 47 unique chemicals detected with a total of 380 detections in Snipes Creek. Of these, 15 detections were above WSDA assessment criteria.
- When multiple pesticides are detected simultaneously, the harmful effects can combine; multiple pesticides were detected every week Snipes Creek was sampled. Between 9 and 30 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 POCs detected in Snipes Creek:

- Chlorpyrifos
  - Common trade names: Lorsban, Pilot, Vesper
  - Example uses within watershed: grapes (wine and juice), orchard, wheat
  - Chlorpyrifos is banned in California, New York, Hawaii, Maryland and the European Union.
  - A streamside no-spray buffer zone is required in Washington for chlorpyrifos to protect threatened and endangered Pacific salmon and steelhead.
  - Detected at 14 sites in 2020. A watershed POC at six of them.

- Imidacloprid
  - Common trade names: Admire Pro, Gaucho, Merit
  - Example uses within watershed: grapes (wine and juice), hops, orchards, wheat, residential
  - Detected at 13 sites in 2020. A watershed POC at 11 of them.

- Malathion
  - Common trade names: Malathion, Fyfanon
  - Example uses within watershed: grapes (wine and juice), hops, orchards
  - A streamside no-spray buffer zone is required in Washington for malathion to protect threatened and endangered Pacific salmon and steelhead.
  - Detected at 10 sites in 2020. A watershed POC at eight of them.
**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 leafs 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.

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The calendar at right shows the concentration in µg/L and date sampled of each watershed POC. The “–” identifies data that could not be collected or analyzed. 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. All three pesticides in the POC calendar are also designated statewide POCs.

- Chlorpyrifos
- Imidacloprid
- Malathion

The graph at right shows the total number of detections per sampling visit in each pesticide category. The category ‘other’ includes 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.

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