

Snipes Creek

APRIL 2021

Summary of 2019 Surface Water Monitoring Program Results



A monitoring site within the Snipes Creek watershed on Spring Creek was sampled annually from 2003 to 2015. WSDA moved the monitoring site downstream to the current Snipes monitoring location in order to incorporate a larger watershed capture area. The irrigation districts periodically release water from the Sunnyside Canal into Spring Creek 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.

Watershed and site information:

In 2019, 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 steelhead (SalmonScape: apps.wdfw.wa.gov/salmonscape)

Sampling dates:

21 weeks; March 27 – July 15, August 12 – September 4

Water testing:

- Samples were analyzed at the Manchester Environmental Lab, Port Orchard, Wash.
- 159 current and legacy chemicals (56 insecticides, 58 herbicides, 21 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 398 detections in Snipes Creek. Of these, 20 were above WSDA assessment criteria.
- When multiple pesticides are detected simultaneously, the environmental effects can combine; multiple pesticides were detected every week Snipes Creek was tested. Between 15 to 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 certain detection frequencies.

Watershed-specific POCs detected in Snipes Creek:

ICONS FOR ENVIRONMENTAL HAZARDS LISTED ON PESTICIDE LABELS



Chlorpyrifos



- *Common trade names:* Lorsban, Pilot, Vesper
- *Example uses within watershed:* grapes (wine and juice), orchard, wheat
- A streamside no-spray buffer zone is required in Washington for chlorpyrifos to protect threatened and endangered Pacific salmon and steelhead.
- Detected at 10 sites in 2019. 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 11 sites in 2019. A watershed POC at nine 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 2019. A watershed POC at seven of them.



NATURAL RESOURCES ASSESSMENT SECTION

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. The “-” identifies a sample that could not be 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.

[* I: Insecticide]
 exceeds assessment criteria
 below assessment criteria

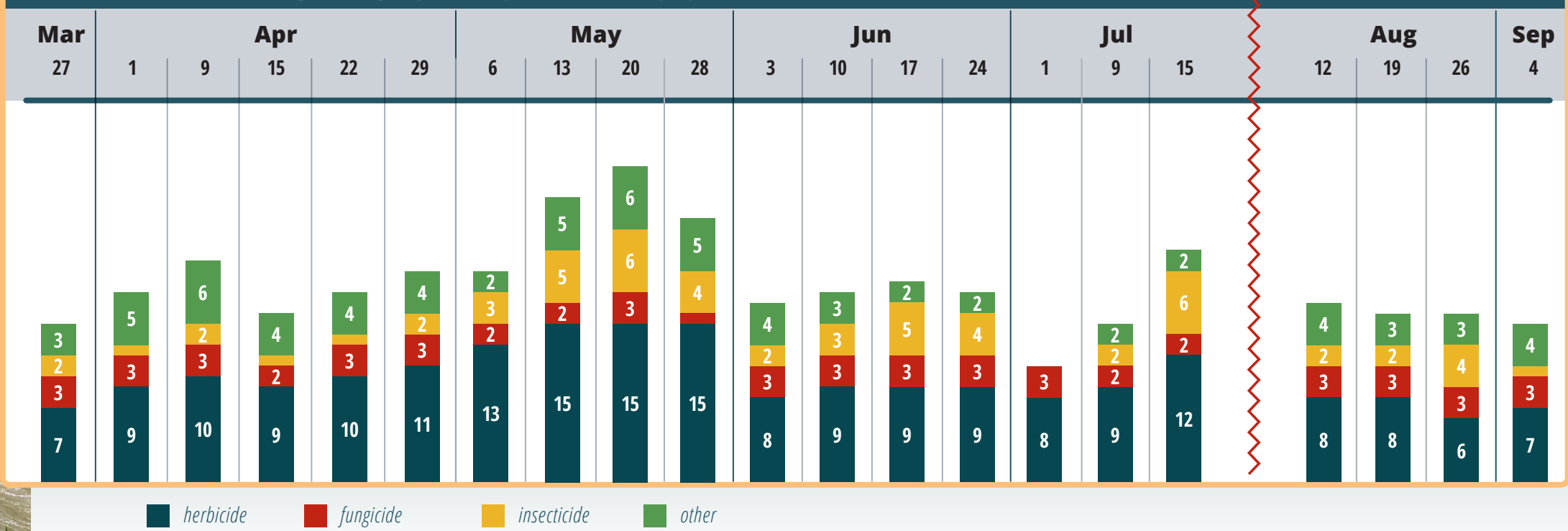
The graph at right shows the total number of detections per sampling visit in each pesticide category. The category ‘other’ includes degradates and additional pesticide-related chemicals. Note that the number of detections between categories cannot be directly compared due to the different number of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



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

Month	Day of the Month	Use*	Mar	Apr					May				Jun				Jul			Aug			Sep
			27	1	9	15	22	29	6	13	20	28	3	10	17	24	1	9	15	12	19	26	4
Chlorpyrifos	I			0.004	0.143	0.117	0.032	0.010	0.006	0.006	0.004	0.004	0.003		0.004				0.003				
Imidacloprid	I		0.008								0.009			0.004	0.048	0.004	0.004		0.010			0.003	
Malathion	I				0.005										0.005	0.003							
Total suspended solids (mg/L)			12	95	36	24	21	26	32	41	28	60	18	16	13	31	14	11	15	82	12	8	7
Streamflow (cubic ft/sec)			6.6	82.2	--	--	--	76.0	82.9	68.2	67.5	23.8	26.8	43.6	34.2	50.5	34.6	30.2	35.4	-	33.7	39.9	47.7
Precipitation (total in/week)			0.11	0.03	0.69	0.35	0.02	0	0	0	0.51	0.23	0	0.01	0	0.02	0.18	0.01	0	0.57	0	0.09	0

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 leafs out.

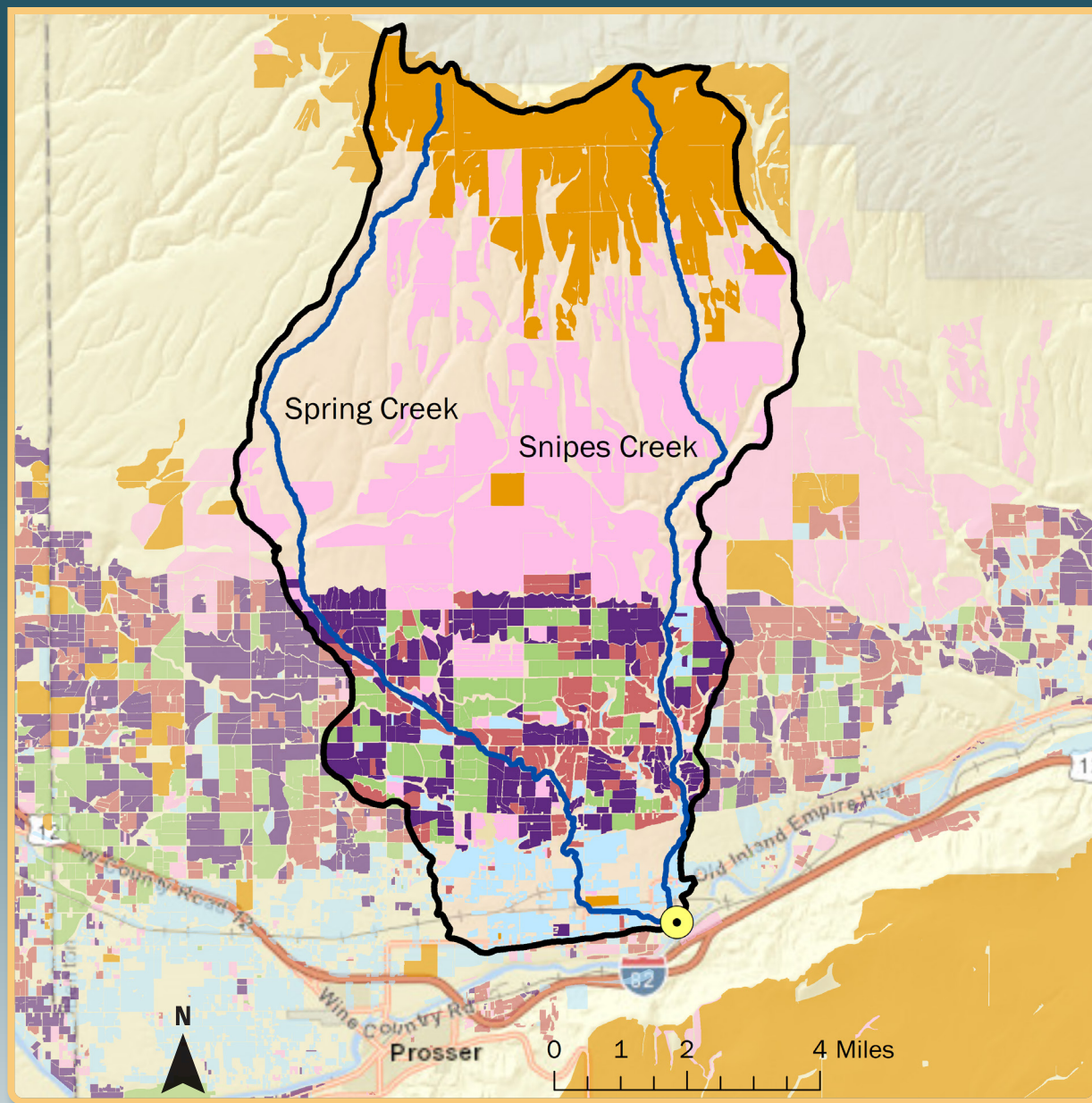
Be informed

- 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.

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



Snipes Creek crop groupings | acres

■	Other	2,152
■	Cereal Grain	7,753
■	Herb	2,431
■	Orchard	2,401
■	Fallow / CRP	12,008
■	Vineyard	4,520

● Sampling Location

— Creeks

Snipes Watershed

Total Agriculture 31,265 acres

Watershed Total 50,266 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>