

Kamiache Creek

APRIL 2024

Summary of 2022 Surface Water Monitoring Program Results



In 2022, Washington State Department of Agriculture (WSDA) monitored 17 sites in Washington. Kamiache Creek was one of three monitoring sites located in Whitman 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

Sampling dates:

17 weeks; March 28 – November 7

Water testing:

Samples were tested for 153 current and legacy chemicals (55 herbicides, 48 insecticides, 21 fungicides, 20 pesticide degradates, 5 legacy chemicals, 1 antimicrobial, 1 insect repellent, 1 synergist, and 1 wood preservative).

WSDA partnered with the Palouse Conservation District to monitor Kamiache Creek, near Ewan, Washington. Many of the agricultural fields within the Kamiache Creek watershed were managed with mulch tilling instead of conventional tilling. This best management practice can decrease sediment and contaminant runoff into surface waters.

Results:

- There were 33 unique chemicals detected with a total of 134 detections in Kamiache Creek. Of these, two detections were above WSDA assessment criteria.
- When multiple pesticides are detected simultaneously, the harmful effects can combine; multiple pesticides were detected every week Kamiache Creek was sampled. Between 3 and 20 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 in Kamiache Creek:

ICONS FOR ENVIRONMENTAL HAZARDS LISTED ON PESTICIDE LABELS



Imidacloprid — Insecticide



- *Common trade names:* Admire Pro, Gaucho, Merit
- *Example uses within watershed:* barley, legumes, wheat
- In agriculture, this chemical is often used as a seed treatment but can be applied to soils and plants as well.
- It is *highly* toxic to honeybees and some birds.
- Also detected in nine other monitored watersheds and a POC in all of them.



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

[* I: Insecticide]
exceeds assessment criteria

Make use of natural protections

- ## Be informed

- ## 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.

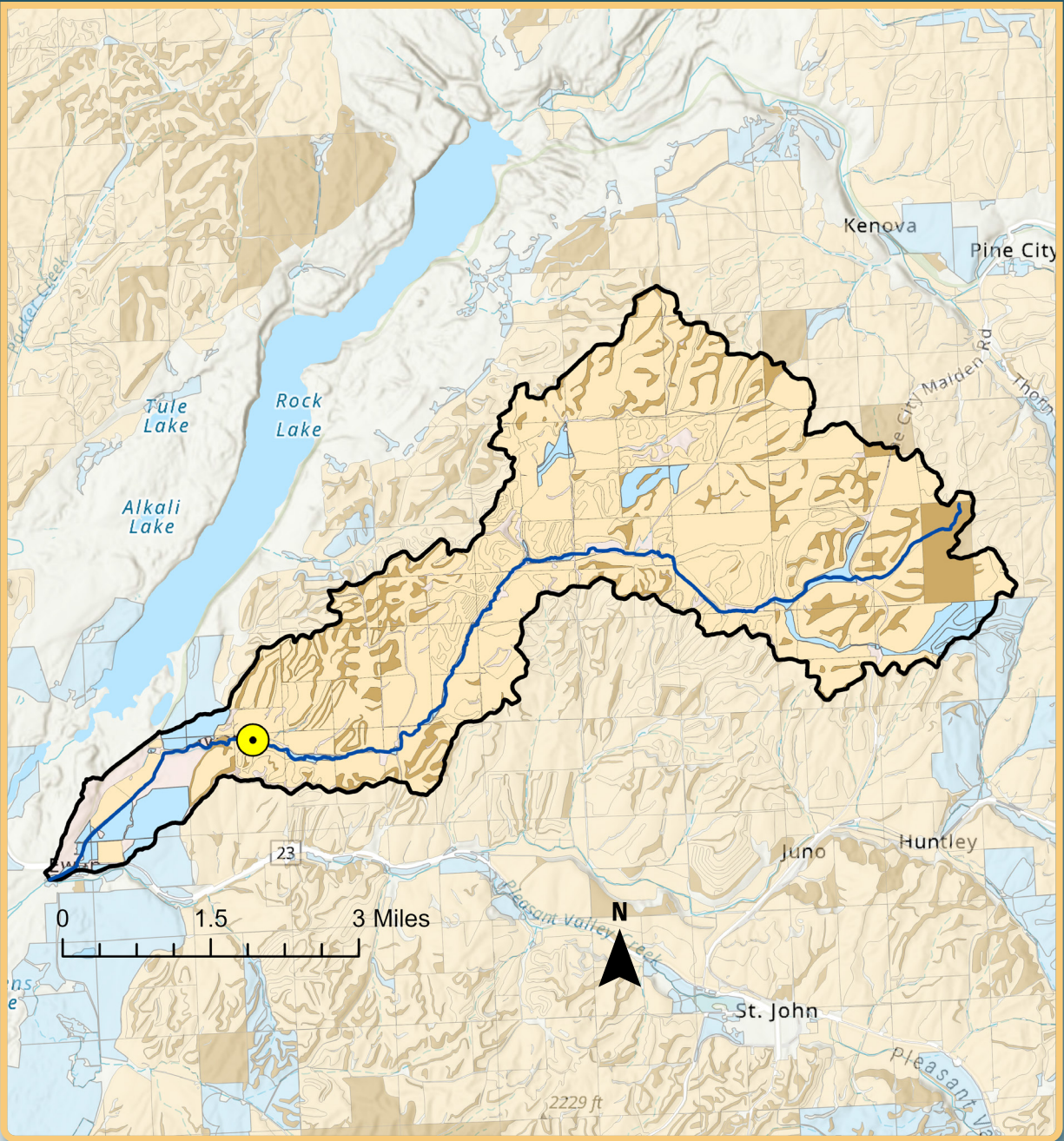


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Month ▶		Mar	Apr		May		June		Jul		Aug			Sep		Oct		Nov
Day of the Month ▶	Use*	28	11	27	9	23	6	21	5	18	1	15	29	12	26	10	24	7
Imidacloprid	I					0.006			0.030									
Suspended sediment concentration (mg/L)		8	2	3	3	5	5	5	4	35	11	11	5	12	6	9	2	2
Streamflow (cubic ft/sec)		1.9	2.3	1.6	1.6	1.1	1.9	-	0.7	0.4	0.2	0.2	0.1	0.4	0.2	0.6	0.3	0.5
Precipitation (total in/week)		0.13	0.51	0.30	0.74	0.04	1.20	0.11	0.60	0.12	0.00	0.06	0.02	0.00	0.02	0.00	0.36	2.35

Mar		Apr		May		Jun		Jul		Aug			Sep		Oct		Nov
28		11	27	9	23	6	21	5	18	1	15	29	12	26	10	24	7
herbicide: 2, other: 1		herbicide: 2, other: 1	herbicide: 5, fungicide: 2, other: 1	herbicide: 7, fungicide: 1, other: 2	herbicide: 3, fungicide: 2, insecticide: 1, other: 1	herbicide: 8, fungicide: 3, insecticide: 1, other: 3	herbicide: 2, fungicide: 2, other: 3	herbicide: 9, fungicide: 4, insecticide: 4, other: 3	herbicide: 4, fungicide: 2, other: 1	herbicide: 2, fungicide: 1, other: 1	herbicide: 3, fungicide: 1, other: 1	herbicide: 3, fungicide: 1, other: 2	herbicide: 3, fungicide: 2, other: 2	herbicide: 3, fungicide: 1, other: 2	herbicide: 6, fungicide: 1, other: 1	herbicide: 1, fungicide: 1, other: 1	herbicide: 6, fungicide: 3, insecticide: 2, other: 4



Kamiache Creek crop groupings | acres

 Cereal Grain	8,919
 CRP / Conservation	1,557
 Other	827

- Sampling Location
- Kamiache Creek
- Kamiache Creek Watershed

Total Agriculture	11,303	acres
Total Non-Agriculture	855	acres
Watershed Total	12,158	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>