

Touchet River

APRIL 2023

Summary of 2021 Surface Water Monitoring Program Results



Staff selected the watershed to represent typical Eastern Washington dryland agricultural practices. The Touchet River is a main tributary of the Walla Walla River which releases into the Columbia River.

In 2021, Washington State Department of Agriculture (WSDA) monitored 18 sites in Washington. Touchet was the only monitoring site located in Walla Walla County.

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

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: 2018 – 2021

Fish habitat: Spring Chinook salmon; bull and summer steelhead trout

(SalmonScape: apps.wdfw.wa.gov/salmonscape)

Sampling dates:

15 weeks, March 22 – October 5

Water testing:

Samples were tested for 173 current and legacy chemicals (59 insecticides, 60 herbicides, 23 fungicides, 20 pesticide degradates, 6 legacy chemicals, 2 synergists, 1 antimicrobial, 1 insect repellent, and 1 wood preservative).



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Results:

- There were 18 unique chemicals detected with a total of 76 detections in the Touchet River. 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 the Touchet River was sampled. Between two and eight 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.

Statewide POC in Touchet River:

ICONS FOR ENVIRONMENTAL HAZARDS LISTED ON PESTICIDE LABELS



Chlorpyrifos - Insecticide



- Common trade names:** Lorsban, Pilot, Vesper
- Example uses within watershed:** bean, pea, wheat
- 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.
- Also detected in 11 other monitored watersheds and a POC in all but one 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 dates sampled of the statewide POC detected. This calendar does not include all the pesticides WSDA found during the growing season. The “-” identifies data that could not be collected or analyzed. Detected concentrations that exceed WSDA’s assessment criteria have a higher potential to cause harm to aquatic ecosystems.

[* I: Insecticide]
exceeds assessment criteria

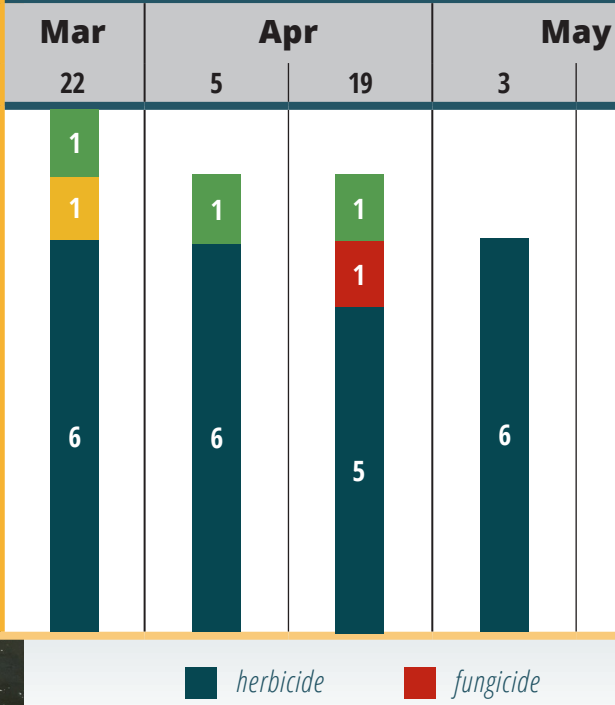
Statewide Pesticide of Concern Detected and its Corresponding Sampli

Month		Mar	Apr		
Day of the Month		Use*	22	5	19
Chlorpyrifos		I	0.003		
Suspended sediment concentration (mg/L)			-	-	16
Streamflow (cubic ft/sec)			346	430	280
Precipitation (total in/week)			0.08	0	0.02

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.



Total Number of Detections per Sampling



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.

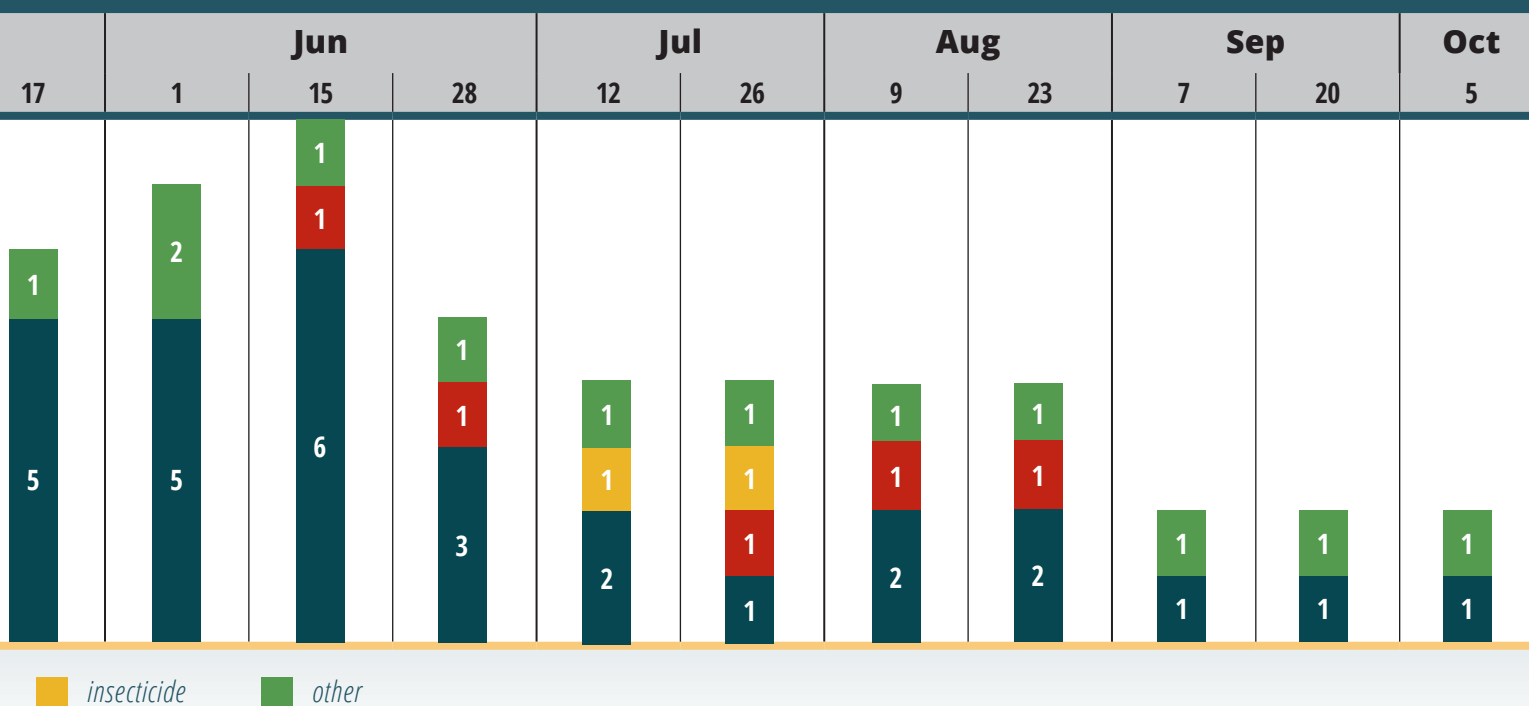
Be informed

- 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.

Sampling Dates and Concentrations

May		Jun			Jul		Aug		Sep		Oct
	17	1	15	28	12	26	9	23	7	20	5
	8	5	1		1	2	1	2	3	0.9	
	174	85.4	50.3	12.1	4.3	4.0	1.2	18.2	0.4	9.7	16.3
	0.37	0.03	0.07	0	0	0.17	0.01	0	0	0.02	0.09

Event by Pesticide Category



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

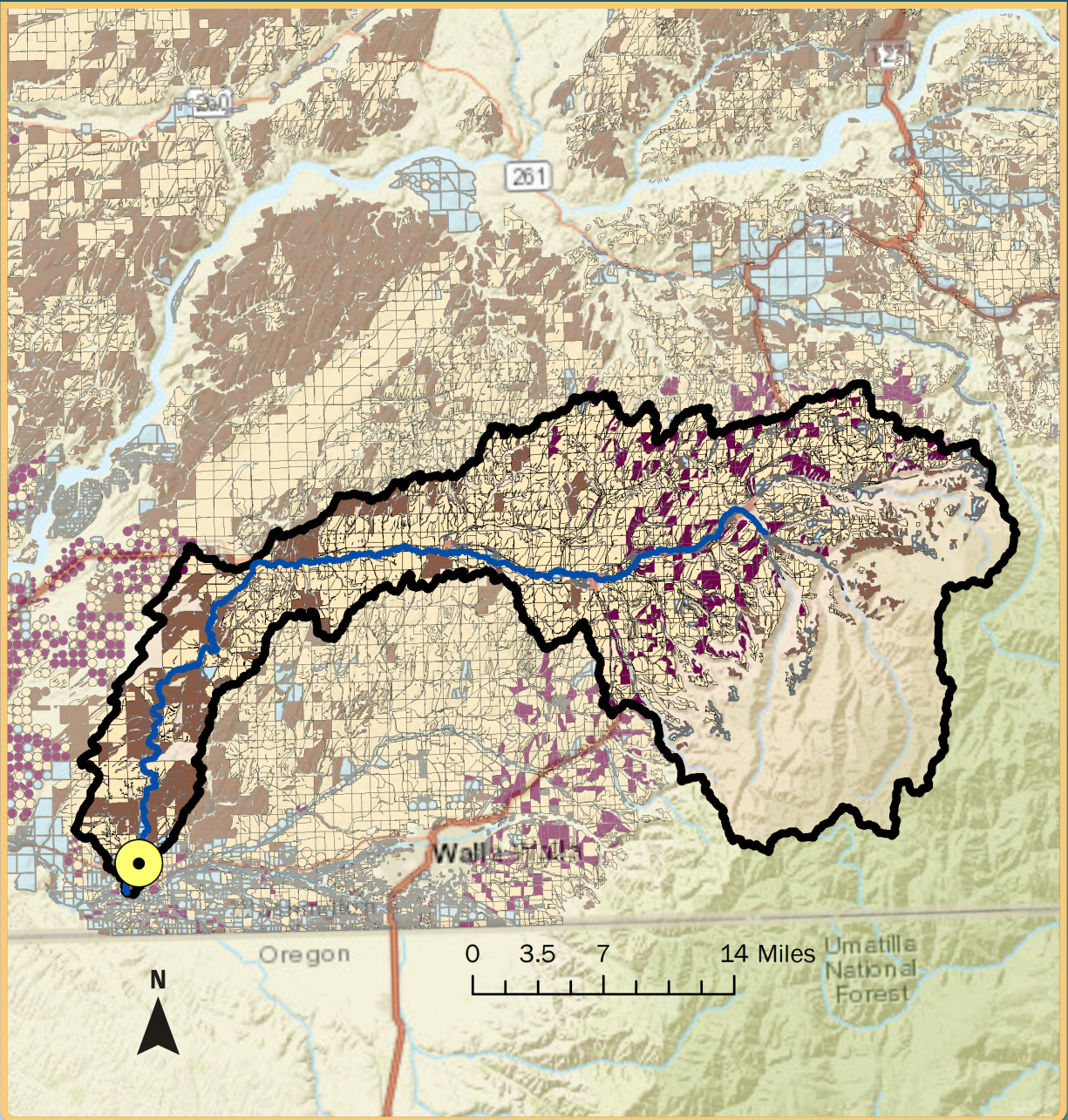
Care for your equipment and products

- 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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Touchet River crop groupings | acres

■	Other	9,506
■	Cereal Grain	159,669
■	CRP / Conservation	39,936
■	Vegetable	18,884

● Sampling Location

— Touchet River

Touchet Watershed

Total Agriculture 227,995 acres

Watershed Total 397,456 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>