Touchet River

APRIL 2022

Summary of 2020 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.

Site information:

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

Years sampled: 2018 – present

Fish habitat: Spring Chinook salmon and summer steelhead trout (SalmonScape: apps.wdfw.wa.gov/salmonscape)

Sampling dates:
16 weeks, March 10 and June 15 – October 20

- 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.

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Results:

- There were 21 unique chemicals detected with a total of 64 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 almost every week the Touchet River was sampled. Up to nine 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 POCs in Touchet River:

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

- *Common trade names:* Lorsban, Pilot, Vesper
- *Example uses within watershed:* bean, pea, 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-specific POC at six of them.

Imidacloprid

- *Common trade names:* Admire Pro, Gaucho, Merit
- *Example uses within watershed:* bean, pea, wheat
- Detected at 13 sites in 2020. A watershed POC at 11 of them.

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The calendar at right shows the concentration in µg/L and date sampled of each statewide 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. The chlorpyrifos detections at this site did not exceed WSDA assessment criteria in 2020, however, it is still considered a statewide POC because of its exceeding detections in many other watersheds.

[** I: Insecticide*]

exceeds assessment criteria

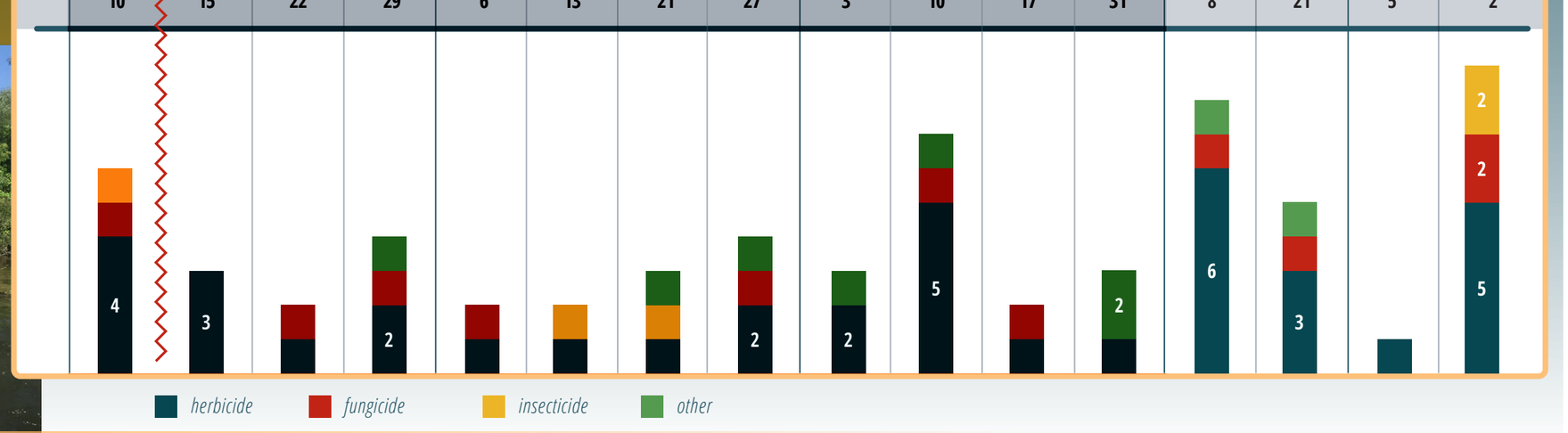
below assessment criteria

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

Month ▶		Mar	Jun			Jul				Aug				Sep		Oct	
Day of the Month ▶	Use*	10	15	22	29	6	13	21	27	3	10	17	31	8	21	5	20
Chlorpyrifos	I	0.003															0.001
Imidacloprid	I																0.008
Total suspended solids *(mg/L)*		41	7	6	18	2	2	2		1	1	1	2				
Streamflow *(cubic ft/sec)*		334	125	80	62	51	33	25	18	13	10	4	5	5	25	25	43
Precipitation *(total in/week)*		0.00	0.30	0.09	0.01	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	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 Event by Pesticide Category



Recommendations:

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

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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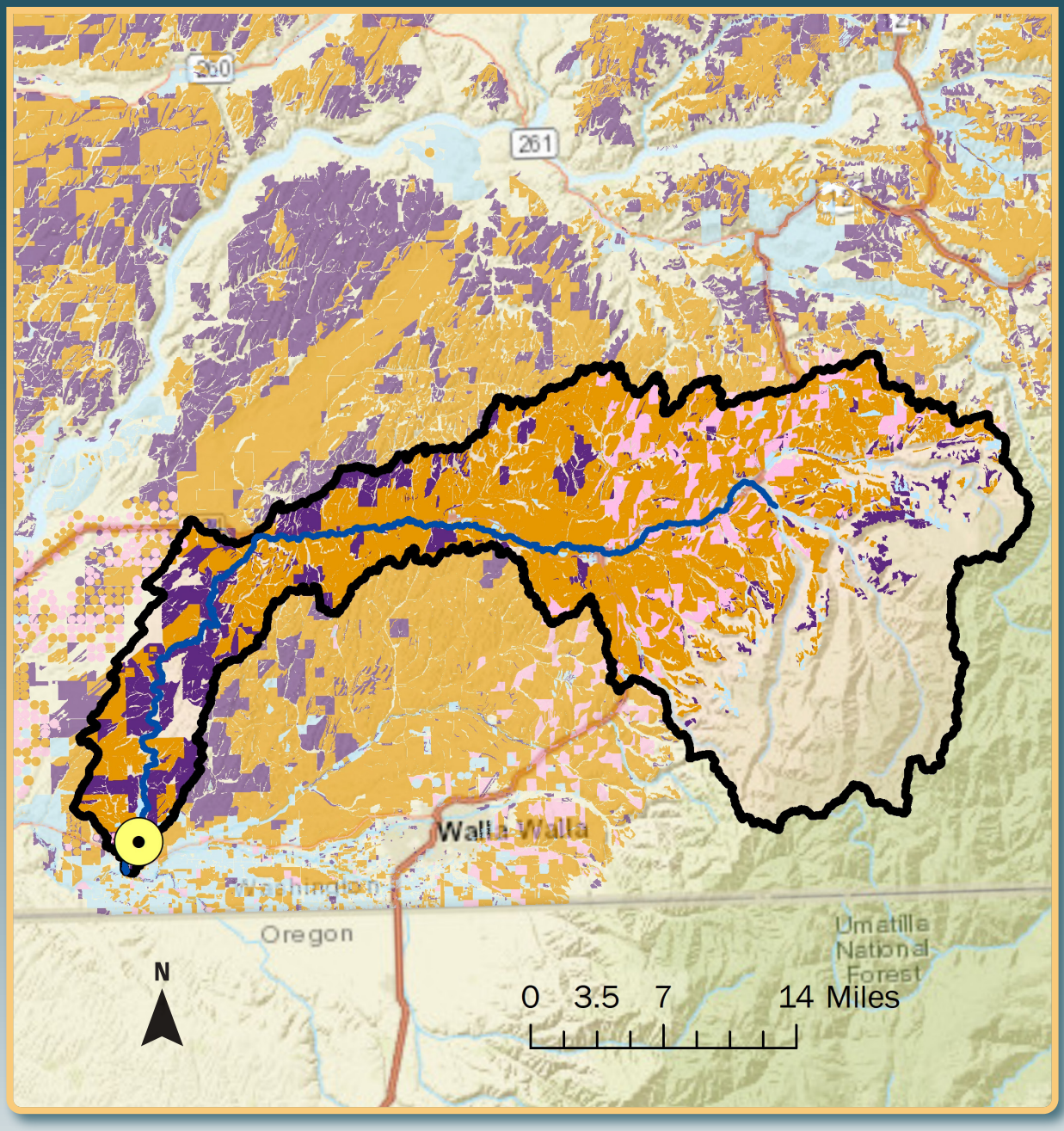

Touchet River crop groupings | acres

	Other	6,928
	Cereal Grain	153,420
	Fallow / CRP	42,776
	Vegetable	23,297

Total Agriculture	226,421	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