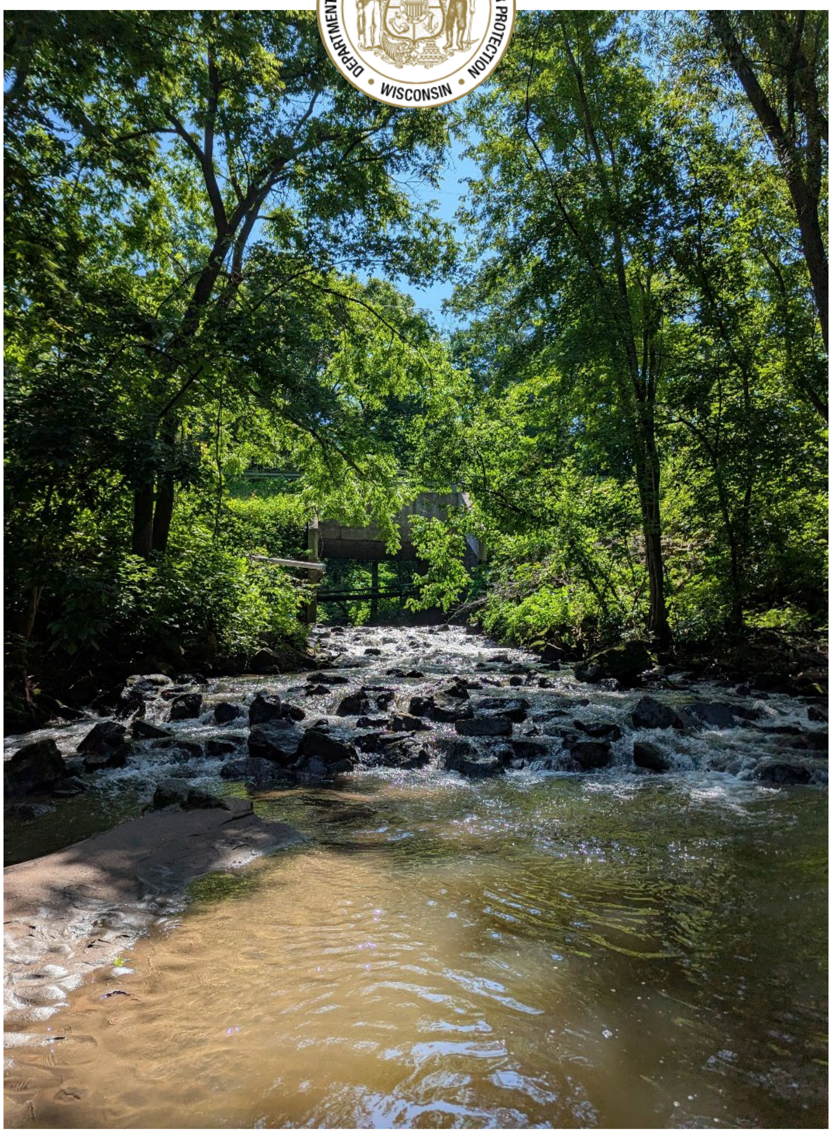
2025 Surface Water Pesticide Monitoring Program

ANNUAL REPORT



Wisconsin Department of Agriculture, Trade and Consumer Protection
Agricultural Resource Management Division
Environmental Quality Unit
FINAL 8/18/2026

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Introduction

In 2025, the Wisconsin Department of Agriculture, Trade and Consumer Protection (DATCP), in cooperation with the Wisconsin Department of Natural Resources (DNR), continued the Surface Water Sampling Program to evaluate effects of pesticide use on the water quality of Wisconsin rivers and streams. Surface water samples were collected from 40 locations between March and December and submitted to DATCP's Bureau of Laboratory Services (BLS) for chemical analysis. This document provides a narrative of the activities, summarizes the analytical data, and presents DATCP's proposed 2026 Surface Water Sampling Program plan. A compilation of acronyms and definitions used throughout this document is provided in Appendix A.

Purpose of Surface Water Sampling

DATCP estimates that agriculture contributes over $116 billion annually to Wisconsin's economy (Wisconsin Department of Agriculture, Trade, and Consumer Protection, 2026b). Growers in Wisconsin use millions of pounds of pesticides and millions of tons of fertilizers annually to grow a wide variety of crops typically produced in one Wisconsin growing season. DATCP's Surface Water Sampling Program is one form of monitoring the agency performs to meet its statutory obligation to protect human health and the environment. Wisconsin's groundwater law, Wis. Stats. Chapter 160, requires state agencies to sample and monitor groundwater for substances related to facilities, activities, and practices under their jurisdiction that have a reasonable probability of entering the groundwater resources of the state, and to determine whether preventive action limits (PAL) or enforcement standards (ES) have been exceeded at points of standard application. The legislative intent of Wis. Stats. Chapter 160 also states:

"…a regulatory agency may take any actions within the context of regulatory programs established in statutes outside of this chapter, if those actions are necessary to protect public health and welfare or prevent a significant damaging effect on groundwater or surface water quality for present or future consumptive or non-consumptive uses."

Considering that groundwater and surface waters are highly interconnected, DATCP initiated the Surface Water Sampling Program to further gather data to evaluate the quality of the waters of the state and to identify areas at risk for groundwater pollution. The Surface Water Sampling Program satisfies the following statutory monitoring requirement (Wis. Stats., Ch. §160.27):

1. Problem assessment monitoring, *to detect substances in the groundwater and to assess the significance of the concentrations of the detected substances*

DATCP established the Surface Water Sampling Program in 2007 with the first monthly sampling occurring in 2008. Surface water samples are collected prior to the traditional pesticide application season (March and April), during the traditional pesticide application season (May, June, July), and after the traditional pesticide application season is over (August through November) to evaluate how the timing of pesticide application is related to surface water quality. During the 2025 sampling season, attempts were made to collect water samples either quarterly or monthly from selected rivers and streams, depending on ice conditions and laboratory availability.

Selection Criteria for Sampling Locations

Perennial streams and rivers selected for the annual sampling program have changed for multiple reasons in the past. Streams with a significant percentage of agricultural land in each watershed were selected for DATCP's program. Initially, streams were selected based on their inclusion in the DNR's "wadeable" stream sampling project (United States Environmental Protection Agency, 2016). Some years, the focus was sampling on rivers with large watersheds while others focused on streams with smaller watersheds.

Besides agricultural use, other criteria are considered when determining which flowing water body is included in the annual Surface Water Monitoring Program. Criteria are primarily based on local geology or environmental conditions, predominant crop types within the stream's watershed, or characteristics of the predominant pesticides used on crops in the watershed. Criteria may vary from year to year. Some example criteria used for river or stream sampling in the past were:

- The stretch of water needs to be accessible for sampling (i.e., locations with public access);
- The watershed is within an area susceptible to groundwater contamination due to geologic conditions like sandy soils with shallow groundwater, shallow depth to bedrock, or karst features;

- Areas where prior testing by others (federal government, university, other state agencies, etc.) identified high concentrations of nitrate, pesticides, or other unusual test results;
- Areas where the same crops are grown year after year on the same fields/area (e.g., corn, cranberry, ginseng, etc.) increasing the likelihood of repetitive pesticide use in the area;
- Areas where crops are grown typically require extensive chemical or fertilizer inputs and/or irrigation;
- Areas where pesticides with known characteristics of high mobility and resistance to degradation are used; and/or
- At the request of one of the partnering agencies.

Over the years, the Surface Water Monitoring Program has evolved into a mix of 1) continuous monthly sampling of long-term repeat locations and 2) several "new" locations added to the program each year. Program planning starts in the prior year, and sampling typically begins in March after BLS completes annual maintenance from December through February and can accept samples. DNR staff complete much of the sampling, so time commitment and willingness to assist are necessary for the yearly program's planning and success. Despite these constraints, DATCP has not been limited in sampling selection locations based on this arrangement. Surface water program goals have been achieved through this collaborative effort.

2025 Program Locations

Since 2019, the program has generally entailed collecting surface water samples from at least 10 locations; usually, 50% are repeat locations and 50% are new locations to the program. In 2025, the number of sampling locations expanded to 40 locations, of which 39 were new to the Surface Water Sampling Program. Sampling locations in 2025 are divided into two categories based on the frequency they were sampled. Quarterly sampling (three samples per location) was attempted at 36 sampling locations in 2025. However, due to the winter closure of the DATCP BLS laboratory in early December, one station (Ditch 7 Upstream Sth 73 Site 8) was only sampled twice in 2025. Monthly sampling (nine samples per location) was attempted at the remaining four sampling locations. All monthly samples were collected with the exception of the final planned sample from one location (Larson Creek - Larson Creek at Elliason Road), which could not be collected because the stream was dry in November and December.

Sampling locations include the following sites (the names of the stations are identical to those listed in the Surface Water Integrated Monitoring System [SWIMS] database):

Locations sampled monthly (between March and November) in 2025:

- Unnamed (892100) N of Williams Rd.
- Larson Creek - Larson Creek at Elliason Road
- Unnamed (WBIC 100300) at Sandy Bay Road
- Nine Springs - Syene Springs

Locations sampled quarterly (between March and November) in 2025:

- Cochrane Creek at Cth Oo
- Tamarack Creek - (Bridge)
- Parsons Creek Upstream Hickory Rd
- Sheboygan River at Hwy T
- Caves Creek at 5th Ave (DS of culvert)
- Branch River at N Union Rd (2)
- Pine Creek - 200 Feet Downstream From Cth T
- Ahnapee River at CTH H Forestville
- Moose Ear Creek 10 m Upstream of CTH W Culvert
- White River -- Access at Pike River Rd
- Bear Creek NE of Hwy 2/53
- Unnamed Trib (WBIC 5034477) at STH 14
- Bear Creek at STH 14
- Timber Coulee Creek - Upstream From Cth P

- Billings Creek Station #3 Brg. On Cth F
- Nichols Creek - DS of CTH N
- Onion River at Cth E Or1
- Watercress Creek - Upstream of Watercress Road
- Honey Cr at 70th and Honey Cr Pkwy
- KK River at South 16th Street
- Willow Creek at Cth Y/Sth167 (25m Upstream)
- Otter Creek: Klug Rd.(8 Ft West Of Bridge)
- Kohlsville River - Upstream of Midland Drive
- North Branch Cedar Creek - Upstream of CTHY NN
- Mukwonago River (1) - Upstream of HWY 83
- Rock Creek at Owen Ave and Rock Creek Rd
- Elk Creek at 35th Street
- Cady Creek 1- Cth P
- Wilson Creek North Branch - North Branch Wilson Creek
- Graham Creek - Station 1 Spruce Rd
- Spring Brook Above Cth Hh
- Unnamed Trib to Little Rib River at North Lane Rd (10029421)
- Eau Claire River at CTH Z
- North Br. Trempealeau River - 30 Ft Below Bridge On Cain Rd.
- Hoton Creek - Upstream Jacobson Road
- Ditch 7 Upstream Sth 73 Site 8

Table 1 lists the 2025 surface water sampling program locations and Figure 1 shows the 40 locations relative to the State of Wisconsin and county boundaries.

Table 2 summarizes the watershed size and simplified land use specific to each 2025 sampling location, using data provided by the U.S. Department of Agriculture’s (USDA) National Agricultural Statistics Service (United States Department of Agriculture – National Agricultural Statistics Service, 2026).

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Table 1: 2025 Surface Water Sampling Program Rivers and Streams

River/Stream Name	Figure 1 Label	SWIMS ID	County	Program Years	Samples Collected in 2025	Latitude	Longitude
Unnamed (892100) N of Williams Rd.	1	10059770	Green	1	9	42.5054488	-89.7441095
Larson Creek - Larson Creek at Elliason Road	2	10010188	Door	1	8	44.8568295	-87.4671072
Unnamed (WBIC 100300) at Sandy Bay Road	3	10052498	Door	1	9	44.8494839	-87.4893752
Nine Springs - Syene Springs	4	10051662	Dane	7	9	43.0178787	-89.3942010
Cochrane Creek at Cth Oo	5	063020	Buffalo	1	3	44.2160499	-91.8335281
Tamarack Creek - (Bridge)	6	623265	Trempealeau	1	3	44.072679	-91.506461
Parsons Creek Upstream Hickory Rd	7	203102	Fond du Lac	1	3	43.693287	-88.471725
Sheboygan River at Hwy T	8	203096	Fond du Lac	1	3	43.7557373	-88.2670942
Caves Creek at 5th Ave (DS of culvert)	9	10017030	Marquette	1	3	43.92932	-89.522606
Branch River at N Union Rd (2)	10	363299	Manitowoc	1	3	44.13478	-87.76542
Pine Creek - 200 Feet Downstream From Cth T	11	10020831	Calumet	1	3	43.954803	-88.06232
Ahnapee River at CTH H Forestville	12	153161	Door	1	3	44.74771	-87.53657
Moose Ear Creek 10 m Upstream of CTH W Culvert	13	10029349	Taylor	1	3	45.45207	-91.50013
White River -- Access at Pike River Rd	14	10019613	Bayfield	1	3	46.4568	-91.2405
Bear Creek NE of Hwy 2/53	15	10029779	Douglas	1	3	46.675255	-92.00138
Unnamed Trib (WBIC 5034477) at STH 14	16	10059781	Iowa	1	3	43.1617386	-90.0153628
Bear Creek at STH 14	17	10059780	Richland	1	3	43.2010849	-90.2448448
Timber Coulee Creek - Upstream From Cth P	18	10010631	Vernon	1	3	43.722965	-90.903244
Billings Creek Station #3 Brg. On Cth F	19	10009007	Vernon	1	3	43.706295	-90.54354
Nichols Creek - DS of CTH N	20	10030491	Sheboygan	1	3	43.686623	-88.03359
Onion River at Cth E Or1	21	603340	Sheboygan	1	3	43.7102493	-87.9916976
Watercress Creek - Upstream of Watercress Road	22	10008873	Sheboygan	1	3	43.717216	-88.130936

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River/Stream Name	Figure 1 Label	SWIMS ID	County	Program Years	Samples Collected in 2025	Latitude	Longitude
Honey Cr at 70th and Honey Cr Pkwy	23	10040002	Milwaukee	1	3	42.98327	-88.000167
KK River at South 16th Street	24	10059779	Milwaukee	1	3	42.997161	-87.933615
Willow Creek at Cth Y/Sth167 (25m Upstream)	25	10011279	Washington	1	3	43.2096	-88.153885
Otter Creek: Klug Rd.(8 Ft West Of Bridge)	26	10012580	Rock	1	3	42.82137	-88.915535
Kohlsville River - Upstream of Midland Drive	27	10022037	Washington	1	3	43.483364	-88.36181
North Branch Cedar Creek - Upstream of CTHY NN	28	10022038	Washington	1	3	43.362175	-88.06961
Mukwonago River (1) - Upstream of HWY 83	29	10010534	Waukesha	1	3	42.85642	-88.32887
Rock Creek at Owen Ave and Rock Creek Rd	30	10030170	Clark	1	3	44.770153	-90.55668
Elk Creek at 35th Street	31	10030130	Chippewa	1	3	44.93927	-91.60007
Cady Creek 1- Cth P	32	10009648	Pierce	1	3	44.79041	-92.14351
Wilson Creek North Branch - North Branch Wilson Creek	33	173243	Dunn	1	3	44.988812	-92.1155213
Graham Creek - Station 1 Spruce Rd	34	10009825	Eau Claire	1	3	44.6645	-91.4788
Spring Brook Above Cth Hh	35	10022869	Langlade	1	3	45.071601	-89.2239536
Unnamed Trib to Little Rib River at North Lane Rd	36	10029421	Marathon	1	3	45.032806	-89.86044
Eau Claire River at CTH Z	37	10028972	Marathon	1	3	44.987892	-89.361275
North Br. Trempealeau River - 30 Ft Below Bridge On Cain Rd.	38	10016096	Jackson	1	3	44.40376	-90.99687
Hoton Creek - Upstream Jacobson Road	39	10012172	Juneau	1	3	43.861656	-90.25928
Ditch 7 Upstream Sth 73 Site 8	40	10009161	Portage	1	2	44.24680511	-89.6732279

Notes: *SWIMS - Surface Water Integrated Monitoring System*

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Figure 1: 2025 Surface Water Sampling Program Rivers, Streams, and Spring Locations

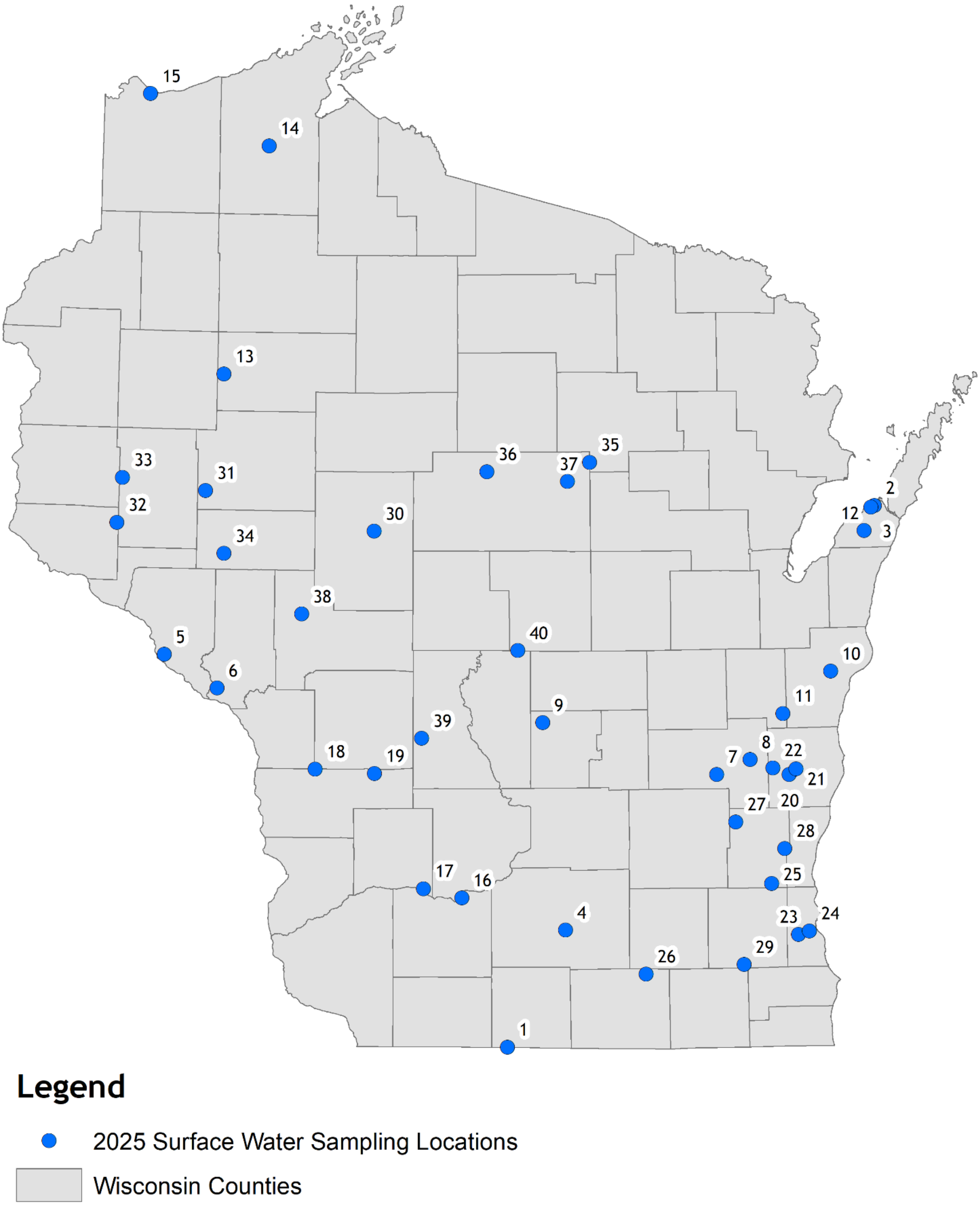

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Table 2: Land Use Breakdown of 2025 Sampled Watersheds

River/Stream Name	Developed	Wetland	Forest	Alfalfa, Grass, or Pasture	Corn	Soy or Dry Beans	Potatoes	Watershed or HUC10 Size (acres)
Ahnapee River	11,305 9%	31,033 25%	5,008 4%	27,992 23%	28,488 23%	5,974 5%	0 0%	123,163
Bear Creek (Douglas County)	5,798 13%	14,579 31%	16,240 35%	7,835 17%	7 <1%	15 <1%	0 0%	46,326
Bear Creek (Richland County)	1,870 4%	1,806 4%	23,268 54%	7,316 17%	5,424 12%	1,448 3%	6 <1%	43,402
Billings Creek	9,407 6%	2,447 2%	82,769 52%	41,483 26%	14,586 9%	3,922 2%	0 0%	157,721
Branch River	6,185 9%	11,585 17%	4,902 7%	17,140 25%	16,953 25%	6,014 9%	0 0%	69,091
Cady Creek	10,196 6%	6,384 4%	50,351 31%	30,408 19%	37,193 23%	19,111 12%	6 <1%	160,351
Caves Creek	7,134 8%	15,352 17%	36,167 40%	15,750 17%	10,630 12%	2,410 3%	81 <1%	91,158
Cochrane Creek	5,452 8%	15,818 22%	19,455 28%	4,026 6%	5,045 7%	2,552 4%	0 0%	70,543
Ditch 7	6,052 11%	7,587 14%	15,888 29%	7,045 13%	6,706 12%	2,530 5%	4,181 8%	55,425
Eau Claire River	9,606 10%	16,098 17%	37,156 39%	14,671 16%	7,977 8%	3,808 4%	10 <1%	94,397
Elk Creek	4,747 8%	2,542 4%	15,484 27%	11,989 21%	13,102 23%	6,376 11%	5 <1%	57,378
Graham Creek	17,460 20%	6,295 7%	24,038 28%	15,241 18%	12,296 14%	6,455 7%	18 <1%	86,841
Helena Ditch	3,859 5%	2,721 4%	36,089 54%	13,126 20%	4,646 7%	2,873 4%	729 1%	67,290
Honey Creek (Willow)	68,262 76%	7,335 8%	2,296 3%	4,710 5%	2,582 3%	2,608 3%	0 0%	89,277
Hoton Creek	9,148 8%	30,713 26%	38,392 33%	14,643 13%	10,749 9%	6,997 6%	17 <1%	116,303
Kinnickinnic River	15,828 99%	51 <1%	20 <1%	9 <1%	0 0%	0 0%	0 0%	15,947
Kohlsville River	15,399 12%	18,629 15%	7,853 6%	26,662 21%	33,540 26%	14,661 11%	0 0%	127,962
Larson Creek May Creek	12,169 13%	23,978 26%	9,943 11%	17,526 19%	14,214 15%	7,218 8%	0 0%	92,802
Moose Ear Creek	11,134 8%	16,265 12%	63,878 47%	15,123 11%	13,815 10%	8,063 6%	730 1%	136,612
Mukwonago River	13,077 26%	5,282 10%	11,197 22%	10,035 20%	5,042 10%	2,974 6%	0 0%	50,881

River/Stream Name	Developed	Wetland	Forest	Alfalfa, Grass, or Pasture	Corn	Soy or Dry Beans	Potatoes	Watershed or HUC10 Size (acres)
Nichols Creek	10,362 11%	16,396 17%	11,506 12%	21,812 23%	16,874 18%	8,396 9%	0 0%	93,862
North Branch Cedar Creek	21,688 27%	15,451 19%	7,570 9%	15,134 19%	8,075 10%	7,283 9%	0 0%	81,172
North Branch Trempealeau River	12,010 8%	7,531 5%	60,523 42%	24,863 17%	22,545 16%	11,757 8%	0 0%	143,355
Onion River	7,393 11%	7,587 12%	5,469 8%	13,360 20%	15,176 23%	10,017 15%	0 0%	65,340
Otter Creek	21,493 15%	16,546 11%	14,108 10%	18,022 12%	37,539 26%	20,912 14%	0 0%	146,194
Parsons Creek	15,237 14%	21,811 20%	3,753 3%	19,768 18%	25,920 24%	15,889 14%	0 0%	110,052
Pine Creek	11,008 9%	23,830 20%	6,997 6%	20,796 17%	30,533 25%	17,475 14%	0 0%	121,369
Rock Creek	7,017 7%	7,213 7%	23,900 22%	22,510 21%	26,079 24%	11,025 10%	0 0%	106,794
Sheboygan River	25,406 15%	30,152 18%	14,735 9%	34,280 21%	32,936 20%	14,494 9%	0 0%	165,283
Spring Brook	4,648 8%	3,003 5%	25,813 43%	5,056 8%	5,617 9%	1,927 3%	6,721 11%	60,470
Syene Springs	Size of capture zone is unknown.							
Tamarack Creek	6,308 6%	10,285 9%	42,002 37%	17,804 16%	21,154 19%	10,901 10%	0 0%	112,506
Timber Coulee Creek	5,738 6%	906 1%	42,301 47%	22,167 24%	10,405 11%	4,451 5%	0 0%	90,601
Unnamed tributary to Little Rib River	4,612 10%	6,392 13%	15,554 31%	8,996 18%	8,228 16%	4,215 8%	2 <1%	50,973
Unnamed tributary to Pecatonica River	14 4%	0 0%	17 5%	53 15%	106 30%	144 40%	0 0%	359
Watercress Creek	25,664 15%	37,230 21%	27,849 16%	34,027 19%	26,888 15%	13,259 8%	0 0%	175,817
White River	7,231 3%	34,805 16%	148,078 69%	9,101 4%	2,170 1%	1,219 1%	0 0%	213,994
Willow Creek	68,262 76%	7,335 8%	2,296 3%	4,710 5%	2,582 3%	2,608 3%	0 0%	89,277
Wilson Creek	15,762 11%	6,794 5%	46,930 33%	23,719 16%	25,959 18%	18,229 13%	158 <1%	144,248

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Sample Collection and Analysis

Surface water samples were collected using DNR standard protocols (Wisconsin Department of Natural Resources, 2018) and DATCP standard operating procedures (Wisconsin Department of Agriculture, Trade, and Consumer Protection, 2021). These procedures are designed to collect unbiased, reliable surface water samples by minimizing the influence of other variables such as flow, weather, and other aquatic factors.

Each surface water sample was collected in free-flowing, well-mixed areas of the rivers, streams, and springs. Samples were collected by directly filling one laboratory-provided, one-liter, amber-colored glass sampling bottle at the designated sampling location. Bottles were then placed in a cooler on ice. Packages were shipped to BLS using an overnight delivery service or hand delivered to BLS along with a completed sample collection record. There were no reported shipping issues or bottle breakages with the 2025 program. Appendix B includes a summary of the analytical data for the 2025 program. Raw data can be through the U.S. Environmental Protection Agency (EPA) Water Quality Portal or by contacting the DATCP Environmental Quality Unit at DATCPGW@wisconsin.gov.

BLS performed surface water analytical testing using gas chromatography with tandem mass spectrometry (GC/MS/MS) and liquid chromatography with tandem mass spectrometry (LC/MS/MS) methods in accordance with ISO 17025 accreditation standards. Each sample was tested for 115 pesticides or pesticide metabolites, and nitrogen as nitrate plus nitrite. The table in Appendix B lists the analytes and corresponding laboratory reporting limits. The laboratory reporting limit is the minimum analyte concentration that can be reliably quantified and reported by laboratory methods. If the concentration of a compound is less than the respective laboratory reporting limit, BLS reports the compound as *not detected* in the water sample. If the concentration of a compound is greater than the respective laboratory reporting limit, BLS reports the compound as *detected* in the water sample.

Results

A total of 142 surface water samples were collected and submitted for chemical analysis as a part of DATCP's 2025 Surface Water Sampling Program. The table in Appendix B summarizes 2025 Surface Water Sampling Program results and applicable water quality standards. DATCP compares the surface water data to benchmark values to assess the potential risk to human health and the environment. These risk-based values are sourced from the Wisconsin Administrative Code (Wis. Admin. Code) Ch. NR 140 public health groundwater quality standards[1] (NR 140.10 – Table 1), drinking water health advisory recommendations by the Wisconsin Department of Health Services (DHS), and a listing of the U.S. Environmental Protection Agency's Office of Pesticide Programs (OPP) - Aquatic Life Benchmarks (ALB's) for Registered Pesticides.

Summary

The list below details key findings in the Summary of Detections section. Figure 2 shows rates for the 25 most frequently detected compounds in 2025 surface water samples. A detailed narrative of the 2025 data follows.

Summary of Detections

- Of the 115 pesticide compounds included in the laboratory testing methods, 34 compounds were detected in 2025 surface water samples. Detections include 13 herbicides, 13 herbicide metabolites, five insecticides, two fungicides, and one herbicide safener.
- Fifteen individual pesticide compounds were detected in a single sample on three separate occasions in 2025. This was the highest number of individual pesticide compounds detected in 2025 surface water samples. These samples were collected from Ditch 7 on 6/26/2025 and from Helena Ditch on 9/8/2025 and 11/13/2025.

[1] An essential part of Wisconsin's groundwater protection laws was the creation of water quality standards for different substances, outlined in Wis. Admin. Code Chapter NR 140. The DNR sets standards for substances of public health concern based on recommendations from DHS. The groundwater standards have two components: an enforcement standard (ES) and a preventative action limit (PAL). The ES is a concentration that, if exceeded, requires intervention from the appropriate authority. The PAL is a percentage of the ES; 10% of the ES for carcinogenic, mutagenic, or teratogenic properties, and 20% of the ES for the remaining substances. The intention of the PAL is for it to act as a trigger for intervention before a pollutant becomes a serious risk to public health or the environment.

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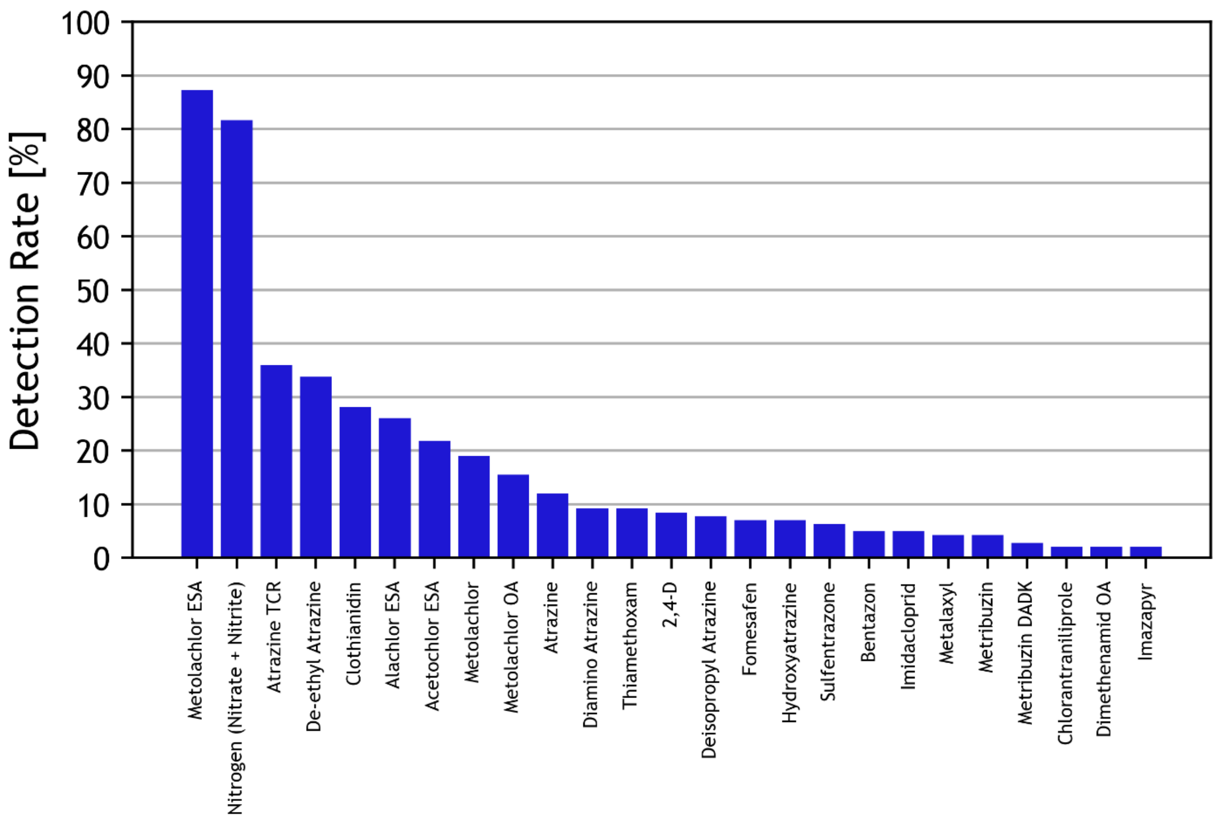
- Metolachlor ESA was the most frequently detected compound, with a detection rate of 87.3%. This was slightly greater than the 81.7% detection rate for nitrogen as nitrate + nitrite. The next most frequently detected individual pesticide compound was de-ethyl atrazine, with a detection rate of 33.8%.
- Atrazine Total Chlorinated Residue (TCR), i.e. the sum of atrazine parent material and its breakdown products (de-ethyl atrazine, de-isopropyl atrazine, and diamino atrazine), was detected in 35.9% of the samples collected.
- In 2025 neonicotinoid compounds were detected in samples from 17 streams and rivers: the Ahnapee River, Bear Creek (Richland County), Ditch 7, the Eau Claire River, Elk Creek, Graham Creek, Helena Ditch, Honey Creek, Larson Creek, May Creek, the North Branch Trempealeau River, Parsons Creek, Pine Creek, Rock Creek, Spring Brook, an unnamed tributary to the Little Rib River, and an unnamed tributary to the Pecatonica River.
- The detection of pesticides during months outside the application season suggests that steady, baseline groundwater discharge can be a major source of contamination, rather than runoff from overland flow.
- No detections of any pesticide compounds or nitrogen (nitrate + nitrite) occurred in eight samples from the following locations:
    - The White River in samples collected on 5/6/2025 and 10/23/3035
    - Bear Creek (Douglas County) in samples collected on 5/6/2025 and 7/14/2025
    - Moose Ear Creek in samples collected on 5/12/2025, 7/14/2025, and 10/7/2025
    - The Kinnickinnic River in samples collected on 11/25/2025

Figure 2: 2025 Detection Rates of 25 Most Frequently Detected Compounds



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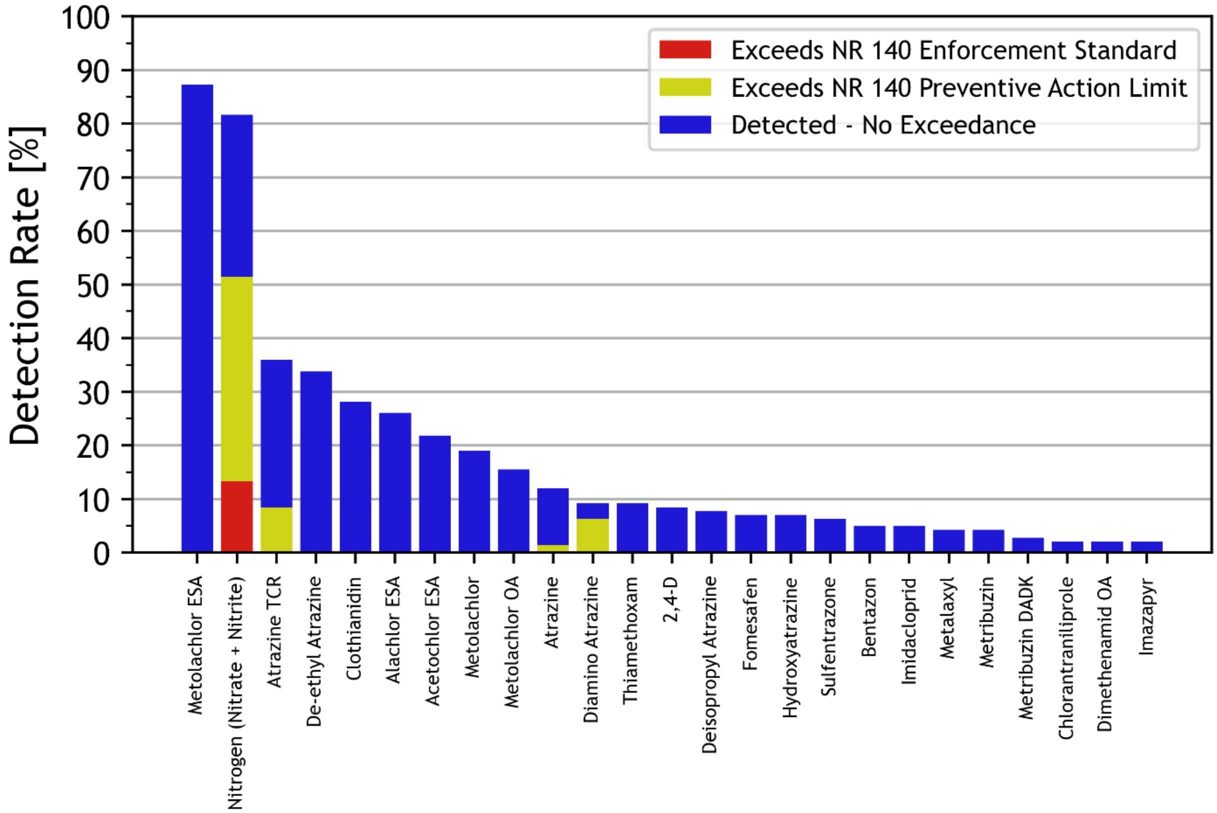
Exceedances of Groundwater Standards

- Nitrogen as nitrate plus nitrite was detected at concentrations exceeding the 10 mg/L Wis. Admin. Code Ch. NR 140 Enforcement Standard (ES) in 19 samples. These samples were collected at Ditch 7, Graham Creek, Helena Ditch, Syene Springs, and an unnamed tributary to the Pecatonica River. Concentrations in these samples ranged from 10 mg/L to 15.1 mg/L.
- Atrazine TCR exceeded the 0.3 µg/L Wis. Admin. Code Ch. NR 140 Preventive Action Limit (PAL) in 12 samples. These samples were collected at Helena Ditch, Parsons Creek, the Sheboygan River, and Syene Springs. Concentrations in these samples ranged from 0.304 µg/L to 0.807 µg/L.
- Atrazine exceeded the 0.3 µg/L Wis. Admin. Code Ch. NR 140 PAL in two samples. These samples were collected at Parsons Creek on 5/19/2025 and at the Sheboygan River on 5/19/2025. Concentrations in these samples ranged from 0.304 to 0.462 µg/L.
- Diamino atrazine exceeded the 0.3 µg/L Wis. Admin. Code Ch. NR 140 PAL in nine samples collected at Syene Springs. Concentrations in these samples ranged from 0.309 µg/L to 0.409 µg/L.

Figure 3: 2025 Exceedances of NR 140 Groundwater Quality Standards

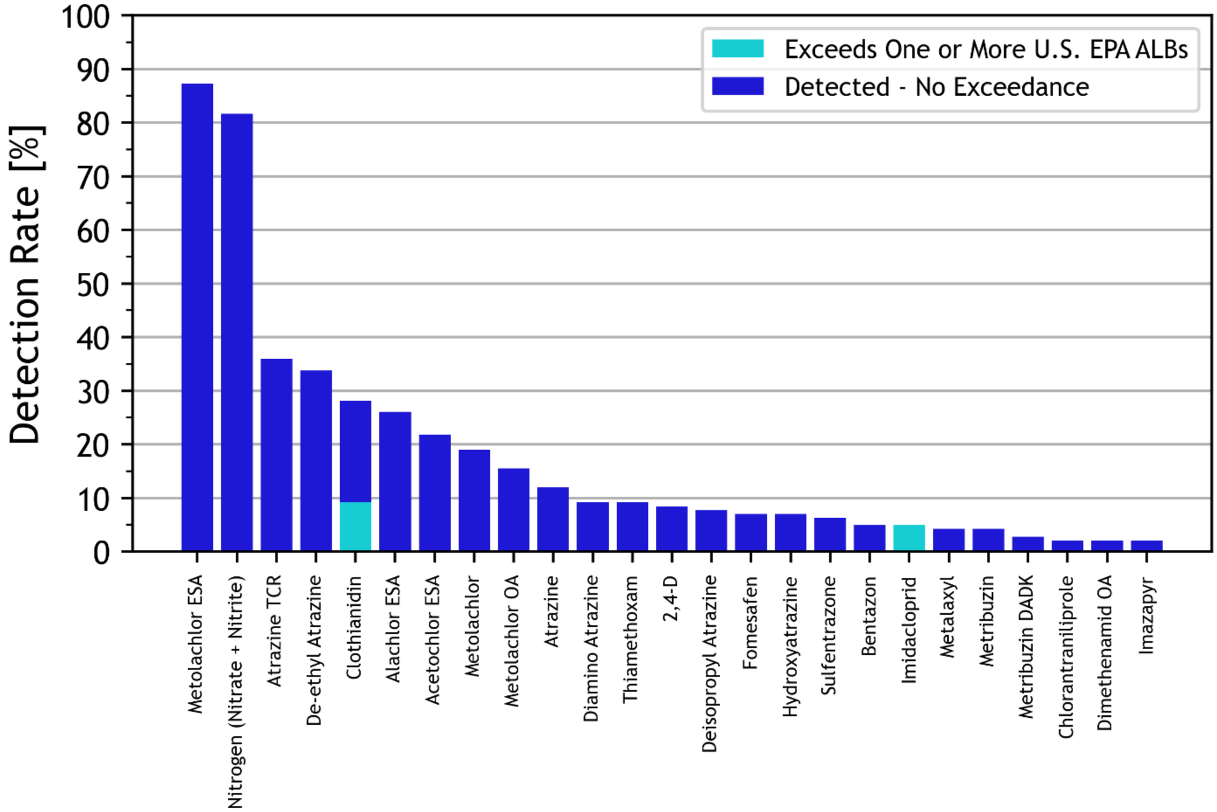


Exceedances of Aquatic Life Benchmarks

Two compounds exceeded EPA Office of Pesticide Programs - Aquatic Life Benchmarks for Freshwater Invertebrates. Both of these compounds are neonicotinoid insecticides.

- Clothianidin exceeded the 0.05 µg/L chronic ALB for freshwater invertebrates in 13 samples. These samples were collected at Ditch 7, Graham Creek, Helena Ditch, and an unnamed tributary to the Pecatonica River. Concentrations in these samples ranged from 0.0551 µg/L to 0.217 µg/L.
- Imidacloprid exceeded the 0.01 µg/L chronic ALB for freshwater invertebrates in seven samples. These samples were collected at Ditch 7, Graham Creek, Helena Ditch, Honey Creek, and Spring Brook. Concentrations in these samples ranged from 0.0104 µg/L to 0.0353 µg/L.

Figure 4: 2025 Exceedances of U.S. EPA Aquatic Life Benchmarks



2024 Precipitation Measurements

Greater surface runoff typically correlates well with heavy precipitation events, especially when the ground surface is exposed due to a lack of vegetation and where the surficial soil is poorly drained. Variations in precipitation and surface runoff rates could result in fluctuations of pesticide concentrations found in surface water. Surface runoff may decrease or increase the likelihood of detecting pesticides in surface water. If surface runoff occurs during the traditional pesticide application season, a peak in pesticide concentration may occur in surface waters downstream of agricultural fields. Conversely, dilution of pesticide concentrations may occur if surface runoff occurs before or after the pesticide application season.

Wisconsin averaged 34.05 inches of precipitation annually between 1991 and 2020. In 2025, Wisconsin experienced an average of 30.61 inches, marking a below-average year for precipitation. The annual average precipitation for 2025 was also lower than 2024 (36.98 inches).

Figure 5 shows each month of 2025's statewide precipitation departure from its respective 30-year average monthly precipitation between 1991 and 2020 (NOAA National Centers for Environmental Information, 2026). Overall, Wisconsin experienced lower average precipitation during most months in 2025, compared to the 30-year averages from 1991 to 2020. Notably, the exceptions to this trend were March (the sixth wettest March on record in Wisconsin) as well as June and July, two months that encompass the latter half of the typical pesticide application season. Consistently drier autumn months, the eighth driest autumn on record in Wisconsin, followed these wetter summer months.

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Figure 5: 2025 Monthly Precipitation Departures from 1991-2020 Monthly Averages

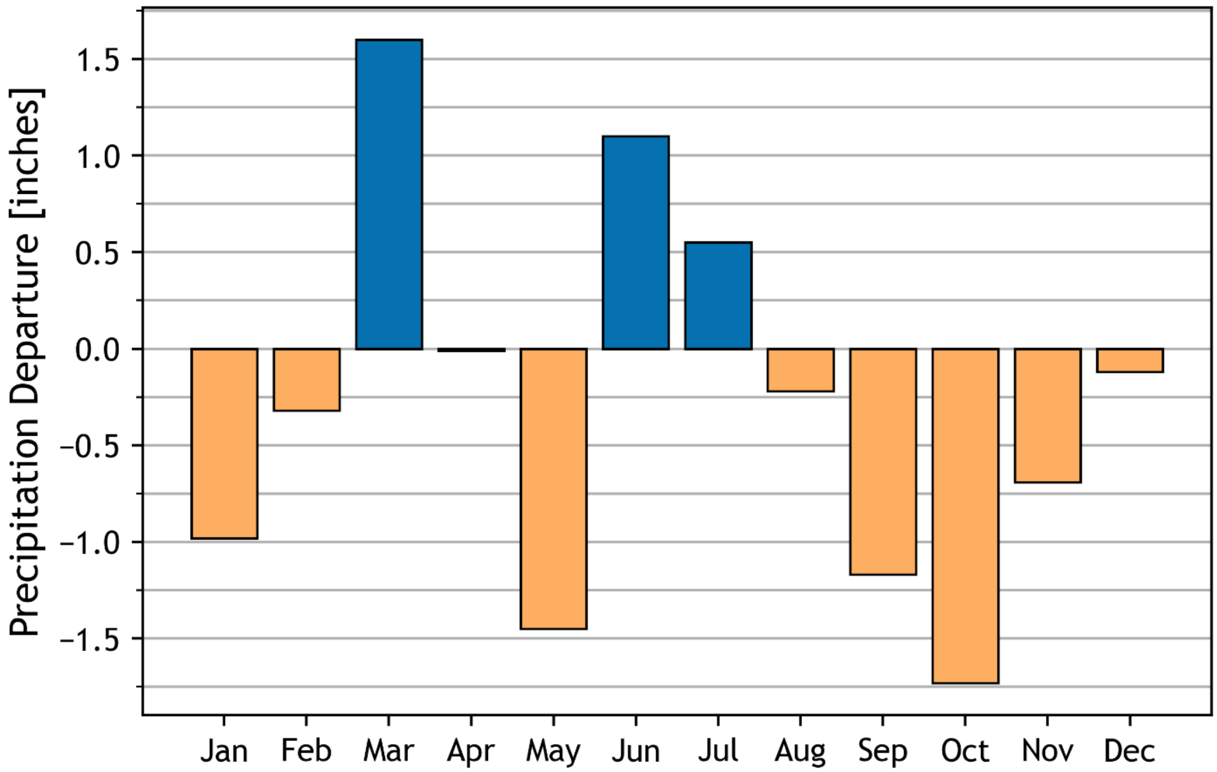

Figure 6 shows the total accumulated precipitation in 2025 recorded across Wisconsin (Wisconsin State Climatology Office, 2025). Most of the state experienced between 30 and 40 inches of precipitation in 2025, except for the northeast and northwest corners of the state, which experienced between 20 and 30 inches. There were also small areas in western and eastern Wisconsin that received over 40 inches of precipitation.

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Figure 6: 2025 Accumulated Precipitation in Wisconsin

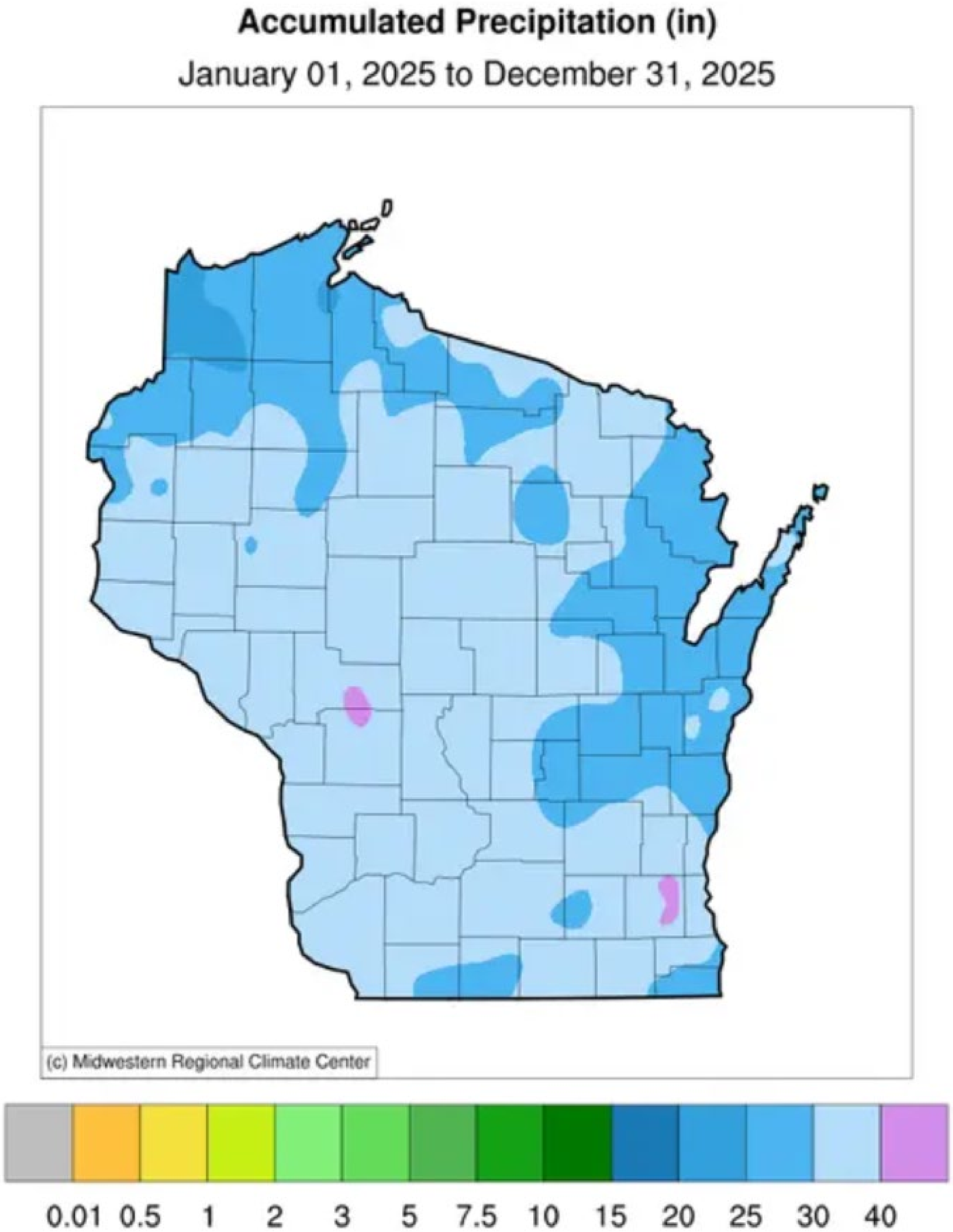
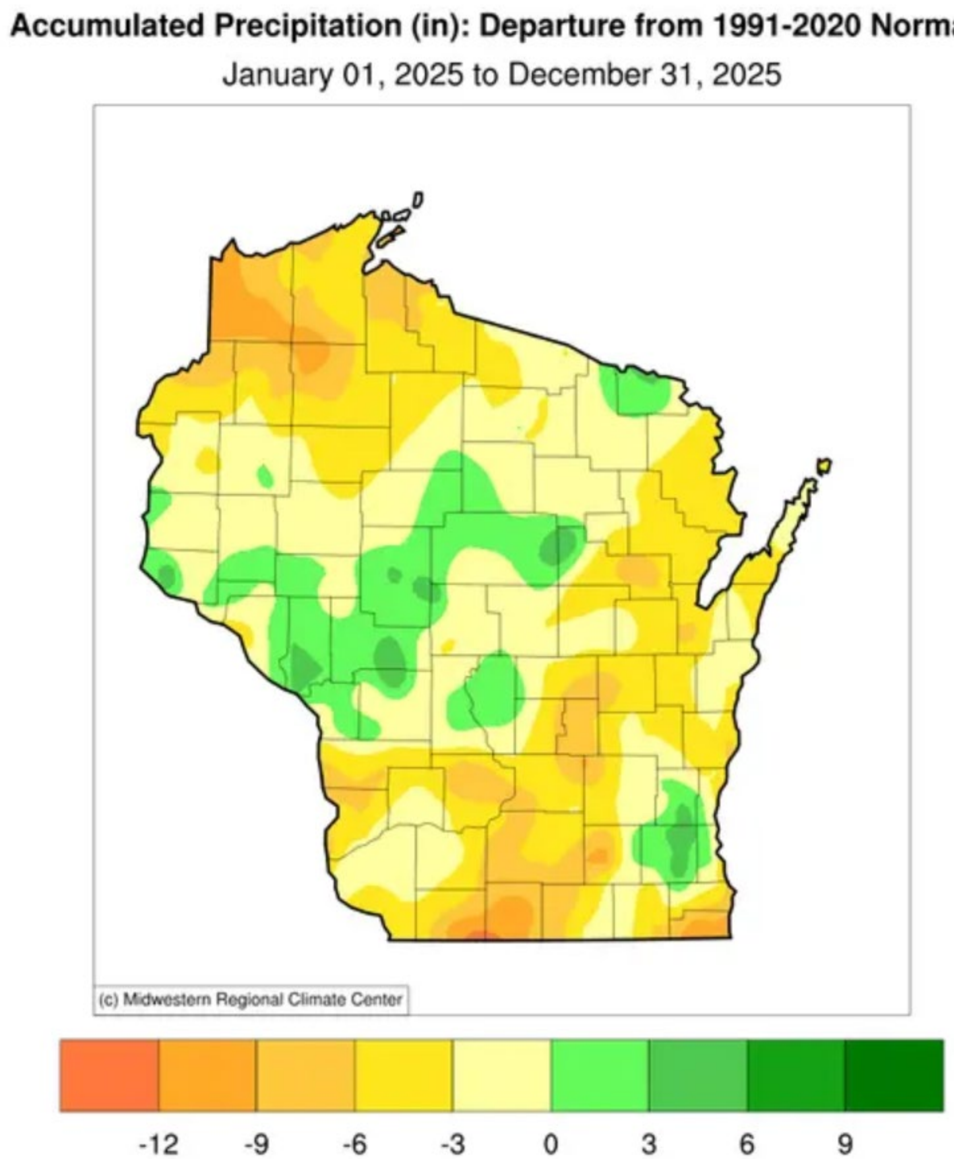


Figure 7 shows the geographic spread of 2025 precipitation departures (Wisconsin State Climatology Office, 2025). Positive deviations, shown in green, signify regions where the annual precipitation exceeded the average. Conversely, negative departures, shown in yellow and orange, highlight areas with precipitation below average. Much of the state experienced less precipitation in 2025 than the 1991 to 2020 norm, except for western, central, and southeastern Wisconsin.

Figure 7: 2025 Accumulated Precipitation Departures in Wisconsin



The month of August 2025 saw a historic precipitation event in Wisconsin. Between 8/9/2026 and 8/10/2026, over 14.5 inches of rain fell on the north side of the Milwaukee metropolitan area, resulting in a new Wisconsin 24-hour rainfall record, as well as unprecedented flooding of several rivers in the area such as the Milwaukee River, the Menomonee River, and the Root River (Wisconsin State Climatology Office, 2026).

Pesticide Detection Rates

Of the 115 pesticide analytes included in DATCP's Surface Water Sampling Program testing methodology, 34 individual pesticide compounds were detected in 2025 samples. The most frequently detected pesticide compound was metolachlor ESA. This compound is a breakdown product of metolachlor, an active ingredient in corn herbicides such as Dual, Halex GT, Lumax, and many others (Kelly Solutions, 2025). Metolachlor ESA concentrations were detected in 87.3% of the samples collected.

De-ethyl atrazine, a breakdown product of the compound atrazine, was the second most frequently detected single compound, with a detection rate of 33.8%. Atrazine is a widely used herbicide for controlling broadleaf and grassy weeds in crops such as corn. Although atrazine TCR was identified in 35.9% of the samples, it does not represent a single compound. Instead, it is the sum of atrazine and its three primary breakdown products (de-ethyl atrazine, de-isopropyl atrazine, and diamino atrazine). The percentage indicates the proportion of samples that contained one or more atrazine metabolites and/or atrazine.

Clothianidin was the third most frequently detected pesticide compound in 2025 samples, with a detection rate of 28.2%. Clothianidin is a type of neonicotinoid insecticide. Neonicotinoids are commonly deployed as prophylactic coatings on planted seeds but are also registered for use in various turf treatments.

Groundwater sampling has also detected similar compounds, as reported in the DATCP 2023 statewide survey report (Wisconsin Department of Agriculture, Trade, and Consumer Protection and United States Department of Agriculture, 2024). Metolachlor ESA is historically the most widely reported pesticide detected in private potable wells, with an estimated statewide detection rate of 36.1% in 2023. Clothianidin had an estimated statewide detection rate of 5.1% in private potable wells in 2023.

Comparison with Prior Years

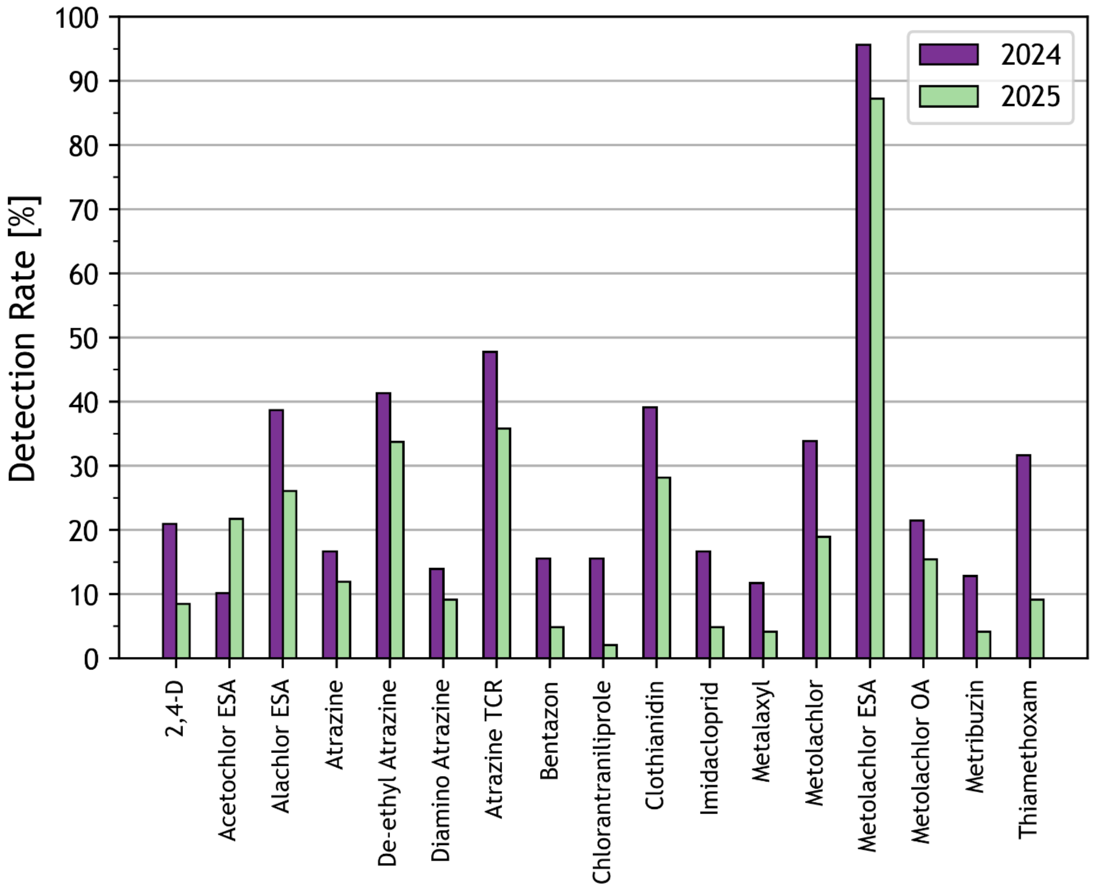
In 2025, 34 individual pesticide compounds were detected, compared to 47 different pesticides detected in 2024. While there were more individual pesticide compounds detected in 2024 than in 2025, there were several compounds detected in 2025 that were not detected in 2024. These include cyprosulfamide, dimethenamid ESA, dimethenamid OA, dinotefuran, imazethapyr, and isoxaflutole DKN. Of these compounds, 2025 was the first year that cyprosulfamide and isoxaflutole DKN were detected, and it was only the second year that dinotefuran was detected in Wisconsin surface water. In 2025, DATCP also tested samples for three new compounds: 4-hydroxychlorothalonil, imazamox, and imazapic. Of these three compounds, imazapic was detected for the first time.

Figure 8 shows a comparison of pesticide detection rates[2] in percentage for 2025 and 2024. Only pesticides with a detection rate of 10% or higher in 2025 or 2024 are shown. As shown, overall pesticide detection rates decreased from 2024 to 2025. Most detection rates that decreased from 2024 to 2025 did so by a margin of about 10% or less, although there were several pesticides whose detection rates dipped by much greater amounts, such as thiamethoxam and metolachlor. By contrast, one pesticide compound, acetochlor ESA, more than doubled its detection rate from 2024 to 2025.

Multiple factors may explain the lower detection rates in 2025 compared to those in 2024. In 2025, more sample collection occurred quarterly, which was less frequently than samples collected monthly in past years. A higher proportion of sample collection likely occurred outside the months when pesticide applications occurred. Additionally, sampling locations selected for 2025 did not lean as heavily on areas of intense agricultural activity (although this criterion did influence the selection of a number of 2025 sampling locations). 2025 was also generally drier than 2024 in Wisconsin, which may have resulted in fewer runoff events that transported pesticide compounds to surface water. All of these factors may explain the decreased detection rates for pesticide compounds in 2025 compared to 2024.

[2] The detection rate (%) is calculated as follow: $\frac{number\ of\ detects}{total\ number\ of\ samples}\ x\ 100$

Figure 8: Pesticides Detection Rates in 2025 Samples vs 2024 Samples



Pesticide Detections at Sampling Locations

One of the program's objectives is to evaluate the relationship between pesticide application and seasonal effects on surface water quality. To achieve this objective, monthly samples are typically collected, and pesticide detections are evaluated by month to determine if concentrations are influenced by seasonal surface water flows or groundwater/aquifer discharge (base flow). For seasonal flow, it is reasonable to expect variable groups of pesticides detected at fluctuating concentrations throughout the year. The highest concentrations and greatest total numbers of pesticides detected would be expected during the pesticide application months (April through July), followed by a decline in the late summer and fall months. This decline would continue over the winter months, until the cycle repeats during the next application season. For baseline aquifer flow, a consistent group of detected analytes and steady concentrations throughout the year would be expected. The baseline flow would reflect pesticide concentrations within the watershed aquifer as groundwater discharges to surface water throughout the year.

Although a large number of the locations sampled in 2025 were sampled quarterly, not monthly, fluctuating pesticide concentrations throughout the pesticide application season (March through June) and growing season (March through November) suggest seasonal flow or baseline flow is dominant at several locations.

Locations Sampled Monthly

In 2025, monthly samples were collected between March and November from four sampling locations. The following is a summary of pesticides consistently detected in monthly samples collected during and after the pesticide application season. These results likely indicate baseline aquifer flow for all four monthly sampling locations. Detected pesticide concentration ranges and seasonal high and low concentrations are summarized below:

- Unnamed (892100) N of Williams Rd.
  - Clothianidin was detected in nine samples at concentrations ranging from 0.0551 µg/L to 0.0925 µg/L. The lowest concentrations were detected in both March and August and the highest in October.
  - De-ethyl atrazine was detected in nine samples at concentrations ranging from 0.0834 µg/L to 0.131 µg/L. The lowest concentration was detected in April and the highest in June.
  - Metolachlor ESA was detected in nine samples at concentrations ranging from 1.35 µg/L to 1.69 µg/L. The lowest concentration was detected in March and the highest in October.
- Larson Creek - Larson Creek at Elliason Road
  - Metolachlor ESA was detected in eight samples at concentrations ranging from 0.154 µg/L to 0.455 µg/L. The lowest concentration was detected in March and the highest in August.
- Unnamed (WBIC 100300) at Sandy Bay Road
  - Metolachlor ESA was detected in nine samples at concentrations ranging from 0.301 µg/L to 1.01 µg/L. The lowest concentration was detected in November and the highest in July.
- Nine Springs - Syene Springs
  - Acetochlor ESA was detected in nine samples at concentrations ranging from 0.0868 µg/L to 0.108 µg/L. The lowest concentration was detected in June and the highest in November.
  - Alachlor ESA was detected in nine samples at concentrations ranging from 0.669 µg/L to 0.827 µg/L. The lowest concentration was detected in June and the highest in April.
  - Atrazine was detected in nine samples at concentrations ranging from 0.0626 µg/L to 0.103 µg/L. The lowest concentration was detected in August and the highest in April.
  - De-ethyl atrazine was detected in nine samples at concentrations ranging from 0.125 µg/L to 0.209 µg/L. The lowest concentration was detected in August and the highest in April.
  - Deisopropyl atrazine was detected in nine samples at concentrations ranging from 0.0624 µg/L to 0.108 µg/L. The lowest concentration was detected in July and the highest in April.
  - Diamino atrazine was detected in nine samples at concentrations ranging from 0.309 µg/L to 0.409 µg/L. The lowest concentration was detected in August and the highest in October.
  - Fomesafen was detected in eight samples at concentrations ranging from 0.0501 µg/L to 0.069 µg/L. The lowest concentration was detected in June and the highest in October.
  - Metolachlor ESA was detected in nine samples at concentrations ranging from 1.86 µg/L to 2.35 µg/L. The lowest concentration was detected in June and the highest in November.
  - Metolachlor OA was detected in nine samples at concentrations ranging from 0.288 µg/L to 0.36 µg/L. The lowest concentration was detected in June and the highest in May.

Locations Sampled Quarterly

In 2025, quarterly samples were collected between March and December from 36 sampling locations. The following is a summary of pesticides consistently detected in quarterly samples during and after the pesticide application season. Results likely indicate baseline aquifer flow for 29 of the 36 quarterly sampling locations. Detected pesticide concentration ranges and seasonal high and low concentrations are summarized below:

- Cochrane Creek at Cth Oo
  - Acetochlor ESA was detected in three samples at concentrations ranging from 0.0539 µg/L to 0.634 µg/L. The lowest concentration was detected in May and the highest in October.
  - Alachlor ESA was detected in three samples at concentrations ranging from 0.0618 µg/L to 0.076 µg/L. The lowest concentration was detected in October and the highest in May.
  - Metolachlor ESA was detected in three samples at concentrations ranging from 0.702 µg/L to 0.823 µg/L. The lowest concentration was detected in May and the highest in October.
- Tamarack Creek - (Bridge)
  - Acetochlor ESA was detected in three samples at concentrations ranging from 0.054 µg/L to 0.0906 µg/L. The lowest concentration was detected in April and the highest in October.

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    - Metolachlor ESA was detected in three samples at concentrations ranging from 0.258 µg/L to 0.454 µg/L. The lowest concentration was detected in April and the highest in October.
- Parsons Creek Upstream Hickory Rd
    - Clothianidin was detected in three samples at concentrations ranging from 0.0162 µg/L to 0.0277 µg/L. The lowest concentration was detected in November and the highest in May.
    - Metolachlor ESA was detected in three samples at concentrations ranging from 1.57 µg/L to 2.07 µg/L. The lowest concentration was detected in May and the highest in October.
- Sheboygan River at Hwy T
    - Metolachlor ESA was detected in three samples at concentrations ranging from 1.21 µg/L to 1.28 µg/L. The lowest concentration was detected in May and the highest in September.
- Branch River at N Union Rd (2)
    - Metolachlor ESA was detected in three samples at concentrations ranging from 0.288 µg/L to 0.5 µg/L. The lowest concentration was detected in December and the highest in September.
- Pine Creek - 200 Feet Downstream From Cth T
    - Hydroxyatrazine was detected in three samples at concentrations ranging from 0.0711 µg/L to 0.205 µg/L. The lowest concentration was detected in December and the highest in June.
    - Metolachlor ESA was detected in three samples at concentrations ranging from 0.706 µg/L to 1.76 µg/L. The lowest concentration was detected in December and the highest in June.
- Ahnapee River at CTH H Forestville
    - Metolachlor ESA was detected in three samples at concentrations ranging from 0.34 µg/L to 0.684 µg/L. The lowest concentration was detected in December and the highest in June.
- Unnamed Trib (WBIC 5034477) at STH 14
    - Alachlor ESA was detected in three samples at concentrations ranging from 1.05 µg/L to 1.12 µg/L. The lowest concentration was detected in June and the highest in September.
    - Bentazon was detected in three samples at concentrations ranging from 0.28 µg/L to 0.318 µg/L. The lowest concentration was detected in November and the highest in June.
    - Chlorantraniliprole was detected in three samples at concentration ranging from 0.11 µg/L to 0.113 µg/L. The lowest concentration was detected in June and November (both were 0.11 µg/L) and the highest in September.
    - Clothianidin was detected in three samples at concentrations ranging from 0.0969 µg/L to 0.144 µg/L. The lowest concentration was detected in June and the highest in September.
    - De-ethyl atrazine was detected in three samples at concentrations ranging from 0.0975 µg/L to 0.116 µg/L. The lowest concentration was detected in September and the highest in June.
    - Imidacloprid was detected in three samples at concentrations ranging from 0.0203 µg/L to 0.0353 µg/L. The lowest concentration was detected in November and the highest in June.
    - Metalaxyl was detected in three samples at concentrations ranging from 0.0715 µg/L to 0.116 µg/L. The lowest concentration was detected in June and the highest in November.
    - Metolachlor was detected in three samples at concentrations ranging from 0.331 µg/L to 0.496 µg/L. The lowest concentration was detected in November and the highest in September.
    - Metolachlor ESA was detected in three samples at concentrations ranging from 8.2 µg/L to 10.5 µg/L. The lowest concentration was detected in June and the highest in November.
    - Metolachlor OA was detected in three samples at concentrations ranging from 4.89 µg/L to 6.19 µg/L. The lowest concentration was detected in June and the highest in September.
    - Metribuzin was detected in three samples at concentrations ranging from 0.155 µg/L to 0.362 µg/L. The lowest concentration was detected in June and the highest in September.
    - Thiamethoxam was detected in three samples at concentrations ranging from 0.138 µg/L to 0.24 µg/L. The lowest concentration was detected in June and the highest in September.

- Bear Creek at STH 14
  - Alachlor ESA was detected in three samples at concentrations ranging from 0.0781 µg/L to 0.104 µg/L. The lowest concentration was detected in November and the highest in September.
  - Metolachlor ESA was detected in three samples at concentrations ranging from 0.591 µg/L to 0.812 µg/L. The lowest concentration was detected in June and the highest in September.
- Timber Coulee Creek - Upstream From Cth P
  - De-ethyl atrazine was detected in three samples at concentrations ranging from 0.0705 µg/L to 0.0836 µg/L. The lowest concentration was detected in November and the highest in June.
  - Metolachlor ESA was detected in three samples at concentrations ranging from 0.136 µg/L to 0.142 µg/L. The lowest concentration was detected in June and the highest in September.
- Billings Creek Station #3 Brg. On Cth F
  - De-ethyl atrazine was detected in three samples at concentrations ranging from 0.0514 µg/L to 0.0584 µg/L. The lowest concentration was detected in September and the highest in June.
  - Metolachlor ESA was detected in three samples at concentrations ranging from 0.12 µg/L to 0.132 µg/L. The lowest concentration was detected in June and the highest in November.
- Nichols Creek - DS of CTH N
  - Dimethenamid OA was detected in three samples at concentrations ranging from 0.0867 µg/L to 0.119 µg/L. The lowest concentration was detected in November and the highest in August.
  - Metolachlor ESA was detected in three samples at concentrations ranging from 0.942 µg/L to 0.996 µg/L. The lowest concentration was detected in May and the highest in August.
  - Metolachlor OA was detected in three samples at concentrations ranging from 0.883 µg/L to 1.06 µg/L. The lowest concentration was detected in May and the highest in August.
  - Sulfentrazone was detected in three samples at concentrations ranging from 0.103 µg/L to 0.146 µg/L. The lowest concentration was detected in May and the highest in November.
- Onion River at Cth E Or1
  - Metolachlor ESA was detected in three samples at concentrations ranging from 0.167 µg/L to 0.26 µg/L. The lowest concentration was detected in November and the highest in May.
- Watercress Creek - Upstream of Watercress Road
  - Metolachlor ESA was detected in three samples at concentrations ranging from 0.129 µg/L to 0.177 µg/L. The lowest concentration was detected in November and the highest in August.
- Willow Creek at Cth Y/Sth167 (25m Upstream)
  - Metolachlor ESA was detected in three samples at concentrations ranging from 0.206 µg/L to 0.584 µg/L. The lowest concentration was detected in August and the highest in November.
  - Sulfentrazone was detected in three samples at concentrations ranging from 0.0508 µg/L to 0.191 µg/L. The lowest concentration was detected in May and the highest in November.
- Otter Creek: Klug Rd.(8 Ft West Of Bridge)
  - Acetochlor ESA was detected in three samples at concentrations ranging from 0.077 µg/L to 0.186 µg/L. The lowest concentration was detected in August and the highest in May.
  - Metolachlor ESA was detected in three samples at concentrations ranging from 0.329 µg/L to 0.357 µg/L. The lowest concentration was detected in May and the highest in November.
- Kohlsville River - Upstream of Midland Drive
  - Metolachlor ESA was detected in three samples at concentrations ranging from 0.973 µg/L to 1.06 µg/L. The lowest concentration was detected in May and the highest in November.
- North Branch Cedar Creek - Upstream of CTHY NN
  - Metolachlor ESA was detected in three samples at concentrations ranging from 0.215 µg/L to 0.301 µg/L. The lowest concentration was detected in November and the highest in May.

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- Mukwonago River (1) - Upstream of HWY 83
  - Metolachlor ESA was detected in three samples at concentrations ranging from 0.13 µg/L to 0.143 µg/L. The lowest concentration was detected in August and the highest in November.
- Rock Creek at Owen Ave and Rock Creek Rd
  - Acetochlor ESA was detected in three samples at concentrations ranging from 0.258 µg/L to 0.592 µg/L. The lowest concentration was detected in May and the highest in September.
  - Alachlor ESA was detected in three samples at concentrations ranging from 0.0807 µg/L to 0.117 µg/L. The lowest concentration was detected in May and the highest in November.
  - Hydroxyatrazine was detected in three samples at concentrations ranging from 0.073 µg/L to 0.175 µg/L. The lowest concentration was detected in November and the highest in May.
  - Metolachlor was detected in three samples at concentrations ranging from 0.119 µg/L to 0.19 µg/L. The lowest concentration was detected in November and the highest in September.
  - Metolachlor ESA was detected in three samples at concentrations ranging from 1.68 µg/L to 2.09 µg/L. The lowest concentration was detected in May and the highest in November.
  - Metolachlor OA was detected in three samples at concentrations ranging from 0.356 µg/L to 0.6 µg/L. The lowest concentration was detected in May and the highest in September.
- Elk Creek at 35th Street
  - Alachlor ESA was detected in three samples at concentrations ranging from 0.0776 µg/L to 0.0906 µg/L. The lowest concentration was detected in May and the highest in October.
  - Metolachlor ESA was detected in three samples at concentrations ranging from 0.809 µg/L to 1.35 µg/L. The lowest concentration was detected in October and the highest in May.
- Cady Creek 1- Cth P
  - De-ethyl atrazine was detected in three samples at concentrations ranging from 0.0981 µg/L to 0.111 µg/L. The lowest concentration was detected in May and the highest in October.
  - Metolachlor ESA was detected in three samples at concentrations ranging from 0.206 µg/L to 0.224 µg/L. The lowest concentration was detected in October and the highest in July.
- Wilson Creek North Branch - North Branch Wilson Creek
  - De-ethyl atrazine was detected in three samples at concentrations ranging from 0.0881 µg/L to 0.0927 µg/L. The lowest concentration was detected in May and the highest in October.
  - Metolachlor ESA was detected in three samples at concentrations ranging from 0.223 µg/L to 0.231 µg/L. The lowest concentration was detected in October and the highest in July.
- Graham Creek - Station 1 Spruce Rd
  - Metolachlor ESA was detected in three samples at concentrations ranging from 0.0775 µg/L to 0.084 µg/L. The lowest concentration was detected in October and the highest in July.
- Spring Brook Above Cth Hh
  - Clothianidin was detected in three samples at concentrations ranging from 0.0451 µg/L to 0.0467 µg/L. The lowest concentration was detected in November and the highest in May.
- Unnamed Trib to Little Rib River at North Lane Rd
  - Acetochlor ESA was detected in three samples at concentrations ranging from 0.445 µg/L to 1.42 µg/L. The lowest concentration was detected in May and the highest in August.
  - Alachlor ESA was detected in three samples at concentrations ranging from 0.118 µg/L to 0.166 µg/L. The lowest concentration was detected in May and the highest in November.
  - Metolachlor ESA was detected in three samples at concentrations ranging from 0.277 µg/L to 0.457 µg/L. The lowest concentration was detected in May and the highest in August.
- Eau Claire River at CTH Z
  - Clothianidin was detected in three samples at concentrations ranging from 0.0185 µg/L to 0.0207 µg/L. The lowest concentration was detected in May and the highest in November.
  - Metolachlor ESA was detected in three samples at concentrations ranging from 0.313 µg/L to 0.551 µg/L. The lowest concentration was detected in May and the highest in November.

  - Thiamethoxam was detected in three samples at concentrations ranging from 0.0201 µg/L to 0.0266 µg/L. The lowest concentration was detected in May and the highest in November.
- North Br. Trempealeau River - 30 Ft Below Bridge On Cain Rd.
  - Acetochlor ESA was detected in three samples at concentrations ranging from 0.348 µg/L to 0.543 µg/L. The lowest concentration was detected in June and the highest in November.
  - Alachlor ESA was detected in three samples at concentrations ranging from 0.407 µg/L to 0.587 µg/L. The lowest concentration was detected in June and the highest in November.
  - Clothianidin was detected in three samples at concentrations ranging from 0.0109 µg/L to 0.0155 µg/L. The lowest concentration was detected in June and the highest in August.
  - Metolachlor ESA was detected in three samples at concentrations ranging from 0.465 µg/L to 0.748 µg/L. The lowest concentration was detected in June and the highest in August and November (both were 0.748 µg/L).
- Hoton Creek - Upstream Jacobson Road
  - Metolachlor ESA was detected in three samples at concentrations ranging from 0.825 µg/L to 1.06 µg/L. The lowest concentration was detected in June and the highest in August.

Comparison to Standards

Pesticide concentrations identified during DATCP's 2025 Surface Water Sampling Program were compared to the following three published environmental surface water/groundwater quality standards:

- Wis. Admin. Code Ch. NR 140 – PAL and ES for drinking water;
- DHS drinking water health advisories (for some pesticides for which ES and PAL are not established); and
- EPA's Office of Pesticide Programs - Aquatic Life Benchmarks for Pesticides for freshwater.

The table in Appendix B shows these three standards alongside the range of detected pesticide concentrations identified as part of the 2025 Surface Water Sampling Program. As shown in the Appendix B table, several pesticides and their metabolites have no aquatic life benchmarks (20 out of 115) or established Wis. Admin. Code NR 140 ES and PAL standards (86 out of 115). Additionally, DHS has established drinking water health advisory recommendations for 17 pesticide compounds that have no established Wis. Admin. Cody NR 140 ES or PAL.

EPA Office of Pesticide Programs - Aquatic Life Benchmarks for Pesticides for freshwater were exceeded for two compounds as follows:

- Clothianidin
  - Clothianidin was detected in 13 samples collected from Ditch 7, Graham Creek, Helena Ditch, and an unnamed tributary to the Pecatonica River at concentrations greater than the 0.05 µg/L chronic Aquatic Life Benchmark for invertebrates. These samples were collected between March and November at concentrations ranging from 0.0551 to 0.217 µg/L.
- Imidacloprid
  - Imidacloprid was detected in seven samples collected from Ditch 7, Graham Creek, Helena Ditch, Honey Creek, and Spring Brook at concentrations greater than the 0.01 µg/L chronic Aquatic Life Benchmark for invertebrates. These samples were collected between June and November at concentrations ranging from 0.0104 to 0.0353 µg/L.

No pesticides or pesticide metabolites were detected at concentrations exceeding existing Wis. Admin. Code Ch. NR 140 ES values or any DHS health advisory levels. However, the Wis. Admin. Code Ch. NR 140 PAL was exceeded for two individual compounds and atrazine TCR as follows:

- Atrazine (Wis. Admin. Code Ch. NR 140 PAL = 0.3 µg/L)
  - Atrazine was detected in the May sample collected from Parsons Creek at a concentration of 0.462 µg/L.
  - Atrazine was detected in the May sample collected from the Sheboygan River at a concentration of 0.304 µg/L.
- Diamino atrazine (Wis. Admin. Code Ch. NR 140 PAL = 0.3 µg/L)
  - Diamino atrazine was detected in all nine samples collected from March through November at Syene Springs at concentrations ranging from 0.309 µg/L to 0.409 µg/L.

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- Atrazine TCR (Wis. Admin. Code Ch. NR 140 PAL = 0.3 µg/L)
  - Atrazine TCR was calculated to be greater than the atrazine TCR PAL of 0.3 µg/L in all nine samples collected at Syene Springs from March through November 2025. Calculated concentrations ranged from 0.5634 µg/L to 0.807 µg/L.
  - Atrazine TCR was calculated to be 0.5617 µg/L in the May sample collected from Parsons Creek.
  - Atrazine TCR was calculated to be 0.3735 µg/L in the September sample collected from Helena Ditch.
  - Atrazine TCR was calculated to be 0.304 µg/L in the May sample collected from the Sheboygan River.

Table 3 lists the pesticides and the metabolite exceedances for Wis. Admin. Code Ch. NR 140 ES and PAL standards.

Table 3: Summary of Pesticides and Metabolites Exceeding Wis. Admin. Code NR 140 Standards and DHS Drinking Water Health Advisory Recommendations

Compound	ES (µg/L)	PAL (µg/L)	Location	Date	Detected Concentration (µg/L)
Atrazine	3	0.3	Parsons Creek	5/19/2025	0.462
			Sheboygan River	5/19/2025	0.304
Diamino atrazine	3	0.3	Syene Springs	3/14/2025	0.387
				4/24/2025	0.387
				5/6/2025	0.391
				6/3/2025	0.329
				7/2/2025	0.395
				8/12/2025	0.309
				9/3/2025	0.371
				10/1/2025	0.409
				11/3/2025	0.362
Atrazine TCR	3	0.3	Helena Ditch	9/8/2025	0.3735
			Parsons Creek	5/19/2025	0.5617
			Sheboygan River	5/19/2025	0.304
			Syene Springs	3/14/2025	0.6599
				4/24/2025	0.807
				5/6/2025	0.6944
				6/3/2025	0.6058
				7/2/2025	0.6575
				8/12/2025	0.5634
				9/3/2025	0.6735
				10/1/2025	0.6963
				11/3/2025	0.6772

***Notes**: ES - Wisconsin Administrative Code, Natural Resources 140 - Enforcement Standard*
PAL - Wisconsin Administrative Code, Natural Resources 140 - Preventive Action Limits

µg/L - micrograms per liter
Atrazine TCR - Total chlorinated residues of atrazine includes the sum of atrazine plus its metabolites de-ethyl atrazine, deisopropyl atrazine, and diamino atrazine
--- Indicates value not established

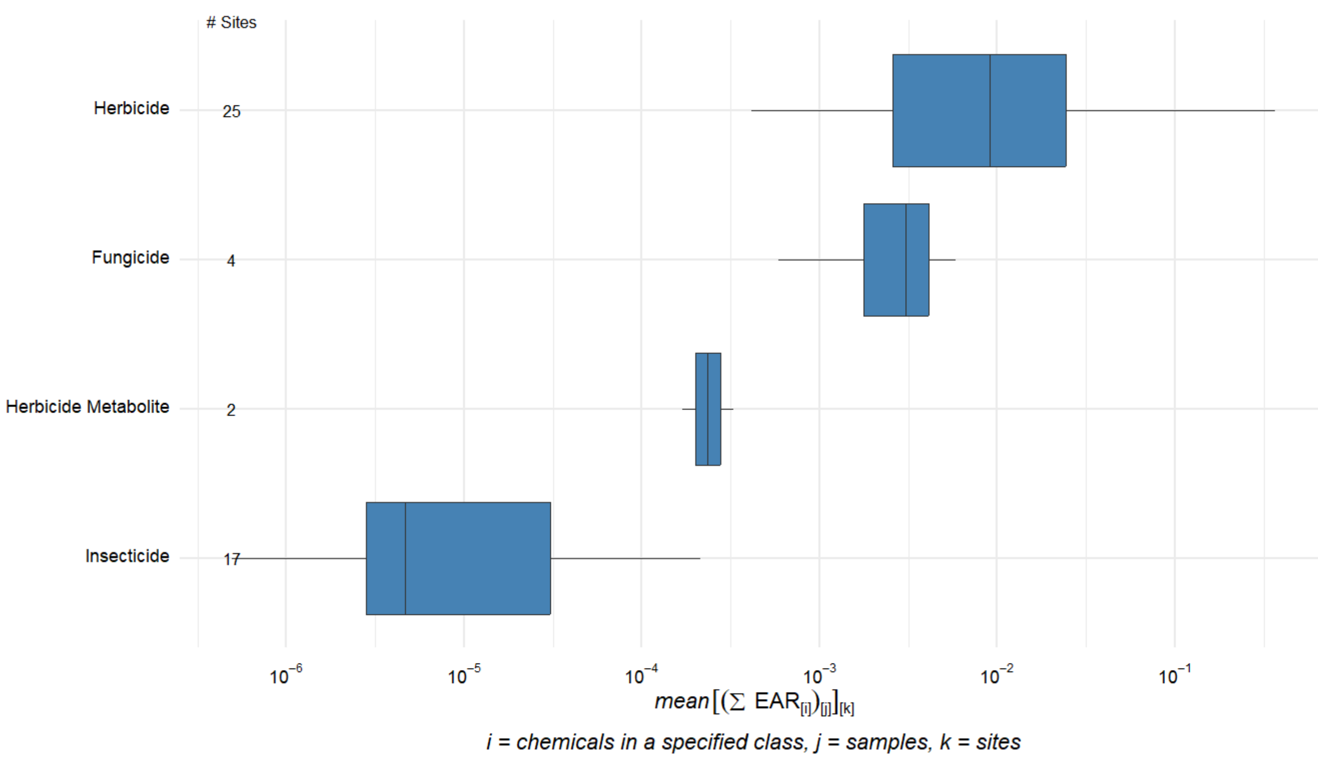
Comparing a detected pesticide (including metabolites) to the regulatory standards may not fully identify the total risk to human health and the environment. The majority of the published water quality standards or benchmarks are based on concentrations for the occurrence of a single compound. This approach does not account for potential cumulative risk and may underestimate toxicity.

Toxicity Evaluation

Toxicity Forecasting (ToxCast) is a research program by the U.S. Environmental Protection Agency (EPA) designed to evaluate the effects of thousands of chemicals on various biological pathways and targets (United States Environmental Protection Agency, 2024). In 2018, the USGS introduced ToxEval, an R package designed to facilitate the analysis and visualization of ToxCast data (DeCicco et al., 2024). ToxEval provides tools to assess chemical toxicity, compare chemical concentrations with ToxCast assay results, and generate summary plots and tables. One of its key features is the calculation of the Effective Activity Ratio (EAR), which determines whether the biological activity of specific chemicals in water bodies is above or below baseline levels. An EAR greater than 1 indicates that a compound exhibits activity exceeding the baseline or control level for the target being tested.

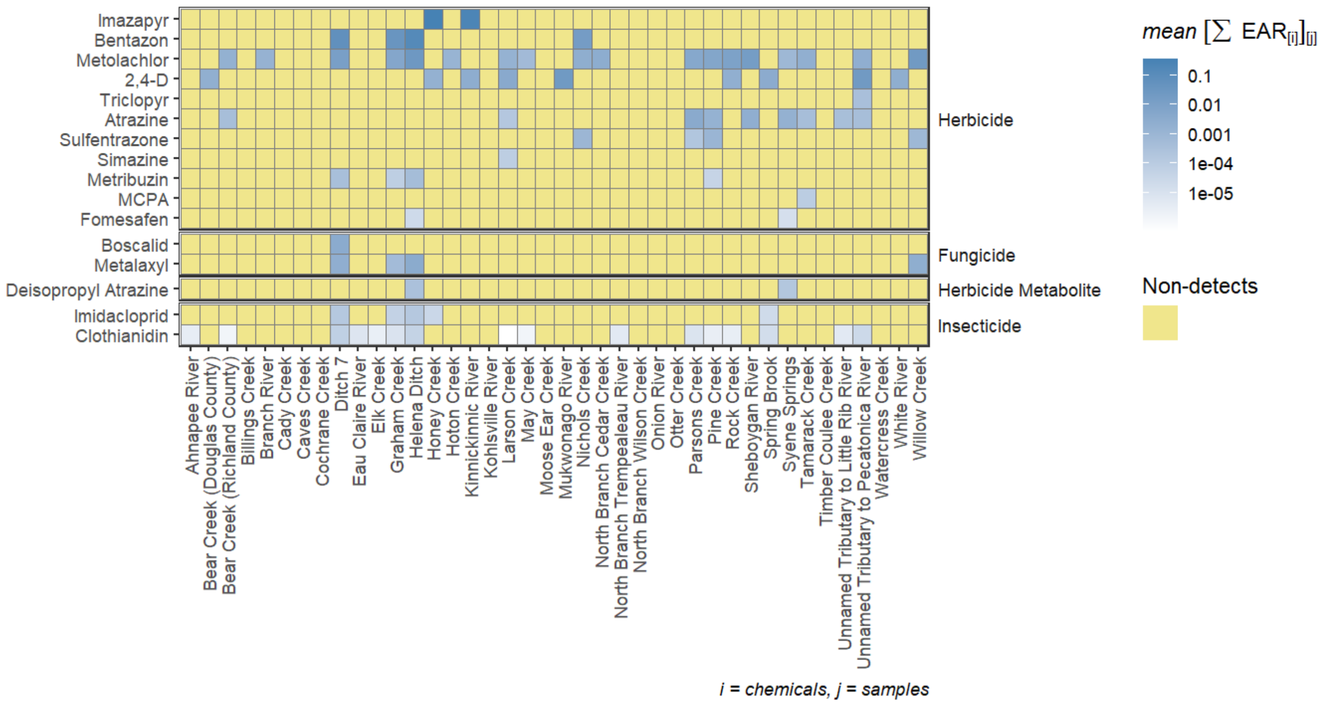
2025 DATCP Surface Water program data was analyzed by focusing on the mean EAR, rather than the maximum, to provide a general sense of the typical activity level of each compound. Figure 7 presents boxplots showing the mean EAR ranges for several pesticide groups (herbicides, fungicides, herbicide metabolites, and insecticides) detected in 2025 surface water samples at the various sites, along with the total number of sites where each pesticide group was detected. As shown, none of these groups had a mean EAR greater than 1.

Figure 9: Boxplots of Mean Effective Activity Ratio (EAR) for Pesticide Groups at Each Site Sampled



To further investigate non-negligible mean EARs for relevant pesticide compounds, we generated heat maps for relevant compound at each sampling site. As shown in Figure 10, the highest mean EARs were associated with compounds such as Imazapyr, Bentazon, and Metolachlor. However, none of these compounds had a mean EAR value greater than or equal to 1.

Figure 10: Heat Map of Mean Effective Activity Ratio (EAR) for Pesticide Compounds at Each Site Sampled



Other Notable Observations

Neonicotinoids

In recent years, there has been interest in the neonicotinoid class of insecticides due to possible adverse effects on pollinators (Van der Sluijs et al., 2013). These compounds are present in insecticide products labeled for use on most crops grown in the state, including corn, soybeans, potatoes, many other vegetables, fruit crops, and most small grains. Neonicotinoids are also present in various pesticide treatments for turf grass.

DATCP began testing for thiamethoxam in 2011. BLS currently tests for six neonicotinoid compounds (acetamiprid, clothianidin, dinotefuran, imidacloprid, thiacloprid, and thiamethoxam). Four of these compounds (clothianidin, dinotefuran, imidacloprid, and thiamethoxam) were detected in surface water samples collected in 2025. The remaining two neonicotinoid compounds were not detected in any surface water samples collected through the DATCP Surface Water Program in 2025. Because clothianidin, imidacloprid, and thiamethoxam are high solubility in water, their detection in groundwater and surface water is not unexpected.

Thiamethoxam was first detected at the Milwaukee River and at the Neenah Slough sampling locations in 2011. Since then, DATCP has recorded a total of 240 thiamethoxam detections in Wisconsin's surface waters, 13 of which occurred in 2025. In 2025, thiamethoxam was detected in all three samples collected from Spring Brook and the Eau Claire River, as well as both samples collected from Ditch 7 and two of three samples collected from Helena Ditch. In 2025, thiamethoxam was also detected once at several other locations. These include Graham Creek, Pine Creek, and Larson Creek. Thiamethoxam detections in 2025 samples were below 0.25 µg/L at all sampling locations. No detected concentrations of thiamethoxam in 2025 exceeded the DHS Health Advisory Level of 120 µg/L or any U.S. EPA Aquatic Life Benchmarks.

Imidacloprid was first detected at Tenmile Creek in December 2014. Since then, DATCP has recorded a total of 115 imidacloprid detections in Wisconsin's surface waters, seven of which occurred in 2025. In 2025, imidacloprid was detected in both samples collected from Ditch 7 and two of three samples collected from

Helena Ditch. In 2025, imidacloprid was also detected once at several other locations. Single detection sites include Spring Brook, Honey Creek, and Graham Creek. Because the BLS detection reporting limit for imidacloprid is the same as the 0.1 µg/L EPA chronic Aquatic Life Benchmark for freshwater invertebrates, all seven detections of imidacloprid in 2025 exceeded this benchmark.

Clothianidin was first detected in the Root River in June 2018. Since then, DATCP has recorded a total of 227 clothianidin detections in Wisconsin's surface waters, 40 of which occurred in 2025. In 2024, clothianidin was the most frequently detected neonicotinoid pesticide and was detected in all three samples collected from the Eau Claire River, North Branch Trempealeau River, Parsons Creek, and Spring Brook. Clothianidin was also detected in both samples collected from Ditch 7, as well as two of three samples collected from the Ahnapee River, Elk Creek, Rock Creek, Helena Ditch, and an unnamed tributary to the Little Rib River. Other locations where clothianidin was detected at least once in 2025 include Bear Creek (in Richland County), Graham Creek, Larson Creek, Pine Creek, May Creek, and an unnamed tributary to the Pecatonica River. Of the 40 clothianidin detections that occurred in 2025, 13 exceeded the 0.05 µg/L EPA chronic Aquatic Life Benchmark for freshwater invertebrates.

In 2025, one or more neonicotinoids were detected in 41 out of 142 samples, yielding a detection rate of 28.9%. This is a decrease from 2024, when one or more neonicotinoids were found in 82 out of 186 samples, yielding a detection rate of 44.1%.

For more details on neonicotinoid concentrations exceeding EPA Aquatic Life Benchmarks and/or Wis. Admin. Code Ch. NR 140 ES and PAL values, please refer to the Comparison to Standards section of this document.

Atrazine

Atrazine is a restricted-use herbicide in Wisconsin. To protect groundwater, the use of atrazine is prohibited within 101 atrazine prohibition areas (PAs), covering approximately 1.2 million acres within the state (Wisconsin Department of Agriculture, Trade and Consumer Protection, 2025). It is illegal to apply any pesticide containing the active ingredient atrazine within an atrazine PA. Outside of PAs, atrazine use is restricted but not prohibited. This means its application is subject to stricter regulations compared to federal guidelines.

Atrazine parent material was detected in 12.0% (17 samples) of the river, stream, or spring water samples collected in 2025. This is a decline in the rate of atrazine detections relative to samples collected in 2024 (16.7%).

Atrazine TCR (sum of atrazine and three of its metabolites) was detected in 35.9% (51 samples) of the river, stream, or spring water samples collected in 2025. This is also a decline in the atrazine TCR detection rate relative to 2024 samples (47.8%).

Because most of the atrazine PAs have been in place for almost 30 years, it should be expected that atrazine and its metabolite concentrations in surface or spring water would be limited or not present within the PAs. However, the Helena Ditch, Bear Creek (Richland County), and Syene Springs sampling locations are located within PAs. The following is a summary of the atrazine or atrazine TCR findings for 2025 samples from stations located within a PA:

- In Helena Ditch samples collected in September and November, de-ethyl atrazine was detected at concentrations of 0.0975 µg/L and 0.101 µg/L, respectively; and deisopropyl atrazine was detected at concentrations of 0.115 µg/L and 0.179 µg/L, respectively. Diamino atrazine was detected in the sample collected in September at a concentration of 0.161 µg/L. The concentrations of atrazine TCR in the September and November samples from Helena Ditch were calculated to be 0.3735 µg/L and 0.28 µg/L, respectively. Atrazine parent material was not detected at this sampling location in 2025.
- In a Bear Creek (Richland County) sample collected in June, atrazine parent material was detected at a concentration of 0.0529 µg/L. No atrazine metabolites were detected at this sampling location in 2025.
- In all nine samples collected from Syene Springs between March and November of 2025, atrazine, de-ethyl atrazine, deisopropyl atrazine, and diamino atrazine were each detected. Detected atrazine parent material concentrations ranged from 0.0626 µg/L to 0.103 µg/L, detected de-ethyl atrazine concentrations ranged from 0.125 µg/L to 0.209 µg/L, detected deisopropyl atrazine concentrations ranged from 0.0624 µg/L to 0.108 µg/L, and detected diamino atrazine concentrations ranged from 0.309 µg/L to 0.409 µg/L. Atrazine TCR concentrations for the nine 2025 samples from Syene Springs were calculated to be between 0.5634 µg/L and 0.807 µg/L. Detected concentrations of atrazine and its metabolites at this location are consistent with detected concentrations of these compounds at this

location in previous years (Wisconsin Department of Agriculture, Trade and Consumer Protection, 2026a) (Wisconsin Department of Agriculture, Trade and Consumer Protection, 2024).

Syene Springs has been included in the DATCP Surface Water Monitoring Program since 2019, when atrazine was identified in a spring water sample as part of a Wisconsin Geological and Natural History Survey (WGNHS) project. At that time, atrazine TCR was detected at a concentration of 0.78 µg/L. Because this spring is located within a PA that was established in 1995, atrazine detections were not expected. Samples collected from this location in 2025 continued the historically observed trend of detecting atrazine parent material and metabolites at concentrations in excess of the 0.3 µg/L Wis. Admin. Code Ch. NR 140 PAL for atrazine TCR. Sustained concentrations of atrazine and its metabolites detected in monthly samples collected at Syene Spring since 2018 may be related to either 1) a nearby point source release of atrazine (e.g. from a spill); or 2) a slow but steady atrazine release from the aquifer matrix resulting from historic field use within the spring recharge area.

The following is a summary of the atrazine or atrazine TCR findings for 2024 samples for the remaining rivers or streams located outside of a PA:

- In Billings Creek samples collected in June, September, and November, de-ethyl atrazine was detected at concentrations ranging from 0.0514 µg/L to 0.0584 µg/L. No other atrazine metabolites or atrazine parent material were detected.
- In Cady Creek samples collected in May, July, and October, de-ethyl atrazine was detected at concentrations ranging from 0.0981 µg/L to 0.111 µg/L. No other atrazine metabolites or atrazine parent material were detected.
- In Caves Creek samples collected in June and September, de-ethyl atrazine was detected at concentrations of 0.0512 µg/L and 0.0501 µg/L, respectively. No other atrazine metabolites or atrazine parent material were detected.
- In Ditch 7 samples collected in June and July, de-ethyl atrazine was detected at concentrations of 0.128 µg/L and 0.118 µg/L, respectively. No other atrazine metabolites or atrazine parent material were detected.
- In a Graham Creek sample collected in June, de-ethyl atrazine was detected at a concentration of 0.116 µg/L and diamino atrazine was detected at a concentration of 0.164 µg/L. Neither deisopropyl atrazine nor atrazine parent material were detected.
- In a Larson Creek sample collected in July, atrazine parent material was detected at a concentration of 0.0536 µg/L and de-ethyl atrazine was detected at a concentration of 0.0553 µg/L. No other atrazine metabolites were detected.
- In North Branch Trempealeau River samples collected in June and August, de-ethyl atrazine was detected at concentrations of 0.0537 µg/L and 0.0541 µg/L, respectively. No other atrazine metabolites or atrazine parent material were detected.
- In Otter Creek samples collected in August and November, de-ethyl atrazine was detected at concentrations of 0.0517 µg/L and 0.0557 µg/L, respectively. No other atrazine metabolites or atrazine parent material were detected.
- In a Parsons Creek sample collected in May, atrazine parent material was detected at a concentration of 0.462 µg/L and de-ethyl atrazine was detected at a concentration of 0.0997 µg/L. No other atrazine metabolites were detected.
- In a Pine Creek sample collected in June, atrazine parent material was detected at a concentration of 0.207 µg/L and de-ethyl atrazine was detected at a concentration of 0.0741 µg/L. No other atrazine metabolites were detected.
- In a Rock Creek sample collected in November, de-ethyl atrazine was detected at a concentration of 0.0511 µg/L. No other atrazine metabolites or atrazine parent material were detected.
- In a Sheboygan River sample collected in May, atrazine parent material was detected at a concentration of 0.304 µg/L. No atrazine metabolites were detected.
- In a Tamarack Creek sample collected in July, atrazine parent material was detected at a concentration of 0.0522 µg/L and de-ethyl atrazine was detected at a concentration of 0.0604 µg/L. No other atrazine metabolites were detected.

- In Timber Coulee Creek samples collected in June, September, and November, de-ethyl atrazine was detected at concentrations ranging from 0.0705 µg/L to 0.0836 µg/L. No other atrazine metabolites or atrazine parent material were detected.
- In a sample collected from an unnamed tributary to the Little Rib River in May, atrazine parent material was detected at a concentration of 0.0514 µg/L. In samples collected in August and November, de-ethyl atrazine was detected at concentrations of 0.0763 µg/L and 0.0548 µg/L, respectively. No other atrazine metabolites were detected.
- In all nine samples collected from the unnamed tributary to the Pecatonica River between March and November 2026, de-ethyl atrazine was detected at concentrations ranging from 0.0833 µg/L to 0.131 µg/L. In the June sample, atrazine parent material was detected at a concentration of 0.165 µg/L. In the May and October samples, diamino atrazine was detected at concentrations of 0.157 µg/L and 0.169 µg/L, respectively. Deisopropyl atrazine was not detected.
- In Wilson Creek samples collected in May, July, and October, de-ethyl atrazine was detected at concentrations ranging from 0.0881 µg/L to 0.0927 µg/L. No other atrazine metabolites or atrazine parent material were detected.

For more details on atrazine and atrazine metabolites' concentrations exceeding EPA Aquatic Life Benchmarks and/or Wis. Admin. Code Ch. NR 140 ES and PAL values, please refer to the Comparison to Standards section of this document.

Nitrogen

In addition to pesticides, DATCP's Surface Water Sampling Program includes analyses for nitrogen as nitrate plus nitrite to evaluate how surface water quality is affected by agriculture. Nitrogen in groundwater and surface water is regulated by the DNR. However, DATCP includes nitrogen analyses as part of this program and shares results with DNR.

Nitrogen was detected in 116 of the 142 surface water samples collected between March and December for DATCP's 2025 Surface Water Sampling Program. The greatest nitrogen concentration observed in 2025 was 15.1 mg/L detected in the June sample collected at Ditch 7.

The following is a summary of nitrogen results for 2025 river, stream, and spring samples:

- At the Ahnapee River, detected nitrogen concentrations ranged from 8.08 mg/L to 9.26 mg/L. Samples collected in June, September, and December exceeded the Wis. Admin. Code Ch. NR 140 PAL.
- At Bear Creek (Richland County), detected nitrogen concentrations ranged from 1.63 mg/L to 2.33 mg/L. The sample collected in September exceeded the Wis. Admin. Code Ch. NR 140 PAL.
- At Billings Creek, detected nitrogen concentrations ranged from 1.54 mg/L to 1.9 mg/L. No samples exceeded the Wis. Admin. Code Ch. NR 140 PAL.
- At the Branch River, detected nitrogen concentrations ranged from 2.37 mg/L to 4.29 mg/L. The samples collected in June, September, and December exceeded the Wis. Admin. Code Ch. NR 140 PAL.
- At Cady Creek, detected nitrogen concentrations ranged from 3.17 mg/L to 4.02 mg/L. The samples collected in May, July, and October exceeded the Wis. Admin. Code Ch. NR 140 PAL.
- At Caves Creek, detected nitrogen concentrations ranged from 0.901 mg/L to 1.08 mg/L. No samples exceeded the Wis. Admin. Code Ch. NR 140 PAL.
- At Cochrane Creek, detected nitrogen concentrations ranged from 1.24 mg/L to 1.78 mg/L. No samples exceeded the Wis. Admin. Code Ch. NR 140 PAL.
- At Ditch 7, detected nitrogen concentrations ranged from 15 mg/L to 15.1 mg/L. The samples collected in June and July exceeded the Wis. Admin. Code Ch. NR 140 ES.
- At the Eau Claire River, detected nitrogen concentrations ranged from 1.15 mg/L to 2.45 mg/L. The sample collected in November exceeded the Wis. Admin. Code Ch. NR 140 PAL.
- At Elk Creek, detected nitrogen concentrations ranged from 3.67 mg/L to 4.7 mg/L. The samples collected in May, July, and October exceeded the Wis. Admin. Code Ch. NR 140 PAL.
- At Graham Creek, detected nitrogen concentrations ranged from 0.988 mg/L to 1.51 mg/L. No samples exceeded the Wis. Admin. Code Ch. NR 140 PAL.

- At Helena Ditch, detected nitrogen concentrations ranged from 12.3 mg/L to 13.6 mg/L. The samples collected in June, September, and November exceeded the Wis. Admin. Code Ch. NR 140 ES.
- At Hoton Creek, detected nitrogen concentrations ranged from 0.976 mg/L to 1.02 mg/L. No samples exceeded the Wis. Admin. Code Ch. NR 140 PAL.
- At the Kohlsville River, detected nitrogen concentrations ranged from 1.45 mg/L to 2.77 mg/L. The samples collected in August and November exceeded the Wis. Admin. Code Ch. NR 140 PAL.
- At Larson Creek, detected nitrogen concentrations ranged from 0.817 mg/L to 3.92 mg/L. The samples collected in June and August exceeded the Wis. Admin. Code Ch. NR 140 PAL.
- At May Creek, detected nitrogen concentrations ranged from 0.546 mg/L to 2.14 mg/L. The sample collected in April exceeded the Wis. Admin. Code Ch. NR 140 PAL.
- At Nichols Creek, detected nitrogen concentrations ranged from 7.64 mg/L to 8.21 mg/L. The samples collected in May, August, and November exceeded the Wis. Admin. Code Ch. NR 140 PAL.
- At North Branch Cedar Creek, detected nitrogen concentrations ranged from 0.618 mg/L to 1.19 mg/L. No samples exceeded the Wis. Admin. Code Ch. NR 140 PAL.
- At North Branch Trempealeau River, detected nitrogen concentrations ranged from 3.5 mg/L to 4.6 mg/L. The samples collected in June, August, and November exceeded the Wis. Admin. Code Ch. NR 140 PAL.
- At North Branch Wilson Creek, detected nitrogen concentrations ranged from 4.44 mg/L to 5.09 mg/L. The samples collected in May, July, and October exceeded the Wis. Admin. Code Ch. NR 140 PAL.
- At the Onion River, detected nitrogen concentrations ranged from 2.6 mg/L to 3.06 mg/L. The samples collected in May, August, and November exceeded the Wis. Admin. Code Ch. NR 140 PAL.
- At Otter Creek, detected nitrogen concentrations ranged from 0.525 mg/L to 3.82 mg/L. The samples collected in August and November exceeded the Wis. Admin. Code Ch. NR 140 PAL.
- At Parsons Creek, detected nitrogen concentrations ranged from 7.25 mg/L to 9.13 mg/L. The samples collected in May, October, and November exceeded the Wis. Admin. Code Ch. NR 140 PAL.
- At Pine Creek, detected nitrogen concentrations ranged from 0.832 mg/L to 3.68 mg/L. The samples collected in September and December exceeded the Wis. Admin. Code Ch. NR 140 PAL.
- At Rock Creek, detected nitrogen concentrations ranged from 1.34 mg/L to 1.96 mg/L. No samples exceeded the Wis. Admin. Code Ch. NR 140 PAL.
- At Syene Springs, detected nitrogen concentrations ranged from 9.3 mg/L to 10.4 mg/L. The samples collected in March, April, May, July, September, October, and November exceeded the Wis. Admin. Code Ch. NR 140 ES.
- At the Sheboygan River, detected nitrogen concentrations ranged from 2.75 mg/L to 4.99 mg/L. The samples collected in May, September, and November exceeded the Wis. Admin. Code Ch. NR 140 PAL.
- At Spring Brook, detected nitrogen concentrations ranged from 4.24 mg/L to 5.17 mg/L. The samples collected in May, September, and November exceeded the Wis. Admin. Code Ch. NR 140 PAL.
- At Tamarack Creek, detected nitrogen concentrations ranged from 1.05 mg/L to 1.9 mg/L. No samples exceeded the Wis. Admin. Code Ch. NR 140 PAL.
- At Timber Coulee Creek, detected nitrogen concentrations ranged from 2.49 mg/L to 2.63 mg/L. The samples collected in June, September, and November exceeded the Wis. Admin. Code Ch. NR 140 PAL.
- At an unnamed tributary to the Little Rib River, detected nitrogen concentrations ranged from 2.32 mg/L to 4.35 mg/L. The samples collected in May, August, and November exceeded the Wis. Admin. Code Ch. NR 140 PAL.
- At an unnamed tributary to the Pecatonica River, detected nitrogen concentrations ranged from 5.3 mg/L to 13.5 mg/L. The samples collected in March, April, May, July, September, October, and November exceeded the Wis. Admin Code Ch. NR 140 ES.
- At Watercress Creek, detected nitrogen concentrations ranged from 0.933 mg/L to 0.942 mg/L. No samples exceeded the Wis. Admin. Code Ch. NR 140 PAL.
- At Willow Creek, one sample had a detected nitrogen concentration of 0.635 mg/L. This sample did not exceed the Wis. Admin. Code Ch. NR 140 PAL.

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Table 4 includes a summary of DATCP's 2025 Surface Water Sampling Program detections for nitrate plus nitrite as N.

Table 4: 2025 Surface Water Sampling Program Nitrogen (Nitrate + Nitrite) Analytical Results

Sample Station Name	Nitrate + Nitrite as Nitrogen Concentration Range (mg/L)
Unnamed (892100) N of Williams Rd.	5.3 - 13.5
Larson Creek - Larson Creek at Elliason Road	ND - 2.77
Unnamed (WBIC 100300) at Sandy Bay Road	ND - 2.14
Nine Springs - Syene Springs	9.3 - 10.4
Cochrane Creek at Cth Oo	1.24 - 1.78
Tamarack Creek - (Bridge)	1.05 - 1.9
Parsons Creek Upstream Hickory Rd	7.25 - 9.13
Sheboygan River at Hwy T	2.75 - 4.99
Caves Creek at 5th Ave (DS of culvert)	0.901 - 1.08
Branch River at N Union Rd (2)	2.37 - 4.29
Pine Creek - 200 Feet Downstream From Cth T	0.832 - 3.68
Ahnapee River at CTH H Forestville	8.08 - 9.26
Moose Ear Creek 10 m Upstream of CTH W Culvert	ND
White River -- Access at Pike River Rd	ND
Bear Creek NE of Hwy 2/53	ND
Unnamed Trib (WBIC 5034477) at STH 14	12.3 - 13.6
Bear Creek at STH 14	1.63 - 2.33
Timber Coulee Creek - Upstream From Cth P	2.49 - 2.63
Billings Creek Station #3 Brg. On Cth F	1.54 - 1.9
Nichols Creek - DS of CTH N	7.64 - 8.21
Onion River at Cth E Or1	2.6 - 3.06
Watercress Creek - Upstream of Watercress Road	ND - 0.942
Honey Cr at 70th and Honey Cr Pkwy	ND
KK River at South 16th Street	ND
Willow Creek at Cth Y/Sth167 (25m Upstream)	ND - 0.634
Otter Creek: Klug Rd.(8 Ft West Of Bridge)	0.525 - 3.82
Kohlsville River - Upstream of Midland Drive	1.45 - 2.77
North Branch Cedar Creek - Upstream of CTHY NN	0.618 - 1.19
Mukwonago River (1) - Upstream of HWY 83	ND
Rock Creek at Owen Ave and Rock Creek Rd	ND - 1.96
Elk Creek at 35th Street	3.67 - 4.7

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Sample Station Name	Nitrate + Nitrite as Nitrogen Concentration Range (mg/L)
Cady Creek 1- Cth P	3.17 – 4.02
Wilson Creek North Branch - North Branch Wilson Creek	4.44 – 5.09
Graham Creek - Station 1 Spruce Rd	0.988 – 1.51
Spring Brook Above Cth Hh	4.24 – 5.17
Unnamed Trib to Little Rib River at North Lane Rd (10029421)	2.32 – 4.35
Eau Claire River at CTH Z	1.15 – 2.45
North Br. Trempealeau River - 30 Ft Below Bridge On Cain Rd.	3.5 – 4.6
Hoton Creek - Upstream Jacobson Road	0.976 – 1.02
Ditch 7 Upstream Sth 73 Site 8	15 – 15.1

Notes: *mg/L - milligrams per liter*

ND – Non-detect, i.e., concentration not in excess of laboratory reporting limits

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2026 Program Goals and Objectives

DATCP's Surface Water Sampling Program will continue in 2026.

It is expected that the following tasks will be completed:

- Collection of monthly surface water samples from three streams and one spring in Wisconsin. These sampling locations are:
    - Unnamed (892100) N of Williams Rd [SWIMS Station ID: 10059770]
    - Larson Creek – Larson Creek at Elliason Rd [SWIMS Station ID: 10010188]
    - Unnamed (WBIC 100300) at Sandy Bay Rd [SWIMS Station ID: 10052498]
    - Waupaca River At Riverside Park South Of Hwy 54/22 [SWIMS Station ID: 10020691]

  Three of these streams (Larson Creek, May Creek, and the unnamed tributary to the Pecatonica River) will be sampled monthly to collect supplemental data that can be used to verify model findings for two Wisconsin watersheds. Historic sampling data was used for watershed models that were then used to develop recently proposed atrazine label revisions by the EPA.
- Collection of twice monthly surface water samples from seven locations in the headwaters watersheds of the Sugar River and West Branch Sugar River. This new sampling strategy will be implemented as part of the 2026 Surface Water Sampling Program. This strategy will focus on a small geographical area and sampling at two adjacent watersheds where pesticides have been detected in the past, rather than a wide geographical range of sampling locations throughout the state. The Sugar River and its tributary the West Branch Sugar River were selected for this new strategy, due to their accessibility and historical data with consistent detections of neonicotinoid pesticides in their watersheds. Locations that will be sampled twice monthly in 2026 are listed below:
    - Badger Mill Creek - Bruce St. To Cty. Rd. M [SWIMS ID: 10011965]
    - Sugar River Upstream Of Hwy 69 [SWIMS ID: 10009477]
    - Sugar River - Belleville Bike Trail [SWIMS ID: 10053121]
    - West Branch Sugar River at CTH PB [SWIMS ID: 10017221]
    - West Branch Sugar River - Near Mt Vernon WI [SWIMS ID: 133549]
    - Tributary To West Branch Of The Sugar River at Cth Jg [SWIMS ID: 10007864]
    - Sugar River - Sugar River Upstream Of Cty. Rd. P [SWIMS ID: 10011950]
- Prepare a 2026 Data Summary Report to be completed in the second quarter of 2027, and
- Share report(s) with the DNR Bureau of Water Quality, surface water sampling team, and other appropriate stakeholders, and have the report(s) available to the public via the DATCP website.

Acknowledgements

DATCP's Bureau of Agrichemical Management's (ACM) financial information includes the state fiscal year (FY) 2025. The state FY2025 started on July 1, 2024 and ended on June 30, 2025. ACM's federal cooperative agreement started on October 1, 2024 and ended on September 30, 2025. The primary sources of revenue for ACM are industry fees for licenses, permits, registrations, and tonnage under the feed, fertilizer, soil and plant additive, lime, and pesticide programs. In addition, DATCP has a cooperative agreement with the EPA. This cooperative agreement provides funding that covers some of the pesticide program staffing and laboratory annual expenses. ACM recognizes these important partnerships with the industry and the federal government and works hard to maximize the use of this funding for the benefit of industry, consumers, and the environment.

For any questions and clarifications, or to request data summarized in this report, please do not hesitate to contact us at DATCPGW@wisconsin.gov or at (608) 224-4503.

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Appendix A – Acronyms and Definitions

The acronyms and terminology included on this list are generic definitions intended to help understand the Surface Water Pesticide Sampling Program. Some of these terms are more specifically defined in various regulations.

Acronyms

µg/L	Micrograms per Liter
ACM	DATCP Bureau of Agrichemical Management
BLS	DATCP Bureau of Laboratory Services
CTH	County Highway
DATCP	Wisconsin Department of Agriculture, Trade and Consumer Protection
DHS	Wisconsin Department of Health Services
DNR	Wisconsin Department of Natural Resources
EAR	Effective Activity Ratio
EPA	United States Environmental Protection Agency
ES	Enforcement Standard
ESA	Ethane Sulfonic Acid
GC	Gas Chromatography
ISO	International Organization for Standardization
LC	Liquid Chromatography
mg/L	Milligrams per Liter
MS	Mass Spectroscopy
N	Nitrogen
ND	No Detect – concentrations are less than laboratory reporting limits
NOAA	National Oceanic and Atmospheric Administration
OA	Oxanilic Acid
PA	Prohibition Area
PAL	Preventive Action Limit
STH/Hwy	State Highway
SWIMS	Surface Water Integrated Monitoring System
TCR	Total Chlorinated Resides (of atrazine)
USDA	United States Department of Agriculture
USGS	United States Geological Survey
WGNHS	Wisconsin Geological and Natural History Survey
Wis. Admin. Code	Wisconsin Administrative Code

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Definitions

Analyte - A chemical substance that has a defined Chemical Abstract Service (CAS) number.

Aquatic Life Benchmarks - EPA-developed pesticide toxicity values for freshwater species. They are estimates of the concentrations below which pesticides are not expected to present a risk of concern for freshwater organisms.

Atrazine Prohibition Area - An area where atrazine use is currently prohibited under Administrative Code ATCP 30.

Chronic Exposure value - The highest concentration of a chemical to which the organism can be exposed without causing chronic toxicity to the organism in question.

Compound - A substance formed by the chemical union of two or more ingredients.

Detection - When an analyte has a concentration that can be quantified (i.e., a concentration greater than the Laboratory Reporting Limit).

Enforcement Standard (ES) - The Enforcement Standard (ES) is set to ensure that the concentration of a compound in groundwater does not exceed a specific level that could harm human health or the environment. If the ES for a certain compound in groundwater is exceeded, intervention from the appropriate authority is required.

Herbicide - A pesticide used to kill or inhibit the growth of plants, weeds, or grasses.

Insecticide - A pesticide used to kill or inhibit the growth of insects.

Metabolite or Residual compound or Breakdown product - A chemical substance left behind by a parent compound that has degraded through natural chemical breakdown and/or been metabolized by bacteria.

Neonicotinoids - Insecticides that target the neurological systems of insects. The neonicotinoid family includes acetamiprid, clothianidin, dinotefuran, imidacloprid, nitenpyram, nithiazine, thiacloprid, and thiamethoxam.

NR140 - Wisconsin administrative code which establishes groundwater quality standards and required responses when the standards are exceeded.

Perennial stream – A stream that has flowing water year-round.

Pesticide - Substance used to kill, repel, or control certain forms of plant or animal life that are considered to be pests. The pesticide category includes herbicides, insecticides, rodenticides, fungicides, and bactericides.

Preventive Action Limit (PAL) - The Preventive Action Limit (PAL) is a percentage of the Enforcement Standard (ES); 10% of the ES for carcinogenic, mutagenic, or teratogenic substances, and 20% of the ES for the remaining substances. The intention of the PAL is for it to function as a trigger for intervention before a pollutant becomes a serious risk to public health or the environment.

Reporting limit - The minimum analyte concentration that can be reliably quantified and reported by the laboratory.

Total chlorinated residues (TCR) of atrazine - Sum of atrazine and three atrazine metabolites (de-ethyl atrazine, de-isopropyl atrazine, and diamino atrazine).

Vadose zone – The area of soil that exists between the land surface and the water table.

Watershed – A land area that channels rainfall and snowmelt water into a specific waterbody (e.g., a creek, a stream, a river, etc.)

Wadeable - Refers to streams and rivers recognized as natural habitats that support a diversity of both aquatic and terrestrial species.

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Appendix B – 2024 Surface Water Sampling Program Analytical Results Summary

2025 Surface Water Sampling Program Results					Wisconsin Admin. Code Chapter NR 140		Wisconsin Department of Health Services	US EPA Office of Pesticide Programs - Aquatic Life Benchmarks for Pesticide (µg/L)					
Pesticide Name	Pesticide Class	Number Detects	Reporting Limit (µg/L)	Concentration Range (µg/L)	Wisconsin Admin. Code Chapter NR 140	Enforcement Standard (ES) (µg/L)	Drinking Water Health Advisory Recommendations (µg/L)	Acute (Fish)	Chronic (Fish)	Acute (Invert.)	Chronic (Invert.)	Non-vascular Plants	Vascular Plants
2,4-D	Herbicide	12	0.050	0.0538 - 1.75	7	70	--	--	--	12500	--	--	299.2
2,4-DB	Herbicide	0	1.00	--	--	--	--	7150	1660	12500	1500	932	83
2,4-DP	Herbicide	0	0.050	--	--	--	--	>45750	--	279000	100000	77	32000
2,4,5-T	Herbicide	0	0.050	--	--	--	--	--	--	--	--	--	--
2,4,5-TP	Herbicide	0	0.050	--	5	50	--	--	--	--	--	--	--
4-Hydroxychlorothalonil	Metabolite	0	3.20	--	--	--	--	4600	--	13000	--	33700	--
Acetamiprid	Insecticide	0	0.010	--	--	--	--	>50000	19200	10.5	2.1	>1000	>1000
Acetochlor	Herbicide	0	0.050	--	0.7	7	--	190	130	4100	22.1	1.43	3.4
Acetochlor ESA	Metabolite	31	0.050	0.0513 - 1.42	46	230	--	>90000	--	>62500	--	9900	--
Acetochlor OA or OXA	Metabolite	0	0.30	--	46	230	--	--	--	--	--	--	--
Acetochlor Metabolites	Sum of Acetochlor ESA and Acetochlor OA	31	--	0.0513 - 1.42	46	230	--	--	--	--	--	--	--
Acifluorfen	Herbicide	0	0.050	--	--	--	--	--	--	--	--	--	--
Alachlor	Herbicide	0	0.050	--	0.2	2	--	900	187	1250	110	1.64	2.3
Alachlor ESA	Metabolite	37	0.050	0.052 - 1.2	4	20	--	>52000	--	>52000	--	3600	>120000
Alachlor OA	Metabolite	1	0.25	0.266	--	--	--	>50000	--	>47500	--	--	--
Aldicarb Sulfone	Insecticide	0	0.050	--	--	--	--	21000	--	140	--	--	--
Aldicarb Sulfoxide	Insecticide	0	0.071	--	--	--	--	3570	--	21.5	--	--	--
Aminopyralid	Herbicide	0	0.150	--	--	--	--	>50000	1360	7500	102000	18000	>88000
Atrazine	Herbicide	17	0.050	0.0514 - 0.462	0.3	3	--	2650	5	360	60	<1	4.6
De-ethyl atrazine	Metabolite	48	0.050	0.0501 - 0.209	0.3	3	--	--	--	--	--	--	--
De-isopropyl atrazine	Metabolite	11	0.050	0.0624 - 0.179	0.3	3	--	--	--	--	--	--	--
Di-amino atrazine	Metabolite	13	0.150	0.157 - 0.409	0.3	3	--	--	--	--	--	--	--
Atrazine TCR	Sum of Atrazine and De-ethyl, De-isopropyl, and Di-amino metabolites	51	--	0.0501 - 0.807	0.3	3	--	--	--	--	--	--	--
Azoxystrobin	Fungicide	0	0.050	--	--	--	--	235	147	130	44	49	3400
Benfluralin	Herbicide	0	0.050	--	--	--	--	34.85	1.9	1090	15.5	>100	--
Bentazon	Herbicide	7	0.050	0.0532 - 0.318	60	300	--	95000	9830	31150	101200	4500	5350

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2025 Surface Water Sampling Program Results					Wisconsin Admin. Code Chapter NR 140		Wisconsin Department of Health Services	US EPA Office of Pesticide Programs - Aquatic Life Benchmarks for Pesticides (µg/L)					
Pesticide Name	Pesticide Class	Number Detects	Reporting Limit (µg/L)	Concentration Range (µg/L)	Wisconsin Admin. Code Chapter NR 140	Enforcement Standard (ES) (µg/L)	Drinking Water Health Advisory Recommendations (µg/L)	Acute (Fish)	Chronic (Fish)	Acute (Invert.)	Chronic (Invert.)	Non-vascular Plants	Vascular Plants
Bicyclopyrone	Herbicide	0	0.050	--	--	--	--	>46700	10000	>46650	103700	2000	13
Bifenthrin	Insecticide	0	0.005	--	--	--	--	0.075	0.04	0.0002465	0.00005	>290	>330
Boscalid	Fungicide	1	0.500	0.255	--	--	--	1350	116	<2665	790	1340	>3900
Bromacil	Herbicide	0	0.050	--	--	--	--	18000	3000	60500	8200	6.8	45
Carbaryl	Insecticide	0	0.050	--	4	40	--	110	6.8	0.85	0.5	340	1550
Carbofuran	Insecticide	0	0.050	--	8	40	--	44	5.7	1.115	0.75	--	--
Chloramben	Herbicide	0	0.32	--	30	150	--	--	--	--	--	--	--
Chlorantraniliprole	Insecticide	3	0.050	0.11 - 0.113	--	--	16000	>6900	110	8.3	3.02	>1780	>2000
Chlorothalonil	Fungicide	0	0.10	--	--	--	--	9	0.77	27	0.6	12	640
Chlorpyrifos	Insecticide	0	0.050	--	0.4	2	--	0.85	<0.251	0.0069	<0.005	140	
Chlorpyrifos Oxon	Metabolite	0	0.050	--	--	--	--	--	--	--	--	--	--
Clomazone	Herbicide	0	0.050	--	--	--	--	1450	350	2700	2200	167	30200
Clopyralid	Herbicide	0	0.100	--	--	--	--	51500	10000	116500	4700	6900	90300
Clothianidin	Insecticide	40	0.010	0.0101 - 0.217	--	--	1000	>50750	9700	11	0.05	64000	>280000
Cyantraniliprole	Insecticide	0	0.050	--	--	--	--	>5000	10700	10.2	6.56	>10000	>12100
Cyclaniliprole	Insecticide	0	0.20	--	--	--	--	>68.5	200	40.4	9.6	>99	>187
Cyfluthrin	Insecticide	0	0.050	--	--	--	--	0.034	0.0042	0.0125	0.00012	>2	--
lambda-Cyhalothrin	Insecticide	0	0.020	--	--	--	--	0.0145	0.031	0.00004	0.00022	>310	>0.508
Cypermethrin	Insecticide	0	0.10	--	--	--	--	0.195	0.051	0.00028	<0.00005	25000	>1.62
Cyprosulfamide	Herbicide Safener	1	0.050	0.0967	--	--	--	--	--	--	--	--	--
Dacthal	Herbicide	0	0.050	--	14	70	--	15000	--	13500	--	>11000	>11000
Dacthal Di-acid	Metabolite	0	0.050	--	--	--	70	--	--	--	--	--	--
Dacthal Mono-acid	Metabolite	0	0.050	--	--	--	70	--	--	--	--	--	--
Dacthal Total	Sum of Dacthal, Dacthal Di-acid, and Dacthal Mono-acid	0	0.05	--	--	--	70	--	--	--	--	--	--
Diazinon	Insecticide	0	0.050	--	--	--	--	45	<0.55	0.105	0.17	3700	--
Diazinon Oxon	Metabolite	0	0.050	--	--	--	--	--	--	--	--	--	--
Dicamba	Herbicide	0	0.250	--	60	300	--	14000	>9900	>50000	> 42000	61	1290
Dichlobenil	Herbicide	0	0.050	--	--	--	--	2465	<330	3100	560	1500	30

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2025 Surface Water Sampling Program Results					Wisconsin Admin. Code Chapter NR 140		Wisconsin Department of Health Services	US EPA Office of Pesticide Programs - Aquatic Life Benchmarks for Pesticides (µg/L)					
Dimethenamid	Herbicide	0	0.050	--	5	50	--	3150	120	6000	1360	14	8.9
Dimethenamid ESA	Metabolite	2	0.050	0.0616 - 0.0662	--	--	--	--	--	--	--	--	--
Dimethenamid OA	Metabolite	3	0.050	0.0867 - 0.119	--	--	--	--	--	--	--	--	--
Dimethoate	Insecticide	0	0.050	--	0.4	2	--	3100	430	21.5	0.5	20000	>92600
Dinotefuran	Insecticide	1	0.010	0.138	--	--	--	>49550	6360	>484150	>95300	>97600	>110000
Diuron	Herbicide	0	0.050	--	--	--	--	660	26.4	87.5	0.83	3.08	0.13
EPTC	Herbicide	0	0.050	--	50	250	--	7000	40	3250	800	1400	5600
Esfenvalerate	Insecticide	0	0.025	--	--	--	--	0.071	0.017	0.000424	0.0000309	>5.6	>8.6
Ethalfluralin	Herbicide	0	0.050	--	--	--	--	16	0.4	30	24	25	7.3
Ethofumesate	Herbicide	0	0.050	--	--	--	--	5760	<306	17150	300	>2760	39000
Flumetsulam	Herbicide	0	0.050	--	--	--	10000	>146500	197000	127000	111000	3.21	3.1
Flupyradifurone	Insecticide	0	0.050	--	--	--	--	--	--	--	--	--	--
Fluroxypyr	Insecticide	0	0.050	--	--	--	--	7150	--	>50000	--	>100000	--
Fomesafen	Herbicide	10	0.050	0.0501 - 0.0934	--	--	25	63000	9400	188000	50000	92	210
Halosulfuron methyl	Herbicide	0	0.050	--	--	--	--	--	--	--	--	4.1	0.042
Hexazinone	Herbicide	0	0.050	--	--	--	400	137000	17000	75800	20000	7	37.4
Hydroxyatrazine	Metabolite	10	0.050	0.0568 - 0.205	--	--	--	>1500	--	>2050	--	>10000	--
Imazamox	Herbicide	0	0.050	--	--	--	--	>59500	--	>61000	--	>37	8
Imazapic	Herbicide	1	0.050	0.0816	--	--	--	>50000	96000	>50000	96000	>44.1	6.22
Imazapyr	Herbicide	3	0.050	0.0563 - 0.157	--	--	--	>50000	43100	>50000	97100	12200	24
Imazethapyr	Herbicide	1	0.050	0.0784	--	--	--	120000	97000	>500000	103000	4770	8.1
Imidacloprid	Insecticide	7	0.010	0.0104 - 0.0353	--	--	0.2	114500	9000	0.385	0.01	--	--
Isoxaflutole	Herbicide	0	0.050	--	--	--	3	>850	80	>750	350	110	4.9
Isoxaflutole DKN	Metabolite	1	0.050	0.0949	--	--	3	>15300	--	>29800	--	5000	75
Isoxaflutole Total	Sum of Isoxaflutole and Isoxaflutole DKN	1	--	0.0949	--	--	3	--	--	--	--	--	--
Linuron	Herbicide	0	0.050	--	--	--	--	1500	5.58	60	0.09	13.7	2.5
Malathion	Insecticide	0	0.050	--	--	--	--	2.05	8.6	0.049	0.06	2040	24000

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2025 Surface Water Sampling Program Results					Wisconsin Admin. Code Chapter NR 140		Wisconsin Department of Health Services	US EPA Office of Pesticide Programs - Aquatic Life Benchmarks for Pesticides (µg/L)					
Pesticide Name	Pesticide Class	Number Detects	Reporting Limit (µg/L)	Concentration Range (µg/L)	Wisconsin Admin. Code Chapter NR 140	Enforcement Standard (ES) (µg/L)	Drinking Water Health Advisory Recommendations (µg/L)	Acute (Fish)	Chronic (Fish)	Acute (Invert.)	Chronic (Invert.)	Non-vascular Plants	Vascular Plants
MCPA	Herbicide	1	0.050	0.536	--	--	--	>34000	--	>92000	--	--	--
MCPB	Herbicide	0	0.10	--	--	--	--	1960	<530	25100	2510	1370	200
MCPP	Herbicide	0	0.050	--	--	--	--	>46500	--	>45500	50800	14	1300
Mesotrione	Herbicide	0	0.10	--	--	--	--	>60000	11000	67000	3055	>820	4.8
Metalaxyl	Fungicide	6	0.050	0.0689 - 0.234	--	--	800	65000	9100	14000	1200	--	85000
Methyl Parathion	Insecticide	0	0.050	--	--	--	--	925	<10	0.485	0.25	15000	18000
Metolachlor	Herbicide	27	0.050	0.05 - 0.825	10	100	--	1600	30	11750	3200	8	14
Metolachlor ESA	Metabolite	124	0.050	0.0775 - 10.5	260	1300	--	24000	--	>54000	--	>99450	43000
Metolachlor OA or OXA	Metabolite	22	0.27	0.288 - 6.19	260	1300	--	>46550	--	7700	--	57100	>95400
Metolachlor Metabolites	Sum of Metolachlor ESA and Metolachlor OA	124	--	0.0775 - 16.3	260	1300	--	--	--	--	--	--	--
Metribuzin	Herbicide	6	0.050	0.0649 - 0.362	14	70	--	21000	<3000	2100	1290	8.1	130
Metribuzin DA	Metabolite	0	0.10	--	--	--	--	--	--	--	--	--	--
Metribuzin DADK	Metabolite	4	0.12	0.138 - 1.16	--	--	--	--	--	--	--	--	--
Metsulfuron-methyl	Herbicide	0	0.050	--	--	--	--	>75000	4500	>75000	--	31	0.36
Nicosulfuron	Herbicide	0	0.050	--	--	--	--	>500000		>500000	43000	--	--
Norflurazon	Herbicide	0	0.050	--	--	--	--	4050	770	>7500	1000	6.03	59
Oxadiazon	Herbicide	0	0.050	--	--	--	--	600	0.88	>1200	30	5.2	41
Pendimethalin	Herbicide	0	0.050	--	--	--	--	69	6.3	140	14.5	5.2	12.5
Permethrin	Insecticide	0	0.030	--	--	--	--	0.395	0.052	0.0033	0.0042	>4.4	>3.2
Picloram	Herbicide	0	0.050	--	100	500	--	2750	550	17200	11800	950	2610
Prometon	Herbicide	0	0.050	--	20	100	--	9800	6530	12850	3450	98	160
Prometryn	Herbicide	0	0.050	--	--	--	--	1455	620	4850	1000	1.04	11.9
Propiconazole	Fungicide	0	0.050	--	--	--	--	425	15	2400	180	21	3500
Prothioconazole-desthio	Metabolite	0	0.050	--	--	--	--	--	148	--	103	4.8	35
Pyroxasulfone	Herbicide	0	0.050	--	--	--	--	>1100	2000	>2200	>1900	0.38	6
Pyroxasulfone M1	Metabolite	0	0.050	--	--	--	--	--	--	--	--	--	--
Saflufenacil	Herbicide	0	0.050	--	--	--	460	>54000	997	4250	1330	42	87

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2025 Surface Water Sampling Program Results					Wisconsin Admin. Code Chapter NR 140		Wisconsin Department of Health Services	US EPA Office of Pesticide Programs - Aquatic Life Benchmarks for Pesticides (µg/L)					
Pesticide Name	Pesticide Class	Number Detects	Reporting Limit (µg/L)	Concentration Range (µg/L)	Wisconsin Admin. Code Chapter NR 140	Enforcement Standard (ES) (µg/L)	Drinking Water Health Advisory Recommendations (µg/L)	Acute (Fish)	Chronic (Fish)	Acute (Invert.)	Chronic (Invert.)	Non-vascular Plants	Vascular Plants
Simazine	Herbicide	1	0.050	0.0584	0.4	4	--	3200	60	500	40	6	67
Sulfentrazone	Herbicide	9	0.050	0.0508 - 0.378	--	--	1000	46900	2950	30200	200	31	28.8
Sulfentrazone 3-Carboxylic Acid	Metabolite	0	0.100	--	--	--	--	--	--	--	--	--	--
Sulfometuron-methyl	Herbicide	0	0.050	--	--	--	--	>74000	--	>75000	97000	4.3	0.45
Tebuconazole	Fungicide	0	0.050	--	--	--	--	1135	11	1440	120	170	151
Tebupirimphos	Insecticide	0	0.050	--	--	--	--	44.5	130	0.039	0.011	630	8800
Tembotrione	Herbicide	0	0.10	--	--	--	--	>50000	604	24450	5100	310	5.2
Thiacloprid	Insecticide	0	0.010	--	--	--	--	12600	918	18.9	0.97	45000	>95400
Thiamethoxam	Insecticide	13	0.010	0.0107 - 0.24	--	--	120	>57000	20000	17.5	0.74	>99000	>90200
Thiencarbazone-methyl	Herbicide	0	0.050	--	--	--	10000	>52000	4800	>49300	3540	298	0.8
Triclopyr	Herbicide	1	0.050	0.569	--	--	--	58500	--	66450	--	32500	--
Trifluralin	Herbicide	0	0.050	--	0.75	7.5	--	9.25	1.9	125.5	2.4	21.9	49.7

Notes:

---	In column Concentration Range indicates that the concentration was found below Reporting Limits. In columns Wisconsin Admin. Code Chapter NR 140 or Wisconsin Department of Health Services indicates that no standards or health advisory is established for that compound. In column Aquatic Life Benchmarks for Pesticides indicates that no benchmark is established for that compound.
µg/L	Micrograms per liter or parts per billion
TCR	Total Chlorinated Residue for Atrazine. Sum of concentrations of atrazine and its three metabolites (de-ethyl, de-isopropyl and di-amino atrazine).
(white)	Indicates no detects in excess of laboratory reporting limits.
(light yellow)	Indicates detects in excess of laboratory reporting limits, but not in excess of any Wisc. Admin. code Ch. NR 140 PAL and ES, Health Advisory levels or benchmark values.
(orange)	Indicates detects in excess of Wisc. Admin. code Ch. NR 140 PAL, and/or in excess of any Aquatic Life benchmark values.
(red)	Indicates detects in excess of Wisc. Admin. code Ch. NR 140 ES, or Health Advisory levels

Website Used for EPA Aquatic Benchmarks for Registered Pesticides:
https://www.epa.gov/pesticide-science-and-assessing-pesticide-risks/aquatic-life-benchmarks-and-ecological-risk