



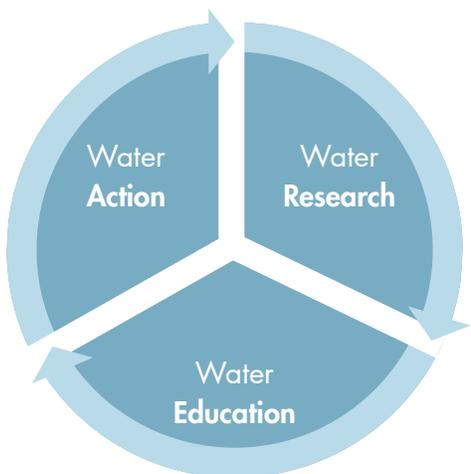
Green County Water Quality Coalition

2024-2025 REPORT

Introduction

The purpose of the Green County Water Quality Coalition is to intentionally collaborate to increase understanding of Green County groundwater quality and take action for water stewardship so we have healthy waters for current and future generations.

The Green County Water Quality Coalition was formed after the development of the 2024-2028 Green County Water Quality Action Plan and following increased cross-departmental collaboration related to water quality. The organizations represented in the coalition include the **UW-Madison Division of Extension Green County, Green County Public Health, Green County Land and Water Conservation, Green County Land Use and Zoning, and the Green County Highway Department.** This annual report highlights the coalition's accomplishments related to water quality during 2024 and 2025.



Goals

In response to the four-year groundwater quality trend data work in Green County, UW-Madison Division of Extension Green County partnered with Green County Land and Water Conservation Department to hold a multi-stakeholder Green County Water Quality Update and Roundtable session in 2023. As a result of this session, the 2024-2028 Green County Water Quality Action Plan was developed. The coalition is working to ensure the goals of this plan are achieved. The goals in the plan include:

Near Term Goals

- Goal 1:** More farmers in Green County understand and are able to quantify current nitrogen leaching.
- Goal 2:** Increased use and application of nitrogen management plans in Green County. This includes an increase in communications between farmers and non-farmers.
- Goal 3:** Increased understanding of practices on the landscape to manage nitrogen leaching.
- Goal 4:** Continued public conversations regarding groundwater quality in Green County. This includes an increase in communication between farmers and non-farmers.
- Goal 5:** Increased private well testing to increase awareness, call for coordination to help aid the process.
- Goal 6:** Explore Farmland Preservation programs.

Mid Term Goals

- Goal 7:** The majority of Green County farmers are considering the economics of nitrogen management and leachability when purchasing and applying fertilizers and manure.

Long Term Goals

- Goal 8:** All Green County farmers significantly decrease nitrogen leaching. In this context, "significantly" is considered at least 20% reduction of nitrogen leaching.
- Goal 9:** Nitrate levels have stabilized at current levels. "Current levels" in this context means wells do not have increasing trends of nitrates as of January 2024.
- Goal 10:** Cost share opportunities for variable rate N software.

Water Research & Action

Coming in 2026: Grassroots Groundwater Quality Trend Data Program

As the Groundwater Quality Trend Data Program enters its final year of county funding, we are looking to the future. Tracking groundwater quality has been an informative tool for local officials and residents to understand how their water quality is changing over time and initiate data-driven decisions. In order to continue the progress that has been made in monitoring trends, the program will transition to a grassroots effort in Fall 2026. Extension Green County will be recruiting private well owners to perform annual testing in a subscription-type format with annual reminders about testing. Find more information on the Extension Green County website under "Groundwater Quality Trend Data Grassroots Program."

Brine Keeping Chloride at Bay

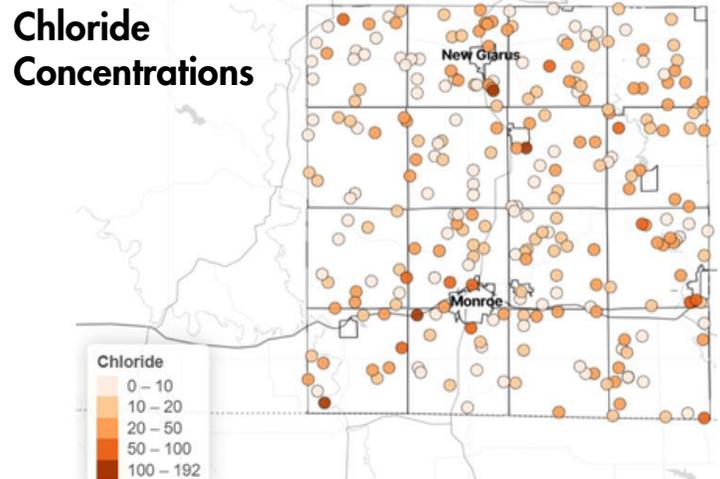
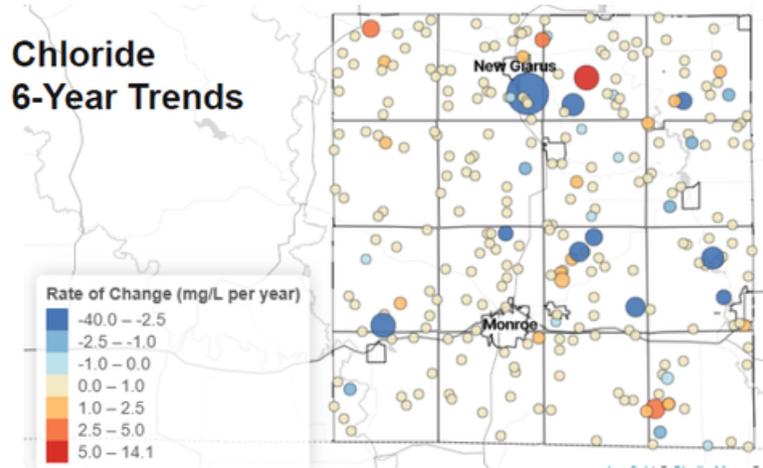
In Fall 2024, over 99% of wells tested below the 150 mg/L level often associated with nearby road salt applications. Chloride in groundwater can come from many sources including road salt, septic systems, agricultural fertilizers, and manure.

- Average: 20.5 mg/L
- Median: 14.9 mg/L
- Maximum: 192 mg/L
- Minimum: 0.7 mg/L

Chloride (mg/L)	Number of Samples	Percent
Less than 10 mg/L	92	35%
11 – 50	151	58%
51 – 100	13	5%
101 – 200	4	2%
Greater than 200	0	0

6-Year Chloride Trends

Over 6 years, 35 wells (13%) of the 260 tested had a decrease in chloride concentration. 21 wells (8%) of the tested group had an increase in chloride concentration. 204 wells (78%) saw no trend present in chloride concentration.



Green County's Continued Success in Using Brine on Roadways



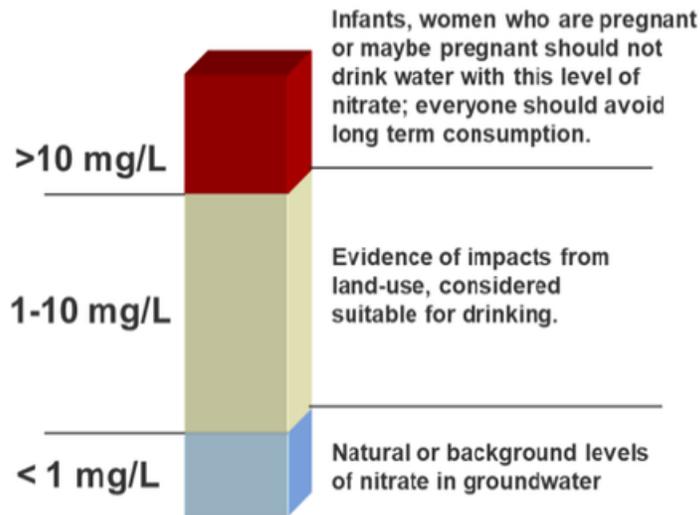
The Green County Highway Department's use of salt brine from cheese factory production has resulted in continued success in decreased rock salt application to roadways, thus reducing salt pollution throughout the county's waters and resulting in significant dollars saved.

Green County uses the least amount of rock salt across southern Wisconsin counties

2024 Nitrate-Nitrogen Well Concentrations

Nitrate is a form of nitrogen that easily dissolves in water and moves through the soil profile. Nitrate is found in fertilizers or formed when manure, septic effluent, or soil organic matter decompose. Natural levels of nitrate-nitrogen in groundwater are 1 mg/L; levels greater than this indicate human influence on groundwater, and levels over 10 mg/L pose serious human health risks when consumed (Figure 1).

Figure 1: Thresholds for nitrate-nitrogen concentrations in water.



Well concentrations of nitrate-nitrogen were measured in 2024 as part of the Green County Groundwater Quality Trend Data Program (Figure 2). Of the 260 wells sampled, 18% had nitrate-nitrogen concentrations exceeding the safe drinking water standard of 10 mg/L. The percentage of wells with different concentrations are in Table 1. 75% of the wells sampled had nitrate-nitrogen concentrations greater than 2 mg/L, suggesting human activity is influencing groundwater quality throughout much of Green County.

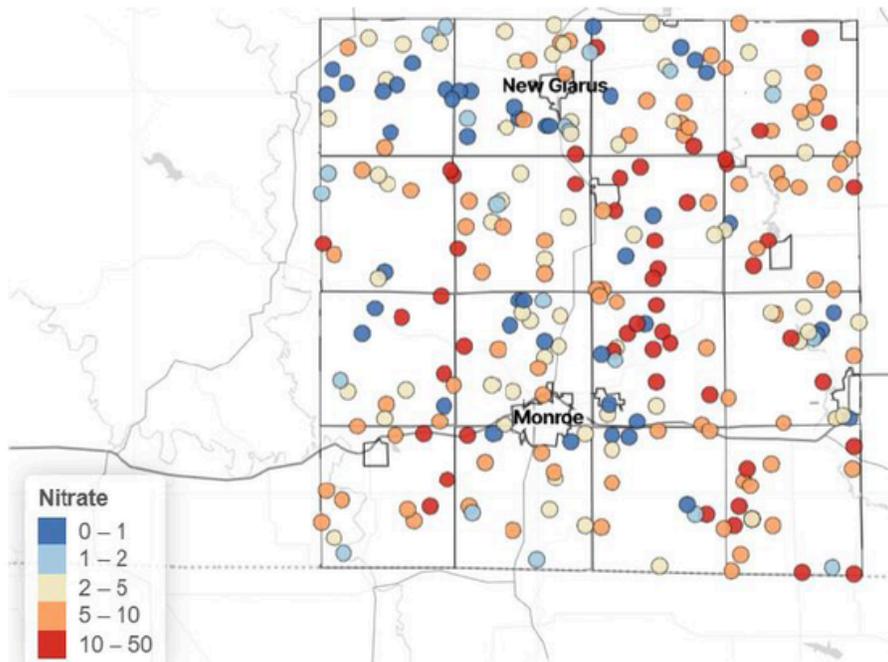


Figure 2: Nitrate-nitrogen results from Year 6 (2024) of the Green County Groundwater Quality Trend Data Program. The legend indicates mg/L of nitrate-nitrogen in the well sampled. Red dots indicate wells where levels exceed the safe drinking water standard of 10 mg/L.

Table 1: Nitrate-nitrogen well concentrations measured in Year 6 (2024).

Nitrate-Nitrogen (mg/L)	Number of Samples	Percent
None Detected	27	10%
Less than 2.0	39	15%
2.1 – 5.0	62	24%
5.1 – 10.0	84	32%
10.1 – 20.0	47	18%
Greater than 20.0	1	<1%

Nitrate-Nitrogen Trends Over 6 Years

One of the goals of this project was to help understand trends or changes in nitrate-nitrogen concentrations in groundwater over time. Figure 3 shows the trend in nitrate-nitrogen concentrations for the 260 wells that were sampled for six consecutive years (2019-2024). 12% of the wells detected increasing trends in nitrate-nitrogen and 9% detected decreasing trends. Most wells (78%) did not contain evidence of trends, which could mean that groundwater is in equilibrium with current landscape practices, or that changes are occurring more slowly than can be observed in the six-year period. In wells that showed no trend over time, there was still large variability in nitrate-nitrogen concentrations from year to year, indicating well concentrations can fluctuate, and highlighting the importance of annual measurements. Areas with more wells with increasing nitrate concentrations should receive special attention, especially wells that are approaching the nitrate-nitrogen standard of 10 mg/L.

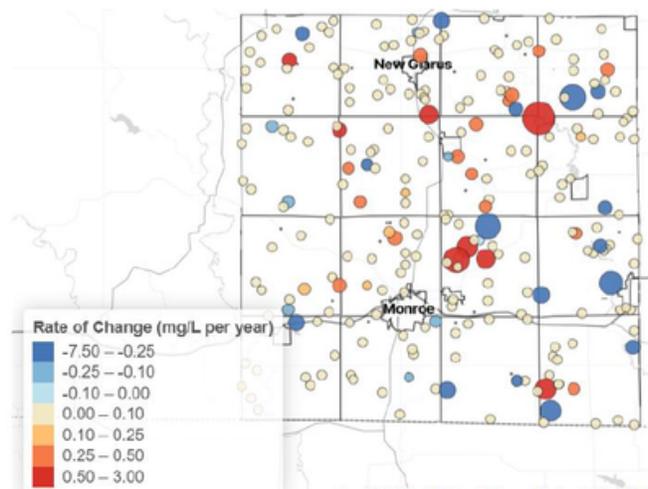


Figure 3: Trends in nitrate-nitrogen well concentrations over 6 years (2019-2024). Blue symbols represent wells with decreasing nitrate trends (9%), red represents wells with increasing trends (12%), and beige indicates wells with no detectable trend (78%). The size of the symbol indicates the rate of change over the six-year period.

Water Research & Education

Annual Drinking Water Testing

In 2025, Green County Land and Water Conservation took on the Annual Drinking Water Testing program for the county that had been delivered previously by Extension Green County. The focus was on the northwest quadrant of the county townships - including York, New Glarus, Adams, and Washington. Three of the four townships partnered with Green County Land and Water Conservation to promote the program, and town clerks hosted sample bottle pick-up and drop-off times for residents. Ninety-eight sample bottles were collected and taken to Stevens Point for analysis in March 2025. An informational session was held in April 2025 to help 58 attendees understand their test results and how groundwater works. Green County Public Health and Extension Green County will continue to work with Green County Land and Water Conservation to promote and offer information about the program. Plans are underway for testing the northeast quadrant of county townships in March of 2026 with a follow-up informational meeting. Additionally, Green County Public Health will continue to promote the Wisconsin Well Testing Access Program, which provides fee-exempt well water testing to eligible individuals. Green County Public Health provided training and educational materials to help residents learn about water testing options available through the department and water contamination risks.

98 samples
collected for
Annual Drinking
Water Testing in
2025

Progress toward
establishment of
Green County
Public Health as a
**certified water
testing lab**

Agricultural Enterprise Areas & Nutrient Management Plans

Green County Land and Water Conservation and Green County Zoning held an informational meeting in March 2025 for all interested parties and township officials to learn more about Agricultural Enterprise Areas and why they may choose to pursue a petition to DATCP to create an area in the county. As a result, Green County Land and Water Conservation is working with Decatur Township and neighboring townships to draft an application petition to be ready to submit to DATCP in early 2026 once they are accepting petitions.



Farmers are required by law to submit nutrient management plans for all land that receives nutrients to help account for soil fertility, crops, tillage, rotation, and the amount of nutrients required to grow the crop. A compliant nutrient management plan assures that the farmer isn't growing a crop at the expense of surface water impact, leaching into the area's groundwater, and overall soil health. The goal was to have an increase in the use and application of nutrient management plans in the county. Data through DATCP's 2024 reporting indicates 524 fewer acres reported than in 2023, with Green County hovering around 18% of land utilizing a nutrient management plan.

Research & Education Highlights

- In 2024, 121 private wells were tested through kits distributed by Green County Public Health, and in 2025, 70 private wells were tested.
- In 2025, Green County Public health inspected and tested water for 41 transient noncommunity wells, which are small community water wells like those on golf courses, campgrounds, and other establishments not on municipal water.
- During 2024, there were 83 permits issued to install new wells and 27 wells were properly abandoned. These wells are inspected and locations are recorded by Green County Land and Water Conservation staff. During 2025, there were 94 permits issued to install new wells and 18 were properly abandoned.
- Green County Public Health's Water Testing Lab is making progress towards opening and has been going through evaluations and approvals from various regulatory agencies.

Water Action

Improving Water Safety & Education

As part of a targeted initiative supported by a small grant from the Wisconsin Department of Health Services (DHS), Green County Public Health implemented training focused on the various water test kit options available through the department. They also provided educational materials to other county departments to distribute to residents they work with about water testing and contamination risks.

8 faucets
with unsafe lead
levels were
replaced following
testing

Green County Public Health participated in the Wisconsin Lead-in-Water Testing and Remediation (WTR) Initiative to improve water safety for young children. Their team tested water at two sites and found eight faucets with lead levels above the health standard. All eight faucets were replaced, reducing lead exposure and helping ensure safer drinking water for the children and staff at those facilities.

Water Testing Lab

The Green County Public Health Department's Water Testing Lab is making progress towards opening and has been going through evaluations and approvals from various regulatory agencies. Total Coliform/E. coli testing has been approved by DATCP, and the DNR has approved nitrate/nitrite proficiency testing. Both tests will be available to the public after everything is fully approved. The DNR completed a lab audit in February 2026, and the Water Testing Lab is anticipated to open in March. The lab will also have the capability to test Transient Non-Community samples, municipal systems, and tests for well driller/reconstruction/repairs in addition to private well testing.



Planning for 2026

Research

- Green County Public Health's Water Testing Lab is making progress towards opening and has been going through evaluations and approvals from various regulatory agencies.
- The Grassroots Groundwater Quality Trend Data Program will work to recruit private well owners to test their water in an annual, subscription-based format.

Education

- Coalition members will continue to work together to host educational events and programs in the community.
- Green County Public Health will increase community awareness of the Wisconsin Well Testing Access Program, which provides fee-exempt testing to eligible individuals.

Action

- The coalition will continue to meet and collaborate on projects.
- Green County Highway Department will continue to use salt brine on roadways and encourage local municipalities to use salt brine and reduce their usage of salt.

Coalition Members

UW-Madison Division of Extension

Jordyn Sattler, *Regional Crops and Soils Educator*
Landon Baumgartner, *Nutrient & Pest Management Outreach Specialist*
Izze McNamee, *Ag Water Quality Outreach Specialist*
Kevin Masarik, *Water Specialist*

Green County Highway Department

Chris Narveson, *Highway Commissioner*

Green County Land Use and Zoning Department

Adam Wiegel, *Zoning Administrator*

Green County Land and Water Conservation Department

Tonya Gratz, *Soil Conservationist*
Todd Jenson, *County Conservationist*
Mason Jarosinski, *Conservation Technician*

Green County Public Health

Ellie Lombardo, *Public Health Educator*
Geoff Briggs, *Environmental Health Specialist*

Citizen Member

Sue Nelson

