



# Wisconsin Groundwater Coordinating Council Report to the Legislature: Executive Summary

*Fiscal Year 2023*

The Groundwater Coordinating Council (GCC) prepares an annual report each year that summarizes the operations and activities of the council, describes the state of the groundwater resource and its management and makes recommendations.





# State of Wisconsin \GROUNDWATER COORDINATING COUNCIL

Tony Evers, Governor

101 South Webster Street  
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August 31, 2023

Jim Zellmer  
*Council Chair*  
DNR

To: The Citizens of Wisconsin  
The Honorable Governor Tony Evers  
Senate Chief Clerk  
Assembly Chief Clerk  
Secretary Craig Thompson - Department of Transportation  
Secretary-designee Dan Hereth - Department of Safety & Professional Services  
Secretary Randy Romanski - Department of Agriculture, Trade & Consumer Protection  
Secretary-designee Kirsten Johnson - Department of Health Services  
Secretary Adam Payne - Department of Natural Resources  
President Jay O. Rothman - University of Wisconsin System  
Interim State Geologist Eric C. Carson - Geological and Natural History Survey

Eric C. Carson  
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WGNHS

Mark McColloch  
DATCP

Mark Werner  
DHS

James Hurley  
UWS

Barry Paye  
DOT

Bradley Johnson  
DPS

Steve Diercks  
Governor's Rep.

The Groundwater Coordinating Council (GCC) is pleased to provide its 2023 Report to the Legislature. The Report is intended to alert Wisconsin leaders to the state of our groundwater resource and its management and to provide recommendations for its protection. Our groundwater is an invaluable resource, and its proper management and protection requires the coordinated efforts of our leaders.

The GCC was formed in 1984 to help state agencies coordinate non-regulatory activities and exchange information for efficient management of groundwater. For over 30 years, the GCC has been a model for interagency coordination and collaboration among state agencies, local and federal government, and the university. It is one of very few examples of effective statewide coordination of groundwater efforts from an advisory position.

The level of coordinating effort and investment in groundwater is particularly appropriate as Wisconsin depends so heavily on groundwater for its drinking water. Wisconsin also relies on groundwater to irrigate crops, water cattle, and process a wide variety of foods, as well as feed trout streams and spring-fed lakes - all of which are vital to our state economy. New challenges and ideas continue to warrant the collaborative approach.

This [online report](#) summarizes and links to information on the GCC and agency activities related to groundwater protection and management in FY23 (July 1, 2022 - June 30, 2023). Search "GCC" on [dnr.wi.gov](http://dnr.wi.gov) to find the full report. Click on the picture tabs for chapters of the report, beginning with the GCC's recommendations. The Executive Summary is attached.

We hope you will find this report to be a useful reference in protecting Wisconsin's priceless groundwater supply.

Sincerely,

A handwritten signature in cursive script that reads "James A. Zellmer".

James A. Zellmer,  
*Chair Groundwater Coordinating Council*

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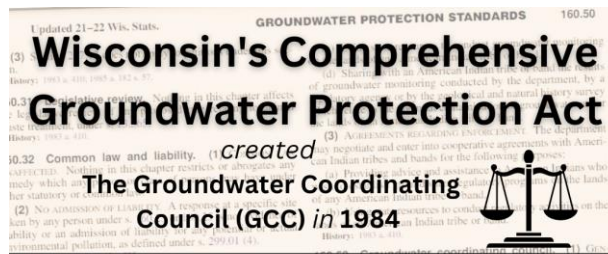
## PURPOSE OF THE ANNUAL REPORT

The Groundwater Coordinating Council (GCC) was created in 1984 and is directed by s. 160.50, Wis. Stats., to "serve as a means of increasing the efficiency and facilitating the effective functioning of state agencies in activities related to groundwater management."

The GCC is required by s. 15.347, Wis. Stats., to prepare an annual report due each August which "summarizes the operations and activities of the council..., describes the state of the groundwater resource and its management and sets forth the recommendations of the council."

This report fulfills the requirement for fiscal year 2023 (FY23).

The report includes links to extensive supporting information.



The GCC is required to prepare a report which "summarizes the operations and activities of the council..., describes the state of the groundwater resource and its management and sets forth the recommendations of the council. The annual report shall include a description of the current groundwater quality of the state, an assessment of groundwater management programs, information on the implementation of ch. 160, Wis. Stats., and a list and description of current and anticipated groundwater problems."

For the online version of this report: [dnr.wi.gov/topic/Groundwater/GCC](http://dnr.wi.gov/topic/Groundwater/GCC).

## SUMMARY OF GROUNDWATER MANAGEMENT PROGRAMS

State agencies and the University of Wisconsin System (UWS) addressed numerous issues related to groundwater management in FY23. Detailed discussions of the activities of the GCC, each state agency and the University of Wisconsin System can be found on the [groundwater management programs webpage](#).

The GCC, state agencies and the University of Wisconsin System address numerous issues related to groundwater protection and management.

- Department of Natural Resources (DNR)
- Department of Trade and Consumer Protection (DATCP)
- Department of Health Services (DHS)
- Department of Transportation (DOT)
- Department of Safety and Professional Services (DSPS)
- University of Wisconsin System (UWS)
- Wisconsin Geological and Natural History Survey (WGNHS)



### Highlights of groundwater management activities:

- DNR: Began a project to sample for PFAS and other water quality parameters in 450 private wells
- DATCP: Analyzed more than 200 groundwater and 150 surface water samples for over 100 pesticide compounds and nitrate plus nitrite as nitrogen.
- DHS: Addressed PFAS health concerns at several locations within the state (e.g., Marinette, La Crosse, Eau Claire, Wausau, Peshtigo, French Island, Madison, Rhinelander, Town of Stella).
- DOT: Results of new brine application techniques are showing significant reduction in overall salt use while maintaining clear roads and level of service for the traveling public.
- DSPS: Counties are operating a maintenance program for all POWTS in their jurisdiction.
- UWS: In support of the Wisconsin Groundwater Research and Monitoring Program, provided UWS funding to six research projects focused on groundwater contaminants, including nitrate and road salt; water quantity challenges in the Central Sands; geochemistry and microbiology; and understanding public perspectives and values, and supported graduate and undergraduate students.
- WGNHS: Conducting new bedrock geologic mapping in Dodge, Jefferson, Lafayette, and Grant Counties.

## STATE OF THE RESOURCE: GROUNDWATER QUALITY

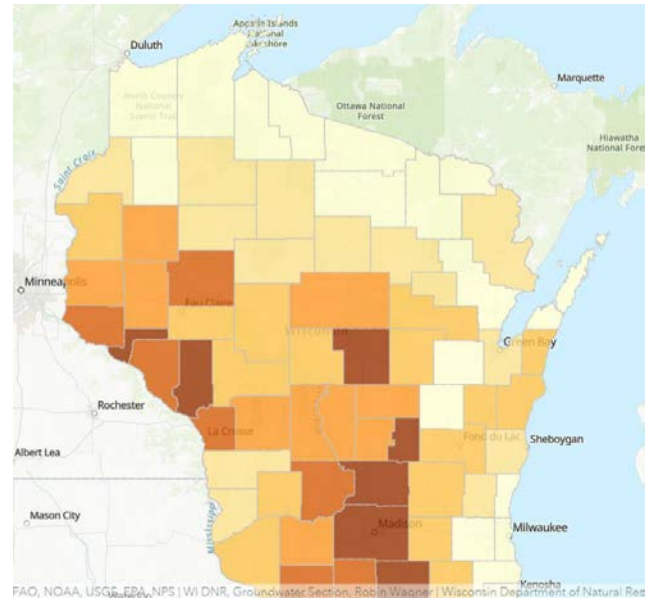
Groundwater pollution from human activities and natural sources happens across Wisconsin. This is of particular concern for the 70% of Wisconsinites who get their drinking water from groundwater.

Other groups concerned about groundwater quality include farmers who rely on safe groundwater for crop and livestock production, and business owners who rely on groundwater for manufacturing and commerce. Lakes, rivers and streams are fed by groundwater. Fish and wildlife can't thrive when groundwater contaminants impact the surface water they are dependent upon.

The GCC continues to address major groundwater quality concerns in Wisconsin.

Details about each of the following groundwater contaminants, including what they are, their human and environmental health concerns, how widespread they are in Wisconsin and how they are trending over time can be found on the [groundwater quality webpage](#).

- Nitrate
- Per- and Polyfluorinated Alkyl Substances (PFAS)
- Bacteria, Viruses and Other Pathogens
- Pesticides
- Arsenic
- Volatile Organic Compounds (VOCs)
- Naturally Occurring Elements, including Chromium, Manganese, Radionuclides & Strontium
- Emerging Contaminants

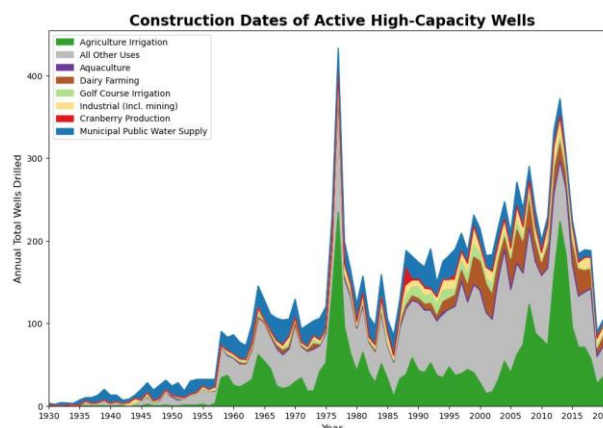


Nitrate contamination continues to increase. GCC member agencies continue to work on multiple initiatives related to reducing the risk of high nitrate levels in groundwater.

## STATE OF THE RESOURCE: GROUNDWATER QUANTITY

Groundwater is not distributed equally in the aquifers of Wisconsin. Across most of the state sufficient volumes of groundwater exist to support the required municipal, industrial, agricultural and domestic uses. However, in some instances the aquifers either do not yield a lot of water or relatively small changes in the upper aquifer can harm the surface water resources that rely on groundwater.

There is geographic and temporal variation in groundwater withdrawals largely due to precipitation. While year to year withdrawals can vary, overall, the total volume of groundwater withdrawn has remained relatively constant in the last several years. Statewide the number of high capacity wells continues to grow with approximately 200 new wells approved last year bringing the total to over 14,000 active high capacity wells.



High capacity well construction has increased over time but fluctuates based on need and economic factors.

The impact of groundwater pumping continues to be a site-specific issue **given the variability of Wisconsin's** aquifers. Groundwater pumping issues have arisen in multiple regions of Wisconsin. Large scale drawdowns of the confined aquifer have been documented in the Lower Fox River Valley and southeastern Wisconsin. Increased water demand is overlapping with a low yield aquifer in northcentral Wisconsin. Surface water impacts have been well-documented in the Wisconsin Central Sands and Dane County. These impacts have included the drying of lakes and streams but are influenced by climate cycles between wet years and drought years.

The GCC continues to address groundwater quantity concerns in Wisconsin. Details about each of the following groundwater quantity measures are detailed on the [groundwater quantity webpage](#).

- Water Use
- Groundwater/Surface Water Interactions
- Regional Drawdowns
- Groundwater Levels and Aquifer Response
- Groundwater Level Monitoring Network
- Little Plover River Model and Watershed Enhancement Project
- Central Sands Lakes Study

## RECOMMENDATIONS: DIRECTIONS FOR FUTURE GROUNDWATER PROTECTION

The GCC is directed by statute to include in its annual report a "*list and description of current and anticipated groundwater problems*" and to "*set forth the recommendations of the Council*" (s. 15.347(13)(g), Wis. Stats.). In this section, the GCC identifies its recommendations for future groundwater protection and management.

These recommendations include top priorities of immediate concern and ongoing efforts that require continued support.

### Priority Recommendations

- Set new and revised health-based groundwater standard recommendations that are imperative for protecting public health and the environment.
- Implement practices that protect groundwater from nitrate, pesticides and other agricultural contaminants.
- Address public health and environmental concerns regarding PFAS.

### Ongoing Recommendations

- Evaluate the occurrence of viruses and other pathogens in groundwater and develop appropriate response tools.
- Support the sustainable management of groundwater quantity.
- **Continue to catalog Wisconsin's groundwater resources.**
- **Evaluate the impacts of climate change on Wisconsin's groundwater.**
- Support applied groundwater research in Wisconsin.

To learn more about each of these recommendations and for actions to take to address them, go to the [recommendations section](#).