

## Wisconsin Groundwater Coordinating Council (GCC) Meeting Minutes

**Date:** November 8, 2024

**Time:** 10:00 AM – 12:00 PM

**Location:** DNR South Central Regional Office – Fitchburg (Glaciers Edge Conference Room) and via Zoom

### 1. Meeting Opening and Approval of Previous Minutes

- **GCC Members Present:** Steve Elmore for Jim Zellmer (DNR), Brad Johnson (DSPS), Steve Diercks (Governor’s Representative), Sue Swanson (WGNHS), Robby Personette (DATCP), Sheryl Bedno (DHS), Christy Remucal (UWS), Hans Hallanger for Barry Paye (DOT)
- **Introductions and Agenda Review:** The meeting began with attendee introductions and a review of the agenda. No modifications were made.
- **Approval of Previous Meeting Minutes:** Motion to approve The August 9, 2024, meeting minutes by Sue Swanson, second Brad Johnson, approved by voice vote.

### 2. Joint Solicitation RFP Update – Presented by Christy Remucal (UWS)

- **Status Update:** The Joint Solicitation RFP for FY 2026 closed on November 1, 2024. GCC members received an email from Jen Hauxwell with a link to the repository containing the proposals.
- **Proposal Overview:** Submissions represented a broad array of topics including groundwater quality, quantity, and social sciences, with contributions from eight different organizations.
- **Next Steps:** The proposals will undergo a UW external peer review process, scheduled for completion in early January 2025, as well as agency staff, GCC member and GCC Research and Monitoring subcommittee review.

### 3. Technical Presentation: Public Perceptions of Water in Wisconsin – Dr. Michael Cardiff, UW-Madison, Department of Geoscience

Dr. Michael Cardiff presented findings from a study aimed at understanding public values and concerns around water resources in rural Wisconsin. The full report of the study can be found [here](#).

- **Purpose and Background:** This project, initiated in 2022, was funded to examine public perceptions, with an emphasis on understanding the social and political aspects influencing groundwater protection in rural Wisconsin. The study engaged rural Wisconsin residents to gauge their values, concerns, and knowledge regarding water resources.
- **Methodology:** The UW Survey Center distributed a validated, IRB-approved survey to rural households, selected randomly, using mailed surveys to ensure inclusivity among demographics with limited internet access. A follow-up mailing to non-responsive households increased participation.

## Findings:

- **Water Value and Safety Perceptions:**
  - **Primary Uses:** Drinking water was rated as critically important, followed by its role in wildlife sustainability and fishing, revealing an environmental focus among rural residents.
  - **Safety Concerns:** While over 80% felt water was highly available, confidence in water safety was lower, with fewer than 50% fully assured of its cleanliness.
- **Water Risks and Contaminant Awareness:**
  - **Contaminants of Concern:** Pesticides, PFAS, and nutrients were seen as high-risk contaminants, with pesticide exposure perceived as most dangerous.
  - **Risk Factors:** Residents cited droughts, agricultural over-pumping, and flooding as top threats to water availability, with limited concern about over-regulation.
- **Public Trust and Knowledge Gaps:**
  - **Trusted Sources:** Regulatory agencies, UW scientist, private well testers, and county water professionals were among the most trusted information sources. However, despite high trust, over 60% of respondents reported rarely receiving water information, indicating a gap in outreach.
  - **Demographic Insights:** Those with college education showed higher trust in scientific agencies and a greater awareness of groundwater issues. Less educated individuals reported receiving less information and displayed lower trust in regulatory bodies.
- **Groundwater general knowledge**
  - About 45% of respondents correctly understood groundwater as water held between particles of soil and rock. However, misconceptions remained, with many visualizing underground lakes and rivers. The survey's 27 water-related questions covered safety perceptions, contaminant awareness, and trusted information sources.
- **Key Recommendations for Future Research and Outreach:**
  - **Messaging Strategies:** Emphasize wildlife and fishing impacts in water safety campaigns to align with public values.
  - **Enhanced Communication Channels:** Increase outreach through trusted local professionals and regulatory bodies to raise awareness, particularly in demographics with limited water resource knowledge.

## 4. Technical Presentation: Advancing the use of nitrate and neonicotinoids findings to inform groundwater protection and improvement strategies - Dr. Carla Romano, WI DNR

Dr. Carla Romano presented findings from a Joint Solicitation funded project to create a comprehensive and accessible database of nitrate and neonicotinoid pesticides in groundwater across the Central Sands Groundwater County Collaborative (CSGCC), which includes Adam, Juneau, Marquette, Portage, Waushara, and Wood counties. The database and its description are available on [this WGNHS website](#).

- **Purpose and Background:** The purpose of the project was to compile nitrate and neonicotinoids data collected in groundwater of the CSGCC area in a unique GIS database. The project also aimed to identify spatial and temporal gaps in the data and evaluate which factors are primarily affecting groundwater contamination in the Central Sands area.
- **Methodology:** Over 100,000 nitrate and over 2,000 neonicotinoids (clothianidin, imidacloprid, and thiamethoxam) data points collected in the groundwater throughout the CSGCC region in the last 70 years were compiled. Each data point carried information on sampling location, sampling location resolution (at least with a resolution of a section) and sampling date. In addition to the contaminants' concentrations, the data included information on the characteristics of the wells from which the samples were collected. Through a process of data comparison, it was determined if a well characteristic was accurate or not. Multiple datasets were then merged, after a thorough process of duplicate check. The resulting datasets were included in a GIS database along with neonicotinoids sample results in surface water, data on biosolid spreading, manure storage locations, soil properties, land use, septic system locations, and wells of the CSGCC region. The info included in the database had a resolution to a section. A gap analysis was conducted on the nitrate data collected in private and monitoring wells. Logistic regression models were used to establish if well characteristics, agricultural land use, number of septic systems (for nitrate data), and soil properties affect the probability of detecting nitrate at a concentration exceeding the drinking water standard of 10 mg/L or the probability of detecting neonicotinoids.
- **Results and Discussion:** Average concentration maps were created for nitrate (also at different time intervals) and neonicotinoids. The highest nitrate and neonicotinoids concentrations are located along the regional groundwater divide and in an area NE of Juneau County. Gap analysis highlighted that the amount of nitrate samples increased since 1953 but remained stable overall since the early 2000s. Neonicotinoid data points began to be collected only after 2008, and sampling has continued to increase since then. Using GIS, a map was produced showing which sections, having at least one well or septic system, have never been sampled for nitrate (or where no record of sampling was found), or have not been sampled for nitrate in the last 10 years. As neonicotinoid data was sparse it was not possible to conduct a similar spatial gap analysis on that data. No consistent increasing or decreasing linear trends were found for average nitrate data within each township of the CSGCC region. Through the logistic regression model, factors affect nitrate and neonicotinoids concentration were evaluated. The study found that the probability of nitrate concentrations exceeding 10 mg/L increased with well age, higher average soil hydraulic conductivity, and greater agricultural land use. Conversely, this probability decreased with greater well depth, a higher number of septic systems, and increased soil organic matter or clay content. For neonicotinoids, no relationship was observed with well age. However, the probability of detecting neonicotinoids rose with higher average soil hydraulic conductivity and agricultural land use, while it decreased with deeper wells and higher levels of soil organic matter or clay content.

- **Conclusions/Implications/Recommendations:** Due mostly to data incompleteness, data inconsistency, and lack of data accuracy, data merging was found to be extremely challenging. The project report recommends that each entity invested in data collection performs data validation before storing and sharing the data. Overall, neonicotinoid and nitrate data compilation are an ongoing and continuous processes that requires collaboration between various stakeholders. The database produced by this study should be extremely valuable to researchers, policymakers, and members of the public to aid in understanding and mitigating the impacts of groundwater contamination, and for protecting the quality and availability of groundwater resources. In addition to data compilation, the project also focused on effective communication and dissemination of information on nitrate and neonicotinoids contamination. To this aim, a Groundwater Quality Resource Guide - Focus on Nitrate and Neonicotinoids document was created, with a detailed compilation of all available online resources on the matter. This tool should be valuable in the development of educational materials, which can help raise public awareness and knowledge about groundwater contamination issues.

## **5. Agency Updates**

Each GCC agency and organization provided updates on recent activities, projects, and staffing changes impacting groundwater research, protection, and public health.

### **Wisconsin Department of Safety and Professional Services (DSPS) – Brad Johnson**

Brad reported that the number of POWTs plans will likely be close to last year's level, around 3,500, which indicates economic stability in the housing sector. Like the DNR, the agency is heavily focused on election-year preparations, drafting informational papers and responding to inquiries from the Legislative Fiscal Bureau to support the incoming legislature. Recently, Brad's division has been working closely with customers and some counties to address remaining issues related to the hydrograph method.

### **Wisconsin State Geological and Natural History Survey (WGNHS) – Sue Swanson**

Sue reported several funding updates for new survey projects, beginning with a third and final round of funding from DATCP for the Wisconsin bedrock mapping project. Led by Dave Hart, this effort has already commenced. Additionally, a new three-year initiative, funded through the EPA Great Lakes Restoration Initiative, in partnership with DNR, focuses on protecting Wisconsin's Lake Superior coastal resources by studying groundwater contributions and their role in climate resilience. This month, Muldoon and Anna Failing will start constructing hydrogeologic cross sections along the Lake Superior shoreline to better understand groundwater flow into coastal wetlands. The survey team is also advancing key USGS-funded geologic mapping efforts, including the Dunn County bedrock mapping and an evaluation of the Eau Claire formation and its potential as an aquitard, which will be expanded to the whole county. Another USGS project, a proposed statewide water table map at a coarse scale (1:500,000), will support both educational use and future updates to groundwater contamination assessments. In addition, the USGS-funded data preservation program will soon be due, with significant focus this year on modernizing the aquifer properties database, currently available only to USGS,

DNR, and Wisconsin Survey staff. This upgrade will broaden access, incorporating supplementary data for public use. Finally, the survey has posted an open position for a software engineer/web developer to support the publications catalog and web-based initiatives, such as the aquifer database.

### **Department of Agriculture, Trade and Consumer Protection (DATCP) – Robby Personette**

Robbie reported several staffing changes, with two current vacancies. Recruitment is underway to fill a Hydrogeologist and a section manager for the Investigation and Compliance Section. Additionally, Kevin Bryan, a long-term environmental enforcement specialist will be retiring in about two weeks, leaving another position open. Recruiting for his position is scheduled to begin after the start of the new year. Regarding ongoing projects, Robbie highlighted the recent Neonicotinoid Forum at UW-Madison's Institute for Discovery, attended by Environmental Quality staff. The team is finalizing the 2024 Targeted Report, and a 15 years of surface water sampling report. The Bureau of Land and Water Resources announced the launch of its Nitrogen Optimization Pilot Program grants, with applications open until January 17, 2025. This program, which has already received \$1.66 million in requests from 49 producer-led groups, is oversubscribed by \$660,000, with \$1 million available in total. Additionally, an application period is expected to open in early December for crop insurance rebates for cover crop planting, pending emergency rule approval. Lastly, Robbie noted that Land and Water has updated ATCP 50, the soil and water resource management rule, to reflect standards for agricultural performance over bedrock as set by DNR in 2018. These updates became effective in June, and an office hours series on conservation practices is in development to further educate stakeholders on these standards.

### **Department of Health Services (DHS) – Cheryl Bedno and Sarah Yang**

Sheryl briefly mentioned the launch of their biomonitoring grant. Initially, the project focused on tracking pesticides and two heavy metals—lead and arsenic—through urine samples, both retrospective and prospective, from the University of Wisconsin's cohort. While the process of determining which pesticides to include has evolved several times, they're now working to finalize a list based on expert input and lab capabilities, though the final number of pesticides may depend on testing costs. The team hopes to finalize the list soon. Sarah Yang shared that she has taken over Roy Irving's position as the Section Manager for Hazard Assessment, and that her Groundwater Toxicologist position is currently vacant. Recruitment for this position, along with an evaluation toxicologist and a site evaluation health educator, is underway. Sarah also provided an update on DHS recommendations for PFAS groundwater standards, noting that they're on track to submit their recommendations to the DNR by the end of 2024 or early 2025, depending on how the holiday season impacts the timeline. Despite vacancies, the team is focused on maintaining core work and managing transitions.

### **Potato and Vegetable Growers – Steve Dierks (Governor's Representative)**

Steve provided updates on a range of industry-supported agricultural water quality and quantity projects, with a total funding allocation of \$350,000. He highlighted ongoing efforts to reduce

the use of neonicotinoids in potato production, which is expected to phase out over the next four to five years. Dierks also mentioned a project aimed at removing potato vines. By repurposing these vines, the project aims to reduce nitrogen leaching to groundwater. Another key initiative involves improved evapotranspiration (ET) data collection in the Central Sands region. Using drones, covariance technology, and satellite data, this project seeks more accurate ET measurements, crucial for water management and agricultural control in the area. Additionally, the team is evaluating natural groundwater recharge rates and nutrient leaching, with an eye on analyzing data from this past spring's heavy rainfall, a period typically associated with groundwater contamination spikes.

### **Department of Transportation (DOT) – Hans Hollinger**

Hans reported that the current Environmental Technical Services Water Resource Specialist recently transitioned to a supervisory position in the Northeast Region. Alyssa Barrett is planning to hire a replacement for this role, which will involve groundwater topics. Additionally, Rebecca Senkowski has been appointed as the new Bureau of Highway Maintenance Director, overseeing operations. She previously worked in the section and is well-versed in the related topics. On a broader note, the Deputy Administrator position is now open, following Scott Lowry's move to the Deputy Secretary position. Hans also provided updates on ongoing projects, including efforts to implement the Army Corps stream mitigation policy. This work focuses on improving data collection approaches and design methodologies, with the goal of enhancing compliance. Furthermore, DOT is working to better coordinate with the DNR on salt shed inspections to improve compliance and enforcement, as part of a recently renewed memo of understanding.

### **Department of Natural Resources (DNR) – Steve Elmore**

Natural Resources Conservation Service (NRCS) has approved 2 new National Water Quality Initiative (NWQI) areas in WI - in St. Croix and Manitowoc Counties. The DNR is working alongside county staff to assess water quality, engage local communities, and help landowners adopt conservation practices to protect water resources. Currently, the project is in the planning phase, and DNR is providing technical support by evaluating nitrate contamination in wells and identifying key areas where conservation practices should be implemented.

The DNR is finalizing the economic impact analysis for updates to the private well construction code (NR 812) and the well driller and pump installer licensing code (NR 146), with a comment period expected in January.

DNR has requested that DHS provide recommendations for new groundwater quality standards for six PFAS compounds, following the final EPA rules on maximum contaminant levels (MCLs) in drinking water. DHS is expected to provide these recommendations by the end of 2024 or early 2025.

In other rule-related updates, DNR received approval at the October Natural Resources Board meeting to proceed with incorporating federal maximum contaminant levels (MCLs) for six PFAS compounds into NR 809. Technical edits are also prosed for NR 812, These changes are

part of efforts to maintain primacy with the EPA, ensuring that the state can continue to implement the Safe Drinking Water Act. While these updates are primarily technical edits requested by the EPA, they are essential to maintain the state's regulatory authority over drinking water quality.

The DNR also provided an update on the ARPA well compensation grant program, which was created to help private well owners deal with contaminants such as nitrates, PFAS, and manganese. While the ARPA grant application process has closed, DNR is still processing applications from a waitlist, and need to allocate the program's funds by the end of the year. This program has helped private well owners drill new wells or install treatment systems. Those not receiving funding through the ARPA program may still be eligible for assistance through the state statutory Well Compensation Program, provided they have eligible contamination and meet program income requirements.

A significant portion of the update focused on PFAS contamination, particularly in the Town of Stella, near Rhinelander. The DNR extended the sampling area up to a 3 miles radius around the town hall. West of Stella, a sample collected from Sunset Lake had extremely high PFOA levels in surface water (~1,000 parts per trillion), far exceeding both surface water standards and drinking water health advisory levels. The DNR has identified 41 wells near Sunset Lake eligible for free private well testing. The DNR is sending letters to those home owners near Sunset Lake informing them of their eligibility to receive free well testing. As of November 7<sup>th</sup>, a total of 75 private well samples have been collected from the expanded Stella PFAS sampling area, with 11 wells testing above health advisory levels for PFAS, 12 wells with detectable PFAS levels but below the health advisory levels, and 52 wells showing no PFAS contamination. The DNR is following the previous recommendations from DHS, which set drinking water health advisory levels at 20 parts per trillion for PFOA and PFOS.

For public water systems, the DNR reported that approximately 30% of the 1,800 active public water systems in Wisconsin have tested positive for PFAS, with detected levels generally ranging from 1 to 2 parts per trillion. 91 public water systems have exceeded the new federal MCL levels for PFAS, and 33 systems have exceeded the DHS hazard index drinking water health advisory for PFAS, requiring public notice. Three public water systems have exceeded the current 70 parts per trillion MCL for PFAS, triggering corrective actions. Public water systems with PFAS detections are eligible for funding through the bipartisan infrastructure law assist with implementation of corrective measures, such as installing treatment systems or drilling new wells.

Finally, Steve Elmore mentioned that the DNR's PFAS technical group and external advisory group are continuing their work, with the next external advisory group meeting scheduled for February 21, 2024.

## **6. Additional Meeting Discussion**

- **Proposals to Enhance Engagement and Communication in GCC Meetings.** DNR proposed expanding the reach of GCC meetings to engage a broader audience. DNR suggested not only making meeting Zoom links publicly available but also posting the

meeting agendas and providing a link to the DNR website. Additionally, DNR recommended creating an email list, through GovDelivery, to distribute updates on GCC meetings and other related efforts. Sue Swanson also proposed the idea of reestablishing some of the subcommittees, such as the GCC Data Subcommittee, to further enhance collaboration and focus on specific areas of interest within the council's work. These proposals aim to improve communication and involvement, ensuring more people are informed and can actively participate in the ongoing efforts.

- **Tentative 2025 Meeting Dates and Locations:** The group discussed tentative meeting dates for February 14, May 9, August 8, and November 14, aiming to rotate locations to facilitate broader interagency participation.