Appendix B

North Central Wisconsin Groundwater Workshop Summary

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Executive Summary

During this two-day workshop in late October of 2024, Tribal, Federal, State and local government representatives and others gathered in Lac du Flambeau, Wisconsin to discuss groundwater challenges in North Central Wisconsin. This aquifer action workshop was organized by Freshwater in partnership with the workshop host, Lac du Flambeau Band of Lake Superior Chippewa. Facilitating shared conversations like this one is part of an ongoing groundwater governance project in the Great Lakes region.

Throughout the workshop, participants were given a platform to listen and react to presentations, engage in round-table discussions, and participate in small break-out groups to evaluate a local groundwater issue of interest.

The Sokaogon Room at the Lake of the Torches Casino, where the workshop was held.

There were five breakout groups for the specific topics of concern, which were identified by the workshop participants and included:

I. The state of monitoring data and knowledge of groundwater. This became the "**data**" group, summarized in section 3.1.

II. Inequitable communication and consultation about groundwater research and data collection, especially with those disproportionately impacted by the outcomes. This became the "**Communication & Consultation**" group, summarized in section 3.2.

III. Impacts of climate, economic development and growth, and emerging contaminants on groundwater supply. This became the "**emerging externalities**" group, summarized in section 3.3.

IV. An authority structure that artificially separates the governance of water instead of viewing it as a connected system. This became the "**legal structure**" group, summarized in section 3.4.

V. Ecosystem impacts of groundwater use, including lake and wetland levels and their plant and animal communities. This became the "**ecosystem needs**" group, summarized in section 3.5.

During the break-out groups, participants used the information from the technical presentations, along with their firsthand knowledge and lived experiences, to admire the issue and identify strategies

and barriers for addressing the issue through the implementation of new or improved policies. Each group reported the outcomes of their discussions, giving the rest of the participants an opportunity to react and weigh in with their own thoughts and ideas. The multi-disciplinary and multi-cultural makeup of the room resulted in a wide range of suggestions.

The outcomes of this aquifer action cluster workshop will be used to summarize the policy tools and best practices for groundwater governance in EPA Region 5 in the upcoming report, concluding Phase II of this project. The outcomes from Phase I of this project are presented in the Groundwater Governance in EPA Region 5 report.

Introduction

From October 22nd to 23rd of 2024, a group of approximately thirty-five people including scientists, lawyers, and government staff from local, state, Tribal, and federal institutions gathered at the Lake of the Torches Convention Center in Lac du Flambeau, Wisconsin (Figure 1) to discuss groundwater in North Central Wisconsin during this two-day workshop facilitated by Freshwater. The purpose of the workshop was to identify regional issues, current practices, and sustainable groundwater governance strategies for the five-county areas of Taylor, Lincoln, Price, Vilas, and Oneida defined as "North Central Wisconsin." These counties share similar geologic and groundwater features, where thin glacial sediment overlies the fractured crystalline bedrock resulting in the lowest groundwater yields in the state. The workshop was hosted on the Lac du Flambeau reservation, whose 1842 ceded lands form much of what is now the Chequamegon Nicolet National Forest.

Figure 1. Door to Sokaogon Room, with sign to direct participants

The four questions that guided this two-day workshop included:

I. What concerns are you working on within North Central Wisconsin?

II. What current groundwater stressors are you hoping to address in a better way?

III. Do you have any input on sustainable governance practices that could be implemented multi-regionally?

IV. What other experts do you think should be a part of this process, and part of the continuing conversation?

Who Was Invited?

The prospective participant list was divided into several categories to promote cross-sectoral representation from the multiple jurisdictions and different sectors within the North Central Wisconsin workshop area. Recruitment focused on ensuring there was a specific range of regional, technical, and cultural knowledge, as well as members of community hubs and people with strong ties to their networks with the ability to distribute information. Several attendees had broader expertise or worked throughout the state of Wisconsin as well as within the narrower region.

Invitees were broadly categorized by area of work focus (county or region), organizational affiliation (Tribal, state, federal, nonprofit, community, academic, other), and knowledge or expertise (earth science and technical, cultural, regional, organizational operational, legal and policy). A selection of the water professionals who attended were interviewed during Phase 1 of the project. Other participants were identified through local news sources, active nonprofits and community organizations in the region, outreach to Tribal communities, or through research produced by their organizations. Several participants were also recruited through recommendations from other invitees or organizations.

The workshop was originally scheduled for June 2024 but was postponed due to scheduling conflicts and to allow time to increase participation from key stakeholders. After the postponement, an advisory committee was formed to focus on identifying and recruiting potential attendees. This advisory committee included a member of Lac du Flambeau's Natural Resource Department, a member of the Great Lakes Indian Fish & Wildlife Commission (GLIFWC), a member of the Bureau of Indian Affairs (BIA), and a member of Freshwater. Each of these advisory committee members was asked to undertake outreach by using their local knowledge of organizations and issues and their personal connections to maximize participation. The advisory committee developed targeted strategies specific to the culture and region.

For example, Tribal, state, and federal government agencies have restrictions on staff participation and require more notice than nonprofits and local government units to approve travel expenses. These entities also require detailed agendas to make informed decisions about who should participate and have more distinct hierarchies for approval, which determines who should be contacted first.

With this in mind, Freshwater staff refined the agenda and, with the guidance of the advisory committee, invited attendees who could give technical presentations that would be regionally relevant and of interest to target stakeholders and who could also represent their respective organizations. A Save-the-Date flyer was sent two months in advance to several organizations and department heads of organizations were requested to invite people from their staff. Information was provided describing the workshop and its intent, including a draft agenda.

Prior to attending, participants were sent a survey to gather availability over the two days of the workshop and to determine their focus areas of interest. Formal invitations, final agenda, itinerary, and information about financial assistance for tribal participants were sent a week prior to the workshop.

Tribal Nations attending the event included Lac du Flambeau Band of Lake Superior Chippewa, Sokaogon Chippewa Community, Forest County Potawatomi Community, Bad River Band of Lake Superior Chippewa, and Keweenaw Bay Indian Community. Additionally, staff from the Great Lakes Indian Fish and Wildlife Commission, US Forest Service, and US Geological Survey were on hand to discuss Tribal and Federal groundwater management. Staff from Wisconsin Department of Natural Resources, and Wisconsin Geological and Natural History Survey were on hand to discuss State-level groundwater

management and permitting. While county conservationists (from Vilas, Oneida, and Taylor counties), Wisconsin Rural Water Association, and the North Central Wisconsin Regional Planning Commission were on hand to share local and regional challenges in groundwater management. Others in the room were there to share perspectives from non-profits and organizations working in this sector.

In the survey, participants expressed an interest in networking, learning about local groundwater data needs, hearing the Tribal perspective, and gaining more momentum around local efforts in groundwater management.

Community Engagement

Community engagement is a broad name for research frameworks (also referred to as community action research, participatory research, empowerment evaluation, etc.). Its purpose is to center a community's voices, values, and understanding of issues. Community engagement brings a research problem to the people within a defined scope of focus (e.g. geographic area, demographic group, specific topic interest) and invites participation in the problem solving. It centers the people impacted and asks researchers and community members to collaborate as part of a single research team (Syed and Palermo 2010). https://doi.org/10.2105/ajph.2009.178137.

The role of community engagement is particularly important when working with marginalized communities where different cultures, values, and priorities may have to compete for consideration against dominant frameworks. This groundwater governance workshop included participants from varying cultures and asked participants to respect all knowledge brought into the workshop, including Traditional Ecological Knowledge (TEK) and lived experience.

Academic credentials and Western scientific knowledge are prioritized in policy and law-making settings due to their empirical and analytical approach (Mazzocchi 2006). TEK and lived experience are typically less common because it is difficult to evaluate the reliability of this expertise under academic or Western science rubrics of knowledge (Kadykalo et al. 2020).

Traditional Ecological Knowledge (TEK) is described as "observations, oral and written knowledge, practices, and beliefs that promotes environmental sustainability and the responsible stewardship of natural resources through relationships between humans and environmental systems" (White House Press Brief 2021).

Lived experience is firsthand knowledge, or knowledge generated by living through specific events, conditions, or occurrences. Through recollection and retrospection, this firsthand knowledge provides information by situating a problem within a particular context (O'Leary and Tsui 2022).

In recognizing these different ways of knowing as valid, workshop participants were encouraged to speak freely about their personal experiences. They were asked to listen to the wisdom of others without passing judgment, or assuming that one perspective was more credible than another. This was a way to facilitate respectful dialogue throughout the room.

Agenda and Topics Covered

The detailed agenda is included in the appendix.

Day One in Review

The first day of the workshop was October 22, 2024, where participants were greeted in the Sokaogon Room at the Lake of the Torches Casino in Lac du Flambeau, Wisconsin. Breakfast and coffee were available for all who attended, and Freshwater staff were present to facilitate the two-day event.

Opening & Introductions

Dee Allen, Tribal Administrator for Lac du Flambeau, opened the workshop with a brief greeting and introduction to the Tribal Council President John Johnson Sr., who offered warm words of welcome. This was followed by three Drum songs performed by President Johnson's grandsons, Mike Wiggins Jr., along with President Johnson himself.

Mike Wiggins Jr., director of the Madeline Island Museum, then kicked off the day with an opening talk about the cultural history of groundwater in the region. He spoke of the breadcrumbs of wisdom left by ancestors and framed the Indigenous point of view as looking through a new lens.

"When you go to the optometrist and they click a lens in front of you and ask, 'Better or worse?' You might suddenly realize you have become accustomed to bad vision." He asked non-Indigenous attendees to keep this metaphor in mind as he described issues of water through a collection of teachings that had been passed down to him. He spoke of the 700-year migration of the Anishinaabe people from the east as the glaciers retreated, guided by a prophecy to find the food that grows on water. He spoke of the many lifeways dependent on water that enrich the region, including fish, traditional medicines, and wildlife. And how the minerals deep below the Earth's surface support the abundance of water in the region. He said, "When the window of life gets small, the Great Lakes will be the place to be." The participants appeared to be attentive throughout this presentation, with many in the room expressing great appreciation throughout the workshop for gaining this new perspective.

Following this opening, participants were asked to bring chairs to the middle of the room in circular formation. Freshwater facilitator, Rosie Russell then shared a story about how she got connected to water, which kicked off the 2-hour talking circle, where each person was given the opportunity to share a story about their personal connection to water.

Everyone had a story that detailed their relationship to water, and the sharing of these stories intended to have an equalizing effect around the table. Some shared their experience living in a hunting shack with no running water, having their well collapse, or swimming in dirty mucky lakes as a child. One spoke of their fascination watching little brown bats occupy the small space above water where the bugs hang out, while others marveled at the interconnected ways that water moves through earth and how it is hard to separate surface water from groundwater in this region. The groundwater connection to surface waters had been observed by one participant who has fished, trapped and hunted these lands and waters, and had participated in scientific studies conducted with the University of Minnesota that validated their observations.

Several participants detailed the ways in which water intersected with their work, as planners, students, legal experts and scientists. One individual shared their concern about the inadequate and fragile system of water governance and expressed a belief that there was a better way forward, while another expressed interest in a world where geology was not resource extraction. One shared their passion for understanding turbulent flow, where art and science meet, while others wondered how to regulate and protect springs and well fields, especially in a region with the lowest well yields in the state.

Some spoke about the incredibly destructive power of water, like Hurricane Helene, or how wildfires impacted their ability to get clean water while at a research camp. Others expressed concerns about the changing climate, and their hope for a normal winter. Many spoke of the spiritual and grounding power of water, like the way it makes a person feel when the sunshine sparkles on it, or when throwing out a net to fish.

As participants went around the circle, heads were nodding while the sounds of agreement and surprise could be heard. At the end, people had much to talk about with one another as they took a break in preparation for the next presentations.

Technical Presentations

Rosie Russell, the facilitator, began with an introduction to the purpose of this workshop, the challenges with discussing big systems like groundwater governance, and the importance of everyone being empowered to share their expertise and lived experience. She then shared the data norms and practices used for this workshop.

This was followed by a presentation from Carrie Jennings, Research and Policy Director of Freshwater, who provided background on the groundwater governance project. She spoke of the work done during Phase I and the recommendations that followed. She shared how the aquifer action cluster areas came about, and the process being used to collect data from these specific regions while uplifting the perspective of the Tribal Nations. Following this presentation, participants inquired about the new Environmental Protection Agency (EPA) ruling to protect Tribal reserved rights in ceded territories and how that would be implemented when there is mistrust. As Mike Wiggins Jr. said earlier, "We are in ceded territory. These were created as the permanent homelands. Ceded lands are for all of us to share. It is our shared home."

Another participant expressed concerns about discussing groundwater, and said that it was all one water, and we cannot just pick it apart separately if it is a connected system. Others chimed in to share the importance of having these conversations, saying what doesn't happen here will probably happen somewhere else at some time and that we must look seven generations ahead and change the approach of how we view these resources because it helps everyone. A local county conservationist felt overwhelmed by the topic, and struggled with the many ways one can protect groundwater and felt helpless about the solutions. Another wondered, how do we engage with groups who have soft authority?

J. Elmo Rawling III, a Quaternary geologist with the Wisconsin Geological and Natural History Survey (WGNHS), followed this presentation with a description of the geologic history and characteristics of the landscape within the North Central Wisconsin region. He talked about the data being collected and the knowledge being produced through mapping. Participants responded with questions about how Tribal Nations are notified when data are collected within ceded territories. Concerns were expressed

about current Tribal consultation practices and lack of effective communication between state and Tribal project partners. Another participant shared that other states have Tribal environmental groups that are well organized and active, but because this doesn't happen in Wisconsin a more up-to-date directory of Tribal environmental staff is needed to facilitate better communication practices with Tribal entities.

John Noonan, JD, Water 365, followed this with a virtual presentation overviewing groundwater policy in the U.S. and the state of Wisconsin. John Roterman, Tribal liaison from Freshwater, then spoke about the Rights of Nature and how this world view informs how local Tribes value their waters and natural ecosystems. One participant asked how one would go about asserting sovereignty when it comes to the interpretation of Rights of Nature, citing an example from New Zealand.

The technical nature of these presentations created a foundation for the rest of the workshop. After the trust-building of the first day, the participants were aware of each other's professional backgrounds and social contexts, and this created an environment of trust where questions and clarification could be asked about even sensitive topics.

Breakout Groups: Defining the Issues

Following the presentations and brief discussion, participants were asked to brainstorm issues they are working to address in the North Central Wisconsin region, with a focus on groundwater availability. The issues that were suggested were displayed at the front of the room, and included:

- Per- and polyfluoroalkyl substances (PFAS), and their potential to be in septage that is landspread near wetlands
- The state of data and the region's groundwater knowledge base
- Source water: assessment and development
- Groundwater manipulation and management impacting lake levels and ecosystems
- Complicated and disconnected authority structure
- Water resource availability limited by geologic characteristics
- Population growth and development impacting groundwater supply
- One water, not currently seeing or managing water as a connected system.
- Groundwater with naturally occurring iron and manganese impacting drinking water quality and the potable water supply
- The need for an engaged citizenry aware of groundwater issues when they arise
- Process for communication and knowledge sharing; lack of consultation with tribes
- Climate impacts on water
- Timing of groundwater withdrawals impact on ecosystem

The group then agreed to combine and consolidate the different issues into the following categories:

- Data: PFAS, Knowledge base, source-water assessment (see section 3.1)
- Communication and Consultation: engaged citizenry, process for communication and knowledge sharing (see section 3.2)
- Legal structure: Authority structure, one water, resource limits (see section 3.3)
- Ecosystem needs: groundwater manipulation and management, timing of groundwater withdrawal on ecosystem (see section 3.4)
- Emerging externalities: PFAS, climate impacts, population growth anticipation (see section 3.5)

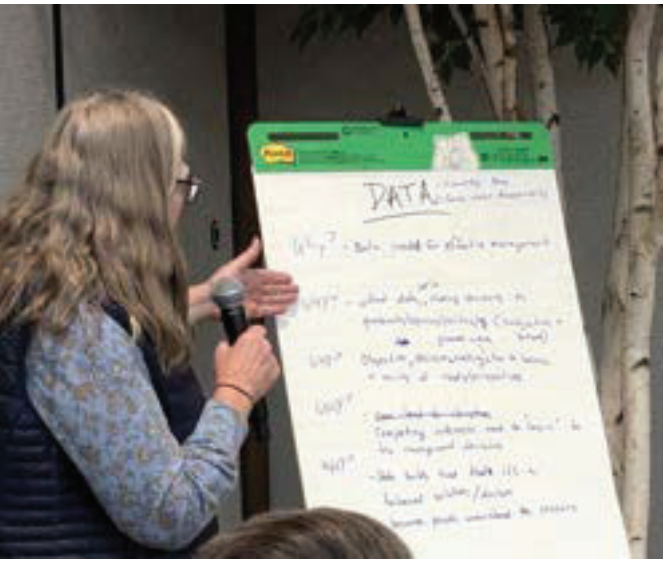

Figure 2. Data group presenting the results from their 5 Why's exercise

Attendees were given the opportunity to choose which group to join and walk through a series of exercises to discuss the issue of their choice, and to "admire the problem," as was reiterated throughout the discussion. Notes of topical points were recorded on sticky notes and posted on large flipboards to help participants find common themes and connections.

The first exercise in this process was the 5 Whys exercise, which encouraged participants to get to the root of the issue they were discussing while creating a starting point for each person in the group to share and debate their different perspectives. See Figure 2.

After reporting the results of their 5 Whys discussion and selecting a more narrowed focus for their topic, each group considered the various ways the issue impacts their communities. Participants were asked, "who or what does this issue impact?" After reporting their results, participants were asked, "who or what impacts the issue?" This exercise brought each group to a deeper understanding and provided the foundation to move into day two's discussion: policy and governance tools.

Day Two in Review

On Day Two, most of the invitees returned with a few additional faces to continue the dialogue regarding groundwater in North Central Wisconsin. Everyone was given an opportunity to reflect on the previous day's discussions. The diversity of industry professionals, Tribal experts, and government staff made for interesting talking points that seemed to intersect at times and blossomed into further fruitful conversation.

Opening

The group was again invited to form a circle inside the tables to share their day-one experience and what was most anticipated for day two. Many said they had a great time the previous day and looked forward to attending more meetings like this one. There was a positive reception to the format and

composition of the workshop, and an appreciation for gaining the latest information and news from other dedicated professionals.

One participant praised the brilliance of the meeting's set-up and focus—to have everyone who touches the same issue in the same room at the same time and allowing for some serendipity. They said it was a gift for them to work on the shallow, sole-source, glacial aquifer for Lac du Flambeau, where water seems to be everywhere. They said it was hard to think about groundwater and surface water separately and there are many issues of water quantity and quality. They were learning something all the time; for example, how dependent the system is on the type of tree cover. Pines hold more snow and release more water later to recharge groundwater. They asked what the impact of selectively logging pines 150 years ago might have been and how forest succession changes groundwater recharge.

Several participants were eager to hear solutions and an actionable plan, especially where Tribes were being included and heard. Concerns were expressed about the ways in which Tribes were viewed by surrounding communities, like the hatred that returned when money and services ran out after Lac du Flambeau made great efforts to extend support into the community during the COVID-19 pandemic. Given the financial and legal constraints that exist, collaboration to produce a list of priority concerns was seen as an important next step for progress to coordinate focus among organizations.

Technical Presentations

After a large group discussion on the second day, Aaron Pruitt, a hydrogeologist at the Wisconsin Department of Natural Resources, provided a high-level overview of the permitting process for high-capacity wells. John Noonan, JD, of Water 365 followed that presentation with examples of policies and policy tools used to address groundwater issues in impacted communities.

The discussion highlighted how state law dictates the scope and responsibilities of the DNR as a regulatory body and how that language has shifted and changed over time. In 2003, Wisconsin Act 310 passed as part of a bipartisan effort to expand state authority to consider environmental impacts of high-capacity wells by providing a framework for addressing water quantity issues in low-yield areas of the state. In 2007, Act 227 was proposed, and in 2008, Act 227 was passed and signed, and Wisconsin became party to the Great Lakes Compact. Under Act 227 of the state legislature, there are multiple conditions and regulations stipulated for water withdrawals (see this summary of Wisconsin's Groundwater Law for more information). In 2021, the Wisconsin Supreme Court issued a decision on about the role of the DNR and its authority in protecting Wisconsin's water resources. The impact of PFAS and other source water contaminants also came up several times in the discussion, including questions about whether PFAS is being monitored in wildlife and maple syrup.

Upper Midwest Science Center hydrologists Martha Nielsen and Megan Haserodt of the U.S. Geological Survey provided technical presentations on groundwater data in the Lake Superior Basin (Nielsen) and the Wisconsin Groundwater Monitoring Network (Haserodt).

Haserodt covered how the groundwater monitoring network can be used and has been used in the workshop region. This is included a discussion about how the Haskell Lake project – a study on a water budget, a contamination plume, the effects on the ecology of the shallow drainage lake – resulted from tribal consultation and collaboration with Lac du Flambeau.

Nielsen covered the region north of the workshop area, including the counties of Ashland, Bayfield, Douglas parts of the Chequamegon-Nicolet National Forest, the Bad River Reservation, and the ceded

lands of the 1842 treaty territory. Due to industry interests and actions in the Lake Superior Basin questions emerged related to industry's impact on groundwater, specifically mining and logging, including the impact on water budgets and watersheds and the impact of industry on water quality and quantity.

A repeated theme in the discussion highlighted how the North Central Wisconsin geology differed from the surrounding area and how in this area the surface water and the groundwater are functionally all one water. Although participants reacted to some of the presentations with skepticism, questions, and probes for deeper analysis, the trust-building on the first day allowed participants to appear more at ease in expressing questions and seeming vulnerable when asking for clarification around scientific and legal topics. The participants also appeared to be more aware of each other's backgrounds and social contexts, and this knowledge allowed people to engage in civil and open dialogue.

Breakout Groups: Policy Tools and Interventions

Between presentations, participants returned to their respective groups to brainstorm policy and governance tools. They were asked to reflect on interventions or policy tools that could be implemented by a local jurisdiction or institutions to either mitigate an existing impact discussed the previous day, or to improve an existing policy that would indirectly address an impact.

During this discussion participants were also asked to identify some barriers that might impede successful implementation. Participants focused on multi-regional approaches using the same process.

Each group presented their strategies in a different format, with a variety of specific and generalized approaches suggested. Many found the process challenging and wondered how to apply the strategies in a real-life scenario, especially given the long list of barriers that were presented.

Debrief

At the end of the workshop, participants were asked to reflect on their experience during a debrief and then again in a short post-workshop survey. Many participants expressed gratitude for being in-person to discuss these complex and multi-dimensional issues, and to be able to disconnect from screens, something that has not returned to the same level since the COVID-19 pandemic. One felt that two days as a group translated into 500 virtual meetings worth of discussions.

Some appreciated both the cultural and experiential diversity of the group and that the focus was on listening rather than the facilitator saying, "here's what we're trying to accomplish." There was thoughtful conversation with smiles and humor, and no shouting, as pointed out cheerfully by one participant.

Several people felt that the Tribal perspective and the stories that were shared were the most unique and important part of the meeting. Some expressed a need to incorporate more Traditional Ecological Knowledge into their work. One said the Tribal perspective was largely unknown to them and the hardest for them to wrap their head around, which is why it was important for them to be in the room. Another mentioned this perspective was unfamiliar to them even though working with Native Americans was a big part of their job. They were happy to be exposed to traditional songs, stories, food, and hospitality.

On the topic of who should be included in the continuing discussion, one acknowledged that everyone in the room cared about groundwater, but the challenge was communicating that to the average

person in an effective way to make them also care about the issues and help them understand their role in the solutions. Another was reminded that a lot of us engage in this academically and with distance. It is not our lifeways and lives that are threatened. They emphasized that we need to keep the end-users in mind when recruiting participants, like the impacted people and farmers. Most participants agreed that there needed to be more legislators, elected officials, industries, and community groups in the room.

When asked what data were needed moving forward, one participant shared that they appreciated the excellent small-group discussion on data needs. They said everything discussed at the workshop fell under their job title, and agreed that there need to be more data, but it should also be better organized and presented in a way that is accessible and helps people do their jobs. Several participants expressed this same concern, that more data is always a plus, but the main challenge is finding ways to consolidate it for people who need to understand and use it, like county conservationists. Another acknowledged that data are useful for regulatory work, but that a lot of the pieces and connections were in the room and work could start on a hyper-local level. Others agreed that top-down approaches may not be serving their purpose and that grassroots efforts would be the most desirable.

In the post-workshop survey, one participant shared it was a very good workshop and that they learned a lot about groundwater. They said the presenters were awesome, and the information provided was exceptional.

Groundwater Governance Issues and Strategies Discussed

Five groundwater governance issues selected by the workshop participants became the focus of this workshop. These issues were discussed using the series of exercises described in the preceding section. Following the workshop, the notes from each of the five group discussions were recorded into Miro, an online whiteboard, and analyzed and summarized by Freshwater staff. This section includes summaries from each of the five discussions: Data, communication & consultation, emerging externalities, legal structure, and ecosystem needs.

Data

Participants self-selected into the "Data" group which centered around two issues identified during the large group brainstorming session: knowledge base and source-water assessment. Data are generally defined as facts that can be analyzed to make decisions or to generate knowledge. Simply, data are assumed to be raw information, devoid of any interpretation. Knowledge base is usually used as an adjective to describe a "knowledge-base system" or a series of facts or ways of reasoning about those facts which are used to deduce new facts[1]. Source water assessments (SWAs) are used to generate information about potential contaminants and the potential for systems to be contaminated.

1 Hayes-Roth, F, Waterman, D, and Lenat, D, "Building expert systems," (1984)

The data group was made up of participants who work, manage, or conduct research in the field as or alongside hydrologists, geologists, and engineers. All the participants were comfortable with scientific jargon, and several members of the data group managed or oversaw projects that required complicated budgets, timelines and staffing.

During the 5 Whys exercise, the group tried to address the importance of "why data?" as it related to both "knowledge base" and "source-water protection."

- Data were needed for effective management
- Without data, decisions may be subjective and biased by opinions, politics, or money,
- Objective decision-making that is grounded in data still has to balance a variety of needs and perspectives,
- Competing interests need to buy in to the management decisions,
- Data build trust that it is a balanced solution or decision because people understand the resource.

The group was interested in data availability initially and highlighted how data may not be stored in accessible or consistent locations and emphasized the lack of a central warehouse and the impact that it had on accessing existing data. The group also discussed how there is not consistent data coordination, which leads to poor coordination between entities around what data have been collected, when they were collected, and when and how those data were stored.

Data availability impacted different stakeholders, including:

- Planners and resource managers as they developed economic plans for a region based on the water supply,
- Water consumers who plan to purchase homes in an area,
- Homeowners planning their activities for the season,
- Industry representatives who may be in talks with municipal representatives or state agencies before building a water-intensive plant in a community,
- Researchers who conduct studies in a wetland or area with certain geologic features.

The group discussed how lack of institutional knowledge, funding, and political objectives impacted the ability to obtain data. As people in the field retire, there are fewer people with the technical skills available to replace them, and fewer people available who possess an understanding of bureaucratic systems necessary to navigate complex jurisdictional issues. Water does not know boundaries, and funding is frequently restricted within political borders. Negotiating around those obstacles requires a specific set of skills, among those is the ability to interpret and present data, and the ability to build trust between different entities using data.

This workshop was held in Wisconsin with participants that came almost entirely from one state. Within Wisconsin, there is a single state agency to consult – the Department of Natural Resources. Tribal participants were almost entirely Ojibwe, almost entirely signatories of the Treaty of 1842, and almost entirely represented by GLIFWC. Within this group, several barriers, policy tools, and key strategies emerged during discussion.

The group worked to identify current policy tools that might help improve data availability for source-water assessments and the general knowledge base. This was complicated by the past and current restrictions by which state and federal agencies operate, and the specific restrictions placed upon state and federal employees. However, the group suggested existing knowledge, databases, and programs that might be utilized to improve data access and availability.

There are an abundance of groundwater studies and models, and a goal was to increase awareness and access to existing studies and models. The group suggested doing this through more outreach and technical assistance to county and municipalities as planners developed groundwater protection and management plans. Partnerships between organizations allowed for improved collaboration and data sharing, but the group had several questions which succinctly captured the identified barriers:

- How do people know [the data] exists?
- How can we keep [the data] updated?
- How can we use [the data] to answer emerging questions?

The participants also identified lack of technical knowledge and lack of institutional knowledge as the major barriers to data access and availability. Those barriers were compounded by limited staff time and limited funding. Funding was also deemed unlikely to increase without staff who could explain the need and also produce the results and who could navigate the bureaucracy.

The group attempted to address these questions and other barriers through their multi-regional strategies which included suggesting an inventory for studies and existing data, identifying existing data gaps, establishing a procedure for position changeover. One of the issues that was repeatedly mentioned in the larger group discussion was the lack of consultation with the Tribes.

The group also discussed the frustration experienced with attempting to reach someone only to discover their contact had retired, transferred, or quit and there was no way to get in touch with the new person in that position. A simple, but effective multi-regional strategy was updating contact lists, having procedures for how to update contacts when changing positions, and asking the Tribes for a contact list. A final strategy included using the Wisconsin Groundwater Coordinating Council, an existing state-level structure that lacked current coordination with federal agencies and the Tribes.

Communication & Consultation

This breakout group of six was tasked to "admire the problem" concerning the lack of good communication and Tribal consultation in combined efforts to sustainably manage groundwater. They began their exercise by coming up with the 5 why's of the issue, each time narrowing down the focus of the issue. They arrived at their conclusions which were as follows:

There is great complexity of the issue.

I. There is a lack of understanding and communication overall regarding groundwater.

II. Decisions are made based on how well the understanding of the issue is.

III. Trust building in Tribal/State relationships is needed for consultation to occur.

IV. Decisions are made based on limited understanding amidst broken relationships coupled with much inaction.

The group further dissected the issue by discussing the barriers and repercussions of limited understanding amidst broken relationships and inaction. Many ideas were brought forth, including the severe lack of financial resources available, different ideas of ownership of the resource, differing governance strategies and laws between jurisdictions, regularly changing political will and priorities, and perhaps ultimately, the greatest barrier to communication is the illusion that consultation has taken place, and that we have been operating as sustainably as possible in the first place.

The group looked at the repercussions if the issue is not fully addressed and resolved. They realized the importance of good strategies regarding sustainable drinking water management and how the lack thereof presents a bad situation for everyone involved. When operating in an isolationist and often hostile environment, distrust and resentment can occur. The division around what proper management should include stems from an escalation of problems in an already distrustful, "us vs. them" paradigm. Litigation is common and furthers the divide between what is currently done and what strategies could work. This results in pain for communities feeling the lack of proper management. In the worst-case scenario, this is how extinctions occur because life is dependent on daily access to clean water.

As the group spent time admiring these issues, everyone shared and contributed their thoughts and ideas freely with each other and were attentive to listening and understanding. They fully looked at the factors and identified some common barriers.

- Lack of awareness on the importance of Tribal consultation or of the issues of water quality and quantity by many citizens;
- lack of political will to make changes due mainly to the nature and red tape of politics and unknown assorted financial interests (Good old boy network);
- lack of financial resources to pay for help, organization, legal support, or implementation of improvements.

The group ended the day somewhat bewildered at the scope of negative issues surrounding improper groundwater management due to lack of coordination and communication, along with a lack of Tribal consultation. They looked forward to seeing solutions for these many diverse issues the following day

Day-2 discussions were lively and upbeat, focusing on solutions to the issues. They began with ways to better inform the public so there was more awareness of the importance of Tribal consultation and of the different water issues being faced in the region. There was a lot of conversation on ways to recruit more people to join the efforts of moving towards more sustainable and cooperative management of shared freshwater.

Ideas to grow a grassroots effort included sharing education better through community meetings like the one we were attending. When building a grassroots effort, it is hard to get the message out to everyone so there may even be a need to go door to door to broaden the reach of education to more people. It was brought up that people are more reactive than proactive, making messaging so important. Creating solid informational content to effectively outline key issues can create impetus for action.

Growing the number of volunteers in this effort is crucial and will help more people work together to create awareness and educate the public. Volunteers can have many different important skills to add. Appropriate and motivating messages would resonate with people and help bridge the gaps in awareness of local issues. Water is a subject that unites everyone due to our common ground and basic water needs.

Securing grant money is also crucial to grow efforts and recruiting movers and shakers would be a great benefit moving forward as well. Advertising and publicity are keys to creating better awareness. These advertisements take funds, making acquisition of grants even more important. Recruiting celebrities was seen as a good way to further outreach.

Tribal consultation is needed and will inform and spread the message to a broader base, strengthening awareness and support. For example, Minnesota codified the Government-to-Government Relationship With Tribal Governments into statute in 2021. It was mentioned that the Tribe needs to be involved more and earlier in a process, not after a plan had been developed. Relationship building begins even earlier. Efforts are needed to include all shareholders including Tribal, forestry, local government, state, and agencies like GLIFWC, 1854 Treaty Authority, WGNHS, as well as legal experts. It was suggested that up-to-date contact lists for the Tribes could help State agencies and other groups know who to contact.

There was additional conversation concerning the issue of cranberry bog flooding which needs to occur every spring for frost protection. The timing of the bog flooding negatively impacts fish spawning time by exposing the shallow beds along lakeshores when the lake is lowered. Further discussions will be needed regarding this issue between stakeholders. Half the world's supply of cranberries comes from Wisconsin. The high-capacity wells used for this type of farming are grandfathered in, meaning they are not subject to the same permitting requirements as other irrigators.

There are many ways to improve the overall picture of consultation and communication, and further discussion is needed. Awareness increased because of this meeting and at the very least, this roomful of participants has more information to move forward in a better way.

Emerging Externalities

Throughout the two-day workshop, participants reacted to the presentations with many questions about how PFAS contamination, population growth and development, and climate change would impact the carrying capacity of the system and ultimately the lifeways of living beings (human and non-human). This shared concern led to the formation of the "emerging externalities" breakout group. They were concerned with how these emerging externalities would stress the resources, upset the balance of ecology and chemistry of the water, and disturb the timing of natural patterns in the system.

The emerging externalities group was made up of lawyers, Tribal water professionals, and local county conservationists, all with unique perspectives on how this issue is impacting their communities and their work in protecting water sustainability in the region. Given the breadth of this topic, participants were quickly overcome with the daunting task of trying to brainstorm causes of natural patterns disturbed by climate change. They explored things like capitalism and fossil fuel emissions, but realized the list was endless. As they moved into the impacts that this issue has on the local region, the discussion narrowed. Some argued that these externalities impacted the vulnerability of seepage lakes fed by groundwater. Some advocated for impacted lifeways including the supply of potable drinking water, while others noted the decreasing snow cover and its impact on winter-based tourism and small-business revenue.

They shared a local example of this issue in which some wells in Rhinelander, Wisconsin are contaminated with PFAS. As a result, the city is required to use more expensive treatment technology and investigate the extent and sources of the contamination. A potential source was a local paper-mill's landspreading practices. While the workshop was intended to focus on water-supply challenges,

not water-quality, the group maintained that PFAS directly impacts supply due to the challenging undertaking of remediating it once it has entered the water. This was reinforced throughout the workshop, as participants inquired about the impacts of PFAS contamination on the safe consumption of drinking water, and potential impacts to maple syrup, and local wildlife. They also expressed concerns about the lack of regulations that exist to protect groundwater from untested and potentially contaminated biosolids that were being landspread as a disposal solution. The increase in land spreading biosolids is a direct result of population growth in this unsewered area.

The group brainstormed policy tools that could be implemented at a local and multi-regional level to tackle these issues. Some suggestions included better land-use planning, testing of biosolids before spreading, establishing water-quality standards for PFAS, working with airports to co-design best management practices (BMPs), and implementing zoning ordinances to restrict land spreading in areas of groundwater recharge. For example, starting in September 2025, all wastewater treatment facilities in Minnesota that land apply biosolids will be required to collect and analyze a representative sample of biosolids that are intended to be applied (MPCA, 2024). Some significant barriers were also discussed that would make these policy tools challenging to implement. These barriers included the immense costs of remediation, the limited staff available to monitor and enforce rules, the lack of consumer protection (or consumer awareness of which products contain PFAS), and the level of knowledge federal and state policy makers have about these issues.

Legal Structure

During this breakout session, participants discussed concerns regarding the lack of guiding value structures within the government when it comes to groundwater governance and regulation. The group discussed the issues associated with government structures in different regions not having a single enforceable goal. Different government entities are moving in different directions due to varying foci, needs, capacities, and available funding. This results in a variety of outcomes and a lack of cohesive frameworks and structures. One example where legal structures do not respect existing environmental conditions is cranberry growing. There are a number of cranberry operations in the area but cranberry growers are exempt from Clean Water Act regulations through the irrigation return flow exemption. This means that cranberry growers' discharges to surface water are unregulated, posing a significant threat to groundwater in locations where surface water recharges the groundwater aquifer. The group discussed a number of key questions including what impacts the legal scheme for groundwater and what does that legal scheme impact? The bulk of the time in the breakout was spent discussing why these different government agencies are operating in such disparate ways and seemingly in different directions.

The legal workshop breakout group was made up of a number of attorneys and representatives of state and federal agencies, tribal agencies, and non-governmental organizations. On the first day of the workshop the focus of the discussion centered around identifying WHY's that attempted to explain the inconsistencies between governments. The conversation explored various agencies that have a role in groundwater governance or regulation, and their mandates and goals. A few different agencies are collecting data, but those data may not always be accessible or known to local governments, posing a challenge for groundwater managers to plan There seems to be a significant gap when it comes to the purposes of different agencies and how that translates into creating legal and regulatory mandates for groundwater governance. There is also a challenge because laws tend to be narrow, and goals, broad. Different agencies have different guiding regulations and missions which makes it

difficult to determine what exactly can and needs to occur in order for the right changes to be enacted. Judiciaries can appear hostile, and legislatures are vitally important for effecting change, but they are sometimes seen by outside entities as not functioning well. At times, there can be a reluctance to advocate for change in the face of these barriers. In addition, political interests are often concentrated on specific matters and shifting that focus to an issue like groundwater can be challenging, especially when messaging from different agencies conflicts. There needs to be an incentive for employees of state agencies to take risks, but this is undermined by a lack of cohesion and faith in the government as a whole. Even so, some members of the group mentioned that communication is incredibly siloed and navigating that problem is an issue in and of itself. The group also discussed the fact that there can be competition internally within agencies for resources and attention, making it difficult to have specific issues addressed. These kinds of problems are detrimental for the process as agencies tend to fall into inaction as a result.

In terms of solutions, the group discussed prioritizing immediate mandates that will have a significant impact on groundwater issues. There also needs to be a focus on building relationships within and between agencies. These relationships need to and can be built even on the local scale. For example, as discussed by John Nooman, the city of Eau Claire was able to improve its groundwater management through increased local communication. These efforts could include starting new or building on existing Tribal-State Memoranda of Understanding or other types of agreements. For example, this workshop provided an opportunity for a Vilas County employee tasked with land-use planning, to meet representatives of the Lac Du Flambeau Tribe. Unfortunately, although this individual had reached out to someone at Lac Du Flambeau for feedback on their land- use-planning effort, that employee was no longer with the Tribe, so the outreach failed. Workshops like this one provided additional contacts between the Tribe and the County and facilitated the opportunity to begin or restart intergovernmental coordination. On a larger scale, increased focus is needed to determine where resources are actually needed versus what needs are being identified based on the political climate. One suggestion was to develop a new tool that would establish a regional water quality clearinghouse system (as a type of watershed planning for groundwater at a regional scale) and use it to then coordinate, manage complexity, and share data for agency and government efforts.

Ecosystem Needs

During the opening presentation, Mike Wiggins Jr. introduced the importance of ecosystem needs by saying, “we are so cocky to think we are in control of nature. We are at the bottom of this pyramid. Pitifulness and humility are necessary.” As he shared the different lenses in which to view the world, he said, “the first lens is functionality. Mother Earth is all sacred.” As the workshop continued, many concerns were expressed regarding how ecosystems are being threatened by groundwater manipulation and management, and the timing of groundwater withdrawals. This impetus formed the group, “ecosystem needs.”

The group was made up of a geologist, Tribal water technician, hydrologist, and groundwater modeler. Each participant shared a concern for the many lifeways that depend on water, all maintaining a different perspective on how groundwater management impacted these lifeways. As they dove into the 5 whys exercise, they discussed they want and need many ecosystem services, some being known and others being unknown. We want to increase these services, which leads to health and longevity for all. With earth in balance, human and non-human populations and communities thrive, which is important motivation for upholding the rights of nature.

When asked to describe the elements impacting ecosystem needs, they explored topics like industry, pumping, and climate change. Some questioned the impact of who places value on what service, how land conversion is governed, how different water users may have conflicts, and how ditching and draining is managed. Others talked about point and non-point source pollution, road salt, and the lack of awareness of impacts of personal choices on water (diet, daily habits, use of chemicals, consumerism).

When asked to describe the elements that ecosystem needs impact, they discussed things like biodiversity decline, impact to aquatic organism communities, invasive species invasion increase, warming stream temps because of loss of groundwater inputs, and impacts to all life. Others talked about drinking-water-supply availability, recreation opportunities, and water stress in the ecosystem.

They shared three local examples of this issue.

I. Land spreading of septage, potentially hosting PFAS and human pharmaceuticals, impacting water quality and leading to a degraded groundwater ecosystem and wildlife impact;

II. Dewatering for mining and the potential impact to the water table and connected surface waters;

III. Increased development pressures on limited groundwater, especially where connected to seepage lakes and wetlands.

The group then brainstormed local and multi-regional policy tools to tackle these issues. Some suggested science-driven policy and actions, tapping into the delegable Safe Drinking Water Act, and establishing a Tribal-led LLC to purchase lands. For multi-regional tools, a suggestion was made to establish a regional groundwater collaborative based on natural boundaries. Another mentioned that because there is no regulatory framework about groundwater quantity, it does not sit in anyone's house. This was perceived as a positive because it requires multi-regional collaboration, possibly through workshop-based collaboratives like this one, and more grassroots project-driven work. Another mentioned that groundwater needs to be designated as "treaty reserved" or "Waters of the United States", and that aquifers providing the sole source of drinking water to a community could be Federally designated as such by the EPA.

As for barriers, the group brainstormed many barriers to implementing these policy tools. This included the lack of a federal structure for managing groundwater quantity, and the lack of clarity around who the regulator is within private lands on reservation boundaries. Another mentioned that some activities are grandfathered in, even with changing circumstances, like cranberry growers' withdrawal limits. With regards to research, the research timeline can be long, and funding limited.

Overall, the group had many suggestions for how ecosystem needs could be protected through better groundwater governance. While these strategies do have significant barriers, it was thought that better collaboration would lead to more grassroots momentum around these topics of concern.

Participant List

Workshop Participants

Aaron Pruitt (presenter)

Andrew Aslesen

Andrew Gorniak

Ann McCammon Soltis

Bill Davis

Cara Faillace

Caren Ackley

Carolyn Scholl

Catherine Christenson

Darryl Landreau

Dawn White

Dee Allen

Elizabeth Cisar

J. Elmo Rawling III (presenter)

Jen Vanator

Joe Graveen

John Coleman

Justin Woodruff

Martha Neilsen (presenter)

Maureen Muldoon

Meg Haserodt (presenter)

Megan Luick

Michele Sadauskas

Mike Wiggins Jr (presenter)

Nathan Podany

Pamela Holz

Sam Carter

Steve Elmore

Tim Paul

Trent Wickman

Lac du Flambeau hosts:

Kristen Hanson

Dee Allen

John Johnson Sr.

Lake of the Torches Casino Host

Jennifer Wilcox

Freshwater

Carrie Jennings (presenter)

John Roterman (presenter)

Rosie Russell (facilitator)

Alyssa Fabia

Quinn Soltis

Water 365

John Noonan (presenter)

Apendix

Workshop Itinerary and Agenda

Workshop Topic	Groundwater Governance in the North Central WI Region
Date	Tuesday, October 22, 8am-4pm to Wednesday, October 23, 8am-4pm
Location	Lake of the Torches Convention Center, Lac du Flambeau, WI

We are looking forward to you joining us at this 2-day workshop. Below you will find some details to make your trip go more smoothly. Please contact Rosie Russell at rrussell@freshwater.org or (652) 571-2696, or Alyssa Fabia at afabia@freshwater.org or (703) 969-9020 with questions.

Arriving at the Hotel

- Hotel: Lake of the Torches Convention Center – 510 Old Abe Rd, Lac du Flambeau, WI 54538-9680
- Free parking is available in their lot.
- Check-in is after 4pm. Check-out time is at 11am. Please make arrangements if you need the hotel to hold your luggage on day 2.

Arriving Locally at Lake of the Torches Convention Center

- Please arrive between 7:45am and 8:00am.
- The meeting will be held in the Sokaogon Room at Lake of the Torches Convention Center at 510 Old Abe Rd, Lac du Flambeau, WI 54538-9680
- There is free parking available in the casino parking lot.
    - To get there from Rhinelander, travel north on WI-47 N. The drive will take approximately 45 minutes.
    - To get there from Crandon, travel west on US-8 W. At the traffic circle, at the 2nd exit onto WI-47 N. The drive will take approximately 1 hour, 15 minutes. Alternate routes are also available.

What to Expect for the Workshop

- Please dress comfortably. We will mostly be sitting but moving through the room occasionally.

- A full breakfast, coffee, and water will be served both days.
- Day 1 will begin with a welcome from Dee Allen, Lac du Flambeau Tribal Administrator and a grounding in the cultural history of water by Mike Wiggins, Jr., Madeline Island Museum Director. This will be followed by 2 hours of getting to know one another. The rest of the agenda for days 1 and 2 is focused on presentations, problem-solving exercises, and plenty of respectful sharing and listening.
- Data Sovereignty norms and expectations will be presented during the workshop kickoff. The meeting will not be live streamed or recorded. Participants are welcome to ask for any notes to be stricken from the record. If participants have specific questions, please let the facilitation team know.
- The agenda and menu can be found on the following pages.
- Optional evening activities for October 22nd will be shared during the workshop.

Workshop Description

This participatory workshop is about groundwater quantity and its shared, sustainable governance in the North Central Wisconsin region. The purpose of this workshop is to better understand the existing challenges, needs, and strategies for sustaining the groundwater of the region and the communities it supports. This is one of three aquifer-action cluster workshops organized by Freshwater Society to elevate local groundwater concerns with decision makers.

This workshop follows previous project work in EPA Region 5 that included the Groundwater Governance in EPA Region 5 Report, a GLIFWC-supported survey, interviews with tribal environmental staff from 25 of the 35 tribes, and a pilot groundwater workshop. Spanning the 1842 Treaty Territory and ceded lands, this workshop focuses on the shared geologic groundwater features across the five counties of Vilas, Oneida, Taylor, Price and Lincoln. These shared geologic features are governed by layers of institutions, organizations, and individuals that own and manage the land above it, and currently, different communities assign their own values and priorities to their management policies which may or may not align with others enjoying its many benefits.

Who is Attending and What Will We Be Doing?

A multi-jurisdictional group of professionals have been invited to attend and provide their specific regional knowledge and technical expertise on the state of groundwater quantity, regulatory needs, and potential solutions. There will be technical presentations from experts about the geology of the groundwater, the political structure by which groundwater is managed, and the tools used to pull data and knowledge together to inform decisions about who gets to use it, when they get to use it, and how they get to use it.

Throughout these presentations, there will be a focused discussion about participant-driven topic areas that highlights a regional groundwater issue.

Outcomes

The outcomes from this meeting will be compiled into a larger report about the unique challenges and opportunities for managing groundwater within the North Central Wisconsin region, and throughout the Great Lakes region. The outcomes and summary from this workshop will be shared with all who participate for feedback before being incorporated into the final report. This will be the first of many steps that will ultimately shape the foundation and future of groundwater sustainability and governance in the Great Lakes region.

The four questions that will guide this two-day workshop include:

- What concerns are you working on within the North Central Wisconsin region?
- What current groundwater stressors are you hoping to address in a better way?
- Do you have any input on sustainable governance practices moving forward that could be implemented multi-regionally?
- What other experts do you think should be a part of this process, and part of the continuing conversation?

Workshop Agenda

Day 1 – October 22, 2024 – 8am to 4pm

8:00	Welcome and breakfast	Welcome from Dee Allen, Lac du Flambeau tribal administrator and President John Johnson Sr. followed by a Drum Song. Continental breakfast catered by Lake of the Torches Casino will be available (Coffee and water served all day)
8:30	Opening	Mike Wiggins Jr., Bad River on the cultural history of groundwater
9:15	Introduction to participants	All participants will have the opportunity to share their name, region they come from, and a story or observation about water.
11:15	15-minute break	
11:30	Introduction to the workshop	A brief introduction by the facilitator, Rosie Russell, and a summary of the Groundwater Governance project from Dr. Carrie Jennings (Freshwater).
12:00	Lunch (catered)	Menu includes Indian Tacos catered by Lake of the Torches Casino. Details can be found on the final page of this document.
13:00	Project background, geologic history, and groundwater policy presentations	This series of presentations will include a brief history and geology of North Central Wisconsin (Lincoln, Price, Taylor, Oneida, and Vilas counties) by Elmo J. Rawling III (Wisconsin Natural History Geologic Survey), a summary of groundwater policy in the region and throughout the United States from John Noonan, Water 365 (legal team), and a presentation about the Rights of Nature by John Roterman, Freshwater.
14:00	Groundwater Governance issues in North Central Wisconsin region	Participants to brainstorm on groundwater issues in the region and break out into groups.
14:30	Discussion Groups	Refine groundwater issues and scenarios in community discussions and a series of systems thinking exercises.
16:00	Adjourn workshop for the day	Option to gather informally later in the evening for food and further conversation.

Day 2 – October 23, 2024 – 8am to 4:00pm

8:00	Welcome and breakfast	Continental breakfast catered by Lake of the Torches Casino will be available (Coffee and water served all day)
8:30	Large-group discussion	What's top of mind for you? What questions remain?
9:15	Permitting high-capacity water users in Wisconsin	Aaron Pruitt, Wisconsin DNR: High capacity well permitting process

9:45	Policy tools being implemented by local jurisdictions to protect groundwater	John Noonan, Water 365: Examples of policies and policy tools used to address a groundwater issue within an impacted community.
10:00	Discussion Groups	Return to a groundwater issue of your choice What groundwater stressors are you hoping to address within your own communities? What barriers might you face? Are there any tools that have worked?
11:00	Groundwater modeling and monitoring in Wisconsin, USGS	Martha Neilsen, USGS: Compilation of Groundwater Data in the Lake Superior Basin Meg Haserodt, USGS: Wisconsin Groundwater Monitoring Network
12:00	Lunch (catered)	Lunch buffet (sandwiches) catered by Lake of the Torches Casino
13:00	Presentation about policy tools being implemented regionally and multi-regionally.	John Noonan, Water 365 This presentation will include a summary of various examples of collaborative groundwater governance tools being implemented multi-regionally to maintain or conserve a valued community asset.
13:15	Discussion Groups	Return to a groundwater issue of your choice What sustainable governance practices could be implemented across jurisdictions? What barriers might we face? Are there any tools that have worked?
14:30	Debrief	What are your reactions? What data do you think is needed to move forward? What other experts do you think should be at the table/part of this process and continuing conversation?
16:00	Adjourn the workshop	