

The cover image is a word cloud made from narratives representing We Are Water MN. Image courtesy of Minnesota Humanities Center.

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FEATURE

WE ARE WATER MN: RELATIONSHIP-BASED WATER ENGAGEMENT

By Jennifer Tonko and Britt Gangeness

“I think one of the pleasant surprises for us was getting to build those relationships with folks from Fond du Lac and really getting a better sense of the work that’s going on there and the individual humans that are a part of all of this incredible work in the community. I felt we learned a lot about our own perceptions as an organization and as individuals about the Ojibwe community. And I think that that was really

powerful for a lot of our staff to just have this invitation to ask questions and be on a team, a big community team. And that’s one of the things that I hope will stick is those relationships that have been established.”

—Sarah Erickson from the Great Lakes Aquarium sharing in a May 2019 webinar after co-hosting We Are Water MN with the Fond du Lac Department of Natural Resources



Learning from Lloyd Keoke. Image courtesy of Minnesota Pollution Control Agency.

There is a powerful idea behind this reflection. It's the belief that the people in our communities have something to teach us and that we can create new understanding together, that there is value in taking time to learn from and with each other, that building relationships with people can spark change by creating new pathways for solving problems and making decisions. This belief is at the core of the We Are Water MN project.

A project of the Minnesota Humanities Center (MHC) and Minnesota Pollution Control Agency (MPCA), in collaboration with the Minnesota Departments of Health, Natural Resources, and Agriculture as well as the Minnesota Historical Society, We Are Water MN strives to bridge the disconnect between scientific knowledges about water and human practices and engagements with water. To do this, the structures and practices of the program are centered in the Minnesota Humanities Center's equity-based approach to civic and community engagement and include state- and community-based partnerships, a traveling exhibit, and public events. We Are

Water MN is built to start with the social and relational aspects of water issues instead of thinking of those as add-ons or "nice but not necessary." By starting from relationships, the state agency collaborators contribute to building communities that are better equipped to solve problems collaboratively and be more resilient in the face of current and future water and environmental issues. By putting many different ways of knowing water together, we can improve communities' abilities to work together on water issues.

In 2008, Minnesota's voters expressed their commitment to working together on water issues by passing the Clean Water, Land and Legacy Amendment (Legacy Amendment) to the Minnesota Constitution to protect drinking water sources; to protect, enhance, and restore wetlands, prairies, forests, and fish, game, and wildlife habitat; to preserve arts and cultural heritage; to support parks and trails; and to protect, enhance, and restore lakes, rivers, streams, and groundwater (Legislative Coordinating Commission 2017).



*Story Circle with representatives from exhibit host sites.
Image courtesy of Minnesota Pollution Control Agency.*

Because of the Legacy Amendment, and the Clean Water Fund it established, Minnesota has a systematic approach to assessing and monitoring Minnesota's 80 major watersheds. We know more than ever about the quality of the water and are making plans to restore and protect the water.

While some funds are going directly into priority restoration and protection efforts, making progress on cleaning up Minnesota's many polluted waters is slow and difficult. Climate change, landscape change, and development are all part of that. But another big factor is that typical engagement around water doesn't center people and doesn't consider the social factors that are important to achieving clean water goals, such as social norms, emotional connections to people and places, self and collective efficacy, and a value of the collective good over personal interests (Davenport 2017).

We Are Water MN focuses on these emotional and social factors.

Since 2016, We Are Water MN has visited 16 communities, involved 379 community organizations, reached 44,000 visitors, and strengthened 6 state agencies' relationships with each other and their ability to do meaningful community engagement. Through this project, we at the state agencies have begun to see that practicing this relationship-based approach to engagement enables progress toward the Clean Water Fund's stated priorities of water protection and restoration through the following:

- Positive interpersonal relationships within communities promote information exchange, build trust, foster shared identity, and promote common awareness, concern, and sense of responsibility for water.

- Networks can promote positive social norms, creating a shared vision for water stewardship and encouraging participation in water protection practices.
- An increased and broadened community awareness of local water issues arises because visitors to the exhibit and public programming come from more diverse backgrounds than one host organization could convene on its own.

These kinds of outcomes are possible because We Are Water MN's state- and community-based partnerships, traveling exhibit, and public events all focus on the human dimensions of water. People have different experiences with water—which we often describe as different ways of knowing water—because of their race, gender, where they grew up, what their family's relationship with water is like, their socio-economic status, religion, profession, and hobbies. We Are Water MN is most successful when people of many different races, ethnicities, and backgrounds see themselves in the program, are actively involved in planning events and activities, and know that their stories are collected and shared.

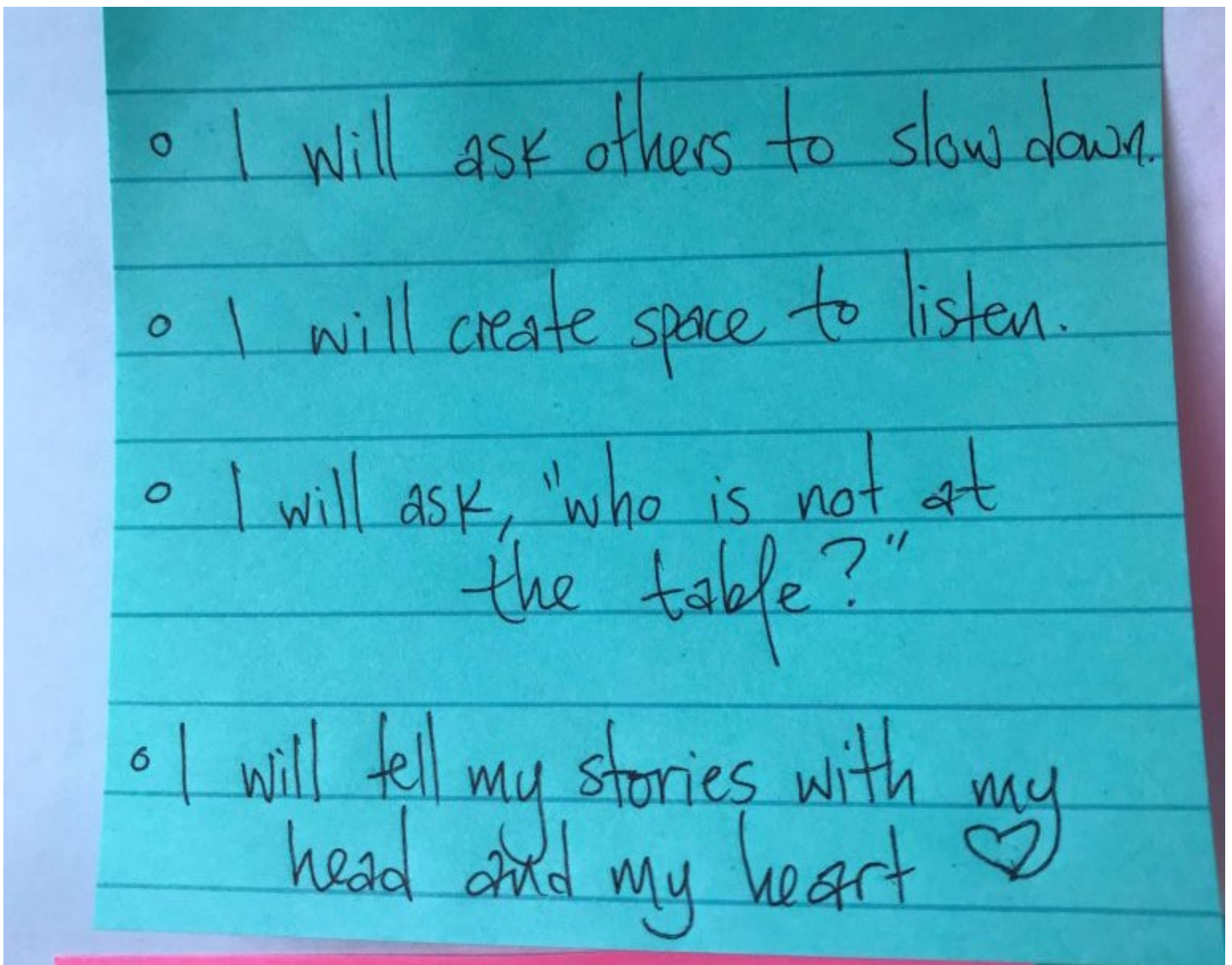
We Are Water MN's theory of change is that finding ways to see your neighbors as more fully human (as people whose experiences may resonate with you), will help communities make better, more collaborative choices about water in the future.

A different take on “civic engagement”

We Are Water MN is different from other engagement efforts around water because all of the individuals and organizations that are a part of it are asked to practice the Minnesota Humanities Center’s Absent Narratives Approach™ as we do our collaborative work. The Absent Narratives Approach™ is a relationship- and equity-based strategy that increases engagement with communities and fosters equitable practices within systems. In addition, this approach helps individuals understand that all actions, decisions, and beliefs

exist in relationship to others and it also impacts how we work with and influence our colleagues, clients, and constituents. The approach asks practitioners to improve organizational practices through the application of four core principles.

The first principle is to build and strengthen relationships. To do this, MHC encourages people to focus on how we can know each other better and what the impacts of connecting to other individuals might be. Specifically, the approach suggests



Reflection from Absent Narratives training. Image courtesy of Minnesota Humanities Center.

that learning from others, who are speaking only for themselves and out of their lived experience, has the potential to change the ways we relate to, engage with, and see other people and empowers us to share more about ourselves as well.

The second principle is to recognize the power of story and the danger of absence. This principle asks partners and host sites to create time and space for learning and teaching through storytelling. Telling a story requires both the storytellers and the story listeners to give generously to each other. Storytellers make themselves vulnerable by opening up their personal experiences to scrutiny and questioning; story listeners put their own knowledges and assumptions on hold for the moments of the story and simply listen in order to understand someone else's experiences and perspective. MHC also presses our partners and host sites to consider whose stories are left out, erased, or marginalized and what the effects of this "absenting" are on individuals, communities, and our relationships to place and people. The objective of this principle is to challenge the assumptions of stereotypes and single stories and instead encourage people to seek out the complexity of varied stories and experiences to develop a deeper understanding of an issue.

The third principle promotes learning from and with multiple voices. Once we acknowledge that multiple stories matter and that there are problems when stories are missing, then the next step is to make sure we work to include the stories and perspectives of others by asking: Are there other ways of knowing that can be included? Whose voices are not a part of the discussion right now? What could community members add to this? Seeking out other stories, voices, and ways of knowing enriches our work overall and our relationships.

Seeking out multiple voices also helps amplify community solutions for change—the fourth principle of our relationship-based strategy. By identifying missing voices and who to learn from, we are also identifying people and organizations

who are already doing the work well so that we can learn from them and support their work with our own, building relationships with them as well.

Collectively, these four principles ("the approach") center humanistic practices, drawing attention to how people engage with water as part of their stories and relationships with others.

We Are Water MN state agency partners and host sites practice these principles over about 18 months. Host sites meet with new and existing partners in their communities to identify shared goals they can work on through this project. They develop exhibit content and programming in their local community for the purpose of creating shared understanding and lasting relationships.

Using this humanities-centered approach for We Are Water MN means that:

- We ground our work in story as a vehicle for expressing and sharing knowledge.
- We acknowledge our place as the homelands of Dakota and Ojibwe people and share voices of enduring Indigenous relationships to the water.
- We reflect on our relationships and process during our meetings and trainings.
- We amplify local knowledge, concerns, and solutions when developing exhibit content and programs.
- We focus on adhering to and improving on our process, trusting that this will create robust and relevant products.
- We seek multiple sources of knowledge in a community.
- We learn and grow together.

The assets and solutions to address intractable issues—such as decisions around land use and water protection and restoration—lie in a multiplicity of voices and practicing this approach helps bring multiple voices to the tables set by each of our host communities.

Using this approach is working. During the 2018–2019 traveling exhibit tour, we collected surveys from people who visited the exhibit or attended related events at the various host sites.

Based on that data, 26–31 percent of survey respondents reported learning from a perspective different from their own in the exhibit, and 79 percent said they are motivated to take action on clean water. We believe that both aspects of this are crucial to our theory of change: people must be exposed to and learn to respect ways of knowing water other than their own in order to develop relevant solutions and people must see themselves and their neighbors as having agency and efficacy to make positive changes for water.



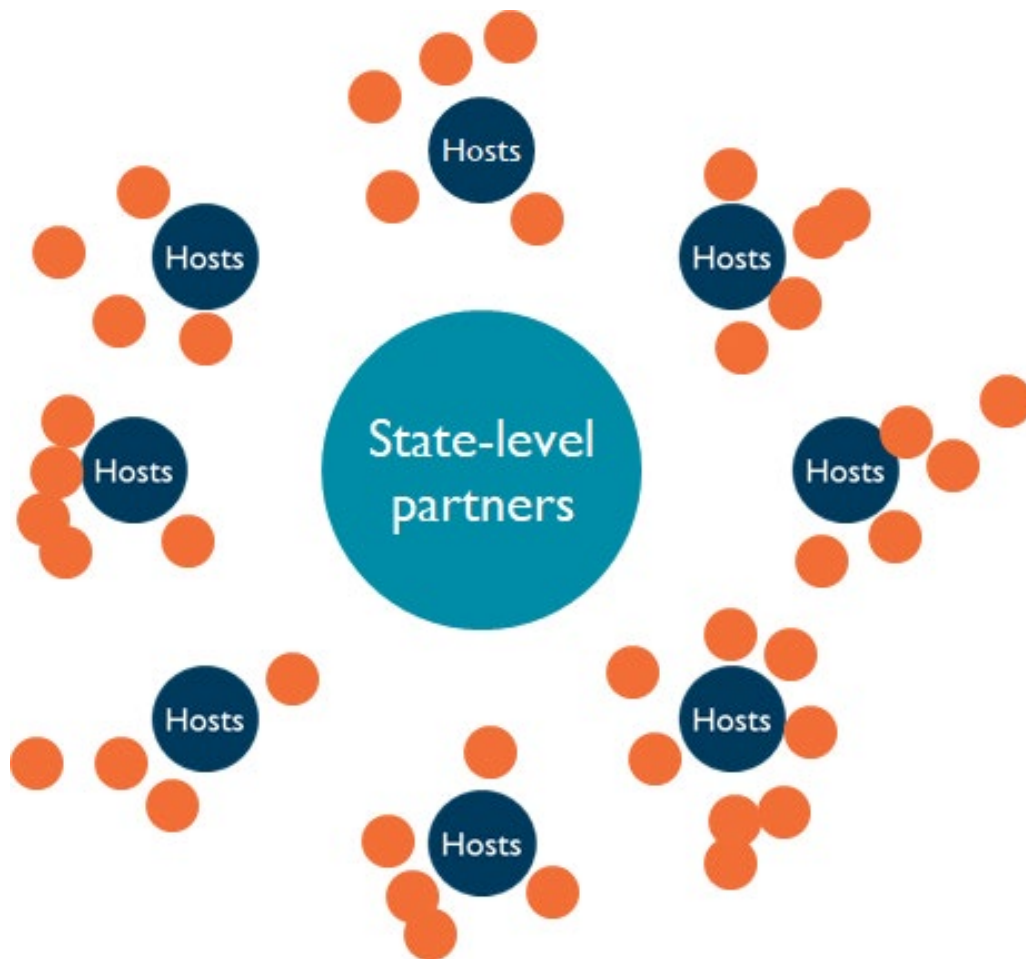
Travis Zimmerman welcoming guests to the Mille Lacs Indian Museum opening event. Image courtesy of the Minnesota Humanities Center.

State and community-based partnerships

We Are Water MN applies these core principles in each of the three main elements of the work (state and community-based partnerships, traveling exhibit, and public events). We consider the first element, the partnerships built through the project, to be of utmost importance: we expect that the partners involved in doing the work of We Are Water MN are likely to be the people affected the most by the approach and strategies of the work, to be the ones likeliest to develop novel, collaborative, and relevant solutions to water issues.

As mentioned earlier, We Are Water MN has at its center six organizations with statewide responsibilities (what we call our “state partners”): the Minnesota Humanities Center, the Minnesota Pollution Control Agency, the Minnesota Historical Society, and the Minnesota Departments of Agriculture, Health, and Natural Resources.

The state partners have goals at both the inter-agency level and at the level of relationships with communities. For the former, We Are Water



The six state partners are the light blue dot in the middle; they are most closely connected to the hosts and to each other. The hosts are the darker blue dots. They connect with the state partners, each other, and their local partners. The host community’s local partners are represented by the orange dots. Image courtesy of the Minnesota Humanities Center.

MN is an opportunity for developing shared language, vision, and ways of working that benefit agencies' shared goals and individual ones as well. The state partners are also focused on connecting the host communities to resources such as people, funding opportunities, and knowledge as well as learning from host communities and providing opportunities for host communities to learn from and with each other.

The host communities are focused on developing their own local network, especially building partnerships with organizations and people of color and Indigenous people and organizations. Through these networks, they plan public events in their community that help participants build their relationships with water and with each

other. In addition, their local expertise assists the state partners in identifying locally relevant topics and content areas.

The partnership brings access to large networks and to many resources for the project. The host communities are our guides to what is most relevant and engaging for their communities, and they can make local connections and foster community engagement in ways that benefit the work of the state agencies. At the same time, the state partners amplify and support community-led efforts. Both the state partners and the local networks benefit from connecting with each other outside of a regulatory context and instead in a relational context.

Traveling exhibit

The second element of We Are Water MN, the traveling exhibit, provides the opportunity for relationship-building. The exhibit itself combines three different ways of knowing water: personal stories, historical content, and scientific information. It is designed to appeal to visitors who come to the exhibit with many different interests. At the same time, the physical set of materials also becomes a gathering point for community partners who work to plan around and enhance the exhibit content. Several host sites mentioned that the exhibit was a tangible set of materials they could offer that facilitated relationships and exchanges with others in the community.

There is some content that stays the same regardless of host community. There are also five exhibit sections that are created specifically for each host community location: a collection of personal narratives in audio format; a map of the local area where visitors can add their stories; written inspiration stories of people or organizations who protect and affect water; at least one story about a farmer or producer in the host community; and a description of local water conditions and characteristics that share the specific geology, histories, or other qualities of water in each host community. This local content helps visitors understand and develop a personal connection with the breadth of information that's being shared with them in the rest of the exhibit.



*The traveling exhibit arrives at the Mille Lacs Indian Museum.
Image courtesy of Minnesota Humanities Center.*

Personal Water Narratives

To date, We Are Water MN has collected more than 2,000 stories about water, including more than 200 high-quality audio stories and many written pieces added to the map by visitors to the exhibit. These written local water stories are a way for visitors to share their own personal experiences while learning about their neighbors' relationships with water. These stories capture a wide range of experiences with water—from water as a daily part of visitors' lives to deeply personal stories of love and loss. In addition to sharing their stories, visitors also mark where the story took place on the water story map in the exhibit.

We Are Water MN uses stories as featured content in the exhibit, as inspiration and conversation-prompts during public events, and as part of the collection of water stories that the MHC maintains. These stories are available to [browse](#) and are meant to be a resource for anyone who is interested in learning how people in Minnesota think about and express their relationship with water.

There are five video narratives shared at every exhibit site. These five videos were curated by Dakota transmedia artist Mona Smith and center Indigenous voices and perspectives about water in this place. Kevin Jensvold, Chairman of the Board of Trustees of the Upper Sioux Community, illustrates his understanding of Dakota peoples' relationships to water and a cultural mandate to protect it in his story. You can view this video through the [Humanities Center's Vimeo page](#) (closed captioning available):

[See video "The Water Needs to be Protected" on Vimeo.](#)

There are also audio stories collected specifically for each host site. This helps visitors to the exhibit really appreciate themselves as people who protect and affect water, and appreciate their neighbors as people who have layered relationships to water and people who have important knowledge:

People who are Indigenous to Minnesota, both Dakota and Ojibwe people, have water stories that often connect to spirituality, values, and cultural practices.

Emily Buermann [tells a heartfelt story](#) from her great-grandmother that really raises the stakes on protecting water. If it's important not just for this life but also for the afterlife, does that change how one might interact with water?

Jim Rock [shares how water](#) is a part of Dakota origin stories, burial practices, and values.

Children's voices are often absent in environmental discussions, yet we often form strong bonds with water in childhood. By including these stories, we are including the voices of the next generations who will be responsible for our water futures.

This story, featuring Kimberly Musser and her triplets, features a parent and children [building water relationships](#) together.

Karly Eld's story [connects formal education](#) with her lived experience of loving water.

Water is an important part of many peoples' immigration stories. For many people, water can be a way of connecting new homes with former homes; for others it is about demonstrating the differences between them.

Alberto Mijares connects his experiences with water from his home in Mexico to his actions at his new home in Northfield, Minnesota.

Caroline Williams shares how accessing safe drinking water is different in Liberia and Austin, Minnesota.

A Story Map for Gathering Local Stories

The map posted for the exhibit in each host site encourages people to think about how water matters to them, how they understand and narrate their own relationships with water. The Minnesota Humanities Center hires a professional interviewer to conduct the audio

interviews in each host community and some of these interviews are used as "starter stories" to the story map that's part of each exhibit. Visitors are then invited to add their own stories as a way to reflect on their relationship with water.



A child adding her story to the Prairie Woods Environmental Learning Center Story Map, June-July 2016. Image courtesy of Minnesota Humanities Center.

Starter stories that feature different ways of knowing water help spark responses from visitors with different perspectives. Here are some examples of starter stories that emphasize often underrepresented perspectives on water:

I think women of color and people of color in natural environments are a lot less rare than people think it is. Representation is definitely a huge part of the problem of whiteness in the outdoors. And, you know, it's self-perpetuating; people don't see folks that look like them represented and they don't think that the outdoors is a place for them. Um, so that's a big part of the reason that I've been motivated to continue working in the outdoors and doing this work that I do, because as a marketer I can help shape that narrative and that representation, or lack thereof rather.

—Alora Jones, for the University of Minnesota River Life Program (Twin Cities) hosting, October–November 2018.

The connection to place is really quite profound. And for me, there are many places throughout the area like on the shores of Lake Winnie where my family's been buried. I mean, we've been buried there longer than America's been a country. And you know, now of course I have to go pay a white guy for a funeral plot to be buried next to my relatives. So somehow the land and their bodies got sold, taken in the process. Sometimes that doesn't sit so well, but the connection can't be broken even by the politics and economics of a pernicious wave of colonialism that came here.

—Anton Treuer, for Headwaters Science Center (Bemidji) hosting, December 2018–January 2019.

I mean every chance I had I went fishing down there at the river. So at the time there was a dam there, so we used to fish right off

the edge for like catfish and northerns and walleye, but then they ended up knocking that down and just made it into rapids because of flood purposes. There's plenty of fish in there. My dad used to take us fishing when we were little, but now that I'm older, it's like, you know, cast my line and leave it out. You know relax. Enjoy the sun. My kids love to fish the river as well and they go, "Dad, I like the big catfish. Can we go for it?" I'm like, sure. So, my daughter was five years old when she had started. My son pretty much born with a fishing rod in their hand.

—Felipe Hernandez, for the West Polk County Soil and Water Conservation District (Crookston) hosting, January–March 2019.

Visitors are asked to reflect on their relationship with water in the area and then add their own stories. This builds peoples' relationships with water. It helps them identify water as something visible and vital to their lives. In the stories people share on the map, we see struggle, joy, and care in ways that are deeply personal and demonstrate the variations of experiences with water across Minnesota. Here are a few examples of stories that demonstrate these differences of experiences and connection to water:

During the summer of 2012, I had gone through chemotherapy, after treatment, I had a checkup where I was told my cancer was back. I left the doctor's office and headed to the one place I always felt safe as a child: Wisconsin Point, the place of peace and sanctuary for my mom and I. It was also the first place my mom thought of when the doctor called to tell her the news of me running off. I later found I didn't have cancer a second time. After spending time by the lake, I was ready regardless.

—Ariel, from the Fond du Lac Department of Natural Resources (Fond du Lac/Duluth) hosting, March–April 2019.

Mom would take us kids to Sibley State Park every Sunday after church and before evening chores on our large dairy (100 cows in the late '60s). We would swim, hike Mount Tom, play ball, and picnic. It is why we chose to live in Kandiyohi County.

—Mike Imdieke, from the Prairie Woods Environmental Learning Center (Spicer) hosting, July–August 2016.

Where I live has a flowing well that I cherish and hope to figure out how to utilize in an energy-harnessing manner. I feel fortunate to be here and able to care for the water.

—Sheila Capistran, from the West Polk County Soil and Water Conservation District (Crookston) hosting, January–March 2019.

Inspiration Stories

The exhibit also features inspiration stories drawn from each host community. These stories are 200-word profiles of local people who have found their way to protect or conserve water. By sharing these stories, we amplify local knowledge, concerns, and solutions. As their name suggests, these stories are also meant to inspire others to action and collaboration. We hope that knowing the good work others in the community are doing might encourage people to take action themselves.

The good work in Minnesota that we've featured includes giving thanks, making changes at home, being in a career dedicated to clean water, sharing spiritual practices, and participating in community decision-making and leadership. We need many types of action for clean water. These three stories demonstrate this diversity: Roger, a farmer, testing water off his land; Sage, a mother, passing lessons from her grandmother to her son; and Katy, a professor, finding innovative solutions for water quality through her research.

Roger Peterson, Austin, Minnesota

“When we purchased this farm, I noticed the land had been farmed right up to the creek and you could see where the water had washed the soil into the creek,” says Roger Peterson. He owns about 350 acres of farmland near the Cedar River.

He doesn't see soil erosion like that anymore because now any runoff from the fields “has to go through 200 feet of grass before it ever gets to the creek.” By putting in buffer strips and enrolling other parts of his land in conservation reserve programs, Roger has restored habitats for wildlife he hadn't seen here before: bald eagles,

river otters, even sandhill cranes nesting on the property. “I never saw that when I was young,” he reports.

As for the water? “We're cleaning up the system and the water quality is getting better,” he says. Roger has been testing the water coming off of his fields of corn and soybeans, and compares the level of nitrates in the outflow with a field that's been in conservation reserve for 16 years. These tests help him to evaluate his farming practices—like when and how he applies fertilizer—and also improve them.



Alexandra Brown-Law: Un río que da vida y salud

Alexandra Brown-Law es una estudiante de Carleton College que se especializa en estudios ambientales. Mientras estaba en la escuela, Alexandra ha aprovechado al máximo el bosque de Cannon y sus muchos acres de tierra preservada y el río Cannon que fluye a través del bosque. En un hermoso día de otoño, salir a correr allí "es como un fuego de hojas amarillas y naranjas", describe Alexandra. "Es realmente agradable correr por el río porque el sonido es relajante, y se siente como un mundo lejos del campus y la tarea esperando allí".



Como una forma de retribuir a la comunidad y proteger este recurso, Alexandra ha recolectado basura en y a lo largo del río con Cannon River Watershed Partnership. Alexandra dice que "se sintió muy bien al ser parte de la limpieza, saber que estábamos ayudando a que la cuenca se mantuviera lo más limpia posible" y que nos conectáramos con la gente local, aparte de la vida universitaria. Encontraron muchas pelotas de golf, lo que no es sorprendente ya que el campo de golf está a solo unas cuerdas de distancia, y se fueron a "pescar" las bolsas de plástico que se quedaron atrapadas y retorcidas en las ramas de los árboles y arbustos del río.

Alexandra ha escuchado a la gente describir al río como "increíblemente contaminado", pero ella dice: "No quiero que así sea como caracterizamos al río Cannon". Tiene una historia y una geografía únicas, y muchas facetas diferentes. El río ha cumplido un importante propósito en el suministro de agua para ciudades y granjas por igual, y "proporciona un hábitat para todos los animales y plantas que dependen de su agua". Alexandra concluye: "También es un río que proporciona vida y salud a todos los que están viviendo a su alrededor".

Gene Kuntz: Salud de la tierra en la edad del cambio climático

Después de diez años de enseñar agricultura en la escuela secundaria y de más de 25 en la gestión de negocios agrícolas en el sistema del estado de Minnesota, el educador retirado Gene Kuntz dice que siente que ha estado involucrado con la agricultura toda su vida y ahora "está cambiando, y el agua es el punto central de la cuestión."

Los cambios climáticos son cada vez más grandes, y frecuentes debido al cambio climático. Durante los últimos 20 o 30 años, los agricultores se han alejado de los productos lácteos, el heno y el maíz y soja. El 50/50 de maíz y soja, que es el estándar económico, y no el heno, y vemos...



...a los cambios en la rotación de cultivos, lo que ha llevado a un exceso de nutrientes como el fósforo y el nitrógeno que van hacia el lago Superior. El exceso de nutrientes en el agua causa un crecimiento excesivo de algas y otros organismos acuáticos que pueden ser dañinos para la vida acuática y para el ganado que bebe el agua. Todo lo que hace cien años...

Dean Sunderlin: Superar los retos en comunidad

Aunque creció en el centro de Illinois, Dean Sunderlin aprecia desde hace mucho tiempo las aguas de Minnesota. Él tiene buenos recuerdos de ver al norte en vacaciones familiares a la zona de los Boundary Waters. "Aquí es como nos divertimos", dice. "Siempre he estado en el agua y realmente he disfrutado del agua".



Cuando él y su esposa se mudaron a Circle Lake, se alegraron de involucrarse con la Asociación de Circle Lake y más tarde con el desarrollo en las Mesas del Distrito de Circle Lake. En cierto momento, la Circle Lake Association comenzó transacciones de riego para hacer un proyecto para reducir las poblaciones de carpas en el lago. Eligen algunas carpas y es importante que las carpas no se escapen. Los peces, y luego pueden regresar donde se encuentran esos peces en particular en el lago. "Si el invierno, la carpas se van en grupos grandes y se puede ver exactamente dónde están", dice Dean.



Estos proyectos requieren dinero, tiempo y otros recursos, pero Dean se inspira en la forma en que la comunidad local aborda los desafíos de manera conjunta. "El compromiso de la comunidad, el componente de voluntariado es tremendamente importante", explica. La calidad de un distrito para mejorar de largo plazo a preparar que tenemos una apropiación generizada de los recursos para estos proyectos, explica Dean, y al final, "todos se benefician".

Marshall Hansen: Nuevos usos en casa para el agua de lluvia

Marshall Hansen trabaja como doctor en la Clínica Gratuita Colaborativa HealthPartners en Northfield, Minnesota, pero en su tiempo libre, él y su esposa les gusta cultivar un huerto y experimentar con mejoras ecológicas en el hogar. "No queremos vivir fuera de la tierra", dice, "pero queremos una propiedad y personas que sean divertidas hacer algunas cosas nuevas aquí".

Comenzaron con un sistema de recolección de agua de lluvia que recolectaba el agua de la lluvia de la casa principal en un tanque de 600 galones construido en el sótano. El agua de lluvia se almacenó en un tanque de 600 galones en el sótano. Los tanques se conectaron al jardín. "Creo que, en realidad, a las plantas les gusta mejor el agua de lluvia en lugar de usar el agua de la ciudad", dice Marshall.

Su interés en conservar agua se extendió a su jardín y vivienda en países como Argentina, Chile y Colombia. Marshall cree que los estadounidenses aprenden un poco de los países que visitan y que es un buen momento para aprender más sobre el agua y el medio ambiente que nos rodea.

These inspiration stories, from Northfield, were also translated into Spanish and displayed with the English stories at Carleton College. Image courtesy of Minnesota Pollution Control Agency.



Daniel Williamson stands next to his featured story. Daniel was one of six people featured in the Prairie Woods Environmental Learning Center/Spicer exhibit. Image Courtesy of Minnesota Humanities Center.

Sage Davis, Bemidji, Minnesota

“Some of my most prominent memories and teachings about the water have come from my mother and from my grandmother,” says Sage Davis, a member of the Leech Lake Band of Ojibwe and an admissions representative at Bemidji State University.

When she was a child, she lived in a “tiny house” that her mother bought in Onigum. “It was a really simple, beautiful house and it was my mother’s first house,” she says. They didn’t have running water for the first year, but she recalls bathing in Leech Lake and enjoying swimming there: “I always liked the way the lake makes my hair so soft.” After their home was renovated with

running water, Sage says she was happy to have a bath, shower, and working toilet and not have to walk outside to use the outhouse anymore. She remembers how her mother would sing in the bathroom. “While we were brushing our teeth, we had to make sure we turned the water off and my mom would sing a song that goes ‘don’t waste water, water, don’t waste water.’ We’d always sing that together as we’re brushing our teeth or washing our hands or taking a bath.”

Today, Sage is passing that lesson on to the next generation. “I tried to instill that into my son to be appreciative of water,” she says, because “water is important to our being and surviving.”

Katy Chapman, Crookston, Minnesota

Katy Chapman is an associate professor of biology and environmental sciences at the U of M Crookston as well as the director of sustainability on campus. Katy doesn’t like to think about sustainability as solely regarding sacrifices we must make; rather, she wants to think about sustainability in terms of positive actions and innovation, how we can do things differently.

One innovative practice she’s worked on aims to address the excess phosphorus and nitrogen currently flowing from the Red River basin north into Lake Winnipeg. Katy’s research involved creating floating mats of plants to measure how well different species could remove phosphorus from the water.

Her findings? Well, the ferns received too much sun and didn’t last long, but cattails were a different story: “We got pretty high biomass with the cattails and were able to remove a fair amount of phosphorus using that technique,” she reports. “If we were to scale it out to a commercial application, you would incinerate the material or burn it.” The resulting ash would be high in phosphorus and could be used as a fertilizer on the same fields that previously leached nutrients. This offers one potential method to recycle the excess nutrients closer to the source, and help prevent downstream problems.

Stories of Local Farmers and Producers

A local farmer profile is included to raise up the stories of people who are working to balance water and soil health with agricultural production. While personal, the farm profile also gets a little more technical and shares specific practices,

certification programs, and insights into farm economics. [Tim Little's profile, from Northfield](#), is an example of this blend of personal and technical.

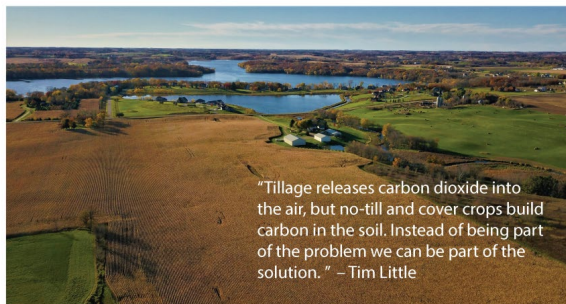
The Little's big experiment

with cover crops and no-till farming



Where: Northern Rice County
Who: Tim Little and his family
Acres: 300 acres
Crops: Corn, soybeans
Watersheds: Cannon River

Certifications and awards:
 MN Agricultural Water Quality Certification
 National Association of Soil and Water Conservation Districts Soil Health Champion, 2012 Rice County Outstanding Conservationist of the Year



Economics

Transitioning to no-till and using cover crops is not easy and involves upfront costs. Over the years, Tim has been able to offset the cost and has noticed financial benefits.

When beginning to work with no-till, Tim stopped doing heavy tillage in the fall and tilling in the spring. This saved approximately \$35-38 per acre in labor and fuel costs. The money saved fully covered the cost of seed and aerial seeding of the cover crop. Tim has also been able to reduce the use of herbicides because cover crops help suppress weed growth.

Tim is hoping to reduce the use of seed treatments and fungicides too. Cover crops can defend against soil borne illnesses, such as white mold in soybeans, because the soil doesn't splash and the soybeans don't come in contact with potential diseases.

Cover crops and no-till

Tim Little has been farming since 1974 and began experimenting with no-till farming in 2005. In no-till farming the soil is not turned over or disturbed by a plow or cultivator. Crops are planted in the residue of last year's crop.



Corn planted in the Little's no-till field with last year's residue holding the soil and suppressing weeds.

With the help of funding from the Rice County SWCD, Tim tried cover crops for the first time in 2013. After seeding rye, radish, and clover late that summer, the weather turned dry and only the radish thrived. Tim examined the soil and still noticed a difference—the roots of the radish plants worked into the earth and broke up the soil, resulting in reduced compaction in just one season. This initial success inspired him to continue experimenting with cover crops, especially in his no-till fields. Within a few years, there was a noticeable increase in the number of earth worms in the soil. Earth worms are an indicator of soil health and improve nutrient cycling, boost water holding capacity of the soil, and stimulate beneficial microbial activity.

Tim also benefits from improved rain water infiltration, decreased water runoff, and reduced nutrient loss and erosion. This means that after a heavy rain there is less standing water in the field, and in the springtime these fields can often be planted earlier.

Comparing notes with fellow farmers

When Tim first tried cover crops he coordinated with four other local farmers to hire a pilot to fly the seed onto their fields. After this initial collaboration the farmers started talking about the various conservation practices they were trying out. Now several years later the group has grown to seven farmers who collaborate, explore new practices, and aerial seed cover crops on 2,500 acres in the area. This group of seven like-minded farmers still farm in their own way, yet come together and compare notes to cultivate innovative solutions for this new farming practices. Tim is also working with the Cannon River Watershed Partnership, a local non-profit organization, and ten other farmers to learn how cover crops can help improve and protect the water quality of a local trout stream.

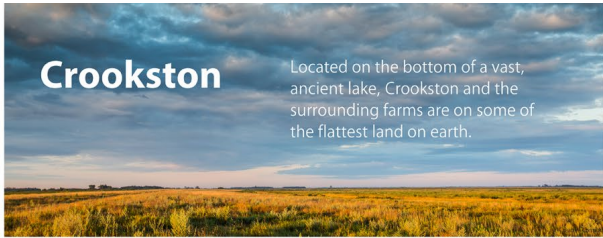


The connection between conservation farming and clean water is something the Little family is proud of. This is one of their photo creations. High five, Littles!

Local Water Histories and Conditions

Minnesota is a place of great ecological diversity. Each watershed has its own histories, geology, development patterns, and climate—and these,

in turn, affect the water. On the local panel of the exhibit, We Are Water MN is able to highlight more about the water and history of the specific



Crookston

Located on the bottom of a vast, ancient lake, Crookston and the surrounding farms are on some of the flattest land on earth.



This 14-inch-long crustacean (*Hyalella Asteca*) is common in aquatic systems and is used by scientists as an indicator of environmental health and water quality in streams, lakes, and other bodies of water.

The Red Lake River and its tributaries are polluted with sediment, bacteria, and nutrients.

These pollutants are carried with sediment or water from fields and eroded streambanks. They limit the recreation opportunities on the river, and phosphorus causes algae growth, especially downstream in Lake Winnipeg.

Fish and aquatic insect populations are doing well in the Red Lake River main channel, but they are in poor condition on a majority of the tributaries. Challenges for aquatic life include barriers to migration such as culverts and control structures, and loss of consistent stream base flows in the summer and fall, a common condition in highly drained agricultural areas.



Lake sturgeon—Minnesota's largest fish—are returning to the Red River and its tributaries.

Lake sturgeon, once abundant in the Red River of the North and its tributaries, went locally extinct in the early 1900s because of overfishing and dams.

Over the last 20 years, there has been a major effort by state, tribal, and federal agencies to reconnect fish habitat, increase water quality, and stock this culturally important species.

Seven of the eight dams in the U.S. portion of the Red River have been removed or converted into sloping rapids. And since 1997, 2.6 million sturgeon have been released.

Lake sturgeon are surviving well and reaching sizes over 48 inches in length.



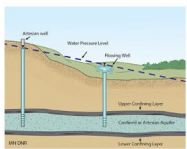
Managing water for agriculture in the Red River Basin is hard.

Farm fields here are extremely flat so without ditches the water sits on the field. A layer of clay just under the top soil does not let the water soak in which worsens flooding.

If there is too much water, crops can't grow properly. To help get better drainage, farmers divert water to ditches or put subsurface drain tiles in their fields. This helps stabilize or increase yields.

Unfortunately, traditional drainage intensifies the high and low flow levels in ditches and rivers, which is tough on fish and insects and can cause erosion. Drainage can also increase the movement of nutrients off the fields.

There are innovations in drainage that are helping. These drainage systems temporarily store water or use outlet controls to reduce the loss of nutrients and slow the flow of water. Red River Basin farmers are working to build soil health, improve fertilizer management, and improve drainage system design.



Flowing wells are common around Crookston.

A flowing well is a well that produces water without pumping. Flowing wells occur when the aquifer is under enough pressure that the water rises above the land surface when a well is drilled. Flowing wells in northwestern Minnesota are commonly found along Glacial Lake Agassiz beach ridges like those located to the east of Crookston.

Some flowing wells are constructed so that the water is controlled and contained in a water supply system. Others let the water flow, which can waste groundwater.



Glacial Ridge is the nation's largest prairie and wetland restoration project.

The grasslands and wetlands on this 24,000-acre site protect water quality for the city of Crookston and help reduce flooding in the Red River Valley.

The restoration also provides an excellent habitat for prairie nesting birds, threatened prairie plants, and wildlife. Tallgrass prairie originally covered more than 18 million acres in Minnesota, but only about 1% remains.

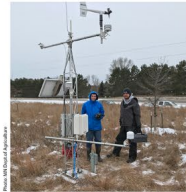


Rare calcareous fens are found at Glacial Ridge National Wildlife Refuge.

Calcareous fens are one of the rarest natural communities in Minnesota, the United States, and the world. Glacial Lake Agassiz beach ridges in northwestern Minnesota provide the ideal environment for these rare wetlands.

Fens are wetlands dependent on upwelling groundwater that we find along these beach ridges. The groundwater is cold and rich in calcium and magnesium. Because of this chemistry and upwelling groundwater, only certain rare plants can tolerate growing in the fen. They provide critical habitat to numerous rare and endangered species. Fens are an indicator for the health of the ecosystem.

Crookston



Local weather data is important for irrigators, producers.

Weather information is used to determine the best time for irrigation and chemical applications. Responding to real-time weather conditions can help reduce total water used for irrigation and protect environment and human health.

The Minnesota Ag Weather Network and the North Dakota Ag Weather Network work collaboratively to provide real-time weather data for farmers throughout central and northwestern Minnesota.

New in 2019, there will also be temperature inversion sensors at all ag weather stations in Minnesota. Producers can use a mobile app to receive a notification when a selected station measures inversion conditions.



In the last five years, this area has seen expansion of irrigated acres and also some problems with well interference.

Well interference happens when a high volume water appropriation reduces water levels beyond the reach of public water supply or private domestic wells. By law, drinking water supply has the highest priority for groundwater use.

In this region, groundwater resources are not evenly distributed. Some areas have limited groundwater resources and a history of well interferences. Expansion of agriculture irrigation is occurring which has resulted in additional well interferences. The groundwater system is highly complex and only partially understood. Studies are underway so that we can understand the groundwater better. Many people are working hard to prevent well interferences and ensure a sustainable water supply to all area water users.



Groundwater can have high, naturally occurring levels of arsenic.

Arsenic is a part of the earth's crust and occurs naturally in soil and rock in Minnesota. Arsenic has no taste or odor.

Arsenic in groundwater is common here—23% of the wells constructed in northwestern Minnesota since 2008 have arsenic above the federal drinking water standard of 10 micrograms per liter (µg/L).

Public water systems make sure your water does not have arsenic levels above 10 µg/L. If you get your drinking water from a private well and the arsenic level is above 10 µg/L, Minnesota Department of Health recommends that you use an alternate source of drinking water or install a treatment system to reduce arsenic levels in the water.



Pembina ox cart trail followed the beach ridge near Crookston.

In the 1800s, a network of ox cart trails connected people from the Canadian plains through Pembina, North Dakota, and south to St. Paul. Many Métis people—a person of mixed American Indian and Euro-American ancestry—transported furs, pemmican, and handmade items to St. Paul and returned with goods from the city. The noisy carts were made from wood and could be repaired along the trail. The cart was designed so that the wheels could come off and become a raft that would float across the river.



How do we talk about water today?

The language used by state and national authorities has changed, reflecting the goals and values of the time.

A 1922 report from State of Minnesota on flood control on the Red Lake River discusses the "benefit" of proposed and existing dams. It describes the need for drainage of some areas and sending that water into existing creeks and ravines.

By 1974, a federal report studying a proposed dam on the river shifted the language to how a dam would destroy irreplaceable sections of the river used for recreation and by wildlife.



exhibit location. We get specific about the pollution concerns, wildlife and restoration stories, and the cultural significance of local lakes and rivers.

Crookston is located in the Red River Valley, a location that is geologically unique and profoundly transformed by agriculture. The local panel for that exhibit location speaks about the water quality and quantity challenges they face, while

celebrating some of the unique attributes and hard work of local people.

This inclusion of multiple perspectives—especially those left out, marginalized, or otherwise absent from public systems and awareness—is how we all work together to practice the Humanities Center’s approach, which the exhibit hosts and state partners are trained in at the beginning of the project.

Public events

The third key element to We Are Water MN is the public events. Host communities design public programming in partnership with other organizations and individuals in their community. These

partnerships combine different ways of knowing water to enrich the experience for participants and also broaden the audience base. Often these events help people engage even more directly



More than 44,000 people have seen the We Are Water MN exhibit since 2017. Image courtesy of Minnesota Humanities Center.

with both local water issues and local water stories they might not otherwise know. More than 20,000 people have attended at least one We Are

Water MN event. Here are a couple examples of the kinds of events that have successfully engaged communities in ongoing dialogue around water.

Historical theatre production

In Lanesboro, the local historical society partnered with the local theater company to produce a staged reading that shared the water stories of elders from their area. A well-known local writer attended this event, and a companion art show

opened with it. Following the art show and staged reading, the writer wrote an [editorial article](#) reflecting on his relationship with water and his experience at the event. That article stimulated dialogue and discussion about local water issues.

Tribal fishing rights forum

When the Fond du Lac Band of Lake Superior Ojibwe's Natural Resources Department hosted We Are Water MN, a key public event was a [forum on tribal fishing rights](#). This event was held at the Great Lakes Aquarium in Duluth, where

Fond du Lac also chose to install the traveling exhibit. This forum attracted both Native and non-native residents for an important conversation that affects their whole community.

Host Site Experiences

Through these three key elements of We Are Water MN and by doing this work in collaboration, focused on the four principles of the Humanities Center approach, we build the social

networks required for watershed restoration and protection, instead of just sharing information. Here are three host site examples.

Itasca Waters Experience

In 2017 we began discussions with community organizations who would be part of the 2018–2019 tour. One of these organizations was Itasca Waters, a group who works to collaborate with other organizations and residents in their area to keep water in Itasca County clean for health, enjoyment, and a strong economy. From our very first meeting, this organization was clear on how they hoped to leverage We Are Water MN. They wanted to educate landowners in Itasca County on how their shoreland influences lake health.

Below is information shared by Itasca Waters with We Are Water MN through evaluation surveys and event reports:

Several years ago, Itasca Waters surveyed Itasca County lakeshore residents. From the survey we learned lakeshore owners wanted information about shoreland in two formats: a website and a printed guide.

The survey also indicated lakeshore property owners were interested in getting information about their property from ordinary citizens. As a result, Itasca Waters decided

to pioneer and pilot a unique program: the Shoreland Advisors program. This three-year program focuses on restoring and preserving shoreland in Itasca County by using some helpful practices that can positively impact lake water quality.

Our hope is the Shoreland Advisors program will be a model that can be used across the state.

The Shoreland Advisors program is a great example of working to build a community's capacity to restore and protect water. By equipping volunteers with this knowledge, they're building a community of people who care about water. By partnering with We Are Water MN, Itasca Waters has been able to host its first training for these volunteers and to raise awareness of this program.

University of Minnesota's Experience

One of the big benefits of this partnership is that by working together we expand access to different skill sets, networks, knowledge sets, funding opportunities, and other resources. The University of Minnesota's River Life program used the power of partnership to pull off a student career panel.

The information here was reported by Laurie Moberg with the University of Minnesota in a post-hosting webinar:

That event came together because I could reach out to the people that I knew through this and say, "Hey, we're doing an event for students about careers in water. Do you know any early career people who would want to

Some examples of how this affected the first group of volunteers include:

Others care about Shoreland buffering and are doing something about it. It was good to see what others are doing.

I don't have to know exactly how to improve shoreline, but simple observation tells me if there is a problem and I have information on who to contact to resolve issues on my own property and can share this information with others.

Many lakeshore owners want to do the right thing for their shorelines but need to be educated about what options they can do to improve their property and minimize impacts to the lake's water quality.

talk about their careers with water and what they do to a bunch of undergraduates?" And within 24 hours we had 10 panelists. So that was all through the relationships that you guys have built at the state agency level and having met all of them through this. I think that was a really fantastic demonstration how well this works.

The exhibit served as a catalyst for getting these conversations started. We introduced the state agency folks to the students and then it serves in both ways, employment opportunities for the students and future prospective employees for the agencies. So there was a lot of good that came out of that.

Cannon River Watershed Partnership's Experience

Oftentimes, community engagement is something that suffers because it's difficult to prioritize but having something tangible and defined to work on is a great motivator for doing community-engaged work.

The Cannon River Watershed Partnership, summed up their experience around this in the webinar held after their community finished hosting:

Well, I think the biggest thing that's gonna stick is the local partnerships. I think this project gave us an opportunity and resources to really reach out to groups, some of which we've worked with in the past and some of which we hadn't. And the momentum of the projects, I think, are still building some relationships for us. We have one more We Are Water MN event coming up later this month, and that's outreach with the Latinx community.... And just the idea that we can think broader about who we want to involve in projects when usually we would think, "Okay, we want to deal with resource people and water people and recreation people."

[A second thing that will stick is that] the local panels that were printed for our exhibit that are now in our office here are gonna find their way to parts of the community. And so the exhibit will be showing up here and there from time to time. And so having those resources that we would never have had the time or resources to create on our own is a

great side benefit of the exhibit and we'll be finding a place to have those show up.

And a third thing is the idea of working with groups that aren't connected to water conservation. There are different ways to get people interested in water issues. We want to talk about science with people and that works for some people and doesn't work for other people. And so thinking about working with arts groups or history groups or healthcare groups gives a whole other set of doorways to getting people thinking about water, interacting with water, caring about water.

I think I probably had a much narrower vision of what water and watershed education looks like before working with so many partners and seeing how they did it. And not that they're necessarily teaching the exact same things about waters that we do, but they were helping build those connections with people and the river. And once people have those connections, learning more about the river gets easier and easier. And so that idea of the effectiveness of collaboration is definitely gonna stick with us.

These host site stories demonstrate how having time and support in building their local networks of people who protect and affect water have had positive impacts on their programming. We hope this will lead them to have more opportunities within their community to make changes with their new or strengthened partnerships.

Conclusion

We Are Water MN is one model of engaging people around water, equity, and relationships to place and community. And while we use the Humanities Center's approach to bring people

together to increase understanding and to spark change, there are other models out there and other people who are working to deepen the connections between people, the places where we

live and work, and the decisions that we individually and collectively make.

The state agencies and host communities that are working with the program are consistently practicing the equity- and relationship-based approaches that we foreground and teach, and there are certain things that those involved can't unlearn. Specifically, this project encourages us to see that water issues are more than technical; they involve people. Because people are involved and central to water work, who is hosting a conversation, who is invited into the conversation, and how invitations are made matters. In

addition, participants at all levels can't unlearn that there are Indigenous relationships to this land that precede the state of Minnesota's authority and continue to this day. Further, those who are most likely to be affected by negative consequences of environmental trade-offs that have been made are the least likely to have a powerful role in the decision-making—and that has consequences for all of us.

As state agencies and host communities learn from and with each other, our hope is that we're equipping communities to make better, more collaborative choices about water in the future.

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About the Authors

Jennifer Tonko is a program officer with the Minnesota Humanities Center and is the lead for We Are Water MN, a multi-agency partnership formed to tell Minnesota's water stories collaboratively, bringing together personal narratives, historical content, and scientific information. She convenes state agency partners to jointly develop program direction and works with local community leaders to use We Are Water MN as a community engagement and network building tool, to learn from and amplify the perspectives of all Minnesotans, and build relationships in Minnesota communities among those who protect and affect water.

Britt Gangeness coordinates and develops outreach and education projects at the Minnesota Pollution Control Agency. She has been working on the We Are Water MN project since 2014—a project that embraces the power of people and relationships to make local change. She has a B.A. in biology and M.Ed. in environmental education.