

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 UMN

By Tracy Fallon, Douglas Klimbal,
Kimberly Long, and Patrick Nunnally

Institute on the Environment—Kimberly Long

An unassuming email with the subject line “possible to talk about hosting a water-community exhibit in LES?” came through my inbox midday on February 27, 2018. Little did I know this email would change the way I looked at my work at the Institute on the Environment (IonE)

and spark my drive for collaborations within and outside the University community in respect to absent narratives. With further context to the email, I learned that River Life would be hosting the We Are Water MN exhibit and was looking for the right venue to support the over



We Are Water MN exhibits are shown here in the Institute on the Environment space at the University of Minnesota. Image courtesy of the Minnesota Humanities Center.

900-square-foot traveling exhibit for six weeks. IonE's then managing director suggested the possibility of IonE hosting the physical exhibit in the Commons Meeting & Art Space within the Learning and Environmental Sciences Building (LES). Thus an email to me, IonE's event coordinator, and the rest was history—well, not completely, but pretty close.

By April 2018, we knew IonE's space would be the perfect fit for the exhibit, and an emerging IonE Impact Goal on safe drinking water was another pull to host. This investment with the exhibit and water goal made it clear IonE had a stake in Minnesotan's responsibility and relationship to water. This was an opportunity for IonE to connect to new and existing partners in a more meaningful way, to support the stories and information of the exhibit, which in turn support public access, and to demonstrate the work of the Institute. The theme of water for IonE during the year was intended to be the focus to raise awareness and novel insights. We soon realized a specific theme has so many branches of topics associated with it that we couldn't just focus on water generally, but instead focused on access to water and, tangibly, on the exhibit. As it turns out, IonE was able to build on the base of the exhibit to host an event in April 2019 on protecting source water and ensuring drinking water. We Are Water MN strengthened my realization that we need to create opportunities for public access to information on climate related issues. Communicating through public events, like exhibits and conversation series, the work can speak for itself and begin to engage the community on why issues matter, what is being done, and what they can do—all of which were strong goals and outcomes of We Are Water MN.

Around this time, I began to see the depth, value, and uniqueness of this collaboration between the core planning team of River Life, Water Resources Science (WRS), and IonE. We all brought in our own perspectives and expertise, and yet were able to set forth with the same goals

and programming ambitions. This collaboration was not about a one-and-done event, but rather the expansion to deepening relationships with partners and community members we may not have had a relationship with, which was modeled at an early host planning meeting with the Minnesota Humanities Center (MHC) and the community. I began to see the value of bringing in varying perspectives, yet knew this was an act of balancing our engagement with the time we needed to develop meaningful relationships or strengthen current ones. This way of thinking is instrumental to how I think about partnerships now. We can't reach out to others to fill a void we think we need; we need to inclusively sit at a table with all stakeholders to create trust and shape a partnership. IonE overall has many individual contributors that have vast partner relationships, and the need for IonE, as an organization, to become a stakeholder with community partners bubbled to the surface through conversations that happened prior to, during, and after We Are Water MN around access and underrepresented communities.

Our planning team started exploring how to have everyone at the table for conversations, asking what perspectives and narratives are part of a water story, who was represented in the planning or exhibit, and who was not. Through conversation on absent narratives, we realized a barrier at our host site was when the exhibit itself was open to the public: weekday business hours. In order to allow all groups—like families and community members—time to see the exhibit, we needed to make it more accessible and decided to open up the exhibit space on campus twice on Saturdays during its run and offer complimentary parking. The goal was to see more people from outside the University take advantage of We Are Water MN being in the Twin Cities. Even though attendance was low, the few families and individuals that came on the Saturdays had great stories to share with planning team members who were present as well as to add to the We Are Water MN story map. The first Saturday we were open, we even

U of M, Twin Cities

Located on the banks of one of the world's great rivers, the University of Minnesota has a special relationship with the Mississippi River

Headwaters of an important river, both pristine and challenged

Home to more than 400 different species of wildlife and 100 different species of freshwater fish, the river provides fishing and other recreation opportunities. A 72-mile corridor, including the stretch through the Twin Cities, is a National River and Recreation Area.

The river also functions as a major drinking water supply for the Twin Cities.

While the Mississippi River starts as pristine, high quality water, tributaries like the Crow River, flowing through heavily farmed areas, bring pollutants like sediment, nutrients, and bacteria into the Mississippi. When the Mississippi River reaches the Twin Cities, it no longer meets river life and recreation standards.

Though we've made great progress over the last thirty years, the river through the Twin Cities continues to have problems: high nutrient levels result in algal blooms, invasive carp threaten to outcompete other species, and many fish show elevated levels of mercury and other contaminants.



Located on the banks of one of the world's great rivers, the University of Minnesota, Twin Cities, has a special relationship with the Mississippi River.

Bohemian Flats was home to hundreds of people around 1900



Bohemian Flats circa 1910 (photo: MNHS)

During the late nineteenth and early twentieth centuries, urban riverfronts were used for industry, not for houses. Few people lived on the river. There were some exceptions though. On what is today the West Bank of the University of Minnesota, on the banks of the Mississippi River, was a multi-ethnic settlement known as Bohemian Flats.

The community, which frequently flooded, was home to as many as 100 homes and 500 residents in the 1920s. Residents often responded to the floods on their own. Many of the residents didn't understand that they did not own the land, only the structures on it. The residents had few legal options when the city chose to demolish the houses to make room for more rail and river infrastructure.

Upper Harbor riverfront redevelopment seeks to connect North Minneapolis and the Mississippi, with a focus on history and equity

The City of Minneapolis and Minneapolis Park Board are redeveloping a 48-acre site on the Mississippi in the North Minneapolis area. It was once a barge shipping terminal.

The North Minneapolis community has long been separated from the river by industry, though redevelopment has occurred along other stretches of the river.

Northside community members are working towards a plan for the Upper Harbor "rooted in community and equity, that doesn't gentrify, that creates jobs for North Minneapolis residents, that provides green space and green business opportunities for the Northside."

Source: Jamming for Justice on the Upper Harbor event flyer, September 2018



Minneapolis Slow Roll bike tour of the Upper Harbor Terminal, 2017 (photo: Minneapolis Parks Foundation)

U of M, Twin Cities

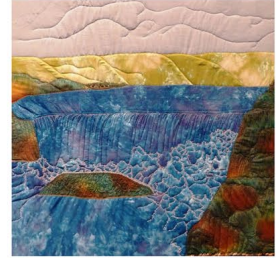
Owamniyomni (St. Anthony Falls) was a site for Dakota ceremonies long before Father Louis Hennepin named it in 1681

From local writer and artist Gwen Westerman:

In an account of his trip in 1680-81, Hennepin provides the first written record of the Dakota view of the falls... Though incomplete, these descriptions indicate the veneration in which the falls were held and the sense that the falls housed a powerful being or beings...

...The falls were used in the late nineteenth century for water power for flour milling and other purposes, hastening the destruction of the falls, which were destined, in any case, to disappear for geological reasons. The falls today bear little resemblance to those of 150 years ago.

Source: Westerman, G., & White, B. (2012). Mni Sota Makooce: The Land of the Dakota St. Paul, MN: Minnesota Historical Society Press.



Owamniyomni Textile art by Gwen Westerman

Water pollution from salt is widespread in the Twin Cities. It's from deicers used in winter maintenance and from salts used in water softeners.

Excess chloride is toxic to some forms of aquatic life including trout, frogs, and some native aquatic plants. It can change the taste of drinking water.

The costly, challenging nature of removing chloride from groundwater and wastewater makes reduction of salt use the most feasible way to reduce chloride levels.



Sarita Wetlands are a model for storm water management and environmental education

Located in the southeast corner of the University of Minnesota St. Paul campus, the Sarita Wetland is what remains of the Sarita Lake, which was drained in the 1900's.

The Sarita Wetland Restoration Project began in 2000, along with the U of M's Sustainable Campus Initiative. The purpose of the project was to implement innovative storm-water management techniques on a substantial area of campus.

In addition to restoration projects, the wetland is also a site for education and research.



What if there were rapids in the Mississippi River Gorge?

The river directly downstream of St. Anthony Falls is known as "the gorge." Before dredging and locks were added to aid navigation, the gorge was a "6-mile reach of boulder-cobble-gravel streambed - prime habitat for numerous fish and mussel species."

In the 1900's lock and dam structures were built and changed the nature of the river. But in 2015, the Upper St. Anthony Falls Lock was closed.

Now, the U.S. Army Corps of Engineers is evaluating whether they should operate and maintain the infrastructure in this stretch of the river or release it. This process opens up the chance to evaluate dam removal and ecological restoration.



The beginning of the gorge near Downtown

Source: Mazack, Jane E. 2016. "The Once and Future River: A Present Snapshot" Open Rivers: Rethinking The Mississippi, no. 4. <http://editions.lib.umn.edu/openrivers/article/the-once-and-future-river-a-present-snapshot/>.

The Metro region has many swimmable lakes, but some don't meet water quality standards

In the Metro region, 43% of lakes—271 out of the 632 evaluated—do not meet aquatic recreation standards for fishing and swimming.

Challenges for Metro lakes include increased phosphorus levels leading to algae blooms, and increased levels of bacteria—like E. coli—making swimming potentially unsafe. Shoreline restoration and other clean-up efforts have been successful at restoring lakes in some areas.



Lake Nokomis in Minneapolis

Two informational panels displayed with the rest of the exhibit at the University of Minnesota. Images courtesy of the Minnesota Humanities Center and the Minnesota Pollution Control Agency.

invited researchers, scholars, and graduate students to share and record personal journeys and work stories that related to water. While it was an honorable attempt to create access, it also taught another lesson: earlier communication is needed to create awareness of opportunities like this.

While many subsequent events were planned to take place during the run of We Are Water MN, the opening day (October 12) was extremely momentous and awe-inspiring for many reasons. The University's opening was the official state launch of the traveling exhibit's second round, and the MHC was also hosting a retreat at the IonE for representatives from all the host sites so people could attend and see the exhibit. This created such a buzz around the space all day—a

contagious flutter of excitement that you couldn't help but feed into. We even had the opportunity to take a river tour of the Mississippi with each other that day; there is nothing like actually feeling relaxed for an hour before your big event is supposed to start! For someone in the event industry, this is kind of unheard of, but I think meeting representatives of the other seven host sites allowed this relaxing environment to happen. Meeting everyone was an opportunity to hear about how they were going to engage with We Are Water MN and their communities. The host cities were in every corner of the state, which allowed everyone's narratives to emerge, and we were able to collectively learn from each other. Seeing the committed work of the host sites began to showcase this work as an ongoing entity,



The opening ceremony for the We Are Water MN exhibit at UMN Twin Cities featured speakers in the atrium adjacent to the exhibit itself. Image courtesy of the Institute on the Environment.

highlighting that it wouldn't end when the exhibit moved on to another site. It also created the opportunity for each of us to continuously learn from each other's successes and shortcomings to build a better community of engagement with the exhibit.

Now the opening! Over 150 people filled in the LES atrium for the opening reception awaiting the ribbon and cake cutting. We were all gathered in one space and place to honor water and our relationship to the land through water, and to share water stories to connect with one another. The opening's program introduced the second round of the traveling exhibit with organizers from the Minnesota Humanities Center and the Minnesota Pollution Control Agency and state partners from the Minnesota Historical Society,

and the Minnesota Departments of Health, Natural Resources, and Agriculture taking center stage to reflect on and share their water stories from within and outside the state of Minnesota. We soon all realized most of these speakers also have University of Minnesota connections, which continued to strengthen our connection to place with each other. The University host representatives included the provost of the University and the IonE director who welcomed We Are Water MN to the academic setting and recognized the University's commitment to research and improvements to safe drinking water for all Minnesotans. Aside from the overall feeling of success throughout opening night, the joy and excitement on the faces of our two organizers for the statewide project as they cut the ribbon was so memorable and contagious. It would be hard



*Visitors to the exhibit at the IonE listen to narratives.
Image courtesy of the Institute on the Environment.*

to look back and not think about how much work went into that opening, especially the creation of the exhibit itself. Without the exhibit curators and designers, we wouldn't have had the engagement piece to begin important conversations with communities all over Minnesota about water.

Throughout the six weeks, there were events hosted throughout the Twin Cities campuses to draw awareness to the water that flows around, through, and under campus. Classes came to view the project, a few students just passing by ended up staying an hour plus to explore, and a Girl Scout troop spent one of their meetings there. Seeing the varying generations of spectators within the exhibit brought new perspectives and increased my understanding of how others big and small, interact with water. In the future, community access to and awareness of an exhibit within a large academic institution should be considered and more strategically planned for. Earlier planning for outreach and logistics to bring other groups onto campus is needed because it directly contributes to relationship building. We knew right away we didn't have relationships and knowledge around how to bring groups to campus, and therefore, we needed more time to successfully work on that, and our planning team walked away with a huge lesson

learned. The work to represent and understand absent narratives should not just be considered around the planning of an event, exhibit, or project, but should always be viewed as an opportunity for prolonged learning and stewardship.

Looking back now, I am inspired by the River Life, WRS, and IonE partnership. It may have developed quickly, but I saw firsthand what a group of people can do with like-minded values, goals, and purpose. I'm amazed at what the team was able to accomplish together, and by how openly we identified the areas where we were falling short of our goals—like continuously bringing more absent narratives into the public spotlight and cultivating deeper relationships with communities not typically represented. These are areas where IonE is focused on creating improvements, and striving for more will continue to foster these goals and bring them into existence. Though we will always have work ahead of us, we went into this working collaboration fully aware of this and with intention to do it together. It's important to recognize that work is stronger and can have more impact when collective work is done with common goals. Sometimes all it takes is to read an unassuming email with an open mind for collaborative change.

Water Resources Science—Tracy Fallon

“Alone we can do so little; together we can do so much.” —Helen Keller

I got to witness firsthand the impact that one person’s words could have on an entire group

of students. I never imagined that this negative experience would lead to such growth. It happened on an evening in the fall of 2017 when the Water Resources Science (WRS) graduate students offered to volunteer as “water



WRS students tend Water Bar. Image courtesy of WRS.

tenders” at an amazing new facility in northeast Minneapolis called the Water Bar and Public Studio. This group of students was just getting to know each other but all agreed that getting involved with the community was a great idea. As water tenders, the students were to serve water to patrons and engage them in stories about their experiences with water. The students introduced themselves to a woman who lived in the neighborhood and was a frequent visitor to the Water Bar. She listened for a while, but ended their discussion abruptly, and in a very direct way announced her distrust for scientists and the University of Minnesota. She talked about what it is like for a person of color to live along the river and her belief that the water was unsafe. She stated that changes in water systems wouldn't happen until unsafe water impacted people in more affluent communities. She reminded us that the University has a history of not being inclusive and that it isn't the end-all-be-all for information on water issues.

The students tried to engage her for clarification but to no avail. While I felt that she and the students were talking past each other, she had an important point to make, difficult though it may have been to hear. The students, however, expressed that they were shaken by her words and tone. They felt that, as scientists, they were simply bringing better knowledge to the discussion, and that more knowledge was, as a matter of course, better. This interaction affirmed that the students were not quite prepared for this kind of engagement with community.

After the volunteer event, we gathered to debrief about the experience. They came to see it as a learning experience and recognized the importance of knowing your audience. They understood that speaking your science to one group will look one way, while another audience will require different words and approaches.

A seed was planted that night and the students intended to nurture it. They saw an opportunity to share their science while learning from citizens

who looked different than them, who had different life experiences than they had, and who saw water differently than they did. They were like sponges! It was amazing to watch them reassess their beliefs and perspectives as they processed this new knowledge and data.

It should come as no surprise, then, that they jumped at the chance to get involved in the planning of events related to the We Are Water MN exhibit on campus.

I was eager to be part of the collaboration as well. I'm the graduate program coordinator for the WRS program. In short, it's my job to recruit and advise students, support faculty, and manage the curriculum. When the initial planning began to bring the We Are Water MN exhibit to campus, I was excited for the opportunity to collaborate with on- and off-campus partners. I couldn't wait to bring recognition to water research being done by my students and faculty and to give my students a chance to create activities they could rally around.

Water Resources Science students had historically lacked a sense of community. WRS students and faculty come from a wide range of backgrounds like engineering, biology, chemistry, economics. This is a small program in size (only 66 students) but huge in the number of departments it collaborates with (111 faculty from 28 different academic units and agencies on two campuses). Being one of the most interdisciplinary graduate programs on campus, students felt closer to their faculty advisor's department than to their fellow students. Graduate students usually have a set path, often rooted in their undergraduate experience and the direction given to them by the faculty advisor funding them. In the last few years, however, a group of students took it upon themselves to strengthen their student group, the Water Resources Students in Action (WRSIA). The current cohort of students transformed WRSIA into a more social network, allowing for some amazing conversations over their shared passion for improving our water's future.

Through We Are Water MN, these students were about to add a collaborative experience that would enhance that on-campus learning.

I invited students to join me at the brainstorming sessions that started a year before the We Are Water MN exhibit was to arrive. Together we learned about the general concept of the exhibit and the goals we as a committee had for programming activities during and after its visit.

The WRS students were introduced to students from the Environmental Humanities Initiative. These two groups of students shared an interest in water but understood that they used a different vocabulary and a different lens when researching issues. They all sat down to discuss ways to get the two groups to work together on a project with an end goal that could benefit them both.

Unfortunately, homework, research responsibilities, and life got in the way and much of the progress the two groups had made was put on hold. The intent is to reconvene in the fall to redefine their plan. I, for one, hope this collaboration bears fruit.

One of my favorite events, which I also helped plan, was the panel of water professionals who talked to undergraduate and graduate students. The planning process for this event was a comedy of errors at the beginning. We all agreed it was a great idea, but time had gotten away from us. We stood at the point of deciding whether or not we could plan it in time. With the help of a trusted colleague, we dove in to make it work.

We made a list of potential speakers, thinking that at least a few wouldn't be able to make the date and time work for their busy schedules. Much to our surprise, that wasn't the case! All of them were excited to participate.

At the event, the panelists shared their education and career path and advice for the inquiring minds in the audience. They shared how water issues have changed since they got started. The students asked wonderful questions, many of which forced the panelists to dig deep into their experiences to respond. It's a win-win when you watch people learn from each other.

The really funny thing about this event that almost didn't happen is that it wouldn't end! The students stayed after to talk to the panelists and then the panelists stayed even later to talk to one another. It made it all worthwhile.

So, what's next? The WRS students have created a sense of community within their program and are committed to engaging new students to make sure it lives on after they've graduated. They have started to work together as a group on all sorts of projects. For example, they have staffed the Water Bar at two different events cosponsored by WRS and the Institute on the Environment. They plan to work together with students from across campus and across disciplines to continue the conversation toward a shared vocabulary.

The WRS program is also coordinating with the Water Resources Center and the River Life program on a research symposium that will highlight women in water. This event might be a few years in the planning because we want to do it right and include more absented voices in the conversations. Bringing the relationship full circle, we plan to invite the woman from the opening of our story, the woman who challenged the WRS students, to share her perspective so the event is inclusive and beneficial to all. I hope to share with her the impact her words had on me and an entire group of students.

Water Resources Students in Action—Douglas Klimbal

As a water resources scientist, I focus on how physical and chemical sciences relate to the human use of water and the impacts of water on natural systems. I may be biased, but to me it seems that proper application of hydrology (the physical study of water and how it cycles) and geobiochemistry (a study of the influence that biology and geochemistry have on systems) could go a long way in solving many of the world's problems. Algal blooms in the Gulf of Mexico are linked to sediment and nutrient loading in the Mississippi. Urban flooding is all about infiltration and storage. Even equity and quality of life can be impacted by the presence or absence of green landscapes that rely on and help control water. I've spent a lot of time studying the biological, chemical, and physical sciences, especially as they relate to earth systems and built environments, because, well, because I'm a total nerd. That said, I've had an avid interest in exploring language and culture since I was quite young.

These dual interests made me eager to think about the possibilities of working with the We Are Water MN project on campus. As part of the larger project, in the fall semester of 2018 I spent some time preparing an event that would be hosted by River Life as a partnership between the Water Resources Students in Action and the Environmental Humanities Initiative. While these student groups both examine human-environment dynamics, they come from very different academic backgrounds and perspectives. Water Resources Science students often focus on studying the imbalances found in natural or built systems and investigating how those imbalances impact the hydrologic cycle and water quality. Examining these impacts a step further means recognizing potential effects on populations, demographics, infrastructure, and other human phenomena. Environmental Humanities Initiative students start with the people, make observations about equity and culture, then draw

conclusions back to the environment in which that human phenomena developed.

If academia were an art museum, these two groups would have entered from opposite ends only to meet in the middle. While everyone could be seeing the same artwork, the two groups would have entirely different perspectives based on what they'd seen previously. This event that stemmed from this partnership was geared toward asking across the room, "What is it that you see?" For most, it would be atypical and perhaps even uncomfortable to invite that unknown, foreign perspective. But in this controlled setting, where individuals of each group were invited to share their understanding of water and its place in our world, my hope (and the expectations of myself and the other event organizers) was that the perspectives would be complementary. My hope was to learn that my outlook needed a shot of humanities, and that the humanities could use a dose of the abstracted applied sciences that I know and love.

This seems an important step to take in the midst of the some of the dominant trends in disciplinary inquiry. In recent years, there's been a growing focus among natural scientists on an area which is sometimes called "the critical zone." Generally, this refers to an area bound above by the cloud tops and below by the lower extent of a water table, including the productive regions of seas and oceans. It goes without saying that this encompasses quite a lot of what is known (and unknown) about earth processes. Environments in the critical zone are dynamic by definition. Many are physically complex and constantly subject to change. Processes that occur here promote the growth of communities which are obligated to develop resilience and diversity in order to persist and live. The zones of transition, zones that exist at an interface between multiple phases of matter, are exposed to the most complex mixture of nutrients. These environments often

Connecting thousands of people to the river and each other

Mary Hammes, Environmental Stewardship and Volunteer Manager with Mississippi Park Connection

Mary works for Mississippi Park Connection, the National Park's non-profit partner for the Mississippi National River and Recreation Area. Since 2015, Mary has served as Environmental Stewardship and Volunteer Manager, coordinating about 7,000 volunteers each year for habitat restoration events and other projects in the 72-mile park corridor along the river.

Lately, her work has been aimed at addressing the loss of tree canopy due to Emerald Ash Borer. Though this habitat loss can have significant impacts on migratory bird species, there is also a silver lining. We can replant in a way that's more intentional, "with an eye to the future," Mary says; this gives us "an opportunity to make our forest along the river more resilient."

Mary is passionate about leading service groups and managing volunteers because she's experienced first-hand the "incredibly powerful, transformative thing that happens when people work together towards a common goal in the outdoors. I really see the river as a platform for human connection, and as this space where we can know that we're not alone. We can grow in our confidence towards taking care of each other and for the space when we work as a team."



Getting to know the river again, and the changes humans have made

Matthew Tucker, Assistant Professor in Landscape Architecture at the U of M

Hailing from Sioux City, Iowa—another river city—Matthew Tucker says he's fascinated with "the ways in which water flows, the different currents and patterns, and the different ways in which a river changes." As an Assistant Professor in Landscape Architecture, Matthew teaches a course called "Making the Mississippi" at the University of Minnesota that introduces students to how humans have modified the Mississippi River landscape. "It's important for us to realize how much we have influenced the hydrology of our landscapes, but oftentimes we're disconnected from those influences, or they're so common, they're so 'everyday' we don't even see them."

We think of rivers "as these big blue lines on a map," completely separate and apart from people and our built environment, but this misses an important part of the water cycle today, argues Matthew. Those storm water pipes that run through our cities? That's a new kind of creek, a new kind of tributary, says Matthew: the Mississippi River watershed starts in our own backyards, rooftops, and parking lots. What interests Matthew and his students is not returning the landscape to what it was, but "creating new connections between communities and their environment, based on what it is today."



Learning to speak: Finding better words to talk about water

Lark Weller, Community Planner for the National Park Service

Lark Weller is a Community Planner for the National Park Service, working in the Mississippi National River and Recreation Area. With a master's degree in urban and regional planning from the Humphrey School of Public Affairs, Lark is well-versed in the vocabulary of water resource professionals, but over time she's noticed the professional lexicon doesn't always resonate with communities, and can even alienate some people. These language differences can hinder important conversations about shared places, she explains, which motivates her to consider how the park service can "think about our use of language differently, more intentionally and carefully."

Lark describes herself as a convener, and today she is focused on bringing water resource professionals together with people who have other backgrounds and lived experience, who are "inviting them to think about what water is" in new or different ways. Rather than reflexively use terms like "resource" or "value," Lark is working to center conversations around meaning: What is the meaning that people find in this place? What is the meaning that people find in this water?

"We're there to take care of this place for all people," she says, "so we need to understand what taking care of it means to all people."



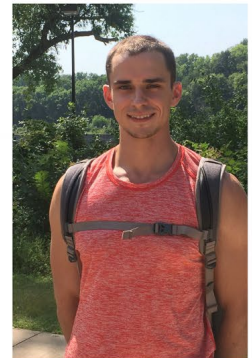
Looking for community solutions for salty stormwater

Doug Klimbal, Master's student at the U of M

As a master's student in Water Resources Science, Doug is exploring connections between urban land use and salt in area waters, but his interest in water didn't start in the lab. "I love being on the water," he explains. "I grew up fishing on small lakes, and then took to kayaking. Being that immersed in nature—it's very relaxing, very peaceful, and you see so many interesting things."

Doug monitors local stormwater flows for his research. He's observed that "there is more and more salt turning up in shallow groundwater around the Twin Cities metro area and around lots of northern cities," and believes this trend is connected to how we currently de-ice our roadways. Many of the ponds, lakes, and rivers are directly connected to our stormwater system, says Doug, so "water that falls on the built landscape gets channeled directly into those bodies of water"—bringing salt from our highways, parking lots, and sidewalks with it. Using less salt is not necessarily an easy change, but it's one he hopes our communities will consider.

"I can imagine that if we don't change the way we think about maintaining our roadways in the winter, you'll be out on the lake one day and you won't notice the call of the redwing blackbird standing on top of a cat tail, or you won't notice the tallgrass rustling in the breeze."



Belly up: Creating social discussions about water

Shanai Matteson, Artist and co-founder of Water Bar

"The idea at first was very simple. We wanted to find ways to connect people to the water that sustains this place. In Minneapolis, the Mississippi River is the source of our drinking water, and most people don't realize that," says Shanai Matteson, working artist and co-founder of Water Bar, a bar that only serves tap water.

Most people aren't interested in a seminar on water systems, Shanai explains, but visiting a "bar" where people can sample drinking water is intriguing. "A lot of people don't get it at first," she admits, but that ambiguity can be magical: "sometimes it means that they're just curious enough to come up and ask you what you're doing." In turn, the "water tenders" serving up samples are ready to listen, share experiences, and invite people to tell their own stories about water.

When designing the Water Bar, Shanai & co. wanted to create a community and social gathering space "that is more plain-spoken and real, where people can talk to each other in a face-to-face way about water." People ask lots of really smart questions, and you can start to get into some complicated issues like access to political power, resources for infrastructure, or safe drinking water, says Shanai. It is challenging, she admits, "but I think when we sit down over a glass of water, and you're inviting people to share their own experiences, you kind of break down a lot of those walls."



Inspiration panels from the We Are Water MN exhibit at UMN Twin Cities. Images courtesy of Minnesota Humanities Center and Minnesota Pollution Control Agency.

harbor the most varied and prosperous forms of life. These environments, of course, are where people's experiences primarily take place, and are therefore the environmental zones perhaps most pertinent to scholars of the environmental humanities as well.

As a geoscientist, it occurs to me that change is inevitable. In fact, my assertion is that stagnation and specialization is likely to eventually cause impaired function and a lack of resiliency to change. Scientists often speak to others within their own discipline to try and solve problems because of shared culture. Scientific disciplines have unique languages and common practices for systematic analysis. As we work in our silos, subdisciplines develop and professionals become increasingly specialized. For a student at the cusp of a professional career, the wrong specialization could mean fewer and less rewarding prospects. Instead, early career scientists, both humanists

and naturalists, should challenge themselves to develop invaluable skills—skills like being able to think and speak beyond the disciplinary boundaries. Simply by having discussions across disciplines, bonding over a common subject with your distant peers, using context cues and challenging viewpoints for the sake of keeping the conversation going brings new energy to a comfortable mind. New ways to conceptualize, verbalize, and improvise will come to hand easier, which could be advantageous at an interview, conference, forum, or even the next neighborhood barbecue. New pathways can be utilized so that scientists can flourish in an environment which was previously hazardous, stressful, or just plain boring. With the right frame of mind and an adequate diet of fresh, low-risk challenges, what one once saw as awkward and unproductive might just become a new niche.

Institute for Advanced Study/River Life—Patrick Nunnally

Since 2005, the River Life program has worked to bring together people across the campuses of the University of Minnesota and in the broader community, particularly people and organizations interested in the Mississippi River. The University's Minneapolis campus is bisected by the river, making it, to my knowledge, the only world-class university located directly on the banks of one of the world's great rivers. Furthermore, all of the Twin Cities campuses, both in Minneapolis and St. Paul, are in the homelands of Dakota people. Finally, most of the Minneapolis campus is within the boundaries of the Mississippi National River and Recreation Area, a unit of the National Park Service.

Our location is a lot to live up to.

As might be expected, River Life's work entails a lot of community meetings and collaboration with community groups. Since 2014, the program has

been part of the Healing Place Collaborative led by Indigenous artists and focusing on the healing of place and by place. Water is central to the work of most Collaborative members. Another member of the Healing Place Collaborative is the Minnesota Humanities Center, and when their participants started talking in 2015 or so about the Smithsonian Water/Ways traveling exhibit program, we were intrigued. When the Humanities Center and its other statewide agency partners began developing plans for a "round two," to be called We Are Water MN, River Life began exploring the possibilities of becoming one of the host sites for the exhibit.

Broadly speaking, We Are Water MN explores two themes: the idea that all of us have responsibilities to be stewards of water, and secondly, that the present and future stresses on our water systems hurt disadvantaged communities most directly and painfully. These two ideas allowed

River Life to bring together threads of our work that had not previously coalesced: the relations between water and issues of equity and justice, and the notion that water is not just a scientific or engineered system, but might fruitfully be thought of as a “hydrosocial” concern.

Our initial explorations with the We Are Water MN conveners replicated some of the difficulties River Life had been experiencing in terms of developing a focus for our work. Many questions arose: Could we find a way for University water scientists to make their knowledge accessible to the public? Were there ways that the different disciplines at the University (humanities fields and scientific fields, for example) could learn to talk together? And exactly what did we mean by “host community”: were we envisioning bringing the entire Twin Cities metropolitan region to

the exhibit, or more specifically the University campuses? I will note that the University, with over 60,000 students, faculty, and staff, is larger by itself than many of the communities where We Are Water MN was hosted, so this last question was a significant consideration.

Difficult questions notwithstanding, we felt that it was important for River Life to play a host/convener role for We Are Water MN on campus. Planning the installation and management of the exhibit and the accompanying programming allowed us to expand our reach of community partners. For example, although we had worked with the Minnesota Humanities Center before, we had not done any work with the staff from the Minnesota Pollution Control Agency, the Department of Agriculture, or the Department



A visitor to the exhibit listens to narratives that explore, in part, the people who have lived here the longest. Image courtesy of the Minnesota Humanities Center.

of Health. We knew people at the Mississippi Watershed Management Organization, our local watershed district, but had not worked directly with them for several years.

Likewise, We Are Water MN became a focal point for us to strengthen on-campus relationships. River Life was formerly (2007-2012) a program of the Institute on the Environment (IonE) but had not been directly involved with that institute subsequently. When IonE stepped up and agreed to host the physical exhibit in its gallery spaces, we knew that we could actually pull the events together. IonE's strengths in the scientific disciplines complemented River Life's more humanistic and social science orientation, plus IonE's offices are on the St. Paul campus where many of the water-oriented scientists have their offices and labs. We also developed programming and curriculum involvement with the Water Resources Science program, the University Honors Program, and the Environmental Humanities Initiative, all of whom we had previously been acquainted with. The exhibit work allowed us to strengthen those relationships considerably.

The six weeks in late 2018 during which we hosted the exhibit marked a spectacular run of programs, inventive engagements and conversations about water, and a remarkable broadening of our own perspectives. We hosted three events with strong participation by Indigenous people—largely Dakota, the people who have been here the longest time. The exhibit was toured by hundreds of people; an anecdote that I shared widely with the statewide partners was about the farm family that came in, played with the agriculture and water interactive feature and reported that “you folks pretty much got it.” Given historical mistrust between many in the agriculture community and many clean water advocates, this felt like a win.

We also learned a lot about our limitations, both as a physical campus for the public to visit and

about our reach as researchers and teachers. Exhibit and program venues on campus were hard for non-campus visitors to find, and parking is expensive. Some of our programming did not have as broad an appeal as we had imagined; while there was important participation from the campus community, we didn't reach as broadly as we had hoped. More importantly, given the exhibit's focus on vulnerable communities and voices not often “at the table,” we did not realize soon enough how much we should have done to bring in community groups associated with environmental justice, for example. In retrospect, we might have been much more intentional from the very beginning of our planning about how to reach and engage communities who don't see the University as a resource that necessarily serves their interests.

That said, there were important things started in the fall of 2018 that continue. The Institute for Advanced Study (IAS), home of the River Life program, held an event in spring 2019 on the importance of water in Hmong traditions. Work with the Office of Public Engagement, Department of American Indian Studies, and the Healing Place Collaborative is gaining momentum. The IAS has received a substantial, multiyear grant from the Andrew W. Mellon Foundation that will support teaching, research, and programming that re-centers humanistic inquiry around community and Indigenous perspectives. Though this work is not formally connected to We Are Water MN, the resemblances and intellectual connections are clear.

It's fair to say that the ongoing impacts from the We Are Water MN exhibit and programming at the University are just now being felt and will continue for some time yet. Social change and teaching are sometimes like that: quiet influences that pop back up in unexpected places and times and through unexpected means.

At universities we think a lot about learning, but we don't always turn that reflection back on ourselves and ask what we have learned from

an experience. I only represent one perspective from the dozen or more people who invested time and energy to bringing We Are Water MN to the University of Minnesota Twin Cities campus, but I can offer some observations on what some of us learned. For one thing, our expertise as scholars is not always assumed off campus; we have to be as good (or better) at listening as we are at speaking. Our campus is sometimes a barrier to community participation, hard to navigate, requiring expensive parking arrangements, even open only at certain times and days. The challenges of far-field interdisciplinary work, such as the student engagement with the Environmental Humanities Initiative and the Water Resources

Science students, are great, and arise from basic issues of perception, language, and orientation, as well as more specialized knowledge that is not shared. Finally, great work can be done by assembling people who have bought in on shared goals, who recognize how the shared goals advance their own unit's goals, and who have a distinct set of talents to contribute. As long as we don't care who gets the credit, but that there is quality work taking place, we make great things happen.

Our experience with We Are Water MN began a process for the University of living up to our location.

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Douglas Klimbal has been a master's student in the Water Resources Science program at UMN Twin Cities for the last two years. Prior to that, he studied environmental geoscience at Michigan State University and participated in organizations which emphasize innovation, interdisciplinarity, and leadership skills development. He aspires to be a career scientist, but also practices documentary photography and creative writing.

Kimberly Long has been in a leading event role within the Institute on the Environment (IonE) since 2014. She currently serves as IonE's event strategist & project manager with a keen interest on sustainable event management.

Patrick Nunnally coordinates the River Life program in the Institute for Advanced Study at the University of Minnesota. He serves as editor for Open Rivers and was one of the lead scholars for the University's John E. Sawyer Seminar which focused on the Mississippi River and was funded by the Andrew W. Mellon Foundation.