



**ISSUE NINE : WINTER 2018**  
**OPEN RIVERS :**  
**RETHINKING WATER, PLACE & COMMUNITY**

**INNOVATIONS**

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An interdisciplinary online journal rethinking the Mississippi  
from multiple perspectives within and beyond the academy.

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The cover image is of tending water and listening at Water Bar in Greensboro, North Carolina, courtesy Shanai Matteson, Works Progress, and Water Bar & Public Studio.

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## INTRODUCTION

# INTRODUCTION TO ISSUE NINE

By Patrick Nunnally, Editor

Welcome to Issue 9 of *Open Rivers*, which begins our third year of publication! Our tagline, “Rethinking Water, Place & Community,” speaks to our sense that there is a conversation taking place in diverse professional sectors and academic disciplines about the relationships between our human communities and our water communities, and that there is an audience for this conversation, both on campus and in the broader water-oriented professional community.

Accordingly, this issue’s theme of “Innovation” highlights some of the projects that we think are forming a basis for a new way of thinking, seeing, and doing work.

The Water Bar project is becoming increasingly well known as an imaginative way to form community by talking about water. As Shanai Matteson’s article demonstrates, what started as a very simple concept—create a bar that serves



*Tending water and listening at Water Bar in Greensboro, North Carolina.*

*Image excerpted from the article, this issue, “Water Bar: Water is All We Have” by Shanai Matteson, image courtesy Shanai Matteson, Works Progress, and Water Bar & Public Studio.*



tap water—has turned into something much bigger and is forging systemic change through new relationships. The work of the Lower Mississippi River Foundation and the Quapaw Canoe Company likewise points the ways to the community-building that will need to take place if we are to continue to enjoy a vibrant, life-giving relationship with our rivers. True community-building requires new ways of seeing; after reading Andrea Carlson’s vivid piece, “On The Uncompromising Hand,” and seeing the accompanying images/video, you may never be able to see St. Anthony Falls as simply an engineered landscape without also recognizing the erasures of community-valued places.

Our usual columns support the concept of “seeing things differently.” Quinn Feller writes about the project of devising a largely visual way to convey the notion of a mountain as a place where three watersheds meet. Nancy Buck Hoffman illuminates an overlooked question about the historic

Fort Snelling complex by asking, “What water did the troops drink?” and telling a story associated with a bottle excavated during archaeological investigations. I write about the enduring value that the nonprofit River Action brings to its local riverfront, pointing out how the organization’s innovative work from 35 years ago has been carried forward in a way that responds to changing circumstances to tell a powerful story. Our “Teaching and Practice” column, co-authored by four undergraduate students from Macalester College, discusses the perils and fun of summer fieldwork and shifts the temporal scale; River Action has been an organization roughly twice as long as these students have been alive. Finally, Margaret Flood reviews an exhibit on the many ways our encounters with all forms of water shape our health, our perceptions of space, and sense of time.

Happy reading!

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## About the Author

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, “Making the Mississippi: Formulating New Water Narratives for the 21st Century and Beyond,” funded by the Andrew W. Mellon Foundation.

FEATURE

# WATER BAR: WATER IS ALL WE HAVE

By Shanai Matteson

*“The effort to know a place deeply is, ultimately, an expression of the human desire to belong, to fit somewhere.” – Barry Lopez, The Invitation*

When I’m asked to speak about the work I do as an artist, a cultural organizer, and Collaborative Director of Water Bar & Public Studio, I often

struggle with two important points of departure: How do I introduce myself when I have so many different roles in my artistic and organizing life? And where do I begin telling the story of this complex, evolving project—which I did not imagine or develop on my own, and which is more of ecosystem that I tend with others than it is a definable creative project?



*A Water Bar pop-up for Land-O-Lakes employees at their headquarters.*



*The author printing “We Serve Water” drop prints at a Water Bar event.*



Officially, Water Bar began in 2014 as a temporary pop-up created by the arts collective Works Progress Studio, which I've led alongside artist and designer Colin Kloecker since 2010. We were invited by our local public television network to curate an hour-long program of videos and other experiences for a live studio audience, part of their pilot series TV Takeover—which explored the potential of letting artists and arts organizations “take over” the airwaves.

We chose to focus our hour of public TV on the Mississippi River, creating a series of video portraits we titled Dear River, and a menu of related in-studio experiences. Water Bar was one of the ideas that we brought to life on air. You can see a video of that first Water Bar here.

## Belonging to the River

I grew up around, on, and in the Mississippi River. Palisade, the small Minnesota town where I come from, doesn't appear on most highway maps, but I can tell you that it sits at river mile 1086—just over 1000 miles from the mouth of the river—where the old Soo Line railroad once crossed the water.

A steel truss bridge still spans the river at the edge of town, though no trains have run this route since 1985. The line was abandoned when I was three years old, so for most of my life, the Soo Line wasn't a railroad at all; it was a trail for ATVs, snowmobiles, and the occasional off-road bicyclist.

The river, however, was always just *the river*. Were it not for the highway signs that proclaimed a pride in being “on the Mississippi,” I'm not sure we would even have known the river's given name. To us, it was just part of the place we lived. And someone—a cousin or second cousin of mine—had tied a rope swing to a tree that hung over the water. If you jumped with enough force,

Though our original Water Bar collaborators were scientists, environmental advocates, and other water resource professionals, the project was really born much earlier, after I turned my creative focus and energy toward the exploration of my relationship with the Mississippi River.

For that reason, the origin and development of Water Bar is equal parts artistic exploration and personal reflection. In many ways, Water Bar and all of my artistic and arts organizing work has been a means of knowing my place more deeply—an artistic expression, as Barry Lopez so eloquently defines it, of our human desire to belong to place.

it dropped you halfway to the other side, just upriver from the Soo Line bridge. That was what we knew most viscerally about our relationship with water.

Learning to swim in a river current—to climb up a river bank, digging your toes into cool mud and pulling on tree roots—is still one of the formative lessons of my childhood. As are the stories told by my parents and grandparents about the river and what it could do if a person wasn't careful.

Though the Mississippi is a narrow and winding river where I grew up, we were still warned that it had powers beyond human control and imagination. The river hid garbage people wished away, old washing machines and oil drums and glass bottles. It was a place of danger, as well as ghosts. People we'd known, or that our parents had known when they were young, had drowned in the river when they didn't respect the fact that it was wild. The river could give life, and take it away.



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Not surprisingly, we were told never to swim there, but we did anyway. Some of us even jumped from the Soo Line bridge into the water, coming up for air a little farther downstream.

It wasn't until I moved to Minneapolis to go to college at the University of Minnesota that I came to realize just how many people live in communities directly on the Mississippi River, and that, importantly, it is not the same river wherever you go. Although my college classmates spent as

many days as I did walking or biking back-and-forth across the Washington Avenue Bridge, we didn't all know the river we were crossing in the same way.

Those differences in experience, some subtle and others not, eventually became the spark for a body of artistic and organizing work concerned primarily with the stories we tell about our relationships with water. We are river people, but we don't always know what that means.



*Steel truss bridge over the Mississippi River in Palisade, MN.  
Image courtesy of Peter Ladd, 2009.*

# One River, Many River Stories

Though I'd grown up around, on, and in the Mississippi, steeped in river stories, I didn't always think of the river as part of my culture or my community, much less my own identity. It took leaving the town where I'd grown up to see the river as more than a thing to be feared, controlled—maybe explored against the wishes of my mother—but rarely more complex than a line through a landscape.

Unlike the people I met at the riverside campground in my hometown, many of them journeying from headwaters to gulf in boats or on bikes, I'd only known the river in place. I knew its contours, its colors, its smells and stories, but only as these flowed through our corner of northern Aitkin County.

In Minneapolis, the Mississippi is wider, and has more points of crossing. It is an entirely different experience. In some ways, it is a different river altogether, one that I came to know mostly from a distance. We don't swim the river here, and few of us paddle it, though efforts are underway to expand access to this experience within the heart of the city. The truth is that many of us don't think of the river at all, even though it's the reason our city exists where and how it does.

That realization—that there is *my river*, as I see and know it—and many other rivers, too, all in some sense *true* to the people who inhabit this watershed, came to me for the first time while I was working for the University of Minnesota's Bell Museum of Natural History.

In addition to developing public education programs to connect science and culture, I also took part in the making of documentary films as an associate producer. The last film I worked on while at the Bell Museum was a documentary called *Troubled Waters: A Mississippi River*

*Story*, which looked at the issues of land use and water quality in the agricultural landscapes of the Mississippi Valley.

As part of this film crew, I was fortunate to travel to a number of rural communities in our greater watershed, including farms in southeast and southwest Minnesota. There, I met men and women who also had stories about how water moves through their lives and places. And like the place where I had grown-up, those stories shaped the ways people lived with land and water. Unconsciously, perhaps, it also shaped their sense of themselves and their belonging to that place.

During the filming of *Troubled Waters*, I also had the opportunity to travel to New Orleans, where we interviewed scientists who study hypoxia, more commonly known as the dead zone, a problem of nutrient pollution spilling from the river's mouth.

Much like my own experience of knowing the Mississippi River both in the place I grew up, and as a landscape feature in the city I chose to live in as an adult, there are multiple ways of knowing convergence. The place where the river meets the Gulf of Mexico is itself a complex story.

The scientists we met, who study the dead zone using instruments to measure oxygen levels, also put on scuba diving gear to observe the eerie stillness of the sea beneath the surface, and saw up close what it looks like when life cannot flourish. We also interviewed shrimp fishermen, who knew the same phenomenon because it was decimating their catch and their local economy. The farmers we met in Minnesota, for the most part, did not know that they were also experiencing this same dead zone—belonging to it, as it were—because the lands they were farming were



directly connected by water. Most of us don't know that when we purchase and consume food or fuel that has its origins in this cropland, we too belong to this problem of hypoxia at the mouth of our river.

The conversations we were able to have along the river, by comparing experiences and searching after ways that water connects us, made me curious about the role of art and storytelling across geography, economy, and culture. It is not merely a matter of entertainment. The stories we tell (and the stories we don't) are like the soil that our solutions to problems might grow from. Stories of connection (or disconnection) make possible (or impossible) our collective efforts to reckon with the relationships we've made to land and water over time. Storytelling—particularly about people in place—is one of the most critical methods we have of addressing the future of our lands and waters. To know water and our place within it, is to know ourselves and our power to create change.

Those questions of belonging—to where, and what, and who—kept resurfacing through this storytelling work, and with them, many other questions about the very nature of place, story, and meaning. These are all fertile questions

## Can We Drink the River?

The idea to create a bar that only serves tap water began in conversation with scientists and others that I met while working on *Troubled Waters*. Each time I spoke with someone who had devoted their life to understanding our relationships with the Mississippi River, I become more interested in the river as a place of exchange and transformation.

How could I encourage more people to see their own relationships to water, not only as an academic subject or resource to be consumed,

for artists to address, since they contain within them the impossibility of a singular answer or solution—a good thing, since the complexity of current environmental problems requires many solutions, all rooted (I believe) in a need for social and cultural change.

A friend and artistic collaborator recently shared an aphorism he'd heard in his own river travels, which described the problem of coming to agreements about the meaning of a place, an experience, or an event through the singular stories we tell. He said a man in one of the small towns he had visited told him, "There are only three stories: Your story, my story, and the truth."

While the truth of a river might be impossible to contain in a single story, we still go searching after those stories that resonate with our experience in some way. And those resonant stories become threads that connect us, in spite of difference.

That might be exactly what makes it a river, or what makes us river people—that we each, and our places, contain multitudes. By uncovering river stories in conversation and community, and asking how they braid together over time, we begin to see how it is we might belong.

but as an essential part of their body, their life in place, and their story? More than just a line in a landscape, rivers are an inspiration for our own ability to give life, create connections, and make change in complex systems.

By the time *Water Bar* began, I'd spent years working with established environmental organizations. While I believe very much in their missions, I also know the pitfalls of traditional environmental education and advocacy. Namely, I know the problems that stem from assuming

knowledge, data, and other information *about* something is sufficient to encourage meaningful action for that something. The assumption often goes that if we just distribute good, scientifically sound information widely enough, it will lead to changes in behavior or belief. But as a water scientist I know pointed out, she can tell me a lot about water science, but nothing at all about what people ought to do with their hearts and minds.

As Works Progress Studio began to develop the idea for Water Bar, we asked a number of researchers and water quality professionals what would happen if we invited people to drink directly from the Mississippi River, in its raw form? At first, this was a purposely absurd idea: Who would drink the river? We thought we knew the answer: No one in their right mind.

We also thought that just posing this question might lead to generative discussion, and we were correct about that! As we began to float this idea to other people, we quickly learned that there are few things that generate as much discussion as questions about what is “in the river,” and what people will or will not put into their bodies. These questions are also great starting points for understanding the disparities in access, trust, and risk that are inherent in water infrastructure and land use as currently designed.

Initially, we planned to create a kind of speakeasy on the banks of the river, where visitors would be offered a drink pulled straight from the river. Later, this idea evolved to include a method of purifying water on site in a spectacular and beguiling way. We imagined a sculptural installation



*A water tender preparing a flight of tap waters.*



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that mimicked a distillery, with vats and winding tubes, all producing safe drinking water, while also producing an occasion for exploring our river relationships, and the very concept of trust and safety.

Somewhere along the way, we were asked by one of our collaborators if we knew the source of our municipal drinking water. To be honest, at the time, I didn't know. Or I did know, but this knowledge was buried in the back of my mind, where I put things I don't think will be of much use in my daily life..

After I was reminded of the fact that in Minneapolis, St. Paul, and other river cities, drinking water comes from the Mississippi, I

remembered all of those times when our tap water had the earthy flavor of river that had just been stirred. I had known for a long time that this was part of a natural cycle in rivers and lakes. After all, I had grown up swimming in the dog days of summer—but I had never stopped to consider what this meant as an aesthetic element of the place I lived. In some sense, this was a way of tasting place.

We realized that all we really needed to do to encourage people to consider their most intimate and common relationships to the river, was remind them that they already drink the Mississippi every single day.



*Drinking water intake for the City of Minneapolis.*



*Water Bar tour of Minneapolis drinking water treatment facility.*



# Stories Flow Both Ways

And so we created the first Water Bar to accomplish this simple task: Remind people that we drink the river, as well as the groundwater beneath us. Remind them that this is one of the ways they belong to place. Encourage them to engage more deeply with questions about the future of that place.

We did this in collaboration with a handful of water professionals who have since become long-term programmatic partners and collaborators.

Dr. Carrie Jennings, a glacial geologist who was with the Minnesota Department of Natural Resources (DNR) and is now Policy Director at the Freshwater Society, was our first Water Tender—along with several Park Rangers from the Mississippi National River and Recreation Area (MNRRA), Pat Nunnally from the River Life program and Kate Brauman at the Institute on the Environment at the University of Minnesota, and key staff from Minneapolis and St. Paul water utilities and local watershed organizations.



*Serving water at Water Bar on the St. Croix River.*



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With these folks tending bar, we served tap waters from across the metropolitan area, learning as we went along about each of these municipalities: Their water sources, treatment methods, and the way that particular water tastes when it is compared to other waters.

We wanted to spark curiosity about water and the ways it connects people to place, and we wanted to create a space where stories about water could flow easily. This is precisely what happened. What surprised us was not that people would slow down and taste water, or tell stories about it, but the impact this exchange had on the professionals we invited to work behind the bar.

What we learned was that not only did Water Bar provide a unique way to share water information and encourage water and river stories to flow

between visitors, but the learning about water systems and their connections to culture flowed in both directions, back to the “experts” who were now in a unique position to listen and serve.

“The most that I do when I’m tending the bar is listen ... invariably people who come to Water Bar end up talking about their water sources or what water issues they’re concerned about,” (Kate Brauman, [Twin Cities Daily Planet](#)).

Recognizing that Water Bar could provide a critical framework for reciprocal public and professional education and engagement led us to see the potential for the platform in entirely new and expanded ways. It became much less about sharing our idea or sparking a particular realization among visitors, and much more about creating the social conditions that lead to



*Tending water and listening at Water Bar in Greensboro, North Carolina.*



new relationships and approaches. It became a way to challenge and reorganize the methods of teaching, learning, and building relationships

between people and the water that flows through their lives and places.

## An Emergent Space and Strategy

Soon after we began hosting Water Bar pop-ups around the Twin Cities, we were invited to participate as artists in a national survey exhibition called *State of the Art: Discovering American Art Now*, at Crystal Bridges Museum in Bentonville, Arkansas.

As artists who work in close relationship to place, we tend to resist the inclination to travel our projects beyond the location where they originally emerged. Water Bar had been created as a conversation with the Mississippi River in a specific part of the watershed, so when Crystal Bridges



*Water Bar installation at Crystal Bridges Museum in Bentonville, Arkansas, part of the survey exhibition, “State of the Art: Discovering American Art Now.” Water Bar designed by Colin Kloecker and co-designed/built by sculptor Aaron Dysart.*

Museum approached Works Progress Studio about bringing the project to Arkansas, we had to think deeply about whether or not to participate.

This decision was made even more complex when we considered the people and underlying economies involved. Crystal Bridges is the creation of Alice Walton, heiress to Sam Walton, founder of Walmart. As a young person growing up in a rural community, I had often regarded Walmart as a negative force in our economic and cultural lives. I wrote a bit more about the soul-searching that occurred when we were invited to take part in this exhibition (and our ultimate decision to do so) for St. Louis-based arts publication [Temporary Art Review](#).

In the end, we chose to work with the museum to develop and present a new iteration of Water Bar

in partnership with the local water advocacy organization, Illinois River Watershed Partnership (IRWP). Crystal Bridges curators introduced us to IRWP Director Delia Haak, who we learned was a creative risk-taker and champion of innovative water education and engagement. It was Delia who suggested, and offered to financially support, a diverse group of paid college interns to work closely with us and Crystal Bridges to staff a Water Bar in the museum's busy lobby.

Over the course of five months, these students—whose backgrounds ranged from natural resource science to public policy, business, education, and design—became the first regular crew of water bartenders—serving tasting flights of local tap waters gathered from various communities in the Illinois River Watershed.



*Students serving water at Water Bar installation, Crystal Bridges Museum in Bentonville, Arkansas.*



# Gathering Water

The decision to organize the Water Bar project at Crystal Bridges around college students with diverse science and policy backgrounds, and to prioritize their learning and engagement with an art museum audience, was the point where Water Bar became much more than a public art project. Our decision to serve three waters, each sourced from a very different place and community, was also important to the evolution of the project as a whole.

*See video of [Water Bar Interviews](#).*

Both of these decisions were a way to conceive Water Bar not as a discrete artistic or engagement experience, with specific outcomes bounded by place and time, but to express the dynamic nature of our relationships with water and the ways these relationships are always evolving

and flowing, with the potential to bring us into conversation with so many other aspects of our culture and society.

Each day for five months student Water Tenders, as we came to know them, gathered water from three different places. In the process, they also experienced three very different ways that water meets human life, culture, economy, and story.

They gathered first from the Crystal Bridges Museum's own restaurant kitchen, meeting the service industry workers who are a largely invisible but critical part of the art world economy in museums today. Though Crystal Bridges is a billion dollar art museum funded by the wealth of Alice Walton, the kitchen is still a restaurant kitchen. We wanted students and the Water Bar to be a conduit for their working-class stories,



*Serving water at Water Bar installation, Crystal Bridges Museum in Bentonville, Arkansas.*

since what happens with food and food production is ultimately part of a bigger story of how we belong to land and place.

Student Water Tenders also gathered water from the garden center at a Walmart store in a nearby suburb, meeting employees and customers, who were there to purchase products they would ultimately use to design and maintain their landscapes and lawns. Grass, in the form of the American lawn, is one of the largest crops grown in our country, and as such, has a big impact on water. Again, we wanted the Water Tenders and the Water Bar to convey those stories and ways of

knowing water to a public audience, so that they might see themselves in relationship.

Finally, students gathered water from a small town in rural Arkansas. Though it is not far from the wealthy hub of Bentonville and Walmart headquarters, this community was a distant place culturally and economically.

The town of Sulpher Springs has long been known for the quality of drinking water pumped from its artesian wells. Water Tenders worked with the only employee of the town's public works department to gather this water, a man who



*Gathering water and learning about water systems in Sulpher Springs, Arkansas, for Water Bar at Crystal Bridges Museum.*



assumed the job after his father retired from the same position.

Although the water quality was high, the infrastructure of Sulpher Springs was outdated and decrepit, an interesting contrast with Bentonville, where the growth of Walmart had spurred a rapid expansion in the city's need for basic infrastructure like water and wastewater service.

These three waters, and the individual experiences of the Water Tenders behind the bar, provided many layers of meaning and possibility for discussion. Rather than spend our time and energy defining those conversations with talking points or messages, or limiting ourselves

to a predetermined curriculum, we focused on creating a welcoming and engaging space with the right ingredients for connections and conversations to spark naturally. Through intentional feedback and reflection among students, we also encouraged them to develop these conversations over time into something more integrated and whole.

Rather than a singular project, what we created together was an emergent space and strategy for knowing water, and for integrating our multitude of relationships and experiences with and within it. You can hear from some of the participating students and see this installation in action in [this video we produced](#).



*Learning about the condition of water infrastructure in Sulpher Springs, Arkansas, for Water Bar at Crystal Bridges Museum.*



# Bringing Water Bar Back Home

After the five-month exhibition at Crystal Bridges Museum, we began to ask ourselves in what ways we should continue to develop Water Bar. It was clear that with partners and participating Water Tenders, we'd begun to develop a truly unique and vital platform for water education, engagement, and storytelling. At the same time, we began to get requests from other museums and organizations to bring Water Bar to their places and events, or to prepare their networks of professionals or students to tend bar.

We decided to continue evolving the project in two directions: As a social enterprise, and as an

art and community space. Both of these projects—which eventually merged to become Water Bar & Public Studio—are still works in progress. We see both as living and evolving ideas, spaces, and strategies for knowing and serving water.

We incorporated Water Bar & Public Studio as a general benefit corporation in 2017. Benefit corporations are a social enterprise model only recently introduced in Minnesota. It allows us to operate as a business whose primary goal is not profit, but social impact. We serve water. We do this to build relationships and transform culture, providing our pop-up Water Bar and



*Water Bar pop-up at Goat Ridge Brewery in New London, Minnesota.*





*Water Bar pop-up at Goat Ridge Brewery in New London, Minnesota.*



*Neighborhood Night at Water Bar & Public Studio in Minneapolis.*



other education and engagement products to a cross-sector network of businesses, nonprofit organizations, schools, and government agencies.

These products and services allow these entities to experiment with the creation of social spaces and storytelling platforms, inviting their audiences and employees to deepen their own knowledge of and relationship with water and place.

*See video of the author at [Ignite! Symposium: The Future of Public Health](#).*

Simultaneously, we now operate a storefront space in our own northeast Minneapolis neighborhood, a tap water taproom combining the Water Bar with flexible creative community space

where other artists, scientists, advocates, and educators can experiment and connect. When they do, they exchange ideas, build relationships and movements, and develop new creative collaborations around and with water.

While we still resist a definitive mission or message, we are intentional about the operation of this space, keeping it accessible to a wide community, and seeing our role as “tending water” and “tending space” rather than curating or programming it ourselves. We’ve found that this ambiguity is a way to encourage innovation, as it allows for the creative contributions of all who visit to influence the direction the project takes as a whole.



*Water Bar at Elsewhere Museum in Greensboro, North Carolina.  
Part of the South Elm Projects.*

# Mniówe

One example of this approach in action is *Mniówe*, a new version of Water Bar that emerged through our participation in a collaborative project, Healing Place, that shares a similar emergent spirit and approach.

Not long after we began hosting Water Bar pop-ups, Works Progress was invited to join Healing Place Collaborative, an Indigenous artist-led group whose work concerns the confluence of the Mississippi and Minnesota Rivers, or *bdote* as it is known to Dakota people, a place that is both

healing and in need of healing. More than any of the other relationships and collaborations we've been fortunate to work with over the course of this project, Healing Place has had an influence on the very nature of the work and how I see myself as an artist, cultural organizer, and leader of Water Bar's collective efforts.

The form Water Bar has taken, with its emphasis on creating space for people to recognize one another, their stories and relationships, and connections to place, was familiar to Mona Smith



*A meeting of the Healing Place Collaborative at Water Bar & Public Studio.*



and other Dakota people who we met through Healing Place. The Dakota phrase *Mitakuye Owasin* translates to “All My Relations” or “We Are All Related.”

Though I was not raised with this Indigenous consciousness about the importance of relationships between people, land, water, and other living and non-living relatives, it’s a belief at the core of my own understanding now. It is something I realized as I began to connect the threads of my own and others’ experiences with the Mississippi River, which I’ve continued to gather through my ongoing river storytelling work.

When we began to know Mona Smith and Healing Place, we had not developed a language for talking about this relational approach. It was Mona who pointed out that even our usual

tagline—Water Is All We Have—spoke to an implicit bias toward objectification of water as “other” or “commodity,” and not as a relative.

I would now say that one of the underlying goals of Water Bar is to actively challenge the colonial frameworks and practices of white-led environmental organizations and projects, including our own, and to do this not by calling out efforts which share our passion for protecting water, land, and life—but by calling them into relationship, and demonstrating the effectiveness, as well as the joy, of other more reciprocal ways of being and creating.

From these realizations and the deeper work of Healing Place partners, a new Water Bar project emerged that our partners call *Mniówe*, a Dakota



*Dr. Carrie Jennings speaks at Water Bar Winter Social. ‘Mitakuye Owasin’ painting on wall reminds visitors that ‘we are all relatives’ and that Water Bar is on Dakota land.*





*Prints by various artists on display and available for sale at Water Bar & Public Studio.*



*Water Bar drop print by Water Bar artists. Water Is All We Have letterpress print by artist Ben Weaver and Sister Black Press.*



word meaning a communal well or place to gather water. It is also a place to gather water, *together*.

It's an elegant concept that speaks first to the deeply rooted appreciation within Dakota culture for relationship. As it was explained to me, *Mni* means water, but *ówe* means something like blood or lifeblood of a place and community.

## The Best Water

Now that we've been creating Water Bar for a few years, and in many different contexts—including at the Minnesota State Fair in 2017, where we served over 21,000 people—I am often asked for my opinion on the best water.

“Shanai, what is the best water you've ever served?”

I think it's assumed that this deep work automatically leads to expertise, when in fact, the more I do this work, the more I am aware of how much I do not know. So what is my favorite tap water of all time? What's the best water we have ever tasted or served?

I try not to answer these questions, but instead, to turn them back to the person who asked: What makes water good, in your experience? Is it really just how it tastes? Or are there many other things to consider, for example, your attachment to the waters that held or sustained you as a child? The health or sustainability of a vital source? Its spiritual or cultural significance? A familiarity that sparks memories of belonging?

Then I tell them my story, which is also now how I prefer to introduce myself:

The best water I have ever tasted comes from the well at my grandparent's farm, a few miles from the Mississippi River, in the county where I grew

up. Here and in many other places, rivers and lakes are our lifeblood, and so are the stories we tell in community—though we rarely think or speak of them as such in public forums. To accelerate this conversation, we have started to bring *Mniówe* to water resource conferences, introducing professional audiences to a paradigm shift that we hope will encourage a new focus in the future of specialized water work.

This water was always clear and cold, and had a taste that I could not have described as anything but home. It was a well my grandmother found by dowsing with a willow branch, a practice that would probably raise an eyebrow among many water scientists.

This water, and all of the stories I know about it, were and still are vital elements comprising my own constellation of belonging to a place, and a time.

“What's the real point of all this?”

People also ask that question a lot when they visit us at Water Bar. There is usually a subtle skepticism in their voice, since we never tell them exactly what we think they should do with their knowledge. I think they're expecting that beneath the surface, we should have a specific political motivation or education message, but the truth is that resisting this impulse is precisely the point.

We never intended Water Bar to advocate any singular action, just like it was never meant to be about taste in any qualified way. Rather, it is just about the action of slowing down, the experience of tasting and knowing water with others, and all that this contains and encourages. I've come to believe that ambiguity can be a wonderful antidote and instigator in a cultural moment where many people seem to be realizing that



*Three waters are always on tap at Water Bar.*





*Tasting and testing. What is in the water at Water Bar?*

dualities are an insufficient means for navigating the complex relational lives most of us are living.

People want and need more space for slowing down, knowing themselves and each other, and embracing the ambiguous and wonderful aspects of making place and community together. In other words, there is widespread desire for a much greater breadth of experience and imagination in our public-making lives.

This desire for social space and storytelling is not limited to any single issue. In many places I have been, agriculture figures prominently in discussions about water. In other places, aging infrastructure, urbanization, mining and manufacturing, or the preservation of wild spaces are the focal point for discussions and for organizing.

These are more than merely water issues, these are questions about our belonging to place, and ultimately, what that belonging to place means for how we choose to live in community.

I am not a social scientist, but my intuition tells me that the reasons people care enough to serve water—to act on behalf of water, to act with water and people and places at heart—has little to do with reason. It has everything to do with emotion, with belief rooted in story, and with our social imagination. This confluence is a fertile space for the innovative work of artists in community, as well as for any of us who are fortunate enough to access our creativity—to know it, as we know water—as a vital source of our belonging.

*All images courtesy of the author, Water Bar & Public Studio, and Works Progress, unless otherwise stated.*



*Drinking water at Water Bar & Public Studio.*



## Further Reading

- [Water Bar and Crystal Bridges.](#)
- [Emergent work with US Water Alliance / Art Place.](#)
- [Works Progress and Healing Place.](#)
- [Water Bar and Impact Hub.](#)
- [Artists and Designers on the Mississippi River: Notes from the ‘River at our Doorstep’ Symposium.](#)
- [Place-based art project Water Bar address disparities in drinking water access.](#)

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## About the Author

Shanai Matteson is a writer, public artist and arts organizer. She is one of the founders and collaborative directors of Water Bar & Public Studio, an artist-led public benefit corporation based in Minneapolis, Minnesota. More info about Water Bar can be found here: <https://www.water-bar.org>.

FEATURE

# FREE-FLOWING WATERS: A VISION FOR A LOWER MISSISSIPPI RIVER WILDERNESS

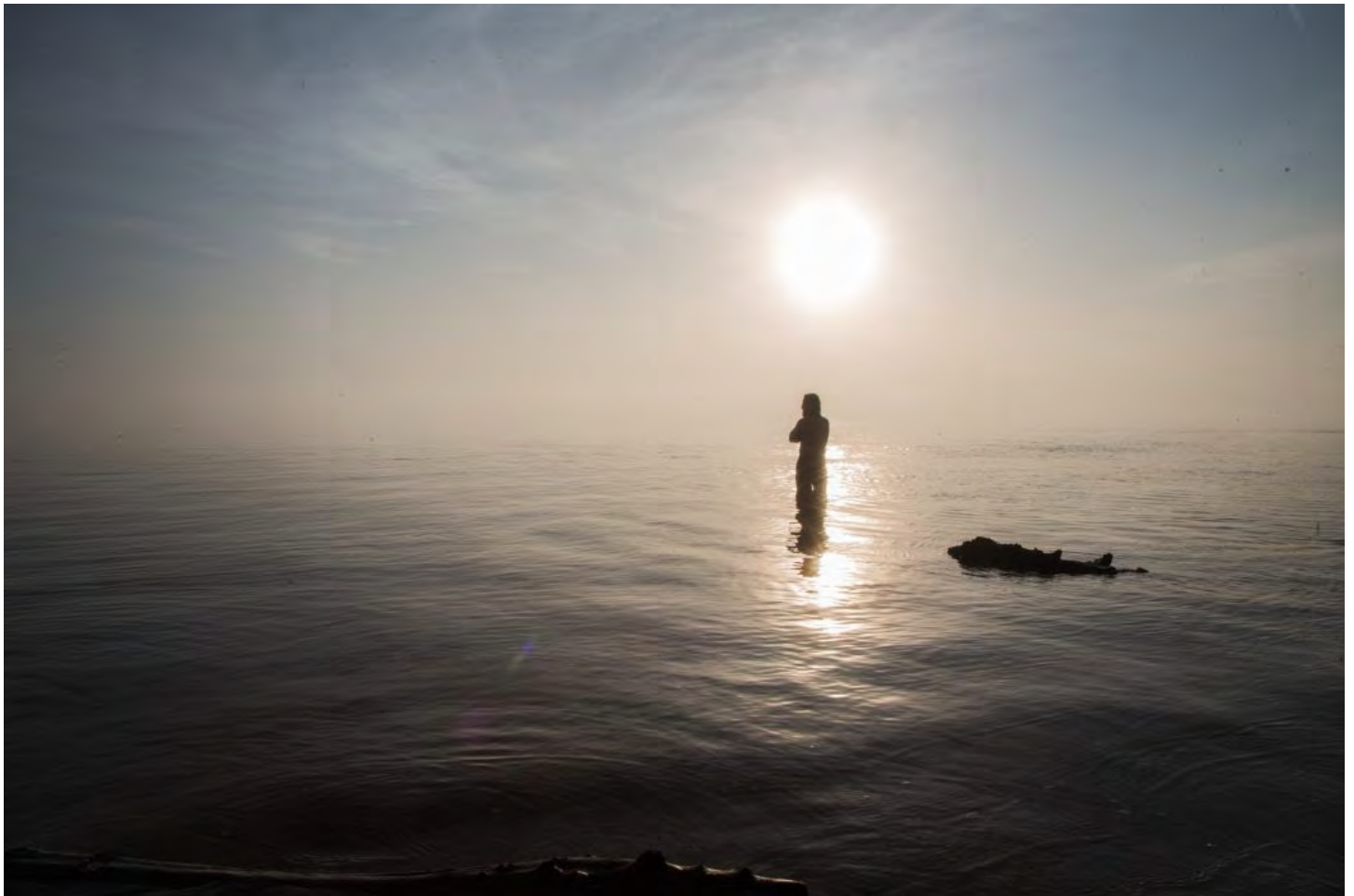
By John Ruskey and Boyce Upholt

**W**ilderness is a feeling.

It is more than that, of course—wilderness is the wind and the water, the turtles and coyotes, all that exists beyond and around and within our human selves. But when we speak of wilderness,

we're so often speaking about a feeling: that feeling of smallness, strangely comforting, or of connection, or of wonder at how much there is in the world.

Sometimes that feeling comes in surprising places. I noticed this one winter night in 2002, while



*Morning swim at Shreve's Bar. From the Atchafalaya Rivergator Expedition of 2015.  
Image courtesy of David Hanson.*



paddling down the Lower Missouri River towards St. Louis. I looked up at the trees, sweeping their cold branches through the sky, and realized I was inside a grand illusion. The trees, the sandbars, the ducks and geese, the wild turkeys, the unbroken sky, the line of free-flowing water: here was a long, serpentine web of wilderness, with me inside it. But that web is only as wide as the floodplain. Just out of my vision, humankind and its machines were eking out their wretched existence.

*See David Hanson's video "ATCHAFALAYA."*

I could hear engines and gunfire, smell exhaust and even sewage. But the human presence was as far away from me as the other side of the moon. I felt alone, and yet not alone. I felt that the river was mine, and that I was a part of the river, which is far bigger than me or my comprehension. The water flowed on, down towards my home in Mississippi, creating a meandering piece of paradise within the destruction of humankind.



*Contemplating the wetlands. From the Atchafalaya Rivergator Expedition of 2015.  
Image courtesy of David Hanson.*



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“If the river is an illusion,” I wrote in my journal, “then I gladly choose this dream, and will keep dreaming as long as I can.”

I’ve been choosing that dream most of my life. I first came to the Mississippi River as an 18 year old. When we graduated from high school in 1982, my best friend and I decided we’d had enough of traditional schooling. To the dismay of our guidance counselors, we scuttled all college plans and decided instead to build a raft and float

down a big river. We lasted five months before we shipwrecked. We were rescued by the Coast Guard on a wilderness island a few dozen miles below Memphis.

*Listen to Traveling down the modern Mississippi by WHYY featuring John Ruskey and others, including Christopher Morris from ‘Open Rivers’ issue two.*



*Documenting sedimentation at the Atchafalaya River Delta.  
From the Atchafalaya Rivergator Expedition of 2015. Image courtesy of David Hanson.*



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I realize now that as I washed ashore on that island, I was having that wilderness feeling: I looked up and saw red-winged blackbirds settling into darkening woods, and despite the direness of my situation, I saw beauty. I made a promise then: if I survived, I'd come back to this place. It's

a promise I've kept, again and again. It's a promise I'd like to see others make, too, which is why I started the Lower Mississippi River Foundation.



*Fully loaded on the Atchafalaya River from the Atchafalaya Rivergator Expedition of 2015.  
Image courtesy of David Hanson.*



# The Gut of America

My home now is Clarksdale, Mississippi, which sits along what used to be a bend in the Lower Mississippi River, 50 miles from that island. It's in the great floodplain of the Yazoo-Mississippi Delta, the birthplace of the Delta blues, which is one of the wildest stretches of Lower Mississippi River.

In 1998, I started Quapaw Canoe Company (QCC), a professional river-guiding operation that specializes in Mississippi River tours. Fifteen years later, QCC had initiated so many public service projects—to engage local youths

with the river, to help preserve and promote the river—that it became obvious that we needed a non-profit partner. So, in 2011, the Lower Mississippi River Foundation was born.

Our mission is to recognize, protect, and promote the Lower Mississippi River as a viable wilderness. This serves the river itself, as it will preserve its ecological health, and it serves future generations, who will be able to enjoy an iconic American wilderness experience—that is, if we don't let it be washed away.



*On the river.  
Image courtesy of John Ruskey.*



See the video *River Made “Deep into the Gut of America”* by *David Ross*.

We seek to promote stewardship of the Lower and Middle Mississippi River through deep engagement, primarily through youth programming and conservation. Our biggest goal is to nurture a healthy, viable wilderness for the enjoyment of current and future generations. We have also set a number of numerical goals that help indicate progress towards this larger objective—including specific targets for the number of students and parents who have a positive relationship with the river, and the number of local leaders who have experiences that lead them to fight for the river.

These goals, and the strategies for pursuing them, will be detailed below.

I sometimes refer to the lower river as the “gut of America.” Some people may turn their noses up at this nickname, but I think it makes sense. We often call the Midwest the nation’s heart, and it is certainly the heart of the Mississippi’s great basin, for it is where its three mighty rivers—the Missouri, the Ohio, and the Upper Mississippi—all come together. The North Woods are the system’s “head,” and the Great Plains and Eastern Woodlands, its “arms.” The South, then, is the gut.



*Dinner time.*

*Image courtesy of John Ruskey.*

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*Listen to John Ruskey talk about the Mississippi River on Resistance Radio.*

The gut is as important to the whole as any other part, and more important than some. You can live without your arms, but not without your gut. (This nickname also fits the general atmosphere down here, where people tend to “go with their gut,” and let their gut hang out, and enjoy eating a feast of chitlins as a hangover cure after a night’s revelry to live Delta blues, zydeco, second line, or swamp rock.)

The Lower Mississippi winds through serpentine meanderings like the lower intestine. It digests the water, revitalizing the whole—at least when

it is working properly. Before it was overtaken by industry, Southern Louisiana boasted one of the world’s richest fisheries. But when you are located at the very bottom, you receive all the best of what that system has to offer along with all the worst.

Perhaps the most famous consequence of that fact is the hypoxic dead zone that spreads at the river’s mouth. Farmers across the country are spraying nitrogen and phosphorous on their fields to fuel the growth of their crop—and the fertilizer from over 40 percent of the nation, from Montana to New York, is washing down the Mississippi River. In the Gulf of Mexico, those fertilizers come together to form a great feast for



*Sunrise over the river.  
Image courtesy of John Ruskey.*



algae. That's not so great for other aquatic life, though—all that algae reduces the oxygen content of the water until almost nothing else can survive. The Gulf of Mexico hosts the second-largest human-created dead zone in the world, and this year it achieved its largest recorded size.

There are other problems, too. The system of levees built to control the river has kept it from flooding its floodplain, including those coastal wetlands. Floods were what built this land, which is sinking under its own weight. The problem is exacerbated by industrial canals, which allow saltwater to creep in and kill off ecosystems, and by rising sea levels. As a result, Louisiana is losing 16.6 square miles of land each year. Meanwhile,

the mud that should spread out across the landscape is being held inside the levees. The few backwaters that are left there are smothered under all that mud, and are rapidly disappearing. Once they're gone, it will likely spell doom for the river's ecosystem.

As habitat disappears, industry seems to multiply. The "Chemical Corridor," from Baton Rouge to New Orleans, is home to a quarter of the nation's bulk commodity chemical production. Meanwhile, upstream development in the floodplain is so rampant that flood damage is spiraling out of control. As of October 2017, there were a record 16 "natural disasters" during the year that caused a billion dollars in damage; included in



*Sharing the waters.  
Image courtesy of John Ruskey.*

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that list were major floods in the St. Louis area. For some towns on the river, this was the fifth flood event in four years—and four of those floods made local all-time top-ten lists. However, it is wrong to call these disasters “natural,” really—they’re occurring because we’ve built too much where we should not, reducing the size of the floodplain and increasing the damage of floods.

My point here is not to scare you, or to suggest that the river has now become some toxic sewer that you should avoid at all costs. My point is that the river needs care.

And the best way to care for the river is to know it. Yes, there are places, especially in Southern Louisiana, where a paddler should use caution—where the barge traffic is thick, and the pollution is real enough to make you sick. But on the whole, the Lower Mississippi River is still surprisingly intact—which means we still have a chance to give it the care it needs.



*Sharing the river.  
Image courtesy of John Ruskey.*





*The long landscape of the river.  
Image courtesy of John Ruskey.*



# Wild Miles

Biologist E.O. Wilson proposes that we set aside half the earth to save the earth. This is what the earth's creatures need: space to maintain their diversity and health. As the climate changes, what Wilson calls "long landscapes" are particularly important, corridors of wilderness that species can use to migrate to more suitable habitats. Naturalists nostalgically remember the great American forest where a squirrel could cross from Arkansas to Georgia without touching the ground. Incredibly, given that 90 percent of the river's old floodplain is now disconnected, this kind of connection is still intact along the Mississippi. A white-tailed deer, for instance,

could conceivably walk or swim through deep woods and wetlands from Baton Rouge to the city limits of St. Louis without having to cross a paved road (with one bottleneck at Natchez). All highways in this stretch travel over tall viaducts, and only a few dirt roads are found over the levee. The river creates a superhighway for wildlife of all sorts. Hundreds of species of songbirds migrate through the continent's heart each year. The lower river is home to 109 of the 140 bird species resident on the Mississippi; tens of thousands of snow geese stop here on their way to Alaska and Canada, far above the Arctic Circle. There have been no known extinctions of fish species. The



*Wilderness at the doorstep.  
Image courtesy of John Ruskey.*



interior least tern, listed as an endangered species in 1985, has recovered so successfully that the U.S. Fish and Wildlife Service has recommended the species be delisted. If we can sustain these successes, and even build on them, the long landscape of the Mississippi could someday connect the Southern longleaf pine with the Great North Woods.

The Mississippi remains wild not just in its potential as an ecosystem corridor—but also in terms of the wilderness *feeling* it can provide to us, as humans. One of the first projects of the Lower Mississippi River Foundation was to identify the remaining “wild miles” on the Lower Mississippi River. These are the places where you can still feel that wilderness dream: places where nature predominates and nothing is seen of humankind save passing tows and maybe a tiny hunting camp or a single fisherman buzzing by in a johnboat. (This is similar to the definition of wilderness included in the 1964 Wilderness Act, which emphasizes places not where the work of man is absent—there are no such places—but where it is “unnoticeable.” Wild miles, however, are our own designation, and exist outside of other legal or scientific conceptions of wilderness.) By our reckoning, there are 515 wild miles between Baton Rouge, Louisiana, and Cairo, Illinois—71 percent of the riverside. Upstream, on the Middle Mississippi (between Cairo and St. Louis), there are another 105 wild miles, or 56 percent of that stretch of river.

These are the kinds of places that the 24 million paddlers in North America travel great distances to find. In sheer “wild value,” the Lower Mississippi ranks alongside the Boundary Waters, the Allagash, or the Okefenokee. The Lower Mississippi Water Trail is at least as important to our national heritage as the Erie Canal, the Santa Fe Trail, or the Appalachian Trail. It has been travelled by millions of Americans including the Sioux, the Natchez, and more recently Abraham Lincoln, John James Audubon, Langston Hughes,

Louis Armstrong, and Muddy Waters, and has always been our nation’s single most important route of migration and transportation. It is the lifeblood of our nation flowing directly from the productive heartland through the cultural flowering of the South and into the vitality of the Gulf of Mexico.

I believe that the Mississippi River is the longest and narrowest wilderness in America. It is the only wilderness that is found on the doorstep of major cities (Memphis, New Orleans, St. Louis). Within minutes of putting in your canoe in these cities, you can be surrounded by woods and water as provocative as any in the world. To enter it is as easy as sitting on the bank and watching the river flow. Roll up your pants and swish your feet in her waters. If you want to get deeper, get in a canoe and paddle for a day. Envelope yourself in a landscape that feels as far away as a desert wilderness or the highest mountains.

But in order to keep that wild feeling, we have to get more people on this river. This can seem like a paradox: what makes a place wild is its emptiness, right? But the history of river preservation shows that the best way to save a river is to bring in paddlers and recreationalists. The Buffalo River in Arkansas was named America’s first “National River” in 1972, thanks in large part to the advocacy of paddlers who opposed the construction of a dam; the Buffalo is now one of the few undammed rivers left in the nation. (The Lower Mississippi River is also included on that short list.) The Appalachian Trail, one of the country’s most iconic wilderness experiences, is through-hiked by well more than 1,000 people each year. The Mississippi River, by comparison, is traveled by around 100 long-distance paddlers each year. The river is only served by increasing that number. This is why the Lower Mississippi River Foundation has developed a 30-year vision around fostering a much more public relationship with the river.





*Getting people on the river.  
Image courtesy of John Ruskey.*



# A Vision for the River

As noted above, the Lower Mississippi River Foundation (LMRF) was formed in 2011 to oversee existing public programming that had previously been conducted under the auspices of the for-profit Quapaw Canoe Company. For the past six years, the LMRF has functioned only because of the devotion of committed volunteers; it has never had a full-time staff member. In 2016, recognizing that the Mississippi River is at a crossroads—its wilderness character can be preserved with real action, but if not it will soon be lost—the LMRF undertook a “visioning process” to determine what we wanted to see for “our” river over the next 30 years. We are now in the process of hiring a full-time executive director who can take the lead in making this vision a reality.

The vision centers on making the Lower Mississippi floodplain the national model of a

healthy and resilient river ecosystem. We envision a thriving river where recreation, education, agriculture, and industry all function in healthy partnership with each other.

We believe this healthy river will boost local economies, and therefore, the quality of life along the river. Land value will increase, and there will be a booming industry of hunting, fishing, and nature tourism. A balanced mixture of public and private land ownership will allow substantial public use of the river and its floodplain, both for recreation and for education. Our vision does not rule out the presence of other, traditional land-based economic activities: sustainable logging and agriculture can be practiced alongside reserves set aside for wildlife, where forests can mature to their fullness.

## A healthy, balanced, and resilient river ecosystem

At the heart of our vision is sustaining the Mississippi River’s wild ecosystem—and improving the ecosystem’s vitality so that it can be the nation’s best model of what health, balance, and resilience mean for a river. The intricate inner workings of its biological systems must be studied and managed for optimal functioning. All species will be counted and cataloged, and closely monitored for sustainable life cycles. Humans, of course, will be a species that is present, too; parents must be able to bring their family to the water and let their children swim without fear of contamination.

We also want to see the wild places become wilder. The levees must be moved further away from the river whenever and wherever possible. This will solve so many of the river’s problems: it will allow us to accommodate larger flood events and decrease destructive flooding potential, and it will allow the growth of more wetlands and bottomland forests that process nutrients and maintain a resilient ecosystem. The Mississippi River floodplain can become a bottomland forest and wetland corridor for wildlife connecting the Piney Woods of the Gulf Coast with the Midwestern woodlands with the North Woods.



*In the river, not just on it.  
Image courtesy of John Ruskey.*



## Reconnecting Southerners

One of the issues hurting the river now is simply our separation from it. We live inside our homes, drive in our cars—walk around in stiff clothing that has been designed for office etiquette rather than function in a still-wild world—and forget that the wildness is all around us. And the Mississippi River, the most intact wilderness in the mid-South, is hidden from this workaday life. The levees are so tall that we never see the river and its woods unless we are driving over and away from it.

In 30 years we envision a Lower Mississippi Valley where residents commonly recreate on their big river in canoes and kayaks and paddleboards. All children living in the Mississippi Valley will have some first-hand experience with the river and its wild beauty. Parents will respect the river, not fear it. They will know what the challenges are, and what skills, knowledge, and equipment are necessary to safely enjoy it from human-powered vessels. Canoes, we envision, will be as common as towboats, kayaks as



*Reconnecting to the river.  
Image courtesy of Mike Brown.*



common as fishing vessels. Birding and animal watching will be as popular as hunting. The environment will be revered as divine creation where humans serve as students and stewards.

## Diversify and democratize

There are already a few that know the river's secret—but these few tend to be wealthy. Much of the riverside land is owned by hunting clubs, some of which require thousands or tens of thousands of dollars in annual fees from their member. Fear of the river, and ignorance about its beauty, have allowed these landowners to continue to claim more and more land with little opposition.

Within the next three decades, we need to create public water trails, open to all people. We need to

Science and art methods will be employed to study, document, and share its wildlife. Boat ramps will be as plentiful as grain elevators.

share the knowledge and skills that will allow the public to enjoy these trails—ensuring Southerners feel comfortable swimming, paddling, and interacting with wild nature in sustainable ways. Thirty years from now, we envision a Lower Mississippi Valley where residents of all races and economic means view themselves and their children as integral inhabitants in a complex ecosystem. Children must be raised to understand, respect, and take responsibility for the wild floodplain through continual engagement and lifelong stewardship.



*Bringing children to the river, Image courtesy of John Ruskey.*



# How do we do this?

That's a wonderful vision, but how will we get there? The LMRF has a four-pronged approach, building on our past successes.

## Bring leaders and decision-makers onto the river

The heart of my work has always been bringing people onto the river. I launched the Quapaw Canoe Company in 1998, after a tourist visiting Clarksdale asked to be guided onto the river, and I realized there was a market for the explorations I was already doing.

I also found that by bringing the right people to the river, I could help keep this land public. Buck Island, a large island easily accessible from the paddler-friendly harbor in Helena, Arkansas, was purchased by the American Land Conservancy (ALC) in 2005, with hopes of turning it over to



*Bringing people together. Image courtesy of John Ruskey.*

another buyer. For years, though, they found no one suitable.

In 2010, I was approached by the editorial team of *Canoe & Kayak* magazine, who joined the Quapaw Canoe Company for a five-day trip through the wildest of the wild, the 101 miles downstream from Helena, Arkansas. We invited ALC leader Tim Richardson, who was spearheading the campaign to save Buck Island, and Kevin Smith, a five-term state representative from Helena (and now the president of the LMRF) to join the trip.

We made our first camp on Buck Island, so that everyone could see it firsthand. I didn't need to make any speeches. The river told its own tale. There were animal tracks everywhere on the sandbars: deer, coyote, raccoon, opossum. The spring songbird migration was just beginning, and great flocks of snow geese passed overhead,

and white pelicans camped on the beach: thousands of birds on thousands of acres of sand.

About a year after *Canoe & Kayak* published their account as a cover story, the Arkansas Game and Fish Commission stepped up and purchased the island. It is now protected by a permanent wetlands easement through the Natural Resources Conservation Service, which means that it will never be deforested again, and our children will one day enjoy the big woods that used to predominate in the Mississippi Valley.

While it's important that everyone in the South, and everyone in America, has a relationship with our continent's greatest river, we recognize how targeting particular individuals can have rippling consequences. We now plan to target the legislators, business leaders, and other key decision-makers who have a direct say in the river's future, and have a goal that 100 such individuals have a Mississippi River experience by 2022.

## Increase the amount of protected areas

To nurture a healthy, viable wilderness, it is critical to increase the amount of protected areas along the Mississippi River. This will serve the river's ecosystem: ten percent of the river's 400 species are considered endangered, and will benefit from habitat conservation. But this will also help the public interact with the river, and build the will to protect it. Paddlers and other recreationalists need public spaces where they can fish, camp, and explore, knowing they are not trespassing.

There are already organizations doing this work; the LMRF is not a land-conservation organization, nor do we have the resources to acquire land ourselves. But given our first-hand

relationship with the river, the LMRF has a unique understanding of the properties available along the river. We've learned which islands are particularly valuable to paddlers; we often know when properties are for sale before the general public.

There are currently four islands of at least 1,000 acres on the Lower Mississippi River that are open to public use (including Buck Island). Through the dissemination of knowledge to potential investors and collaborators, we aim to add at least one more island to this list by 2022, as well as create five new boat ramps or other public-access sites along the Lower Mississippi River.





*Public spaces on the river are critical.  
Image courtesy of John Ruskey.*

## Engage more colleges and college students

The LMRF believes that colleges and universities can play a key role in building engaged river citizens. The river can serve as an immersive learning laboratory, where students can engage in interdisciplinary learning programs that last for weeks or even months.

A good model is a three-month, 18-credit “river semester” organized by professors at Augsburg College in Minnesota’s Twin Cities, in partnership with a geology professor at Louisiana State University. The Quapaw Canoe Company guided the group on a 10-day portion of their trip in 2015. Other colleges, like the University of Puget Sound and the University of Mississippi, are creating interdisciplinary academic programs that use the Mississippi River as a learning laboratory, and have also relied on the QCC’s river expertise in planning. By 2022, we aim to have 10 colleges and universities use the river in such a capacity.

Another possible direction is to appeal to universities’ continuing education programs. This could take many forms, from a one-day class to a semester-long course. For example, in 2009 we offered Big River Safety & Navigation as a semester-long continuing ed program through Phillips County Community College and the University of Arkansas. In 2015, we offered “Guiding and Outfitting 101,” a two-day class for prospective professional outfitters and guides, this time in

partnership with Louisiana Delta Adventures and LSU-Monroe. One participant, Corey Werk, went on to create his own outfitting business, Bayou Teche Experience, now thriving in Breaux Bridge, Louisiana. Community colleges, technical colleges, and larger universities’ continuing education programs may be the most effective partners for these types of offerings. The LMRF also helped support two one-day classes about the river and its history at the lifelong learning program of the University of Southern Mississippi, one held at the main campus and one on the Gulf Coast campus.

The LMRF is also interested in advising colleges and universities on alternative spring break opportunities in the Lower and Middle Mississippi River region. Alternative spring break programs offer opportunities for college students to travel to impoverished regions to perform community work while also enjoying outdoor experiences. The LMRF has already been offering a day on the Mississippi and a clean-up for existing alternative spring break programs. LMRF can be a consultant to design these types of programs for other educational institutions. We aim to see 25 such programs by 2022. Through all of these forms of collegiate programming, we aim to see 2,500 students have deeply engaging experiences on the river by that year.

## Expose students early

When I first began carving canoes, the sharp swinging blades of adzes and axes, and their resounding booms on the raw logs attracted youthful attention. Local kids would approach, entranced by the scene, asking what I was doing, and why. Bewildered and awestruck at the same time, they would eventually overcome their shyness to request a swing of the tool. From these humble beginnings developed the Mighty

Quapaw Canoe Apprenticeship Program, which was launched in 1998—the first-ever public programming affiliated with the QCC. The Mighty Quapaws are young men and women from local, mostly low-income neighborhoods, who trained in leadership and outdoors skills, and served as apprentice guides on trips. Out of approximately 50 youth who have gone through the multi-year Mighty Quapaw Apprenticeship Program, 8 are





*Learning on the river takes many forms.  
Image courtesy of John Ruskey.*



*Carving a voyageur canoe.  
Image courtesy of John Ruskey.*



still active as “on-call guides,” and 3 have gone on to full-time careers in the nature tourism industry.

The river often scares people. It is mysterious and wild. Yet the Quapaws learned that in a canoe you can reach out your hand and touch the water. It won't bite! Building youths' relationships with the river remains at the core of the LMRF's programming, as the “fear culture” that so often surrounds the Mississippi River is best dissolved early. The giant voyageur-style canoes we carve and paddle on the big river become nurseries for diversity and democracy. Mighty Quapaw Mississippi Delta youth find themselves talking, eating, and sharing campsites with people they have only previously seen on television. Outdoor settings break down barriers. The canoe fosters benevolent situations where old fears and stereotypes magically dissolve and new bridges are built in their place. These are the connections between individuals that lead to constructive civilization.

*Listen to River Guide Wants People to Paddle the Mighty Mississippi, Not Fear It featuring John Ruskey, by NPR.*

The LMRF has gone on to partner with after-school youth programs in Mississippi, Arkansas, and Tennessee, serving mostly 5th through 12th graders. While participants represent the full range of the Delta's socio-economic diversity, we have experienced the greatest participation from kids who are traditionally considered “underserved.” Eighty-five percent of Mighty Quapaws are African-American, many from severely low-income neighborhoods. Students typically meet twice a week for two hours during

the school year, with additional once-per-month full-day field trips and overnight expeditions in the summer

In 2014, LMRF provided river experiences (day-trips or overnights in canoes on the big river) for 870 youth. There is great potential for expansion in this direction, but lack of funding often proves to be a stumbling block. We are developing Leave No Kid on Shore, or LiNKS, as an umbrella program that coordinates all this youth work, and provides a continual source of funding. The LMRF will present a one-week leadership summer camp on the Mississippi River in 2018 for Arkansas and Mississippi high schoolers. In 2019 we hope to double the number of youths participating, and double again in 2020. By 2022 we aim to have 25 secondary schools, and 500 students total, engage deeply with the river in some form.

Through this work, we aim to create a local force of young river citizens: 250 youth in the Mississippi Delta who have learned wilderness survival skills, from orientation to cooking, and 250 youth who have learned to carve and design canoes; 25 youth who become leaders that can take others through such training; 10 youth who have summer jobs in outdoor recreation; 5 who have chosen nature tourism or outdoor recreation as their intended career. We want 25 percent of parents in Coahoma County, Mississippi, and Phillips County, Arkansas, our two “home-base” counties, to have sent their students on field trips on the Mississippi or its tributaries—representing a sea change in the current “fear culture” that surrounds the river.



*Getting outside on the river.  
Image courtesy of John Ruskey.*





*“Canis Major, Orion, Moon over South Pass” by John Ruskey, watercolor, 18×24.  
Image courtesy of the artist.*



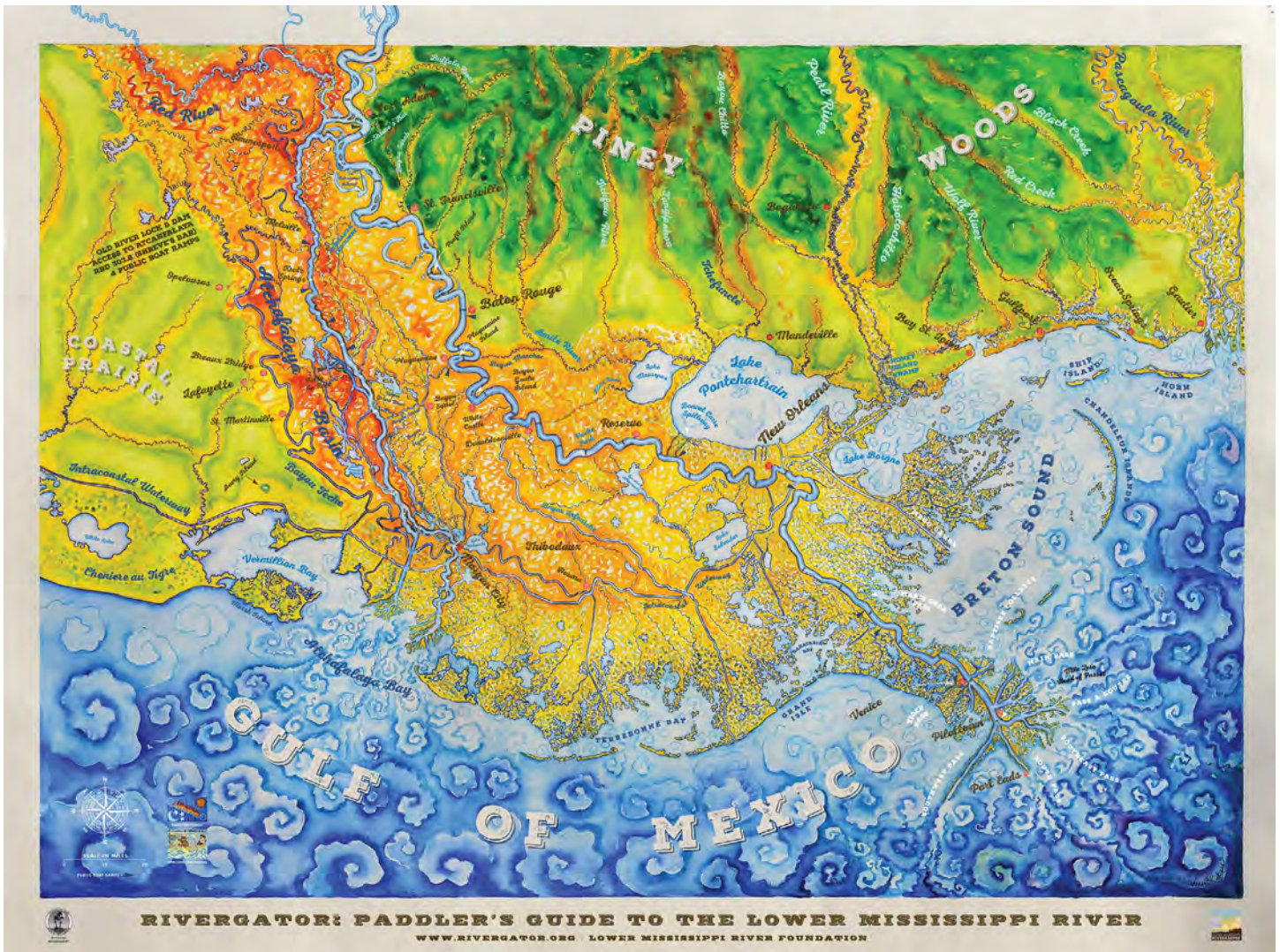
# Towards the future

Why is this river important? To me, the answer lies in how it makes me feel.

It gives me wholeness. It makes me feel connected. It brings together the world's isolated parts and shows how they exist in harmony. Things that normally conflict with each other—things like water and land, earth and sky, economy and recreation, ambition and humility, city lights and star light—the river makes them flow together in

one contiguous whole, and they make more sense than they do on dry land.

This year, I was reminded of these feelings as I canoed once more from St. Louis to the Gulf of Mexico. One of the first projects conducted under the auspices of the LMRF was the Rivergator, a complete mile-by-mile guide to that water trail, available free of charge online. This began simply as an attempt to describe the river from Buck



*“Southern Louisiana — Mississippi and Atchafalaya River — Baton Rouge, New Orleans, Venice, Birdsfoot Delta, Atchafalaya River” by John Ruskey, watercolor, 26×36. Prints of this poster are available at the [Rivergator Map Shop](#). Image courtesy of the artist.*



Island to Choctaw Island, a 101-mile run down the wildest stretch on the Lower Mississippi, as a part of the effort to add Buck Island to the list of public lands along the river.

When we completed that stretch in 2012, we realized that something was missing. We needed to describe the river upstream to Memphis, and downstream to Vicksburg. Then we saw that Caruthersville to Memphis was needed, and also Vicksburg to Natchez. It became encyclopedic in scope—eventually spanning all of the Lower Mississippi. And it was a long project; research trips—required to see the river at its various

stages—spanned more than half a decade. It also informs all of our objectives, as it helps everyone better access the river. In 2017, to celebrate the completion of the Rivergator Project, the QCC led an expedition, in two stages, down the full water trail.

Ultimately, our goal at the LMRF is to make sure more and more people have had the “wilderness feeling” on the Mississippi River. That is the only way to ensure that our nation’s citizens will protect this national treasure. To be saved, it has to be recognized.

## For More Information:

- [Quapaw Canoe Company](#)
- [Rivergator](#)
- [Villageurs](#)
- [Between the Levees](#)
- [Separate Boats](#)

## Further Reading:

- [\*We Are the Wild Ones\*](#)  
Canoe & Kayak Magazine, April 29, 2017 by Boyce Upholt, photos by Chris Battaglia.
- [\*Paddling on the Lower Mississippi\*](#)  
Star Tribune, October 3, 2015 by Dean Klinkenberg.
- [\*Details: Canoeing the Lower Mississippi\*](#)  
Star Tribune, October 3, 2015 by Dean Klinkenberg.
- [\*Wild Miles on the Lower Mississippi River\*](#)  
Bitter Southerner, July/August 2015 by Boyce Upholt, photos by Rory Doyle.
- [\*Southerners of the Year 2017\*](#)  
Southern Living, December 2017.

- *Brand-New 'Rivergator Paddler's Guide' Provides a Map to the Lower Mississippi*  
Riverfront Times, Monday, March 20, 2017 by Bill Loelke.
- *Meet John Ruskey, who just canoed the Mississippi River from St. Louis to New Orleans*  
St. Louis Magazine, June 7, 2017 by Chris Naffziger.

## Recommended Citation

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## About the Authors

John Ruskey is a worker bee in the colony of his queen, the Lower Mississippi River. He carves canoes, paints, and guides others into the wildest place remaining in the center of North America, the verdant floodplain of the big river, which reaches fullness in her last thousand miles of free-flowing joy to the Gulf of Mexico. He is owner of Quapaw Canoe Company, Director of the Lower Mississippi River Foundation, and author of Rivergator.org, one million words, photos, paintings, maps and videos describing the Mississippi River for paddlers.

Boyce Upholt is a freelance journalist based in Cleveland, Mississippi. His writing on science, culture, and technology has appeared or is forthcoming in *The Atlantic*, *The New Republic*, *Sierra Magazine*, and *The Believer*, among other publications. Boyce provided editorial and organizational support in the writing of this article. He is currently at work on a book about the history and future of the Mississippi River.

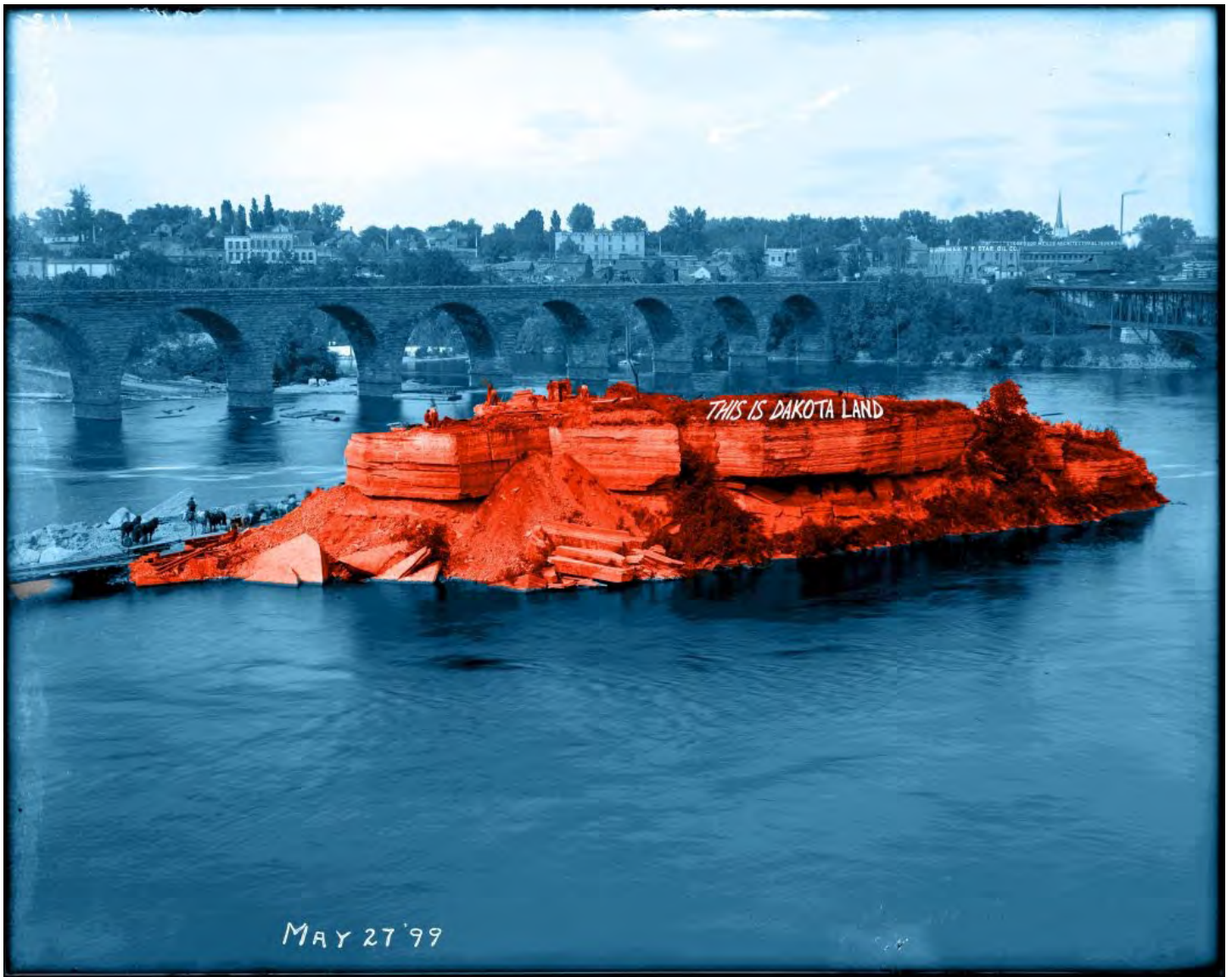


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FEATURE

# ON THE UNCOMPROMISING HAND: REMEMBERING SPIRIT ISLAND

By Andrea Carlson



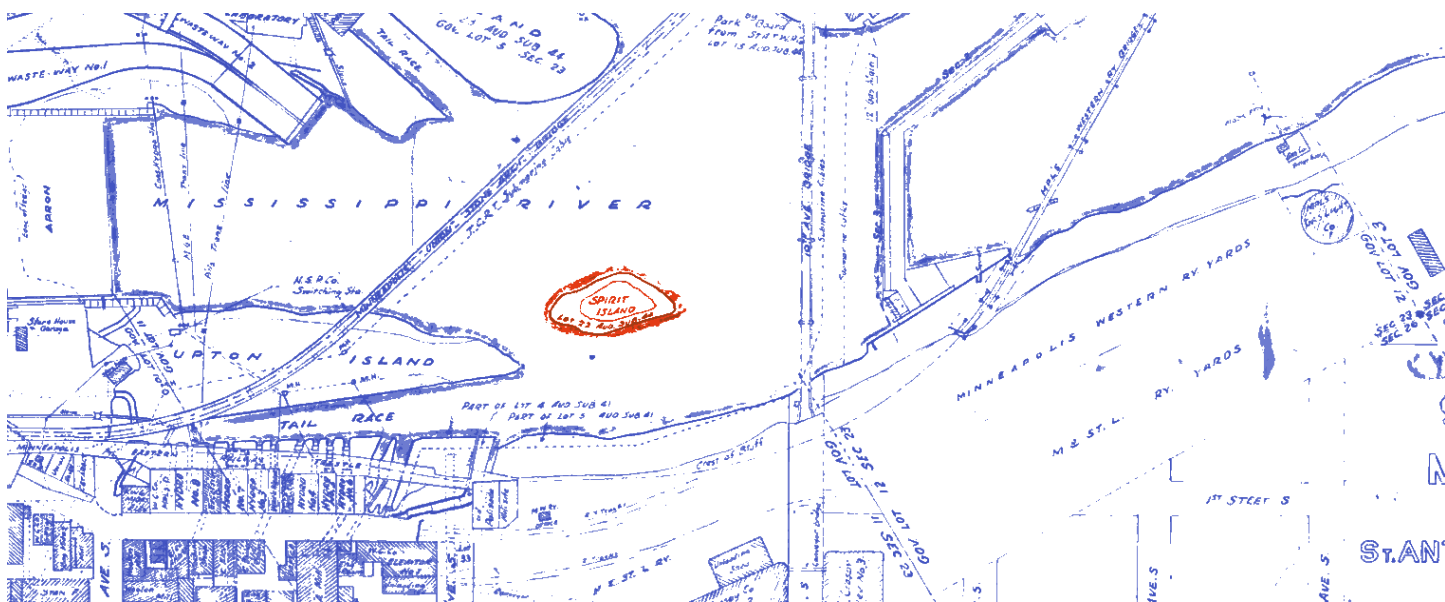
*Still image from the video 'The Uncompromising Hand' (2017) by Andrea Carlson.  
Image courtesy of the artist.*

# Drawing as Imagining Absence

Sometime prior to 1963 a person sat down at a table to draw a map. This person could effectively communicate with lines across a page, possessing the technical skills of rendering exact scale ratios of a three-dimensional space on a sheet of paper. The task of this artist was to draw a blueprint that would be used to harness a river for industrial use. It is likely that this person had a formal drawing education that included life drawing courses traditionally taught by drawing the nude bodies of women. This is an unintended analogy: a river is not a woman, nor are our bodies entirely foreign to rivers. This imaginary artist of the past is drawing a map of a future river. They may have employed techniques other than those acquired by drawing human bodies; they may have beaded lines against a straight-edge, or traced another artist's renderings, but we can assume with near certainty that the muscle memory within the drawer's hand produced the first gestures that irreparably transformed a waterway. One thing this artist did not draw was a little limestone island called Spirit Island. This was not a mistake of the artist. The island wasn't

drawn, because leaving it out was the first step in imagining its absence.

Our assumed artist was drawing a blueprint for the Upper St. Anthony Lock and Dam built across the Mississippi River in Minneapolis. The lock was designed to assist boats navigating St. Anthony Falls. These plans also called for an easy passage for boats accessing the lock, but Spirit Island sat in this path. The U.S. Army Corps of Engineers removed the island in 1960 and dredged the site to create a deep trough for load-bearing boats. The completion of the project in 1963 was heralded by some as a great success, an engineering achievement, and their voices were published and amplified. Fast forward to the year 2015, when the Upper St Anthony Lock closes for operation after a mere 52 years of service. Fifty-two years on a human scale isn't long at all, equal to roughly two generations. According to the 2010 U.S. census, 17.5 percent of people living in the city of Minneapolis are 55-years-old and older. There are still eyes in the city that remember seeing Spirit Island. Those who have



Still image from the video 'The Uncompromising Hand' (2017) by Andrea Carlson.  
Image courtesy of the artist.



witnessed the island must look at that area of the river now and imagine the island there.

Long before the U.S. Army Corps of Engineers dismantled Spirit Island, it was subjected to decades of quarrying by settlers in the late nineteenth century. With a valuable cap of Platteville limestone, a much sought-after building material, the island was dissected and hauled away in horse-drawn carts on tracks. Unfortunately, the settlers didn't keep extensive records of where Spirit Island's limestone went. Today, we can imagine that the limestone quarried from Spirit Island is now fixed into nearby buildings in Minneapolis, perhaps in the Nicollet Island Inn. Maybe pieces of it are in the Stone Arch Bridge, which runs just upriver from where the island once was. Pieces of it may lie on the river's shore,

and perhaps some of it was sold to far-away places. The stone jetty that runs along the channel of the lock is most likely remnant pieces of the island. Spirit Island's stone may now make up the walls of adjacent mills, such as Pillsbury A Mill. The stone blasted off of Spirit Island may have been used in the construction of the Washburn A Mill, only to explode again in the 1874 flour dust explosion that leveled the building. One can suspect that the material of Spirit Island now physically exists in many places, but the island is lost in uncertainty and only found again in an imaginary space.

Spirit Island was so thoroughly dissected in the late nineteenth century that it was lamented long before its final disappearance in 1960. *Minneapolis Tribune* writer Frank O'Brien



*Installation images of the video 'The Uncompromising Hand' (2017) by Andrea Carlson.  
Photo: Rik Sferra.*

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declared its demise in 1899 stating that Spirit Island represented, “That beauty spot of nature which has so recently disappeared by the uncompromising hand of man, to make room for the (paddle) wheels of progress.” [1] O’Brien cites the disappearance of Spirit Island while applauding the triumphant determination of industry. The sacrifice is insincere, a pithy, obligatory nod to the appreciation of natural earth formations folded into a love letter to industrial destruction. My bias against O’Brien’s phrasing, against the phrase “(paddle) wheels of progress,” was taught to me in the words of a poem by Mark Turcotte. Published in 2002 in his book, *Exploding Chippewas*, Turcotte’s poem, “Woman Calls Water,” attributes the following words to a Dakota grandmother:

*There were no ruts  
before they brought the wheel, she says.  
Only the cut of a hoof, the scratch  
of the point of a stick  
drawing circles within human circles,  
hoops spinning, untangling to the sun.  
There were no ruts  
before they brought the wheel, she says.  
The riverbank and shoulder  
were strong before they brought  
the wagons, before  
the teams of oxen carried away  
the humming, hissing skins  
of all our brother buffalo.*



*Installation images of the video “The Uncompromising Hand” (2017) by Andrea Carlson.  
Photo: Rik Sferra.*

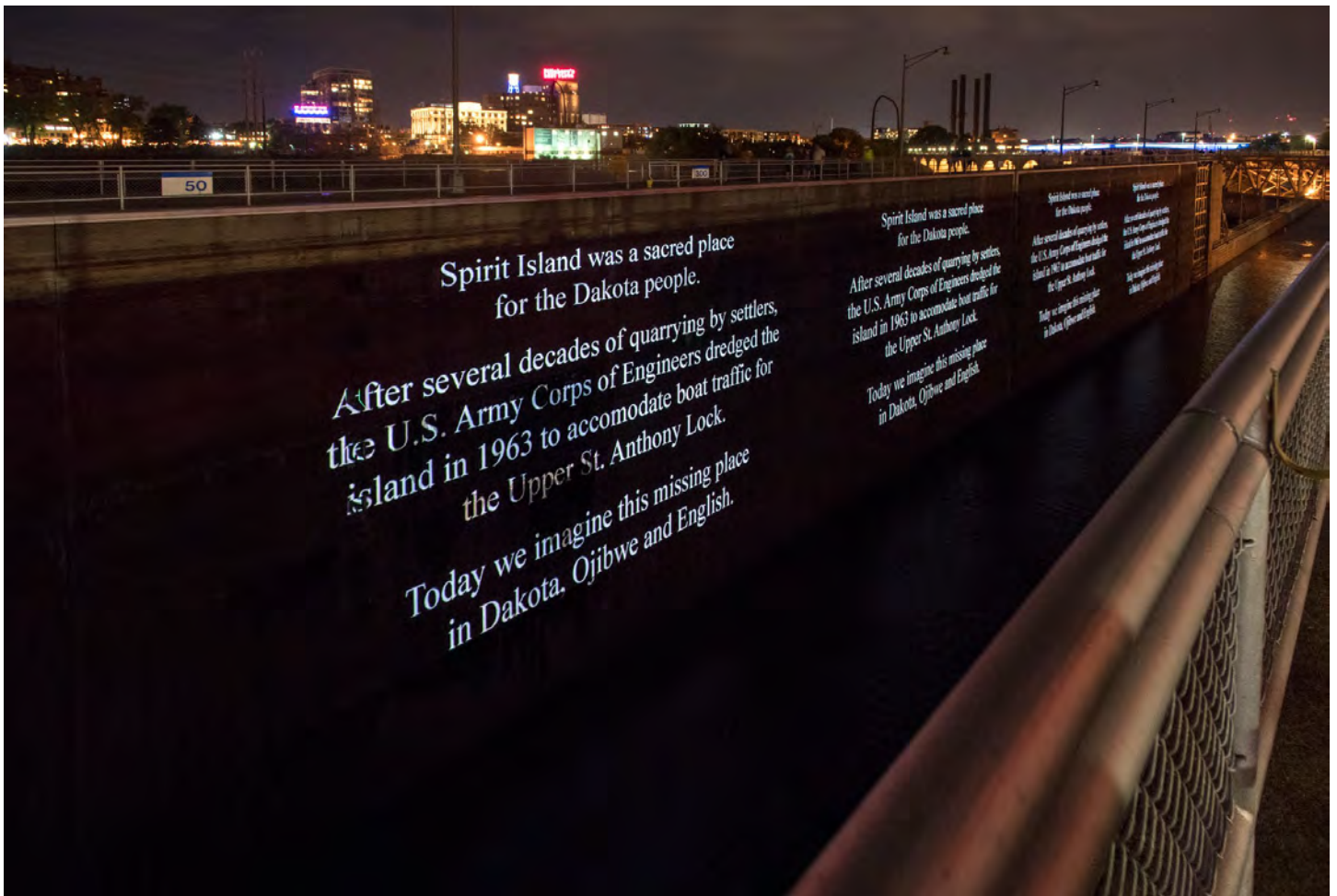


Later in the poem, Turcotte continues the grandmother's words:

*The wheel is my enemy, she says.  
The train is my enemy, the wagon, and the  
highway.  
The map is my enemy, she says.  
The wheel.[2]*

Turcotte's poem plays a conceptual foil to O'Brien's article. To settlers, *the wheel* is a harbinger of progress, bringing only good things. To Native people, wheels drew lines across the continent and left a wake of destruction. The Dakota grandmother of Turcotte's poem is most

likely Susan Power (senior), a Native activist based in Chicago and to whom the poem is dedicated. Her words—which Turcotte confided in me came to him in a dream—declare the map as her enemy within the context of the settlers' tools for conquest. Drawings can be used to make a map or used in propaganda, but they are morally neutral outside of applied contexts. Because I'm a visual artist, I draw every day, and I often think about the histories around my craft. I started my research for a proposed public art project titled, "The Uncompromising Hand: Remembering Spirit Island," by thinking about the artist or architect who sat at a table and imagined the Mississippi River without Spirit Island. Drawing



*Installation images of the video 'The Uncompromising Hand' (2017) by Andrea Carlson.  
Photo: Rik Sferra.*

can reduce large concepts into hand-sized abstractions. Settlements first took the form of drawings, hand-drawn maps with hand-drawn lines that would eventually correspond with rows of corn, hand-signed treaties, certificates of ownership, deeds and wills that would graft new names and legal fictions onto corresponding maps. Our hands abstractly plot out power on

paper long before that power alters the landscape. Drawings are fast skeletons of potential ideas. Drawings are powerful tools. To viscerally bring back the island, I turned to drawing; the same tool that imagined the island's destruction could be used to bring it back.



*Installation images of the video 'The Uncompromising Hand' (2017) by Andrea Carlson.  
Photo: Rik Sferra.*



# Dominion Nomenclature

It is tempting to say that Spirit Island once was defined by the Mississippi River because it was in the river, it was carved out and eroded by the river. But the island couldn't belong to a river by that name. The name *Mississippi* is an Anishinaabemowin (Ojibwe) word that translates as "giant river" and sections of the river intersect with Anishinaabe territories. But it is important to remember that Spirit Island was a Dakota place and the terms we use around Dakota sacred places should be Dakota words. Some Dakota words that describe this sacred area include: *Owámniomni* (turbulent waters, aka St. Anthony Falls), *Dakhóta Makhóche* (Dakota Land), *Wakpá Thánka* (Great River, aka Mississippi River), and *Ĥaháwakpa* (River of the Waterfalls, aka Mississippi River). Back when the names of places were being written on settler maps in Minnesota, those who were taking down names were in communication with Ojibwe people. We were seen as "friendly" or friendlier, and had established relationships with settlers and missionaries during the fur trade era. This isn't to say that Dakota place names are entirely missing, or that Ojibwe place names are over-represented, but that the power to name a place has histories of both diplomacy and erasure.

The physical removal of Spirit Island is documented in photographs in the archive of the Minnesota Historical Society. These images show settlers quarrying the Island and are dated 1870, 1890, 1895, 1896, and 1899. It is important to remember that following the Dakota War of 1862, many Dakota people were exiled from Minnesota, and were living in the Dakota Territory.[3] They weren't able to defend their island; they were refugees for defending all that was theirs. The Ojibwe people warred with and displaced Dakota people in what are now the territorial lines that distinguish Minnesota. One of the many differences between how the U.S. government and

Ojibwe people negotiated with the Dakota can be seen in the treaties and agreements reached between the two tribes. Our agreements, the agreements between Dakota and Ojibwe people, were often remembered in the form of ceremony. As long as the ceremonies were in practice, the treaties were honored.[4] Ojibwe people learned about Dakota sacred places from Dakota people and carried on traditions of feasting, protecting, and caring for those sites. The island was sacred to the Dakota and to others who respect sacred places; therefore, Ojibwe people should have interceded in the 1800s on behalf of displaced Dakota people. I cannot say if my own Ojibwe ancestors had tried, and I'm saddened and ashamed of our complicity.

To be clear, destroying a sacred island is disrespectful, a willful act of erasure, ignorance, or malice. Renaming Indigenous places is another act of erasure, often the easiest form of erasure: an act of the pen, a cartographer's conquest, seen clearly in the name *America*, the feminine form of Amerigo (Vespucci). Place names with the word *New*, such as, New York, New World, New Ulm, are assuredly meant to reassure the settlers that they have arrived in their new, old home. But when settlers renamed Indigenous sacred places, they added a particular insult to this injury. Devils Tower, The Witch Tree, Devil's Kettle, Devil's Lake, all bear the fear-inclined mark of settler/colonial nomenclature. It is notable that this satanic panic and disrespect towards Native spirituality wasn't applied to Spirit Island. But that isn't a charitable gesture. The Dakota names for their places should have been retained. We are now witnessing Dakota people in Minnesota leading grassroot efforts to return place names to their original owners' tongue. The people of Minneapolis can now proudly say "*Bde Maka Ska*" instead of "Lake Calhoun"[5] If names reinforce presence, we can stop honoring the name

of John C. Calhoun, and all that his name stands for as a pro-slavery statesman of the nineteenth century, and we can stop exiling the Dakota.

Although restoring place names is within our capacity, we cannot rebuild islands. My project, “The Uncompromising Hand: Remembering Spirit Island,” was an attempt to reimagine the island. It took the form of a large-scale video made up of maps, photographs, and drawings of Spirit Island. Dakota, Ojibwe, and English words for the St. Anthony Falls areas scrolled across images of the island in the direction of the river’s waterflow, as though these elements were drifting downriver upon the wall within the lock. Visitors were invited to walk around the walls of the lock and look into a chasm 56 feet wide by 400 feet long and well over 50 feet deep. Animated elements of the video included the island in its more intact state fading into reduced images of the island until the island dissolves into a black screen. Projecting “*Dakhóta Makhóčhe*” and “This is Dakota Land” onto the lock, a project of the U.S. Army Corps of Engineers, is a good reminder for the very people who have been so accommodating to pipeline construction across Dakota land. A formalized reminder of whose land one lives on in the colonized world is called a “Land Acknowledgement” statement. “The Uncompromising Hand” can be understood as a visible statement which recognized Indigenous relationships to this missing place. Although “The Uncompromising Hand” happened to embody the very spirit of Land Acknowledgement statements,

these statements should also be implemented in the introductions of non-native public speeches, artist’s talks, formal presentations and addresses as an act of diplomacy and respect. The Laurier Students’ Public Interest Research Group (LSPiRG) answers questions about Land Acknowledgements thusly:

## What is a Land Acknowledgement?

A Land Acknowledgement is a formal statement that recognizes and respects Indigenous Peoples as traditional stewards of this land and the enduring relationship that exists between Indigenous Peoples and their traditional territories.

## Why do we recognize the land?

To recognize the land is an expression of gratitude and appreciation to those whose territory you reside on, and a way of honoring the Indigenous people who have been living and working on the land from time immemorial. It is important to understand the long standing history that has brought you to reside on the land, and to seek to understand your place within that history. Land acknowledgements do not exist in a past tense, or historical context: colonialism is a current ongoing process, and we need to build our mindfulness of our present participation. It is also worth noting that acknowledging the land is Indigenous protocol.[6]

# The Sacred Roadside Attraction

What is the significance of an island and why was Spirit Island a sacred place? Why did the Dakota revere the island? I don’t know why, but I imagine that places remembered for joy, commitment, tragedy, and loss can become sacred. In *Lost Minnesota: Stories of Vanished Places*, Jack

El-Hai writes of an account of the origin of Spirit Island:

Fredrika Bremer, a Swedish novelist who visited Minnesota in 1850, recorded the oft-told Dakota saga that may well have given the island its name: Ampota Sampa was



happy with her Dakota family of husband and two children. One day, however, the husband introduced a second wife into the family. Stricken with grief, Ampota Sampa placed the children into a canoe and piloted it over the edge of St. Anthony Falls. 'Their bodies were never seen again,' Bremer wrote, 'but tradition says that on misty mornings the spirit of the Indian wife with the children folded to her bosom, is seen gliding in the canoe through the rising spray about the Spirit Island, and that the sound of her death-song is heard moaning in the wind and in the roar of the falls of St. Anthony.' [7]

In facts alone, this story is tragic. If this story is why Spirit Island became sacred, then the sacredness belongs to those who loved, remember, and survived Ampota Sampa. [8] To those of us who have suffered the loss of loved ones to rivers, Bremer's romantic retelling of the story is remote, distant, and kitschy; all suffering is contained within Ampota Sampa as an object or an allegory. I hesitate in sharing the story in this form. The tragedy of a woman vanishing into the mist may have seemed familiar to Bremer's Scandinavian readers, reminiscent of Hans Christian Andersen's tale of *The Little Mermaid* (1837) whose scorned-by-a-man protagonist turns into seafoam. While I'm cautious about doubt-casting this story, the narrative seems incomplete, or all too happily serving Victorian aesthetics. Who told Bremer this story while she traveled in Minnesota: a settler, or had she actually met with Dakota people? I'm not Dakota, but when Dakota people share their knowledge with me, I take special care of that knowledge; I was entrusted with it, and I don't give it away. This story is retold without special care, further illustrating the settler bias that reduces Indigenous sacred places to cute roadside attractions or charming tragic tales of a bygone age.

When the narratives around sacred places are told for the amusement of tourists, the desires of the tourists are prioritized. I didn't want to retell

the story of a river suicide in relation to my project. At the presentation of "The Uncompromising Hand," a young person asked me why Spirit Island was sacred. I quickly considered my options. Relating the story of Ampota Sampa would make me the keeper of the story, potentially the revealer of Dakota things. I chose cultural relativism instead, asking the kid if they had seen the beautiful Catholic basilica a few miles from where we spoke. They had. I asked how congregants would feel if another group of people quarried it; I painted a mental image of people cutting away the basilica's stone filigree. The young person said that they understood my point, and to my surprise, they added that they would rather have the island than the church. The kid understood the specialness of a place without the aid of a story of a woman dying there, nor did they need a church to convey specialness or sacredness.

To reiterate, I don't know why Spirit Island was sacred. What makes a sacred place sacred might be the energy around the place, the spirit in the place, the history and memories associated with it. I would never want to quarry the marble from the basilica to build another church, yet I have seen Spanish colonial churches in Yucatán, Mexico that were built with stone stolen from Mayan temples at Mayapan. [9] If the idea of quarrying stone from Indigenous temples and the destruction of Indigenous sacred places seems like a narrative from another time, it is assuredly not. We are now witness to the active disregard and destruction of Indigenous sacred places for pipelines, reducing Bears Ears National Monument, or encasing sacred mounds in the parking lots of Walmart stores. [10] The destruction of Indigenous sacred places for archeological digs and building developments upon "ancient Indian burial grounds" in North America is so common it has become a horror film cliché. Linking the sacred to worldviews on spirituality or national obligations is an assured way to achieve a full spectrum of differing opinions. There are those among us who feel that human dominion over the earth is a sacred

right and could argue for the destruction of Spirit Island on the grounds of sacredness. If the idea of sacredness is linked to a plea to refrain from

destroying something described with this word, the very idea of the sacred is somewhat tragic and vulnerable.[11]

## A Phantom Island

On the evenings of September 29th and 30th, 2017, a slow-paced video depicting scrolling images of Spirit Island was projected across the Upper St. Anthony Lock. The piece “The Uncompromising Hand: Remembering Spirit Island” was a work that I had envisioned and proposed responding to the goals in a request for proposal selectively issued by *Northern Lights.mn*, Mississippi Park Connection, and the National Park Service at the Mississippi National River and Recreation Area. The request stated that “The goal of these projects is to bring to life in a spectacular and visceral manner important aspects of the [St Anthony Falls] Heritage zone, focusing especially on the lock and dam.”[12] The desire “to bring to life” the Heritage zone may have sprung from the 2015 indefinite “Mandatory Closure” of the Upper St. Anthony Lock as signed into law: Section 2010 of H.R.3080—Water Resources Reform and Development Act of 2014. [13] If an emotional connection to the lock had inspired the development of the site as a place for public art, I matched the emotion with a proposal about virtually resurrecting Spirit Island. As the project’s goals had aimed to enliven the place, projecting this phantom island onto a lock, a lock that has the appearance of an open tomb, might solemnly fail. Acknowledging this problem, and the problem of linking Native Americans to a romantic past, I wrote the following in the proposal:

It is important that this film not be understood as lamenting the past. Often Native Americans, our cultures and very existence is seen as something endangered, extinct or not thriving. But we are not a tragedy and should not be spoken of like O’Brien spoke

of the island. Although the lasting effects of colonization are still being resisted through Indigenous language revitalization efforts and environmentalism, the last segment of the animation will reveal that *the hand*, referenced in the title, can be the hands of those interested in a better future—learning from our past to protect the environment for future generations to enjoy.

Invoking *the hand* as representative of our future actions as liberation from perpetuating settler mentality in our current actions is how drawing can show us endless proposals for the future. Drawings are gestures of power relating to the hand. A raised fist, the American Indian Movement’s logo, and many other resistance logos feature the hand as action. Hands are symbols of power, symbols of action. It isn’t my intention to dissect the human body into symbolic organs, but an analogy between hands and power already lives in the idioms of American English. Changing hands, out of one’s hands, the hand that feeds, time on one’s hands, folding one’s hands, to wash one’s hands of, giving one’s hand in marriage, take something off of one’s hands, all convey possessive access, control, and power. One offers a hand for a shake in diplomatic gestures, an act of trust that may have its origins in the kindly sport of revealing a lack of weaponry. American Sign Language is a Native American invention, a language of unity and diplomacy that traversed several hundred linguistic groups. Because the hands pick up where the spoken voice fails us, because the island was initially quarried by hand in an elaborate ceremony of erasure, it will need to be up to future hands to resist, to refuse, and to draw in what has been erased.



See a time-compressed video segment of 'The Uncompromising Hand' (2017) by Andrea Carlson. Documentation: Rik Sferra.

On a final note, one element observed on the night of the project's tests was the fact that the island was actually being projected to scale. Some photographs contained images of settlers on top of the island. Horses hitched up to carts on tracks to excavate the stone were in the images, too. While viewers stood on the lock's wall above the projection, they appeared to be the same

size as the people in the photos standing on the island. The viewers appeared to be hovering just above the people in the photos. A park ranger explained that the limestone cap on Spirit Island was nearly the height of the lock, coming in at a few feet shy of the lock height. The projection of Spirit Island placed the top of Spirit Island a few feet shy of the top of the lock. We were seeing the island presented to scale. Those who, like me, have imagined the island hundreds of times while crossing Stone Arch Bridge had a visceral chance to see the island in a brief apparition.

## Footnotes

[1] O'Brien, Frank G. "Famed Falls of St. Anthony as They Looked at an Early Day." *The Minneapolis Tribune*, 7 Jan. 1899, p. 3, <http://www.mnhs.org/newspapers/lccn/sn83016771/1900-01-07/ed-1/seq-27>. Retrieved December 12, 2017.

[2] Turcotte, Mark. "Woman Calls Water." *Exploding Chippewas*, TriQuarterly Books, 2002, pp. 55–56.

[3] Hyman, Colette A., "Survival at Crow Creek," *Minnesota History*, 61 (2008), 148-60.

[4] See the origin of the Big Drum. White, Bruce. "*Honoring Wiyaka Sinte Win/ Tail Feather Woman and Her Vision.*" *MinnesotaHistory.net*, 23 Mar. 2009, <http://www.minnesotahistory.net/wptest/?p=1000>. Retrieved December 12, 2017.

[5] John C. Calhoun was a racist, slavery-advocating politician, whose portrait was printed aside Andrew Jackson's on Confederate first issue banknotes. See also: Nelson, Emma. "Hennepin County Board panel advances lake name change from Lake Calhoun to Bde Maka Ska." *Star Tribune*, 21 Nov. 2017, <http://www.startribune.com/hennepin-commissioners-ok-lake-name-change-from-calhoun-to-maka-ska/459149993/>. See also a proposed Minnesota bill pertaining to place names: <https://www.revisor.mn.gov/bills/text.php?number=Hf2503&version=0&session=ls85>

[6] Laurier Students' Public Interest Research Group (LSPIRG). "Land Acknowledgement." *2017 ACPA Convention*, 2017, <http://convention.myacpa.org/columbus2017/land-acknowledgement/>. Retrieved December 14, 2017

[7] El-Hai, Jack. *Lost Minnesota: Stories of Vanished Places*, University of Minnesota Press, 2000, p. 52.

[8] Although nested in the context of a Dakota story, the reiteration of the family as being a "Dakota family" and the wife is an "Indian wife" reminds the non-Native reader that familiar kinship terms that might engender empathy are offset by continual reminders of *otherness*.

[9] See "Experience Mayan Culture at the Ruins of Chichen Itza and Mayapan." *All Mexico* 365, 25

May 2016, <http://www.allmexico365.com/blog/experience-mayan-culture-at-the-ruins-of-chichen-itza-and-mayapan>. Retrieved December 13, 2017

[10] Sturgis, Sue. "Wal-Mart's History of Destroying Sacred Sites." *Facing South*, 8 June 2016, <http://www.facingsouth.org/2009/09/wal-marts-history-of-destroying-sacred-sites.html>. Retrieved December 13, 2017.

[11] The phrase "Women are Sacred" is emerging in communities that have seen trauma and abuse directed towards women. This phrase further perpetuates an association of physical restraint towards the sacred out of respect for sanctity.

[12] Request for Proposal for "Illuminate the Lock" via email correspondence April 12, 2017.

[13] "H.R.3080—Water Resources Reform and Development Act of 2014". *congress.gov*. Retrieved December 12, 2017.

## Recommended Citation

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## About the Author

Andrea Carlson (b. 1979) is an artist of Ojibwe descent from Minnesota currently living in Chicago, Illinois. Her work has been acquired by institutions such as the British Museum, the Minneapolis Institute of Arts, and the National Gallery of Canada. Carlson was awarded a 2008 McKnight Fellowship and is a 2017 Joan Mitchell Foundation fellow. Carlson's "The Uncompromising Hand" was commissioned in 2017 by Northern Lights.mn and Mississippi Park Connection as part of "Illuminate the Lock" (<http://northern.lights.mn/projects/andrea-carlson-the-uncompromising-hand/>).



GEOGRAPHIES

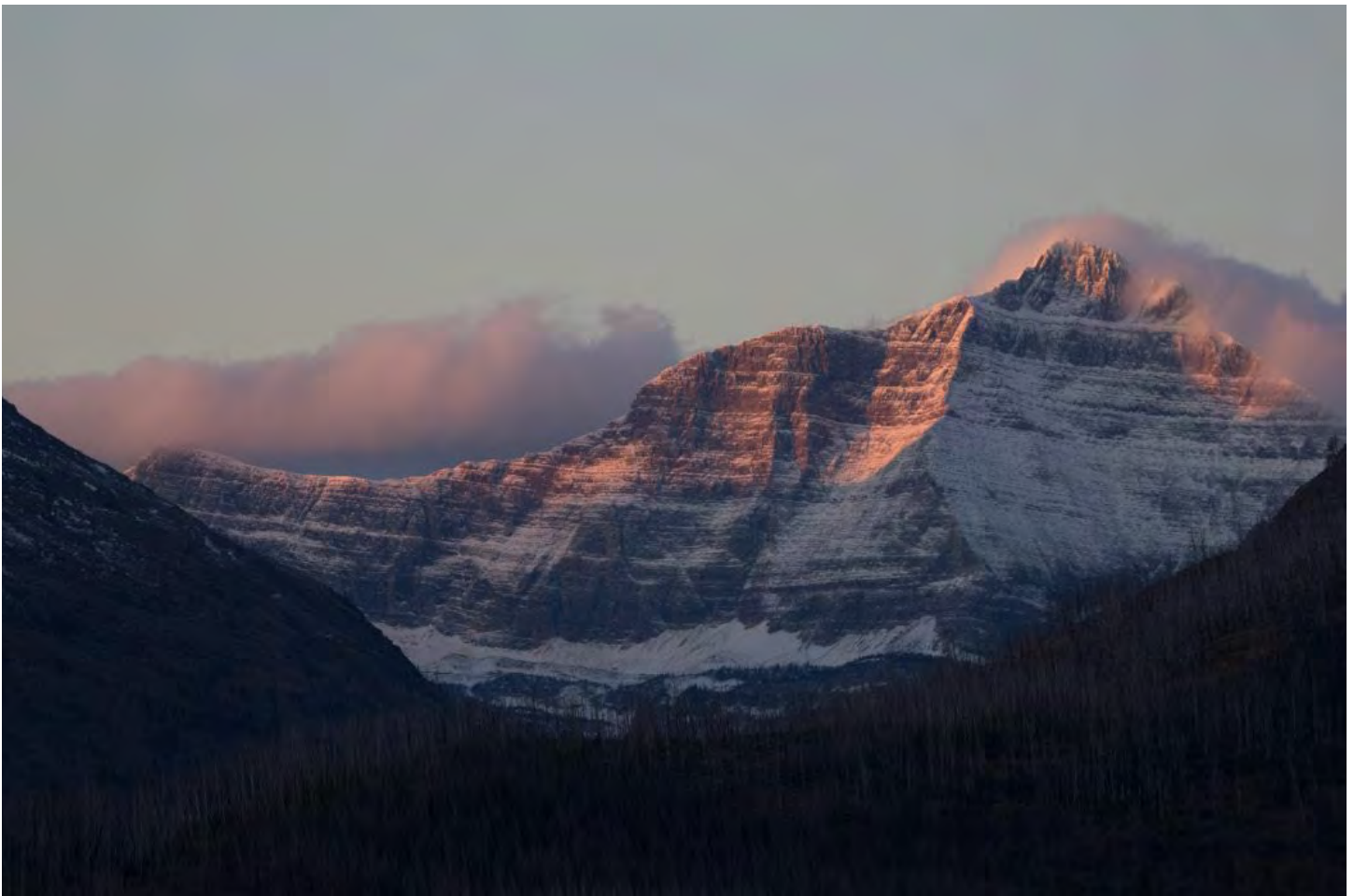
# WHERE THE WATER FLOWS: UNDERSTANDING GLACIER'S TRIPLE DIVIDE PEAK

By Quinn Feller

**I**magine pouring out a glass of water. Where does the water go?

After soaking your computer or floor, it would eventually flow to join a greater body of water and become part of a larger drainage system. Where

I grew up, outside of Milwaukee, my water would join with Lake Michigan. In the Twin Cities, where I went to university, it would flow into the Mississippi River. From Jackson, Wyoming, where I'm writing now, it would combine with the Snake River and flow into the Pacific Ocean.



*First snow at Triple Divide Peak. Image courtesy of Daniel Lombardi.*

But Glacier National Park, where I worked in the summer of 2017, has a unique little point called Triple Divide Peak. Triple Divide Peak marks the division of three major watersheds. If you poured out your water on top of Triple Divide, it would flow into the Columbia River watershed, and eventually the Pacific Ocean; it would flow into the Nelson River watershed, and eventually Hudson Bay and the Atlantic Ocean; and it would flow into the Mississippi River watershed, and eventually the Gulf of Mexico and Atlantic Ocean.

Triple Divide is commonly hailed as unique and significant because water from its peak flows into three oceans. That depends on whether you

think Hudson Bay connects to the Atlantic or Arctic Ocean, and there is certainly some dispute surrounding that. There's another triple divide peak in Canada that flows directly into the Arctic and Pacific Oceans, as well as into Hudson Bay. So, depending on what you think about Hudson Bay, either Canada or Montana has a triple ocean divide. The International Hydrographic Organization considers it to be in the Arctic division of oceans and seas, so that might be a win for Montana. The significance of these triple divides as possibly flowing into three oceans also depends on your definitions of oceans, which isn't always straightforward. Regardless, though, they all flow into three distinct and major



*A view of Triple Divide peak as featured on an interpretive wayside panel. Triple Divide Peak is in the distant background between Kakitos Mountain on the left and Norris Mountain in the center. Image courtesy of Glacier National Park.*



drainages. (As a side note, the naming schema for water around triple divides tend to follow a similar structure; surrounding rivers, streams, and glaciers are often named for the drainage they join. Triple Divide Peak in Montana has the Pacific, Atlantic, and Hudson Bay Creeks. Snow Dome has the Columbia and Athabasca Glaciers, as well as the Dome and Stuttfield Glaciers.)

As an exhibits specialist in Glacier, my job was to design interpretive wayside panels with our seasonal media team. One of our selected topics was Triple Divide Peak. (If you've ever been to a national park, or really any public land or well traversed road, you may have seen a wayside on

the side of the road. They're meant to be quick interpretations of what you're seeing, an opportunity for visitors to connect to the place they're in without necessarily interacting with a ranger.) I always thought I had a pretty good grasp of what a watershed was and how drainages worked from my time studying and living by the Mississippi, but I learned so much throughout the course of making this wayside.

Unique in its geography and the sheer size of its combined drainage, Triple Divide Peak drains into basins that cumulatively cover 1,823,000 square miles. It connects incredibly different portions of North America. To the east, the Great



*Northeastern view from Triple Divide Pass in Glacier National Park showing Triple Divide Peak. Photographer Andy Curtis, 2004.*

Plains lead into the agriculturally productive interior of the United States, and eventually the Mississippi Delta. The Flathead River joins with the Pend Oreille, then flows into the Columbia, where human influence has inspired massive dams and conservation, in turn. The northern rivers, despite historic use by First Nations, are now known for the presence of fur traders and hydroelectric development in more recent years (a common motif along rivers and land in North America).

Triple Divide Peak brings together three major drainages in northwestern Montana, almost in Canada. I knew this, I had told people this, and I thought it was a pretty neat concept. And I knew that continental divides acted as drainage divides. But I hadn't reasoned through the idea that

Triple Divide, in order to flow to three different oceans, must be a place where two continental divides meet, in this case the Great Divide and the Laurentian Divide. Snow Dome in Canada is at a similar intersection, where the Great Divide and the Arctic Divide meet. There are other triple divides that aren't at the intersections of continental divides, though. In Wyoming, Three Waters Mountain marks the triple point where the Colorado, Columbia, and Mississippi watersheds meet. California has its own Triple Divide Peak in Tulare County, where the Kern River, the Kaweah River, and the Kings River watersheds meet. Europe has triple divides in Switzerland (Witenwasserstock and Lunghin Pass, if you're curious). Asia, interestingly, has no major triple divides because of the massive endorheic basin in its interior. Endorheic is one of my new favorite



*View of Triple Divide Peak in the distance, showing the upper end of St. Mary Lake and Wild Goose Island, Glacier National Park, Montana. Photo taken from Going-to-the-Sun Road. Photographer Ken Thomas, 2006.*



words. When water collects without an outlet to a river or ocean, it forms an endorheic basin. Much of the Sahara Desert is part of one endorheic basin, draining into Lake Chad. Antarctica is the only other continent with a multi-ocean triple divide, and that again depends on how you define oceans.

As singular as Triple Divide is, we wanted to emphasize connection over division in our wayside sign. The same drops that enter the water in Glacier will make their way to three oceans. They might flow past your house, or they might grow the food you eat. With so many points

of connection and collection across the world, we have to consider the greater impact of our actions.

Melting snow and ice provide a critical source of water, sustaining habitats for countless plants and animals, here and downstream. Protecting these pristine waters also supports agriculture, recreation, and industry across the continent. As the climate warms and glaciers recede, the store of water that nourishes the continent will diminish. Though Triple Divide Peak seems far away, what happens here has effects that reach close to home.”

Glacier National Park
National Park Service  
U.S. Department of the Interior

# It's All Downstream From Here

Triple Divide Peak, the distant mountain peeking out across the lake, is one of the few places in the world where streams feeding three major watersheds originate. Glacier National Park's waters flow across the continent to very different places: the Pacific Ocean, Hudson Bay, and the Gulf of Mexico.

Melting snow and ice provide a critical source of water, sustaining habitats for countless plants and animals, here and downstream. Protecting these pristine waters also supports agriculture, recreation, and industry across the continent. As the climate warms and glaciers recede, the store of water that nourishes the continent will diminish. Though Triple Divide Peak seems far away, what happens here has effects that reach close to home.

- Columbia River Watershed
- Saskatchewan/Nelson River Watershed
- Missouri/Mississippi River Watershed

**YOU ARE HERE**

**ELEVATION**

Logan Pass	6646 ft 2026 m
Current Location	4512 ft 1375 m
St. Mary	4551 ft 1387 m

**DIRECTION**

**DISTANCE**

West Glacier	45.3 mi 72.9 km
Logan Pass	13.5 mi 21.7 km
St. Mary	4.7 mi 7.6 km

*“Triple Divide Peak, the distant mountain peeking out across the lake, is one of the few places in the world where streams feeding three major watersheds originate. Glacier National Park’s waters flow across the continent to very different places: the Pacific Ocean, Hudson Bay, and the Gulf of Mexico.” Image of the sign courtesy of Glacier National Park.*

## Recommended Citation

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## About the Author

Quinn Feller is most likely to be found in Wyoming or Montana, though she hails from Wisconsin. Growing up near Lake Michigan and going to school along the Mississippi River (in the Twin Cities) helped inspire her interest in water systems. She currently designs educational publications for the National Park Service and affiliated organizations, and works and resides in Jackson, WY.



PRIMARY SOURCES

# THE STORY BEHIND A NASSAU BOTTLE EXCAVATED AT HISTORIC FORT SNELLING

By Nancy Buck Hoffman

For millennia, Native American people traveled and traded on the Mississippi River. When colonial powers moved into North America, they quickly saw the importance of controlling transportation and the movement of goods on the river. In 1820, The United States government established Fort Snelling at the confluence of the Mississippi and Minnesota Rivers to protect American fur trade interests in the region and to gain a foothold in the western territory that would become Minnesota.

The fort served various military functions until 1946 when the army decommissioned the site. By the 1950s, only four of its original buildings remained standing. In 1956, public interest in preserving what remained of the fort and rebuilding the site to its original appearance led to excavations conducted by Minnesota

Historical Society (MNHS) archaeologists.

Over the course of 17 years, from 1965 to 1981, their work provided invaluable evidence for an accurate reconstruction of the site. The research also produced over 600 cubic feet of collections. Because the research focused on documenting construction techniques, the artifacts did not get a lot of attention. In addition to the sheer volume of material, paper catalogs made it hard for later researchers to tackle any kind of analysis.

Pat Emerson, Head of Archaeology at MNHS, decided this valuable collection needed to be made accessible. In 2013, she applied for and received a state grant to inventory the collection and create electronic records for the artifacts. I have been lucky enough to spend the last four years working on the inventory and getting to know the fort through its material culture.



*Historic Fort Snelling from Round Tower. Image courtesy of the author.*



*Collection of ceramic sherds from the Nassau Selters bottle.  
Digital image Courtesy of the Minnesota Historical Society and Nancy Hoffman.*



You would not be surprised by the majority of artifacts found during the excavations: broken bits of glass—primarily from bottles that held alcohol, uniform accessories, and pieces of tobacco pipes. Other objects clearly have fascinating stories to tell. An artifact that intrigued me the first moment I saw it was a ceramic water bottle from Germany. Why, in the land of 10,000 lakes, would anyone import water from Europe in a heavy stoneware bottle? The answer lies in mid-nineteenth century attitudes towards health and the power of commerce.

The bottle (actually a collection of ceramic sherds) has a circular seal stamped just below the shoulder. On it, the word “SELTERS” surrounds the image of a crowned lion standing on its hind legs. Stamped below this are the words “HERZOGTHUM NASSAU.” These marks identify the former contents as mineral water from the Niederselters spring in the Duchy of Nassau located in the modern state of Hesse, Germany. The spring produces naturally carbonated water. It has been known for hundreds of years and by the late eighteenth century, the water was bottled and exported world-wide. By the nineteenth century, it was so well known that one of our generic terms for carbonated water, seltzer, derives from Selters.

Export of Selters water to the United States may have begun as early as 1846 [p. 119, The Bottles of Old Sacramento]. The Duchy of Nassau ceased to exist in 1866, when it was occupied and absorbed into the Kingdom of Prussia. That means our bottle must have arrived at the fort sometime between 1846 and 1866.

Fort Snelling had a good supply of potable water throughout the nineteenth century. A well at the fort provided drinking water, but the volume proved insufficient, so it was supplemented with barrels of water delivered daily via horse cart from Coldwater Spring. Even the Mississippi River water was relatively clean up through the 1850s. Clearly, there was no need to replace or

supplement the local supply of fresh water, and this would have been prohibitively expensive in any event.

So what did Selters water have that Minnesota water did not? Simply put—bubbles. “Taking the waters,” either by bathing in them or drinking them, was a long-standing health practice by the mid-nineteenth century. Mineral water was widely regarded as an effective cure for a host of ailments. An 1839 treatise titled, “ON THE GENERAL LOCALITIES, NATURE, AND USES, OF MINERAL WATERS” included this passage:

“Dr. T. Thomson says, that the Spa waters may be termed either acidulous or chalybeate, for they are a combination of both. Their effect is stimulating, and they promote the secretions, especially with respect to the kidneys and the skin. The general effect of the carbonated waters is stimulant, and they are even capable of producing a certain degree of transient intoxication, they are also useful in bilious affections, and as an agreeable drink in fevers, but are injurious in cases of flatulency or indigestion.”

In an age of dangerous patent medicines, mineral water was probably one of the few cure-alls that did no harm. Other observers noted that the sparkling water mixed well with alcohol, a quality that expanded its appeal to anyone using alcohol, medicinally or not.

Archaeologists found the bottle in an enclosure behind the sutler’s store. Sutlers were civilian merchants appointed by the army to sell goods to soldiers at set prices. These would largely consist of specialty items the government did not provide. The sutler at Fort Snelling also served as the postmaster during this period, making the store an important point of connection to the rest of the world. The area behind the store probably served as living quarters for the sutler or his clerk. In addition to this bottle, fragments of two other identical bottles were recovered from



*A similar selters bottle from Niederselters from the 19th century. Photographer Volker Thies. CC BY-SA 3.0.*



the same area. A later, nearly complete Selters bottle was also found there. The enclosure behind the store and the store itself seem to have been social gathering places at the fort. The mineral water could have been merchandise for sale in the store or may have been consumed by the sutler. The bottle certainly didn't get too far from the store regardless of who consumed it. This discard pattern is similar to the one seen for a common nineteenth-century patent medicine, Essence of Peppermint. Approximately three-quarters of all the Essence of Peppermint bottles identified at the fort were found in and around the sutler's store.

Only robust water transportation systems made import of water from Germany possible, first across the Atlantic and then up the Mississippi from New Orleans. Once it reached the United States, it could also have been sent by rail to

Saint Louis or La Crosse, Wisconsin and then by steamboat to Fort Snelling. Franklin Steele, the entrepreneur who served as Fort Snelling's sutler from 1840 to 1865, owned a share in a steamboat company by the mid-1850s. This would have allowed him to make money on the transportation as well as the sale of items shipped to his store.

Selters water was a luxury in nineteenth-century America no matter how you calculate its value<sup>[1]</sup> and small luxuries were the sutler's stock-in-trade. Whether Selters water was consumed as a medicine or a mixer with alcohol, it is exactly the kind of good the sutler's customers sought out to brighten their lives in Minnesota. The bottle is one of many artifacts that demonstrate how even people living in and near Fort Snelling were connected to the global commercial network in the mid-nineteenth century.

## Footnotes

[1] I had difficulty finding a reliable price but it seems to have run from \$4 to \$12 per bottle in 2017 dollars. See [https://www.parks.ca.gov/pages/22491/files/CA\\_State\\_Parks\\_Archaeological\\_Report\\_Vol20\\_BottlesOldSacramento.pdf](https://www.parks.ca.gov/pages/22491/files/CA_State_Parks_Archaeological_Report_Vol20_BottlesOldSacramento.pdf) and [https://archive.org/stream/saturdaymagazin00unkngoog/saturdaymagazin00unkngoog\\_djvu.txt](https://archive.org/stream/saturdaymagazin00unkngoog/saturdaymagazin00unkngoog_djvu.txt).

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## About the Author

Nancy Buck Hoffman studied archaeology with Dr. Janet Spector at the University of Minnesota. She has worked with archaeology collections and museum data management for over 25 years at both the Minnesota and the Wisconsin Historical Societies.

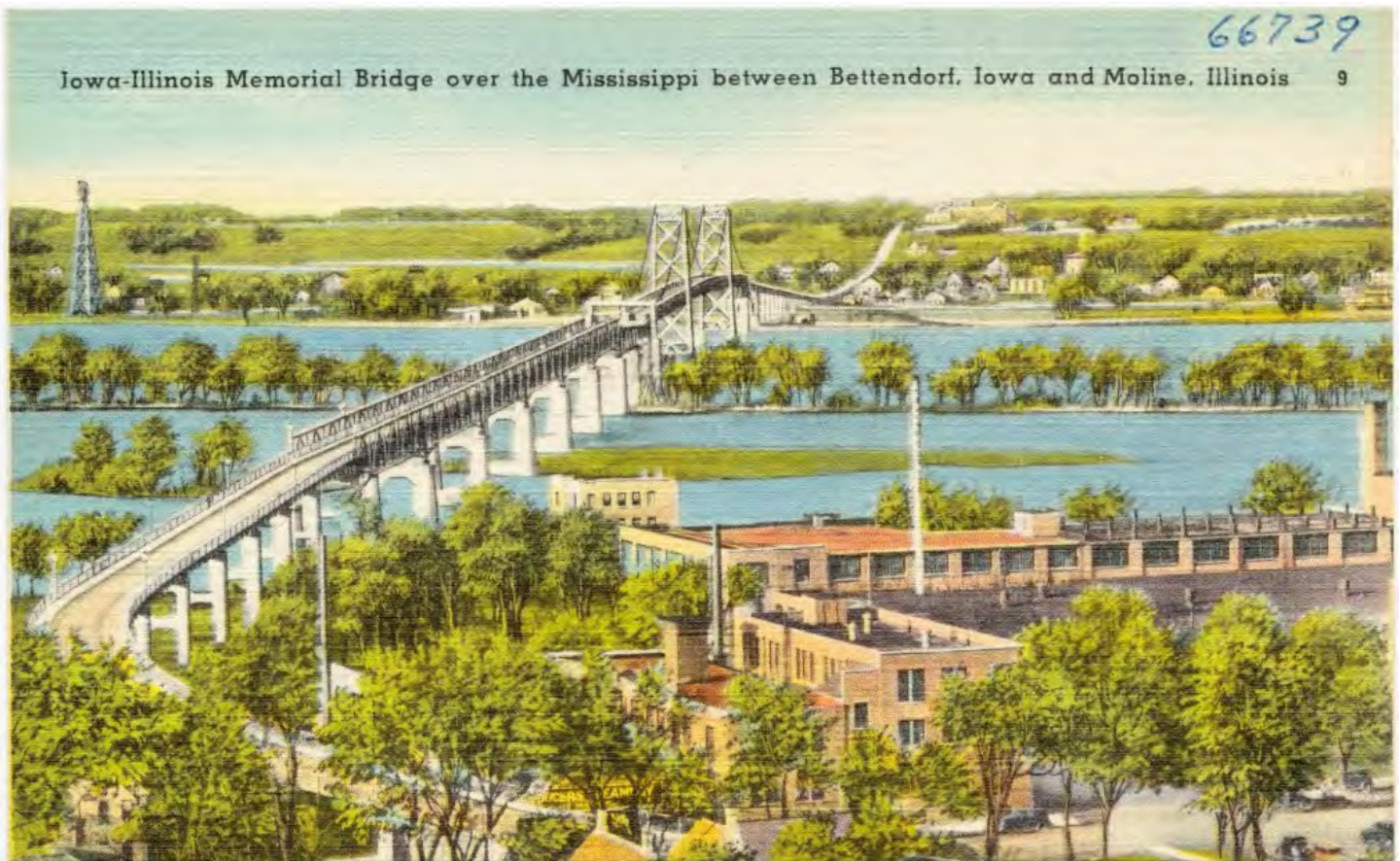
PERSPECTIVES

# IN QUAD CITIES, RECONNECTION TO THE RIVERFRONT IS WELL INTO ITS FOURTH DECADE

By Patrick Nunnally

In January 2018, residents of the Quad Cities (Moline and Rock Island, Illinois; Davenport and Bettendorf, Iowa) attended an open house exploring possibilities for “new” riverfront land left vacant by the realignment of the I-74 bridge

over the Mississippi. Bridge replacements happen all the time, of course, but this meeting signaled two things: first, the continued significance of this particular stretch of the Mississippi as a transportation crossroads, and second, the ongoing



*Hand-tinted postcard showing Iowa-Illinois Memorial Bridge over the Mississippi between Bettendorf, Iowa and Moline, Illinois circa 1930-45.*



vitality of the regional riverfront redevelopment programs, begun out of industrial economic crises over three decades ago. The Quad Cities

region, to many people “flyover country” at its very essence, looms surprisingly large in Mississippi River history.

# Why the Quad Cities Are Here- A Nineteenth-Century Perspective

The best single source for this complex set of stories is the book *Grand Excursions on the Upper Mississippi River* (University of Iowa Press, 2004), edited by Curtis C. Roseman and Elizabeth M. Roseman. Much of what follows was learned through discussions with the editors and research for the chapter I wrote in the volume. The settlements that became the Quad Cities grew up at a point where rapids in the Mississippi required steamboats to stop, unload, be piloted very carefully through the rapids and rocky outcroppings in the river, then reloaded. Communities grew up to serve these travelers and shippers and, after a survey by Lt. Robert E. Lee (yes, that Lee) in 1837, the U.S. Army Corps of Engineers began to blast away rock to form a shipping lane. In the 1840s, blacksmith John Deere relocated his steel plough company to

Moline, to take advantage of waterpower developments there. Today, of course, Deere and Co. is known worldwide as a manufacturer of farm implements and other machinery.

Located almost due west from Chicago, it is not surprising that the first railroad to reach the Mississippi and provide a continuous route from the eastern seaboard would intersect the river at Rock Island, Illinois. The Rock Island line built a timber bridge to carry tracks across the river in 1856, further complicating an already treacherous stretch of water for navigation. Later that year, the steamboat *Effie Afton* crashed into the bridge’s piers; the ensuing fire engulfed both the bridge and the steamboat. Railroad sued steamship company; steamship company sued railroad; and the court case ended up establishing



*I-74 Bridge spanning the Mississippi River between Bettendorf, Iowa and Moline, Illinois.  
Photographer Ctjf83 (CC By-SA 3.0).*

the principal that railroads could legally cross rivers without being considered impediments to navigation. The case, won by railroad lawyer Abraham Lincoln, opened the way for railroad

crossings up and down the Mississippi and, ultimately, the expansion of the United States across the Great Plains.

## In the Late Twentieth Century, a Region Undergoing Change

Fast-forward 130 years from the 1856 *Effie Afton* case, and the Quad Cities region was once again in the national news. This time, a cost-price squeeze of mammoth proportions caused farm bankruptcies all over the Midwest. With thousands of farmers going bankrupt, the ripple effect on farm communities, agricultural implement dealers, and ultimately implement manufacturers was devastating. According to some estimates, industrial leaders in the Quad Cities, like John Deere, J.I. Case, and International Harvester, lost some 25,000 jobs during the 1980s.

Job losses at that scale brought many “rust belt” towns to their knees, and some cars around the Quad Cities sported bumper stickers reading,

“Will the last person leaving the Quad Cities please turn out the lights?” In this case, though, a committed group of community-minded citizens decided that the Mississippi River would be the key to the region’s future, just as it had been central to its past. The year 1984 was marked as the “Year of the River,” with public events held at the riverfront each month. After that year, a new nonprofit organization, [RiverAction](#), was founded to keep the momentum going. In the ensuing decades, led by a remarkably consistent team of staff and Board of Directors, RiverAction has emerged as one of the most effective community-based organizations on the entire Mississippi River.

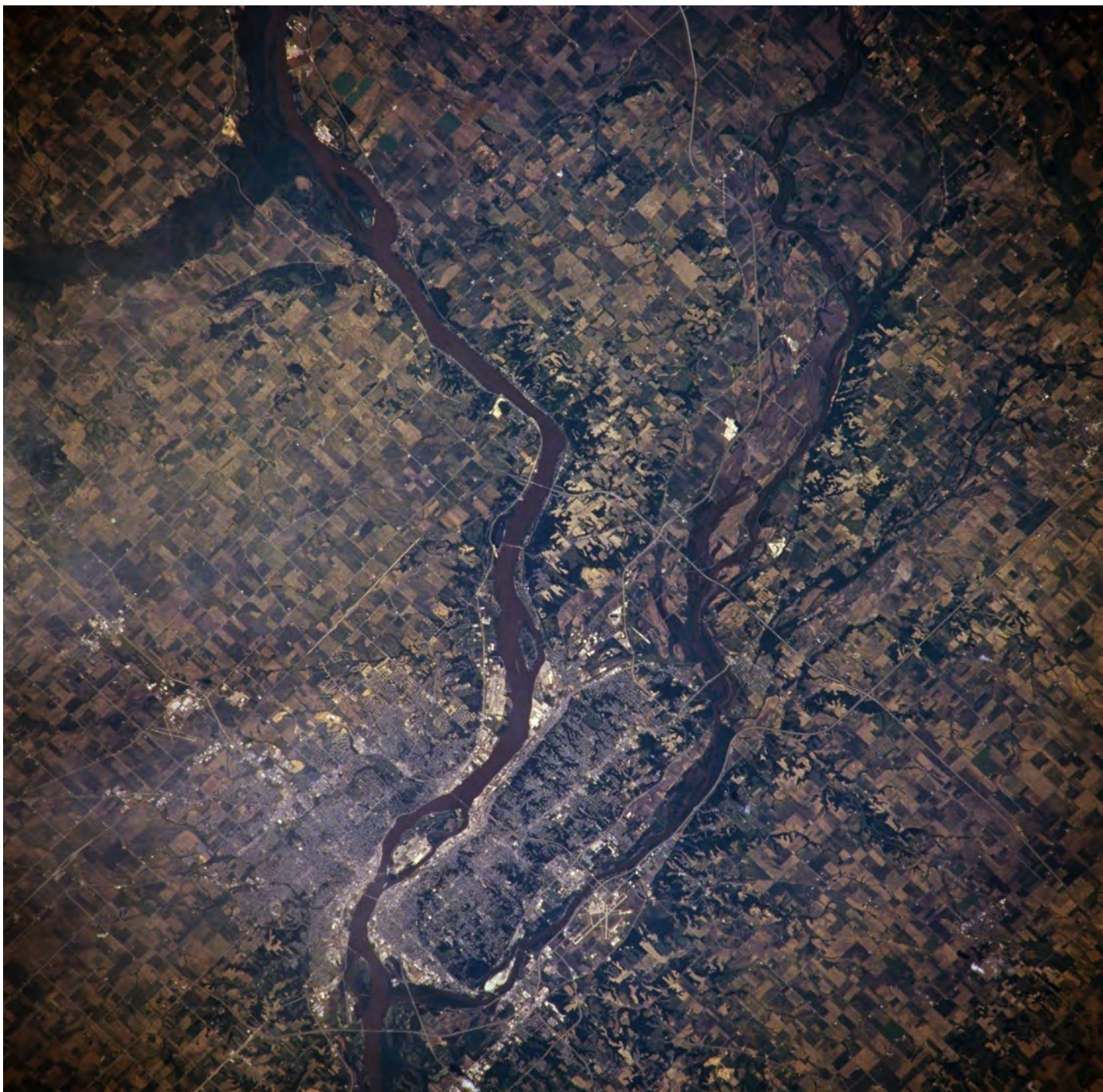
## The Mississippi River as the Region’s Greatest Asset

One of the keys to RiverAction’s success has been its commitment to broad civic inclusion. It’s not easy to get the mayors of four independent cities to agree on much of anything, and once the riverfront projects expanded from the core cities, the number of local governments grew to over a dozen. There is a BiState Regional Commission that has a regional collaborative infrastructure around issues such as transportation, but RiverAction often found itself taking the lead

on initiatives such as regional bikeways, river cleanups, and the like. Local corporations came to the table, providing funding and in-kind contributions for features such as the trail gateway signs on the RiverWay trail network.

RiverAction has also been masterful at putting together coalitions that secure significant public funding for the region. Some of the largest grants, such as the EPA Superfund cleanup that restored





*The Quad Cities of Rock Island and Moline, Illinois, and Davenport and Bettendorf, Iowa, are visible in this east-northeast-looking photograph. The sediment-filled Mississippi River is joined by the Rock River just south of Moline and by the Wapsipinicon River north of the Quad Cities. Image provided by the International Space Station program and the JSC Earth Science & Remote Sensing Unit, ARES Division, Exploration Integration Science Directorate, NASA.*

the Nahant Marsh, could only go to public entities, so a local unit of government had to be persuaded to take the lead. For other projects, a private partner like the Quad Cities regional Chamber of Commerce was the principal grant recipient. Augustana College in Rock Island has been a longtime collaborator, and, more recently, the new campus of Western Illinois University has played a role.

All of this effort has allowed the Quad Cities to participate fully in the national phenomenon of populations returning to previously abandoned downtowns. In the 1990s, several blocks of obsolete warehouses were converted to John Deere Commons, a museum, restaurant, and shopping complex located across the street from a new civic arena for concerts and minor league hockey and basketball games. Visitors mean customers for locally owned restaurants, bars, and shops in the

downtown district. A livelier downtown means that small residential developments have begun to sprout up here and there along the paths and art installations on the riverfront.

Which brings us back to the open houses to get public feedback about the areas around the relocated interstate bridge. The two spans being replaced were built in very different eras—the first one in 1935 and the second in 1960. Yet both were built during a period when the Mississippi was thought of as the “back door” to the Quad Cities, and public participation was not a factor in urban bridge planning and construction. Now, with the Mississippi River once again the “front door” to the Quad Cities, the new bridge, just a few miles away from the location of the first railroad bridge to cross the Mississippi, will once again mark the Quad Cities as a significant river destination.

## Recommended Citation

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## About the Author

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, “Making the Mississippi: Formulating New Water Narratives for the 21st Century and Beyond,” funded by the Andrew W. Mellon Foundation.



TEACHING AND PRACTICE

# MOSQUITOES, MUCK, AND MUSSELS: A LOOK INTO SCIENTIFIC RESEARCH

By Lea Davidson, James Doherty,  
Laura Gould, and Hayley Stutzman

*In 2014, the University of Minnesota, Macalester College, and the Minnesota Department of Natural Resources began work on a multi-year study of mussel health in selected Minnesota rivers. The research, funded by the Legislative-Citizens Commission on Minnesota Resources, combined experimental study with field investigation to explore relationships between specific indicators of water quality and biological measures of the health of particular organisms. Mussels are bottom-dwelling filter feeders, and are therefore important “indicator species” of stream water quality. The work described in this article was a significant component of the broader, three year project.*

– Patrick Nunnally, Editor

**T**he aspiring young undergraduate scientists envision fieldwork as a romantic escape from the office cubicle, classroom desk, and seemingly endless pile of homework. Working alongside experts in their field, they anticipate working in the wildest regions of the world: dense tropical forests, remote mountain ranges, and

distant glacial rivers. They see themselves on the forefront of groundbreaking discoveries: truly shattering the scientific community with a cure for Malaria, discovery of a new species, or theory of planetary evolution. Envisioning numerous publications and grad school offers, becoming leaders in their field and gaining tenure, the



*Field work in the Minnesota basin differed from that of the St. Croix. The rivers were murkier and often lined by agricultural land. Image courtesy of Mark Hove.*

undergraduate scientists see the ease and simplicity of a straightforward and successful career trajectory.

Spending a hot summer day clothed entirely in neoprene, amid swarms of mosquitoes, wading into the dark, murky brown waters of agricultural rivers, is not what young scientists have in mind when they envision cutting edge research. Though an extreme example, this was one of our many experiences conducting fieldwork throughout the rivers of southwestern Minnesota. As undergraduates at Macalester College, in Saint Paul, Minnesota, we worked alongside professors Dan Hornbach (an ecologist), Kelly Macgregor (a geomorphologist) and Mark Hove (a University of Minnesota and Macalester College biologist), studying the relationship between suspended bed sediment and native freshwater mussel populations. Geographically, our fieldwork spanned the Cottonwood, Le Sueur, and Chippewa Rivers,

tributaries in the Minnesota River basin, as well as the Snake River of the St. Croix River basin. Searching for freshwater mussels, we measured mussel growth rings to gather information regarding growth rate and establishment success, while collecting sediment samples to inform our understanding of the composition of the riverbed.

This was hard work. But it was also important work. Monitoring of native freshwater mussel populations provides insight into the health of a river system. Without mussels, streams lose an important source of riverbed stability, because mussels anchor the sediment as they burrow. Mussels also filter the water column, converting suspended particulate matter into biodeposits. Furthermore, the data we collected on the state of mussel populations in these river systems contributed to an ongoing database of the Minnesota DNR.



*Outside of Mora, Minnesota, students work together to gather quadrat data in the Snake River. Image courtesy of Mark Hove.*



What exactly does a summer in the rivers of rural Minnesota look like? Each week in the field begins with the packing of Big Blue, our trusty transportation to our research sites across the state, with the tools and equipment we had Macgyvered: an inner tube covered in mesh for towing instruments, a net designed for aquatic insect capture reimagined for particulate sediment collection, pieces of pool noodle attached to dive weights to mark quadrat locations. Next we'd drive to a site, often stopping on the way to drop

our belongings off at a local hotel, our new home for the next night or two. Upon arrival, we'd wriggle into our neoprene wetsuits, ideally in a windy area where the mosquitoes wouldn't find us, and securely tuck mosquito nets into our necklines as our final form of protection. With equipment in hand, we looked more like astronauts ready to step foot on the moon than undergrads about to go snorkeling for mussels.

## A Day in the Field with Laura

The first time going underwater in the Snake River, where we began the summer, was a mix of experiences. For starters, it was breathtaking, both literally and figuratively. Before this summer, I had never snorkeled and had never seen a mussel filtering in a stream bed. The first *Lampsilis cardium* (the species of native mussel

species, and honestly could only identify that species if I was lucky. As the summer progressed, allowing for countless opportunities to learn through exposure and from my brilliant professors, the world beneath the river's surface was no longer such a mystery. Despite an identical routine, the experience differed greatly in the



*The research team waded their way downstream to their first quadrat point at a site along the Cottonwood River. Image courtesy of Mark Hove.*



when they were right in front of our faces. It was the hottest days of summer, the rivers were smellier, and the fish more aggressive. Instead of exploring the underwater world with our snorkels, we pawed the ground blindly trying to feel the difference between rock and mussel. Here, we perfected the two-person digger technique, where in swift currents one member of the team braced themselves against the force of the water while the other used their leg as a guide and anchor to get enough leverage to dig up the sediment. By the time we finished gathering data at any site,

we were always ready for a drink and snack to replenish our energy lost from swimming, digging, snorkeling, lugging equipment, and walking in weight belts, all under the summer sun. When we finished our last site of the day, we were itching to get out of our suits, wash off the river water, and fill our growling stomachs. There was nothing romantic about conducting fieldwork in rural Minnesota, yet it was truly an unforgettable and incredible experience. Spending time in ecosystems on the brink further reinforced the importance of conservation.

## Crunching the Numbers

Most weeks we didn't spend more than three days in the field, and albeit exhausting, the other two days were spent in the lab at Macalester College. Here, we began the long process of sifting

through and digitizing our data, requiring initial long hours using Excel before we could analyze our data in more interesting programs such as JMP and Gradistat.



*Field work in the Minnesota basin differed from that of the St. Croix. The rivers were murkier and often lined by agricultural land. Image courtesy of Mark Hove.*



## ISSUE NINE : WINTER 2018

Our sediment data required more physical manipulation. After hauling many bags of what appeared to be sand into the lab, we poured the sediment into metal pans to dry in an oven. We initially weighed, then sifted the sediment through sieves of various mesh sizes, before weighing the total amount of sediment collected in each one. This allowed us to understand specifically what sediment grain size was present at each research location, and connect this to our data on mussel density, species, and size at each site.

The main goals of our data analysis was to determine trends in mussel diversity, abundance, and growth in relation to sediment composition across the rivers. Our quadrat data confirmed findings from previous summers that mussel were more dense in the Snake River. This data

was further inputted into the Minnesota DNR mussel database for future use in monitoring native freshwater mussel populations in these rivers. The measurements of growth rings and sex taken during our searches for *L. cardium* were used to compare trends in mussel growth rates and maximum growth size across the different rivers. Findings related to bed sediment composition provided representative information on mussel habitat, a factor influencing overall growth and population success.



*After digging up everything in the quadrat, the load is lifted out of the water and dumped onto the mesh covered middle of the inner tube. Here, the sediment is thoroughly searched for mussels (live or dead) and shell fragments, and assessed for sediment composition.*

*Image courtesy of Mark Hove.*



# Looking to the Future

While our work during summer 2017 produced many answers, it simultaneously opened the door to twice as many questions. We learned the “what”—what was happening to mussels, these benthic communities, and in the separate river basins as a whole. But what it left us with were the “whys”—what were the reasons behind these changes in bedform composition? Why were mussels in the Minnesota River basin initially growing more rapidly? And why were we seeing fewer mussels in the entirety of this system? Though our work allowed us to connect some of the dots, it produced more intriguing questions for pursuit. This is one of the main reasons many of us find science so exhilarating; the quest to find the answers never ceases.

The work we do continually sparks our own curiosity. It was exciting to share the interest in the fascinating workings of mussels with the greater public. We often interacted with locals while out in the field, knocking on front doors to ask if we could walk through fields and making conversation with passing fishermen. Many times people were amused to see us decked out in wetsuits, digging in the river, but simultaneously genuinely interested in the “clams” in their own backyards. They, too, are curious, about the details of the environment in which they live, and why these details could be interesting to strangers snorkeling in their river. For many of these communities, environmental issues are close to



*Ready for a day in the field, the student researchers stand on the banks of the Snake River. Image courtesy of Mark Hove.*



the heart, as their livelihoods centered around either farming or tourism in the form of outdoor recreation. Regardless of environmental protections, the Minnesota and St. Croix River basins have undergone varying levels of environmental alteration over the past century. Engagement with communities affected by change is often overlooked by those in power, but often these

opinions and observations are among the most valuable. We not only gained important tips—like which sections of the river to avoid due to swarms of mosquitoes—but also learned about changes these communities have observed from many generations living on the banks of the Minnesota and the St. Croix Rivers.

*Funding for this project, “Conserving Minnesota’s Native Freshwater Mussels,” was provided by the Minnesota Environment and Natural Resources Trust Fund as recommended by the Legislative-Citizen Commission on Minnesota Resources (LCCMR).*

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## About the Authors

Lea Davidson is a senior biology major and geology minor at Macalester College in Saint Paul, Minnesota. Her academic interests lie in human-environmental interaction, specifically via conservation biology and geomorphic processes.

James (Mac) Doherty is a junior geology major and data science minor at Macalester College in Saint Paul, Minnesota. He enjoys being outside, drinking good coffee, and learning about hydrogeologic issues.

Laura Gould is a senior environmental studies and geography double major at Macalester College in St. Paul, Minnesota. She loves learning about ways to better connect people with their environment, specifically through food and agriculture.

Hayley Stutzman is a senior biology major and statistics minor at Macalester College in St. Paul, Minnesota. She is interested in finding creative solutions to environmental problems and likes doing data analysis.

IN REVIEW

# REVIEW OF *UNDERWATER*

By Margaret Flood

*Underwater* is surprising. Lois Hendrickson and Emily Beck, the exhibit's curators, planned the exhibit after a visitor asked if the Wangensteen Historical Library of Biology and Medicine's expansive collection included any materials related to algae. The question led them to

explore the collection's holdings related to ocean, a theme which became "water" to reflect, in part, the University of Minnesota's designation of clean water access as a Grand Challenge. *Underwater*, as Hendrickson and Beck explained to me, is less a crystallized exposition of their collection's



*John Fisk Allen. 1854. Victoria Regia; Or, The Great Water Lily of America. Boston: Printed and Pub. for the author, by Dutton and Wentworth*



curiosities and more a conversation-in-motion on the historical relationships between water, healthy bodies, and natural environments.

Above all, *Underwater* is beautiful. Colorful reproductions of watercolor water lilies, a peep-through exhibit of glow-in-the-dark jellyfish, and a blue sign reading “Underwater” gesture the visitor into the library’s exhibit space. Drawn from the book, manuscript, and artifact holdings of the Wangenstein library, *Underwater* is beautiful, complicated, and surprising. The exhibit plays along varied relationships among water, health, and science, suggesting broader histories of European and American imperialism, urbanization, and modernization, changing trends in medical therapeutics, and the networks of amateur and professional scientists who

have collected, categorized, and “re-created” the floral, faunal, and mineral bodies of the sea. The casual observer will note the old books opened to beautiful illustrations and particularly revealing text, as well as the many objects that surround these books, objects both “real”—that is, old—and “replica”—that is, new: anchors and knotted ropes, seaweeds and coralheads, a narwhal tusk (fake) and a metal mortar and pestle (real.) By presenting side-by-side objects *from* the sixteenth through twentieth centuries and objects that *suggest* these periods, the curators of *Underwater* have re-created the ambience of the old, the moments of their genesis. These historic moments were important, troubling, and complicated: European transatlantic voyages of economic imperialism; the illegal overthrow of the Hawaiian monarchy; the industrial



View of “Chapter 2: Oceanic Research” display. Photo credit Christopher Herzberg, Courtesy of the Wangenstein Historical Library. University of Minnesota.



modernization of European and American cities; and the consequences of these things upon the health, sovereignty, and historic voices of the urban poor, the Indigenous, the Black. More atmosphere than argument, suggestion than narrative, the displays that comprise *Underwater* provoke questions that the exhibit does not resolve.

Indeed, *Underwater* is best understood as the beginning of a conversation rather than an exposition of its conclusions. While the information panels walk the attentive through the curators' reasoning, the sheer breadth and arrangement of the materials in *Underwater* ultimately suggest rather than instruct. Given the episodic array of the exhibit and its explicit engagement with

scientific and pharmaceutical categorization in the eighteenth through twentieth centuries, important historical questions regarding categorization, power, the body, and the production of historical silence are unavoidable.

The exhibit is divided into three "chapters," each of which presents a theme and a brief historical overview that binds together the materials in the cases. In the first chapter, "Health of Voyagers," selected works discuss specific health concerns of British transoceanic travel in the eighteenth century. Of the three chapters, this one engages most explicitly with the ways in which racism and colonialism intersected with medical theory in nineteenth-century Western health discourse and the material consequences thereof. For example,



Ernst Bade. 1896. *Das süßwasser-aquarium: Geschichte, flora und fauna des süßwasser-aquariums, seine anlage und pflege*. F. Pfenningstorff.



an excerpt from James Ormiston McWilliam's *Medical History of the Expedition to the Niger* (1843) reads that the "Kroomen" (by implication, laborers of color) were to sleep above deck, though out of the rain, while white sailors were to sleep below deck in order to prevent "unnecessary exposure to the night air." These instructions didn't simply reflect divergent commitments to the crew's health. They were also supported by the long-held western European theory of humoral medicine, which purported that different peoples' bodies were composed of different balances of the four humors and that these balances reflected the physical environments in which they were born. Night air could be dangerous. Water was one of many elements that required balancing. Hence, medical theory, applied through racist power paradigms, complicated sleeping arrangements, all in the name of health.

The second chapter, "Oceanic Research," presents scientific and medical discourses that contributed to or originated from European countries' oceanic voyages for territory, goods, and power. The exhibit is arranged as a cabinet of curiosities, with objects arranged around books and letters relating to botanical and faunal collections and pharmaceutical products, such as red coral, sea sand, and algae. Underlying the themes of voyage and discovery is how these voyages co-created empire and Enlightenment science. The entanglement of empire, science, and medicine is an important theme in the history of medicine. Scholars have deeply explored how medicinal products circulated among different social, cultural, and political groups and what medical attributions and associations these products have gained or lost along the way. *Underwater* suggests, but does not develop, these moments of circulation. For example, one panel displays both a letter and a dissertation relating to different species of *Fucus*, a type of brown algae, describing how specimens were sent between scientists for identification and how people in early nineteenth-century Dublin used the algae to sweeten the breath and kill worms. Exhibit

visitors may wonder about the particularities of this algae's medicinal qualities—how was it used to kill worms? Did scientists trade medicinal as well as morphological information, and from where were these specimens collected? And *why* was *Fucus* understood to be efficacious in the first place?

The final chapter, "In Cities and On Shores," brings the theme of water into the development of urban centers and concerns. A panel on the nineteenth-century medical movement called "water cure" sits alongside a display on waste-water, sewage, and plumbing in nineteenth-century London; beside them is a display on fishing, aquariums, and other forms of recreational activity. This display bears directly on how these texts can illuminate the way power has operated during important historical moments. For example, an excerpt of William Alanson Bryan's *Natural History of Hawaii* (1915), located in the display on recreation, discusses surfing. Presented as a brief observation of a sport in motion, this selection of text obscures any reference to who is doing the surfing, where they are located, and why they are there. Surfing is, in *Underwater*, rendered legible as an activity that the exhibit's observer understands in terms of its contemporary iteration. Yet *why* did Bryan, a white zoologist from Iowa, represent surfing as an aspect of Hawaii's "natural history" and for what audience was his work intended? Indeed, how did he come to be in Hawaii at all? What was Bryan's relationship to the archipelago and its then-recent annexation by the United States, and how did works such as his bear on the categorization of Native Hawaiian or Kānaka Maoli objects or practices as scientific, cultural, or consumable? Such questions, which arise under careful perusal, can be possible jumping-off points into discussions among visiting classes or provocations for the established research of visiting scholars. Such questions open conversations critical in our contemporary moment, in which water politics are essential to issues of Native sovereignty, environmental sustainability, and health equity.

Exhibits such as *Underwater* highlight the relevance of history to contemporary concerns.

*Underwater* can be seen during library hours and by special appointment. Hendrickson and Beck, along with the library's support staff, are typically present. As curator of Wangenstein Library, Hendrickson has a tremendous knowledge of the library's collection and the unexpected connections between those materials.

Beck, co-curator and graduate candidate in the Program in the History of Science, Technology, and Medicine, specializes in early modern medical recipe books and questions of circulation, translation, and authority. Their deep knowledge of the Wangenstein's collections comes through in the many glimpses of watery histories that *Underwater* so beautifully presents.

*See the Underwater exhibit online.*

## *Underwater*

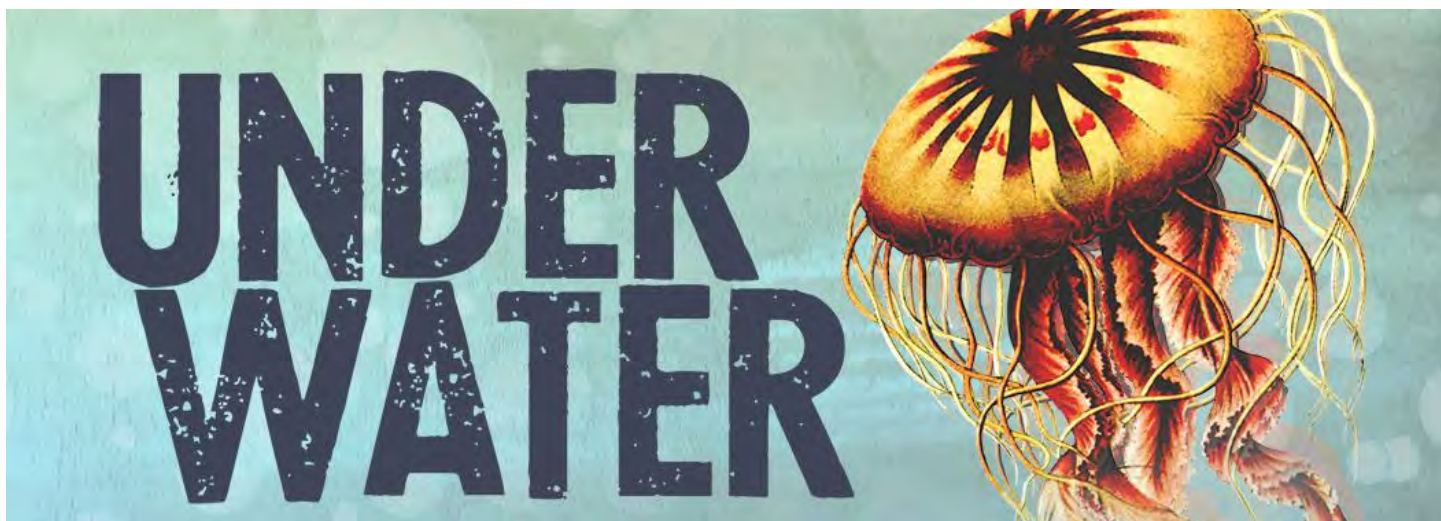
**When:** Sept 11, 2017-May 18, 2018

**Where:** Owen H. Wangenstein Historical Library of Biology and Medicine,  
568 Diehl Hall ([directions](#))

**Hours:** Monday-Friday, 8:00am – 4:30 pm and by appointment

**Online:** See the [Underwater](#) exhibit online.

*Free and open to the public*



*“Underwater” explores humans, health, and science in watery spaces. Discover what voyagers encountered on the sea and how interactions in and around water have been the harbinger of health and illness across the centuries. Viewers will explore topics from sewage treatment and public health to ocean voyages and pharmaceuticals from the sea. Rare books in the exhibit feature striking images of aquatic natural history, various technologies, and experiences of water and health.*



## Recommended Citation

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## About the Author

Margaret (Macey) Flood is a Ph.D. candidate in the History of Science, Technology, and Medicine at the University of Minnesota. She studies botanical medicine and settler colonialism in the nineteenth- and twentieth-century United States.