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OPEN RIVERS:
RETHINKING WATER, PLACE & COMMUNITY



HERITAGE, OPEN SPACE & WATER

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The cover image is of Pike Island at Fort Snelling State Park in Minnesota, looking west, showing the Mississippi River. Photographer Brett Whaley. (CC BY-NC 2.0)

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OPEN RIVERS: ISSUE SEVEN: SUMMER 2017

INTRODUCTION

INTRODUCTION TO ISSUE FIVE

By Patrick Nunnally, Editor

Almost everyone has some experience with open space and with "heritage," perhaps through visiting historic sites, or through family trips to that place "where Grandma always used to go as a girl." Water, of course, is intimately connected to all of our most cherished open spaces and heritage places, whether the connection is evident in the landscape or not. The articles in this issue of *Open Rivers* make explicit the connections between water, place, and community, expanding our range of vision away from rivers or other water bodies per se toward an approach that intentionally explores the integration of water and human experience.

Our three features in this issue bring new perspectives to landscapes that are deeply considered, although not always as "water places." The anthracite region in Pennsylvania's coal country became a regionally important energy source when industrialization on the Eastern seaboard outstripped the capacity of falling water to power the mills of places like Lowell, MA and Paterson, NJ. Ironically, as Paul Shackel shows, part of the heritage of the anthracite region is that groundwater is permanently damaged by polluted effluent from decades of mining activity.



Pike Island at Fort Snelling State Park in Minnesota, looking west. The Mississippi River is on the right, the Minnesota River is on the left. Photographer Brett Whaley. (CC BY-NC 2.0)

The Upper River section of the Mississippi River in Minneapolis is home to a parallel, albeit less dramatic story. Anna Bierbrauer lays out important dimensions of the history of this place, arguing that the region's future depends on careful redefinition of city, park, river, and the relations between those fundamental core experiences of place. In a similar way, Barbara Little and Katie Crawford-Lackey demonstrate the potential for "re-seeing" a familiar landscape. The Tidal Basin in Washington, D.C. is an iconic landscape, but when we see it as a water landscape, other dimensions come into focus. In the case of this place, understanding the water history of the basin raises the visibility of racial inequality that is part of its heritage.

Issues of heritage, open space, and water run through this issue's columns as well. Alex Messenger's discussion of the St. Louis River in northern Minnesota makes clear how that river is a microcosm of rivers across the state and region in terms of how it has been used and is being restored and re-imagined as part of new regional economic identities. Angie Tillges, staff for the Great River Passage program in St. Paul, puts the concept of reimagining a river corridor at the center of her piece, which describes a photography program run by the city that invites intentionally new perspectives, turning away from the typical river photographs that most of us have taken all our lives. No picturesque standard scenic shots here, but rather a very different kind

of visual identity for the Mississippi River. Reba Juetten, a graduate student in History of Science, Technology, and Medicine at the University of Minnesota, was asked to research "health" and the "Mississippi River," and found that both concepts are hard to pin down in the archives.

Not many of us can say we grew up in a historic site, much less a historic site that has now substantially been erased to make way for "progress." Catherine Watson can and does make this claim, in her account of a child's life at the Fort Snelling Army base in the mid twentieth century. Her piece reminds us of the myriad ways that personal narratives become primary sources for understanding key dimensions of change in landscapes, helping us understand that configurations of land and water that we take for granted have not always been this way. Watson's stories reflect in one place the sorts of changes that the National Park Service is grappling with across the country, as my review of a recent edited volume on the National Park Service makes clear.

Heritage. Open Space. Water. The articles in this issue of *Open Rivers* illustrate how deeply connected those three concepts can be. In fact, they begin to lay out an argument for the necessity of understanding the three ideas in relation to each other in order to come fully to terms with any of them. Plus, the authors included here tell stories well, which is important for summer reading.

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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

ANTHRACITE HERITAGE: LANDSCAPE, MEMORY AND THE ENVIRONMENT By Paul A. Shackel

Introduction

Place always exists in a particular time, and for Northeastern Pennsylvania that time is anthracite coal time. Because coal mining has decreased significantly over the past 50 years,

the result has been a major outmigration of the area's traditional population. The poverty and unemployment rates are among the highest in the country. However, the legacy of coal still runs



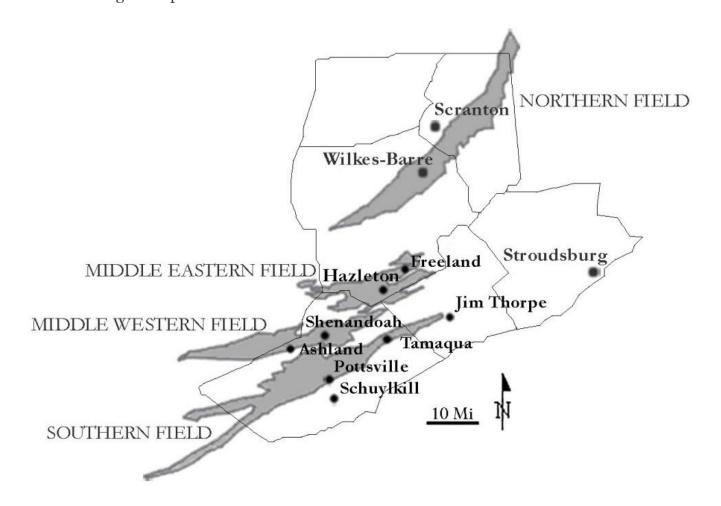
These mine pools have orange oxygenated water with high levels of iron hydroxide.

Image by Gabby Zawacki, 2016.

deep as reminders of coal heritage are scattered throughout the 484 square miles that make up the anthracite coal region. About 15 percent of these lands have been severely impacted in some way by almost two centuries of mining, and yet much more has been indirectly affected. Scattered rubble and waste are strewn throughout patches of land, reminiscent of a barren, uninhabited moonscape. There are black mounds and hills of coal waste, known as culm banks, some reaching 125 feet high. Water running through abandoned mines are emptying into streams and rivers with very low pH and some water is orange in color, a product of acid mine drainage. While people and institutions remember the masculine history of the machine and human power needed for mining extraction, this memory occurs at the expense of overlooking the exploitation of humans and

environment. The anthracite region is in need of the reclamation of memory, landscape, and the environment.

How people remember the past and what they see as important representations of their heritage is telling about how they see themselves as a community. Since 2010, the Anthracite Heritage Project has been working in Northeastern Pennsylvania with the goal of promoting anthracite heritage, as well as focusing on the application of heritage to contemporary issues, such as work, labor and migration. While working in the region, researchers soon realized that the area's heritage is also closely linked to long-term environmental degradation. While devastation tourism serves as a curiosity to outsiders, the



Map of Northeastern Pennsylvania showing the three anthracite fields and some of the cities and towns in the region. Image drawn by V. Camille Westmont, courtesy of the author.

impact of mining has had tremendous negative effects on the region.

Coal is formed from decomposed organic material that has been buried for millions of years. Heat and pressure transform this organic matter into various forms of coal: lignite, sub-bituminous, bituminous, and anthracite, which is the purest form of coal. In the anthracite region of Pennsylvania coal is found in alternating layers of rock that have been folded into mountains. The creation of anthracite is the final product of the geological process known as coalification.

Anthracite contains 90-95 percent carbon. While difficult to ignite, it burns longer and cleaner than any other type of coal (Wallace 1987). The anthracite coal region in Northeastern Pennsylvania contains most of the world's supply of anthracite. The coal is located in several narrow bands that are divided into three fields—southern, middle, and northern—and run in a northeasterly direction. Most of the coal is found in seams, or "veins," that can be a few inches thick to as much as 40 to 60 feet thick and can be mined several hundred feet below the ground surface (Wallace 1987, 5).

Anthracite Coal on the Landscape

While anthracite coal was first mined in the Wilkes-Barre region in northeastern Pennsylvania in 1775, it was not until the 1820s and 1830s that east coast industries began to replace water power with coal, creating a demand for anthracite. The growing iron industry east of the Alleghenies was fed by the increased extraction of coal, and as a result, iron became cheaper and more accessible to east coast industries (Keil and Keil 2015, 7; MacGaffy 2013, 4). The demand for anthracite coal in industry and home use led to the long-term and large-scale growth of mining. Northeastern Pennsylvania's population grew dramatically as entrepreneurs and speculators invested significant capital to build an infrastructure for the mining and delivery of coal. Because of this industrial expansion there was a need for greater human labor. From 1870 to about 1920, the anthracite region became the third largest population center in Pennsylvania, after Philadelphia and Pittsburgh. At its peak during the WWI era, the coal industry employed 180,000 men. The region had 12 mining towns that contained a population between 5,000 and 10,000 residents, and 16 towns that exceeded 10,000 people. The largest cities included Wilkes-Barre (73,000) and Scranton (137,000) (Powell 1980, 18). Because of the high profit

realized by the few coal operators (at the expense of hundreds of thousands workers) the mined anthracite became known as black diamonds.

Originally, the mining, breaking, cleaning, and sizing of coal was performed manually. As coal increasingly replaced water power for industry and supplanted wood to heat houses, the new consumers demanded higher quality coal without inclusions of soil and slate. The development of the breaker helped to meet this demand. The first breakers appeared in the anthracite region in the mid-1840s; they became a dominant feature on the landscape by the 1860s. Coal would be hauled to the top of the breaker and dumped into a hopper. The hopper released the coal onto a set of screens that separated the coal by size. Conveyed by gravity, the coal fell through a rotating cylindrical mud screen that separated the coal dust and soil from the rest of the coal. Then the coal passed through the breaker rolls, which were cylinders studded with teeth to break the coal into smaller pieces. These pieces fell onto screens and finally into storage bins. The coal then passed down chutes where slate pickers manually removed any bits of slate or other impurities that remained (Wallace 1987, 15–16). The waste materials that were not sold were deposited in

culm banks next to the breaker. These black mounds developed into small hills, in many cases reaching several stories high, and a few reached over 100 feet high.

Initially, the breakers were constructed of wood. People who witnessed these breakers in progress often spoke about hearing thunder in the background as the coal was broken and traveled down chutes to the slate pickers. In 1915, *The Coal Trade* noted that 300 breakers standing 100-150 feet tall could be found throughout the anthracite region, dominating the visual landscape (Powell 1980, 17). One report written in 1902 described the breaker: "The breaker is a feature of the

landscape—its size, its uniform black color, softened to gray by distance; its peculiar shape, unlike any other building in the world, and the long hill of refuse called the culm pile, make it an object that challenges attention" (quoted in Goin and Raymond 2004, 35). By the 1920s and 1930s, the breakers became more mechanized and were built larger and constructed of steel. Breakers dominated the landscape, and communities identified places in reference to the breakers found in the different patch towns. Each breaker had a distinctive whistle that allowed the community to identify place (Goin and Raymond 2004, 36). The anthracite coal extraction began to decline after WWI, and by the end of WWII the



The St. Nicholas breaker, near Mahanoy City, PA. It was constructed in 1931 and dismantled for scrap beginning in 2016. Image by Paul Shackel, 2014.

bottom dropped out of the industry. By the 1970s, it was common to drive through the anthracite region and see the remains of these hulking breakers silenced and in a state of abandonment and decay.

Over the next several decades these breakers were slowly dismantled and sold for scrap. Now

that the breakers and many of the industrial structures associates with anthracite mining have vanished, the culm bank is one of the reminders of this industry that still exists on the landscape. Out of sight and undetected are the hundreds of miles of coal tunnels that have been abandoned and lie waiting for reclamation.

Tourism and Commemoration of a Forgotten Land

In the 1960s it was clear that the coal industry was fatally wounded without much of a chance to rebound as oil and natural gas gained significant ground in the market. The region's economy suffered from high unemployment as mine owners closed their facilities at an alarming rate.

Geographers George Deasy and Phyllis Griess (1961, 1–8) noted that the scarred landscape is unattractive to both industry and potential workers and their families. However, they explained, the very factors that make the place unattractive for industries and workers could potentially make



Mining near Stockton, PA, showing the culm banks on both sides of the road. Image by Paul Shackel, 2012.

it attractive to tens of millions of visitors who are within driving distance of the anthracite region. Tourism could help diversify the economy.

Deasy and Griess described the landscape as rough and barren. The towns and houses are unattractive and "non-modern," offering "little aesthetic beauty." However, some of the most successful tourist attractions are not places of beauty. "Instead, they draw the visitor by featuring the grotesque, the bizarre, or the repulsive" (Deasy and Griess 1961, 3). Then, Deasy and Griess make reference to the slums of Paris and New York's Harlem and the Bowery. While visitors may find the anthracite landscape repulsive, it cannot be ignored. The impacted landscape in the anthracite region is one of the largest concentrations of disturbed terrain in the world. Billions of tons of debris in the form of culm banks and mine dumps are found throughout the landscape of abandoned strip mines. Deasy and Griess explain that, "In comparison, such engineering feats as the Suez and Panama canals and the pyramids of Egypt pale to insignificant" (1961, 3). They later refer to the area as a "man-made Bad Lands."

In 1961, the only facilities to cater to outside visitors were a small anthracite gift shop in Frackville and a mine for tourists operated by the City of Scranton (Deasy and Griess 1961, 4). Three year later, these authors identified a tourism effort underway in Ashland, PA (Greiss and Deasy 1964). In 1961, the Ashland Community Enterprises constructed a 3,000-foot narrow gauge steam railroad on the old railroad bed. Hidden behind the wooded slopes are the deep gashes in the mountainside and piles of mine waste, which can be visible by the tourist rail. At the termination of the rail line is an abandoned strip mine. There is an imposing 250-foot high carved wall of solid rock that extends as far west as they eye can see. It is, Griess and Deasy (1964, 215) exclaimed, "one of the great engineering wonders of the world." Civic leaders also developed an abandoned mine tour to cater to visitors (Greiss and Deasy 1964, 216). Today, the Pioneer Tunnel Coal Mine and Steam Train Tour in Ashland remains in operation and is one of three mine tours operating in the anthracite region.

Long-term Impact of Coal

Centralia is located in Columbia County, about six miles north of Ashland. The town had a population close to 2,500 around WW II and dwindled to about 1,400 in 1960. In 1962, Centralia Borough Council decided to burn trash in an abandoned strip mine in order to reduce refuse and control rodents. The fire appeared to be extinguished, although the refuse continued to smolder undetected. A month later bulldozers tried to smother the fire, and what they found was an opening at the base of the dump which led to a maze of abandoned mines. The fire continued to burn for the next two decades despite several attempts to extinguish it. The problem brought national attention in 1979, when a gas station

owner realized that the temperature of the gasoline he was pumping from underground storage containers were 100 degrees above normal temperature of the fuel. Faced with this disaster, the U.S. Congress appropriated \$42 million between 1985 and 1991 to relocate the remaining residents. In 1992, the state declared eminent domain. In 1980, a little more than 1,000 people resided in Centralia, and a decade later 63 people remained. The fire is still burning and spreading, releasing smoke and fumes, forcing residents to abandon their homes as the ground warms, destroying vegetation in its vicinity (Aurand, Nolter, and Vice 2004; Gordon and Malone 1994, 125; Stracher et al. 2006, 38). By 2010 about 10

people remained in Centralia. There are no plans to extinguish the fire, which is consuming an eight-mile seam containing enough coal to fuel the fire for 250 years.

As residents left Centralia, the state demolished the vacant buildings. With only a few residents remaining, the place is looking like a ghost town and a visible reminder of the devastation and destruction of a community. Centralia is now one of the top ten visitor destinations in Pennsylvania. Visitors can see the abandoned streets, with only curbs, crumbling sidewalks and an occasional stop sign. The few remaining houses are scattered throughout the town. The fire is now travelling away from the center of town. However, at one time you could walk through parts of Centralia, and you see smoke and steam from the mine fire escaping through the ground. Subsidence is evident throughout the area. Close to the town's

cemetery is "Graffiti Highway," part of Rt. 61, which became necessary to abandon due to the fire and subsidence activity.

Driving through Northeastern Pennsylvania there is a general scene of abandonment and decay. The anthracite region is littered with relics of the coal mining industry. Strip mines, coal dumps, and culm banks are separated by shrinking towns. Goin and Raymond (2004, 39) note that the culm banks scattered throughout the landscape are viewed by the miners and descendants of the miners as monuments to the hard work performed by numerous anonymous immigrants who toiled and survived in this industry. These features have become part of the vernacular landscape.

Towns in the anthracite region are being depopulated at an alarming rate, by some



Abandoned Centralia, PA. Image by Paul Shackel, 2012.

estimates perhaps 10 percent per decade starting in the 1970s (Marsh 1987). It is common to see abandoned houses and boarded-up store fronts throughout the region. Some towns have a higher vacancy rate than others. One news report described some of these communities as ghost towns, since a growing number of them have vacancy rates for homes and businesses approaching or above 25 percent. People are leaving these towns and abandoning their homes and businesses without selling them. Because of the high vacancy rate, many of the homes for sale in these communities sell for less than \$15,000 (Bohman 2012).

Underground mining subsidence has been an issue in the anthracite region for well over a century. Holes, as a result of subsidence, can occur without any warning and they are scattered throughout the landscape. Some are more noticeable than others, and some have had significant impacts on the landscape with tragic outcomes. The most noted and well commemorated is the Stockton Mine disaster. The Stockton Mine subsidence occurred at 5:00 A.M. on December 18, 1869, claiming 10 lives. Active mining was underway beneath a residential area in Stockton, when two houses were swallowed into the ground, falling 40 feet and smashing the houses to splinters, killing everyone who was in the



Abandoned housing and vacant lots are common on the coal patch town landscapes in Northeastern Pennsylvania. Image by Paul Shackel, 2013.

houses. A third home went into the subsidence, although all who were in the house eventually escaped (*New York Times*, December 19, 1869, December 20, 1869). Today, at the disaster site, there is a stone memorial surrounded by a fence, and a wooden sign at the site commemorating the event.

Subsidence events still occur throughout the region. Roads are often in disrepair because of subsidence, and usable building sites are rare. In some places, structures lean and they give way

to subsidence activities. "Structures slowly settle and pitch, and frame buildings lean precariously toward the road, waiting for the owners to adjust the house jacks to this month's topography (Marsh 1987, 347). After a recent subsidence event on a residential property, the Department of Environmental Protection drilled holes around the property to determine if there were any voids underneath the surface. If there are voids, they would fill them. There are more than a million homes in Pennsylvania that sit on top of abandoned coal mines (Gallo 2017).

Contemporary Environmental Issues

Coal contains sulfur and other elements, such as mercury, lead, and arsenic. When it is burned, these, as well as other elements, are released into the atmosphere. Large amounts of carbon dioxide (CO2) is also released, which increases the greenhouse effect in the atmosphere. Some power companies still use coal to generate electricity and only recently have there been innovative



Memorial commemorating those who died in the Stockton Mine disaster in 1869, Stockton, PA. Image by Paul Shackel, 2014.

ways to control the damaging outcomes of burning coal. There are several innovations being developed to make coal burn cleaner. Integrated gasification combined cycle (IGCC) technology converts coal into gas and it removes sulfur and metals. The gas generates the electricity while sulfur and metals are collected, and eventually sold. This technology is now being developed to capture CO2 emissions. Another technology, carbon sequestration, helps to capture and store carbon underground rather than releasing it into the atmosphere. Some coal burning plants store the carbon in abandoned underground mines, while others pump the carbon into sedimentary rocks or below the ocean floor.

I have been in anthracite communities and residents have showed me how pollution from coal mining affects the daily lives of people living in patch towns next to active mining. While a few coal mining operations remain open, this prosperity for a few has meant environmental and health problems for many. In late June and early July 2012, many of the residents in a coal patch town became quite vocal about the dust particles in the air as a result of the quarrying and coal mining. White houses were becoming a bit grayer as coal dust settled on domiciles throughout the patch town. People also noticed the fine black residue on cars, as well as in swimming pool filters. One resident told me that she power washed her house in the spring time. Then she wiped her finger across the window sill and left a streak behind. Her finger was blackened. This residue was not pollen or dust. It does not come off easily with just water, as it tends to leave a greasy film behind. Only a chemical wash will get it clean, although the formula is harmful to the surrounding vegetation and the water table. Some residents were spending more time indoors because of the new pollution. Some were complaining about allergy-like symptoms—sore throats and/or running nose. Some of the town's elderly residents complained about respiratory problems.

The Pennsylvania Department of Environmental Protection performed two years of air quality monitoring. The levels of dust monitored at four locations were significantly lower than the minimum accepted standard. However, the company was told to work on minimizing dust from their operations (Rowland 2015). Interestingly, community members stated to me that they believe that the company has a right to make a profit, and they were reluctant to get the government involved. However, the community is not happy with the company, and their anger is amplified because they feel the Commonwealth of Pennsylvania and the local government have not provided adequate environmental protection for their community. People feel that they are fighting big corporations and a government agency that is siding with the mining companies.

Much of the anthracite mining today focuses on strip mining in areas of abandoned deep underground coal mines. As a result of the Surface Mining Control and Reclamation Act, 1977, after stripping the land and retrieving the coal, the mines are then filled and reclaimed. The mining companies then plant grasses and trees, which helps to redirect water flow away from the abandoned mines and tunnels. In addition, the federal government has levied a mining reclamation tax paid into the Abandoned Mine Land (AML) reclamation fund administered by the Office of Surface Mining. The tax of \$0.35 per ton pays for the reclamation of strip mines abandoned before 1977. After the mines are daylighted, meaning stripped until the old mines are reached and exposed, the old abandoned mines are closed off and backfilled at a cost of about \$10,000 per acre. This restoration creates new drainage patterns that are beneficial to the environment (Blaschak Coal Company 2017; Pennsylvania Anthracite Council 2017; Zawacki 2015).

The abandoned deep mines have not only led to subsidence events throughout the region, they have also had a long-term impact on water resources in the region. The Commonwealth of

Pennsylvania has more than 250,000 acres of abandoned mine lands—a total that is higher than any other state. These abandoned mines have impacted 5,000 miles of waterways from pollution and acid mine drainage (Earth Conservancy 2017; Zawacki 2015). It is common to see streams and rivers that have waters that have travelled through abandoned mines flowing with different colored water, orange being the predominant color. In 2000, one resident described Panther Creek, which feeds into the Little Schuylkill, "I've seen it black, green, orange—almost like an orange oxide color. I've seen it purple. I've seen it red. I've never seen it clear" (quoted in Mailer 2000).

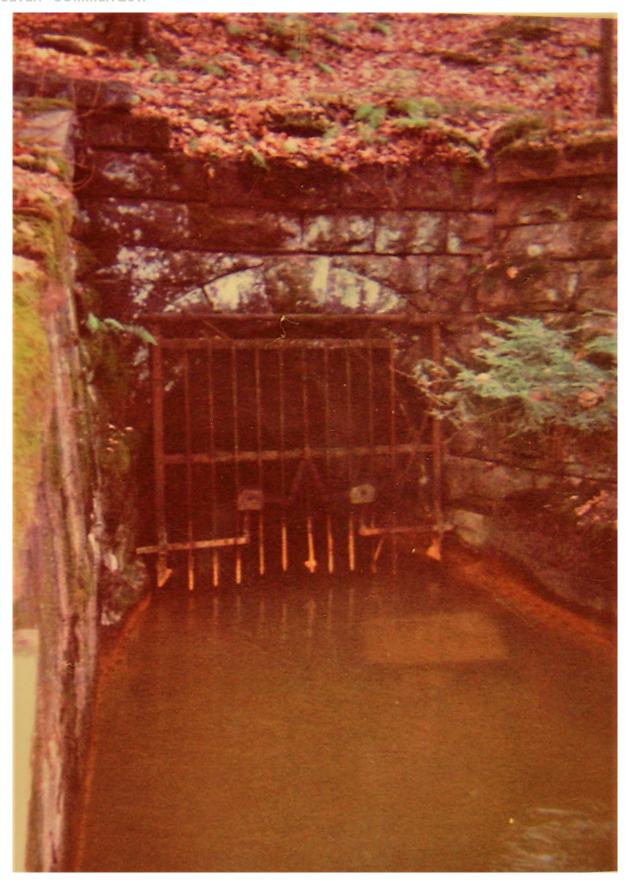
While deep mining proceeded under the natural water table, the water naturally finds its way to

the lowest point, the deepest point of the mine. Mine operations used pumps to keep the mines from flooding, a costly operation. However, when deep mining ceased throughout the anthracite region the mines filled with water, mixing and reacting with the coal. Eventually the mine waters began spilling into streets, basements, and streams. The New York Times (May 30, 1924) reported as early as 1924 the condition of some of the abandoned mines and described how they filled with water. As a result of this flooding the federal government drilled boreholes in the abandoned mines to relieve the mine water from destroying property. Now, the majority of the mine water drains into waterways, creating another environmental disaster, known as acid mine drainage (AMD), or sometimes referred to



These mine pools have orange oxygenated water with high levels of iron hydroxide.

Image by Gabby Zawacki, 2016.



 ${\it The Jeddo\ Tunnel, A\ Discharge\ in\ Freeland, PA.\ Image\ by\ Joe\ Michel,\ 2001.}$

as abandoned mine drainage, or most recently as acid rock drainage (ARD).

Generally, AMD refers to the low pH found in waters draining from active and abandoned mines. Sulfides in the rocks react to water and oxygen to form sulfuric acid and iron oxide. These waters also carry heavy metals, such as iron, aluminum, arsenic, and lead, to nearby streams. In the northern fields most of the AMD discharges have a heavy concentration of iron with a pH around 6.5. In the Middle and Southern Fields the discharges are more acidic at 4.0 pH with heavy concentrations of aluminum (Zawacki 2015). The runoff is sometimes visible, as streams and rivers with a high level of iron-oxide turn the water an orange color. The cloudiness of the water inhibits sunlight from penetrating into the rivers, which prohibits photosynthesis, thereby damaging the lowest level of the food chain. In some cases the heavy metal runoff is not detectable. Also the high acid content not only kills wildlife, it also impacts structures in water and can dissolve bridge piers (Marsh 1987). In order to address AMD, water discharge from mines is usually held in ponds until it can be treated and neutralized, which also allows sediments to sink to the bottom of the pond. The United States Geological Survey (USGS) recommends acidic water produced at active mines must be neutralized to between pH 6-9 before being discharged to a stream (USGS 2017).

The Jeddo Tunnel was constructed over three years and completed in 1894 at a cost of about \$1

million. When completed the five mile tunnel was hailed as a major engineering feat and was the largest mine drainage tunnel in the world. While mining is mostly defunct in the area, the tunnel still drains an average of 40,000 U.S. gallons of water per minute, and at times up to 100,000 gallons per minute. The average pH of the Jeddo Tunnel drainage is 4.3. More than 90,000 pounds (41,000 kg) of acid drain from the Jeddo Tunnel into the Susquehanna River (via Little Nescopeck and Nescopeck Creeks) every day. An average of 2,900 pounds (1,300 kg) of aluminum, 1,350 pounds (610 kg) of manganese, and 860 pounds (390 kg) of iron flow from the Jeddo Tunnel each day (Coal Age 1914, 391; Mendinsky and Dempsey 2004).

One successful nonprofit group addressing the environmental degradation as a result of mining is the Earth Conservancy. In 1992, the organization was able to begin a program to purchase 16,300 acres of mined land once belonging to the bankrupt Blue Coal Corporation in Ashley, PA. The communities impacted by the company's mining are located only a few miles west of Wilkes-Barre. The Earth Conservancy is dedicated to reclamation, conservation, and economic revitalization of the mined landscape in Northeastern Pennsylvania. The organization obtained a grant for \$14 million and secured an additional \$2 million in private loans in 1994 to return the lands to productive use. To date, Earth Conservancy has reclaimed nearly 2,000 of its 16,300 acres at a cost of \$42.8 million (Earth Conservancy 2017).

Conclusion

Historian John Bodner (1983, 11) wrote, "No other American industry inflicted more heedless destruction on men and the environment than anthracite mining." The decline of the anthracite coal industry has left the region with relatively high unemployment rates and people are

migrating out of the region at an alarming rate. A 2015 study ranked the 10 worst places to live in Pennsylvania, which included 258 towns and cities with a population over 5,000 residents. The study used data from the federal census, FBI crime data, Bureau of Labor Statistics and

Sperling's Best Places, and examined issues such as population density, unemployment rates, adjusted mean income, housing vacancy rate, education (expenditure per students and student teacher ratio), and crime rate. Six of the top 10 worst places to live in Pennsylvania are in the anthracite region: Nanticoke (2), Wilkes-Barre (4), Shenandoah (5), Hazleton (7), and Tamaqua (9) (James 2015).

While the region is finding ways to celebrate a heroic past it must also deal with the long-term impact of environmental degradation related to the coal industry. The anthracite region is the most disturbed rural landscape in Pennsylvania. Diverse hardwood forests filled with wildlife have been replaced with a lunar-like landscape,

absent of vegetation and only unstable, acidic, black shale that undulates through the terrain. The scarred landscape is dotted with mine waste, torn earth, and culm banks, all a reminder of the prowess of the region's industrial past. The mined areas will remain scarred for decades and acid mine drainage will continue as mine reclamation slowly progresses. Vegetation colonizes the region at a very slow pace, first with lichens, then wiry clumps of grass, goldenrod and briar bushes, then with birch and locust trees (Marsh 1987, 347; Zawacki 2015). While coal is no longer the backbone of the region's economy, there are many reminders of the heedless destruction—on the landscape and in the environment—as the community strives to find ways to remember its past.

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About the Author

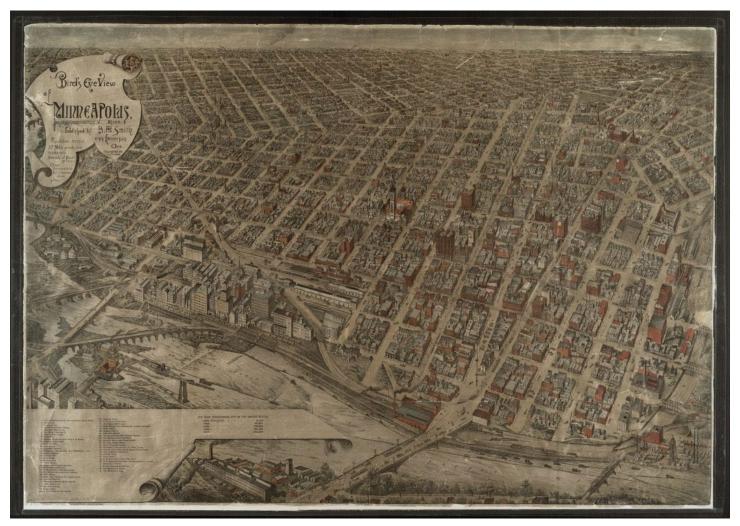
Paul A. Shackel earned his Ph.D. in 1987 at the State University of New York and worked in the National Park Service 1989-1997. He joined the faculty at the University of Maryland in 1997 where he is now professor and chair in the Department of Anthropology. He has worked on issues of labor and heritage at Harpers Ferry National Historical Park; race and civic engagement at New Philadelphia, Illinois; and labor, race, and migration in Northeastern Pennsylvania. His most recent books include *Archaeology, Heritage and Civic Engagement: Working Toward the Public Good* (with Barbara J. Little, Left Coast Press, 2014); and *Remembering the Lattimer Massacre: Migration, Labor and the Making of the Pennsylvania Anthracite* (University of Illinois Press, due 2018).

FEATURE

LOST TO PROGRESS: UPPER MISSISSIPPI RIVER AND MINNEAPOLIS PARKS DEVELOPMENT

By Anna Bierbrauer

"Mills grind over 10,000,000 Barrels of Flour per Year. Over 300,000,000 Feet of Lumber sawed per Year" -Description on 1891 Birds Eye Map illustrating the robust activity along the West Bank of the Mississippi.[i]



1891 Illustrated Map, Image courtesy of Hennepin County Library.

"The Fourth Coast is a narrow waterway that joins the western edge of the East Coast and the eastern edge of the West Coast. It is a point of confrontation and transformation where connections to our European traditions begin to diminish in importance and the elements and spaces of our own continental consciousness take over."

– "The Fourth Coast: An Expedition on the Mississippi River," by Catherine Brown and William Morrish (*Design Quarterly* No. 150, p. 8, 1991).

Part I: Crafting Parks & Shaping a City

In February 1872, Horace W. Cleveland trudged through the snowy streets of Minneapolis to the Pence Opera House. His goal was to deliver a speech convincing the city planners, wealthy landowners, and businessmen to work quickly on protecting and preserving the scenic beauty found throughout the growing cities of Minneapolis and St. Paul.[ii] Learning from lost park opportunities of East Coast cities and the projected rapid growth of cities in the American West, Cleveland made a pleading call for leaders to begin planning as soon as possible: this scenic beauty could not protect itself from being developed. He posited Minneapolis and St Paul had the opportunity to create park systems unrivaled by any other in the country, but leaders needed to act fast: Minneapolis was quickly becoming a bustling international leader of lumber and flour production and was on the cusp of unprecedented growth.[iii] Should leaders sit on their laurels, this Midwestern city would not only lose the gifts of natural beauty found around the nearby lakes, the storied Minnehaha Falls, and the deep Mississippi River gorge, but also the opportunity to assert its own continental character of progressive preservation coupled with economic growth. He elaborated this call to protect undeveloped lands and strengthen economic possibilities in his 1873 book, Landscape Architecture, as Applied to the Wants of the West: "No flaming advertisements set for their merits; no solicitations are made to us to secure them. We have but to reach out our hands, and they are given to us 'without

money and without price'...and if we miss this auspicious hour, the chance is gone forever. We may cast our longing eyes upon its retreating form, and curse our own blindness and stupidity, but it is utterly beyond recall."[iv]

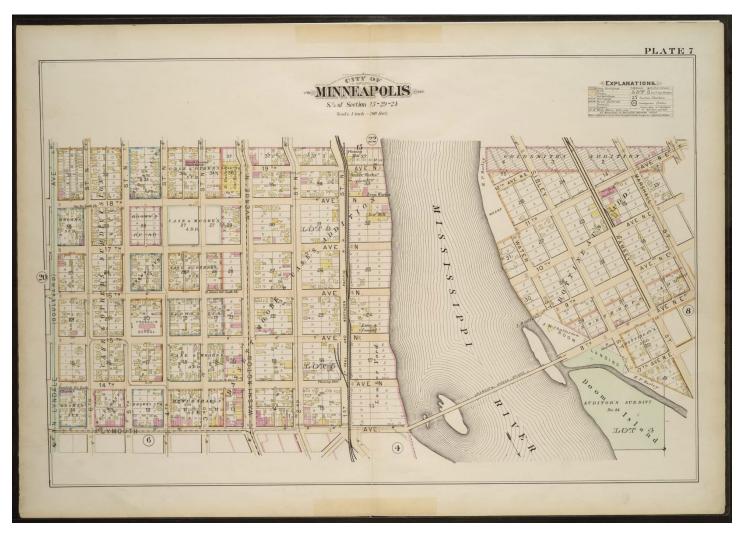
His speech worked—albeit slowly. Despite a dedicated group of powerful leaders advocating for parks, the fight to preserve open space within the growing city proved difficult. The Board of Trade made multiple attempts to create park legislation defining the governing structure and systematic growth of parks, but they were continually thwarted. Eleven years after Cleveland delivered his inspirational speech, on April 3, 1883 the citizens of Minneapolis voted into existence the Board of Park Commissioners.[v] This group of leaders was to be an independent council overseeing growth of the city's park system separate from City Council. Unusual even among today's parks departments standards, the powers held by the Board gave them authority to purchase land, levy taxes, and issue bonds. Its separate status allowed for a full embrace of its agenda unencumbered by roadblocks from City Hall. In need of a comprehensive plan for procuring parkland, the Board of Park Commissioners once again turned to Cleveland for advice on how to "reach out their hands" and "secure them [parks]" within the future of Minneapolis.[vi]

Cleveland delivered. On June 2, he presented "Suggestions for a System of Parks and Parkways

for the City of Minneapolis," laying out a plan for connecting the entire city to its scenic waterways and neighborhood parks via a series of tree-lined parkways. In his speech, he urged the Board of Park Commissioners to focus considerable resources on the protection of the Mississippi River. He suggested "a broad avenue be laid out on each side of the river...the other side of the avenue will become a site of costly mansions and public buildings...overlooking a continuous park."[vii] The Mississippi River he refers to is limited in scope and only focuses on the area south of St. Anthony Falls. This omission is understandable; the exclusion of the Central and Upper Riverfront in 1883 was one of economy. Cleveland recommended to the Board of Park Commissioners to "let the city avail itself to any tracts which are

intrinsically valueless and proceed to adorn and render them attractive,"[viii] but the Upper River was the city's industrial backbone and riverfront parcels were quite literally the building blocks of wealth in Minneapolis.

The undoing of the wilderness above the falls began in the 1840s when the first lumber mills were built, altering the gentle slopes and oak savannas along the Upper River. An 1880 map does show large tracts of undeveloped land north of the falls—including a public wharf on the East Bank—but non-industrial uses were soon pushed out. By the time Cleveland warned of lost opportunities in 1883, maps showed most of the Upper River occupied with lumber mills, flour mills, breweries, and railways. As the lumber industry



1892 Plat Map, Plate 7. North of St Anthony Falls showing industrial parcels lining the river banks. [ix]

faded and flour demands diminished in the early twentieth century, new industries moved in to make use of the railroad infrastructure. By 1914, large breweries and a few lumber yards remained but the small sawmills were replaced with an array of companies such as machine shops, foundries, and furniture manufacturers. Railways hemmed in industry to the river's edge. On the west bank, rail lines isolated the river from the adjacent working class neighborhoods. The east bank had easier access to the waterfront, but the large factories, steep banks, and intermittent rail lines made recreational use unrealistic. A riverside park was created on the east bank in 1915: Northeast Riverside Park—now known as Marshall Terrace—was intended to provide playing fields and a small picnic shelter for children in the neighborhood but was quickly reported as underused.[x] Pollution from the adjacent Riverside Steam Plant of Minneapolis General Electric Company made the area unpleasant for ball games and, despite citywide investment in swimming facilities, plans for a beach were scrapped when the river's current proved too treacherous for swimming. A mere

nine years after it became park property, Park Superintendent Theodore Wirth called the park unfit for use; he recommended only minimal maintenance and the shelter was relocated.[xi]

Advocates for increasing the industrial capacity of the Upper River were more successful. From the 1930s to 1960s, state legislators lobbied to expand maritime navigation by extending the nine-foot wide riverbed channel, constructing a lock and dam at the site of St. Anthony Falls, and creating a terminal port for barge traffic. The investment of public funds cemented the land use of the Upper River into heavy industry despite it being in opposition to Superintendent Wirth's dreams described in his 1945 book, Minneapolis Parks System: 1883-1944: "Perhaps in the postwar years some plan may be devised whereby this section of the Mississippi can be acquired by the city and improved as part of the municipal park system—or maybe of the anticipated metropolitan park system of the future....Unquestionably these shores should be preserved for the use and enjoyment of all our people and for those of the coming generations."[xii]



Looking north to the Upper Harbor Terminal on the West Bank and the Engineered East Bank. Image courtesy of Anna Bierbrauer.

But, as Cleveland warned, preservation is difficult and restoration nearly impossible. Wirth's ideals were no match for the inertia of the working river and heavy industry settled in along the banks of the Upper River. The Upper Harbor Terminal though never the boon to barge traffic it promised to be converted a large area of riverfront market farms to storage and transport. And, it represented a larger dedication to keeping the river bound to uses laid out a century earlier instead of seizing any opportunities to shift its identity.

A present-day map of Minneapolis Parks shows a strong resemblance to Cleveland's 1883 plan and is a testament to his ability to "look forward for a century, to a time when the city has a population of a million, and think what will be their wants." [xiii] Yet, one piece was perhaps unfathomable even to him: the riverfront industries so dominant in his lifetime would someday fall away and the urban core would become available for parks. His vision and the work of the founding

leaders has been wildly successful and created the #1 parks system in America, according to the Trust for Public Land.[xiv] But how can it stand up to the challenges he most feared? In many ways, the gritty urban waterway of the Upper Mississippi River is the outcome he most dreaded. If the river is not protected, he argued, "it, will certainly soon become and remain for all time, the most unsightly and irreclaimable squalid center of the city."[xv] Now, 135 years later, stripped of its natural beauty, continuously covered in polluting land uses, and exponentially more expensive for the Park Board to purchase, it is on the cusp of becoming a park for the people. To follow Cleveland's intent and complete the "Crown Jewel of the Mississippi River," the roles of park, community, and river will need to be re-examined, redefined, and pieced back together within their current contexts. With more demands on the urban park, a more diverse city to serve, and an impaired water body to overhaul, how will Cleveland's vision be upheld?

Part II: The Inherited Park, Community, and River - *In Situ*PARK

Upon its inception, the motto of the Minneapolis Parks was "Health and Beauty." One of the reasons the parks have been so successful is their ability to adapt this concept over time. From the passive strolling parks first laid out by Cleveland to miles of mountain bike paths recently developed for active recreation, from nature education programs among unique ecosystems to recreation centers in neighborhood parks, health and beauty have had different meanings over the years. As the needs of the community have changed, the parks have adjusted their facilities, their programming, and their maintenance regimes to better serve the people of Minneapolis. From

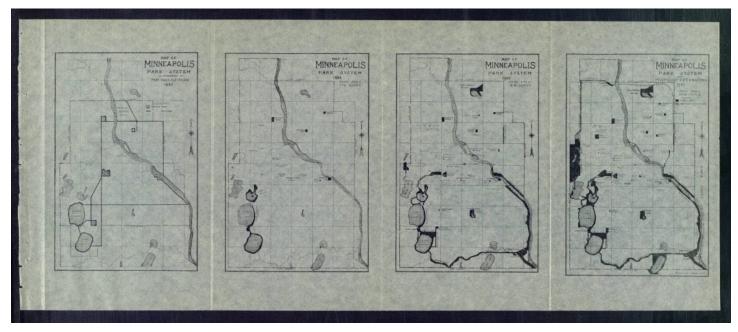
1883 to 2017, the parks system has continually revised and modified its priorities to keep Minneapolis Parks relevant to its citizens.

The foundation of public parks in the U.S. can be traced directly back to Frederick Law Olmsted's 1850 visit to Birkenhead Park in England. Olmstead was greatly impressed with the concept and function of a public park to serve growing urban populations. Upon his return, he worked to replicate the idea in crowded U.S. cities and his eventual designs included Central Park in Manhattan, Prospect Park in Brooklyn, and the Emerald Necklace of Boston, among numerous

others. He heralded the urban public park to be the "lungs of the city," a place for people to escape from the crowded residential districts and breathe fresh air. His design style is firmly rooted in the cannon of the English Picturesque and features the winding paths, large clumps of trees, and grand allees we have come to equate with American parks. Separated paths for safe strolling, sweeping lawns for picnics, and calm water bodies for lazy boat rides were the intended park programs of the late nineteenth century. Each of these design elements and associated programs were inspiration for Cleveland's ideas for the Minneapolis Park system and their successful implementation paved the way for the realization of the Grand Rounds.[xvi] Passive recreation and Picturesque scenery were the health and beauty of the young Minneapolis parks.

Petitions of residents and the leadership of Superintendent Wirth added active recreation soon after the establishment of neighborhood parks in the early 1900s. Tennis, bicycling, playgrounds, and ballfields were early additions and became popular activities. The shift away from park as protected natural areas within city to park as site for sport and competition was dramatic and not without debate among the Board of Commissioners. Nature and the beauty it offered also shifted with this new role: no longer were the preserved majestic trees and mown lawns enough. In response to trees and vegetation in poor condition, new maintenance programs in forestry and horticulture were developed to ensure the well-used parks looked presentable. [xvii] To make the public feel more welcome, fences used to protect lawns from being trampled and parks grounds from being abused were removed.

By the end of World War II, many said this progress did not go far enough to provide opportunities for the youngest Minneapolitans and was too focused on wealthy neighborhoods; health and beauty seemed to be prioritized for only certain portions of the city. Part of this was due to leadership, part due to the park funding structure: neighborhoods that could afford it, could choose to fund parks in their neighborhood through property assessments.[xix] Along the Mississippi River, the working-class neighborhoods of North and Northeast did not have that



Series of Maps from the Thirty-Six Annual Board of Commissioners Report, 1918. From left to right: Cleveland's 1883 Proposal; Parks System in 1888; 1905; and 1915. Note the concentration of park growth in South Minneapolis. [xviii]

luxury and were dependent on the Board for their park improvements.

During the post-war years and into the 1960s, the parks worked to address the needs of a burgeoning young population. More neighborhood parks in underserved areas were created, recreation centers were built, and after-school programming was introduced. Maintenance demands and rising maintenance costs continued to be a struggle. To assert and proclaim their new commitment to active play, the Board changed the name of the organization to the Minneapolis Park and Recreation Board (MPRB) and their work for the next two decades formalized it: during the 1960s and '70s, partnerships with schools, the housing authorities, and community agencies allowed the parks to expand their recreation facilities exponentially throughout the city. An independent recreational review by outside leaders in 1977 "praised the parks and facilities, their even distribution within the city, as unsurpassed in the county." [xx] Recreational programming, however, was criticized for failing to serve "special populations,' including seniors, handicapped, racial and ethnic minorities and teens and young adults." J.B. Jackson's 1979 essay, "The Origins of Parks," alludes to this being an issue in general within parks across America: "Why have our parks ignored this important function: the integration of the young into the life of the community?...Is it not time that we acknowledged the need ...the ample, unstructured, unbeautiful, multipurpose public playground where adolescents can assert themselves and become social beings, defending and serving some youthful concept of the community?"[xxi]

Once again, the Minneapolis park system rose to the challenge and public parks now include skate parks, environmental service learning for teens, walking clubs for the elderly, and family-oriented exercise classes—the list goes on and on. Programming is continually being altered to ensure it best fits the needs of the ever-changing trends in community health and recreation.

MPRB efforts along the Mississippi have largely been confined to acquiring and developing a continuous strip of recreational land, a parkway and adjacent trail, the length of the river in the city. More formal programming has been a collaborative effort, the main reason being that the Mississippi River within the city's boundaries has an added park designation: it is a portion of the 72-mile Mississippi National River and Recreation Area (MNRRA), a program of the National Park Service (NPS) established in 1988. Launched nationally in the 1960s as a response to rising recreational needs of a growing population, the National Recreation Area designation provides protective guidelines to lakeshores and seashores as well as historic resources—often near urban areas.[xxii] MNRRA has been a celebrated example of the National Recreation Area program balancing needs for outdoor recreational opportunities with the protection of fragmented habitats and threatened ecological systems all under a tangled web of multiple municipal boundaries and localized agendas. NPS Landscape Architect Rolf Diamant and NPS Park Superintendent Michael Creasy applauded MNRRA, declaring "this civic revitalization was exactly what National Park Service Director George Hartzog had in mind when he spoke of urban parks and that national park system as a 'resource for America.'"[xxiii]

The "working landscape" of the Upper River is an added layer of complexity for MNRRA and the MPRB to contend with. The prominence of the Upper River within the industrial history of Minneapolis may be worthy of celebrating just as much as the beauty of the water itself. It is, in many ways, a cultural landscape of Minneapolis history. But its degraded shorelines and treeless side streets are far from the "pristine wilderness" visitors desire from the national parks or local parks. Is there a way the two could co-exist? Can the unsightly history be kept in a manner fitting for an iconic waterfront? To further complicate the process, for many residents of North and Northeast Minneapolis, it is not only a National

Park, but also a neighborhood park: a place for after-school tutoring, a place for an indoor tot gym on a cold winter day, or a place for an evening pottery class. This park will have to be a new model, one able to serve both the local elder and the tourist coming from afar, one celebrated for its past as much as its new form.

The park has successfully and incessantly been adapted to maintain its prominent role in civic life; the post-industrial riverfront park will reveal a complex web of wants and restrictions, one demanding further adaptation and variation.

COMMUNITY

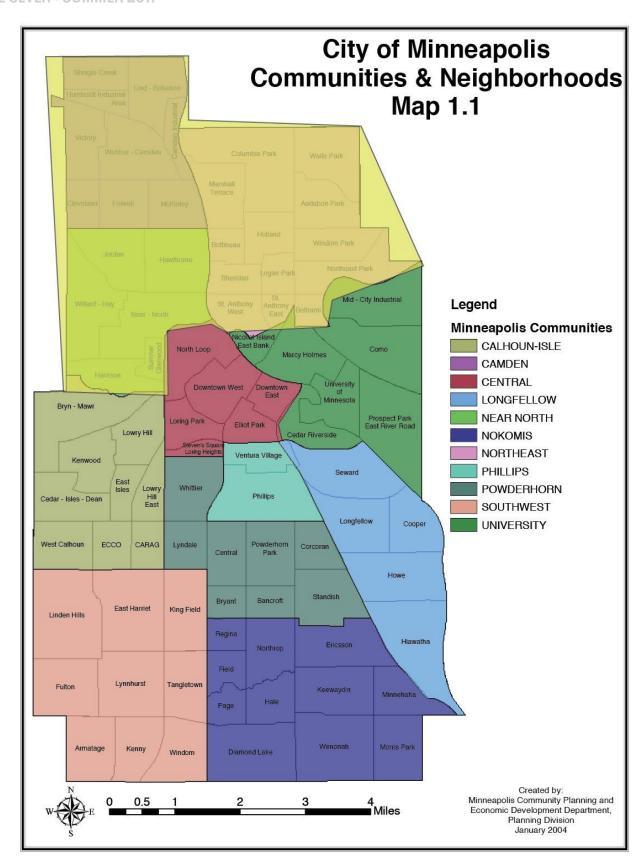
<u>G.P.jacob</u>, a Minneapolis hip-hop artist, recently released a song about the "the longest bridge from Poland to Africa" as a commentary on the historical, cultural, and racial divide between

North and Northeast Minneapolis. The bridge he refers to, Lowry Avenue, is the main east-west artery across the Upper River, and his discussion of "Midwest Apartheid" is not unwarranted.



Industrial Riverfront of North Minneapolis along the Riverfront.

Image courtesy of Anna Bierbrauer.



Map of Minneapolis Neighborhoods and Communities. Courtesy of City of Minneapolis. North and Northeast highlighted in yellow.

Segregation of neighborhoods along the river has long been a defining characteristic of the Upper River and has increased greatly in the last 30 years.

Affectionately referred to as "Nordeast" due to the heavily accented English of its early residents, Northeast Minneapolis has been home to many tight-knit immigrant communities. So strong is the immigrant-friendly identity, the local streets are named after the presidents of the U.S. in chronological order—an attempt to help new arrivals study for their citizenship test.[xxiv] From breweries started by German immigrants to later waves of Poles and Eastern Europeans to a strong Lebanese community and more recent immigrants from Central America and East Africa, Northeast has been known as a solid working-class neighborhood of Minneapolis. In the 1980s, artists began to take advantage of cheap, spacious rents in Northeast Minneapolis warehouses. Former seed houses and casket companies became artist studios, and low housing costs made for a good standard of low-cost living. A renovation of a historic theater and ample storefront space for galleries gave birth to the celebrated Northeast Arts District.[xxv] The neighborhood has been a boon for commercial and residential developments in recent years and property values have risen sharply making the area less affordable for the working class and artists alike. The area is served by multiple bus lines and a network of bike lines, and there is easy access to major interstate routes.

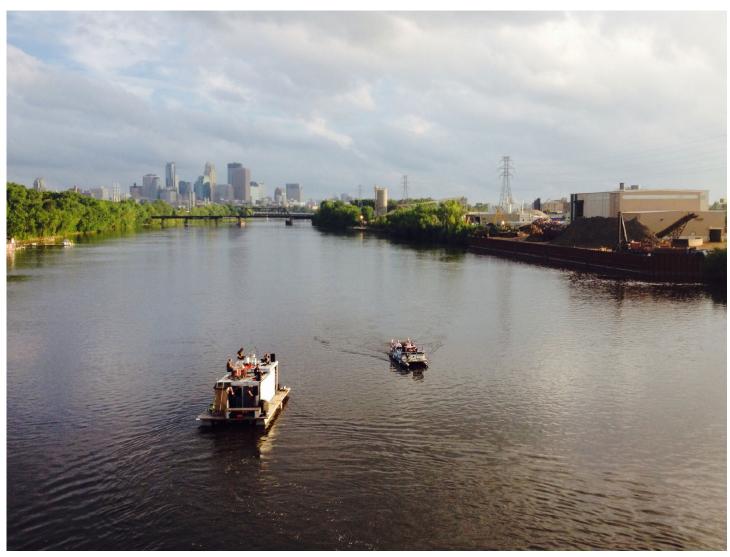
Recent mapping of racial covenants on Minneapolis properties reveals a concentration of covenants in South Minneapolis; these partially account for the historic concentration of African Americans in North Minneapolis.[xxvi] However, until the 1950s, North Minneapolis housed both a large Jewish and a large African American population. Most Jewish families and businesses moved to a first-ring suburb in the '50s and '60s and the area has been largely African American with a growing Asian population since.[xxvii]

Cultural institutions are tight-knit and well organized and there is a strong presence of localized youth, entrepreneur, and community-development organizations. North Minneapolis was hit hard by the foreclosure crisis in the mid-2000s and, ten years later, is still plagued with empty homes or vacant lots dotting the neighborhoods.[xxviii] Housing costs are low due to disinvestment and a disproportionate number of subsidized housing units, despite high-quality housing stock available in the neighborhood. A tornado hit Minneapolis in the spring of 2011 and North Minneapolis sustained the greatest amount of damage. Lasting damage to homes and the mature tree canopy is still visible. Although well connected to the rest of the city via bus routes, the area of North Minneapolis is bounded on the south and west sides by large interstates. This creates easy access for drivers but divorces the neighborhood from the riverfront and downtown Minneapolis.

The cultural histories of these two areas differ, but until recently the working class economics of the two areas were quite similar. According to a Minneapolis Department of Community Planning & Economic Development report on the 2010 Census, the similarities were beginning to wane. Population numbers, household units, and household incomes have shown increases in the riverfront neighborhoods in Northeast. However, for the riverfront neighborhoods in North Minneapolis, population, available housing units, and household incomes have all fallen. Racial demographics have also diverged greatly. According to Census Bureau data, North Minneapolis's 2010 Black population was two and a half times the size of its 1980 Black population, while the White population fell by 62 percent. In Northeast Minneapolis, there has been an increase of people of color largely Hispanics or Latinos but, as of 2015, the overall percentage of people of color is only 34 percent compared to the North neighborhood's 72 percent (Minneapolis overall is 40% POC). Add in the economic changes: median household incomes in Northeast (\$45,310) are

on average \$12,000 more per year than North's (\$33,037); those living below the poverty line in Northeast is 24 percent compared to North's 35 percent; and the unemployment rate in Northeast is only 7 percent, whereas North's is nearly 17 percent. Compare all of these to Minneapolis as a city and the disparities felt in North Minneapolis are even more distinct. Overall median household income for Minneapolis is \$57,186, with 22 percent below poverty, and an unemployment rate of 7.5 percent.[xxix]

Communities on both sides of the river have very strong neighborhood leaders who regularly advocate for their communities at City Hall. A recent heated topic is riverfront industry and its impact on the health of North and Northeast residents. After years of community concerns and a recent influx of complaints, the Minnesota Pollution Control Agency began doing ambient air quality testing in the industrial area located in North Minneapolis in October 2014. Tests showed multiple violations of Total Suspended Particulate standards and unhealthy levels of airborne lead.[xxx] Given that North Minneapolis suffers from the highest rate of asthma-related hospitalizations and the highest concentration of lead poisoning cases, these air quality issues



Standing on "The Longest Bridge," looking south to downtown, North Minneapolis with active heavy industry on the right, Northeast Minneapolis with steep riverbanks on the left.

Image courtesy of Anna Bierbrauer.

could not be ignored. One company—a metal recycling plant was found in violation of their permit and, after a lengthy legal battle, will be moving off of the river in 2019 and has paid the City of Minneapolis \$600,000 for community health programs. The soon-to-be shuttered plant is one of many contributors to poor air quality in the area, but the number of MPCA-monitored sites along the river in North Minneapolis places a large burden on nearby residences.

Minneapolis's racial and cultural demographics have shifted greatly in the past generation. New public park space will serve a much more diverse population of users than ever before; community needs will be defined increasingly by non-Western European cultures. One can look to a line in Frederick Law Olmsted's 1886 letter to the Board of Park Commissioners for inspiration: "It is the duty of a Park Commission to open the way to new, not follow old customs." [xxxi] For North and Northeast, whose neighborhood identities have been built on welcoming minority cultures, there is now an opportunity to craft the park space of their river.

Socio-economic differences are slowly lengthening the distance of "the longest bridge" and hardening the river boundary between these two neighborhoods. Reorienting both neighborhoods toward the river through park and community development has the potential to either minimize or grow this divide.

RIVER

For its entire urbanized history, the Upper River has had a specific role: to create power and transport goods. In June of 2014, President Obama signed into law the closure of the St. Anthony Lock and Dam, effectively terminating the main identity of the Upper River. Slowly, the industrial transportation fabric will fade away and make room for new identities. The riverbanks will take on a new character. The water itself will change in both quantity and quality. The river bottom's once-maintained channel will begin to fill into something unknown and invisible to the human eye. After a century of humans manipulating the form of the Upper Mississippi River for explicit purposes, what are the unknown potentials? With what intention should leaders, citizens, and stakeholders move forward?

With so many voices involved and various priorities to address, it is tempting to once again focus the role of the river too narrowly. Rather than separate the river's functions into discrete roles—river as recreation, river as ecological corridor, river as park, river as electricity—functions can be stacked to obtain benefits across scales. When multiple voices are sought and deliberative

involvement of diverse stakeholders is prioritized, a stronger outcome can be attained. A 2012 study of restored rivers in England showed a correlation between successful long-term restoration and the use of clear social goals; in-depth, transparent, and ongoing civic involvement resulted in greater ownership of the final outcome. [xxxii] Similarly, researchers from the University of Birmingham studied the improvement of restoration outcomes through early, innovative community engagement: participants increased their mutual understanding of differing priorities by relying on local, community experts and the solicitation of personal narratives.[xxxiii] The complexity of removal, repurposing, and recreating will require long-term collaboration in order to improve the social, cultural, and ecological capital equally.

A couple of miles north of the industrial zone, 21 billion gallons of water are pulled from the Mississippi River each day and turned into drinking water for the city of Minneapolis and a few nearby suburbs.[xxxiv] The Mississippi is also the destination of billions of gallons of storm water run-off—some filtered before dropping into the river, some of it running directly from gutter to



River water is pulled into the Minneapolis Water Works filtration plant. Image courtesy of Anna Bierbrauer.

pipe to river. Combined Sewer Overflows (CSOs) once dumped both raw sewage and surface runoff into the river, but since work began in the 1930s to separate storm water from raw sewage, 96 percent of the CSOs have been eliminated.[xxxv] In conjunction with the Minnesota Pollution Control Agency and the Minnesota Department of Health, the Minneapolis Watershed Management Organization began conducting water quality monitoring of bacteria levels in 2014 to ensure safe swimming and fishing for residents.[xxxvi] Sensitive to the influential impact Minnesota has on the massive Mississippi watershed, state and local agencies also work carefully to limit non-point source pollution whenever possible: for example, new storm water filtration systems have been installed to keep sediment, salt, debris, and pollutants from entering into the water. Governmental and nonprofit organizations initiate and facilitate educational programs for residents on topics of water-safe landscaping and clean-up habits. With land use changes along the Upper River, an opportunity arises: large-scale interventions and infrastructure can be prioritized to improve water quality for Minneapolis and protect the drinking water for 17 million people downstream who depend on the Mississippi.

Freeing the Upper Mississippi from its channelized form cannot be a dramatic event; there will be no romantic return to a wild river. But as climate change has an impact on weather regimes, this urban river will have to be more flexible, more functional than in the past century. In the last 40 years alone, river flow in Minnesota has increased 24 percent, largely due to land use and land cover change.[xxxvii] As more roads

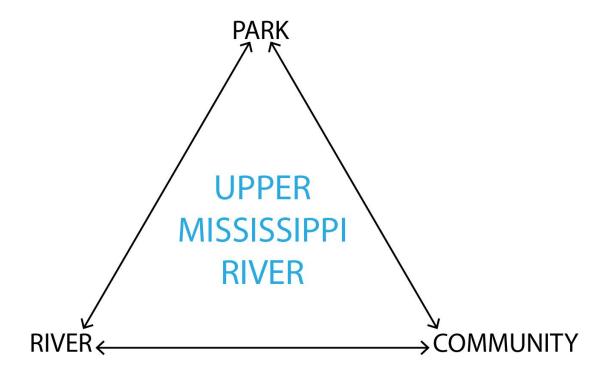
and roofs are built, the amount and speed of stormwater runoff has increased. As wetlands are drained and replaced with agricultural fields or residential developments, the amount of water being absorbed into the land has decreased. This decreased capacity to hold water, compounded by an increase in strong, heavy rainstorms, is straining storm water infrastructure and gives more reason to return parts of the urban river to its original purpose—a piece of green infrastructure. Usually implemented at residential or commercial scales, green infrastructure includes bioretention ponds, rain gardens, and vegetated buffer strips to mimic the hydrologic cycle. Can an urban river development or restoration include design elements to slow, filter, and infiltrate water at a larger, watershed scale? As the industrial warehouses and surface parking lots are removed, both natural reconstructions and engineered systems can be installed above and below ground in order to improve resiliency of the city and the region.

Bringing experts and laypeople into early planning is necessary for the future river. As many of its values are invisible to the untrained eye, it is critical for these various values to be understood by the public, the scientist, and the engineer alike in order to build enduring support for this huge transformation.

Part III: Determining the Heritage of the Future

Peeling away the physical, historical, and cultural layers along the Upper Mississippi River will be far more complex than Cleveland could have imagined in 1883. His prediction that the riverfront is "irreclaimable" may eventually be proven wrong, but it will require visionary thinkers beyond the Park Board of Commissioners and a few wealthy landowners. A roster of ecologists and engineers, developers and community members, city council members and philanthropists, hydrologists and landscape architects, community-development organizations and historians will all need to work together to define the "spaces of our own continental consciousness" and successfully transform this four-mile sliver of the Mississippi River. The present-day relationship involving park, community, and river is built on both the genius and the failures of the past. Close consideration of how these three elements have evolved in partnership, in conflict, or in spite of one another reveals deep-seated complexities project leaders must address.

In 1972, city planners presented the "Mississippi/ Minneapolis: A Plan and Program for Riverfront Development." This plan laid the groundwork for the Central Riverfront of today: former mills preserved and celebrated; rail lines removed and replaced with cultural institutions; parking lots replaced with high-rise condos; and riverbanks turned into parkland. As riverfront development moves north, the difficulty of such a transformation increases. Industrial remnants along the Upper Mississippi are less attractive for adaptive reuse than the tasteful brick structures of the Central Riverfront. Rail,



Relationship of park, community, and river on the Upper Mississippi River.

interstate, and power infrastructures are more restrictive along the Upper Riverfront, limiting space for development. Where business districts line the Central River, the Upper River is flanked by long-standing residential neighborhoods. Communities that have historically been underserved, underrepresented, and denied riverfront access making conversations about equity, environmental justice, and transparency crucial and critical planning topics. A reliance on past planning processes will not suffice; this new context requires new tactics.

Today's differences between the "working" Upper River and the "scenic" Lower River exemplify the long-lasting impact of land use decisions. The manner in which the Upper Mississippi River was treated during the nineteenth and twentieth centuries has shaped its form, its role in civic life, and its relationship to nearby residents. As Cleveland strove to imagine Minneapolis 100 years in the future and to anticipate the city's needs, so too must today's planners. His predictions were not 100 percent accurate, but his vision established a system and an ethos of parks. His actions granted Minneapolis a rich river and park history. To quote J.B. Jackson, "The value of history is what it teaches us about the future."[xxxviii] The Upper Mississippi River sits in a tangle of constraints and opportunities; its history may well be its greatest guide to correcting past mistakes and avoiding future missteps.

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About the Author

With an M.A. in landscape architecture from the University of Minnesota (UMN) and a B.A. in performance theory and political systems, Anna works to expand the public's understanding of the human-built environment relationship of the past, present, and future. She sits on the Above the Falls Citizen Advisory Committee and the Minneapolis Riverfront Partnership Board, and is an adjunct faculty member in the UMN College of Design.

FEATURE

WHERE THE WATER TAKES YOU: UNLOCKING PLACE-BASED MEANINGS THROUGH INQUIRY AT THE TIDAL BASIN IN WASHINGTON, D.C.

By Barbara J. Little and Katie Crawford-Lackey

Do you recognize the well-known body of water shown in Figure 1? Perhaps not, without its most recognizable markers. Figure 2 should make this water immediately familiar.

We recognize the Tidal Basin in Washington, D.C., mainly through its associated landscape, whether of gloriously blooming cherry trees or the famous monuments surrounding it. It is a famous place largely because of the annual



Figure 1: A widely recognized body of water, without its most recognizable markers. Image by B.J. Little, March 2017.

Cherry Blossom Festival, which draws a large number of visitors to the capital. In recent years, approximately one-and-a-half million visitors come to D.C. during the three weeks of the National Cherry Blossom Festival (National Cherry Blossom Festival, n.d.).

But the Tidal Basin is more than a backdrop; it is a sizable body of water in the monumental core of the capital city. It's approximately 107 acres, 10 feet deep.

Using the Tidal Basin as our case study, we are interested in exploring a current and promising trend in heritage interpretation that focuses on inquiry-based and audience-centered interpretation. Using a set of guided questions to discover and re-discover the Tidal Basin, we explore for ourselves how people may unlock meaning for themselves. Such a process is, as Nina Simon (2016) argues, the very heart of relevance. And there is nothing more relevant than relevance

right now in the context of public presentation at museums and historic sites (e.g., The Empathetic Museum, n.d.; Museum Hack, n.d.; Simon, 2010, 2016; National Park Service, 2014).

Audience-centered interpretation (e.g., Simon, 2010; National Park Service, 2014) seeks to be relevant by providing opportunities for visitors to connect, contribute, collaborate, and co-create. That is, members of an audience become participants in interpretation through opportunities to connect emotionally and intellectually with natural and cultural heritage, to contribute to the process of making meaning out of a place and its history and social context, and to collaborate with each other and with interpreters in dialogue or other interactions. Overall, the purpose is for interpreters and visitors to co-create the visitor experience.

Such interpretation at historic sites and parks is usually focused on place, but it is not restricted to

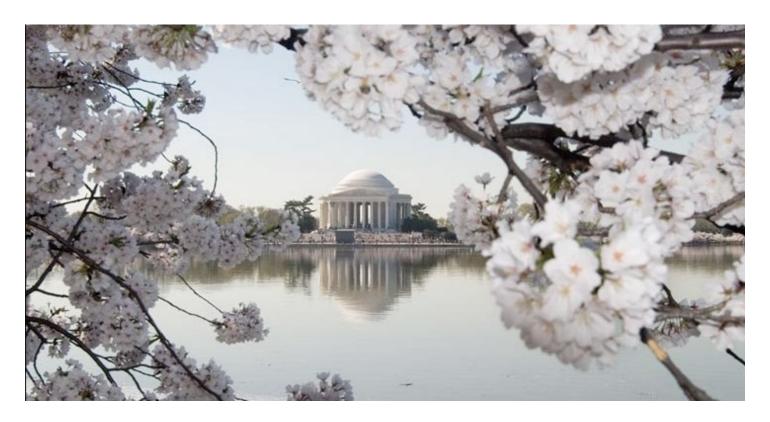


Figure 2: The Tidal Basin in Washington, D.C., with the cherry trees in blossom. Image in public domain.

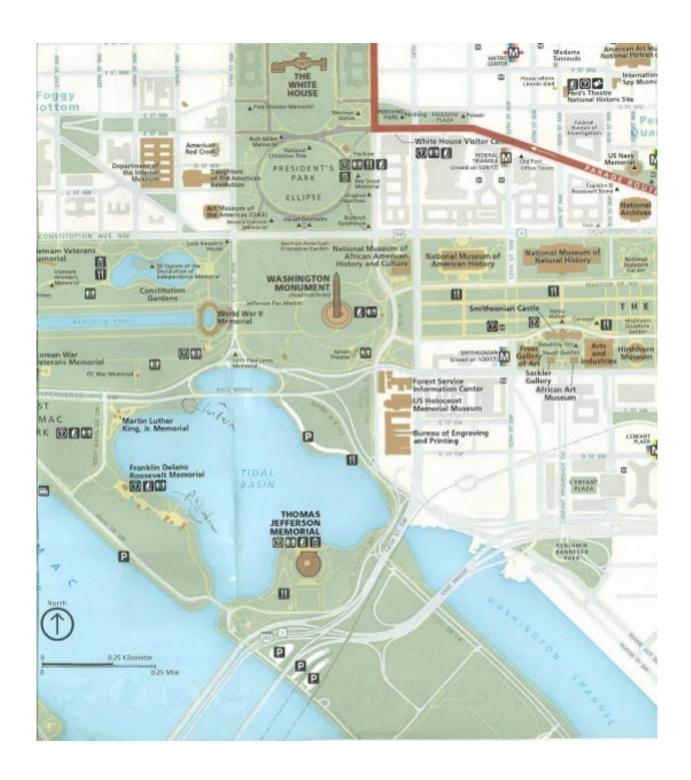


Figure 3: National Park Service public map showing Tidal Basin in relationship to nearby Washington, D.C. monuments.

any particular place. Instead, it strengthens the meanings of a place by exploring connections—among places, across time, among disciplines, and across other boundaries. We chose to explore the Tidal Basin because we wanted a convenient place in Washington, D.C., that we thought would

have some of those connections. Otherwise, it didn't have any specific significance to either of us, nor—as it turned out—did we know very much about it. We acted as a team of two to collaborate and co-create meaning as we sought new insights into the history of this body of water.

Exploring the Tidal Basin

We began our exploration of the Tidal Basin simply by taking the time to experience it with our senses. We pretty much had the place to ourselves (Figure 4). The buds on the trees were barely visible and it was very windy and a little bit cold. Walking the approximately two-mile loop around the whole basin took longer than we expected. For much of the way the sound of wind drowned out any traffic noises. As we walked, we noticed that the water seemed to take on different

characteristics—different textures and colors—depending on how much it was exposed or sheltered and how hard the wind was blowing. We would not have noticed the character of the water itself had we stayed in one location or focused on the monuments. As we walked, it seemed to us that, without the trees in bloom, the heart of the place was the water itself.

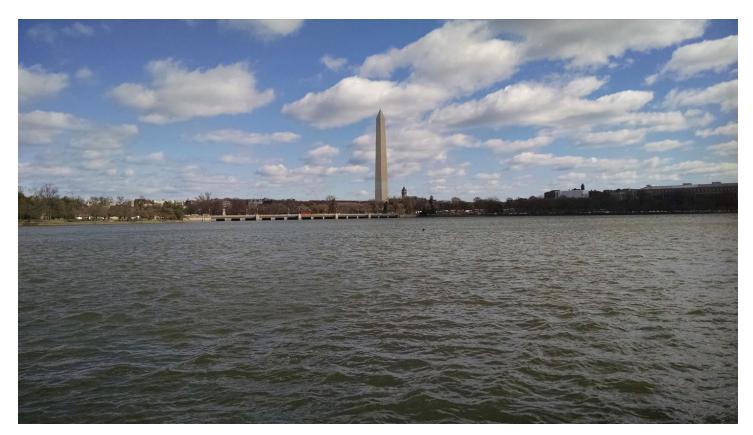


Figure 4: The Tidal Basin as it appeared during the authors' exploration in March 2017.

Image by B.J. Little.

As we experienced the place, we slid back and forth between thinking of ourselves as visitors and researchers, that is, researchers in the sense of inquirers, as members of an audience might see themselves if they were participating in an audience-centered inquiry-based exploration. We were guided by the National Park Service's "Curiosity Kick-Start," an online set of core questions meant to spark curiosity when visiting a place (National Park Service, n.d.[a]):

- What is this place?
- What happens or happened here?
- Who and what lives here?
- Who and what lived here before?
- How is this place changing through time?
- How did it come to be this way?
- What will be here in the future?
- How is this place connected to other places?
- What does this place mean to me and to others?
- How do we know the answers to any of these questions?
- What don't we know and why?

As we walked, we thought about those questions so that we could make notes about research that we wanted to do to satisfy our curiosity and see what connections we could find between this place and other places.

We want to acknowledge that there is a lot about traditional interpretation to build on. The wayside exhibit signs that are placed in a few places around the Tidal Basin serve to answer common questions and to spark curiosity. In many cases, they inspired us to learn more. So, for example, in addition to learning about the cherry trees (see also National Park Service, n.d.[b]), we learned that there was an African American builder responsible for the 1940s bridge and current seawall (Figure 5) and that a prominent woman writer (Figure 6) originally proposed the planting of cherry trees around the Tidal Basin (for more on Scidmore, see Parsell, n.d.). Those brief historical tidbits got us thinking about how the historic accomplishments of women and people of color are often hidden in plain sight in our public landscapes and we were glad to have the stories told. We were also tickled to learn that there was a beach here in the 1920s (Figure 7).



Figure 5: Archie A. Alexander, senior partner in the firm of Alexander and Repass of Des Moines, Iowa, contractors for the "million-dollar bridge" being built across the Tidal Basin in 1943. Roger Smith, photographer. Farm Security Administration, Office of War Information Photograph Collection, Library of Congress.



Figure 6: After an 1885 visit to Japan, Eliza Scidmore initially proposed the planting of cherry trees along the Potomac River. Image courtesy of the National Park Service.



Figure 7: A game of push ball at the whites-only Tidal Basin beach, July 1924.
National Photo Company Collection, Library of Congress.

Core Questions

The Tidal Basin has an amazing setting and is surrounded by famous trees and quite a few national monuments. There are lots of fun facts and some interesting seeds of ideas that might take us beyond those trees and monuments.

How do we begin to think about where this extraordinary body of water might take us? It's

time to explicitly address the kick-start questions listed above. Like most visitors, we came to this place with certain kinds of knowledge and the capacity to be surprised. All of these core questions sparked more questions and often a desire to learn more.

What is this place?

We call this place the Tidal Basin, a modern name for a modern construction. We haven't drawn specific boundaries around it, but consider it to include the water, the seawall, and the surrounding landscape, including the monuments.

What happens or happened here?

This question prompted us to think of the Tidal Basin as an intentionally created landscape formed for a specific purpose. The features of the Tidal Basin—the monuments, the vegetation, and even the basin itself—are continually being maintained, in both the past and the present. While bearing what we can appreciate as a natural beauty, this place is ultimately a human creation managed by National Park Service staff.

Observing our surroundings, we felt that this was a space for exploration—visitors could discover the natural (trees, plants, flowers, water) and cultural (monuments, interpretive signs). The place

begs to be explored both on land (the walking path) and on the water (rental boats), and those are the activities that happen here currently. It is both a destination spot for tourists and a place that locals visit.

We learned from the on-site interpretive signs that some of the things that happened here in the past were the building of the bridges and the basin itself; planning, planting and gifting with Japan; swimming; lots of different kinds of memory-making through memorials; and, in general, the development of the place over time to become what we experience today.

Who and what lives here? Who and what lived here before?

We speculated about who or what may have lived in this place before the creation of the Tidal Basin. Using our basic knowledge of the history of the area, we surmised that before it was artificially construed, the basin area may have been tidal flats, a wetland full of life—home to plants and animals—and it certainly would have been a place used by Indigenous peoples. Even after the city of Washington, D.C. was established in

1790, the area that is now the Tidal Basin was still largely undeveloped and would likely have served as a place to gather food or water cattle, pigs, and other livestock.

The Tidal Basin today still teems with both plant and animal life. The area is practically bursting with new life every spring with the budding of the cherry trees.

How is this place changing through time? How did it come to be this way?

Once a natural landscape, the Tidal Basin was created to suit the growing human habitation of the capital city. The current landscape, while having a natural feel, was artificially created.

Acknowledging that much of what we observed in our surroundings was intentionally designed, we began to ask ourselves additional questions: "Who created the Tidal Basin and why?" We realized once again that our knowledge of the history of this place was limited and that we needed more information to adequately answer this question.

What will be here in the future?

The previous questions got us thinking about the past and present in relation to our place. Now we began to think about how the past and present have the power to shape the future of the Tidal Basin. This question sparked a new line of thinking; instead of focusing on the cherry trees or the monuments, we began thinking about our place in terms of its natural resources, specifically the water. We concluded that if the climate continues to change at the present rate, the basin may very well become flooded in the foreseeable future. This is where we began to see the power of nature, specifically the global water crisis, as directly having an impact on the sites near us.

How is this place connected to other places?

This question prompts us to consider all kinds of connections. From the clearly observable—like the Tidal Basin is connected to both the Potomac River and the Washington Channel (see Figure 3)—to abstractions like beauty, gift-giving, fairness and justice.

We started our walk near the new Martin Luther King, Jr. Memorial (visible in the distance in Figure 1) and walked toward the memorial to Franklin Delano Roosevelt. We were struck immediately by the juxtaposition of this expansive memorial and the Japanese gift of the cherry trees. As we sat on a bench, looking through the trees to the water, we discussed the challenge of interpretation and wondered if there would be some way to collaborate with an audience to delve into the complexity of international relations, domestic policies, World War II, and the internment of Japanese Americans. Based on this train of thought, we made connections to associated sites, including Japanese internment camps such

as Manzanar National Historic Site in California. The monuments also inspired thoughts about universal concepts such as civil rights (Martin Luther King, Jr. Memorial) and public works (Franklin Delano Roosevelt Memorial) and places affiliated with those themes.

Perhaps the most tangible connections were water related. We wondered about fishing. In considering the previous question, we concluded that the reservoir may flood in the future due to rising water levels around the world. This revealed potential connections between the Tidal Basin and other sites across the country that are also imperiled due to effects of global warming.

Talking about the Tidal Basin led us to think about current events and national issues, including climate change and more generally the effect of humans on the natural world and how people engineer and transform the landscape constantly.

What does this place mean to me and to others?

The Tidal Basin means something different to each person who visits, and this meaning is likely to change based on the visitor's prior knowledge and direct experience of the place. Our understanding of the basin (and thus its meaning) changed for both of us through the observation and research process.

As we contemplated this question, our thoughts went immediately to what we witnessed during our visit to the Tidal Basin—the national monuments, the cherry trees, and the meticulously maintenanced landscape. This place is a popular tourist destination, a place of national commemoration, and a tangible symbol of friendship and reconciliation with Japan. While attempting to answer this question, we identified several compelling stories within the Tidal Basin, yet we

realized we were not addressing the untold stories of this place. In fact, we were touching on some of the most well-known and visible aspects—the monuments and the cherry trees.

After we chose the water as the central focus of our place, we reconsidered this question. Upon further reflection and a bit of research, a different story began to emerge, as we explain below.

How do we know the answers to any of these questions?

Before conducting our research, we knew very little about the history of the Tidal Basin. Most of what we knew about this place came from our experience living and working in the city. We were also able to address several of these questions by using our general knowledge and observations of this place, including information

from a few well-placed interpretive signs. Perhaps most revealing was our inability to adequately address many of these questions. We had both visited the Tidal Basin on previous occasions and were relatively familiar with the place, yet it dawned on us that we knew so little about its past and present.

What don't we know and why?

A lot! By contemplating these questions, we realized how little we knew about the history of this place or about its meanings today. We wanted to know more about what was here before the Tidal Basin, specifically how and why the reservoir was eventually formed. We also wanted to know who was responsible for creating the current design and how this space was used after it was created.

We realized we also didn't know much about the water itself. Were there fish (we couldn't see any)? Was it clean enough for swimming (we doubted it)? Is it freshwater or saltwater? We also didn't really know how visitors experienced the Tidal Basin or if they thought about the water or any of the questions that came up for us.

Exploring Further

We were inspired to do a little light research into the history of the Tidal Basin itself, the kind of online investigation that any visitor would easily do with a mobile phone on site. We found a helpful local history blog entry (Goff 2015), some information on the National Park Service website, and an extraordinary collection of historic photos on the Library of Congress site.

The Tidal Basin had been completed in 1896, mainly as a tool for using the tidal power of the Potomac River to flush the Washington Channel, and it was more or less a lagoon, polluted with wastewater and sewage.

Currently, as explained by the National Park Service (n.d.[c]), "Twice a day at high tide, 250 million U.S. gallons of water from the Potomac River enter the Tidal Basin through the inlet

gates. As the tide turns, water trying to flow out of the inlet gates causes the gates to close, and the outlet gates on the Washington Channel side of the Basin open. The rush of water out of the Tidal Basin sweeps away any silt or sediment build up inside the Washington Channel, keeping it navigable." See Figure 3 for the relationship among these bodies of water.

The Tidal Basin itself did not solve the problem of pollution in the waters, but it created a seemingly safer place to swim than the dangerous Potomac River. In 1914 a senator from Nebraska started

pushing for Congress to construct a public beach and after a lot of back and forth, construction started in 1917 on the southeastern edge of the basin near the current location of the Jefferson Memorial. Construction included not only dumping tons of sand and gravel but also installing liquid chlorine dispensers to attempt to sanitize the water (Goff 2015).

During the few years it was open, from 1918 to 1924, the beach was immensely popular. A newspaper account in the Washington Post reported more than 20,000 people visiting the beach



Figure 8: U.S. Commissioner of Fisheries Henry O'Malley stocking fish in the Tidal Basin, April, 1925. National Photo Company Collection, Library of Congress.



Figure 9: An unidentified African American woman fishing in the Tidal Basin, 1957. Toni Frissell, photographer. Library of Congress Prints and Photographs Division.

during one day in 1920. As popular as it was, it was for whites only. African Americans were swimming nearby in the dangerous Potomac River. The Senate eliminated funding for a proposed beach on the opposite side of the Tidal Basin for African Americans and Congress feared that they would be forced to integrate the beach. Instead, they decided to close the beach and as of 1925, there was no more swimming allowed in the Tidal Basin. (Goff 2015)

Fishing, however, continued and was apparently encouraged, given that the water was stocked (Figure 8). Fishing in the Tidal Basin has been continuous (Figure 9; Cohen et al., 2016).

The National Park Service has been studying non-recreational fishing in Washington, D.C.'s, waters for several years (e.g., Cohen et al., 2016). This study is about people who fish and either consume or share their catch (as opposed to those who catch and release). There are widespread public health campaigns to discourage eating fish caught in the waters of the Potomac, Anacostia, and related waters, including the Tidal Basin (see Washington, D.C., Department of Energy and Environment, n.d.[a]). The study is still underway, but Cohen et al. report that people continue to fish for personal and cultural reasons and they eat the fish or share the fish with others who eat the fish.

PCBs and other chemical contaminants make the fish dangerous to eat. One of the region's most popular fish, striped bass, is on the city's list of fish that should not be eaten. We suspect that it's eaten regardless, as it's a delicious fish.

Expanding the stories

We started thinking more about the water itself, especially because we had learned more about the fishing. The water quality around D.C. is impaired, which makes the fish unsafe to eat frequently. Yet, people do eat the fish frequently, even though they are aware of the health risks.

That leads us to other quality of water issues and ideas about environmental justice. The Potomac and Anacostia Rivers are the major rivers that run through Washington, D.C. Anacostia Riverkeeper is an advocacy organization that works to restore the Anacostia River, to make it both swimmable and fishable. The organization also works to connect the community to the river. It is a member of the Waterkeeper Alliance global network of clean water advocates.



ENVIRONMENTAL JUSTICE

Flowing through the poorest neighborhoods in the District, the Anacostia River is the nation's forgotten river. National parklands in its watershed are abandoned toxic dumps. Communities bear the health risks of living near power plants and landfills. Parents who taught their kids to swim in the river and churches who baptized their members in the river no longer go near it. Development is not environmentally sustainable, and it does not reflect the needs or wants of the community.

Figure 10: Anacostia Riverkeeper website.

On February 24, 2017 the Mayor of Washington, D.C., Muriel Bowser, signed the Fisheries and Wildlife Omnibus Amendment Act of 2016 (Washington, D.C., Department of Energy and Environment, 2017). Among other things, the legislation increases environmental protections for aquatic life, wetlands, and shorelines in Washington, D.C. At the same time, the mayor announced that the city now has a "state" fish, the shad (a popular east coast fish that runs in the spring) and a state amphipod, or small crustacean. The Hay's Spring amphipod is endangered because of the degradation of the urban groundwater. It is heartening to learn that there is more attention being paid by the city to the quality of the water.

So, where has the water of the Tidal Basin taken us in our exploration of inquiry-based and audience-centered interpretation? We used the core questions and a little bit of further research to discover the Tidal Basin as a relevant place to each of us, connected to environmental justice.

Would others come up with the same meanings for themselves?

We are both involved professionally in public history. After this exercise, we first jumped to thinking about how we might come up with ways to encourage visitors to discover the water and the ways in which it connects to other waters, especially waters that are not drinkable, swimmable, or fishable. We reasoned that wherever visitors are from, every one of them has a connection to water. We jumped too fast, but our reaction was instructive to us because it made us think about our roles and audience roles. Certainly, we want to acknowledge that there is value in using interpretive tools to engage visitors

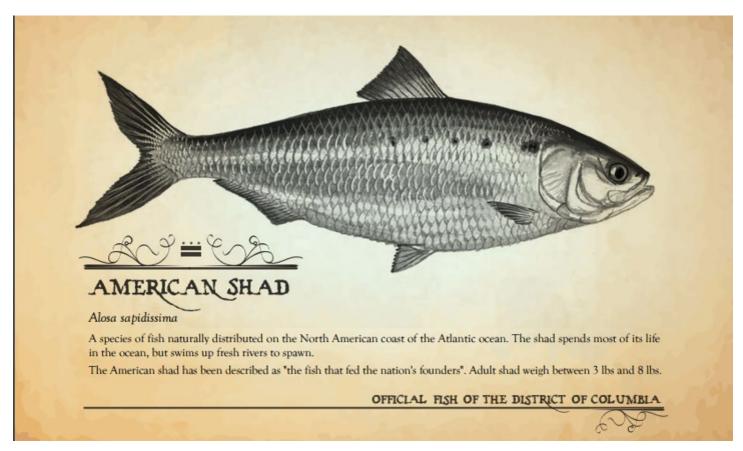


Figure 11: American Shad, D.C. State Fish. Official Fish Poster from Department of Energy & Environment website (doee.dc.gov).

to raise their awareness. However, that is not what this set of core questions is about. Audiencecentered means that the audience members are full participants and it is their meanings that they are unlocking for themselves. It is not up to us to tell them what a place means to them.

There are many factors that influence what someone finds relevant in the core questions: prior knowledge, language skills, curiosity, companions, availability of materials or technology to research questions, and so much more. The very definition of the place, at the beginning, would influence the experience of inquiry-based exploration of a place.

At the Tidal Basin, for example, the boundaries of the place being experienced are fluid. The "place" could be the Tidal Basin as we defined it; or it could be a grove of cherry trees, the paddle boats, the Thomas Jefferson or Franklin Delano Roosevelt or Martin Luther King, Jr. memorials, the monumental core of the city, or something else. The meaning depends on the participants, what they bring to the place, and what they discover about the place.

In the inquiry that we carried out, the water of the Tidal Basin took us where our own curiosity and interests led us. Our experience taught us both about the Tidal Basin and about the realities and possibilities of inquiry-based, audience-centered interpretation. And it taught us to be patient!

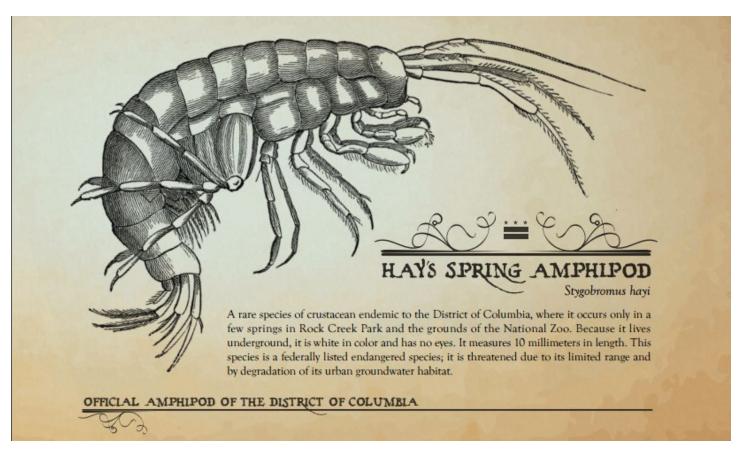


Figure 12: Hay's Spring Amphipod, D.C. State Amphipod. Official Amphipod Poster from Department of Energy & Environment website (doee.dc.gov).

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About the Authors

Barbara J. Little is an adjunct professor of anthropology and an affiliate of the Center for Heritage Resource Studies at the University of Maryland, College Park. She is most interested in heritage questions about what matters and why. Her most recent book, co-authored with Paul A. Shackel, is *Archaeology, Heritage, and Civic Engagement: Working toward the Public Good* (2014, Left Coast Press). She lives in Takoma Park, Maryland.

Katie Crawford-Lackey is a Ph.D. student in public history at Middle Tennessee State University. Her research focuses on the use of public land over time. She is particularly interested in how to engage stakeholders in the interpretation of the past.

OPEN RIVERS : ISSUE SEVEN : SUMMER 2017 / FEATURE

GEOGRAPHIES

THE ST. LOUIS RIVER

By Alex Messenger

Northern Minnesota's St. Louis River is a storied waterway, an integral part of the state's industrial boom and, at the western terminus, the veritable inception of the Great Lakes' ecological and industrial machine. Within its relatively short length (194 miles) from its source to Lake Superior, and the truncated time

frame of 300 years since European contact and colonization, the St. Louis River is emblematic of historical patterns of use and exploitation in the region, as well as recovery attempts, for rivers across the state of Minnesota and indeed much of the country.



Kayakers paddle the whitewater of the St. Louis River in Jay Cooke State Park. Image courtesy of Alex Messenger Photography. http://messengerphotography.com



Jay Cooke State Park Suspension Bridge, 1929. Image courtesy of University of Minnesota Duluth, Kathryn A. Martin Library, Northeast Minnesota Historical Center Collections.



Visitors to Jay Cooke State Park watch kayakers from the iconic Swinging Bridge. Image courtesy of Alex Messenger Photography. http://messengerphotography.com



The sun rises over the Upper St. Louis River. Image courtesy of Alex Messenger Photography. http://messengerphotography.com

I first experienced the St. Louis River when I was very young, running across the swinging bridge at Jay Cooke State Park, feeling the sway of the bridge and marveling at the power of the swift current below. Years later, I learned how to paddle whitewater in a canoe, running the rapids between Scanlon and the Thomson Reservoir just north of the park. I was humbled by the power of the river, the excitement of finding clean lines, and the unexpected thrill of missing them. That's

the Lower St. Louis. The Upper St. Louis River has a different feeling entirely. It has rapids, too, swift sections where the water bubbles up over rocks and debris, but it is a lazy flow, bordered by soil berms covered in ferns and plants where it can feel like a canal. There's a magic in the river at sunrise, when the sunlight spills through the steam of a river waking from the cool night to greet the warmth of day.



St. Louis River at Thompson, Minnesota, near Duluth, 1908.

Digitally enhanced image courtesy of University of Minnesota Duluth, Kathryn A. Martin Library, Northeast Minnesota Historical Center Collections.



Lumberjacks and river log drive on St. Louis River, near Duluth, Minnesota, 1888. Digitally enhanced image courtesy of University of Minnesota Duluth, Kathryn A. Martin Library, Northeast Minnesota Historical Center Collections.



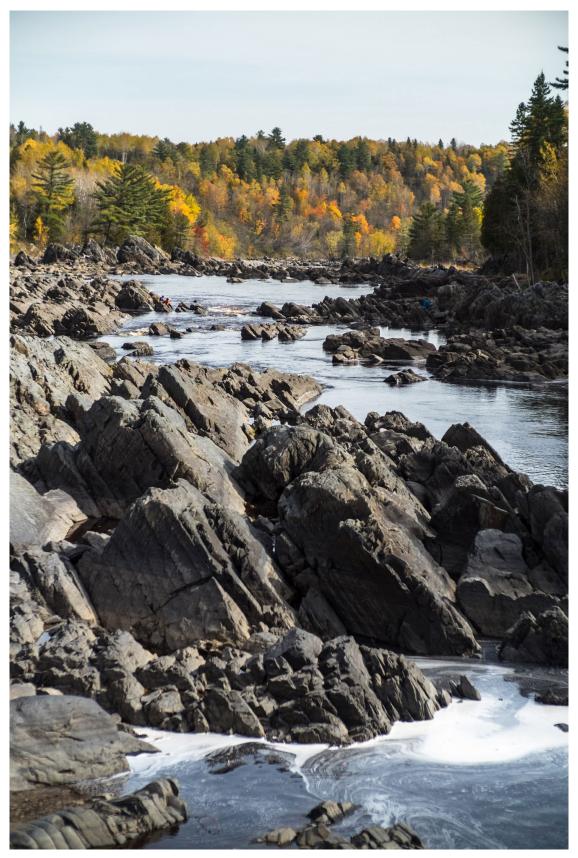
Chambers' quarry at Fond du Lac, 1881.

Digitally enhanced image courtesy of University of Minnesota Duluth, Kathryn A. Martin

Library, Northeast Minnesota Historical Center Collections.

A river is a living thing, after all, never the same as it once was, nor what it will be in the future; a river is always and ever a shifting version of itself. The St. Louis River is no different in that regard. It winds sinuously through the Iron Range of Minnesota's Arrowhead Region, past mines of olde and modern mines alike, past vast logging

fields once stripped of timbers and since restored, past fertile grounds of the Sax Zim Bog that is prime habitat for dozens of bird species, down to one of the most biologically productive estuaries in the Great Lakes. While industry booms and busts, the river remains.



Slate and greywacke bedrock plates rise from the St. Louis River in Jay Cooke State Park. Image courtesy of Alex Messenger Photography. http://messengerphotography.com



No. 1, Log Rollway and Sawmill Red Cliff Lumber Company, Duluth, Minnesota. Image courtesy of University of Minnesota Duluth, Kathryn A. Martin Library, Northeast Minnesota Historical Center Collections.

From its source 13 miles east of Hoyt Lakes, the St. Louis River wanders southwest, looping south from the Laurentian Divide, from which all waters flow north into Hudson's Bay, toward the westernmost edge of the St. Lawrence Divide, from which waters spill into the Great Lakes and eventually the Atlantic Ocean. From there, the St. Louis turns back to the southeast, dipping deeper into the Virginia, Thomson, and Rover formations of shale, siltstone, graywacke, and other volcanic rocks that formed some two billion

years ago. As the river nears its end, it drops precipitously over 500 vertical feet, past power stations, over waterfalls, and through a popular 3.4 mile-long section of class I-IV rapids, one of the few run by whitewater rafts in the state. From there, the St. Louis flows into Minnesota's iconic Jay Cooke State Park, before cascading down to the St. Louis River Estuary, and finally, the mighty Lake Superior, just 50 miles due south from where it started.



Jay Cooke State Park Suspension Bridge, 1929. Image courtesy of University of Minnesota Duluth, Kathryn A. Martin Library, Northeast Minnesota Historical Center Collections.

The St. Louis has been home to the people of Minnesota and Wisconsin since the glaciers began receding some 14,000 years ago. A revered waterway known as Gichi Gami-ziibi (Great-lake River) to the Ojibwe people, the river and its estuary were an important hub of trade and settlement for centuries before Europeans first made contact. When settlers came and began to extract resources, the St. Louis became the linchpin of whatever trade was booming. In the late seventeenth century, it was used for the fur trade, and eventually became the site of the American Fur Company's headquarters at Fond Du Lac, just upstream from Lake Superior. When loggers began to harvest the stands of old growth from northern Minnesota's seemingly endless forests, the river became one of the main arteries

of the timber trade, ferrying vast flotillas of felled trees downstream to feed the insatiable appetites of shipyards, buildings, bridges, and paper mills in the burgeoning industrial twin ports of Duluth, Minnesota and Superior, Wisconsin. The timber boom slowed with the Great Depression of the 1930s and nearly died out. Industry picked back up again during the mid twentieth century; this time it was minerals that were sought as the immense deposits of the Iron Range were exploited. As populations grew, the river was dammed and harnessed for hydroelectric purposes, spinning great turbines and powering the towns and industry of the region. Downstream in the estuary, a U.S. Steel mill and coking operation pumped out tons of contaminated sludge into the riverbed.



The iconic Swinging Bridge over the St. Louis River at Jay Cooke State Park. Image courtesy of Alex Messenger Photography. http://messengerphotography.com

By the 1980s, the river and its estuary were in dire need of reclamation. Decades of misuse, dredging, industrial runoff, neglect, and other adverse effects of mining and industry had nearly destroyed the ecology of the river. The air at the river was thick with acrid odors and the water was cast with unnatural colors. The St. Louis is the largest tributary to Lake Superior in the United States (Canada's Nipigon River holds the title for largest internationally). Thus the health of the river is an important part of the health of the Great Lakes as a whole. After the river was formally recognized as an Area of Concern and

targeted for reclamation, organizations like the Western Lake Superior Sanitary District were formed and began work on righting the wrongs of the previous century.

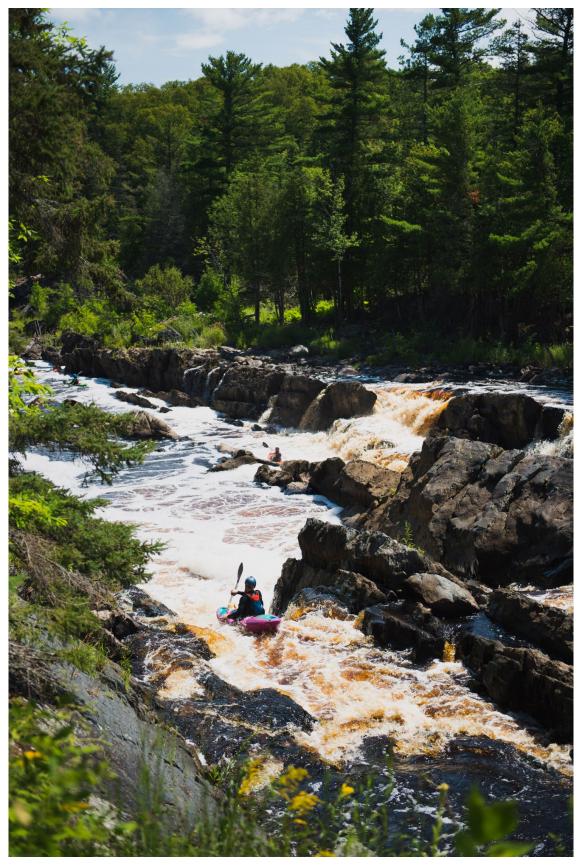
After decades of hard work, residents and visitors can now reap the benefits, as cleaner water has allowed fish and other wildlife to return to the river. Covering 12,000 acres of water and wetland, the St. Louis River Estuary is once again one of the most biologically productive in the Great Lakes.



Kayakers paddle the whitewater of the St. Louis River in Jay Cooke State Park. Image courtesy of Alex Messenger Photography. http://messengerphotography.com

In the spring of 2012, a great flood saturated the region, when over 10 inches of rain fell in a single day, nearly double the previous record for a 24-hour rainfall. The St. Louis River did as rivers do in flood stage. It rose and overflowed its banks, breaking the previous flood of record by nearly a foot and topping out at 16.6 feet. It searched and probed for easier ways down to Lake Superior. It scoured the earth around it, sloughing entire hillsides, ferrying trees downstream once more, destroying highways, bridges, and other infrastructure throughout its run, but wreaking the most havoc as it dropped down to the great lake. There it flooded the nearby towns, and the hydroelectric station, filling the powerhouse nearly to the second level with thick muck. At its peak, stations reported the river flowing at 45,000 cubic feet of water

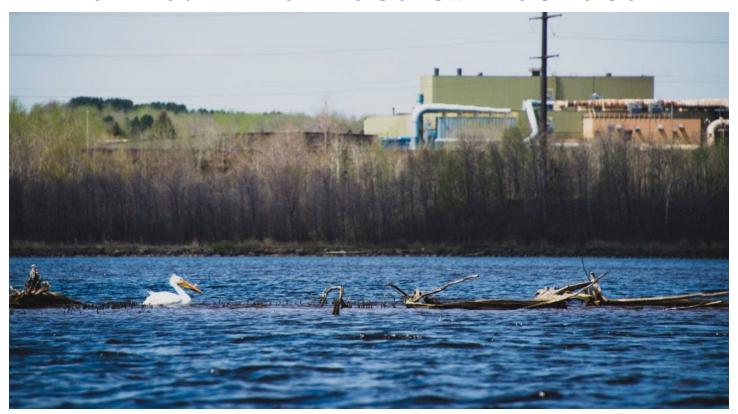
per second, destroying its average of 3,710 and the previous maximum flow of 26,900 cubic feet per second, set in 1908. It ripped the iconic Swinging Bridge at Jay Cooke State Park from its Civilian Conservation Corps-era ramparts and left it shredded. The water left a different landscape behind, and a region reeling from the damage. Since then, the river has calmed, returning to its swift and steady flow. Most of the repairs have been made, but there remains strong evidence of the flood. Sections of trails, like the Superior Hiking Trail, have been re-routed, roads have been rebuilt, bridges re-made; but Highway 23, formerly a scenic route that followed the St. Louis through Jay Cooke State Park, remains closed, an enduring testament to the power of the river.



Kayakers paddle the whitewater of the St. Louis River in Jay Cooke State Park. Image courtesy of Alex Messenger Photography. http://messengerphotography.com



Kayakers view pelicans in the St. Louis River Estuary. Image courtesy of Alex Messenger Photography. http://messengerphotography.com



A pelican rests in front of a processing plant on the St. Louis River Estuary. Image courtesy of Alex Messenger Photography. http://messengerphotography.com



Paddler Brad Little soaks in the sunshine on a break on the shore of the St. Louis River Estuary. Image courtesy of Alex Messenger Photography. http://messengerphotography.com

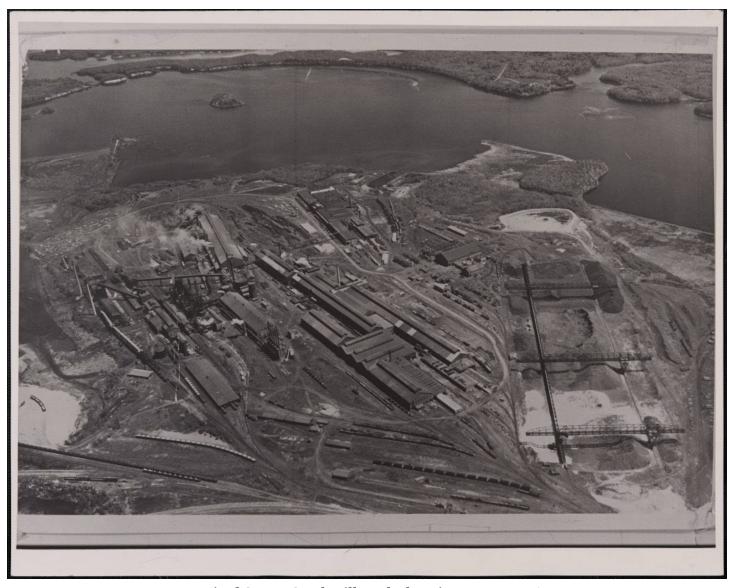
Recently, it seems people have returned to perhaps their original appreciation of the St. Louis. The river and its vast estuary now host a wide variety of outdoor enthusiasts, from hikers exploring its shores, to more adventurous types in kayaks, canoes, and even whitewater rafts, moved to feel the rush of the river through paddle and oar. Still at risk, there is more work to be done,

but it is already being enjoyed again by paddlers, anglers, campers, hikers, and boaters. Efforts are now underway to establish the St. Louis River Estuary as a National Water Trail, with the goal of bringing more users and resources to protect the river.



Alex Cole, St. Louis County Rescue Squad, paddles the Upper St. Louis River on a search for a missing canoeist.

Image courtesy of Alex Messenger Photography. http://messengerphotography.com



United States Steel mill, Duluth, Minnesota, 1956. Image courtesy of University of Minnesota Duluth, Kathryn A. Martin Library, Northeast Minnesota Historical Center Collections.

The biggest remaining cleanup project in the estuary is the removal of contaminated sediment left by the closed steel mill, now a Superfund site. This will cost \$69 million, a little over half of which would come from the EPA, the remainder being covered by U.S. Steel. Three decades of work and planning are at risk though, as political threats loom that would cut Great Lakes Restoration Initiative funds. If the clean-up efforts move forward, the St. Louis River Estuary restoration is slated for completion by 2020, some 50 years after that mill closed.

Ironically, as one of the last major cleanup efforts from the last century nears its possible conclusion, proposals are being made for a new type of mining operation upstream. This time it is sulfide-ore mining, which results in acid mine runoff and increased levels of heavy metals and sulfates downstream. This time heated debates are taking place about the future of the river, the estuary, and the lake. Once again, the river is an area of concern and its future hangs in the balance.

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St. Louis River watershed: http://www.pca.state.mn.us/water/watersheds/st-louis-river; https://www.lakesuperiorstreams.org/streams/stlouis.html

Minnesota's divides: http://blogs.twincities.com/politics/files/2015/06/divide.jpg

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Maps: http://files.dnr.state.mn.us/maps/canoe_routes/stlouislower.pdf; http://files.dnr.state.mn.us/maps/canoe_routes/stlouisupper.pdf

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Recommended Citation

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About the Author

Alex Messenger is a Duluth, Minnesota-based writer and photographer. His love of adventure, nature, and culture has taken him across the globe, but the north woods and canoe country have always been some of his favorite subjects.

PERSPECTIVES

RIVER REVEAL: PHOTOGRAPHING THE MISSISSIPPI

By Angie Tillges

Official city images of our public lands and parks are often more aspirational than actual. Saint Paul shares this image challenge with cities across the country. Our archives tend heavily toward beautiful images of parks and projects on ribbon cutting day, scenes in best weather, and people recreating in ways considered correct

and appropriate by gatekeepers of those spaces. These are images of public lands as city officials want them to be seen. Like dressing the kids up in coordinated outfits for the family photo—these images only capture partial truths. What about the truth of the litter that materializes in public lands on the heels of winter? What about the



Lilydale to St. Paul. Photographer Chris Juhn.

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truth of the cracks in the trail staircase due to underfunded maintenance of our park infrastructure? What about the truth of a carload of teenagers communing with nature by circling parking lots and public rounds?

Image control is a promotional impulse. We think images depicting us at our best will draw people in. But for those of us who work in the public, natural spaces of the city, we know just how little control exists there. Further, it is the potent, unexpected, and living aspects of a public place that define it and create relationships to it.

This challenge is exacerbated when it comes to our rivers. We attempt to capture their epic scale as they flow frame by frame out of reach and onto the next city or town. With the lens and shutter we resist the ephemeral character of a river.

I muse on this as an artist turned city employee working on the Great River Passage initiative. The Great River Passage is the 17 miles of the Mississippi River that flows through and defines Saint Paul, and a city-led initiative to enhance, better connect to, and steward one of the three great rivers of the world and its surrounding natural and built environments.

In an effort to interpret the broad mission of the Great River Passage for the public, I turn to artists. Great River Passage has established a photographers' residency at the river to engage artists in a way that liberates them and us from the image control impulse of city work. The goal is to bring the Mississippi River into the public's psyche through images that reveal the authentic, interminable experience of the river.

Three photographers, Monica Bryand, Erin Carter, and Chris Juhn, were selected for the residency based on their diverse backgrounds, high-quality portfolios, and unique strengths and styles that bring together the best in photojournalism and wildlife photography. The eight-month residency is as much about the photographers building a body of artistic work as it is about the city building an archive of river images.

Personally, I am excited to be working with photographers who each have a distinct artistic point of view offering a fresh, compelling approach to photographing the experience of the river.

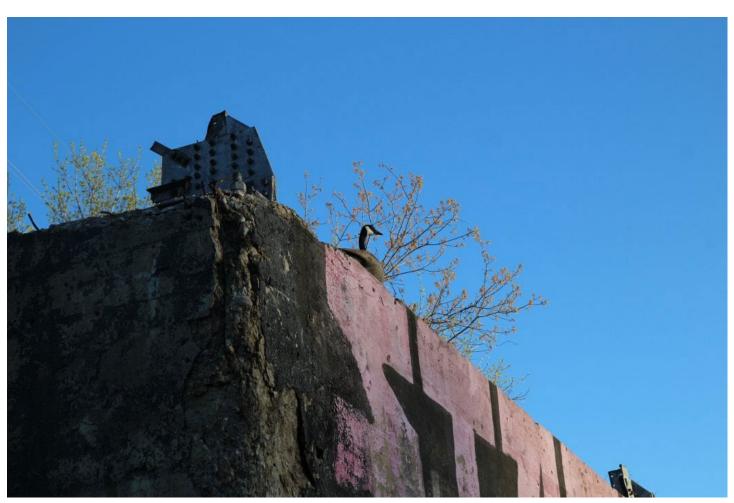
Monica Bryand

Monica Bryand has been a professional photographer for two years and works part-time for a community bike shop, Cycles for Change. Mixing her passion for the environment and birds, she is currently working on a special project for Audubon Minnesota and has taken on many other consulting jobs. Prior to becoming a professional photographer, Monica was a program officer at Headwaters Foundation for Justice for more than 16 years and an accountant and employee involvement manager for The St. Paul Companies.

Monica believes in community service and has served on many boards and committees for the

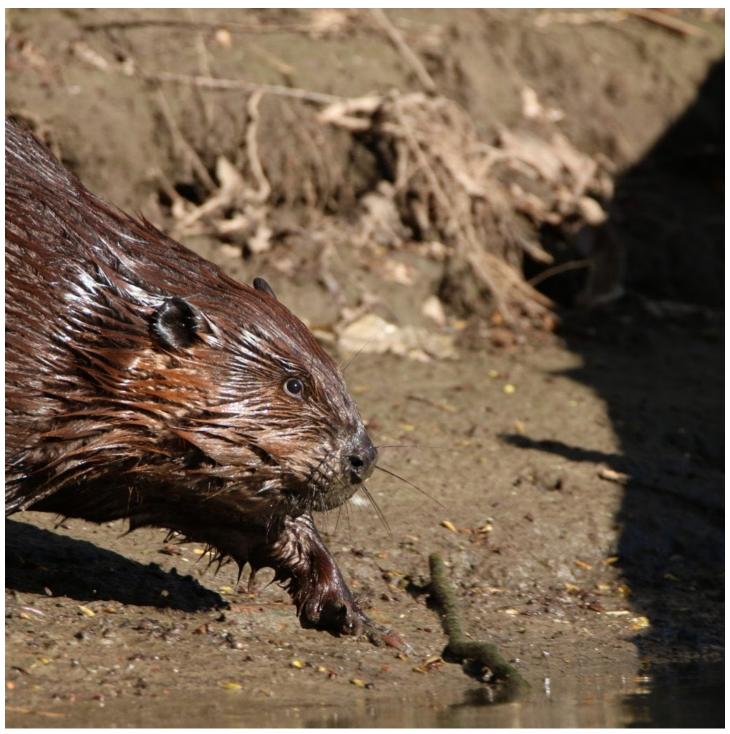
past 25 years. She currently volunteers with her local District Council, the West Side Community Council, and Audubon Saint Paul's Conservation Committee. Monica is a Latina who believes that it is critical to work across issues that affect everyone and to work for systems change at the same time. Monica's passions include environmental, women's, people of color, and GLBT issues. She feels extremely fortunate to pursue her passions for both people and the birds.

What I see in Monica's approach is a relationship to the sights unseen, and the abundant wildlife on our river.

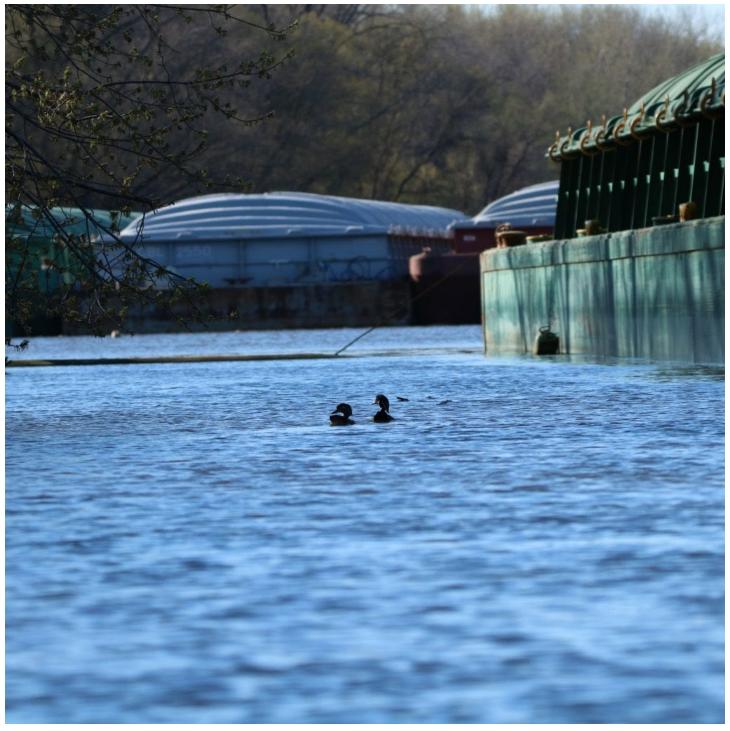


Raspberry Island. Photographer Monica Bryand.

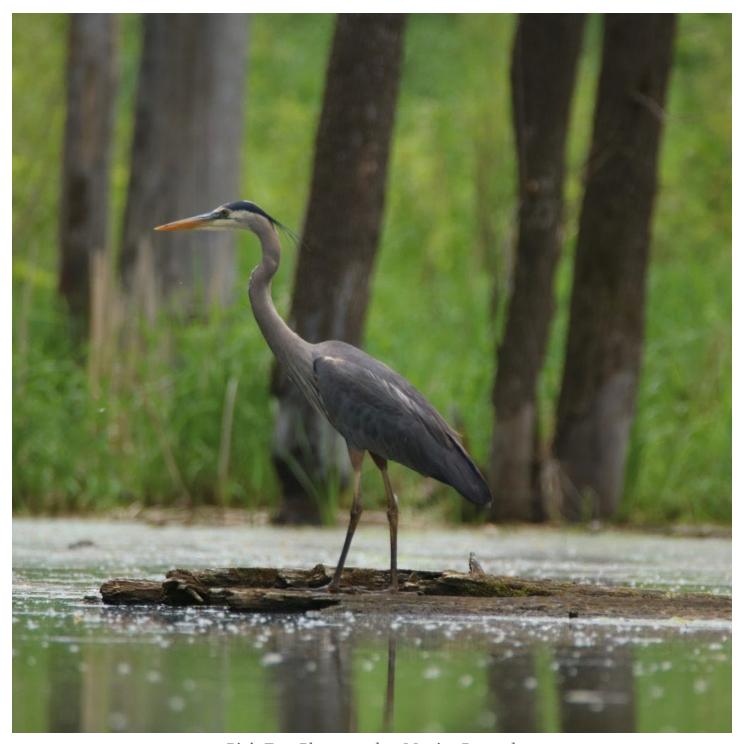
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Pig's Eye. Photographer Monica Bryand.



Pig's Eye. Photographer Monica Bryand.



Pig's Eye. Photographer Monica Bryand.



Pig's Eye. Photographer Monica Bryand.

Monica takes most of her photos from her kayak on the river. She knows the art of silence and deep observation, and that the reward is presence of wildlife. The animals seem to present themselves to Monica. She captures their personalities, majestic, playful, or at peace, in the places no one else is looking. What makes her work more than just wildlife photography is the way she brings in the built world. Her images document the coexistence of the urban and the wild. The juxtaposition is the truth of our Saint Paul stretch of the Mississippi.

Erin D. Carter

Originally from San Francisco, <u>Erin Carter</u> grew up venturing out to the street fairs, parades, and protests of the city with her father's 35-mm camera and spending hours in the Harvey Milk Photo Center darkroom. The year after graduating from San Francisco State University with a bachelor's degree in geography, she moved to New York's Adirondack Park to work on a backcountry AmeriCorps trail crew. It was there that Erin joined her love for the outdoors with her passion for photography, taking pictures when she wasn't

wielding a crosscut saw. For the last three years, she has been volunteering seasonally with Saint Paul Parks and Recreation's Natural Resources division to battle invasive plant species and photograph volunteer events. Erin enjoys using photography to explore people's relationship with the natural environment.

What I see in Erin's approach is an unveiling of the human hand in natural landscapes.

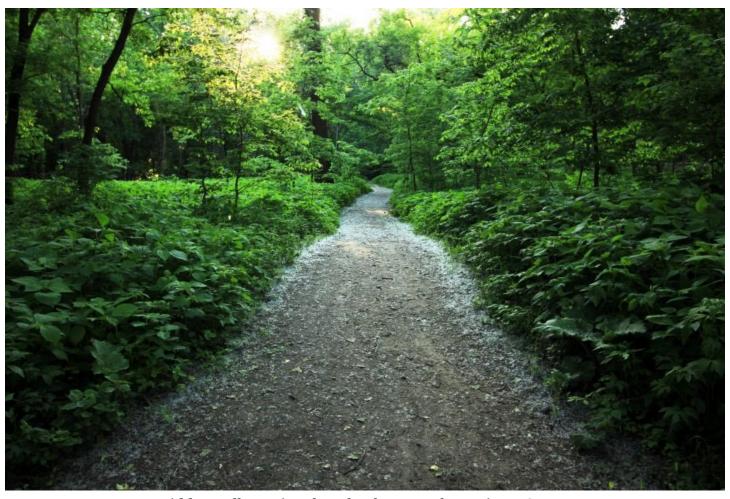


Hidden Falls Regional Park. Photographer Erin D. Carter.

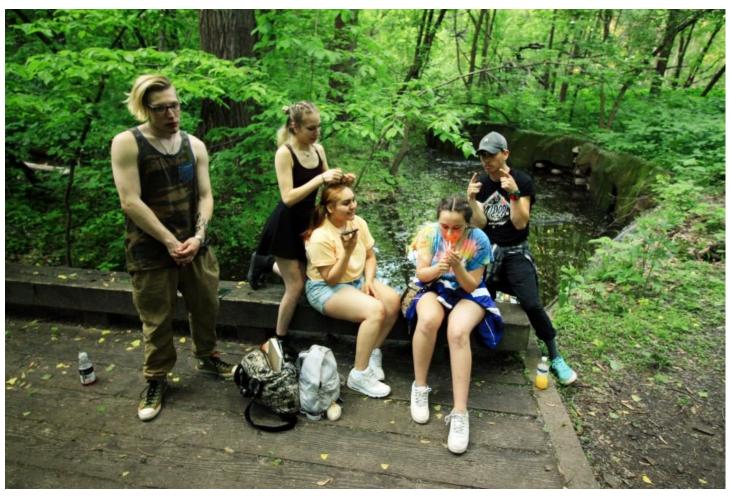
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 $Shadow\ Falls\ Park.\ Photographer\ Erin\ D.\ Carter.$



Hidden Falls Regional Park. Photographer Erin D. Carter.



 ${\it Hidden Falls Regional Park. Photographer Erin D. Carter.}$



Hidden Falls Regional Park. Photographer Erin D. Carter.

Erin is a conservationist. She knows that caring for the land comes only from our relationship with it. Her camera captures this connection. Her photographs at first glance may seem to display the magic of a mid-spring floodplain forest. Look closer, and you will see reverence for the craft of trail building equal to the reverence for the

Cottonwoods that the trail wanders through. She shows us the ways people make in and take in the riverbanks. The couple in hammocks. The young people socializing. The fort left behind. Her photos expose the imprint that humans make on the river and that the river makes on them.

Chris Juhn

Chris Juhn specializes in photojournalism and sports photography. He got his start in photography when he bought a point and shoot camera, photographing every day and everywhere. Photojournalism for him is a way to tell stories of the subjects he captures in a way that can help others have a deeper understanding of what someone else experiences. It's also a way for him to participate in moments that he wouldn't be able to have without photography. Through images much can be told, and through the human experience we understand emotions, struggles, and many other things.

Chris currently attends Dakota County Technical College in Rosemount, Minnesota, where he studies photography. In addition, he freelances for Minnesota Public Radio, the Minneapolis Spokesman-Recorder, and Sport Ngin. He is connected to contemporary social justice movements documenting the Black Lives Matter movement in Minnesota and Standing Rock in North Dakota. His long-term goals are to do photography projects locally, nationally, and internationally, covering issues and stories around the globe.

What I see in Chris's approach is the consideration of the river as an emotional and epic place.



Ford Dam. Photographer Chris Juhn.

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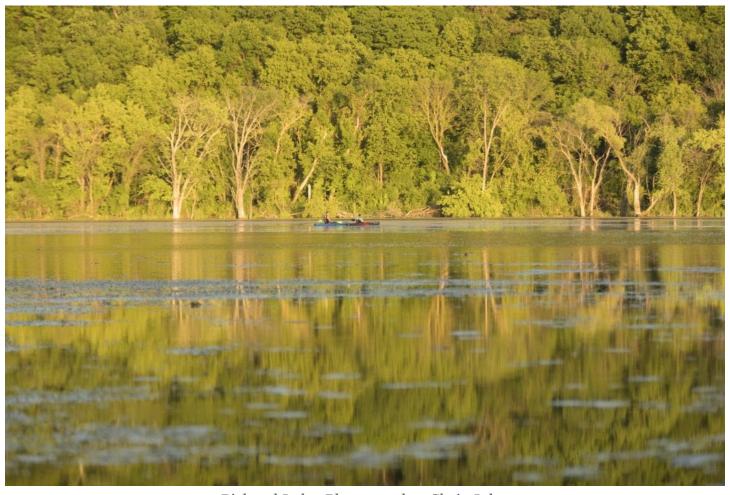
Lilydale to St. Paul. Photographer Chris Juhn.



 $Lily dale\ to\ St.\ Paul.\ Photographer\ Chris\ Juhn.$



 $Lily dale.\ Photographer\ Chris\ Juhn.$



 ${\it Pickerel\ Lake.\ Photographer\ Chris\ Juhn.}$

Chris brings a photojournalistic technique to the river. The results are candid honest images of the river's various personalities. The river becomes almost human in his compositions. Rushing, tidal, or smooth in the light of the city skyline, his photographs draw emotion from water. His

images present the river as an epic and constantly shifting place. Viewing Chris's work reminds us that the river we commute along or across daily is majestic, compelling, and not to be taken for granted.

#STPriver

In addition to our resident photographers, we have called the public to join us in documenting the river by using <u>#STPriver</u>. We are encouraging a four-season, four-category framework of:

The Natural River

wildlife, landscapes, water, etc.

The Working River

• industrial, barges, boats, public works, etc.

The Urban River

• city, architecture, infrastructure, etc.

The People's River

• all ages, all activities—recreation, event, social, etc.

What I see in the public's approach is the river as a marker of time, place, and context for our lives. Graduation, engagements, or post-marathon selfies, some people mark life occasions through river photography. Others use it as a study in beauty, directing the camera's frame on a sunset, the foggy morning, or the rare moments when the river seems still and perfectly reflects the sky. And, there are still others who click their shutters as an attempt to freeze time and place, though the river defies it.

We are only a month into the residency and already the work is drawing us to the river in a new way. Watch the work unfold at http://greatriverpassage.org.

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About the Author

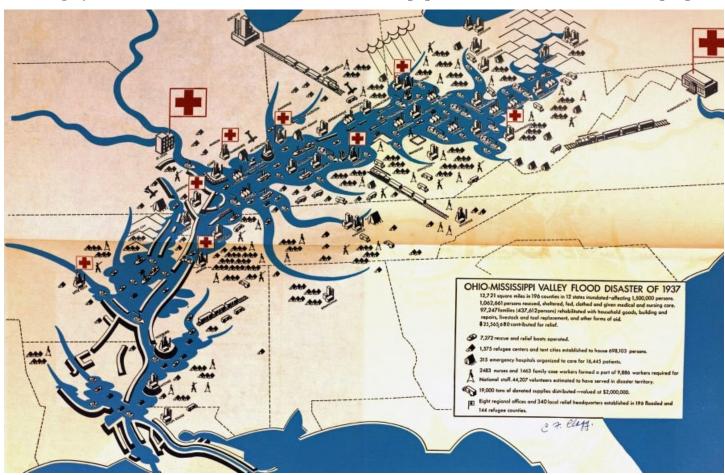
Angie Tillges is the Great River Passage Fellow. She is a public space artist and educator who is skilled at working with public institutions and community organizations on projects of social, artistic, and ecological importance. She leads projects that provide people the opportunity to make personal and lasting connections with public spaces in their communities.

TEACHING AND PRACTICE

THE FLOW OF HEALTH, WATER, AND INFOR-MATION IN THE MISSISSIPPI WATERSHED

By Reba Juetten

In physical space, where is the Mississippi River? This may seem like a relatively straightforward question, but from the perspective of a historian, I think a different question—What is the Mississippi River?—needs to be answered first. On a map, the location of the Mississippi seems relatively easy to identify as the blue line that roughly bisects the United States.[1] Take into consideration the wider watershed and natural changes to the riverbed and water levels, and, on the ground, the river is not so easy to identify. Treating the river as a historical object adds more layers of meaning, specifically the layers of human experience. The historical Mississippi is the river recorded in the memories, photographs, newspaper articles, and newsreels of the people



Artistic rendition of map of the Ohio-Mississippi valley flood disaster of 1937, showing
American Red Cross locations. Not to scale.
Image courtesy of University of Southern Indiana Library.

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who have experienced it in the past. Tracking down the locations of these parts of the river—the conceptual river—was the goal of my research assistantship at the Institute for Advanced Study at the University of Minnesota during fall 2016.

My aim was to locate documents related to health in the Mississippi watershed, so I started my search with a map of the watershed. As I determined which search terms would be most useful for locating documents kept in archives across the United States, I decided to pair a subject term, like "malaria," with a tributary term, like "Ohio River." This helped me to search for documents related to events that happened in a broader swath of the watershed, but it also was imperfect. Rather than getting blanket coverage of the entire watershed, I still captured only documents that were already associated with the river, so if someone had malaria somewhere in the middle of Ohio, even if it was in the Mississippi River watershed, I probably would not have found records of it with my search. In this case, the "watershed" was a swath a few miles wide on either side of major tributaries.

This issue with capture was less of a concern with my most fruitful subject search, "floods." More than one-third of the 1,500 document citations I collected are associated with flooding of one or more tributaries in the Mississippi watershed or the Mississippi River itself. Many rivers have flooded repeatedly in the same place: the Ohio River, for example, had major floods in 1884, 1913, 1936, and 1937.[2] If you have any experience with the river, you are likely not surprised by this, but the repeated flood events add another relevant layer to my initial question: Where is the river? And where did the historical residents of Pittsburgh think the river was? The river is poorly represented by a line on a map, in part because it changes and moves. Sometimes, when the water is high, the Ohio River and the city of Pittsburgh are one and the same. Geographically speaking, where I find the river today may be very different

from where I will find the river tomorrow, depending on whether the snow starts melting.

What stays the same is the place where the river was, say, in the spring of 1937. This definition of place, along with a record of impact, are the kinds of things the archival record preserves. According to one stylized map of the 1937 disaster, the river was much, much wider than a line, engulfing cities including Pittsburgh, Cincinnati, Louisville, St. Louis, and Little Rock.[3] The map, intended to show the extent of response to the disaster, includes a visual representation of where aid boats, clinics, and supplies were deployed, along with the numbers of each. Along the Ohio and Mississippi Rivers, 12,721 square miles and 1.5 million people were affected. More subtly, the map also suggests why some places remained unaffected, by including the levees that edged the river south of Cairo, Illinois and, evidently, surrounded Vicksburg and Natchez, Mississippi.

Both immediate and long-term responses to floods are recorded in archival documents in the form of government reports, maps, oral histories, manuscript letters, and film reels. Documents related to the Mississippi watershed are distributed at archives concentrated in the watershed. The Minnesota Historical Society (MNHS) houses one particularly strong collection, in part because it includes both the state archives and those of the historical society. It is also well organized and well connected to national databases, and it contains thorough item descriptions and, frequently, extensive finding aids detailing collection contents. Of the 1,500 relevant documents I recorded, the 100 from the MNHS collection represent the largest holding of a single archive. The collections of the Linda Hall Library in Kansas City were also relevant to flooding on the Mississippi River, though less related to health. As a repository for documents related to engineering, their collections of documents related to the U.S. Army Corps of Engineers and flood control are extensive. In contrast to the topically organized collection of the Linda Hall Library, the

archives at the University of Wisconsin-La Crosse has a river-related collection of a particular type of materials: oral histories. These oral histories were primarily collected between 1999 and 2007, but focus on life along the Mississippi River in the mid-twentieth century and cross topics from childhood memories of fishing and boating on the river to opinions about flood control. Together, the collections at the MNHS, the Linda Hall Library, and the University of Wisconsin-La Crosse represent a cross-section of the types of archives with relevant documents—government, private, and university archives.

The narratives of health in the Mississippi watershed are not confined to the Midwest and neither are the archival materials related to them. From the Huntington Library in Los Angeles County to the New York Botanical Garden in

the Bronx, river-related documents appear in collections related to medicine and public health. The UCLA Film Archives offers another collection organized by material type, containing many newsreels that included flooding highlights from the 1920s through the 1960s. These and other archives demonstrate the interconnected nature of a history of the Mississippi River and show that archival information flows in different directions and amounts than the river itself. They also indicate that a raft trip down the Mississippi River would not get a researcher anywhere near many of the documents related to the history of the watershed, not only because many state and university archives are located some distance from the river, but also because the conceptual river is part of a much larger history of the United States dispersed in archival form across the country.

Footnotes

[1] Even this is not nearly so straightforward, especially near the headwaters. For one thing, the river is too narrow to show up on maps. In addition, geographic surveys are hard to complete and can be biased. See: http://www.startribune.com/minnesota-history-controversy-at-the-mississippi-s-headwaters/294522401/

[2] Of course, there were floods in many other years; these are just the ones best captured by the archival documents I recorded.

[3] All of the archival documents referenced in this piece are digitized and available online. http://library2.usi.edu:8080/cdm/ref/collection/1937 Flood/id/2190.

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About the Author

Reba Juetten is a Ph.D. candidate at the University of Minnesota in the History of Science, Technology, and Medicine Program. Her primary research focuses on the history of botanical gardens in the United States and their public programs, with an emphasis on the importance of place, broadly defined, in their development. Though studying the Mississippi River is not directly a part of this work, rivers continue to work their way back into her research projects.

PRIMARY SOURCES

FORT SNELLING AS I KNEW IT

By Catherine Watson

When he was nine, my brother Steven enlisted the rest of the kids in our isolated neighborhood to help him build earthworks in the empty field behind our house. Not a fort—we already lived in one of those—but a replica of Little Round Top, a crucial site on the Gettysburg battlefield.

It made perfect sense: When your home is an historic place, some of that history is bound to rub off.

In Steven's case, it turned him into a nationally recognized collector of Civil War literature. It made me a writer and a devoted believer in



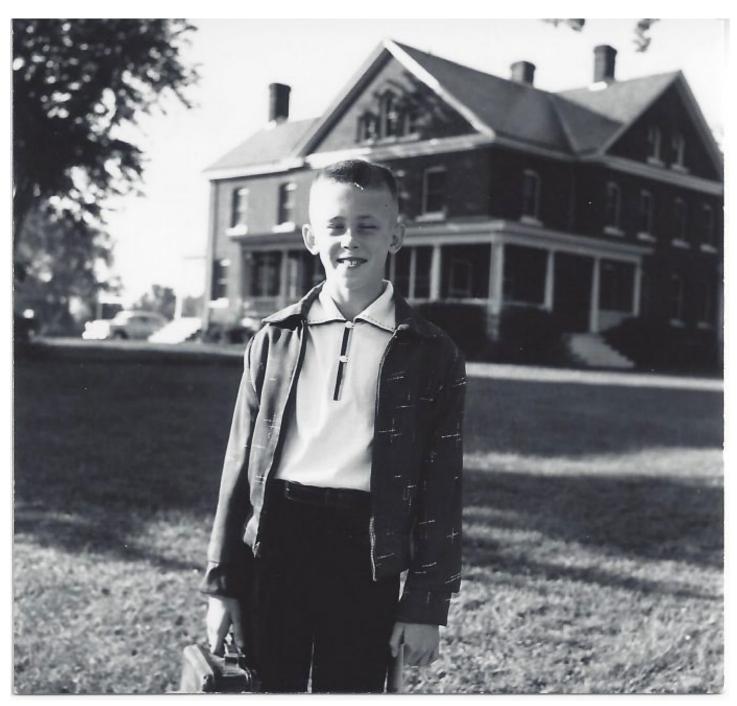
1895 aerial view of Taylor Avenue, Fort Snelling's Officers Row. Digital image Courtesy of the Minnesota Historical Society.

historic preservation, particularly of our peculiar home town—Fort Snelling, Minnesota. I don't remember a time in my childhood when we weren't plotting to save it.

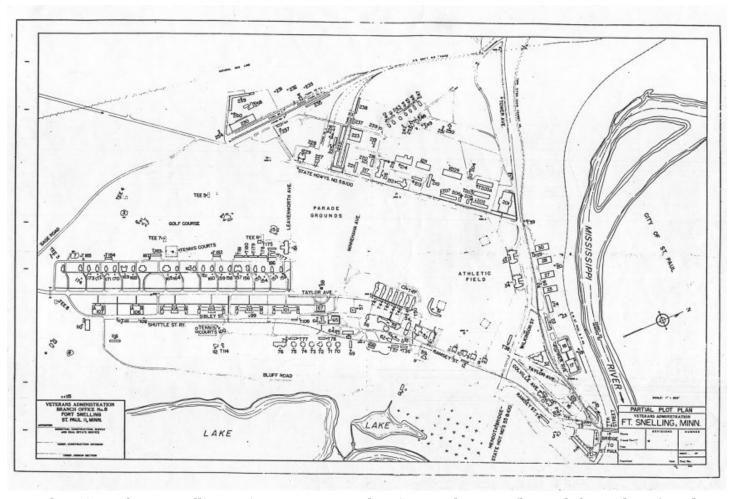
The Fort was started about 1819 on a strategic—and still imposing—promontory high above the confluence of the Mississippi and Minnesota

Rivers, a place known to the Dakota people as Bdote, meaning "place where two rivers meet." The Fort never saw battle, but it nailed down the U.S. claim to this part of the continent.

It was decommissioned twice—once just before the Civil War (during which its civilian owner grazed sheep inside the walls) and again after



Steven Watson in front of 8 Taylor Avenue home in Fort Snelling, Minnesota, about 1952. Image by Richard E. Watson, M.D., courtesy of the author.



Plan view of Fort Snelling, Minnesota, 1950, showing Taylor Ave. (lower left quadrant) and other streets on the Upper Post. Source: Veterans Administration.

Digital image courtesy of the Minnesota Historical Society.

World War II, when the by-then much larger military post was transferred to the Veterans Administration (VA).

That was fitting: Several hundred thousand Midwesterners had been processed through Fort Snelling during the war and were eligible for VA benefits. That meant a lot of paperwork, and it was managed here.

Our dad was a VA doctor, which qualified us for housing on base. Between 1950 and 1973, we

lived in three different houses on what is called the Upper Bluff or Upper Post, all quirky, all historic, all irreplaceable.

Two still stand—a little one-story brick cottage overlooking I-494, near the entrance to the international airport, and a mansion-sized, slate-roofed duplex at 157 Taylor Avenue, always known as Officers' Row.

In between, we lived farther north on Taylor Avenue, in a short row of red-brick houses that



The Watson family lived in three different houses in Fort Snelling, including Officers' Quarters at 157 Taylor Avenue. Library of Congress.

stood close to the Mendota Bridge. A giant boulder with a bronze plaque anchored the edge of our yard, commemorating the 1820s location of Indian agent Lawrence Talliafero's trading post.

I don't know where that monument is now. I haven't seen it since our house was destroyed, along with our neighbors' houses and the very land they stood on, to make way for I-494.

Even now, I never drive across the Mendota Bridge without a quick glance to the south, because there's a point out there in mid-air that I once called home. That house might still be standing if our childhood sabotage had succeeded. Before the land was bulldozed away and the freeway built, teams of surveyors had stalked the bluffs above the Minnesota River, pounding wooden stakes into the ground to mark the future freeway's curves. Steven and I (and the Hagen kids and the Tonozzis) set out to stop it.

We began pulling up the surveyors' stakes and moved them, making the smooth curves wildly jagged. It did no good. But such is the nature of children: They believe they can save the world.

I think Fort Snelling itself taught us that. The very air was full of heroes. My dad's patients included veterans of every war from Spanish American to Vietnam. At the beginning, I believe



Barracks buildings on Taylor Avenue being torn down. Image by Richard E. Watson, M.D., courtesy of the author.

he even saw a few elderly Civil War widows—very young girls who had married very old soldiers and then outlived them.

The Fort was also studded with trophies of heroism. We saw them every day, as we rode a yellow bus into Minneapolis for school.

There was the clock-tower building, once headquarters of the Department of the Dakota, overlooking the broad lawns of the parade grounds. And the nearly mile-long row of yellow brick barracks on the far side of Taylor Avenue, built for the Spanish-American War. And the grave of Whiskey, a trick horse so famous in the 1930s that he was given his own white headstone, just like the human soldiers in the national cemetery nearby.

My favorites, though, were the buildings on The Point, the earliest part of the Fort. It looked very different in my childhood, starting with its now-familiar gray stone walls. They weren't there. The original walls were torn down after the



Barracks buildings on Taylor Avenue being torn down. Image by Richard E. Watson, M.D., courtesy of the author.

Civil War and not replaced until the Minnesota Historical Society (MHS) rebuilt them in the 1960s to frame its living-history restoration, considered among the best in the country.

The Commandant's House and the other buildings of The Point were originally one-story structures of that same gray stone, but by my childhood, they had been given second stories, cream stucco exteriors and Spanish-style terracotta tile roofs, a touch of California style in the Middle West. Proof, perhaps, that even the U.S. Army is sensitive to architectural trends.

One kid's mom had the keys to the Round Tower—the oldest building in Minnesota—and she would sometimes let us in for careful looks. I remember being disappointed that you couldn't see out of the gun slits.



Round Tower at Fort Snelling, 1934. Photographer Floyd W. Brown with the Historic American Buildings Survey. Library of Congress.

We didn't need keys for our other favorite, the Hexagonal Tower. A surviving fragment of the original walls, it hadn't been touched, which made sneaking in both scary and exciting. Nobody watched us there. It was empty, except for a narrow plank walkway around the inside, near the top. Miss a step, and it was a multi-story drop to the rubble below.

The VA's tenure ended in 1973, and my family's life at the Fort ended with it. The VA administrators told their staffs—and my father told Steven and me—that the Upper Post was going to be turned over to the Department of Natural Resources (DNR) and torn down. That news wasn't made public.



Hexagonal Tower at Fort Snelling, viewed from the southwest. Library of Congress.

The Fort had already lost the south half of Officer's Row, demolished for an expansion of the airport. Now the rest of the Fort was doomed, and I was appalled: All that history would be gone, as if it had never happened.

By then, I was a reporter for the Minneapolis Tribune, and I did the only thing I could: I wrote about it, interviewing officials of the VA, the DNR and the Minnesota Historical Society. It felt a lot like pulling up surveyor stakes again. The plan, a DNR official told me in a 1974 interview, was to do "foundation restorations." Which meant?

Tearing the buildings down, filling in their basements and running grass up to the foundations, inside and out, so the land would be flat and therefore safe for recreation, but you'd still know what had stood there.

It wouldn't have been enough: To care about history, people need to know how the past felt,



Officers Row demolished for airport construction. Image by Richard E. Watson, M.D., courtesy of the author.

need to be able to imagine themselves being part of it, and for that, you need bricks and mortar.

Historic buildings like Fort Snelling's are souvenirs of our long shared journey, hooks for our collective memory. Once the buildings are gone, history becomes anchorless—untethered words on a page, facts in a book, signs beside an empty field. Important, sure, but not quite real.

It's now been more than 40 years since a DNR official told me, "They can't go another winter or they may reach the point of no return." Or, as the

VA's chief engineer put it, "Those buildings are shot."

Back then, the Minnesota Historical Society was focusing its limited resources on restoring the Lower Post, the original fortress. But the Upper Post was also on the state and National Historic Registers, and tearing it down required the society's permission. The MHS never gave it.

So the buildings stood. That's the key, the essential first step in historic preservation: Keep 'em standing long enough, and wiser people



Demolition for airport construction. Image by Richard E. Watson, M.D., courtesy of the author.

may come to the rescue. Which is what finally happened.

In the decades since the DNR didn't tear them down, Officers Row and the rest of the Upper Fort have been championed by citizen groups, by the National Park Service, and by Hennepin County, through a work-release program that trained offenders in roofing, masonry and other preservation skills.

Several residences (though not yet ones on Officers Row) have been rehabbed with federal funds to provide housing for veterans. And in April 2016, the National Trust for Historic Preservation added the Fort to its elite list of National Treasures. It has even gained a new, more inclusive name — Bdote Fort Snelling.

Like me, many of the Fort's children, though grown and scattered, still stop by from time to time to check on our old home, at first mourning its decay, now applauding its revival. But it still feels like an awfully close call, and I'm not quite ready to exhale yet.

When the Fort closed, some of us took pieces of it away. I have a pair of brass handles from the front doors of the clock-tower building, for one example. Another kid has the cast-iron fireplace inset that came from her family's Fort Snelling living room. And there are others.



Barracks demolished for airport construction. Image by Richard E. Watson, M.D., courtesy of the author.

We didn't think of this as stealing, any more than we thought replicating Little Round Top was merely playing. To us, this was salvage.

When the restoration of the Upper Post is finally guaranteed, we will give these things back. For now, they are in safe hands. But we're all still keeping our eyes on the agencies that are

committed to saving the Fort—watching, just in case we're needed again, to make sure they finally do.

Postscript: On May 26, 2017, the Minnesota State Legislature authorized spending \$4 million to revitalize Historic Fort Snelling—in time for its bicentennial.

For additional reading on Fort Snelling:

DeCarlo, Peter. 2017. Fort Snelling at Bdote: A Brief History. St. Paul: Minnesota Historical Society Press.

Osman, Stephen E. 2011. Fort Snelling Then and Now: The World War II Years. St. Paul: The Friends of Fort Snelling.

-2017. Fort Snelling in the Civil War. St. Paul: Ramsey County Historical Society 2017.

Snowbeck, Christopher. 2011. "Vacant Fort Snelling Buildings to Be Fixed up for Homeless Veterans." *Pioneer Press TwinCities.com*. http://www.twincities.com/2011/11/13/vacant-fort-snelling-build-ings-to-be-fixed-up-for-homeless-veterans/.

Watson, Catherine. 1974. "What about the Rest of Fort Snelling?" *Minneapolis Tribune (Picture Magazine)* Sunday, August 11.

Additional on-line resources related to Historic Fort Snelling include:

http://www.mnopedia.org

http://www.historicfortsnelling.org/

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Catherine Watson, MA, University of St. Thomas; BA, University of Minnesota, is the recipient of the University of Minnesota's College of Continuing Education's Distinguished Educator Award. She is the former travel editor of the *Star Tribune* and a recipient of the Lowell Thomas Travel Journalist and Photographer of the Year distinctions. Watson's most recent book is *Home on the Road: Further Dispatches from the Ends of the Earth* (Syren, 2007).

IN REVIEW

NATIONAL PARKS: CAN "AMERICA'S BEST IDEA" ADJUST TO THE TWENTY-FIRST CENTURY?

By Patrick Nunnally

National Parks are often referred to as "America's best idea." Recent scholarship and well-publicized difficulties within the agency have shown that, perhaps inevitably,

the National Park Service and the extensive system that it manages, has taken on important characteristics of the society of which it is a part, for better or worse. It's increasingly difficult, to



Iron sculpture by Native American artist Colleen Cutschall commemorates the Native Americans (Crow tribe) who died fighting for their homelands in the 1876 Battle of Little Bighorn. The monument is located at the Little Bighorn Battlefield National Monument. (CC BY-SA 3.0)

borrow a phrase, to make the argument for "NPS Exceptionalism," as if the parks and the service that manages them are somehow lifted above all of the messy society, history, and humanity in which they are embedded.

Still, though, there is something uplifting for many of the service's staff, and certainly the millions of users, about the national parks, whether iconic spots such as Yellowstone or Glacier, or the smaller, more tightly focused places that depict so much of the nation's history. The year 2016 marked the centennial of the National Park Service; one of the commemorative projects marking the occasion was the development and publication of a book, *A Thinking Person's Guide to America's National Parks*. This volume, and

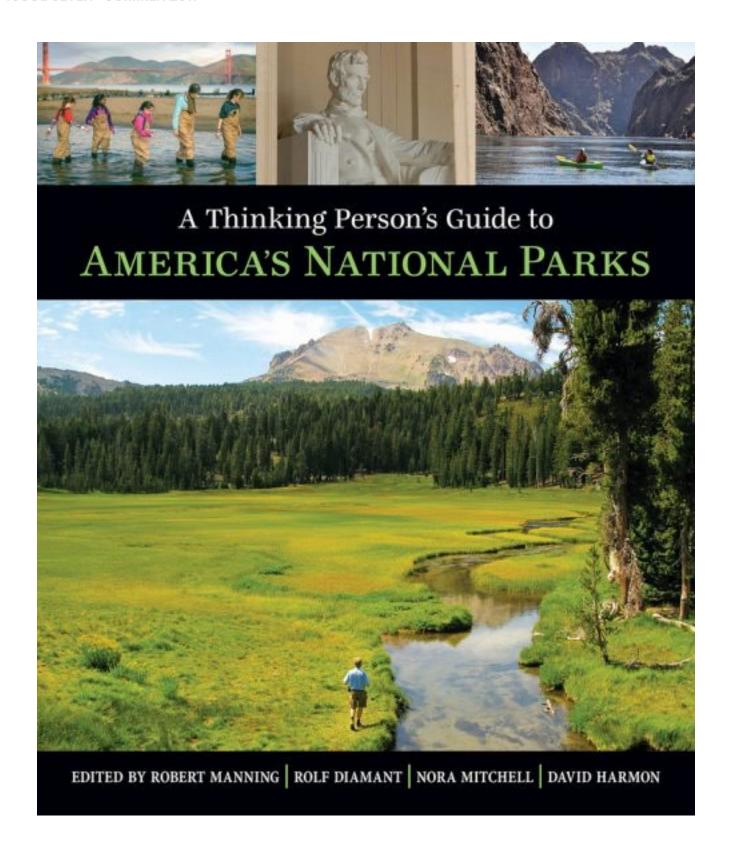
the issues raised by the some two dozen contributors, provide an important jumping-off point for a number of significant inquiries into the nature, meaning, and future of national parks. The book has an overall celebratory tone, but is very clear in its message that the national park system still has a ways to go before it can live up to its potential as "our great public commons" (262).

Frankly, the book's title requires comment. As the editors explain in the first chapter, they intend to distinguish this volume from the dozens, if not hundreds, of travelers' guides to national parks. Those are certainly important resources, but this book is written for an audience already familiar with the broad confines of the park service's history, mission, and overall structure. This is a



Lake MacDonald at Glacier National Park. In 1850, there were 150 active glaciers in the area that became the park. Today, there are 25; researchers predict they will be gone by 2030.

Image courtesy of Phyllis Mauch Messenger.



Robert Manning, Rolf Diamant, Nora Mitchell, and David Harmon, eds. 2016.

<u>A Thinking Person's Guide to America's National Parks</u>. New York: George Braziller Publishers.

\$24.95, paper, 2-304, illustrations, "Sources and Resources" list.

book designed for repeated use and exploration, for readers who want to understand particular issues and questions about the system as a whole more deeply.

Accordingly, the book consists of 23 chapters, each of which has a similar structure. The chapter author or authors write about their introduction to, and experience with, the subject at hand, then address the broad framing of how this issue has emerged and is part of the park system today. Finally, they close with brief assessments of key parks where this particular idea can be most readily understood. Given the very broad range of subjects chosen, this approach works well for

the most part. Some chapters, such as those that focus on the parks as recreation resources, as places for lifelong learning, or as oases of biodiversity, are readily recognizable national park subjects. Others may surprise readers who have a more traditional sense of the parks; partnership parks, parks as sites for difficult conversations and parks in urban areas all are not perhaps what come immediately to mind when thinking "national parks." The authors, generally longtime NPS staffers, academics, or nonprofit leaders, can't mention every single one of the 400+ units of the national park system, but many of them recur throughout the book. These are stories



A quarry pit, where catlinite for the sacred pipes is quarried by hand at Pipestone National Monument, Minnesota. Image via National Park Service.

about Golden Gate National Recreation Area just as much as they are about Grand Canyon.

On the whole, the book works as an exploration of a number of very important themes and topics. Every chapter offers good insights and would reward coming back to in order to refresh a reader's thinking. An accompanying web site is valuable, particularly for the college-level syllabus that has been drawn up to accompany the book. The syllabus groups topics and themes, from chapters on the history of the American conservation movement and the National Park Service through overviews of the park system's preservation of recreational opportunity, natural spaces, historic sites, and broader trans-park themes such as education in the parks, parks as

sites for scientific study, and parks as sites of engagement with the broader community. The syllabus strategy of grouping two to six chapters according to an even broader idea allows the individual chapters to appear more connected, less as atomized individual units. The book would perhaps have been better if it had been grouped likewise.

The final substantial course theme, which opens with the book chapter on "Indigenous Voices," has the most to offer for people engaged with new thinking about rivers and community. It's important to note that Indigenous issues are mentioned throughout the book, but it is welcome to see the inclusion of a chapter, by Melia Lane-Kamahele (Native Hawaiian), focused



Cottonwoods and bison along the Lamar River in Yellowstone National Park.

Yellowstone is referred to as the world's first national park and is known for its geysers and wild animals, including bison and grizzly bears.

Image via National Park Service. Photographer Neal Herbert.

on the fraught relationships between Indigenous people and the park system. Lane-Kamahele lists two "must do" tasks with respect to Native Americans: first, create genuine collaboration with Indigenous communities, and, second, "help non-Native people realize that their understanding of America can never be complete until Native viewpoints are included" (121). These two goals, one of which addresses part of the violent heritage on which national parks are built in the first place, and the other as a model for relationship-oriented, integrated understanding, might actually be seen as essential for the National Park

Service to move fully into the twenty-first century and achieve its potential as a central institution for all of the country.

Let's take Lane-Kamahele's goals up sequentially. For the NPS to create genuine collaboration with Indigenous communities, it will have to acknowledge that many of the iconic large Western parks were created specifically through the violent removal of Indigenous populations. Furthermore, this realization adds nuance and resonance to the needed awareness that the "nature" managed by the NPS is not a static set of plants, animals, and



Scene of barrack homes at this War Relocation Authority Center for evacuees of Japanese ancestry at Manzanar. A hot windstorm brings dust from the surrounding desert.

Photographer Dorothea Lange, 1942.

landscapes, which can be managed or restored solely to suit human desires.

The second point, that we won't fully understand our country until we understand the perspectives of the people who inhabited these lands first, leads to a similar set of consequential relations. The NPS uses the term "civic engagement" to address the concept that parks are sites for complex stories about issues in the country's past that are still vexed, controversial. Many traditional park users seek a "triumphalist" narrative at NPS sites, where conflict and difficulty are all located in the distant past, and where "it all turns out well in the end." Increasingly, parks are resisting the pressure to tell safe simple stories, sometimes by developing new interpretation at longstanding sites, and sometimes by bringing into the system

new sites, such as Manzanar National Historic Site, a California location of a World War II-era Japanese internment camp. As the NPS brings American Indians back into the "national story" that it tells in the parks, that effort opens the way for inclusion to become the default mode for understanding the populations of the country.

The last chapter of *A Thinking Person's Guide* to *America's National Parks* does indeed give readers much to think about. Iconic "natural" landscapes such as Yosemite, Glacier, and the Great Smoky Mountains are being irrevocably altered by a changing climate. Parks as many remember them will not be the same in 50 years. At the same time, the population of park users and visitors is changing, just as rapidly and irrevocably as the park's physical landscapes.



The Ford Parkway Bridge across the Mississippi connecting Minneapolis and Saint Paul in the Mississippi National River and Recreation Area. Image via National Park Service.

Park users are urban; some may not have the resources to travel far to large "natural space" parks far from home, and they are quite likely to ask different things of their parks than previous generations. Importantly, studies are showing that the lack of stories by and about "people who look like me" is a hindrance to attracting a more diverse constituency to the many national parks.

Water—rivers, lakes, streams, and the ocean—forms the heart of many of the country's best-known and most-used national parks. Managing those watery spaces, and making them more

accessible and meaningful to a broader array of the country's population, would be a very significant step in the continuing evolution of the national park system as truly "America's common ground." The national park system enters its second century with a very strong base on which to build a twenty-first century system, one that is more evidently welcoming to broader segments of the population and that serves as a demonstration lab for responses to a changing climate. For people who will be leading that effort, or who will be supporting it from positions outside the National Park Service, this book shows the way.

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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.