

The mission of Mississippi Park Connection is to strengthen the enduring connection between people and the Mississippi River by enriching the life of the river and the lives of all who experience our national park, the Mississippi National River and Recreation Area. Park Connection supports the park's environmental stewardship and education programs, including outdoor recreation, education, and volunteerism.



In 1988, a national park was created in Minnesota to preserve, protect, and enhance the significant values of the waters and land of the Mississippi River corridor.

Known as Mississippi National River and Recreation Area, the park extends for 72 miles along the river, running through the heart of the Minneapolis/Saint Paul metro area.

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Photo by Gerald Hoekstra

MISSISSIPPI RIVER NEWS

111 Kellogg Blvd E, Suite 105
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MISSISSIPPI RIVER NEWS

Newsletter of Mississippi Park Connection & the
Mississippi National River and Recreation Area

Fall 2017–
Winter 2018

WELCOME

Spotlight on Park Science

Katie Nyberg, Executive Director, Mississippi Park Connection



The Total Solar Eclipse of 2017 created a nationwide frenzy, which inspired people to follow the moon's path throughout the U.S. and in many cases, through national parks. It felt like the whole country was joined together by science. But even after the excitement of rare scientific events fades, our park scientists are still on the job—tracking wildlife, checking water quality, and monitoring trees.

In this newsletter you'll get a behind-the-scenes peek at the everyday scientific inquiry that goes on in our park and get to know our intrepid rangers that are out in the field every day.

Ranger Sam has been hard at work monitoring the eight bat species that live in our park, including the four cave-dwelling species that are threatened by white-nose syndrome. Ranger Allie spends many of her summer days underwater looking for endangered freshwater mussels, and many winter afternoons out in the field monitoring the park's river otter population. This year we are partnering with the National Park Service to create a forest-management plan that will help us maintain a resilient forest in spite of the inevitable demise of ash trees due to the emerald ash borer.

Mississippi Park Connection is proud to support scientific work in our park. Thanks to generous members and donors, we enable important research that will protect and improve habitat and make our park a better place for all to enjoy.

NPS WORD

Connecting Our Research to the Region

**John Anfinson, Superintendent,
Mississippi National River and Recreation Area**



This publication will give you a peek into the science the Mississippi National River and Recreation Area and Mississippi Park Connection are conducting, but we are part of a larger National Park Service effort. We work closely with the Great Lakes Inventory and Monitoring Network (Network) and the Great Lakes Education and Research Center (GLREC). The Network conducts scientific research in national parks along Lake Superior and Lake Michigan, as well as Voyageurs National Park, St. Croix National Scenic Riverway, and here. I have the opportunity and privilege to sit on the Network's board and as an adviser to GLREC.

The Network and GLREC help us think about how our resources fit into a larger landscape-scale context. You might be familiar with the Network's eagle monitoring along the river here, but it also looked at the St. Croix National Scenic Riverway and Apostle Islands National Lakeshore. The results varied among our parks, telling us that something different is going on with the environment at each one. GLREC has funded projects on the rusty crayfish invasion at Voyageurs National Park, climate change and distance learning at Sleeping Bear Dunes, examining human-environment disturbances related to prehistoric copper mining at Isle Royale, and our coyote howling surveys. We also receive funding from the Great Lakes Restoration Initiative, another effort to scientifically understand and restore our environment at a landscape scale. This funding has helped us hire Ranger Erin and her work, in partnership with Mississippi Park Connection, on habitat restoration projects. She doesn't just help restore the environment; she helps us teach the value of doing so. Check out the events calendar in this newsletter for opportunities to get involved!

Explore, Learn, and Protect

Alora K. Jones, Marketing and Communications Associate, Mississippi Park Connection



The motto of junior rangers across the country, “Explore, Learn, and Protect,” is more than a catchy slogan. It’s a promise to become an engaged steward of our nation’s most special places, our national parks.

The National Park Service’s junior ranger program offers park-goers of all ages the opportunity to experience and learn more about their national parks. Aspiring junior rangers can visit one of over two hundred park sites — including Mississippi National River and Recreation Area — to speak with park rangers, complete challenges, and get sworn in as an official junior ranger.

All junior rangers receive a special badge and junior ranger certificate for each park they visit and complete the

program in. Plus there are loads of other activity-based badges that can be earned for exploring and learning about a variety of topics, including bats, paleontology, and our night skies!

Join us on April 14 for National Junior Ranger Day, an afternoon of fun and educational experiences at the Mississippi River Visitor Center at the Science Museum of Minnesota. Learn about aquatic animals, explore the park via our interactive exhibits, and share in a commitment with junior rangers everywhere to be stewards of our national parks.

While most new recruits fall between the ages of 5 and 13, the program is open to anyone and everyone with a desire to explore, learn about, and protect our national parks!

SUPPORT YOUR PARK

Plant for the Future

By Anna Waugh, Development Coordinator, Mississippi Park Connection

A small but voracious insect with a big appetite is chewing its way through the Mississippi National River and Recreation Area. Emerald ash borer (EAB) is particular in choosing its victim, selecting only ash trees to house larvae that eat through the cambium layer of a tree’s trunk, eventually killing the tree from the inside out. Because of EAB, climate change, and other factors, major changes to the Mississippi River’s forests are on the horizon.

Ash trees provide habitat, prevent erosion on steep slopes, and provide a cooling effect that reduces the urban heat island effect caused by the surrounding cities. The risk of losing millions of trees in such a short period of time is a serious one, as it would clear the way for a takeover by invasive plants like buckthorn and honeysuckle, disrupting native habitats and risking their biodiversity.

To support the National Park Service in addressing EAB, Mississippi Park Connection has started a reforestation campaign called Plant for the Future. Through this initiative we will work with partners like the Science Museum of Minnesota and the Raptor Center to build eight community tree nurseries that will grow trees for the park and provide education about EAB. Our goal is to plant 5,000 trees along the river in the next three years and provide them with water and maintenance (through a partnership with Conservation Corps Minnesota & Iowa) — so that they will live long and healthy lives.



You can support Plant for the Future by purchasing trees, sponsoring a community tree nursery at your business or place of worship, volunteering, or making a donation to the campaign.

To learn more and make a donation, visit parkconnection.org/plantforthefuture.

Baby I’m Howlin’ For You!

Samantha House, Biological Science Technician, Mississippi National River and Recreation Area

I started working for the National Park Service during its centennial year in 2016 — a significance that was not lost on me. This is my second year with Mississippi National River and Recreation Area as a biological science technician.

All of my projects are wildlife-based. My main research is acoustic monitoring of bats throughout the river corridor. Bats in Minnesota and across North America are drastically disappearing due to a fungal disease called white-nose syndrome. As scientists search hastily for a treatment, I am trying to closely monitor our bat populations and protect known roosts. It is estimated that bats save Minnesota farmers roughly \$1.4 billion annually in pesticide usage because they eat so many bugs. We should all be paying closer attention to the bat devastation that is happening in our backyard.

Canids (members of the dog family) also fascinate me. Therefore, I am very enthusiastic about my coyote-howling surveys. These howling surveys are an opportunity for volunteers to participate in citizen science research as well as experience a wonderful wildlife interaction. Using a game-caller, we project a pre-recorded coyote call into the night at



parks throughout the corridor. If we are standing inside a pack’s territory, then the pack will respond to our call. It is indescribable when you hear the elicited response from a pack of wild coyotes!

In my free time, I enjoy camping, hiking, sitting by fires, volunteering, etc. — basically, anything outdoors related. A lifelong hobby of mine is photography and videography, which pairs well with my career.

Wearing the park ranger uniform (flat hat included) has always been a dream of mine. I am extremely thankful that the source of my National Park Service career began with Mississippi National River and Recreation Area. As my career starts to meander and flow on, I will always carry the knowledge and memories I gained here with me. Come howl with me sometime!

FEATURED SITE

Fort Snelling State Park

Alora K. Jones, Marketing and Communications Associate, Mississippi Park Connection

A local favorite among park goers of all ages, Fort Snelling State Park has a little something for everyone! Just a stone’s throw from Coldwater Spring at the confluence of two great rivers, Fort Snelling State Park boasts over 3,500 acres of parkland and offers loads of year-round recreational opportunities.

In the fall, enjoy 18 miles of hiking trails from which you can view the spectacular changing colors. During winter the park boasts 12 miles of cross-country skiing trails, plus several miles of multi-use trails and connections to some of the Twin Cities’ best bike trails. Rent snowshoes at the park office and go exploring!

When you’re ready for a break, you can warm up at the Thomas C. Savage Visitor Center, where you’ll find a fireplace, gift shop, and interpretive exhibits to learn more about the flora and fauna of this park. Be sure to check it out at Winter Trails Day on January 20, or anytime you find yourself with a few spare hours.



Winter Wildlife Surveys

**Allison Holdhusen, Biological Science Technician,
Mississippi National River and Recreation Area**

In mid-January, the frigid wind is blowing snow drifts across the icy Mississippi River banks. Many are happy to spend the afternoon warm in the office, considering the snowy commute to work arduous enough for the day. Yet the park biologists and volunteers are gearing up and heading out into the cold. They will spend the day trekking through snow and ice, searching for tracks and signs of one of the river's most fascinating and elusive animals: the playful river otter.



Nature enthusiasts are thrilled to see river otter have returned and made a comeback from near extinction to the Upper Mississippi River watershed since the 1980's, when reintroduction efforts spurred their recovery from over hunting and pollution. Otter are an indicator species, meaning they depend on a healthy watershed and robust terrestrial habitats to thrive. Their presence and success is a sign that water quality and habitat improvements are allowing river otter, and the robust aquatic communities on which they depend, to thrive throughout the Mississippi National River and Recreation Area.

Every fall and winter, citizen scientists volunteer to help gather data on river otter habitat use, shedding light on how these top predators utilize the urban stretches of the river throughout the Twin Cities. Several years of winter track and sign surveys along with remote wildlife camera studies have found that otter depend on riverine lakes, marshes and tributaries. These unique and beautiful habitats provide open ice for hunting on even on the coldest winter days, and large trees like the silver maple, where otter find shelter and raise their young in winter dens. Surveys take place by canoeing, hiking, snowshoeing, and even cross-country skiing shorelines while recording otter activity. Data help to better understand the river otter's unique habitat needs, and learn how we can better coexist with and conserve local river otter populations. Look for opportunities to get involved via the Volunteer In Parks Newsletter!

Volunteer Voices

Mary Hilfiker

**Interpretation and Natural Resources Volunteer,
Mississippi National River and Recreation Area**

It was a dark and cloudy night as I approached a group of strangers on the edge of a wild prairie savanna. I wondered what would a bat survey be like with a national park ranger. Coldwater Spring was a special place at night as we wandered from prairie to forest looking for different bat species.

We had a tablet with an app that could identify, with about 80% accuracy, which species of bat would be flying over us at any one time. Our group of five was told that there were seven species of bats that could be found in the Mississippi National River and Recreation Area. The app can pick up the sonar from the bats, and we were able to locate six of the seven in less than 90 minutes. I was so excited, and I did not know such an experience was possible in our urban area. I now like bats even more!

Otter surveying is another special experience I have been fortunate to do for about four years. We canoe into lakes and tributaries of the river and look for scat or place trail cameras. I have seen numerous otters in the lakes adjacent to the river and it has been thrilling. Once we even got chased away by angry otters when we got too close to a den near a deserted beaver lodge.

Next I cannot wait to participate in coyote surveys! I love the yipping of coyotes in the night, and I just hope we can hear them.



To register your volunteer group, contact Mary Hammes, Environmental Stewardship & Volunteer Manager: 651-291-9119, mhammes@parkconnection.org. To register as an individual volunteer and sign up for the VIP newsletter, contact Karen Katz, Park Ranger: 651-293-8458, karen_katz@nps.gov.

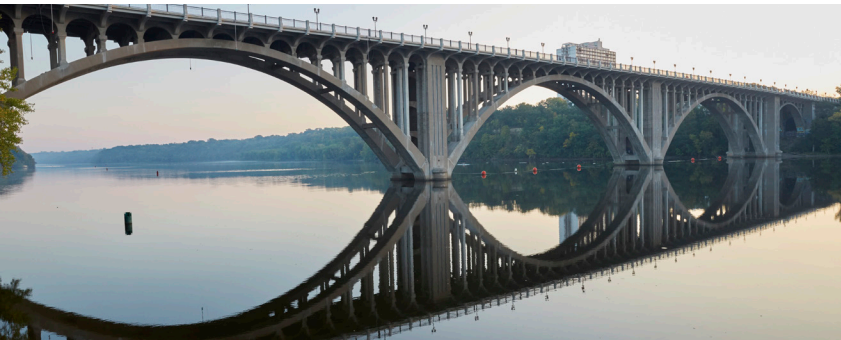


MISSISSIPPI NATIONAL RIVER & RECREATION AREA

Explore the river near you or join us for an upcoming program at one of our featured sites.
Stop by the Mississippi River Visitor Center in the lobby of the Science Museum to chat with a ranger and learn more about this national park.

Birds and Bridges — A Look At the Upper Mississippi

By Nancy Duncan, Natural Resource Program Manager, Mississippi National River and Recreation Area



The National Park Service has teamed up with Fordham University to conduct the first study of its kind exploring the potential risks that bridges pose to migrating birds along the Mississippi River.

Many people are surprised to learn that most birds migrate at night. For unknown reasons, night-migrating birds are attracted to isolated and/or bright sources of artificial light. Once birds enter such light sources, they can become confused and will often circle in the light. Unfortunately, this behavior can result in exhaustion and collisions with human structures – often leading to death. Collisions with buildings are the second leading cause of bird mortality in the US – killing between 100 million and 1 billion birds every year.

While the impacts of buildings, communications towers, and at-sea oil rigs on night-migrating birds are well documented, we know little about the impact of bridges. The intention of this study is to address this knowledge gap. To explore the issue, we used small-scale avian radar along with acoustic recorders to track birds at several bridges during spring migration. The study, which lasted about a month, focused on three bridges in the Mississippi National River and Recreation Area. The bridges were chosen after careful consideration of multiple factors such as height, lighting, and orientation.

This study used vertical and horizontal avian radar to determine how many birds were flying near the bridges and what height and direction they were flying. The radar also examined whether the birds were being drawn to the bridges, if they changed the direction of their flight, and whether their trajectory was actually in a collision course with the bridge. Acoustic recorders monitored the nocturnal flight calls of birds, which will help researchers identify the species of birds that are flying over the bridges.

If the study reveals that bridges in fact have an impact on migrating birds, hopefully it will inspire action to do more for these birds on their migratory journey.

OCTOBER 2017–APRIL 2018



CALENDAR OF EVENTS

Visit parkconnection.org/events for event details and registration information.

- OCTOBER 13

Opening Exhibit @ Water Bar Public Studio
- OCTOBER 14

Second Saturday @ Coldwater Spring
- OCTOBER 22

The Big Sit @ Coldwater Spring
- NOVEMBER 16

Give to the Max Day!
- DECEMBER 9

Tech Nature @ MN Valley National Wildlife Refuge
- JANUARY 6

Tech Nature @ MN Valley National Wildlife Refuge
- JANUARY 11

The Working River Tour @ Xcel Energy Highbridge Plant *Member Event**
- JANUARY 13

Take a Kid Ice Fishing @ Pickerel Lake
- JANUARY 20

Winter Trails Day @ Fort Snelling State Park
- JANUARY 27

Winter RAVE @ Coldwater Spring
- JANUARY 27

Family Fishing Day @ Lake Rebecca
- FEBRUARY 7

Fireside Chat @ NPS Headquarters *Member Event**
- FEBRUARY 8

The Working River Tour @ District Energy *Member Event**
- FEBRUARY 10

Family Fishing Day @ Lake Rebecca
- FEBRUARY 17

Winter RAVE @ Katharine Ordway Natural History Study Area
- FEBRUARY 24

Tech Nature @ MN Valley National Wildlife Refuge
- MARCH 3

Survival RAVE @ Hidden Falls Regional Park
- MARCH 6

The Working River Tour @ Mpls Drinking Water Plant *Member Event**
- MARCH 6

Tech Nature @ MN Valley National Wildlife Refuge
- MARCH 24

Heron Watch @ Marshall Terrace Park
- APRIL 14

Junior Ranger Day @ Mississippi River Visitor Center

*Members receive free or discounted registration for most programs, plus invitations to special members-only events. Join today at parkconnection.org/membership. All events are subject to change.



JUNIOR RANGERS

“Explore, Learn, and Protect!”

Make the National Park Service’s junior ranger promise today! Explore our storied American river and earn a junior ranger badge at the newly renovated Mississippi River Visitor Center. Come down to the visitor center on Saturday, April 14 for National Junior Ranger Day activities. For more information, visit us online at nps.gov/miss/forkids.

You can also download special junior ranger workbooks to learn about fossils, the Underground Railroad, wilderness, and the night sky!

Visit nps.gov/kids to get your copy.



Become a Junior Ranger!

Junior rangers are young people who promise to learn about, explore, and protect our national parks. Earn your junior ranger badge at our Mississippi River Visitor Center.

Learn how at nps.gov/miss/forkids

CONTACT



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