

OPENING NOTES

In places like Wisconsin, the harshness of winter can take a toll on so much — plants and landscapes, wildlife, the cars we drive and roads where we drive them, those shoulder muscles used for shoveling seemingly endless piles of snow.

Even the most devout optimist may find themselves wishing for spring.

As 2021 gets underway and spring approaches, an air of hope circulates. The staggering challenges of the past year begin to fade, replaced by an anticipation of betterment to

This is the season, each year, that brings renewal. We see it in the tiny emerging buds on trees; the returning robin, our state bird, looking for a suitable nesting spot; the downy ducklings trailing mother mallard as they learn the ways of the water; the spotted fawn hidden away low in the brush; the lone bloodroot pushing through the forest floor.

We see those things and we believe in the promise of the coming months, when we may get fully outdoors once again to enjoy the activities we love.

"Hope springs eternal in the human breast," poet Alexander Pope wrote nearly 300 years ago. This year, it seems more important than ever for that to remain true.





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FROM THE SECRETARY

Preston D. Cole



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In the words of Alexander Pope, hope springs eternal. Even with an ongoing pandemic, we can look to the beauty of the outdoors to witness nature's promise that change will come.

And that promise of change is for everyone regardless of race, ability, city or rural, or economic status.

As we usher in spring, let the snow melting, birds chirping and buds bursting remind us of renewal and that with each sunset comes a new day to follow.

For many of you, I know Wisconsin's famed winter wonderland can't keep you indoors, yet for many more, new adventures await this spring.

Getting outdoors is great for the mind and body. But you don't have to take my word for it. According to UW Health psychologist Shilagh Mirgain, nature is the best medicine.

In a recent episode of the DNR's "Wild Wisconsin – Off the Record" podcast, Mirgain explains that nature is restorative and offers us something beyond what human connection can, adding that when we're in nature we feel a sense of relief that can enhance our well-being.

We have something truly special here in Wisconsin, from acres of state parks, forests and wildlife areas to thousands of miles of rivers and streams, wetlands and Great Lakes shorelands. Wisconsinites flocked to the outdoors during the pandemic and continue to do so. And we can do that because we have invested in public lands and public access to those lands for decades now as part of a broad bipartisan commitment, in large part with Knowles-Nelson Stewardship dollars. It is who we are as a state.

As you make your way through this issue, I hope you are inspired to try your luck at fishing this spring with our expanded fishing coverage, or perhaps learn something new about foraging for food. While you're here, take some time and get to know our state's first female chief state forester and discover the hard work we're doing to get the lead out of water service lines.

From a profile on a Milwaukee tackle shop legend to a look at how the outdoors inspires state-based gear manufacturers to a mouthwatering recipe for morel mushrooms and asparagus, there's something to learn for everyone.

Take this time to welcome your own personal spring and remember that Wisconsin's trails, rivers and breathtaking vistas offer endless opportunities to unwind.

Let's continue to carry that feeling of hope and enjoy Wisconsin's outdoors this spring.

DATELINE DNR



APRIL 21

Spring turkey season begins, with six one-week periods (depending on hunting authorization) running through June 1.

MAY 1

The first Saturday in May marks the traditional start of the fishing season in Wisconsin. Get primed for the big day with plenty of fishing stories in this issue.

PBS HIGHLIGHTS SCENIC STATE LANDS

PBS Wisconsin explores some of the state's most beautiful wild places in "Wisconsin's Scenic Treasures: Southern Vistas." The program premiered March 1 and airs again at 7 p.m. on March 10 and 14. It also airs at 8 p.m. March 11 on Milwaukee PBS. Check local listings or pbswisconsin.org for details. The show is available on demand at the website and on the free PBS app downloadable for phones, smart TVs and other streaming devices.

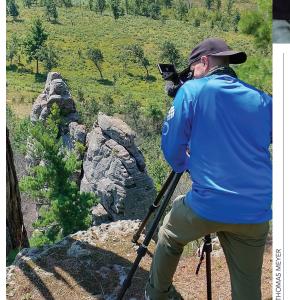
Viewers will discover some of Wisconsin's most fascinating public lands, from sandstone bluffs rising high above the Mississippi River to a rare hilltop prairie ablaze with wildflowers to a southeastern Wisconsin

bog alive with carnivorous plants.

Guided by longtime DNR conservation biologist Thomas Meyer and other DNR staff, PBS Wisconsin producers and videographers filmed 20 State Natural Areas, nine state parks and a handful of nature preserves within easy driving distance of their Madison headquarters, staying close to home during the pandemic.

Hundreds of hours of amazing aerial panoramas and groundlevel video were pared down to create a memorable 60-minute adventure.

"We tried to create a more intimate program that really gives you a sense of being in these places," said executive producer Laurie Gorman. "I hope this inspires people to get out and explore them."



Quincy Bluff and Wetlands SNA gets its closeup in a new show from PBS Wisconsin.

KEEP WILDLIFE WILD

Encounters with wildlife, especially young animals, increase in spring. But does that young creature really need your help? Sometimes an apparently abandoned baby animal really isn't orphaned at all, but simply doing its best to stay out of harm's way.

Celebrate Keep Wildlife Wild Week, April 4-10, by learning more about how to evaluate and better care for the state's wildlife resources - dnr.wi.gov/topic/wildlifehabitat/ orphan.



10 things that happen when a lake ecosystem springs to life

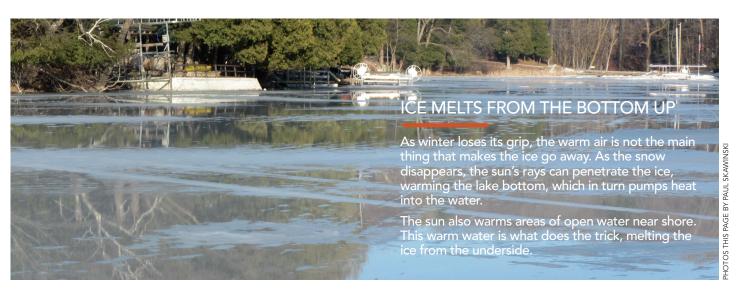
TED J. RULSEH

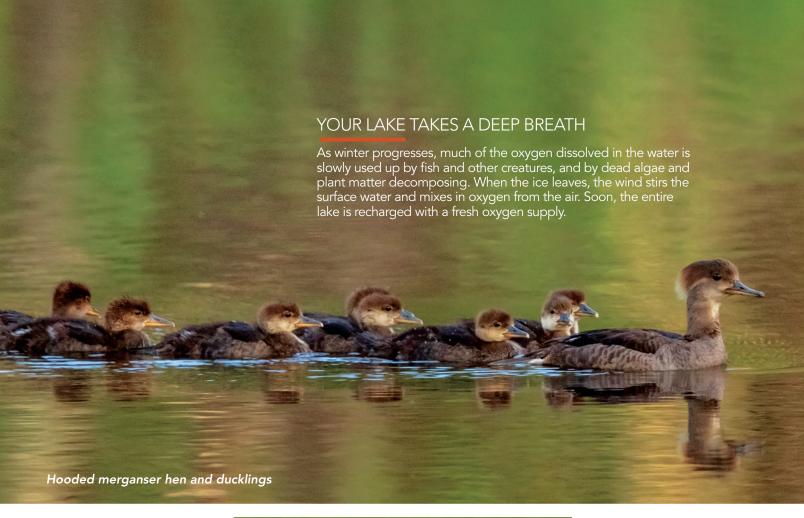
Your lake has spent the winter locked up under ice, essentially a closed container.

Still, it remains a living system, and with the onset of spring comes a season of abundance. Look closely and you can watch life burst forth

— under the water, on the surface, along the shoreline and even in the air above.

Here are 10 things to know about your lake as it makes the transition from winter to summer.





SPRING WARMTH REVEALS THE STRUCTURE OF ICE

Lake ice is not a monolithic structure. It's composed of hexagonal crystals, somewhat like the cells in a beehive's honeycomb, aligned vertically top to bottom and packed closely together.

As the thaw begins, these crystals begin to separate into loosely connected "candles." In this condition, the ice is extremely unsafe — a foot or more of candled ice may not support a person walking.

Candled ice is musical. If you were to find a thick sheet of such ice driven by wind onto shore and tap at it, crystals would tumble off, making a soothing sound a bit like wind chimes.





THE LOONS RETURN

Almost as soon as the lake opens, the loons are back, plying the water and calling out for what surely must be joy. They'll be scouting the shoreline for places to nest; males will battle for mating supremacy.

If you don't live in the North, or even if you do, you can watch a succession of waterfowl stopping by on their migration from the South: mergansers, canvasbacks, pintails, buffleheads, grebes and others.

Of course, some ducks stick around and raise broods. Eventually, you'll see mamas leading strings of tiny ducklings.







AMONG FISH SPECIES, THERE ARE TWO KINDS OF PARENTS

Some fish simply scatter (broadcast) their eggs and depart, leaving the newly hatched fry to fend for themselves. Others build nests and deposit the eggs there. The males then guard the nest for a time against predators.

Broadcasters lay more eggs than nesters, because the survival odds of their unprotected offspring are worse. For example, a female walleye (broadcaster) may deposit more than 100,000 eggs, while a smallmouth bass (nester) may deposit up to 14,000.

Northern pike and muskies are broadcasters; panfish are nesters.

Bullheads are the most attentive parents. Both the male and female defend the nest before the eggs hatch. The young travel in schools, and the male stays with them until they're about an inch long, herding strays and stragglers back into the group.

PLANTS SPROUT ABUNDANTLY

Most aquatic plants are perennials — they die back in winter and emerge again as the water warms. In many species, new growth pops up from rhizomes, which are thick, fleshy structures buried in the sediment.

Plants can also spread from seeds and from turions, sometimes called winter buds. Turions grow at the stem tips of plants and fall to the lake bottom when part of the stem breaks off or when the plant dies and sinks. They lie dormant through the winter, and new plants sprout in spring.

Some plants, including large-leaf pondweed (cabbage weed), coontail, bladderworts and milfoils, can sprout from plant fragments that break loose, take root and grow.



FLIES FILL THE EVENING AIR

Adult mayfly

Midges and mayflies appear over the water in the evening or at night in their mating rituals. Both spend most of their lifecycles underwater.

Midge larvae hatch from eggs and bury themselves in the bottom sediment. After a pupa stage, they emerge as adults and mate.

Mayfly larvae live on the lake bottom and go through various molting stages, emerging as winged subimagoes, which fly to nearby plants or trees along the shoreline. There, they molt again into adults (imagoes) that fly out over the water in a mating swarm.

The females deposit their eggs in the water, and the cycle begins anew. Adult midges and mayflies do not eat and after mating soon die.

Both species tend to indicate good water quality. They are also important food sources for fish.

toward summer and the water gets warmer, the lake forms layers.

This happens for a simple physical reason: A less-dense liquid will float on a more-dense one. As sunlight pumps heat into the lake, the surface water gets warmer, and the deep water stays cold.

So in summer, unless your lake is very shallow, it has a layer of warm water floating on a layer of denser colder water. Between those layers there's a zone, called the thermocline, where the temperature changes rapidly.

It's easy to experience the thermocline. While swimming, get out where the water is fairly deep. The surface water will be reasonably warm. Now, do a feet-first surface dive. With an upstroke of your arms, propel yourself down.

Soon, your feet will feel a sudden cooling. That means you've hit the thermocline. Once these layers form — a condition called thermal stratification — the lake is set up for summer.

Until then, springtime on your lake is a season bursting with life. It's perhaps the best time of year to observe and enjoy the wonders of lake ecosystems.

Ted J. Rulseh of Oneida County writes a newspaper column, "The Lake Where You Live," for the Lakeland Times in Minocqua. This article is adapted and excerpted from his book, "A Lakeside Companion," and printed by permission of the University of Wisconsin Press, copyright 2018 by the Board of Regents of the University of Wisconsin System. All rights reserved.





foraging in earnest as children and learning from family, which means that,

yes, foraging is a family-friendly activity.

Being curious, inquisitive and lower

to the ground, kids can get in on the

hunt and have success, too, as long as they're not putting any unknown harvests in their mouths as snacks along

The rules of where you can forage in Wisconsin are slightly different, depending on the ownership of the

- **Private lands:** If you'd like to forage on private land you do not own, ask
- **Federal lands:** Foraging is allowed; however, the rules can differ from place to place. For instance, the St. Croix Wetland Management District allows foraging of berries and mushrooms for personal use. On the Apostle Islands, fruits, berries and nuts can be foraged for personal use, but collecting other natural objects such as rocks, wildflowers and driftwood is not allowed. There are foraging limits in the Apostle Islands of one gallon per person, per week of fruits, berries and mushrooms and five gallons per person, per week for apples. Check with the property manager of federal
- **State lands:** Foraging is allowed on state properties. Take a look at the sidebar on Page 13 for specifics on what kinds of foraging are permitted.
- County lands: Counties can set their own rules for foraging. Foraging is not allowed in Milwaukee County Parks, for instance, but is allowed in

Dane County Parks, which goes so far as to recommend park locations to find in-demand foods — danecountyparks.com/recreation/foraging.

 Municipal properties: These also can set their own foraging rules. Call your local parks department or municipal clerk to find out what restrictions may apply in your area.

It's important to note that you do not need to live in a rural community to forage. You can forage in your back yard, so to speak, even if you don't have one.

FORAGING ETHICS

Outside of the rules placed on properties by governing bodies, there also are some ethical standards for foraging.

"Never take more than you need and try and understand the life cycles of what you harvest to ensure what you are doing is always sustainable," Normansell said. "This especially can include eating invasive species, which have the added benefit that you can take as much as you like, e.g., autumn olive, garlic mustard, etc."

Also, if you have to damage a plant or tree in order to harvest, like cutting or breaking a branch to get at good fruit, don't do it. It could cause further harm and reduce the next season's harvest.

FORAGING SEASONS

Like many Wisconsinites, Thayer has deer season and the fish opener on his mental calendar every year. Outside of hunting and fishing, he also makes note of about 100 other seasons for things

like blueberries and spring greens.

"For me, my entire emotional experience of a year is like a constant cycle of things I'm excited about one and then the next and then the next," Thayer said.

Foraging can happen nearly yearround, but most opportunities start in March and run through November.

"The climax of the summer brings forth a bounty of wild fruits," Normansell said. "The late summer fungi are still around, but the real stars of the fall fungi are starting to pop.

"This is the time when you never quite know what you will come home with, but you're usually guaranteed to find something."

Thayer's best advice is the simplest:



Sam Thayer of Forager's Harvest leads a lesson on Jerusalem artichokes. The plant is prized for its tasty tuber, though such plant parts are generally not allowed to be harvested on state lands.

"When you're looking for food, look for disturbance."

Areas that have seen disturbance — whether it's flooding, fire or deposits of material like dead leaves or compost — are likely to have a bounty of vegetables.

Here are the seasons for some of the state's most popular "found foods."

- Morel mushrooms: It can start as early as March and run as late as May, depending on where you live in Wisconsin. Prime time for morel mushrooms occurs with daytime temperatures in the 60s and overnight temperatures in the 40s. A little bit of rain and a little bit of sun help these mushrooms spring up.
- Ramps: Also known as wild leeks, ramps are an onion-y favorite of many foragers. They are most easily spotted around the same time as morels, in spring.
- Asparagus: This is also a springtime harvest, and some say one of the easiest to find because it is hard to mistake it for another plant. Keep an eye out starting in mid-April, and always remember to leave some intact spears behind asparagus that goes to seed grows more asparagus next season.
- Blueberries: Likely, you've picked some up before at your local farmer's market, but finding them on your own is easy, especially if you live in the northern two-thirds of the state. They're typically ready for harvest starting in early July and running through mid-August.
- Black raspberries/black caps: These berries tend to show up in the peak of summer, usually around mid-July. They're milder than the conventional raspberries picked up in the grocery store but still quite sweet.

FORAGING SAFETY

A lot of foraged food, especially mushrooms and berries, have lookalikes or go from being edible to inedible, or vice versa, as they ripen/age.

"Don't eat something unless you're 100% certain of what it is and that it's safe to eat," Thayer said. "People have heard of poisonings, but when you look into specific cases, it's generally people eating unidentified plants. It's very rare that it's a misidentified plant."

Normansell said poisonings are often the result of wishful thinking, such as hoping to find chanterelle mushrooms and instead finding and eating jack-o'lanterns, putting you in severe gastrointestinal distress.



"The biggest mistakes in foraging come from trying to seek out a certain plant or fungi, and more than its fair share of poisonings historically come from a bad case of wishful thinking," he said.

Also, pay attention to where you harvest. If you're near a roadway or farmland, what you're foraging may have come in contact with fertilizer, herbicides or pesticides as well as dirt



Morel mushrooms may be found as early as March and continue into May, depending on location and spring weather patterns.



Behold the bounty of spring in Wisconsin — wild asparagus and ramps. Two notes on the latter: They can't be foraged on state lands, and when digging the entire root, please take only a few for sustainability.



Oyster mushrooms, chanterelles and green cracking russula are among species often foraged. For safety, don't eat anything unless you're 100% sure it's OK to consume.

and exhaust. As always, anything foraged needs a good wash before eating.

FORAGING TOOLS

What you bring may depend on what you're looking for, but generally, the most useful tools are simple.



Cutting: Sometimes, what you're foraging will take pruning shears, kitchen scissors or a garden knife to harvest.



Carrying: Carry your harvest in buckets, bags or baskets. If you're foraging for fungi, use a porous, natural weave bag or wicker basket to collect. That allows mushrooms to drop spores as you move, helping them propagate and grow more for the next season.



Hiking gear: Much like if you were going for a hike, make sure you have the essentials including good footwear, water, sun protection, bug/tick repellent and navigation tools.

If you're already an outdoors person, you're halfway there when it comes to foraging. It's a great complementary skill, especially for Wisconsin hunters, Normansell said.

"Many times (when hunting), you can come home without your desired quarry," he said. "Foraging allows you to be able to add to the wild food you consume and often come home with something to eat when the hunting gods have not favored you that day."

Thayer also is an avid hunter and angler and likes to think of foraging as the other side of the coin. He said most people probably have "foraged" already but don't consider picking a wild berry or nut just that.

"We all spend time outdoors foraging, but we just don't call it that," he said. "Almost everybody has collected or eaten something in the wild, and they don't think of it as foraging. Everybody is interested in this — it's instinctively human."

Megan Sheridan is public affairs section chief in the DNR's Office of Communications and an amateur forager.

MORE INSIDE

For more on foraging, including tips on how to prepare your found food, see culinary writer Kyle Cherek's Taste of Wisconsin column on Page 56.

FORAGING ON STATE LANDS

You can find wild edibles just about anywhere, even as close as your back yard. But did you know you can forage on state-owned properties in Wisconsin? Please be aware of the rules that apply.

As granted by state law, foraging at state parks, forests, natural areas, recreation and wildlife areas does not require a permit for the following:

- Edible fruits such as apples, plums, pears, blueberries, raspberries, blackberries, juneberries and strawberries;
- Edible nuts like walnuts, hickory nuts, acorns and other similar nuts from trees and shrubs;
- Wild mushrooms including morel, oyster, lobster, chanterelle, giant puffball and hen of the woods varieties;
- Wild asparagus and watercress;
- Garlic mustard and other invasive species listed in Ch. NR 40, Wis.
 Adm. Code (for full text, go to dnr.wi.gov and search "invasive species rule").

Foraging is allowed only for personal consumption by the collector. Gathering seeds, leaves, stems, roots or other plant parts is not allowed — including medicinal herbs and wild leeks or ramps.

Some properties may be deemed a "non-collection site." When in doubt, contact the property manager or call the DNR to see if a property has any restrictions.

No foraging is allowed for species listed as endangered or threatened. In addition, specific rules apply to harvesting wild rice, so know before you go — search "wild rice" at dnr.wi.gov. Wisconsin law also regulates the harvesting of wild ginseng; for details, check dnr. wi.gov and search "ginseng."

Are you looking to gather pine boughs for the holidays or another non-edible forest product? That requires a permit. Check dnr. wi.gov/topic/timbersales for information.

- MEGAN SHERIDAN

Pivoting during the pandemic

Natural Resources Foundation adapts field trips program with safety in mind

JAIME KENOWSKI

"Whenever you're ready," field trip leader Bob Welch nods at me and smiles.

I hold my breath and look down at the indigo bunting resting on my hand, its legs grasped between fingers. I marvel at the brilliance of its feathers that almost seem out of place in Wisconsin. At just 5 ounces, it weighs the same as a deck of cards, but I can barely feel it is there.

Welch nods again, and I open my hand. For a moment, I can see the tracking band just fitted to the bird's leg. I blink, and with a whir of wings, the bird is gone, back to the surrounding forest near the Waupaca Biological Research Station where Welch has helped gather data on migratory birds for several years.





I was two weeks into my new job with the Natural Resources Foundation of Wisconsin, and this was my first time on one of the foundation's field trips, the flagship outreach program.

There were about 20 participants in the bird banding outing, ranging from families and individuals to schoolchildren to retirees. Though that overcast April morning still had the chill of winter in the air, we were surrounded by the warmth and promise of spring.

Baltimore orioles, rose-breasted grosbeaks and American goldfinches seemed to drip from the trees straight into the mist nets that gently caught them. Trained volunteers fitted the birds' legs with a small metal band, a unique ID to help researchers gather data on population, lifespan and range of these birds for years to come.

I left the trip that day amazed at all I had experienced in such a short period of time. I also left with a newfound appreciation for birds and a sense of responsibility for their conservation — exactly the hoped-for outcome of the program.

The foundation's field trip program began over 30 years ago, launching with just three pilot trips and a dream of connecting the public to the hidden wonders of Wisconsin's natural world.



Since then, it has grown exponentially, offering dozens of expert-led trips across the state and reaching more than 5,000 adults and children in a normal year.

But, as we all know, 2020 was anything but normal.

EVERYTHING UPSIDE DOWN

Field Trip Director Christine Tanzer had lined up 243 trips in 2020, the most ever offered. The guidebook was printed, the registration site set and the trips just a few short weeks from launching.

And then news of the pandemic hit. The foundation canceled its spring trips and postponed the season while working to determine when the program might reopen.

"People were turning to the outdoors for relief, for a sense of peace and even normalcy during this time when everything else turned upside down," Tanzer said.

Ultimately, the foundation decided to relaunch the season in the summer with new guidelines for social distancing and safety.

"Spending time outdoors is critical to our mental, emotional and spiritual health, as much as our physical health, and we were flooded with messages from our members saying exactly that," Tanzer said. "We decided that with some common sense practices in place, we could still offer some trips to anyone who felt comfortable participating in them."

Safety measures included offering outdoor-only trips, physical distancing, requiring masks and limiting group sizes to 10 or less. But would people still have the same positive experience with the new format?

NEW APPRECIATION

For foundation member Bruce Bartel, the experience was just what he needed during a challenging year.

Born and raised in Wisconsin, Bartel and his wife, Kathleen, have attended more than 20 trips over the last five years, learning something that surprises them each time. On one trip, they visited Roche-a-Cri State Park in central Wisconsin to learn about the history of the petroglyphs, rock art and effigy mounds there.

"I don't know how many times I've passed by the site on Highway 21, and I never knew anything about its history or significance, or that it even existed," Bartel said. "I think sometimes we can take our state's natural beauty for granted — there are so many natural wonders to discover, some of them quite small or overlooked.

"The foundation's field trips help people to see that hidden world."

Every trip has an educational component to it. On a 2020 outing, a sea kayak tour of Lake Superior's Red Cliff Sea Caves, Bartel and his group learned about changes to the shoreline and challenges to the unique ecosystem.



"The immense beauty of the lake swallows you up," he said. "I had seen the sea caves before during the winter, but being there on the water you felt like you were right in the middle of it all. I felt like I was seeing it in a completely different way."

The group was respectful about following the new safety measures, he added.

"Once we were out on the water, we were able to space ourselves out and just enjoy experiencing this incredible place together."

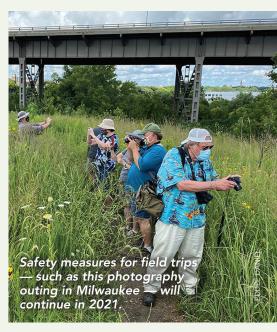
BRINGING OUTDOORS INSIDE

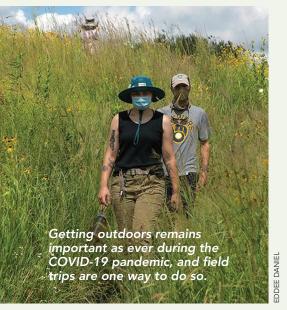
Another change in 2020 was offering "trips" in an entirely new format — virtually. A series of short video tours were filmed by field trip leaders sharing some of their favorite trip highlights on topics such as banding kestrels, frog calls and identifying wildflowers.

"Originally, we developed the field trip program to bring people to the outdoors," Tanzer said. "But the uncertainty at the start of the pandemic pushed us to bring the outdoors to people instead, and we've had a very positive response."

Dianne Moller, director of Hoo's Woods Raptor Rehabilitation Center near Milton, led in-person trips in 2020, but also led a virtual tour, introducing viewers to educational raptors like Clark, a barred owl, and touring the aviary to show larger birds such as golden eagles.

"Whether people join us in person or watch the tour online, we hope they enjoy the magnificence of the birds and the opportunity to see them up





close," Moller said. "I hope they come away with a deeper appreciation of the important role raptors play in a healthy ecosystem."

With the format changes, Tanzer said she was most surprised by how much the virtual trips connected with new audiences. Teachers emailed to say they were using the videos in their classrooms, and members unable to attend trips in person for accessibility reasons appreciated being able to share the experience.

"Hearing their feedback made us reflect on who we're reaching, and not reaching, with our trip offerings," Tanzer said. "We started to dig into questions we've been considering for some time: Could we offer wheelchair accessible trips? Or trips with Spanish or Hmong translation available? Or a 'birding by ear' trip for the hearing

"These are things we hope to explore more in the future."



BIRDATHON REIMAGINED

Wisconsin Birdathon, an event traditionally involving teams of birders doing things like carpooling together or sharing binoculars — not possible with COVID-19.

We asked teams to try different methods to stay safe, like backyard birding, big sits, birding relays and staying local," she said. "We assumed participation would take a big dip because of all these restrictions, but instead we had a record-breaking year, both for new teams and the amount we raised for bird conservation projects."

The ways people participated were impressive, Cameron added.

"People were more creative than ever. We had teams birding by bike, boat, kayak and even by horseback!"

Natural Resources

FOUNDATION

of Wisconsin

Another foundation program reinvented by the pandemic was the Great

The event had to get creative, Birdathon coordinator Sarah Cameron said.

No matter the circumstances, the

foundation learned, people who care about Wisconsin's natural resources will show up for the causes they love.

Each step of the way, the pandemic kept the foundation pivoting — and pirouetting at times. The foundation has reexamined how things have been done and taken a deeper look at its outreach initiatives.

Hopefully soon, the masks will come off. But the lessons of the past year will continue to shape the foundation's work to adapt, develop creative solutions and find ways for people to stay connected to what matters most.

Jaime Kenowski is communications director for the Natural Resources Foundation of Wisconsin.

2021 FIELD TRIPS

The Natural Resources Foundation of Wisconsin has more than 150 field trips planned for 2021. . Just a few are noted below. For the full list and registration information, check WisConservation.org.



- Catching the Peak: Migratory Bird Banding
- Ancient Archaeology at Trempealeau
- Spring Frog Chorus at The Ridges Sanctuary
- Trout Fishing for Beginners: Kickapoo Valley Reserve
- Whooping Crane Reintroduction
- Nature Writing Workshop
- Biking for Birds in White River Wildlife Area
- Monarch Tagging: St. Croix Valley
- Wisconsin's Wild Turkey Restoration
- Milwaukee River Greenway: Celebrating 15 Years
- Paddling the Upper Sugar River
- Musseling Up in the Little Wolf River
- Small Game Hunting Skills
- Manoomin (Wild Rice) History, Biology and Harvest
- A Night Out with Chimney Swifts

ABOUT THE FOUNDATION

The Natural Resources Foundation of Wisconsin was formed in 1986 to provide sustainable funding for Wisconsin's most critical conservation needs.

With the support of more than 5,000 members and supporters, the foundation has distributed over \$9 million in grants to hundreds of conservation partners to support Wisconsin's most urgent needs for lands, waters, wildlife and environmental education. The foundation also holds more than 100 endowment funds with over \$8 million in assets.

The Department of Natural Resources is one of the many recipients supported by the foundation's grantmaking program and to date has been awarded approximately 735 projects totaling \$5,382,976.

To learn more about becoming a member, investing in the Wisconsin Conservation Endowment or planned giving, visit WisConservation.org.



Last year was gearing up to be another exciting travel year for Madison residents Renee and Fred Hable.

Renee had just retired in early February following a 30-year career with Avon, and Fred, a special education teacher for the Madison School District, was halfway through the academic year. The couple had three big out-of-state trips booked in March and April: a girls' trip to South Carolina, a guys' golf outing in Houston and a trip to Nashville to drive the Natchez Trace Parkway.

As Badger football season ticket holders, they also were looking forward to flying to several away games in the fall. Then COVID-19 hit.

"When you decide to go on vacation and spend six months preparing for it, requesting tourism information and plotting out where you're going to go and what you're going to do, the anticipation and preparation is so much fun," Renee said. "Then suddenly it was just gone."

They both had birthdays in March,

and they wanted to take at least a short day trip or two to celebrate. So they decided to give a couple of nearby state parks a try.

They quickly learned there were tons of places to explore in their home state.

"The first place we went was Holy Hill in Washington County, and we thought the basilica and scenery were really beautiful," Renee recalled. "Soon after, we went to Governor Dodge State Park and saw Stephen's Falls, which we didn't even know was just 30 miles from our house.

"We're not big outdoors people or anything — we're not big campers or hikers, nor are we super health conscious. We were just looking for short trails where we could walk out a little way and see cool things. That's how we got started."

Renee has a college degree in tourism and hospitality and has been interested in tourism her whole life.

Naturally, she picked up a guidebook

— from the Wisconsin Department of

Tourism — that lists the locations and descriptions of all 49 state parks.

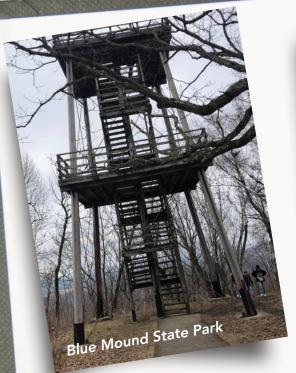
Soon, with out-of-state travel post-poned indefinitely, the guide became the 2020 bucket list for her and Fred.

Between March 20 and Oct. 13, the Hables checked off each state park on the list — all except Rock Island in Door County, which remains closed due to its small size and COVID-19 social distancing restrictions.

"Instead of taking five-plus big trips this year, we did 48 little ones," Renee said. "They may not have taken as much planning as a big seven- or eight-day getaway, but it was still fun, and it happened more often because we were doing it all the time."

Along the way, Renee kept a digital journal of all their excursions, not only to remind herself of the memories they were making but also to capture how COVID-19 was affecting local tourism and the economy, in her view.

Following are a few entries excerpted from Renee's diary that offer a sense of what she and Fred experienced in 2020.



Fred's new spring break, so we have to find a few fun things to do. Loving Governor Dodge State Park last week, we decided to pick another one, so today it's Blue Mound. Only 18 miles from our house, this is the highest point in southern Wisconsin with the unique feature of two towers that overlook the Native American "mounds" in this area.



posed to be having BBQ in Memphis right now and we're not. But we're really starting to get into this state park thing, and the Travel Wisconsin visitor's guide to the Wisconsin State Park System has become my COVID-19 bucket list.

Today's trek is to Lake Kegonsa State Park. Ironically, we lived in Stoughton for four years and still had never been to this park. Just goes to show you how slowing down can change your perspective—even if it's a forced slow-down. With both of us being Pisces, of course we're intrigued by anything water-related.

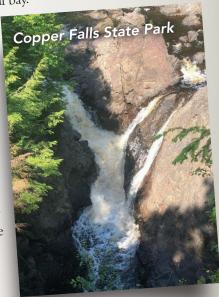


Non the way home from Mercer, we stopped at Rib Mountain State Park in Wausau. What an amazing cluster of rock structures. As one of the highest points in Wisconsin, there was even still some snow on the ground.



June 11: Brunet Island State Park was inspiring! As we walked along the Lakeside Trail, Fred stopped so quickly, I almost ran into him — a doe was sitting on the ground 10 yards off the trail. She let us take several pictures of her. At a fishing pier, a great blue heron spent quite a while hunting on the opposite side of the small bay.

fun weekend in Mercer with my family and Fred's brother, sister and nephew, we headed up to Copper Falls State Park near Mellen. I continue to feel sad that I grew up less than one hour from this park and never took the time to visit. I'm running out of adjectives to describe the natural beauty we have seen in Wisconsin.





La Crosse area state park, Perrot State Park. The primary features here are the amazing view of the Mississippi from above. We took the West Brady Trail to the top of Brady's Bluff. We lucked out with the most beautiful weather day so far this year to hike the 664 stair steps to the top ... yikes! The CCC created the trail back in the 1940s and used multiple methods including natural stones, packed tree roots, wooden and rock stairs.

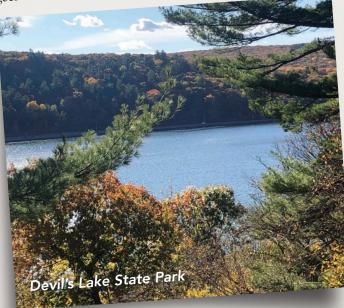


Fair was canceled, organizers put together a very clever "drive-thru" experience that I had to do! I drove over to West Allis and got in line at State Fair Park on the Milwaukee Mile race track to go through a fair food pickup course. After two hours and \$142, I had ribs, cheese curds, a Bavarian Beast pretzel, a caramel apple, deep-fried Oreos, cream puffs and more!

After I picked up the fair treats, I headed over to Lakeshore State Park, on the Lake Michigan shore in front of the Summerfest grounds, to eat lunch. What's unique about this state park is its urban location that can most easily be defined by photos taken from the #ScenicWisconsin selfie stand.



Sept. 4-7. Boo-hoo. I guess we didn't understand the full extent of what could happen during COVID until now. We are supposed to be in Arkansas this weekend for the season opener football game between Nevada and Arkansas. Instead, we went to Mercer and hung out with my family and the wildlife. We captured an awesome video of a young deer, just losing his spots, playing with a flock of geese near the Turtle-Flambeau Scenic Waters Area.



decided to head to Devil's Lake State Park. This is the last stop on our state park COVID bucket list. We have been to Devil's Lake in the past, but certainly not with the sense of awe and wonder we've developed this year, having been at all the other parks. Truly breathtaking! We got about halfway up the Balanced Rock Trail — completely spectacular!

Molly Meister is a public information officer in the DNR's Office of Communications.

INFORMATION

To download or order a copy of the Department of Tourism's quide to the Wisconsin State Park System, check the Travel Wisconsin website, travelwisconsin. com/order-guides. For more from the DNR about the Wisconsin State Park System, including an interactive map to find a park, link for camping reservations and information on required vehicle admission stickers, see dnr.wi.gov/ topic/parks.

WARDENS RESCUE FOR ANIMAL **FRIENDS**

JOANNE M. HAAS

Late fall and winter can be a busy time for the DNR's conservation wardens.

Several hunting seasons take place, including the nine-day gun deer season. Colder weather brings attention to snowmobile and ice safetv.

Still, when the situations arise, these dedicated wardens find time to help with creature concerns as well as people ones, often in partnership with local residents and law enforcement agencies.

Here are a few animal rescue cases successfully resolved by the DNR's conservation warden team.



this beauty of a bird got caught in the

home's chimney and worked its way into their fireplace. Now what?

Call the DNR wardens, of course!

Burns arrived at the rural home near Woodford in Lafayette County and was escorted into the living room. There, looking back through the fireplace doors, was the round-eyed bird.

Carefully and cautiously, Burns coaxed the owl out of the fireplace and into a plastic tote. Once the lid was on, Burns took the bird to a nearby wooded area, removed the lid and the owl flew to freedom.

LOON LANDING

Early season ice can catch wildlife by surprise. When a young loon got iced in at Palmyra's Lower Spring Lake, Palmyra police officer Paul Blount knew a rescue was in order.

Blount called on Conservation Warden Alex Brooks for the two-man rescue with Palmyra officer Ben Posanski. Brooks used his mud motorboat and broke the ice to retrieve the bird. The men got the bird in the crate for the ride to the Rock River, where it was successfully released into the wild.



Alex Brooks, left, and Ben Posanski



LUCKY IS LUCKY

Conservation Warden Ben Mott helped release Lucky, a 13-yearold husky, from the grips of a particularly nasty mudhole on state land in Waushara County in late October. Seems Lucky was bent on a solo exploration mission and did a two-step into what was more like quicksand, Wisconsin-style.

He tried to pull himself out but no luck. However, he knew how to call for help using the old canine standby — constant barking.

His owners followed the bark and found their beloved dog hip-deep in the muck. They tried to free him, but he was in too deep and was way too heavy, so they called 911.

Waushara County dispatch alerted Mott, who came dressed correctly in his warden boots. Mott used a towel, a long check cord and a catch pole to secure Lucky, then reached into the mud up to his elbows to pull Lucky's legs free.

Waushara County sheriff's deputies also responded and helped make sure Mott and Lucky made it to Mott's warden truck. He gave Lucky and his happy owners a ride home, with instructions on how to watch for any signs of hypothermia.

A few days later, Lucky sent Mott a video with a thank-you yip.



FAWN ON ICE

Two DNR wardens earned the cheers of a small crowd concerned for the well-being of a fawn discovered stranded on the ice-covered Pella Pond in Shawano County. Wardens Jake Cross and Mark Schraufnagel responded to the call with a canoe and paddles to crack through the ice and travel about 100 yards offshore.

There, the wardens reached the small fawn sitting atop the ice, not sure where to go. Schraufnagel used a catch pole to secure the deer while Cross navigated the trio back to shore. Local wildlife management staff also had arrived and assisted on shore, where the deer was safely released.

DOING RIGHT BY 'DUDLEY'

DNR Conservation Warden Erika Taylor was on duty in January when she got a call about a lonely duck sitting on a pond in the city of Marshfield.

A duck by its lonesome, sitting on ice, when all its mates flew south? Taylor knew that wasn't right.

She also knew she was going to need some teammates to help this drake mallard who couldn't fly. She asked the Marshfield Fire Department for two ropes that could be tied together and dragged across the pond to nudge the duck off the unsafe ice for rescue.

We all know how the perfect plan sometimes goes. The duck, called Dudley by the community, had other ideas. He waddled away as the ropes approached but took a detour into a long culvert under the road.

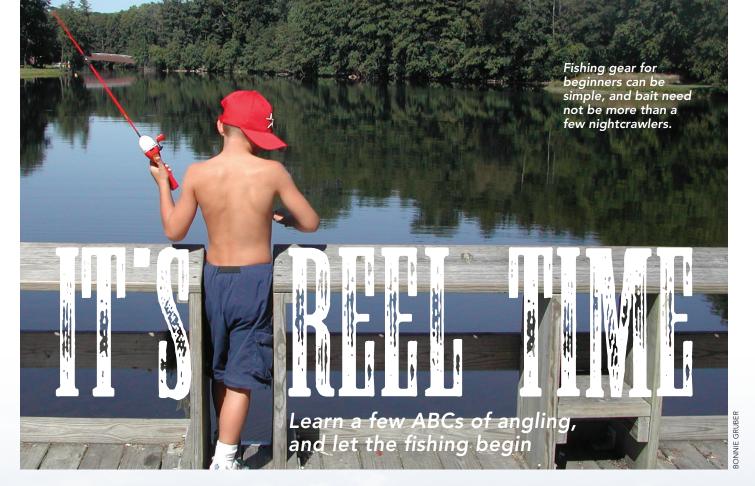
Plan B: Enlist a dog. Taylor, who owns a 2-year-old fox red labrador named Sophie, was game for the job — and so was Sophie. The lab squeezed herself into the tight culvert to convince Dudley to keep moving to the other end.

Voila! Once Dudley presented himself, Taylor and three Marshfield ordinance officers used a fishing net to catch the duck. Dudley was delivered by a volunteer to the Raptor Education Group Inc. in Antigo for treatment.

Here's wishing Dudley a speedy recovery.



Joanne M. Haas is a public information officer for the DNR's Division of Public Safety and Resource Protection.



LAWRENCE ESLINGER

Give a kid a fish, and it might keep their interest for a few minutes. Teach a kid to fish, and it just might instill in them a lifelong interest in the outdoors.

The old "teach a man to fish ..." proverb has been altered slightly here, but it fits nicely with the thinking that perhaps now, more than ever, we could all benefit from some additional connection to the outdoors. And that applies to our children maybe more so.

Our lives have been altered dramatically for the past year with the uncertainties and limitations

surrounding COVID-19. For many, these challenging times have made us feel all the more fortunate to live in a state with an abundance of outdoor opportunities.

One of those many opportunities is fishing. Wisconsin has more than 15,000 lakes and 84,000 miles of rivers and streams. Along with these many water resources is an abundance of publicly accessible ways to get out there to enjoy

By shore or by boat and whether to keep your fish or catch and release are a few of the decisions to make before you go.

them, including by casting a line.

Research has shown that being near the water and fishing can be beneficial for your health. It can help lower anxiety by being in a relaxed environment, improve relationships by sharing the experience with family or friends, and build self-confidence as a result of gaining a new set of skills.

All of this can be done through fishing and done safely in the great outdoors!

For me, the most enjoyable aspects of fishing come from the sense of adventure and never knowing what you might experience. The time spent with family and friends is priceless, and the smiles, laughs and life lessons associated with the sport make it memorable.

So, give it a try. Better yet, take a child with you. My guess is you'll create some lasting memories on those fishing adventures. And they just might get everyone hooked — pun intended — on going back for more.

LET'S GET FISHING

In general, the first Saturday in May marks the traditional start of the fishing season — that's just around the corner on May 1 this year. Let's talk about what you'll need to get ready to go fish.

To someone with limited or no experience, getting started with fishing might seem overwhelming. But it doesn't have to be.

All it takes are a few easy steps.



First, determine whether you need a fishing license. In Wisconsin, anglers ages 15 and under are not required to have a fishing license. For first time buyers between the ages of 16 and 64, a license costs just \$5. After the first license purchase, resident fishing licenses cost \$20 annually.

Check the DNR website for details and to buy a license — dnr.wi.gov/gowild.

If you'd rather try before you buy, you can do that, too: June 5-6 is Free Fishing Weekend this year, with no license required to fish on state waters.

Second, determine the fishing gear you'll need. This really depends on what species of fish you'll be pursuing, but it's probably best to start off simple, especially if you'll be fishing with children.

You can get started with relatively







inexpensive gear to pursue some of the state's more abundant and aggressive fish species. That includes those in the sunfish family such as bluegill and pumpkinseed. See the graphic on Page 26 for more on basic gear.

As you hone your skills with practice and experience, there's plenty of gear for upgrading, as well as more challenging fish species to pursue.

Bait can also be simple. A good allaround bait is a worm or nightcrawler, as many of Wisconsin's fish species love to eat them.

You can even find your own bait and make that part of the fishing adventure — searching for nightcrawlers at night after a warm rain was always fun when I was a kid! Or try minnows, leeches and a variety of other natural bait, plus any number of artificial varieties.

BY BOAT OR BY SHORE

Thanks to the Public Trust Doctrine written into the State Constitution (article IX, section 1), Wisconsin's lakes and rivers are public resources owned in common by the people of Wisconsin. This allows everyone in the state the right to boat and fish on all "navigable waters."

On many of Wisconsin's beautiful lakes, rivers and streams, there's some form of public access. The DNR website is one way to find publicly accessible fishing areas near you, including great spots to take children, accessible spots for those with mobility issues and great urban fishing locations. Go to dnr.wi.gov and search "places to fish."

The DNR also has a Stream Bank

Protection Program that purchases property easements from private landowners to provide public fishing opportunities while also protecting critical stream bank habitats and water quality.

Specific public easement locations can be found by accessing Public Access Lands information at dnr. wi.gov/topic/fl/realestate/PAL.

Once you find a spot, just be sure to read the signs at the trailheads, access sites

or parking lots, and familiarize yourself with state and local laws and ordinances that might affect your use of these public lands.

Remember to be safe around the water. If you're fishing from a boat, wear a life jacket, which is required by federal law for children under the age of 13 on federally controlled waters. And follow all other boating safety rules — dnr.wi.gov/topic/boat.

Even when fishing from shore, it's a good idea to wear a life jacket, especially for young children who can't yet swim.

KNOW THE FISH SPECIES

Wisconsin is home to more than 160 species of fish. Check out a few of the common species in the poster on Page 32.

The DNR fish species website also has plenty of information, including details on common species, state fish records and resources to help you identify fish — the Fish Wildcards are a hit with kids. Learn more at dnr.wi.gov/topic/fishing/species.

HANDLE WITH CARE

When fishing, it is important to keep in mind the following: A hooked fish should be fought as little as possible.

Fish are not intended to be out of the water for any length of time, and prolonged periods of struggle increase stress and fatigue in fish. The longer their struggle or time out of water, the lower their chance of survival upon release.

Consider having a fishing net with you to aid in a timelier capture and easier handling, while keeping the fish confined and in the water. Additionally, the net will help limit some of those experiences where the fish simply get away by shaking the hook before you can grab them.

All fish have fins. Some are spiny-rayed, some are soft-rayed and many have a combination of both spiny and soft fin rays. As such, it's important to take precaution when handling fish — for your safety as well as for the safety of the fish.

A good rule to practice is to wet your hands before handling a fish. Fish have a protective outer mucus layer that can be removed with dry hands.

Support the fish with one hand under the belly while at the same time carefully laying down the fish's dorsal fin — the one on the back of the fish — with the other hand. Be careful to avoid getting poked! On smaller to moderate-sized fish, you also can grab the fish gently by the body or nape, the area directly behind the fish's head.

Do not squeeze the fish tightly and avoid touching the fish's gills. Once the fish is secured, you can open its mouth and remove the hook by pulling it out with a needle-nose pliers or hemostats.

If the hook is hard to remove or is lodged in the fish's gills or stomach lining, simply cut the line. The fish may very well shake the hook loose on its own later or expel the hook after digesting it. A fish's stomach lining digests spiny fin rays from eating other fish and is very resilient.

By cutting the line, it may result in an uninjured fish, especially when compared with ripping the hook out and causing irreversible damage. That ultimately will lead to the death of the fish.

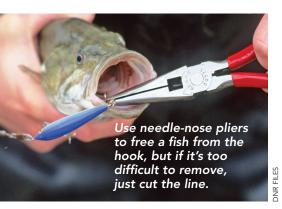
RELEASE OR KEEP

Before your fishing outing, decide whether you'll want to harvest any fish or be fishing just for catch and release.

Make sure to check the fishing regulations to know which species, sizes and number of fish you may keep as well as what you must release. Whether you're harvesting fish or not, remember to bring a camera to capture the excitement.

Catch-and-release fishing continues to grow in popularity as anglers realize the benefits of returning fish back to the water. For example, fish populations remain high and the size of fish may increase as older fish persist in the population.

When practicing catch and release, adhere to the fish handling techniques above and try to limit the fish's fight





time and exposure out of the water. Snap a quick picture and lay the fish back in the water while gently supporting the fish until it recovers with the circulation of water and oxygen supplied through its gills. When the fish is ready to go, it will head off on its own.

Harvesting fish is also enjoyable and can be beneficial for the fishery in some cases, such as selectively harvesting smaller fish where there is an overabundance. Plus, a fish dinner with all the fixings is hard to beat.

Upon capturing a fish you will be harvesting, humanely euthanize the fish by applying an accurate, forceful blow to the fish's head with a blunt instrument. Strike above the eyes, intended to impact on the brain.

Have a cooler of ice along to keep the fish fresh, as it is illegal to move angling-captured live fish away from a waterbody in a bucket of water.

EATING YOUR CATCH

Eating fish can be a part of a healthy, balanced diet while also supplying important vitamins and minerals. Fish, and fish oil, are primary food sources for healthy omega-3 fatty acids, which can help with preventing and managing heart disease.

Fish also are a product of their

environment. They can take in pollutants through their uptake of food found within that environment.

The DNR has safe eating guidelines as well as specific consumption advisories to ensure you get the health benefits of eating Wisconsin's fish while also reducing potential health risks from unwanted pollutants — dnr.wi.gov/topic/fishing/consumption.

FOLLOW THE LAW

Finally, before you set out, know the fishing regulations for where you plan to fish. The DNR manages fisheries with different regulation strategies, including through size and bag limits and season restrictions, to provide a variety of angling opportunities while protecting and enhancing fish populations themselves.

A fishing regulations booklet should be available anywhere that sells Wisconsin fishing licenses. There's a downloadable PDF copy on the DNR website, along with a county-by-county guide searchable by waterbody name. Find both at dnr.wi.gov/topic/fishing/regulations.

Also be sure to follow all statewide bait rules and other fishing restrictions. It's illegal to release any unused bait into the state's waterways, a rule implemented to protect our waters and fisheries from harmful aquatic invasive species.

READY TO GO FISH

Wisconsin's Public Trust Doctrine, all navigable waters

open to fishing for

in the state are "forever free" and

everyone.

Now you're set! When you're out there fishing, do your part to respect the state's resources, and respect other anglers by

giving them space and being friendly. Remember to have fun and savor the experience.

It's really not too much to get started fishing, and once you have what you need, it gets even easier. Soon, you may find yourself seeking more fishing adventure and creating lasting memories with those most important to you.

I know I have.

Lawrence Eslinger is a DNR fisheries biologist. Claire Gaber, a DNR communications specialist for fisheries, assisted with this report.

INFORMATION

For everything you need to know to get started fishing, check the DNR's main fishing page — dnr.wi.gov/topic/fishing.





Tackle a few of these basics to prepare for your fishing adventure. Learn more on the DNR's main fishing webpage — dnr.wi.gov/ topic/fishing — including regulations and more on getting started.

The nonprofit Recreational Boating and Fishing Foundation also has tips for those new to fishing such as best times to fish, knot-tying instructions, choosing gear and more. Check takemefishing.org/how-to-fish.

FISHING POLE OR ROD

There are many types. A cane pole offers nostalgic simplicity, but a rod and reel will let you cast a greater distance.



REELS

- SPINCASTING: Designed for long, backlash-free casts, these reels are effective with relatively light weights. They have a line release button, making them easy to use.
- SPINNING: These are like spincasting reels but without a release button, making them slightly more difficult to use and better for intermediate anglers.
- BAITCASTING: Designed for precision casting and heavier weights and line, these reels can leave a line in tangles if not careful and are recommended for advanced anglers.



FISHING LINE

Types include braided, monofilament and high-performance polyethylene, which is the most common. Choose a line strong enough so the fish can't easily snap it. With experience, you can explore different lines for specific species.



HOOKS

The smaller the hook number, the larger the size; a No. 6 or No. 8 is best to start. Learn a good knot to securely tie the hook to your line.



BOBBERS

Bobbers, or strike indicators, go underwater when a fish is biting. Bobbers attach directly to your fishing line and allow you to adjust the depth of your bait in the water.



SINKERS

Split-shot sinkers are weights that help keep your bait underwater. Non-lead sinkers made from tin or bismuth are preferred, as lead can result in wildlife poisoning. Attach them to your line by using pliers to crimp them 10 inches from your hook.



BAIT

Worms, grasshoppers, crickets and minnows are all great options for live baits. Artificial baits or lures also can be used and on some waters are the only bait that's legal. Check the regulations to know for sure. If using live minnows, know the rules to prevent the spread of aquatic invasive species — dnr. wi.gov/topic/invasives/boat. html. For example, it is illegal to dump leftover minnows into the water. Best to offer them to another angler still fishing.



FISH STORAGE

If you plan to keep your catch, have something to preserve it, such as coolers filled with ice or a stringer or bucket kept in the water. Remember, your catch must be dead when you leave the water.



NEEDLE-NOSE PLIERS

If a fish swallows your hook, use the pliers to gently remove it. Pliers also are great for attaching sinkers to your line.



LINE CLIPPER

If a hook is in too deep, cut the line to avoid injury to the fish. Some pliers have a clipper tool, or use scissors or a nail clipper.



NET

Though not essential, a net for scooping fish from the water is a good thing to have.



RULER OR TAPE MEASURE

Sometimes you can only keep fish of a certain length; having a way to measure makes it easy to determine.

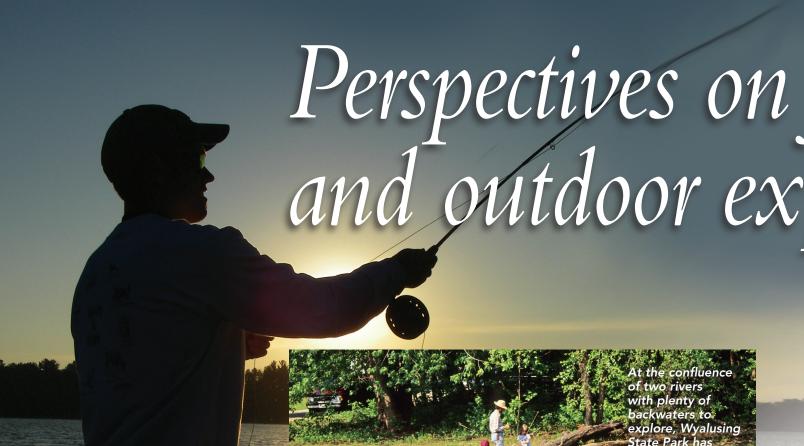


FISH ID RESOURCES

Wisconsin has more than 160 fish species and 27 types of game fish — those pursued by anglers. Identify your fish to know if you can keep it. The poster on Page 32 can help, or check out the DNR's Wisconsin Wildcards page — dnr.wi.gov/topic/parks/learn/wildcards — for more resources.

– DNR STAFF

MADE DEMICHEN



Behind the park' for magical fishing of a boy's dreams

STEVE BELLRICHARD

When I was finally old enough to dress myself, my older brother, Mike, and I got to spend a short week each summer with our grandparents, Lucile and Lyle Bellrichard.

Early in the morning, Grandpa would wake Mike and me by saying, "It's time to go behind the park." That meant fishing in the river backwater near Wisconsin's Wyalusing State Park.

The park is located at the joining of the Mississippi and Wisconsin rivers, which created one of the richest and wildest

fishing opportunities a boy could dream of. The backwaters were mysterious and magical in my young mind.

been a glorious fishing spot for generations.

Often, we would arrive just as the fog was lifting off the water. Only Grandpa knew what was hidden by this fog and, as such, Mike and I stayed close to him until it lifted.

Grandpa always started the day by taking the trail left of the boat landing. This backwater and the fish within were protected by a dizzying array of obstacles for a young man to overcome — boot-sucking mud, snakes, mosquitoes and burning nettles, to name a few.

Suffice to say you had to watch

fishing periences



At age 5, Andrea Zani knows catching even a small fish can be a big source of pride.

where you stepped. Grandpa always wore hip waders, whereas Mike and I wore rubber boots much more prone to unintentional removal. More than once did I spend a morning with mud between my toes inside a hot rubber boot.

The most obvious obstacles were the downed trees, typically cottonwood. These half-submerged giants left little open water for casting and playing hooked fish.

To overcome this, Grandpa fished with a cane pole equipped with a relatively short and stout leader. He would methodically probe each opening in the tree branches as he worked his way outward and onto the log.

When the water was muddy, Grandpa added something near the worm-covered hook to get the fishes' attention, typically a dime-sized spinner blade or a homemade minnow. The minnow was made from an elongated football-shaped piece of aluminum cut out of a beer can, typically Old Milwaukee.

In retrospect, this sky-facing minnow did not look very realistic. But it was fish approved, and that's what mattered.

The sought-after fish were bluegills and crappies. I think crappies were his favorite, but the bluegills were more prevalent. I remember Grandpa saying he was mostly made of bluegills and potatoes, because that's what they had to eat when he grew up during the Great Depression.

Grandpa was not a catch-and-release guy, but he was size selective and always gently unhooked and returned smaller fish. Waste not, want not.

Steve Bellrichard grew up in southwest Wisconsin and now lives in Danville, Iowa.

Memories linger, even if fishing doesn't

ANDREA ZANI

My grandparents lived on a farm when I was a kid — small by most standards, about 100 acres, but a vast and wondrous domain to my 10-year-old self.

The farm was walking distance from my own rural home, and I headed there whenever schoolwork wasn't in the way (sometimes when it was). I relished the chance to explore everywhere, hiking the rolling farm fields and nearby woods, spotting wildlife, wetting my feet in the cold waters of the narrow creek and fishing in one of two small ponds.

Several old fishing poles, nothing more than a stick of bamboo with a line, bobber and hook attached, stood at the ready for us grandkids in the kitchen corner. Turn over a couple shovels full of rich soil at the edge of Grandma Julia's garden — mind the squash — and we had enough worms to last the

afternoon, carried along with us in an old cottage cheese container.

We caught nothing more than a few small bluegills and catfish, but what treasures they were!

Such are my memories of fishing, something I haven't done in years. I envy those who do fish now and know I should add it back to my list of outdoor activities.

Putting together this coverage on fishing has made me realize how easy that would be — and how rewarding. I hope those who don't fish will feel that way, too, and give it a try. Or try it again if it's been awhile.

And for those who already consider themselves anglers of any sort, waiting patiently for the start of another season: Good luck and good fishing!

Andrea Zani is managing editor of Wisconsin Natural Resources magazine.

Working to welcome everyone to Wisconsin's great outdoors

JOSHUA MORRIS

Between my out-of-state college experience and military travels abroad, I've spent a lot of time explaining to people unfamiliar with Wisconsin that there's more to the state than just beer, cheese and the Green Bay Packers.

I'd say my most significant contributions as an unofficial state spokesperson have come from convincing folks there are indeed other Black people, like myself, living in the state.



Joshua Morris

The fact is, I've spent most of my life taking pride in being from Milwaukee. But in recent years, I've realized how little I know about the amazing natural resources that make this such a great place.

When I began working for the Department of

Natural Resources, I was excited for the opportunity to discover parts of the state unfamiliar to me. My newfound knowledge of how people explore the outdoors in Wisconsin has grown tremendously, and I can't help but feel like I've stepped into a secret club that has eluded people of color.

I first became aware of the outdoor divide when I transferred from a Milwaukee high school to one in Brookfield, going from predominantly Black schools my whole life to the complete opposite. Not only did none of the kids in this new school look like me, but their extracurricular activities were far different than anything I knew.

Between talks about camping or four-wheeling and camouflagepatterned clothing with matching accessories, I was in unknown territory.

Although transferring high schools gave me every opportunity to explore the great outdoors, I didn't. And here's why: It was out of my comfort zone, and for me, it wasn't cool. And at the tender age of 14, those two things outweighed everything else.

WHY NOT ME?

Having grown up in predominantly Black communities, activities like fishing, hunting and hiking to me were deemed interests reserved only for white people. I never knew anyone who looked like me who went hunting or took a trip to a state park or showed pictures from a summer camping vacation. I also don't ever remember being asked to go on any outdoor adventures.

Why are outdoor traditions such as hunting, fishing and hiking so foreign in

Wisconsin's Black communities or other communities of color? Why weren't my parents, like those of the kids I observed in my new school, passing down a love for outdoor recreation?

Or, an even bigger question: Why do people of color not feel welcome in the outdoors?

When Black people moved to Milwaukee during the Great Migration, segregation and discrimination ran rampant. Fast forward to 2021, and segregation in Milwaukee remains among the nation's highest.

The pandemic has encouraged people to turn to the outdoors as a respite and a place to seek space. Yet headlines tell stories of people of color being confronted or even assaulted when pursuing outdoor activities — which, in my opinion, reinforces collective fear and perpetuates the stereotypes of my youth.

Despite it all, I've seen an increase in representation by people of color outdoors — in the media and in my own experiences — as well as an uptick in groups tackling issues of racism and promoting diversity in the outdoors, including right here at the DNR.

I'm incredibly proud to be part of the initiatives in motion from the DNR to foster inclusion and diversity in the outdoors by creating exposure in all communities. The opportunities and benefits of outdoor recreation are right in our back yards — and open to all.

Joshua Morris is a public information officer in the DNR's Office of Communications.





Why I fish: No limits to learning and fun

LAWRENCE ESLINGER

I am intrigued by the great outdoors — its beauty and the mysteries within.

Fishing is just one aspect of the outdoors I thoroughly enjoy, so much that I pursued a career in working to make fishing and fish populations better.

I was introduced to fishing at a young age, fishing frequently during the summers of my youth. My grandfather was an avid fisherman who would fish as much as he could.

We would venture out on the water in his small rowboat, equipped with an old rumbling outboard, and fish his favorite spots. Though his directions were stern at times, those fishing experiences with him taught me well.

After fishing, he would fillet the fish and I would remove the skin from the fillets. Although I'd try, I couldn't keep up with him, even though I had the easier job. In the end, we usually had a meal of fish to enjoy later, and I took pride in the fact we were eating something I had contributed toward. Those experiences

Lawrence Eslinger enjoys fishing with his family in all seasons.

were always fun and rewarding.

As I got older, my cousin and I would ride our bicycles down to the local lake and fish for bass from shore. Catching a few, dealing with snags and having fun with family and friends is what it's all about!

As I matured as a fisherman, I really started to enjoy the pursuit of more elusive species like walleye and musky. Studying lake maps, fishing new spots and trying new techniques were all a part of the enjoyment.

Sometimes, the pieces came together and fish were caught. However, success was often limited, forcing me to refine my strategies. Always learning and experiencing something different are big parts of what keeps fishing enjoyable for me.

FAMILY FISHING ADVENTURES

Now that I have a family of my own, the most meaningful parts of fishing extend from the smiles, laughs and life lessons my children experience as a part of the adventure. Many of those fishing outings I'll never forget, and likely some they won't either.

My son — who is 9 now and was 5 at the time — reminds me of the occasion I got poured on after we made it back to the boat landing just in time for an incoming rainstorm. I got him into the truck before the rain, but I got soaked while trailering the boat and securing the gear.

He watched it all with a smile, and although the fish hadn't bitten as well as hoped that day, the real joy was in the adventure together.

Another fishing experience that left me with a lasting smile was during a family ice fishing outing. My daughter

— 7 now and 5 when it happened — was jigging as patiently as a 5-year-old could. Suddenly, she started to scream with excitement.

As I looked over, a nearly 10-inch perch came flying from the hole after she had successfully reeled it up and hoisted it out by herself. We were a little wet from fishing in the slush that afternoon, but what fun we had!

No matter your age, fishing is a great outdoor activity that's filled with important life lessons. Exploration, curiosity, appreciation,

respect, responsibility, humility, patience, adversity, persistence, reward and excitement can all be experienced, learned and refined through fishing.

It can provide limitless adventure, learning and fun — at least that's been my experience!

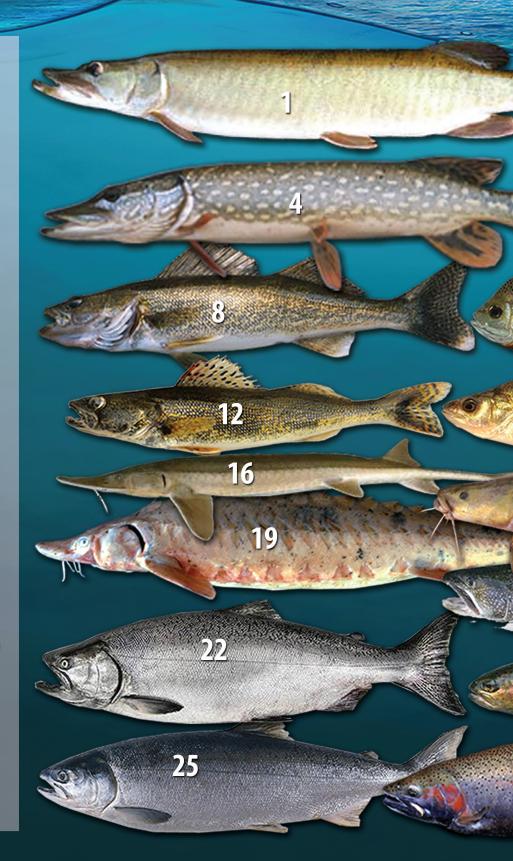


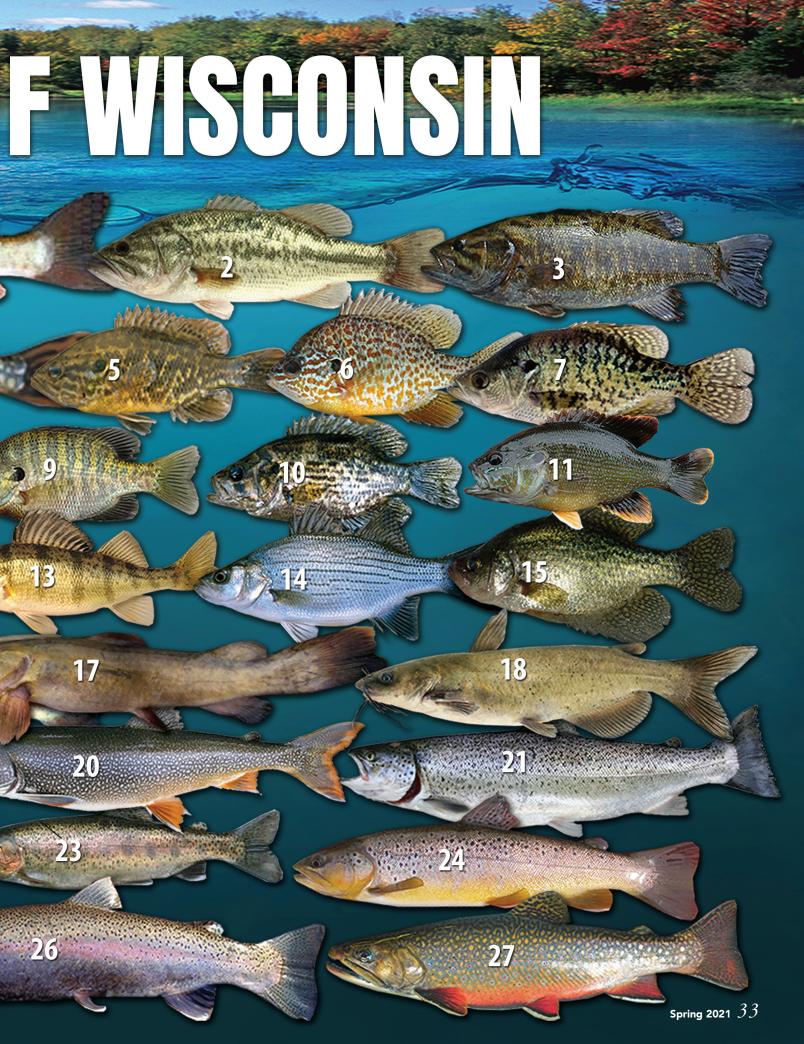
Lawrence Eslinger is a DNR fisheries biologist and dedicated angler.

GINESI

Identification Key

- Muskellunge
- 2 3 4 5 6 7 8 9 Largemouth bass
- Smallmouth bass
- Northern pike
- Warmouth
- Pumpkinseed
- White crappie
- Walleye
- Bluegill
- 10 Rock bass
- 11 Green sunfish
- 12 Sauger
- 13 Yellow perch
- White bass 14
- 15 Black crappie
- 16 Shovelnose sturgeon
- 17 Flathead catfish
- 18 Channel catfish
- 19 Lake sturgeon
- 20 Lake trout
- 21 Brown trout (Great Lakes)
- 22 Chinook salmon
- 23 Rainbow trout
- 24 Brown trout
- 25 Coho salmon
- 26 Steelhead
- 27 Brook trout







STORY AND PHOTOS BY JOSHUA MORRIS

In Milwaukee's inner city, Tommy White sits in the bait shop his parents established in 1968, waiting to open for the day.

In these serene moments, he reflects on the hard work it took for his family not only to migrate north from Mississippi but to have multiple businesses start and fail. A&C Live Bait is the actualization of a dream built from years of sacrifice — and its legacy has endured the test of time.

White's southern roots give him a sense of pride and perspective, but his background also reminds him of the perseverance needed to run one of the longest-standing bait shops in the Midwest.

White's grandfather was very likely the first freed slave in his family. His parents, Acie and Carrie White, were sharecroppers who moved to Wisconsin to forge a new path.

White and his three siblings at the time moved to Milwaukee at young ages. Nine more siblings were all born and raised in Milwaukee.

"When we got here, we moved around a lot," White said. "One of the first places I can remember is when we lived off of 6th, right off of Walnut."

REELS OF SUCCESS

Although the family was far from Kosciusko, Mississippi, they brought the work ethic that would soon fuel many business endeavors. The first was a Tastee-Freez, selling fast food and soft serve ice cream.

"What made them think they could buy a Tastee-Freez on the south side of Milwaukee, I haven't the faintest idea," White said. "This was even before Father Groppi integrated the south side."

During the mid-1960s, the Catholic priest joined with local Black leaders such as attorney Lloyd Barbee and councilwoman Vel Phillips to organize and march for civil rights in the city.

"You know at one point, Blacks weren't allowed to go to the south side, let alone live or own a business there," White recalled.



After the Whites' Tastee-Freez venture ended, next came a religious record shop, a candy store and a fish market, where the family cooked and sold fish. At age 21, fresh off a stint in Vietnam with the U.S. Marine Corps, White found himself skinning, weighing and preparing fish for customers.

"Some of our customers wanted freshly cooked fish, so I would run out the back door, down the alley and hand it to my mother to cook," White said. "My mother would cook it up, and we would bring it back."

This system worked well until a customer and friend of the family pointed out they would go to jail unless they had a cook permit. With a slight redirection, the White family shifted from cooking fish to selling bait.

"We liked to fish, and so my father would load us up, and we would travel primarily to Palmyra and Oshkosh," White said. "This was before the expressway was built. We would travel down to Highway 18 through Delafield, and that's how we got into this business."

CONNECTING TO THE COMMUNITY

The family started collecting nightcrawlers, red worms, bobbers and weights. They found local suppliers, most of which aren't in business anymore.

While growing the bait shop, White's father expanded its reach in the Milwaukee area by selling bait out of his van. He hired many workers from inside the community.

"If it weren't for the community, we wouldn't exist," White said. "In the early days, A&C was probably the first employer for many young folks — and adults, too."

For more than 50 years, A&C Live Bait has served the Milwaukee fishing community. White has worked with a diverse clientele, no small feat considering his shop sits in what is widely considered the most segregated city in America.

White said he has never been affected by his skin color as a business owner and Black man, and he runs his shop that way. When it comes to A&C, race, politics and religion all come after fishing, a philosophy that has drawn customers from as far as Europe to shop before hitting the Milwaukee area waters.

"When you come into this store, we talk fish," White said. "I've run this store for so long because of the people. You meet some great people in this business.

"Hopefully, the experience we give our customers, the way we greet them and the way we get along is as valuable to them as it is to us."

FISHING ONLY GETS BETTER

Much of A&C's customer base has remained loyal through the shop's many years in business. Not much has changed



in that regard. Customers have walked through A&C's doors on Milwaukee's East Center Street for over five decades.

One thing that has changed is the fishing scene. White remembers growing up on Lake Michigan, where the only thing anglers would fish for was lake perch, and the bag limit was more than 30, as opposed to the current limit of 25.

He remembers not wanting to go fishing because of the putrid stench of the alewife fish that washed up on the shore — another thing a modern Milwaukeean has never experienced.

"I guess you could say I was there in its infancy," White said of the city's fishing scene. "We watched it go from lake perch to salmon and trout to today it being salmon, trout, burbot and lake perch.

In White's opinion, the work done on the city's Lake Michigan shores since he was a youth has contributed to a resurgence of interest in things like

"We have a lot of young college students that come in from all over the country, and they're surprised at what we have here, you know, because some of them have never caught trout and salmon before," White said. "We've watched it grow, and we couldn't have supported ourselves without it."

RISING TO THE OCCASION

The community's support has kept A&C going through the good times, the not-so-good times and the unpredictable times — like today. As with many small businesses, A&C has not been immune to the challenges of COVID-19.

While the company has taken a hit from the pandemic, White also felt the effects personally, suffering the loss of three family members due to the disease.

In White's eyes, though, the idea of shutting down A&C was complicated. Bills needed to be paid, certainly, but there also was his sense of duty to the fishing community he's helped sustain over the last half-century.

For his wife, the concern was that if White became sick, he wouldn't be able to do either. So the two came to a compromise.

"We made an agreement," White said. "She said, fine, you're going to keep this store open. Here are the two things you need to do. When you come home, you need to get out of your

shoes, clothes, take a shower and change into something else. The second thing is, you've got to sleep on the couch."

In addition, White promised not to have more than two or three people in his store at one time. After a 30-day probationary period, White was granted access to the bedroom again.

The challenges of COVID-19 have surely taken a toll, but the White family is no stranger to adversity. What keeps White going may be the strength passed down from his mother and father; perhaps it's the deep desire to serve the community; or maybe it's both.

E.B. GARNER FISHING CLUB

These days, White can't think much about going fishing for himself. How could he?

"If I go fishing, then you can't go fishing," White said. "When my father took care of this business, he was open 365 days a year and 24 hours a day. This is what he lived and breathed, A&C.

"My father literally moved out of the house to this store and lived in the back to run this business. When we wanted to see my dad, we had to come to the store and, often, that resulted in us working."

One thing is for sure: The work ethic and sense of community service his father instilled in him live on in White, who continues to share his passion for fishing with the next generation. For about 24 years, A&C has co-sponsored the E.B. Garner Fishing Club in Milwaukee.

Every year on the first Saturday in June, the club hosts a youth fishing event to invite children and their families to fish. Catered food is provided, and club

members instruct clinics to teach kids how to fish. More than 400 people have been in attendance at past events.

These events are reserved for the first Saturday in June because that's when the DNR offers Free Fishing Weekend. It's free to fish without a license.

The hope for White and other club members is that the families have enough fun on this day to be hooked.

"We host this event over at Washington Park," White said. "We've had many partners like Urban Ecology (Center) and the Wisconsin Department of Natural Resources. We provide all the meals. We provide tackle, reels and rods - and all of this is free of charge."

Sadly, the founder of the fishing club, E.B. Garner, died early last year. But White and others have no intention of letting these events come to an end.

"We will be doing something in honor of E.B. once things get back to normal because he did such a great thing here in Milwaukee for our community," White said.

SOUTHERN ROOTS FUEL HIS PASSION

The chance to try fishing has benefited so many youth who otherwise might not have had the resources. Often, children living in Milwaukee's Black community aren't even aware of their access to fishing, White noted.

For those who haven't grasped the fishing culture, he added, it isn't because of a lack of interest or ability, it's more about the dearth of opportunity.

"With our younger kids, if they don't get the chance to fish, the odds are they don't see it as something fun or exciting to do," White said.

For White, growing up in the South, it was different. Southern roots and fishing have a deeper tie than many realize fishing isn't just a recreational activity, but a way of life.

White recalled stories of his father and grandfather noodling for catfish in a tree trunk. For those unacquainted with noodling, it's essentially fishing with one's bare hands.

Noodling in a tree trunk is especially exhilarating, White said, because the noodler could just as soon be pulling out a water moccasin instead of a fish on any given day.

The memories of fishing White holds most dear came from times his father took him out to fish. He also remembers his father taking him on other outdoor adventures, but fishing was the activity that stuck.

"That was part of the culture when we lived in the South," he said. "And all of my customers that come from the South always return home to fish.

"I just think it's our job at A&C to show people, especially younger kids, that there are other things to do besides playing with video games."

CHANGING TIDE IN MKE

In Milwaukee, A&C's location is unique because it's in an urban area. White understands that may create challenges, but he said it's important to realize people in cities might like to fish just as much as folks in rural areas.

"When you get out in the rural areas, hunting and fishing is a part of their culture," he said. "They even teach fishing in their summer schools. I've talked to administrators in Milwaukee Public Schools to figure out why we don't do the same as those schools up north."

White said he believes fishing can do so much for families, as it has for his.

"It's kept my family together as one, and I'm sure it would keep a lot of other families together as well," he said.

White considers teaching a new generation about fishing to be an urgent matter because interest will only dwindle as people get older.

"If these younger folks aren't shown this as they're growing up, they

would have to get used to it as adults," White explained. "By the time they get to being adults, there's too many distractions for them to get into it."

More than ever, those in and near Milwaukee have the opportunity to fish in water that's been greatly restored from previous high levels of industrial waste.

The DNR has consciously promoted fishing in urban areas like Milwaukee County through restoration efforts and partnerships with local organizations such as the E.B. Garner Fishing Club and federal agencies like the Environmental Protection Agency.

Other initiatives to spur interest in urban fishing include new harbor maps highlighting fish species in Milwaukee's lower estuary (see story on Page 38). Opportunities to fish in Milwaukee are increasing at a rapid rate.

EXPERT ADVICE

For those worried they lack the experience needed to go fishing, White has words of wisdom.

"In this business, there is definitely a little technique involved, but there's a whole lot of luck," he said.

Plus, there's so much more to fishing than just landing the next big prize, he added.

"It's not always about catching the fish. When you're out there, whether you get lucky or not, you're mesmerized."

For aspiring anglers, it doesn't take much to get started. For those 15 years or younger, it's free to fish, and the cost for a license could be as low as \$5 for first-time anglers no matter what their age.

As for equipment, White said about \$26 should get you everything you need to get going. "We try to accommodate any budget."

Fishing has many benefits, he added. From a practical standpoint, it offers people a way to get food from their environment's natural resources, which may be especially useful during times like COVID-19.

"It allows them to get out, catch some fish to feed their family and live to fight another day," he said.

And as for the health benefits, White has something to say about that, too.

"First off, being out on the water is extremely relaxing," White said. "You forget about everything else, and all you're doing is trying to catch the fish.

"Once that fish is on your line and you feel the vibrations coming through your rod, nothing compares. I believe it's something that can't be described. It must be felt."

Joshua Morris is a public information officer in the DNR's Office of Communications.



'Wonderful marriage of science and art'

With more restoration progress in mind, colorful new harbor maps chart Milwaukee's underwater world

LAURA OTTO

Four years in the making, a unique set of maps that show what lies under the water's surface in the Milwaukee harbor is now available both online and on signage posted at two outdoor locations near the shore.

The maps are guiding current restoration efforts that could help get the city's harbor removed from the U.S. Environmental Protection Agency's list of "areas of concern," and stimulate the local economy.

Creators of the maps, researchers from UW-Milwaukee, also say the project serves as a model for developing a tool to help improve the health of other urban harbors and estuaries.

The idea for a harbor habitat survey was born when the Wisconsin Department of Natural Resources sought information that would help make a harbor degraded by urban development more attractive for fishing and recreation.

Multiple state agencies, nonprofit groups and federal entities also were interested in such mapping for different reasons — including to help them make decisions about what projects to undertake in the area.

In 2016, John Janssen, a fisheries biologist and professor in UWM's School of Freshwater Sciences, and his then-graduate student Brennan Dow received funding from the Fund for Lake Michigan and the DNR.

Janssen and Dow, who now works full-time for the DNR, combined side-scan sonar, a

method of gathering information about the depth and physical composition of the waterbed, with diving to identify the locations and activities of fish populations (see sidebar on Page 41).

Kim Beckmann, associate professor of design and visual communication at UWM, translated the data collected into visually appealing maps with brilliant illustrations and easily digestible text so the information could be shared with the public.

LINKING 'FISH TANK' HABITATS

The scientists' data showed that more of the underwater landscape is fish-

friendly than they thought it would be, Janssen said, but the areas fish use for spawning, hiding from predators and feeding were spread out and isolated.

Expanding and connecting these areas can better sustain fish populations, so Janssen and Dow also compiled a list of suggested projects to accomplish that objective.

"Think of it like it's a fish tank," said Dow, who is now the Milwaukee Estuary Area of Concern coordinator for the DNR. "The capacity of the Summerfest Lagoon is good, but the issue is there isn't the right amount of habitat to support all those fish."



Habitat and species data from researchers led by UW-Milwaukee professor John Janssen, right, has been turned into publicly accessible maps by associate professor Kim Beckmann, left.





John Janssen, left, and Brennan Dow hit the water as part of their mapping research. Now at the DNR, Dow is working to turn his vision for Milwaukee fisheries habitat projects into reality.



What lies beneath? Turns out there are plenty of fish in Milwaukee's waters, but the key to successful management is connecting their habitats — such as Summerfest Lagoon, below.



An example, he said, involves linking one hotspot, where bass are spawning in the Summerfest Lagoon, to another hotspot across the harbor at the breakwall, where an abundance of tiny invasive shrimp could provide food for baby fish.

Bridging the two spots can be done by adding physical structures, such as rocks, gravel and vegetation, Dow said.

Education was another primary goal, Beckmann said. In addition to the harbor signage, the maps were reproduced on canvas and supplied to Milwaukee Public Schools.

They also hang at Discovery World Science and Technology Museum downtown and are part of the American Geographical Society's collection at the UWM Libraries.

"Having this tool also helps us understand the impact that our lives have had on life under the water," Beckmann said."The environment we accidentally create or the one we harm or restore all of that impacts what the fish do."

PUBLIC INPUT SHAPES MAPS

Fifty-one species of fish that inhabit the harbor — and the three rivers connected to it — are represented on five separate maps, along with seven habitat classifications. Beckmann highlighted 16 varieties of fish on the main map with facts like the kind of substrates each prefers, their diets and their habits.

The maps include works by nature photographer Jim Edlhuber and illustrations by Stevens Point artist and naturalistVirgil Beck.

"It's a wonderful marriage of science and art," Beckmann said.

Deciding what to include was difficult, so she gathered comments on early versions of the maps from the public attending events such as Harborfest, the Wisconsin State Fair and Open Doors Milwaukee.

Viewers usually found a significant place on the map, including fishing spots, that then sparked storytelling about their experiences.

"Stories from the public were really interesting," Beckmann said. "They would begin by talking about experiences above the water at a particular beach and then progress to talking about fish and life under the water."

BETTER ECOLOGY BOOSTS ECONOMY

The maps and survey data were done in consultation with the Harbor District, Milwaukee Estuary AOC Fish and Wildlife Technical Advisory Commit-

tee, and the Army Corps of Engineers, all of which are interested in different aspects of the harbor's features.

The DNR's objective is to address area of concern impairments, which will lead to a healthier ecology. And that, Dow said, has the potential to generate an economic return on investment.

Since 2010, funding for the DNR's remediation projects in the Milwaukee harbor has come largely from the federal Great Lakes Restoration Initiative.

A 2018 study by the University of Michigan showed that between 2010 and 2016, every \$1 of spending on GLRI projects produced at least \$3.35 in additional economic activity in the Great Lakes region. The model the study's authors produced could predict similar return on investment through 2036.

Now that the Milwaukee harbor maps are completed, Beckmann has begun working with stakeholders on similar maps for four more harbors along Wisconsin's Lake Michigan coast — Port Washington, Sheboygan, Two Rivers and Manitowoc.

The maps can offer valuable ecological insights, Beckmann said. "By making this resource available, citizens can be more informed about protecting the environment."

Laura Otto is a writer for UW-Milwaukee's Division of University Relations and Communications.

INFORMATION

To access the new Milwaukee harbor maps online, go to uwm. edu/harbormaps. Five separate maps are available: Milwaukee's main harbor, Menomonee River and Burnham Canal, Milwaukee and Kinnickinnic rivers, Milwaukee's outer harbor, and the city's south shore.

You can view the maps, download PDFs or order printed poster copies while supplies last. Cost is \$50 for a full-size set of maps, with a limited number of free copies available to educators and wildlife restoration groups.

Author Dan Egan, a fellow at UW-Milwaukee's Center for Water Policy, wrote about earlier work on the mapping project, including details on what researcher Brennan Dow found beneath the surface. Check uwm.edu/freshwater/a-map-to-recovery for Egan's full story.



ELIZABETH HOOVER

Dotted with industry, Milwaukee's concrete shoreline appears more hospitable to commercial vessels, pleasure boats and patio dining than to fish and wildlife. But just below the water's glassy surface, pockets of habitats teem with aquatic life.

"It's not just urban sheet-pile walls and dredged canals," said Brennan Dow, the Milwaukee Estuary Area of Concern coordinator at the DNR. "There's a whole world happening next to you that you don't know about."

While a master's student at UW-Milwaukee's School of Freshwater Sciences, Dow worked with professor John Janssen on an extensive mapping project to make that underwater world visible. Supported by the Fund for Lake Michigan and the DNR, Dow mapped 42 miles of Milwaukee's lower estuary, where Lake Michigan meets the city's waterways.

He spent two years boating up and down the rivers, canals and lakeshore "like a lawnmower," and he used sonar to collect information on the waterbed's depth and composition. The information helped him identify likely locations for fish habitats.

Dow then sought out those habitats, donning diving gear and going underwater for a closer look at what lived beneath.

"I found bass, bluegills and other little baby fish," he said.

These biological hotspots were isolated from each other, limiting their viability. Dow created a massive spreadsheet cataloging each location with suggestions on how to connect and enhance them.

TURNING VISION INTO REALITY

After wrapping up his research, Dow has begun to put his habitat ideas into practice and has scaled it to address the entire Milwaukee area through his role with the DNR.

Since starting the job in May 2019, Dow has ferried his list of projects — along with those of other researchers and organizations working on water quality and habitat restoration — through a rigorous vetting process. This final list will be provided to the Environmental Protection Agency.

"Milwaukee is never going to be like Door County, with amazing nature and tons of wildlife," he said. "Instead, we want to get to a place where we have a successful, sustaining population in an urban setting."

Meanwhile, his technical map has gotten a makeover from Kim Beckmann, associate professor in UWM's Peck School of the Arts. Beckmann worked with Janssen to translate the data Dow collected into accessible maps and signage for area parks.

"Her work (bridges) the gap between the science and the public," Dow said of the finished maps.

He looks forward to a time when visitors to the Milwaukee shoreline can see the area as a living, dynamic ecosystem.

"It's important to show people there is a big push to clean up Milwaukee," Dow said. "And, yes, there really are fish out there."

Elizabeth Hoover is a Ph.D. student and teaching assistant in English at UW-Milwaukee.

Historic first for state forestry

Heather Berklund embraces new role as DNR's chief state forester

KATHRYN A. KAHLER

Last fall, the Department of Natural Resources announced one of many "firsts" in its 100-plus-year history of forest management.

On Oct. 12, Secretary Preston D. Cole appointed Heather Berklund as the department's new chief state forester, the first woman to serve in that role. Berklund replaced Fred Souba, who had held the position for four years.

"I am proud to announce Heather taking on this leadership role," Cole said in making the appointment. "She brings years of on-the-ground Wisconsin forest management and fire control experience to this position.

"As the first woman in Wisconsin's history to hold this role, I know she will

bring diverse perspectives to the table in her work."

Berklund's 20-year career with the department has included myriad field and supervisory duties, ranging across the Northwoods from Mercer to Woodruff. She has led public and private lands programs, the Good Neighbor Authority partnership for forest management, forest certification, tax law and fire protection programs.

Growing up in Wisconsin, Berklund enjoyed family vacations and leisure time that "included fishing and exploring the outdoors 'up north,' along the Mississippi River and in the Reedsburg area, where I attended high school."

She met her husband near the end of her time attending UW-Stevens Point, and both went to work in the DNR's Division of Forestry after graduation.

"We continued our love for fishing and for the outdoors," Berklund said.
"We settled into the Northwoods and are raising our two kids (ages 12 and 14) in the Minocqua area."

Berklund is stationed at the department's Division of Forestry headquarters, located in Rhinelander.

"We are blessed to be surrounded by thousands of acres of parks and national, state, county and industry forest lands to 'play' in," she said. "We are a family that embraces all seasons."

Because Wisconsin forestry is such an integral part of the state's economy, culture and ecological landscape, *Wisconsin Natural Resources* editorial staff thought it important to introduce Berklund to our readers. We posed several questions, and her excerpted answers are featured here.

Visit our website — wnrmag.com — for more from Berklund, including her perspective on Western wildfires, the future of Wisconsin's forestry programs and how they fit into state leaders' strategic vision regarding public health, climate change, water quality and more.

Kathryn A. Kahler is associate editor of Wisconsin Natural Resources magazine.

As a young woman choosing a career, what attracted you to forest management?

Growing up in rural southwestern Wisconsin, forestry was not on my radar as a career option. My days were spent roaming the outdoors, playing in the creek bottoms, hiking the hills for morel mushrooms, berry picking and endless days cutting, hauling and stacking firewood — a family event!

Like many other girls growing up in the 1970s and '80s, I pictured myself as a teacher or nurse, careers that were very familiar. However, I knew I did not want a job sitting in an office all day — ironically it has evolved to that — so I explored schools with a focus on natural resource management.

At first, I gravitated toward careers in environmental education, such as a national park interpreter. Public sector careers intrigued me as well, for I have always had a drive to serve and give back to the greater good.

Eventually, I landed at UW-Stevens Point. I appreciated the focus on technical field skills, diversity of courses and student organizations. The intimate campus felt more like a "community."

After taking many of the natural resource introductory courses, forestry appealed to me. Trees truly are the connection and foundation for an entire healthy ecosystem and part of the essence of human health and survival throughout time.

Although I didn't have a female role model, I never really thought about gender or ethnic diversity within the forestry profession when I chose this path. At that time, I was just excited to have a career in the public sector and took every opportunity to diversify my background and never stop learning along the way.

Diversity to me comes in many forms. The diverse benefits of forests; the diverse careers within the forestry profession; the diverse demographics, programs, landowners and partners you get to work with; the diverse knowledge and history—all intrigued me.

I hope just being the "face of Wisconsin state forestry" now will allow others to picture themselves in this career, and get people excited for the forestry profession.

You've had a robust and varied career in the DNR's Division of Forestry. What are some of the highlights and accomplishments?



Heather Berklund has held numerous positions during her career. "I knew I wanted to help shape the future of forestry in Wisconsin."

In my early field career and supervisory roles, I worked in very remote geographic areas of the state, where all our programs merged.

I enjoyed it all — meeting with landowners to help manage their woodlands, trekking miles on snowshoes inventorying our public lands, long days swatting mosquitoes while marking trees for timber sales, responding to natural disasters, training with fire departments to prevent and suppress forest fires, engaging with the logging community on administering timber sales and understanding the impacts of our management.

I also took advantage of learning from senior foresters, program specialists and other department staff. I was part of statewide specialist teams, incident management teams, cross-divisional wildlife surveys, interview panels, training and community and education outreach.

As I connected more with forest industry and other partners, I knew

I wanted to help shape the future of forestry in Wisconsin and "took the shot" to move through the department's supervisory channels. is a team effort. I am proud of everyday accomplishments that make an impact on our future forest landscapes, along with protecting and supporting our citizens.

Working on incident management teams with local personnel on several

So much of what the division does

Working on incident management teams with local personnel on several historic events reinforced the importance of serving the public.

The 2001 Siren tornado, the 2010 Turtle-Flambeau Flowage tornado, the 2013 Germann Road Fire and several local search-and-rescue incidents were all impactful and put the work we do in perspective to the power of Mother Nature.

I also enjoyed being part of statewide initiatives that helped support and benefit the greater forestry community and industry. I never take for granted all the people, places, teams and initiatives I have been involved with in the division, department, industry and communities.

Part of your education included studies in Germany and Mexico. What did you learn there that helped shape your career in Wisconsin?

UW-Stevens Point offered several short courses. The first one I took was exploring the Yucatan Peninsula of Mexico and Belize to learn about their agroforestry efforts and ecotourism business strategies.

Just witnessing life in a developing country broadens perspective on how rich our country is in resources, goods and freedoms. It showed me that forestry can complement other land objectives



Chief State Forester Heather Berklund builds on the success of long-standing forestry programs, including fire prevention and suppression. Early in her career, she served as a DNR field forester in Mercer, where the first Smokey Bear costume was created in 1950.

BRYCE BERKLUN



"So much of what we do in the public sector is working with people," said Heather Berklund, shown at a 2018 Wisconsin Forest History Association event. She considers "the ability to navigate relationships" an important asset.

to sustain and balance both societal wants and personal needs.

In Wisconsin, we have active working forests that support recreational activities and a forest industry that is a huge economic contributor to the local counties, towns and citizens.

In Germany, I participated in a short course in the Black Forest near Freiburg, where we learned about new practices in timber stand improvement and crop tree/single tree selection of their hardwoods.

It was inspiring just being in the heart of German forestry and witnessing the longevity of years of active management. Also, my family ancestry is almost purely German, so the historic cultural perspective was rewarding.

While I did not realize it at the time, I was the only woman participating in that course. The experience boosted my confidence, broadened my silviculture knowledge, my ability to be openminded and support innovation and apply adaptive forest management to Wisconsin's northern hardwood stands.

Parts of the world are very advanced in forest products, utilization and technology. Educating yourself beyond Wisconsin is important to help in moving innovation. Trees are the backbone for many cultures and economies worldwide.

What personal qualities have helped you in your career?

The ability to navigate relationships has been most helpful. So much of what we do in the public sector is working with people: public citizens, government officials, internal teammates, private business owners and other public agency staff.

Respecting others' viewpoints, keep-

ing an open mind, listening to the issue at hand and showing empathy have all been vital qualities in my career. In the public sector, our work is also driven by legislation, so the ability to adapt to change, find solutions, be creative and stay positive have benefited me.

Much of what natural resource professionals do is for future generations, so we often don't receive that immediate gratification. Keeping things in perspective, seeing how my work connects to a larger system and continuously wanting to better myself all motivate me.

Being a mother has strengthened

these qualities and made me a stronger supervisor and leader — knowing when to make a quick decision, respond and move forward, fight for a cause or just listen and "go with the flow." For me, it has been about finding that balance to work hard and play hard!

Our readers have a variety of outdoor interests, from bird-watching, hunting, fishing and recreating outdoors to environmental involvement. What would you most like this diverse audience to know about DNR's forestry programs and policies going forward?

Sustainable forestry is our guiding concept and its three pillars — ecological, social/cultural and economic — encompass the full range of forest benefits and values. We consider the appropriate balance of all three in our management of public forest lands.

The three pillars are closely intertwined. For example, a timber sale that supports the local economy may be designed to benefit wildlife habitat or provide funding for recreational investments.

The same is true for forest management plans created for private woodland owners, although the goals of the landowner are the primary driver of the management.



The Division of Forestry has worked to broaden recruitment to careers in the field, with foresters such as Brian Wahl leading educational opportunities in urban areas, for example.

DNR FILE

Your interests are included in the large sustainable forestry umbrella, whether you're a forest recreation enthusiast, value the forest for beauty and solitude or are concerned about threatened and endangered wildlife species.

I encourage you to participate in opportunities to help shape the management of our public forests during planning processes. A wide variety of interest groups took part over the past couple of years in the development of Wisconsin's Statewide Forest Action Plan (see sidebar on Page 46).

Your involvement in caring for Wisconsin's forests is especially important now as the resource faces a challenging set of issues, including climate change as well as invasive plants, insects and diseases.

You can make a difference by following best practices and simple guidelines such as getting firewood where you plan to use it, getting a free burning permit and checking weather conditions before you start a fire.

Many of our state forestry programs began in the early 1900s as we recovered from the cutover of the Northwoods but have evolved over the past century as new science becomes available, innovative equipment and practices are developed, and as public needs and demands change.

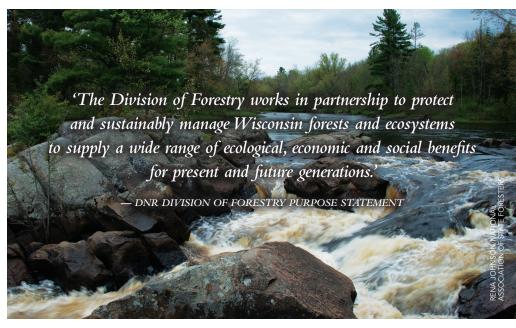
My goal is to build on this strong historical foundation as the Division of Forestry continues to adapt to changing conditions and ensure that our 17-million-acre forest resource continues to meet the needs of our citizens today and in the future.

With a difficult 2020 in the history books, what do you see as Wisconsin forestry's biggest challenges in 2021?

We recognize the challenges and potential aftermath of the COVID pandemic. We are working closely with partners and agencies to understand its impacts, find ways to support the forests and industry needs, and ensure policies within our control align with the public needs.

We are closely monitoring wood markets, especially with the 2020 idling of large mills in Wisconsin Rapids and Duluth. We are also concerned about the secondary impacts this could pose to the industry.

Maintaining a robust forest products industry is critical to the health of Wisconsin's economy. Having a diverse market statewide is crucial for both pri-



Flambeau River State Forest, where water and forest resources merge.

vate and public landowners to actively manage and maintain a healthy future forest landscape.

Invasive species and forest health continue to pose challenges. We are excited to have a new invasive plant coordinator in Rhinelander as part of our Forest Health Team. They will collaborate with local Cooperative Invasive Species Management Areas.

The Division of Forestry will address climate as part of the DNR and governor's office initiatives in 2021. Much of the work we already do can complement climate mitigation efforts. Our challenge is to have a collaborative approach and invest in projects that best meet the needs of Wisconsin, while also benefiting the greater nation and world.

The Division of Forestry is collaborating with education institutions on environmental, forestry and fire training to broaden recruitment of students in non-traditional areas across the nation, such as urban areas.

Secretary Cole has identified five focus areas for the department for the coming biennium, including clean water, climate change, service excellence, outdoor recreation and public health and safety. How does the Division of Forestry's strategic direction fit with this agenda?

All five areas are vital components of sustainable forestry in Wisconsin. Let's take water, as an example.

Both resources — water and forests — are crucial to the social, cultural, ecological and economic well-being of Wisconsin. Forests play an important role in the water cycle, contributing to the high quality of water found in Wisconsin's lakes, streams and wetlands.

Protecting the quality of these water resources that Wisconsinites treasure for their scenic beauty, recreational opportunities and fisheries habitat has always been part of our forestry work.

Wisconsin's first state forester, E.M. Griffith, said, "The main reason for establishing forest reserves in Wisconsin was to preserve the stream flow in the important rivers ... where the greatest rivers of the state rise."

These forest reserves became the northern state forests that today offer a wealth of water-based recreation opportunities.

The Northern Highland-American Legion State Forest, one of the most popular state properties for recreational visitors, encompasses more than 900 lakes — the highest concentration of lakes in Wisconsin — while also protecting the headwaters of the Wisconsin, Flambeau and Manitowish rivers.

It is no coincidence that four of our other northern state forests have the word "river" in their name — Black River State Forest, Brule River State Forest, Flambeau River State Forest and Governor Earl Peshtigo River State Forest. Another, the Governor Knowles State Forest, was originally named the St. Croix River State Forest. Rivers are an important part of these working forests.

And here's a bit of trivia for your next dinner party: Five U.S. presidents





ACTION PLAN GUIDES WISCONSIN FORESTRY FOR NEXT DECADE

A new plan builds on a long and successful history of collaboratively planning for and implementing sustainable forest management in the state.

Wisconsin's Statewide Forest Action Plan, a 10-year strategic plan for the forestry community, assesses the current state of Wisconsin's forests and outlines opportunities for growth and challenges from 2020-30.

Recognizing the importance of sound forest planning, the U.S. Department of Agriculture requires each state to submit a Forest Action Plan. Wisconsin's plan shares comprehensive goals and strategies to help the forestry community refine how it will invest state, federal and partner resources to address management priorities.

Wisconsin Chief State Forester Heather Berklund said the new plan was developed with partners statewide and prepares the state to take on the challenges facing Wisconsin forests — from the threats posed by invasive insects, plants and diseases to maintaining the state's working forests.

"This plan charts our path forward and helps guide us on the continuing journey of sustainable forestry," Berklund said. "We invite everyone who is passionate about Wisconsin's forests to consider this plan their own, build new collaborative partnerships and take an ownership role in the future of our forests."

Read more about the Statewide Forest Action Plan on the DNR website: dnr.wi.gov/topic/forestplanning.

- DNR STAFF

 Ulysses Grant, Grover Cleveland, Calvin Coolidge, Herbert Hoover and Dwight Eisenhower — have enjoyed fishing on the Brule River!

Can you offer your perspective of how important partnerships are to Wisconsin forestry?

The Division of Forestry's core foundation and culture is rooted in partnerships, as stated in our purpose statement. I look at the Division of Forestry as an important conduit to help navigate and align the various entities, programs, funding and resources to achieve sustainable forestry.

The list of our critical partners is extensive. It ranges from volunteer fire departments, emergency management agencies, police and wardens, to public land managers including the Wisconsin County Forest Association, the U.S. Forest Service, Bureau of Indian Affairs, tribal governments and local municipalities.

Urban partners include community and municipal forest and recreation managers, arborists and city planners, many of whom are represented on the Wisconsin Urban Forestry Council that advises the DNR's chief state forester. We partner with universities and private landowner organizations on education and outreach initiatives.

Forest industry partners include loggers and truckers and industry organizations such as the Great Lakes Timber Professionals Association, the Wisconsin Paper Council and the Lake States Lumber Association.

Federal agencies such as the USDA's Natural Resources Conservation Service and Farm Service Agency aid in private forest management. Nonprofits partner with us in prescribed burning, land preservation and climate initiatives.

Lastly, the division works closely with the Wisconsin Council on Forestry, an advisory group appointed by the governor with broad representation across the forestry community.

No single organization has the ability to manage Wisconsin's forests alone. Effective, collaborative partnerships are critical to ensure our forests continue to provide the full range of ecological, economic and social benefits for future generations.

INFORMATION

Visit dnr.wi.gov/topic/forestry for program information, resource materials and staff contacts.

LONG LIST OF 'FIRSTS' FOR WISCONSIN FORESTRY

Many of the programs that form the foundation of the DNR's Division of Forestry began in the early 1900s under the leadership of Wisconsin's first chief state forester, E.M. Griffith, and other forestry visionaries. Through the decades, state forestry leaders have built on those early efforts and established new programs to meet today's needs. Here are a few of many "firsts" in Wisconsin forest history. For an expanded version with more "forestry firsts," visit wnrmag.com.

1809

First sawmill built in Wisconsin, near present day De Pere.

1867

First forestry commission authorized by the State Legislature to study forest destruction.

1871

Peshtigo fire in Marinette County burns over 1 million acres and claims more than 1,200 lives.

1892

First official observance of Arbor Day occurs in Wisconsin.

1895

Organized forest fire prevention begins as Wisconsin adopts town fire warden laws.

1899

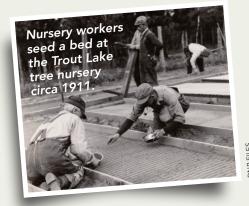
Wisconsin leads the nation in lumber production.

1904

E.M. Griffith becomes the state's first professionally trained forester.

1910

U.S. Forest Service opens the Forest Products Laboratory in Madison, the first wood products research institution in the nation.



1911

First state nursery is established at Trout Lake in Vilas County. Since then, state nurseries have produced more than 1.6 billion seedlings for reforestation purposes.

1915

Jack Vilas makes an aerial forest patrol flight from Trout Lake, marking the first time anywhere an aircraft is used for detecting forest fires.

1925

The UW-Madison College of Agriculture begins a farm forestry program, and Fred Wilson is Wisconsin's first UW-Extension forester.

1928

Langlade County establishes the first county forest, and Laona and Crandon establish the first school forests.

1935

Wisconsin's first statewide forest inventory is conducted.



SMOKEY SAYS — Care <u>will</u> prevent Out of 10 forest fires!

1944

USDA Forest Service creates Smokey Bear to teach wildfire prevention. Six years later, Wisconsin unveils the first Smokey costume.

1949

State Forestry Board implements a program for survey and control of forest insects.

1958

Soil Bank Program increases tree planting to record levels.

1970

UW-Madison and UW-Stevens Point begin offering degrees in forestry.

1979

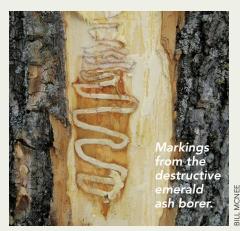
Wisconsin Woodland Owners Association forms.

1995

State statutes are revised to include the principle of sustainable forest management.

2004

Ten state forests receive third-party sustainable forestry certification. Today, nearly 7.5 million acres of forest land in Wisconsin are certified.



2008

Emerald ash borer, a major cause of ash mortality, arrives in Wisconsin.

2015

Through the Good Neighbor Authority program, DNR begins partnering with counties and consulting foresters to help implement the Chequamegon-Nicolet National Forest land management plan.

2020

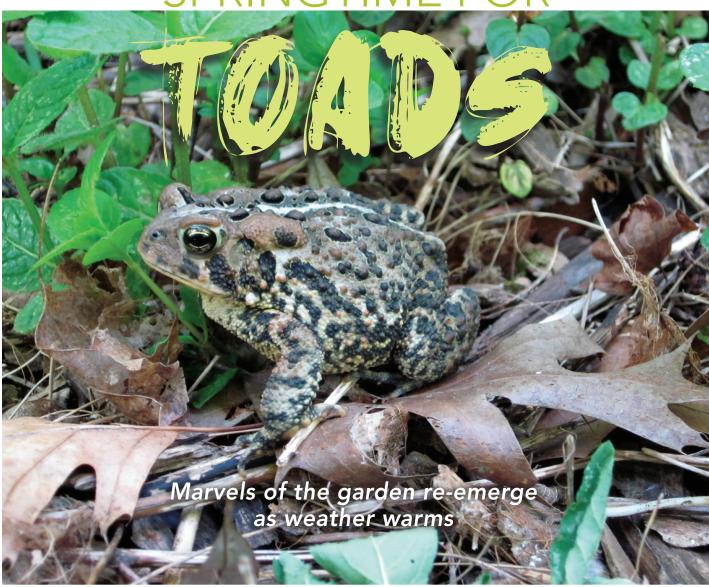
Wisconsin ranks second in the national Tree City USA program with 195 communities participating.

2020

Heather Berklund is hired as the first woman to lead Wisconsin's state forestry program.



Heather Berklund



STORY AND PHOTOS BY CHRISTEL MAASS

I hear the American toads trilling in the parkway creek across from our house in the spring. They've come out from their frozen winter slumber.

The toads have spent the past several months burrowed deep in the soil under the leaf litter. When the weather finally warms, I encounter them all around my yard as I walk from garden to garden.

They often bound from the grass at the garden's edge, escaping my footfall as I bear close. If I don't actually catch sight of them, movement amid the



Toads show up just about everywhere in the author's backyard garden and are especially fond of cool, moist spots when heat begins to build.

plantings makes their presence known.

When I do spot them, I crouch to examine their size and colors, and to determine whether it's a toad I've spotted before.

In recent years, we've welcomed so many of them. To me, they indicate we have a healthy habitat, which is what we strive to provide for wildlife in our going-native and pesticide-free suburban yard.

These toads, I've discovered, are uniquely and wonderfully diverse. Their skin colors range from beautiful shades of tan, light and dark browns and greys to some with deep reddish touches and white details.

One of the more unusual-hued toads was burnt orange and another olive beige, both with tones blending into their surroundings — the former against gravel aside the house and the latter similar in color to dried plant stems left to decompose in the garden.

The toads have spots and stripes and bold patterns. And they have personality — some fearful, some determined, others watchful and defiant.

the depression between the ears of an ornamental rabbit. The toad returned to that hunting perch at the edge of a woodland garden on subsequent nights.

Searching carefully, I find toads hunkered down, hidden amid the decomposing leaves and organic matter. I notice shallow depressions

NATURAL PEST CONTROL

I'm particularly glad to find toads in my vegetable garden, where the slug damage to my kale plants has noticeably lessened thanks to the toads' diet. These garden helpers are a natural pest control squad.

Stopping to observe, I've seen a





PLACES, EVERYONE

The toads appear to have their own territories and hiding places. Last year, one sheltered amid the large rocks at the edge of our sunny patio, where he appeared to suffer on hot days.

Others reside between logs I've incorporated into my garden borders, by the dripping rain barrel and in the cool moistness at the ends of downspouts. Another prefers the wet driveway culvert.

My friend's mother guarantees you'll find a toad in her strawberry patch, and that is usually the case in our plot, too. They are also partial to our herb garden, particularly the mint patch.

Toads can be entertaining. One evening around sunset, when toads are more active, I did a double take when I discovered a toad waiting for prey in

in my gardens where I've seeded and watered, and I suspect a toad has been enjoying the cooling moistness.

I've tucked water sources, including old pasta bowls and a chipped pie dish, into my gardens for wildlife. On oppressively hot days, I find toads soaking in them — truly a treat to behold.

Plant leaves provide an umbrella of protection from the sun's rays over these bathing basins, and I'm mindful to leave this cover intact. One afternoon, a toad hopped across our patio to sit in the damp saucer under a flowerpot, so now I make sure there's soaking space there, too.

I found another toad would wait for prey after dark by sitting motionless in a puddle on the driveway, giving me good reason not to sweep that rainwater away in the future. tongue flash to catch a small insect I barely noticed and have caught sight of toads devouring an earthworm.

Furthering my efforts to welcome toads, I've incorporated clay flowerpots and stoneware jugs, positioned sideways and worked partially down in the soil, for potential toad abodes in the landscape as well.

Toads! I marvel.

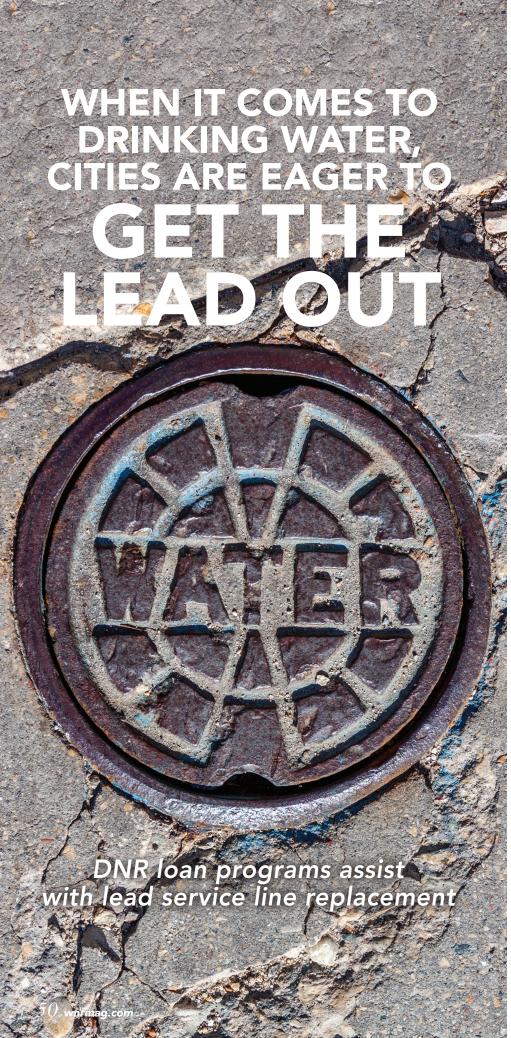
These amphibians endure temperature extremes that keep most humans indoors during our brutal winters and blazing summers. They've made me more appreciative of the wonders and diversity of nature.

When fall rolls around again, I'll rake the leaves into our gardens and let the plant cuttings decay on site, providing habitat for another season.

Christel Maass gardens and welcomes wildlife to her yard in Fox Point.

INFORMATION

The American toad is a common species throughout Wisconsin. For details, including a short video, go to dnr.wi.gov and search "toad." To learn more about citizen-based monitoring of the state's frogs and toads and how to get involved, check out the Wisconsin Frog and Toad Survey — wiatri.net/inventory/frogtoadsurvey.



PETER JURICH

At a conference for the American Water Works Association's Water Utility Council a few years ago in Washington, D.C., Nancy Quirk was eating lunch with other members of the council when someone brought up the topic of lead pipes.

The water crisis in Flint, Michigan, had been dominating the news cycle, and the group wanted to know what each member's city was doing to handle lead pipe replacements within its borders.

Quirk, who is general manager for the Green Bay Water Utility, mentioned a program set up by the Wisconsin Department of Natural Resources that granted money to cities for the specific purpose of lead pipe replacement.

Quirk said the rest of her group became downright awestruck and incredulous at the possibility of such a program existing in their own states.

"I don't think there's any other state I heard of that did what Wisconsin did," she said of the DNR's Safe Drinking Water Loan Program. Through the SDWLP, Green Bay secured about \$800,000 to replace many of its lead pipes.

Using lead pipes for water can mean exposure to lead poisoning for many households. That kind of exposure is unsafe and could lead to negative health outcomes such as cardiovascular disease, developmental delays and reproductive issues.

There is no safe level of lead in drinking water, but the Environmental Protection Agency mandates a federal action level of 15 parts per billion. That means cities are required to take action if their water contains at least 15 ppb of lead.

The SDWLP funds projects for publicly owned water infrastructure such as water mains — the large pipes that run directly under city streets. After such pipes were replaced in Green Bay, to be totally lead-free the city needed to find money to replace the private lead service lines that run from the curb into people's homes.

After some digging through city records, Quirk said her utility depart-

STOCK





Nancy Quirk, general manager for the Green Bay Water Utility, answers media questions about the city's lead pipe abatement success at an Oct. 6 event to celebrate replacing the city's last lead line.

ment found around 250 private LSLs that needed to be replaced. The steep price tag of about \$5,000 per replacement, however, prevented the city from helping residents with the cost.

"We needed to have some other funding," she said. "We were even working on an ordinance to help possibly fund it for our people."

That's when the DNR stepped up again with yet another program to offer funding for private-side LSL replacement.

"The DNR came in and had this (other) program," Quirk said. "It was just so welcome."

ON THE PRIVATE SIDE

The Private Lead Service Line Replacement Program, unlike the regular SDWLP, earmarks money for municipalities to use specifically for replacing those private lead service lines Quirk worried residents would otherwise need to fund themselves.

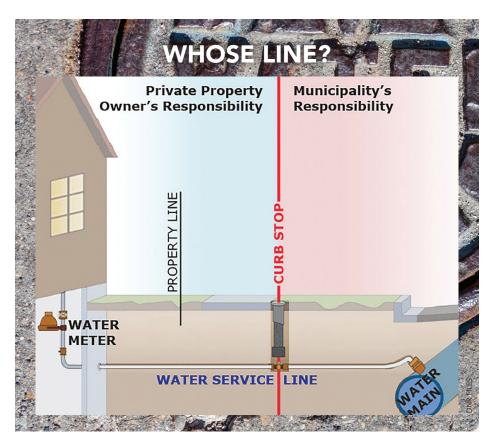
What's more, it's not a loan program; it's a principal forgiveness program — essentially a grant — so cities do not need to pay it back.

"Our goal by the end of two or three years is basically to replace as many lead service lines as we can with the funding," said the DNR's Rebecca Scott, a federal liaison and policy analyst for the state's revolving fund programs.

"In addition, we're hoping to kickstart

municipalities doing replacements and keep them doing the replacements into the future."

The Private LSL Replacement Program — a state partnership among the DNR, the Department of Administration and the Public Service Commission — was established to assist communities in replacing any LSLs that exist between the public curb stop and the private connection point within residences, schools or daycare buildings.



It is a product of federal legislation passed in October 2019 that allows funds in Wisconsin's Clean Water Fund Program to be transferred to the Safe Drinking Water Loan Program as principal forgiveness for the purpose of lead abatement.

The amount that could be transferred was up to 5% of the cumulative capitalization grants from the EPA that had been awarded to the Clean Water Fund Program.

"For us that came to \$63.8 million, and we decided to transfer the full amount," Scott said.

"It's not new money that came into the program," Scott added. "It's a movement and recharacterization of the money."

LOAN PROGRAM MAKES IT WORK

The Private LSL Replacement Program has worked in Wisconsin before, first appearing as a two-year program in state fiscal year 2017.

The application for these funds is available on the DNR's website, and applications can be submitted through the end of the current state fiscal year in June. The DNR will continue the program until the money runs out.

Green Bay was the first to apply to the original program and in October, the city achieved 100% lead replacement. Quirk describes the completion as a huge relief.

"We made a goal that we would get rid of all of our lead in five years," she said."There's not one person at this utility that wasn't involved with helping us get to that goal. Everyone just pitched in and they innovated where they needed to."

The DNR loan program was a catalyst for Green Bay's successful removal of private-side LSLs.

"Before the DNR grant, we weren't sure how we were going to get these people to be able to afford this water service to be replaced," Quirk said. "Without the DNR program, we would not have been as successful at getting rid of our private-side lead."

TO TREAT OR NOT TO TREAT

Green Bay represents the end of a long struggle to rid the city of lead pipes. Other cities are on their way.

In Stoughton, in southeastern Dane County, city utilities director Jill Weiss recalled finding herself at a crossroads a few years ago.

"We sort of recognized that we were really running down two paths," she

said. "One of either replacing 100% of our lead services, or we were going to need to treat our water."

Weiss, like Quirk, felt called to action through the national news. Given the health risks of leaving lead pipes underground, the question of whether to rid the city of them was a no-brainer — it was just a matter of figuring out how.

After doing some rough price estimates, the right path became apparent. For lead pipe replacement efforts in 2021, Stoughton has budgeted \$3.2 million. But to treat the water?

"We figured chemicals would be about \$60,000 annually," Weiss said. "In the short term, the cost would be significantly less, but the long-term impact is more."

Weiss added that in treating water, it was unclear whether the city could meet that EPA action level of 15 ppb.

"It's something we'll still have to do," she said of meeting the standard. "But if we take care of it now, we then don't have to move forward with any kind of water treatment."

Up in Green Bay, Quirk echoed similar sentiments on chemical treatment options.

"All of our water that is used goes into the Fox River after it's been treated," she said. "The Fox River has got algae and toxins, and the phosphorus loadings are very high.

'We did not want to look at treatment where we would have to add additional phosphorus into our water."

KUDOS FOR STOUGHTON **PLANNING EFFORTS**

Stoughton's goal is a lofty one: Replace all lead pipes by the end of 2021.

To the best of knowledge as the year began, Weiss said the only areas of the city with lead pipes in the public sphere are within an area that circles downtown Stoughton.

"Obviously, to replace all lead services, we have to replace our public side as well. But it is a significant cost to the water utility to be able to do that," she said.

Weiss first heard about the Private LSL Replacement Program last February in a meeting with the DNR.

"As soon as we were aware of the program, we started to set ourselves up,"

When the DNR offered similar funding several years ago through its Safe Drinking Water Loan Program, the money came with a low-income provision for municipalities that Stoughton





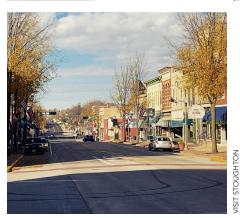


Work including hydro excavation has gotten underway in Stoughton to identify private-side lead service line locations.

BOVE AND LEFT BY STOUGHTON UTILITIES







Removing lead service lines from its water supply is a priority for the city of Stoughton, which has applied for DNR Private LSL Replacement Program funds to help with the project.

did not meet. The new funding does not have that restriction.

Instead, Weiss said, this program has a need-based ranking system for distributing funds.

"There's a variety of things that come into play with the ranking, so if they were to run short on dollars, they rank the communities," Weiss said.

She described Stoughton being about "middle of the group" for communities currently pursuing program funding.

"Through a variety of educational opportunities, I think that DNR really has done a great job of helping us understand where we sit."

The DNR's Scott said the planning moving forward in Stoughton is just what the agency envisioned for the Private LSL Replacement Program.

"Once Stoughton heard about our program, they decided to make a big push to take all of their lead pipes out within a very short time frame," Scott said. "It's exactly the kind of thing we were hoping this money could jumpstart."

UP TO THE CHALLENGE

Replacement of public pipes in Stoughton has been ongoing for several years, but replacing private LSLs has posed more of a challenge.

Though Stoughton Utilities has always encouraged residents to get their pipes replaced, the message is largely ignored without proper education on the health effects of lead pipes.

"Someone who (already) has a water service that provides them water can spend \$3,000 to \$5,000 to have another pipe that provides them water," Weiss said.

That can be a lot of money for a homeowner, she acknowledged, and either way, the household still gets water just the same.

Without the grant program for the city to coordinate with property owners, she added, "We'll have maybe only a handful each year that will replace their side of the lead service."

The Private LSL Replacement Program allows for possible reimbursement of work that was done in 2020, depending on the circumstances.

For 2021, Stoughton Utilities hopes to have the money on hand either to work with contractors directly or reimburse residents who replace their home's lead pipes themselves using a list of pregualified contractors.

"It will be logistically challenging because utilities, as well as the contractors, will need to work with approximately 700-some customers to be able to change out their lead service," Weiss said.

Fortunately, Stoughton Utilities has the wastewater, electrical and public service personnel it requires to make the operation go smoothly, Weiss said.

"It's really all hands on deck, and I have a great group of people that are going to do everything they can to make this happen."

AID AND AWARENESS

Working with the DNR on the funding elements has been a rewarding experience, Weiss added.

"I couldn't say enough good things about the DNR," she said. "They've walked us through all the questions we've had related to the program and have been fantastic to work with."

Stoughton Utilities has been educating the community on the ongoing steps toward full LSL replacement. Information is included in customers' monthly utility bills, and an interactive website map identifies land containing lead pipes. Frequent social media posts also inform residents of what's happening.

"We try to at least create awareness that there's this grant opportunity out there," Weiss said.

If residents miss the educational material, they likely won't miss the hydro excavation crews around town verifying records of where lead pipes still exist.

"To go forward with a project of this scope, we wanted to make sure we had a good, solid understanding of exactly what properties still have lead services," Weiss said.

Though replacing all the city's lead service lines will be logistically challenging, Weiss said she can't wait for the goal to be met.

"I'm concerned, but super excited to be lead-free and to be able to put the issue of lead behind us."

Peter Jurich is a science writer for UW-Madison's Waisman Center.

INFORMATION

To learn more about lead service lines, including links to the Private Lead Service Line Replacement Program and information on lead in drinking water, go to dnr.wi.gov and search "lead lines."

TRAVEL RESOURCES

Wisconsin's great outdoors inspire state-based gear manufacturers

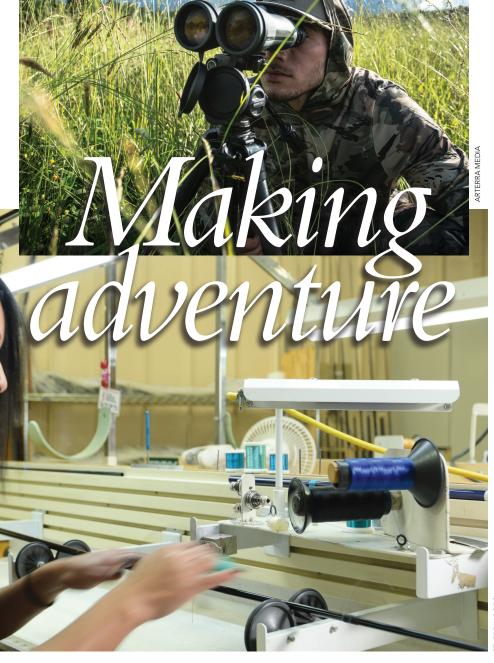
ANNE SAYERS

Vortex Optics has expanded its offerings far beyond basic binoculars and now employs nearly 300 people in rural Iowa County.

The charisma of Wisconsin's outdoors is undeniable. Its beauty, the awe-inspiring views and the variety of landscapes never fail to refresh the soul.

I can hike the same trail day after day and see something different each time, or maybe that's just because I'm looking for birds.

Having lived everywhere but the Midwest before choosing to attend UW-Madison, I had no idea what I was missing. While I wasn't fishing for my forever home, I was instantly charmed by the intensity of the four seasons, the constant presence of water and a sense of community in embracing the outdoors.



St. Croix Rods in Park Falls is the nation's largest handcrafter of fishing rods.

Soon enough, the lure of Wisconsin's outdoors reeled me in for good.

It turns out I'm not the only one. The state's charisma plays a major role in turning visitors into residents, attracting businesses to locate here and recruiting workforce talent.

It's no coincidence Wisconsin is home to dozens of outdoor manufacturers and ranks among the top states in the nation for outdoor recreation-related jobs. These brands either grew out of Wisconsin's outdoor lifestyle or were drawn in because of it.

As a self-proclaimed bird nerd, imagine my delight when I learned my Eagle Optics binoculars were designed by a company (now Vortex Optics) in Barneveld, population about 1,200.

Based in rural Iowa County, Vortex Optics expanded its product lines to better serve hunters, offering spotting scopes, range finders, rifle scopes and red dot sites in addition to binoculars. The company now employs nearly 300 people.

Several other outdoor brands are located in the rolling hills of the state's southwest corner — including Lands' End, Duluth Trading Co., and Arctica, a ski and snowsports apparel company – but the area is not an anomaly. Sprinkled across the state, outdoor manufacturers take advantage of the natural resources around them.



Anne Sayers, acting Department of Tourism secretary, has developed a deep appreciation for the outdoors in her adopted state of Wisconsin.

BOATS, RODS, PADDLES AND JOBS

Located in Gillett, northwest of Green Bay, Northport Marine manufactures fishing and pontoon boats under the brands MirroCraft and Montego Bay, respectively. The company got its start in 1956 in Manitowoc and proudly references its Wisconsin heritage on the website.

Primarily utilizing the lakes and rivers of Oconto County for photo shoots, the company's catalogs and marketing materials are distributed across the country and feature the pristine waters of Wisconsin.

Two other well-known brands have impressive facts to boast. St. Croix Rods, based in Park Falls and billing itself as "the best rods on Earth," is the largest handcrafter of fishing rods in the country. In Osceola, Bending Branches, which recently acquired and moved production of Aqua-Bound to Wisconsin, is the world's largest manufacturer of paddles for canoes, kayaks and stand-up boards.

St. Croix Rods employs about 170 people in Wisconsin, and 32 pairs of hands touch each rod crafted in its factory. With the addition of the new Victory rod to their lineup, the company is preparing to add more jobs.

"We want to be good stewards of our Northwoods community, and adding good-paying, meaningful jobs for our people means victory to us," said Jesse Simpkins, director of marketing.

In its marketing videos, Bending Branches notes paddling is more than a job for employees: "It's a way of life. It's in our DNA and drives the passion we have for serving fellow paddlers."

Marketing manager Andrew Stern added: "We are very fortunate to live in a state with an Office of Outdoor Recreation that obviously cares about growing our industry and outdoor recreation in general."

Likewise, the company demonstrates its care for the outdoors through the locally sourced wood for which their brand of paddles is known.

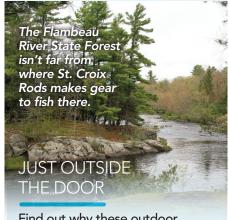
KEEPING A COMPETITIVE EDGE

That's because in Wisconsin, we don't just fish, paddle, hunt and go birding, we craft the gear that makes these experiences memorable. Being able to get outside inspires us; it keeps these makers and their businesses passion-filled and competitive in the long-term.

There is a direct connection between the state's natural resources, how we enjoy them and the economic health and overall well-being of Wisconsin and its residents. It is the mission of the Department of Tourism's Office of Outdoor Recreation to support and uplift this essential industry.

With focus and leadership to connect the dots, we can leverage the state's natural playground, its legacy of stewardship and our fun-loving affection for the outdoors to make Wisconsin the top choice for outdoor manufacturers and travelers alike.

Anne Sayers is the acting secretary of the Wisconsin Department of Tourism, where she combines her love for marketing, organizational management and all things Wisconsin. Find more travel inspiration for your next adventure at travelwisconsin.com.



Find out why these outdoor brands proudly call Wisconsin home when you explore their back yards. Enjoy these Wisconsin gems and see how the state's natural resources inspire the outdoor gear that's made by the adjacent companies.

Flambeau River State Forest, near St. Croix Rods

Two branches of the Flambeau River flow through the forest. Nine boat landings offer access to the river and many lakes where an angler can motor, paddle or just wade in from shore to cast a line. Stay a while at one of the two campgrounds, many canoe campsites or the property's accessible yurt.

Barneveld Prairie State **Natural Area, near Vortex Optics**

Located adjacent to the Vortex headquarters, this remnant of tallgrass prairie boasts several grassland bird species now declining in population. A sensitive area, the trails are primitive and unmarked, but open year-round.

Oconto River State Trail, near Northport Marine

Along the banks of the Oconto River, the former railroad is a favorite hiking and biking path with easy access to the river for sightseeing, paddling and fishing. In Oconto, access the river or the Bay of Green Bay for more boating options. In the winter, snowmobiling is permitted on the trail.

> - WISCONSIN DEPARTMENT OF TOURISM

TASTE OF WISCONSIN

As weather warms, foragers discover their sweet spot

KYLE CHEREK

There's probably more written about spring by poets and prose writers than any other season.

T.S. Elliot called April "the cruelest month," and the late Wisconsin journalist Doug Larson, known for his long-running column in the Green Bay Press-Gazette, once wrote: "Spring is when you feel like whistling, even with a shoe full of mush."

I'm apt to agree with Larson; spring is easily the most mercurial season. The gorgeous warm melt of a 65-degree day can quickly be diminished to what feels like a hallucination by an overnight snow.

In my years of filming with the PBS show "Wisconsin Foodie," production always shied away from spring because of just this reason. Plans for a segment on a farm or any location outdoors would be pressed sideways via the wild card of the weather.

By early spring, however, farmers and chefs alike were both twitching to "get on with it" - "it" being planting and planning for the farmers and "anything but root vegetables" for chefs, as one once declared to me.

About the only folks who found their spark in the food world in the zig-zagging waves of cold and warmth were the foragers.

Not the casual ones, mind you, the "I'm going for a walk in the woods" kind. No, I mean the kind of foragers who look out across fern and fauna and see more than a dozen good things to eat — sprouting, budding or spawning, as the case may be.



WATERCRESS GOES WITH THE FLOW

Three springs ago, I got a call from my brother-in-law Joe, one such dedicated forager, to let me know he was bringing me a mother lode of watercress (Nasturtium officinale).

This semiaquatic perennial can grow while submerged or snugged up to wet soil. It will grow happily in lakes, ponds, rivers, streams, springs and simply moist ground, but its sweet spot is the shallow bubbling springs that refuse to freeze over, even in our deep Wisconsin winters.

Joe had found just that sort of spot in southeastern Wisconsin, a spring on a long since abandoned farm.

The falling-down barn gave way to a vibrant green path of watercress covering the creek made by the everburbling spring.

This white watercress tasted smooth with a mild biting hot finish after a few chews. My wife and I experimented with a couple of recipes, and I spent the next day dropping off huge bunches of the watercress to a few very grateful chef buddies who worked it into their evening specials.

The joy of bringing them a fresh green and growing thing foraged from the local landscape made the errand worth it. "You're the only one who would know what to do with it," Joe

said of the bounty of watercress.

In truth, I had only eaten watercress prepared by those who did know what to do with it, but a few Google searches and we had a slew of recipes for soups, salads or as a sauteed side. My favorite was one cooked down with a glance of oil to use as a side with honey and soy glazed pork tenderloin with rice.

Foraging watercress is easy it's the deep-green growing thing just atop fresh moving water. Winter and early spring are the right times to do it, though in my experience only the hardy will brave any real cold to forage it.

Watercress thrives in July sunshine, but its flavor heats right up, too. Think of a mating of arugula and pure wasabi. Maybe there are some who like that kind of heat, but I'll pass.

MORELS MOST POPULAR

Easily the widest-foraged anything across Wisconsin is morel mushrooms. On

"Wisconsin Foodie," one early episode centered around a morel hunt we filmed with Britt Bunyard, a noted mycologist and editor of Fungi Magazine. It was short on drama of the find, with no morel sightings, but fun just the same.

More than a decade later, the show had better luck. Filming in the state's Driftless Region, our guide took us to a mild slope where we just couldn't stop seeing morels. Moreover, the enormity of the mushrooms was beyond the best I'd seen — a full hand size or better.

Morels (Morchella esculenta) tend to grow around or under a slew of different trees, from ash to elm to

sycamore and even fruit trees, though I've had my best luck with ash. Morels are great spring foraging, but they echo the season's own capricious spirit.

The temperature has to be just right, low 60s to 70s, with a ground temperature in the 50s. A light drizzly misting sort of precipitation the night before or early that morning helps, too.

Make no mistake, Wisconsin is the unequivocal center for morel hunting. You can take my word for it, consult



the plethora of culinary magazines that have featured the state's morels or make note of something more fun — the Muscoda Morel Mushroom Festival.

In non-COVID times, the festival is a fixture each May, transforming this small western Wisconsin town into the morel capital of the world. The Muscoda American Legion is ground zero for thousands of morels foraged by locals in the few days leading up to the festival. The morels are cleaned, weighed, bagged and sold as a fundraiser for the community.

As far as recipes for morels, there are a ton at keyboard or smartphone reach. I like this one because it incorporates another spring favorite, asparagus. The recipe also includes heavy cream, a nod to our beloved Dairy State. It serves two just fine.

Kyle Cherek is a culinary historian, food essayist and former host of the Emmy

Award-winning TV show "Wisconsin Foodie" on PBS. He and his wife own Amuse Bouche Entertainment Productions and together create unique culinary events including presentations, cooking demonstrations and storytelling dinners.



Morels and asparagus with creamy pasta

INGREDIENTS

- 3 ounces fresh morel mushrooms, wiped clean
- 4 tablespoons unsalted butter plus a splash of olive oil to taste
- 1 small shallot, finely chopped (about 1 tablespoon), or substitute a red or yellow onion
- 1 pound asparagus, trimmed and cut on the diagonal into 1½-inch slices
- 1¼ cups heavy cream
- 2 teaspoons fresh thyme leaves (dried are OK if they're from a good source)
- Kosher salt and freshly ground black pepper
- 6 ounces linguine or fettuccine
- 3 tablespoons freshly grated Parmigiano-Reggiano (must be fresh; dried and processed just won't do)

INSTRUCTIONS

- If the morels are on the big side, cut them in half lengthwise. You want
 them about the size of your thumb. Melt the butter in a large skillet over
 medium heat. Add the diced shallots and cook for about one minute but
 do not brown. Add optional olive oil.
- Add the morels and saute, stirring occasionally until tender, probably seven to 10 minutes. Add the sliced asparagus, cream and thyme and simmer until the asparagus is tender but not too soft and the sauce is slightly thickened, probably five minutes on medium heat. Season as desired with salt and pepper.
- On another burner, cook the pasta until al dente.
 Drain and toss with the asparagus and morels.
 Grate the Parmigiano-Reggiano over it all and toss gently to coat the pasta, morels and asparagus with unctuous cheese.
 Serve immediately.



Lucky foragers may find morels that grow to be a full hand size or better.

READERS WRITE



MOTH DRAMA, **FOR A MOMENT**

Included is a picture taken the third week of August of a sphinx month feeding among our surprise lilies. There was a moment of drama when it got caught on the strong supporting web of a spider web running from the house to a hummingbird feeder post. It couldn't get free, so I broke the web.

The moth just fluttered down into the foliage. It still had remnants of the web impeding its flying. It took just one pull to free the moth completely, and it was up happily feeding away again just moments later. It's easy to see why these moths are sometimes confused for hummingbirds!

Gary Alseth Footville



AMANDER SPOTTED

We were delighted to meet this blue-spotted salamander while hiking a northeastern trail on Washington Island in September. It was about 5 to 6 inches long.

At first, we thought it was dead, but after a little gentle stick nudging, it twisted and flipped around and around, biting the stick a few times. Surprised and laughing, we backed off to admire its spunk. This little guy certainly made our day!

Sue Allen and Bruce Dethlefsen Westfield



FROG CIRCLE OF FRIENDS

I didn't pose these guys. They lived all summer in my 35-gallon backyard pond. Some days their friends would stop by, and I could count up to 13 wood frogs. This proves even a small habitat can matter.

Barb Schaefer Glenbeulah



This photo shows a reddish egret near Verona last summer. I believe this is a rare sighting of this bird. Let me know what you think.

Charles Schneeberg Madison

Ryan Brady, DNR conservation biologist replies: "That's a green heron, which is a small, somewhat common heron of Wisconsin wetlands, especially in the southern two-thirds of the state."







FOCUS ON HUMMINGBIRDS

My uncle, Robert Strand, said I should submit these photos. They are of a hummingbird nest on Pickerel Lake in Eagle River. I was tying fishing lines at my truck, and this hummer kept coming by to look at me. When I went to the garage, I heard her fly up to a nest! Got to watch them grow for a week.

Rich Holly New Berlin



Send your letters to: Readers Write, WNR magazine, P.O. Box 7921, Madison, WI 53707. Or email dnrmagazine@wisconsin.gov.

THE EYES — AND OWLS - HAVE IT



I was thrilled to nab this great horned owl pic while deer hunting near Greenbush in Sheboygan County. What first stood out were his eyes. If not for them, I probably wouldn't have noticed. He wasn't threatened by me, so I got to hang out with him a few minutes.

Steve Meifert Plymouth



While I was trying to revive an old DSLR camera, a barred owl landed nearby and watched the entire time it took me to get the old rig working. The shot was taken in Wood County, not far from Buckhorn State Park.

Mike Crain Waukesha



INSECT ARTWORK

My wife, Barb, was out hiking in Ash Creek Community Forest in Richland County when she spotted this oddly marked branch. At first, she thought someone had carved it. But upon closer examination, she realized the hieroglyphic-like markings were made by insects.

Len Harris Richland Center

The "Wisconsin Bug Guy," PJ Liesch of UW-Madison's Insect Diagnostic Lab, replies: "This appears to be the work of bark beetles. Bark beetles (family Curculionidae, subfamily Scolytinae) are a very diverse group of insects with hundreds of species across the U.S. While some species can be a bit more aggressive, such as the mountain pine beetle out West, many bark beetle species are commonly associated with dying or stressed trees." Learn more about bugs and the Insect Diagnostic Lab at: insectlab.russell.wisc.edu.



MOST MEMORABLE MENTOR HUNT

I took my 13-year-old daughter, Alexia, gun hunting and was mentor hunting with her when we spotted a buck grazing about 300 yards away. Just four minutes after legal shooting time began, I called the buck with a grunt tube, and the buck turned and walked straight to us.

Lexi shot from a distance of 104 yards and got her first deer. This was by far the most memorable mentor hunt I have had. Just wanted to share the story and a picture of her with the buck.

Paul Olsen Sheboygan



JUST IN TIME FOR THANKSGIVING

Wild turkeys, Nov. 20 from my husband's trail camera. They really are beautiful birds.

Gloria Troester River Falls

CAN YOU FIND THE FROG?

We play a game of "can you find me," where I send our grandchildren photos of wildlife and they try to spot them in their natural habitat. This northern leopard frog was cached, out in the open, by Weber Lake in Iron County.

Bryan Lammers Upson





HUNT HARE ALL YEAR

The Winter edition of WNR magazine contains some info that needs clarification. The Taste of Wisconsin story states "... you can hunt rabbits from September or October ... through the end of February. With a daily three-rabbit bag limit, you've got potential for a pretty good hunt." This is accurate for cottontail rabbits, but snowshoe hares may be hunted statewide, year-round, and have no daily bag limit.



Scott Humrickhouse Altoona

Editor's note: Scott was secretary's director for the DNR's West Central Region before retiring in 2012. Thanks for helping us set the record straight on rabbit and hare hunting seasons. Complete hunting rules, including season dates and bag limits, can be found at: dnr.wi.gov/topic/hunt/regulations.

RECALLING A 'GENTLE GIANT'

I enjoyed George Knudsen's reprinted article on winter nature hikes in the Winter magazine. I worked for the DNR from 1971-78 and knew George when he was the naturalist with state parks in the Pyare Square Building in Madison. He was a gentle giant.

When my wife and I were buying a canoe, I went down to see George in his office for his recommendations, and he told me about the benefits of a good Grumman canoe. George was a wonderful representative for the DNR and a wealth of knowledge about natural resources. Hope you will continue including some of his writings in the future.

Tim Eisele Madison

Editor's note: Thanks, Tim, and you are right about George Knudsen and many others who have been great representatives for the DNR through the years. When possible, we are happy to highlight him and others such as Anita Carpenter, who is featured in this issue's Back in the Day, and Jerry Perkins, whose fish tale is told in Your Outdoors. Their work on behalf of Wisconsin's natural resources is not forgotten.

SON CHERISHES THE MEMORIES

Thank you so much for the recent DNR magazine with my dad's article on winter hiking! It brings back some memories of hikes with him at that glorious time of year — along the Wisconsin River, at Governor Dodge State Park, Black River State Forest, etc.

We always did the Christmas Bird Count on New Year's Day as well, a unit with Prairie du Sac as its epicenter. Many frigid days spent doing that! So many memories.

Brad Knudsen Sun Prairie



LOOK WHO'S AT THE DOOR

I live in Fitchburg in a wooded residential subdivision called Seminole Forest. A few years ago when I opened the back door to let out our dog, I was stunned to see this fledgling owl — I believe it is a great horned owl — cowering against the back of our house.

We were concerned for the young owl's safety, so we contacted the Fish Hatchery DNR office for guidance. They told us to stay clear of the bird. It had most likely been "evicted" from the nest and would fly off in due course. Sure enough, after two days the owl was no longer to be seen.

Through the years, I have often sat in bed and listened to the neighborhood owls communicate. One afternoon, I was even lucky enough to see an owl swoop down and take a rabbit. The owls have not been around for the past two years. Apparently, they have found a better hunting ground.

I really enjoy your magazine and even provided it as a Christmas gift for my daughter, an avid Wisconsin hunter and angler, this past year. Keep up the good work.

Ken Lutz **Fitchburg**



EAGLE ON ICE

I found this "eagle form" in the unusual early lake ice near Merrill. Thought it pretty neat.

Don Evans Merrill

YOUR OUTDOORS

Cedar waxwing on the fly

DAN PERKINS

In the Fall edition, I noticed the page with the photo of the cedar waxwings right across from the story about the friendly grouse. It reminded me of my encounters with cedar waxwings while trout fishing.

In this part of Wisconsin, around Eau Claire, when I go trout fishing I also look to see if cedar waxwings are actively picking flies over the streams. If they are, I will try to find out what they are eating and "match that hatch."

The following story has happened numerous times, but the first time caused me quite the surprise.

I was standing in the middle of the stream holding my fly rod up under my arm while trying to tie a new fly onto the tiny leader. All of a sudden, I felt my fishing rod move and realized it couldn't be a fish because I had the

Dan Perkins

leader in my hand.

I looked up, and there was a cedar waxwing trying to land on the tip of my fly rod — I assumed to gain the most advantageous position on the stream.

It tried balancing on one leg then the other on my rod. After a few seconds, it gave up and landed on a branch that was near.

Encounters of that sort with cedar waxwings have been quite common in my fishing experience in the smaller streams here.

The birds seem to be smart enough to want to position themselves in the most opportune place, which is usually on some branches along the stream side. However, if there is a stick in the middle of the stream, they will try to sit on that and wait for the flies to



Jerry Perkins' wood carving recalls a crafty cedar waxwing that made off with his trout fishing fly.

hatch — then they don't have to fly as far to try to catch the fly.

CARVING A MEMORY

Jerry Perkins — my elder brother with whom I have fished on a regular basis — made a carving to represent this unique fishing bird encounter. We both have had this experience with cedar waxwings.

If you know about trout fishing, you know the leader is very fine and can be easily broken off. This particular carving represents a moment when a cedar waxwing grabbed the fly as Jerry was casting.

At just the right angle and with the right amount of pressure, the bird broke off the leader and flew away with the fly in its beak.

Jerry has been carving birds for many years. He has carved pileated woodpeckers, ducks — you name it, he has carved it. His house is filled with carved birds.

DNR CONNECTION

My father taught fly fishing to me, Jerry and our other siblings as we were born and raised in Spooner. Jerry worked for the DNR in fish management for nearly 40 years, including as a fisheries technician in Barron. He was a great advocate of the northern pike, or as he used to say, "the people's fish."

For a number of years, he spent time at the Wisconsin State Fair, putting on demonstrations of filleting northern pike. He used them for a fish boil and provided taste samples to those in his audience who wanted to try it.

On the DNR website, if you search for "fillet northern pike," it takes you to a page of detailed line drawings that show how to fillet this fish. At the bottom just under the fish drawings, you will see it was developed and drawn by Jerry Perkins.

Jerry has a birthday coming up on April 12 and will be 83. I have fished trout most of my life here in Wisconsin. I'm 80 now and still able to enjoy it.

Dan Perkins, Ph.D., taught communications at Iowa State University and UW-Eau Claire for four decades and has been fishing for twice that long.

BACK IN THE

Her life is a rich tapestry of nature

KATHRYN A. KAHLER

When Anita Carpenter was a regular contributor to this magazine, people used to tell her that her stories were the first thing they looked for when each new issue arrived in their mailboxes.

She recalls today how humbled and proud that made her feel. And there is a lot to make her proud — all told, there are some 75 of her "nature notes" in the magazine archives, from early 1989 through 2012.

A pharmacist by vocation, Carpenter



Love of the outdoors and a sense of adventure have yielded many rewarding experiences for Anita Carpenter, shown with a Florida box turtle during a trip to the Everglades.

walking the fencerows near her Oshkosh home. focusing on the intricacies ĕ of nature that inspired her two avocations - writing and freeform quilting.

spent her

spare time

Her naturethemed quilts were featured in

a story by David L. Sperling, "Piecing together nature," in December 2008.

Carpenter retired in 2012 and now spends some of her time, as she said, "doing what I was meant to do," volunteering with the UW-Oshkosh grounds crew as their "prairie keeper."

"Our goal is to make the campus



Anita Carpenter's most recent completed quilt, "Nature's Glory," reflects intricate details of outdoor scenes and wildlife. The 10 panels represent different UW-Oshkosh biology field trips in which she has taken part over the years.

more environmentally friendly and sustainable," she said. "I love what I do — erecting bird and bat houses, maintaining a monarch way station, enlarging natural areas on campus by reducing mowing. We promote native plants and trees and attack invasive species whenever and wherever we find them."

Carpenter continues to monitor birds on her daily 5-mile walks along the Fox River that winds through campus. She hikes the route — her "river oasis" each morning no matter the weather.

"I call some days 'weather days' and the wilder the better," she said. "Blizzards are the best!"

Perhaps it's that sense of adventure that drives her otherwise domestic passion for quilting. Free-form quilting is a bit different from other kinds of quilting and involves stitching shapes onto the quilt back, rather than sewing precise geometric shapes together.

"My quilts are all original, scientifically correct nature quilts," she explained. "They are very intricately detailed, based on what I've observed over the years. My last completed quilt was named 'Nature's Glory.'

That quilt has 10 panels depicting species from across the country in habitats she has visited as part of the

UW-Oshkosh biology field trip program.

Among the panels are an American goldfinch atop a flowering compass plant, baby sea turtles making their way to the ocean, a coral reef and a Northwoods winter scene with a soaring raven and winterberry along a creek. Another panel represents species she saw on an Everglades field trip.

CREATIVITY DURING CHAOS

Carpenter's current quilting challenge was born of necessity, and she is having a lot of fun with it. Last April, at the start of the coronavirus pandemic, she found herself homebound and unable to visit a fabric store to begin a new quilt.

"People who don't sew just can't imagine what that's like for a quilter," she said."I knew, with the world turned upside down, just what I would call my new quilt — 'Pandemic Pandemonium: Chaos in Nature'! I scrounged through all my fabric and made do with what I had on hand.

"Among the creatures on the quilt, you'll find scientifically correct fish — swimming upside down — or a saguaro cactus in a Northwoods scene. And if you look closely, you'll see a pink snowshoe hare 'camouflaged'

A panel from "Nature's Glory" shows a scene Anita Carpenter recalls from a field trip to the Florida Everglades. "The reddish trees are gumbo limbo," she noted. "Then, starting at the top: cardinal airplant and Florida tree snail, resurrection fern, ruddy daggewing butterfly, barbed wire cactus with Julia butterfly." The last element is Carpenter's quilter's "mark," a snail that appears on all her work, usually hidden in the design.

in the snow."

Just like her other nature-based hobbies, her quilting can become all-consuming.

"I really do get lost in it," she said.

We invite readers to take a lesson from Carpenter's playbook this spring. Whatever the weather, there's no better time to throw off winter's doldrums and get lost in nature. If you can't find a fencerow to walk, there are plenty of public places out there just waiting for you to visit.

Reprinted here is one of her first columns from the April 1989 issue of *Wisconsin Natural Resources* magazine.

Kathryn A. Kahler is associate editor of Wisconsin Natural Resources magazine.

Secrets of the fencerow

ANITA CARPENTER

Tarrow strips of trees, shrubs, fieldstones and tangled vegetation border many Wisconsin fields. These fencerows are home and refuge to numerous animals and plants.

In the springtime softness of a warm April day, slip on rubber boots and walk along one of these fencerows. Discover its residents and visitors before new leaves obscure the secrets.

You may find a bulky stick nest hidden within the thorn-covered branches of a hawthorn where, last year, brown thrashers raised four young. Perhaps you will flush a ring-necked pheasant, be scolded by an impish chipmunk or serenaded by an eastern bluebird.

You may see a late-departing northern shrike on its treetop perch surveying barren fields for its next meal. You may not see the cottontail rabbits that call the fencerow home, but gnawed stems of wild roses and ubiquitous droppings are telltale signs they were here.

With a burst of purple, violets poke

through the brown leaf cover. Bittersweet entwines young saplings and fieldstone. In the coming months, it will produce orange fruits relished by residents and visitors to the fencerow.

The musky scent of red fox floats on gentle breezes. Is there a vixen nearby nursing newborn pups?

Perhaps you will chance upon several small birds

that are searching for seeds by vigorously hopping and scratching the ground with both feet. A proud, upright posture and puffy, broad black-and-white stripes on their heads quickly identify them as white-crowned sparrows, *Zonotrichia leucophrys*. They're often seen in small flocks.

The 6- to 7-inch sparrow has a steel-gray unstreaked breast and face, white throat and belly, and the typical sparrow-brown back and wings, highlighted by two white wing-bars. The sexes look alike.

White-crowned sparrows visit fencerows during migration. We are most likely to see them from late April into May. They do not nest in Wisconsin but are north-bound for the brushy, stunted-tree habitat of the subarctic.

The female builds a small, cup-shaped nest on the ground or in a small shrub. She'll likely raise only one clutch of three to five young during the short northern summer.

The sparrows reappear in Wisconsin during October, en route to their winter destination in warm southern states.

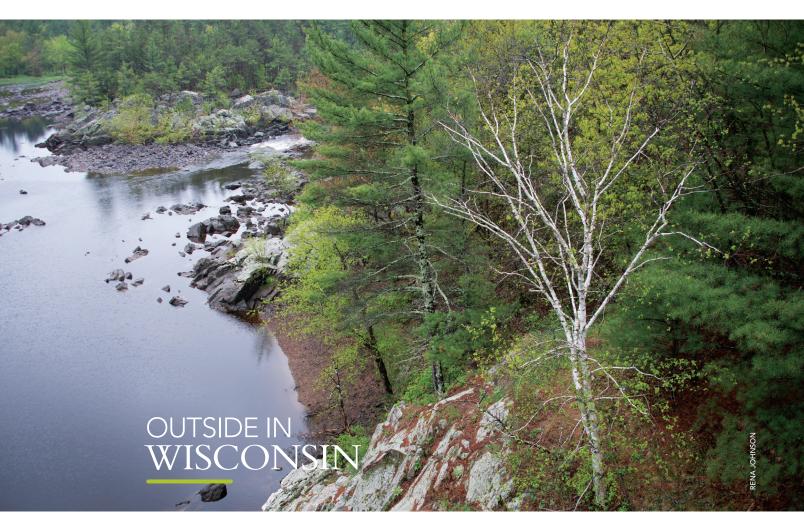
You won't find the secretive whitecrowned sparrows along every fencerow, but don't be disappointed. Take another walk in the glorious springtime warmth. Witness the rebirth of spring as you discover the secrets of the fencerow.



The white-crowned sparrow is a spring visitor to Wisconsin, passing through on the way to nesting grounds farther north.



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BLACK RIVER STATE FOREST



E. M. Griffith, Wisconsin's first state forester, said the main reason for establishing forest reserves in Wisconsin was to preserve the flow in the state's important rivers. The DNR's new chief state forester, Heather Berklund, is featured in this issue and emphasizes the partnership of forests and water resources. It's no coincidence the word "river" appears in the name of four state forests, she noted.

Among them is the Black River State Forest, set in Jackson County near Black River Falls. Two forks of the Black River flow through the 68,000-acre forest of pine and oak woods interspersed with towering sandstone rock formations that provide river vistas like the one shown in this photo from the National Association of State Foresters.

Visitors will find many recreational opportunities, including camping — with 97 campsites available May through October — hiking trails, canoeing, hunting and ATV riding. Anglers have plenty of opportunities to wet their lines at boat landings and fishing piers with access to the forest's lakes, flowages and the namesake Black River.

Check the website for information and vehicle admission sticker requirements throughout the forest — dnr.wi.gov/topic/stateforests/blackriver.

