

50

INSIDE

| A TIMELINE OF DNR DEDICATION

WISCONSIN NATURAL RESOURCES

wnrmag.com

Summer 2018 \$3.50

Calling all Kirtland's

To bike the backroads

A place for lake leaders

Boosting terrain for terns

A message from *DNR Secretary Dan Meyer*



BEN PIERSON

Summers in Eagle River, where my wife and I have lived for many years and raised our family, are a time of great outdoor activity. Opportunities are abundant for boating, fishing, biking, camping and all the other pastimes that make summer in Wisconsin so special. But enjoying Wisconsin's great outdoors is not just for people "up North." Summertime adventures await throughout this great, resource-abundant state of ours.

Summer is also a time of heightened activity for the folks here at the Wisconsin Department of Natural Resources. Agency staff members are eagerly working to make sure Wisconsin residents and visitors have an outdoor experience that meets or exceeds their expectations. This is certainly true at our exceptional state parks and other properties. These areas see some of their highest visitor numbers in summer and our committed parks personnel are out to make every visit memorable.

Upgrades will be seen throughout the park system with \$2 million in user fees reinvested as authorized by the 2017-19 state budget. This will include such things as 200 additional electrical campsites statewide, automated pay stations, facility improvements and new fire rings, picnic tables and grills. An additional \$4.5 million approved by the Legislature will fund water and waste water infrastructure improvements at various parks.

State park users will notice a new demand-based pricing structure now in place. This new initiative will help us manage visitor capacity, encourage visitors to experience some of our state parks they may not have been to before and provide additional financial resources for state property improvements.

Annual admission fees will remain the same, while daily fees are adjusted at three high-use parks (Devil's Lake, Peninsula and Willow River state parks). Changes in camping rates include both increases and decreases depending on property location, campsite type and time of year. You can learn more about the fee structure by going to dnr.wi.gov/topic/parks.

The thousands of lakes in our state will be visited by boaters who will be fishing, skiing or just relaxing on a sunset cruise. But with that comes the reminder that all water users can and should help in the fight against aquatic invasive species.

Boaters in particular have the responsibility to "inspect, remove and drain" before launching a boat and leaving a site. By following these guidelines, you can help stop these destructive aquatic hitchhikers.

Finally, the DNR fisheries program deserves recognition at this time of year. The annual Governor's Fishing Opener in May, a longstanding Wisconsin outdoors tradition, marked the start of the general hook-and-line fishing season, and I appreciate the enthusiasm for fishing that exists in our state. I hope to catch a few myself this summer. The DNR fisheries team puts a great deal of work into making sure we have successful and safe fishing experiences.

So welcome to summer in Wisconsin. We encourage residents and visitors alike to get out and enjoy our bountiful natural resources in the coming months.



Dear Readers,

As this magazine arrives for your enjoyment, summer will be all but officially here. Perhaps you'll find yourself flipping through these pages while relaxing at a favorite state park or out on a quiet lake or deep in the woods far from the worries of the day. There may be no better time than now to savor the wonder of Wisconsin's outdoors.

At *Wisconsin Natural Resources* magazine, we are eager to feature some of the state's many joys of summer. It starts with our cover story on the Kirtland's warbler — if summertime is primetime for songbirds, there's no better season to discuss DNR's work with this special species.

Bicycle touring, another staple of summer in Wisconsin, is at the heart of a story about a four-day spin through the beautiful Chequamegon-Nicolet National Forest. And lake life is the focus of a piece on the Lake Leaders Institute of the Wisconsin Lakes Partnership, a cooperative effort of the DNR, UW-Extension and Wisconsin Lakes.

Also in this issue, we continue our commemoration of the DNR's 50th anniversary with an extensive timeline of agency accomplishments and significant related happenings from the past five decades. Associate editor Kathy Kahler spent hours combing through DNR archives, past magazine issues and other resources to research and compile this feature.

History is the focus of a few other stories in the magazine as well, including a piece on one outdoorsman's substantial DNR-related memorabilia collection, a look at a new book telling tales of early 1900s paddling adventures, and a 1968 "Back in the day" excerpt sharing a mother's rather humorous experience with Wisconsin state park camping.

For those who might be enjoying the modern-day camping experience or seeing state properties in other ways, here's a reminder that the Friends of Wisconsin State Parks annual photo contest has a deadline of Aug. 31. Snap and share your state property favorites for a chance to have the photo printed in the 2019 FWSP calendar. See the Friends website, fwsp.org, for details.

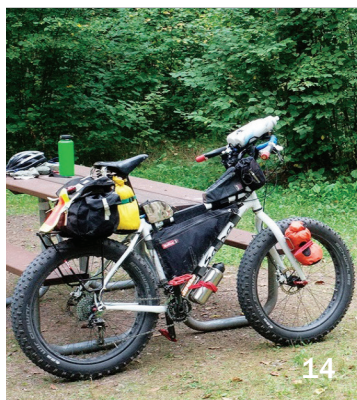
We hope you enjoy this Summer issue. And, as always, thanks for reading.

— WNR staff



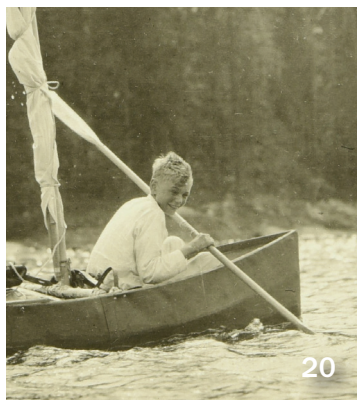
ANDREA ZANI

Summer 2018 | Volume 42, Number 2



RANDY LARSON

14



HOWARD GREENE

20



CARROL HENDERSON

24

4 A happy tune

Lisa Gaumnitz

Kirtland's warbler playback project shows promise as key conservation tool.

9 Breeding Bird Atlas II needs you

Carrie Trousil Becker

Survey volunteers are as varied as the species they observe.

10 Why it's good to be an atlaser

Lisa Gaumnitz

Updates on the current project

12 Hunter and gatherer

Andrea Zani

Outdoorsman amasses an extensive collection related to his passions — including some special magazines.

14 On a bicycle trip built for views

Randy Larson

Beauty of the woods awaits on four-day ride in the Chequamegon-Nicolet National Forest.

17 How lake lovers become lake leaders

Carroll Schaal

DNR-assisted training program empowers citizens to take the reins of local lake management.

20 Paddle tales

David Horst

Early 1900s canoe journals capture moments of historic adventure, preserved by the daughter of the man who wrote them.

23 OutWiGo

Explore the state's great outdoors

24 Our treasured terns

Summer W. Matteson

Safeguarding these vulnerable species is critical to their continued presence in the state.

30 Readers Write

31 Back in the day

Kathryn A. Kahler

Before glamping, a mother took adversity in stride.

32 Outside in Wisconsin

Perrot State Park

CENTER

A timeline of DNR dedication

FRONT COVER: Kirtland's warbler numbers are slowly growing in Wisconsin, and a new project involving audio playback of the endangered bird's recorded song shows promise in boosting the population even more.

NICK ANICH / DNR

BACK COVER: Perrot State Park celebrates its 100th anniversary this year and the scenic views have long been a major attraction. The park includes nearly 1,500 acres, with 500-foot bluffs overlooking the Trempealeau and Mississippi rivers.

DNR FILE PHOTOS

Like us on Facebook
facebook.com/WIDNR

Watch us on YouTube
YouTube.com/user/WIDNRTV

Find us on Instagram
[@wi_dnr](https://www.instagram.com/wi_dnr)

Follow us on Twitter
[@WDNR twitter.com/WDNR](https://WDNR.twitter.com/WDNR)

Editor-in-chief Jim Dick

Section Chief Andrew Savagian

Associate Editors Kathryn A. Kahler,
Andrea Zani

Art Direction Kayla Ermer,
Nei-Turner Media Group

Printing Schumann Printers



PUBL-OC-018
ISSN-0736-2277

Wisconsin Natural Resources magazine (USPS #34625000) is published quarterly in Spring, Summer, Fall and Winter by the Wisconsin Department of Natural Resources. The magazine is sustained through paid subscriptions. No tax money is used. Periodicals postage paid at Madison, WI. POSTMASTER and readers: subscription questions and address changes should be sent to Wisconsin Natural Resources, P.O. Box 37832, Boone, IA 50037-0832. **Subscription rates are: \$8.97 for one year, \$15.97 for two years and \$21.97 for three years. Toll-free subscription inquiries will be answered at 1-800-678-9472.**

© Copyright 2018, Wisconsin Natural Resources magazine, Wisconsin Department of Natural Resources, P.O. Box 7191, Madison, WI 53707. Wnrmag.com

Contributions are welcome, but the Wisconsin Department of Natural Resources assumes no responsibility for loss or damage to unsolicited manuscripts or illustrative material. Viewpoints of authors do not necessarily represent the opinion or policies of the State of Wisconsin, the Natural Resources Board or the Department of Natural Resources.

Printed in Wisconsin on recycled paper using soy-based inks in the interest of our readers and our philosophy to foster stronger recycling markets in Wisconsin.

Governor Scott Walker

NATURAL RESOURCES BOARD
Terry Hilgenberg, Shawano, *Chair*
Julie Anderson, Sturtevant
William Bruins, Waupun
Preston D. Cole, Milwaukee
Gregory Kazmierski, Pewaukee
Dr. Frederick Prehn, Wausau
Gary Zimmer, Laona

WISCONSIN DEPARTMENT OF
NATURAL RESOURCES
Daniel L. Meyer, *Secretary*
Ed Eberle, *Deputy Secretary*
Patrick Stevens, *Assistant Deputy Secretary*



A happy tune

KIRTLAND'S WARBLER PLAYBACK PROJECT SHOWS PROMISE AS KEY CONSERVATION TOOL.

Lisa Gaumnitz

Call it eHarmony for birds.

Every day, three times a day for several hours, a Kirtland's warbler belts out a love song at the top of its lungs in Bayfield County Forest. Its dawn chorus is not live but a recording that Nick Anich and collaborators are using to lure Wisconsin's rarest songbird species — a tiny endangered bird with very particular habitat needs — to the forest.

"We're announcing, the party's here," says Anich, a conservation biologist with DNR's Natural Heritage Conservation Program. "The presence of other individuals at the site during breeding season is one cue, or way, the birds assess the habitat quality of a breeding site."

Anich wants to attract birds to the site and increase the odds they stick around long enough to have a chance encounter

that will lead to something more: a male and female pairing off and nesting.

For three years he played matchmaker to Kirtland's warblers, and it has paid off. Starting slowly but building steam, the audio playback has helped males and females find each other and successfully reproduce at sites more than 140 miles from the main breeding area in Wisconsin and more than 300 miles from the species'



NICK ANICH PHOTOS

Battery-powered call boxes that send out the sound of the Kirtland's warbler have shown promise in helping to attract more of the birds to northern Wisconsin.

core population in Lower Michigan.

This method has helped build Wisconsin's population of the songbird and provide an important backstop to the core population. It's helping shift the bird's range northward at a propitious time. And it's garnering international attention as a promising conservation approach in an era of accelerating species and habitat loss.

Rather than trying to create and manage habitat for a given endangered species where it's currently or has historically been found, the playback method can attract species to areas where the ownership, land use and habitat management are more conducive to their recovery.

"I know when Nick and Mike first proposed it, I thought, 'Wow. That is a great idea,'" says Carol I. Bocetti of California University of Pennsylvania, the longtime leader of the national Kirtland's Warbler Recovery Team. "It really does look promising. This is going to be a pretty cool tool."

Getting the party started

The Kirtland's warbler playback project hatched at a bird conference in Chicago in 2013 when Anich, part of a Wisconsin team working on Kirtland's warblers, met Michael Ward, an ornithologist for the Illinois Natural History Survey. Anich was well aware of Ward's pioneering work using audio playback to help achieve conservation goals. The two started talking and figured there was a natural collaboration.

Ward had used audio playback to help lure the endangered black-capped vireo away from parts of a U.S. Army installation in Texas used for blowing up munitions. He used the technique in Illinois to help endangered terns find an artificial nesting platform, and he had a "ribbeting" success using audio playback with frogs. Ward continues that line of research at Fort McCoy and a Louisiana army installation, hoping to develop ways to move amphibians away from artillery testing grounds to newly created wetlands.

Growing up in Illinois, Ward's observations of territorial birds oddly clustered together sparked his interest, and later his ideas, for how to aid endangered species.

"Logically you might think if birds were territorial they'd be away from one another, but they were in the same area," says Ward, also an associate natural resources and environmental sciences professor at the University of Illinois at Urbana-Champaign.

Turns out the birds were picking up on social cues that the habitat was good, similar to how humans pass by an empty restaurant and intuitively think it's not good, while surmising the opposite is true if the parking lot is full.

Scientists call it conspecific attraction — "conspecific" meaning "of the same

species," and "attraction" meaning using cues relevant to that species to get them to a location.

"It's trying to get the birds to show up at the same place at the same time in good habitat," Ward says. "It's positive reinforcement that this is a good place to build their nest."

Scientists are still discovering all the different cues birds use to find habitat. Vocalization is the easiest cue to mimic and use.

Most research using audio playback, however, involved short-distance romance, not the avian equivalent of flying a marathon to find a needle in a haystack.

At the time Ward and Anich launched their collaboration in 2014, Wisconsin had documented only about 30 Kirtland's warblers, and the main nesting area was in Adams County in central Wisconsin. But Anich and Ward thought trying to lure the birds to promising habitat in northern Wisconsin was worth a try.

Kirtland's warblers are very good as a species at roaming great distances to find their nesting spot, and the birds had sporadically been seen in northern Wisconsin since 1978. Giving them a social cue, i.e. a vocalization, just might attract migratory Kirtland's warblers to hang out in the right place at the right time.

Roaming great distances to find nesting habitat, ideally in pine barrens, is common for the Kirtland's warbler, which overwinters in the Bahamas.



Perfect home away from home

For a Kirtland's warbler, the right place at breeding time is an open landscape with young stands of jack pine on sandy soil. The sweet spot features trees 8 to 15 years old, possibly because they have live lower branches that can hide the open-cup nests the warblers build on the ground.

Historically, this habitat, known as pine barrens, covered a good swath of Wisconsin and had been maintained by fires, but logging in the 19th century and fire suppression in the 20th century, along with other land-use changes, significantly reduced such habitat. Now, pine barrens cover less than 1 percent of the area of Wisconsin present at statehood, and they are globally rare, too.

Coincidentally, about the time singing male Kirtland's warblers started showing up in Adams County in 2007, Bayfield County foresters were sitting down with DNR biologists to talk about managing some of their 170,000-plus acres to preserve pine barren habitats for wildlife and for timber harvest.

Jason Bodine, Bayfield County Administrator of Forests and Parks, says Bayfield County officials had seen the benefits to wildlife like sharp-tailed grouse of grassy areas maintained between forest stands to serve as natural



NICK ANICH AND JANET BREHM (INSET)

Open terrain with sandy soil and stands of jack pine comprise vital habitat for the Kirtland's warbler, an endangered species slowly making a comeback in Wisconsin. The live lower branches of younger jack pine can help to hide the open-cup nests the birds build on the ground.

firebreaks. They wanted to maintain those benefits and bring in timber revenue for county residents.

Their resulting Barnes Barrens Management Plan seeks to optimize wildlife habitat and timber value on what will eventually be 11,500 acres within the forest. It wasn't created with the Kirtland's warbler in mind, but the plan was flexible enough to be updated to accommodate management specific to the songbird, Bodine says.

Now under the plan, a 1,000-acre grassy core is permanently left open and managed with prescribed fire to keep pine and brush from encroaching. Four zones of 2,500 acres each ring the grassy core. Each zone is to be harvested over 12 years and reseeded whenever possible with jack pine. The cycle will be repeated roughly every 48 years to ensure a variety of age classes and open barrens on the landscape, Bodine says.

"There are a lot of creative things you can do to maximize a lot of the different benefits," Bodine says. "Here's a way in which we can cover both bases at the same time."

Let the courtship begin

Anich and Ward started their playback research in 2014 with funding from the Bayfield County Forest, the U.S. Army Construction Engineering Research Laboratory and the Natural Resources Foundation of Wisconsin. They selected research sites in Bayfield, Marinette and Vilas county forests as well as the Chequamegon-Nicolet National Forest in Bayfield County. Singing Kirtland's males had previously been documented on these sites, which were all on public lands where management for jack pine was feasible.

Battery-powered call boxes at the treatment sites played Kirtland's vocalizations interspersed with periods of silence and calls of brown thrasher, eastern towhee and other birds that often occur with Kirtland's. The calls played every day from 9 p.m. to 5 a.m., 6 a.m. to 9:30 a.m., and 1 p.m. to 2 p.m. Kirtland's warblers migrate at night and the researchers assumed that if the birds detected the same species at night or at dawn they could be induced to settle in that location.

The researchers targeted birds that had already flown to the general area. They

played the vocalizations louder than the warblers typically sing. Kirtland's warblers are loud singers, able to be heard a half-mile to three-quarters of a mile away.

The vocalizations played from early spring through the breeding season into late summer. That way, if birds that failed to find a good nesting site found the playback site later in the season, they might remember it the next year and stop when migrating.

"The playback units are amazingly convincing — at least to a human," Anich says. He and other technicians hiked the forest at first light to listen and look for Kirtland's warblers. He'd often zero in on the location of the sound, hoping to find a bird, but discovered only a speaker.

"When that first bird showed up in Bayfield County, I was super excited," he recalls. "And then nothing showed up the rest of the year."

In their second year, the researchers set up playback equipment only in the two most promising sites, in Bayfield and Marinette county forests. That year, three males showed up in Bayfield County while three males and two females set-



NICK WALTON

tled in Marinette County. The researchers documented one nest that fledged two young in Marinette County.

The next year, Bayfield County recorded three males and one female, and one of the pairs nested and fledged five young, the first nest ever recorded there. The Marinette site counted four males, three females, three nests and 10 young fledged.

No females, nests or young were found at project control sites during any of the three years.

"The results were better than I expected," Ward says. "The sites in Bayfield are a long ways from where the core Kirtland's warbler area is and there wasn't a high probability of birds flying over these sites, so it was pretty surprising we got birds there."

Progress aplenty

The audio playback project has meant progress on the ground and in the air for Kirtland's warblers.

The birds at the northern site produced young at a much higher rate than in Adams County, possibly because the northern sites have better ground cover and fewer cowbirds, Anich says. Cowbirds lay their eggs in the nests of unsuspecting warblers, and the warblers incubate the eggs to the detriment of their own young, which hatch later and thus are smaller and have less food and less chance to survive than the cowbirds.

Kirtland's warblers and their progeny may benefit genetically from responding to the siren call of a recorded warbler. The immigrants may be coming from different populations and their mixing can help increase the genetic diversity of the Wisconsin population and contribute to its long-term survival.

Based on these factors and the amount of suitably aged jack pine in Wisconsin,



NICK ANICH

Habitat management and other recovery efforts have boosted the Kirtland's warbler population beyond its previous main location in Michigan's Lower Peninsula, expanding the bird's range into Wisconsin, Upper Michigan and Ontario.

Anich and Ward project that Wisconsin could someday support a population of 249 pairs of Kirtland's warblers.

Bocetti, the longtime leader of the national Kirtland's Warbler Recovery Team, is excited about these prospects, the playback results and Wisconsin's role in the recovery going forward. The U.S. Fish and Wildlife Service has recommended removing Kirtland's from the federal endangered species list thanks to its strong comeback in Lower Michigan, a reduction in threats and measures in place for the bird's long-term survival.

"We think Wisconsin is going to be very important to the vision of what recovery looks like," she says.

The breeding sites in northern Wisconsin and in Ontario and Upper Michigan are insurance against the bird's demise should some major catastrophes like wildfire or disease decimate the Lower Michigan population. These peripheral sites will become even more important for several reasons, Bocetti says. The changing climate may affect jack pine structure and insect availability

in the core Michigan area and in Adams County and having the birds on public instead of private land in Wisconsin increases the chance the land will be managed to provide the jack pine habitat they need.

"The playback adds another tool in our toolbox to move forward in getting the Kirtland's warbler off the endangered species list," she says.

Anich and Ward say their findings can be used to expand the range of other bird species, with the greatest benefits likely for migratory species that are fairly rare and restricted in their distribution.

"This is not a silver bullet that will work with all species," Ward says. "But if it doesn't work it doesn't hurt anything. And if it works it can be a valuable conservation tool biologists can use to create new populations when species may have little success and we know we can do management in an area to make suitable habitat." ❧

Lisa Gaumnitz is a natural resources educator and program and policy analyst for the DNR.

>>> DECADE OF WORK PAYS OFF

Ten years after Kirtland's warblers were first documented in Wisconsin, populations of the endangered songbird have increased and their range is expanding through the efforts of state, federal and local partners.

Fifty-three birds and 20 total nests were documented in 2017, up from 11 birds and three nests in 2007, and the bird's breeding range has expanded from Adams County to include Marinette and Bayfield counties as well. Also, the birds fledged a minimum of 49 and up to 63 chicks in 2017.

"We're very encouraged by results of recent years and look forward to contributing more birds to the overall population in coming years," says Kim Grveles, a conservation biologist for DNR's Natural Heritage Conservation Program and longtime Wisconsin project leader.

Until 1995, Kirtland's warblers were found almost exclusively in the northern Lower Peninsula of Michigan and were struggling to recover from a steep decline in populations in the 1960s and 1970s due to habitat loss and nest parasitism by brown-headed cowbirds. Habitat management, monitoring and nest protection have helped lift Kirtland's warblers well above the recovery goal in Michigan and expand their range into Wisconsin, Upper Michigan and Ontario. Overall, population has increased from fewer than 200 breeding pairs in the 1970s to more than 2,300 breeding pairs today, more than doubling the recovery goal.

Wisconsin partners include the DNR; U.S. Fish and Wildlife Service; the University of Wisconsin; Natural Resources Foundation of Wisconsin; USDA Wildlife Services; Sand Valley Restoration Fund LLC; Meteor Timber; the Wisconsin Trapshooting Association; forest departments of Bayfield, Marinette, Vilas and Jackson counties; and many birders and other residents. Partners have made long-term commitments to managing thousands of acres in Bayfield and Adams counties for

Kirtland's warbler by participating in the DNR Forest Legacy program.

Because of similar partnerships and their success in Lower Michigan, the U.S. Fish and Wildlife Service in April proposed removing the Kirtland's warbler from the federal endangered species list. The service is accepting public comments on the proposed delisting through July 11. A final decision will be made by next April.

Kirtland's warbler numbers in Wisconsin don't yet meet the criteria to be removed from the state's endangered species list. However, Wisconsin continues to be active in conservation efforts for the species, which began when it was first documented breeding here 10 years ago, and the state will continue work to increase the population.

If the bird is removed from the federal list, it will become the first "conservation reliant" animal to be removed from the endangered species list, says Carol Bocetti, longtime Kirtland's Warbler Recovery Team leader.

The species will always need management because its required habitat — young jack pine with open areas — depends on practices such as prescribed fire and timber harvest.

"We think we can take it all the way off the endangered species list because we have these partnerships and the tools in place," Bocetti says.

Drew Feldkirchner, who directs DNR's Natural Heritage Conservation Program, calls the proposed federal delisting "a huge milestone" for the overall recovery of the bird.

"Decades of commitment and hard work through public and private partnerships in Michigan have paid off," he says. "And we are also proud of the work our Wisconsin partners have done to increase our small but growing population."

— Lisa Gaumnitz

The Kirtland's warbler measures about 5½ inches long and weighs under a half ounce.



BREEDING BIRD ATLAS II NEEDS YOU

SURVEY VOLUNTEERS ARE AS VARIED AS THE SPECIES THEY OBSERVE.

Carrie Trousil Becker

Think you have to be an expert to help the Wisconsin Breeding Bird Atlas II project? Think again.

With more than 1,500 participants in the comprehensive bird survey now underway, the truth is there is no single “type” of person involved. Every atlaser brings a distinct set of talents to

the project, which is entering the fourth of its five years.

The Atlas volunteer team is truly as varied as the bird species they observe. You can be any age, live anywhere, and

need only an interest in birds to participate.

Here’s a look at three unique individuals who have offered their time to participate in the Wisconsin Breeding Bird Atlas II.



BONNIE DELAP

LARRY MICHAEL

When Larry Michael of Dodge County lost his eyesight eight years ago, he thought his days as an avid birder and participant in birding projects like the Atlas, the Christmas Bird Count and myriad others were over.

“I hate to admit this, but at first I was not motivated to atlas and did not do so for the first two years,” Michael says. “I felt that a blind birder had little to offer to a project like this.”

After persistent efforts of Atlas coordinators, who insisted that a blind atlaser could provide plenty of important data, Michael finally changed his mind. He’s glad he did. Today, Michael says birding by ear offers a perspective he could never have enjoyed before. And birding for quality, not quantity, has changed his entire approach.

“When I now hear a bird, I try to understand what is going on — from what that bird is trying to ‘say,’ to what the other sounds in the area might be,” he says. “Birding and atlasing have become more than just hearing a bird species, checking it off the list, and then moving on to the next one. I now stop to really listen.”

Michael hears birds sing the very first morning back from their wintering grounds, male birds fighting over territory, “romance” songs, alarm calls and just-fledged young demanding to be fed. Sometimes the sounds are sweet and sometimes, he says, they can be downright scary.

He typically conducts his nocturnal stationary atlasing alone, and one evening while sitting by himself and listening to the night sounds, he was startled by loud barking, chuckling, rattling, hissing, bill snapping and spine-chilling screeching just 10 feet away. He knew he was listening to an eastern screech-owl.

“I must have set up too close to its nesting cavity. I do not know who was more surprised or frightened,” Michael says.

Experiences like that are something he thought long gone after he lost his sight, and he hopes he can encourage other people who are reluctant to participate in the Atlas survey to get involved.

“If I can do it, anyone can,” Michael says. “This is coming from a birder who is blind. Even if you have less than desired sight or hearing, there is a place for you in the Atlas. They will welcome you with open arms.”



KAREN BURKMAN

LORRI HOWSKI

As a wildlife photographer, Lorri Howski of Milwaukee County often found herself taking shots of birds, but it never occurred to her that what she was doing also could be useful in a conservation capacity. Once she came across some information about the Atlas, however, something clicked.

“I read some wonderful information regarding the Wisconsin Breeding Bird Atlas and bird populations, and how important it is to have documentation on what kind of birds breed here in Wisconsin. That’s when I decided to help contribute,” she says.

Though Howski says she was hesitant at first, thinking perhaps she didn’t know enough about birds to participate, she soon found plenty of birders in the community ready to help out. Now she can’t stop.

“Atlasing has gotten me hooked and out of the house,” she says.

Howski travels the state exploring new birding hotspots, getting outside and learning about the different species that visit Wisconsin. She’s particularly fascinated with owls: In spring of 2017, Howski concurrently observed five different active owl nests, carefully recording and photographing the birds’ behaviors and interactions with one another.

“Atlasing has really driven me to focus on the behavior of the birds,” Howski says. “It has me examining birds in detail instead of just looking at them. It has taught me to be more aware and to take time to stop, listen and watch.”

Though Howski wasn’t expecting to enter the world of citizen science, she’s hooked now and eager to explore more opportunities when she can.

“It’s nice to know that the information I provide will help preserve the birds and keep them in their natural environment for years to come.”



Ezra Bontrager, a Wisconsin Breeding Bird Atlas II contributor, took this photo of red-headed woodpeckers at the Reuben Schrock farm in Vernon County, where he spotted two active woodpecker nests last summer.

EZRA BONTRAGER

Atlas volunteers submit their observations through a website called eBird, and many old-school birders initially find using an online system to be a challenge when they begin atlasing. But what about those people who just don't use technology, period?

Ezra Bontrager, 22, of Vernon County is Amish, but with a little help from his county coordinator, Paul Hayes, he's a regular Atlas contributor. In fact, Bontrager is one of several individuals in Vernon County's Amish community who atlas.

After responding to a notice about the project he found at a local library, Bontrager eventually was connected with Hayes, who stopped by Bontrager's family farm to get him started. Now Hayes enters Bontrager's observations from written field notes.

"There is a significant Amish community in many rural areas of Wisconsin," Hayes says. "The Amish grow up with a close relationship to the natural world and many of them have become expert birders."

Hayes appreciates their help: Two of the priority blocks in Vernon County have Amish families acting as principal surveyors.

Bontrager says he has been birding as long as he can remember, taking family walks with his father when he was a little boy. Still, atlasing is making this life-long birder's personal bond with nature even stronger.

"The biggest change is that I now carry a notebook," he says. "Even when working in the fields, I am much more aware of the birds and their behaviors."

Bontrager has made good use of his notebook, and is now one of the top atlasers in Vernon County. One birding coup recorded by Hayes on behalf of Bontrager was the sighting of a painted bunting that landed at the farm's birdfeeder — not a breeding bird, but an extremely rare visitor to Wisconsin that Bontrager recognized immediately from having admired it in field guides.

Despite such feats, Bontrager is modest about his contributions and concentrates instead on how he can share his knowledge with the community. As the teacher at his community school, he regularly shares information from the print edition Atlas I with his students, as well as with friends and family.

"If you love the birds, try atlasing," Bontrager says. "It is a great way to share your interest in birds and spend time in the natural world." 📖

Carrie Trousil Becker is communications coordinator for the Wisconsin Breeding Bird Atlas II project.

>>> ABOUT THE ATLAS

For details on the Wisconsin Breeding Bird Atlas II, including how to volunteer, visit the project website at wsobirds.org/atlas.

WHY IT'S GOOD TO BE AN ATLASER

Will you be the lucky one to find the elusive white-winged crossbill?

This medium-sized finch with a predilection for extracting hundreds, even thousands, of pine cone seeds a day, is the only bird confirmed as breeding in Wisconsin in multiple locations 20 years ago and not documented yet in the current go-round of the five-year bird survey known as the Wisconsin Breeding Bird Atlas II.

Now entering its final two seasons, the project is still in need of some good men, women and children interested in birding for fun and conservation. Volunteers report the birds they see engaged in breeding behavior, like males singing and females carrying nest materials or incubating eggs.

The purpose of the Atlas effort is to document all bird species that breed in Wisconsin, from common year-round residents like northern cardinal to species of high conservation interest like Connecticut warbler.

Some of these species may be vanishing, while others are holding their own, or even increasing, but only a statewide effort will reveal these trends, says Nick Anich, Breeding Bird Atlas coordinator for the DNR.

"We need more volunteers to survey priority areas so we get a complete picture of what's going on with our bird populations and how we can help them moving forward," Anich says.

Volunteers, also referred to as "atlasers," enter their sightings in an easy online process. The information is then reviewed by Anich and other ornithologists from organizations leading the project: the Wisconsin Society for Ornithology, the Western Great Lakes Bird and Bat Observatory, the Wisconsin Bird Conservation Initiative and the DNR.

When the project is completed, the data will be published in a hard-copy book and online for use by researchers, land managers, conservationists and other residents interested in birds and their habitats.

— Lisa Gaumnitz



12 NEW SPECIES CONFIRMED BREEDING IN WISCONSIN*

- ☒ King Rail
- ☒ Canvasback
- ☒ Bufflehead
- ☒ Whooping Crane
- ☒ Mississippi Kite (pictured)
- ☒ Eurasian Collared-Dove
- ☒ White-eyed Vireo
- ☒ Great Tit
- ☒ Kirtland's Warbler
- ☒ Yellow-throated Warbler
- ☒ Blue Grosbeak
- ☒ European Goldfinch

*Not confirmed during Atlas I



AND THEN THERE WAS ONE

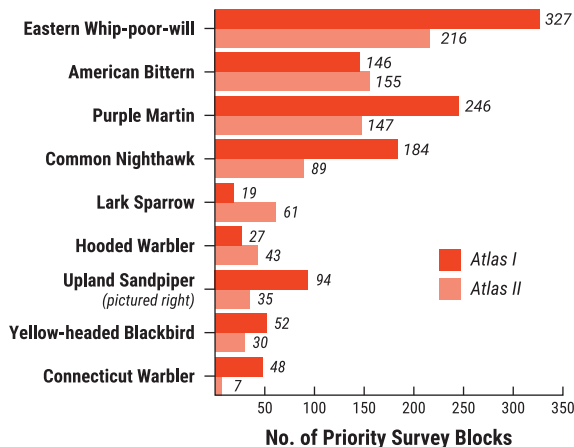
White-winged Crossbill is the only species confirmed as breeding in more than five blocks during Atlas I which has not been confirmed as nesting in the state this atlas. Crossbills roam in search of good cone crops, so they aren't present in the state in good numbers every year.

WE NEED YOUR HELP

There are still blocks in every area of the state that need coverage. Get involved by going to wsobirds.org/atlas.

HAVE YOU SEEN THESE SPECIES?

If you have seen or heard these species of concern in June and July, help us out by reporting them!



AFTER THREE SEASONS, HERE ARE THE NUMBERS

1,540
VOLUNTEERS

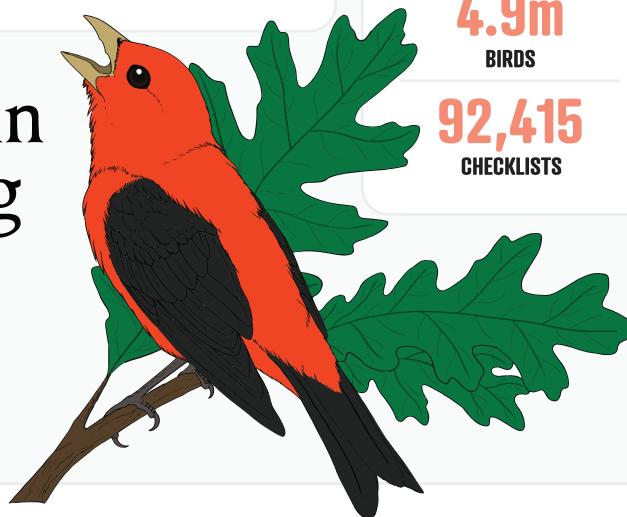
239
BIRD SPECIES

4.9m
BIRDS

92,415
CHECKLISTS

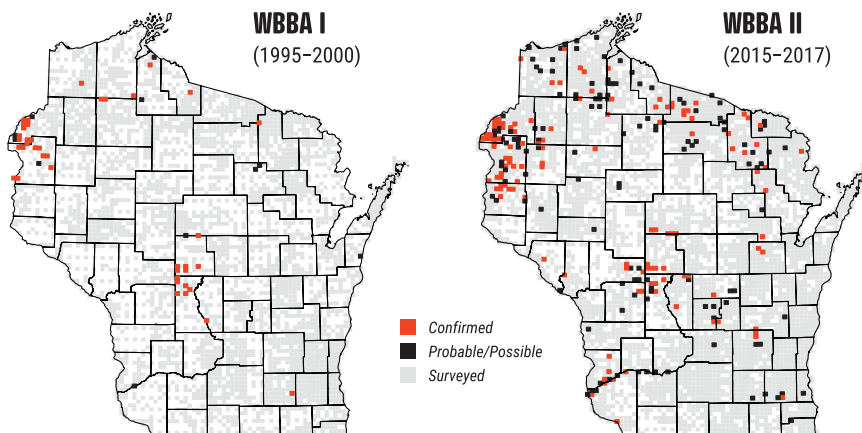
Wisconsin Breeding Bird Atlas II

wsobirds.org/atlas



TRUMPETER SWAN SUCCESS

The Trumpeter Swan was extirpated from the state by the late 1800s, but was reintroduced by the DNR in the late 1980s. Atlas II clearly shows a range increase beyond the remote northern and central Wisconsin lakes that were their stronghold during Atlas I.





OUTDOORSMAN AMASSES AN EXTENSIVE COLLECTION RELATED TO HIS PASSIONS — INCLUDING SOME SPECIAL MAGAZINES.

Story and photos by Andrea Zani

This particular rescue effort was an easy one for Wayne Whitemarsh. It took place a few years ago at an estate sale near Mazomanie, in southern Wisconsin, where he just happened to come across a truckload of treasure in need of saving: Hundreds of historic copies of *Wisconsin Natural Resources* magazine and the *Wisconsin Conservation Bulletin*.

"The guy said, 'Just give me two bucks for these boxes,'" Whitemarsh explained, recalling the dozen or so boxes filled to the brim with back issues dating to the 1960s. "And I couldn't wait to get my two bucks out of my pocket as fast as I could."

Whitemarsh piled the publications in the back of his pickup and carted them home to Sauk City. There, he added them to an ever-growing collection of items related to the Department of Natural Resources, Wisconsin's outdoors and the state's venerable traditions of hunting and fishing — of which he is so fond and proud.

Eventually, Whitemarsh took the magazines to work with him. That is, he added them to the special corner he oversees in his job as sporting goods manager

at McFarlane's True Value, the hardware store wing of McFarlane's Retail Service Center in Sauk City.

Inside the store, Whitemarsh has put together an outdoors section that is as much museum and library as it is retail shop. There are dozens of animal mounts including several fish species, deer, turkeys, a pair of black bears and even one out-of-state bighorn sheep.

Many of the mounts have been unsolicited donations to Whitemarsh. "Maybe people are cleaning things out and they have these and don't know what to do with them, so they bring them in to me," he said.

One of Whitemarsh's favorite items is an old-time trapper's basket, a beautiful woven piece given to him by the late

Leo Hoeft, a longtime trapper who made much use of the basket over the years. Whitemarsh, 63, said he used to trap when he was in high school so the basket, complete with fur pelts, is special to him.

There's another basket too, this one on the floor and overflowing with shed antlers. "People just drop them off here," he said.

Welcome to Wayne's world

There also are the salvaged WNR magazines and *Conservation Bulletins*, part of the springtime display at McFarlane's. "I change it about every six months," Whitemarsh said.

The publications stack neatly on wooden shelves made of barn door boards by an Amish friend, and visitors are quite welcome to sit a spell and flip through the issues. Whitemarsh even provides a chair for that purpose.

"Especially some of the older folks who maybe don't get out to hunt and fish anymore, they'll come by to talk and have a cup of coffee. Maybe they'll sit here and read through an old magazine, commenting on this or that," he said. "I wanted to do this. I wanted people to enjoy them."

On an opposite wall from the magazines, there is more reading material. Whitemarsh has put together a selection of book titles dealing with Wisconsin's outdoors and also has been able to arrange author visits to the store by some of the writers of those works.

"The community is really supporting it," he said of the "bookstore" venture. It's a relatively new addition at McFarlane's, where Whitemarsh came to work about four years ago after many years at Sauk City's Wilderness Fish & Game.

It appears the community supports Whitemarsh, too, as evidenced by the steady flow of friends who seem to come through McFarlane's whenever he's on duty. They chat about fishing, hunting and the outdoors in general. The store sells licenses, too, so Whitemarsh is often found helping with that at his computer station where he connects to DNR's GoWild sales site.

"I don't even think of it as working, what I'm doing," he said.

On the hunt for food

In addition to everything he has out for public viewing at McFarlane's, Whitemarsh has much more tucked away at his home. In fact, he said, he has

an entire 20-by-30-foot room filled with outdoors-related items, much of it historic.

"I call it 'Possum Lodge,'" he said, chuckling about the name he borrowed from the Canadian outdoors sitcom "The Red Green Show."

The home collection and the display at McFarlane's might be considered shrines of sorts to Whitemarsh's love of the outdoors. But he also shows his passion in another way — by organizing an annual "game feed" at his church in Sauk City.

The event, in early February each year, features foods donated by church members and has included everything from fish favorites like walleye and panfish, to venison dishes and elk hamburgers. They've also served a delicious rabbit stew, or hasenpfeffer, along with foraged foods such as hickory nuts, wild asparagus, mushrooms and more.

"Everybody has something they bring to the table," Whitemarsh said.

The camaraderie is as important as the cooking, he added. "Our idea is to get people together in the dead of winter just to see how they're doing."

The DNR's "Learn to Hunt for Food" program has been an inspiration for the meal, Whitemarsh noted.

"People say, 'I don't hunt.' Well, hunt for potatoes, hunt for carrots," he said. "Even if you're not a game person, there's something."

Keith Warnke, a DNR program supervisor instrumental in promoting "Learn to Hunt for Food," has worked with Whitemarsh in his endeavors for many years.

"He's a great guy," Warnke said. "Wayne has been dedicated to making sure hunting and angling remain relevant in Wisconsin. He's been at that ever since I met him in 1997."

Whitemarsh's influence is a real positive for growing efforts aimed at hunting for local and sustainable food, Warnke added.

"Wayne was a passionate promoter of hunting, fishing and foraging for food before it was cool. And now that interest has burgeoned, he is uniquely positioned to lead and educate apprentices."

Inspiring a new generation

It is exactly that idea of educating others that seems to please Whitemarsh most. He is devoted to the state's longstanding traditions of hunting, fishing and enjoy-

ing the outdoors and hopes they'll continue far into the future.

Take whitetail hunting, he said of a favorite time of year. "When it comes to deer season, the time does stop. You could forget your mortgage, you could forget everything — because it's deer season."

Fishing, too, is a big deal, he said, noting all the fervent discussions about the sport — this lure vs. that jig, bluegill or trout, where and when are best to fish — that occur in his corner of McFarlane's. "It's kind of like a little world within a world. It's very serious."

Even spring and fall bird migrations are a thrill for Whitemarsh. "Hey, that's important stuff," he said. "We want to know when the birds are coming back. That's all part of our history."

Ultimately, Whitemarsh hopes his own passion can help inspire others, especially youth, in the ways of Wisconsin's outdoors.

"We're trying to pass that on to young people," he said. "Get off that phone and get outdoors. There's so much you can learn." ❧

Andrea Zani is an associate editor of Wisconsin Natural Resources magazine.

A plethora of outdoors-related items are on view at McFarlane's True Value in Sauk City from a collection owned and curated by the store's sporting goods manager, Wayne Whitemarsh. Recently, pieces on display included, clockwise from bottom right: a ring-necked pheasant mount, a classic trapper's basket and an overflow of shed antlers. Whitemarsh also organizes a "library" nook at McFarlane's, top right, with nature titles by many Wisconsin authors.



A photograph of a bicycle with various gear, including bags and a water bottle, parked on a sandy beach. The bicycle is leaning against some greenery on the left. In the background, there is a calm lake with a forested shoreline under a cloudy sky. The title 'ON A BICYCLE TRIP BUILT FOR VIEWS' is overlaid in large, white, serif font on the right side of the image.

ON A BICYCLE TRIP BUILT FOR VIEWS

A tiny patch of sandy beach on the shore of Chippewa Lake serves as a good rest stop after a tough trail ride.

BEAUTY OF THE WOODS AWAITS ON FOUR-DAY RIDE IN THE CHEQUAMEGON-NICOLET NATIONAL FOREST.

Story and photos by Randy Larson

True bicycle touring is an act of deep travel, moving slow enough to absorb the landscape and engage all the senses. Hear the cry of a red-tailed hawk and the gentle sounds of moving water in a creek along the road. Smell the deep pine woods of the North or the sweetness of freshly cut hay in farm country. Feel the warmth of the summer sun or the cold wind on a blustery March day.

My plan for such a long-distance, backroads bike trip was to spend four days traversing part of the Chequamegon-Nicolet National Forest, camping along the way and riding gravel forest roads north of Park Falls before looping back through the Penokee Hills and Copper Falls State Park. All told, I would be traveling more than 200 miles.

The CNNF covers more than 1.5 million

acres in northern Wisconsin, including 11,000 acres of designated wilderness and a number of State Natural Areas. There are 600 lakes, 1,200 miles of streams and 47 campgrounds. When I went in late August last year, goldenrod was blooming and sumac along the roadside showed the first reds and oranges of autumn.

My trip began after spending the night in Park Falls. I left early and rode west

on the Tuscobia State Trail. An hour later, I rode north toward Clam Lake on several quiet forest roads and sections of an ATV trail. In the first four hours, I encountered only two ATVs and two pickup trucks.

I stopped for lunch on a bridge over the East Fork of the Chippewa River — what a wonderful place! The Chippewa is the quintessential North Country river — dark, tannin-stained water with swift currents flowing around large boulders over a rocky riverbed creating riffles and rapids, in places slowing and running deep and dark over a sandy bottom. The river wound its way through an expansive forest of white pine and birch, occasional wetlands and a gently rolling landscape.

After lunch, I stopped at the gas station in Clam Lake and talked to the store owner about the elk population. Elk were first reintroduced to the area in 1995 and the herd has grown slowly. Last summer, the DNR and its partners released 31 more elk in the CNNF, the first additional release there in 20-plus years. In 2018, the herd is projected to reach more than 200 elk spread over several hundred square miles.

Elk are a common sight on the store owner's property outside of town, she told me, and she mentioned hearing the wild sound of bull elk bugling during the rut. Unfortunately, I did not have any elk sightings during my ride through the area.

Later that afternoon, I set up camp at Day Lake campground just north of Clam Lake. This is a very nice U.S. Forest Service campground with quiet, wooded sites and a short trail to the lakeshore.

I rode up to East Twin Lake in the early evening and sat along the shoreline enjoying the mix of sun and clouds with a brief rain shower. The roadsides were beautiful with green ferns and the white flowers of smooth aster, as well as the yellows of black-eyed Susan, yarrow and goldenrod. Back at camp, I had supper and listened to a loon calling from across the lake.

Deep in the forest

The second day started with coffee as the first warm light of sunrise illuminated the western shoreline of Day Lake. The lake's surface was a mirror, reflecting the white pines along the shoreline with a pair of loons on the water.

I spent the morning exploring forest roads northwest of Clam Lake. One highlight was riding a rough trail to

Chippewa Lake, the source of the West Fork of the Chippewa River. From there, I continued along the northern boundary of Porcupine Lake Wilderness Area, 4,446 acres designated as wilderness in 1984 traversed by a section of the North Country Trail. The woods here were deep and quiet as I photographed a delightful creek that flowed over several reddish-colored rock ledges.

I stopped in Drummond to eat lunch and then rode north to Perch Lake via Delta-Drummond Road, which was spectacular as it wound through beautiful woods accented by small lakes. I had not seen a car in more than an hour as I continued north toward Delta.

I was on a remote forest road as the shadows started to lengthen in the late afternoon light and a quietness fell over the deep woods of Rainbow Lake Wilderness Area. I had just crested the top of a gentle rise when 70 yards in front of me a large black bear, completely unaware of my presence, wandered onto the road. I watched him for a couple of minutes and then let him know I was there. He reacted to the sound of my voice and disappeared quickly into the woods.

It was hard not to be impressed by the deep, rich blackness of fur and the gracefulness with which the bear

moved. I waited a few minutes before crossing his tracks in the sand. Moving on, I made it to Wanoka Lake campground in the early evening.

Of chance encounters and challenging roads

The next morning, I left Wanoka Lake just after sunrise and crossed Highway 2, riding north on a gravel forest road. Within a few miles, I entered Moquah Barrens State Natural Area. Unfamiliar with this area, I was fascinated by the open country vistas and steep, rugged terrain. There were large patches of blueberries, but unfortunately I was a week or two late to pick any.

I came across two CNNF employees working on habitat restoration in an effort to reestablish sharp-tailed grouse, which are native to this area. We had a very interesting discussion while looking over the forest map as they pointed out a couple of scenic forest roads I should ride. I took their suggestions and had a beautiful ride on rustic roads with short, steep hills, deep sand and some rocky sections that made for challenging riding. Occasional overlooks offered great views of the landscape.

I also met a Michigan State student who was working on his Ph.D. in forestry. It was his last day of summer



Day Lake campground, a U.S. Forest Service spot near Clam Lake.



The swift-flowing and rocky East Fork of the Chippewa River.



Porcupine Lake Wilderness Area in Bayfield County.



Moquah Barrens State Natural Area in Bayfield County features open vistas and rugged terrain, including a gravel forest road winding through the landscape.

research in the area, where he was studying the infiltration of water into the ground of burned-over areas vs. unburned areas. Originally from Texas, he said he hoped to work in his home state in the future. I wished him luck, and a couple of miles later I rode out of the Moquah Barrens and crossed Forest Road 236.

I continued to ride northeast on forest roads that were very sandy, making it fun to keep an eye out for wolf tracks. I was still in Bayfield County, only a few miles from the northern boundary of the CNNF. Eventually, I rode out of the forest and stopped at the Northern Great Lakes Visitor Center near Ashland, then continued into town for lunch.

After lunch, I rode south on mostly paved roads, the terrain flat until I entered the Penokee Hills. North York Road had loose gravel with several short, ridiculously steep pitches. These were steep enough to require pushing the bike, but even that was difficult on the loose gravel and a bike loaded with camping gear. By late afternoon, after nearly 10 hours on the road, I was completely beat.

I finally descended into Mellen and pedaled the 2 miles to Copper Falls State Park. After setting up camp, I took

a short walk at dusk to a couple of the park's waterfalls before heading back to camp and falling asleep quickly in my sleeping bag.

Memories to last

On the last morning, I took my time getting ready, as I had only 40 miles to ride to Park Falls to complete my loop. It was another beautiful day, sunny with a high temperature of about 70 degrees.

The ride was uneventful, mostly paved, but I did enjoy stops in Glidden and Butternut. I admired the portrait murals on buildings that told the story of people who lived in these towns and gave a historical perspective of the area.

It was just past noon when I made it back to Park Falls — about 230 miles covered on my four days of “bike-packing.” I loaded up my truck, had some lunch and began my drive home.

I had experienced deep travel in the Chequamegon-Nicolet National Forest, learning the landscape in a very intimate way. I felt grateful for the beauty and richness of the trip. 🌲

Randy Larson of rural Blanchardville, a photographer by profession, is an avid bicyclist who has logged thousands of miles on the roads and trails of Wisconsin.

>>> IF YOU GO

The Chequamegon-Nicolet National Forest covers parts of Ashland, Bayfield, Florence, Forest, Langlade, Oconto, Oneida, Price, Sawyer, Taylor and Vilas counties. Before heading out on a bicycle trip in the CNNF, contact or stop by a U.S. Forest Service office to check on updated conditions, including any road or campground closures. Also be sure to pick up the current CNNF Motor Vehicle Use Map, which shows all the forest service roads and campgrounds. CNNF headquarters are in Rhinelander, and Ranger District locations are in Eagle River, Florence, Glidden, Hayward, Lakewood, Laona, Medford, Park Falls and Washburn. For details, check www.fs.usda.gov/cnnf.



Hazy clouds hover over East Twin Lake in Ashland County.



how become Lake Lovers Lake Leaders

DNR FILES

DNR-ASSISTED TRAINING PROGRAM EMPOWERS CITIZENS TO TAKE THE REINS OF LOCAL LAKE MANAGEMENT.

Carroll Schaal

The waters and beds of natural lakes and streams in Wisconsin are considered Public Trust property — they belong to everyone. There are more than 15,000 lakes in the state, providing plenty of opportunity for the public to get involved in helping to manage those bountiful resources.

Many of the state's laws and programs are intentionally designed to create public/private partnerships that enable citizens to play a central role in getting work done. There are laws that allow the creation of qualified lake associations and lake districts for the express purpose of raising funds and conducting projects to enhance, protect or restore lakes. There are cost-share programs that provide up to 75 percent of the cost of a project. There are volunteer programs where citizens monitor water quality and aquatic invasive species or

educate boaters about the threats of AIS.

In these programs, the DNR provides technical assistance, support, supplies and sometimes funding, while relying on citizens to carry out much of the work. Partnerships between natural resources agencies and local citizen-run organizations are essential to effective natural resources management.

This has long been the mode of operation for the Wisconsin Lakes Partnership. The partnership seeks to join the technical and financial resources of the DNR, the educational capacity of the

University of Wisconsin Extension and the organization of Wisconsin Lakes Inc., a nonprofit serving local lake groups and interests — all to empower local citizen-led lake management.

There are literally thousands of citizens serving as officers, board members, volunteers or staff for the state's 220 lake management districts and 500-plus lake associations, not to mention the counties, towns, cities and villages essential to maintaining and protecting these precious resources. However, few possess any formal training that prepares them for the host of complex issues they may face, whether it's managing algae or zebra mussels, seeking grants or recruiting and directing volunteers.

In 1998, to address the need for leadership in this realm, Wisconsin began a program called the Lake Leaders Institute. Its charge was to "proactively develop a pool of committed and prepared leaders who could assume leadership roles in the Wisconsin lakes and other statewide committees, county-wide lake associations and watershed teams being organized by the Wisconsin Department of Natural Resources."

Today, the Wisconsin Lake Leaders Institute is a statewide program that helps lake stewards gain a better



UW-EXTENSION LAKES PHOTOS

Participants in the award-winning Wisconsin Lake Leaders Institute routinely learn from experts in all areas of lake life including limnologists, government officials, private-sector business leaders and more. About 30 participants take part in each group, known as crews.

understanding of lake ecology and how to work with state and local governments to ensure lakes get the attention they need. The training program enhances skills and broadens capabilities of people in our lake communities, champions effective and communicative collaboration, and fosters responsive and useful networks that support lake citizens.

The LLI is designed to assist in developing and enhancing both the technical and the people skills of citizen leaders. To date, more than 320 individuals have “graduated” from one of the institute’s 11 “crews,” and Crew 12 launched in May. A new crew is recruited every two years.

A “dream team” of lake professionals has given program organizers a hand in educating and motivating lake leaders. Instructors come from all walks of the lake world: academia adept in leadership development and citizen advocacy support; research limnologists; government officials; not-for-profit leaders; Native-American educators; technical experts from assorted natural resources agencies at the federal, state, county and town levels; private-sector lake-related businesses; and Extension outreach specialists, among others.

In addition to lake residents, participants may include staff from the DNR, UW Extension, county conservation and zoning offices, and private consulting. The mix of agencies, staff and citizens creates a unique dynamic that naturally fosters the collaboration and partnering necessary to succeed in today’s environment.

How it works

To participate in the Wisconsin Lake Leaders Institute, crew members must be nominated. Though they can self-nominate, it’s much more effective and meaningful for candidates to be nominated by others who see their leadership potential.

Candidate nominations require a letter of recommendation and a detailed candidate application. The completed applicants are reviewed by committee and the top 30 are selected per class. Crew members must commit to attend and pay \$300, covering about half the cost.

Instructors are mostly volunteer and venues are modest to help keep it affordable. Courses within each seminar are designed to create an atmosphere of openness, trust and camaraderie.

The training program consists of

three two-day seminars in May, September and October.

- Seminar I — Society and Environment: Philosophy & Ethics of Lake Management.
- Seminar II — Aquatic Ecology & Watershed Management.
- Seminar III — Organizations, People, Politics.

The first session focuses on building a sense of camaraderie exploring values, ethics, perceptive communications, what leadership means and the philosophy and history of Wisconsin lake management. The second session is a lakeside crash course on the science and ecology of lakes, how humans impact lakes and the basic building blocks of a lake management plan. It includes an afternoon in pontoon boats learning how water quality, habitat and fish and aquatic life are measured. The final session focuses on organizations, people, politics and the law.

Graduation from the Lake Leaders Institute takes place at the Aldo Leopold shack on the grounds of the Aldo Leopold Foundation near Baraboo. There, graduates share a commitment statement describing how they will use their leadership skills to enhance


the community in which they live and become active participants in protecting in partnership our legacy of lakes in Wisconsin.

Advanced training and awards

In addition to the regular LLI sessions, single-day advanced training sessions are offered to graduates in odd-numbered years to continue to keep leaders inspired and connected. Topics for these programs cover timely issues on the cusp of new techniques or roll out new programs being offered by the state. Even after nearly 20 years, these advanced training sessions are attended by members from all the past crews.

Evaluation surveys show high levels of satisfaction with what participants learn in the program, but almost everyone mentions the personal connections they made as equally valuable. Roughly three-quarters reported becoming more confident and more active in local lake management affairs and in their ability to influence decision makers.

Several LLI graduates have been inspired to run for a local elected office and, in terms of meeting the original goal, the board of Wisconsin Lakes also has been well-stocked through the program.

In 2009, the Lake Leaders Institute received a national award for outreach and education from the National Fish Habitat Board, a division of the National Oceanic and Atmospheric Administration. Among hundreds of nominees, the institute was chosen by the board for its "extraordinary commitment to fish habitat conservation, science and education." 

Carroll Schaal is the Lakes and Rivers Section Chief for the DNR's Water Quality Bureau.

>>> GET INVOLVED

Who should be a lake leader? Anyone interested in stretching their mind and exploring new ideas about lakes, and the management of the human use of lakes, is welcome to apply for participation in the Wisconsin Lake Leaders Institute. For information, including details on how to nominate yourself or someone you know, visit www.uwsp.edu/cnr-ap/UWEXLakes/Pages/programs/lakeleaders/default.aspx.



Lake Leaders Institute graduation is held at the Aldo Leopold Foundation near Baraboo where groups such as Crew 5, shown here near the Leopold shack, share ideas for using the lessons learned.

AN INFLUENTIAL CREW

The graduates of the Wisconsin Lake Leaders Institute are making a difference, and the success of the program is a testament to their talent and hard work. Here's a look at the accomplishments of some previous crew members.

Cathie Erickson

Erickson was a member of Crew 8 and currently is serving as president of Wisconsin Lakes, a nonprofit conservation organization that advocates for lakes statewide. She is a retired attorney and is involved with numerous community organizations in northwest Wisconsin, such as the Washburn County Lakes and Rivers Association (WCLRA), Shore Owners of Stone Lake, and Stone Lake Community Wetland Park.

"After Wisconsin Lake Leaders Institute, I was better able to understand not only the science of lake ecosystems, but also the social and legal frameworks of lake management," Erickson said. "The friendly atmosphere and beautiful locations only sweetened the experience. I would highly recommend it to all lake residents and water resource professionals who care for our lakes."

Carol Lebreck

Representing Bony Lake in Bayfield County, Lebreck was a member of Crew 6. After LLI training, she became a director on the Board of the Wisconsin Association of Lakes and also was inspired by what she learned about the relationship between wood in lakes and fish production.

A lifelong angler, she spearheaded a large wood reintroduction project on Bony Lake in Bayfield County involving half of the riparian property owners. So far, more than 1,000 feet of shoreline has been completed, much of it with whole trees thinned from a pine plantation on the back of her property.

For more information on the project, visit www.bonylakewi.org/blwlrp1.html.

Scott Porter

Representing Turtle Lake in Walworth County, Porter was a member of Crew 5. After completing the LLI curriculum, Porter returned to his lake association and worked with lakeshore owners to implement positive change in how they manage their shorelines. Because of the individual contacts he made through the institute, virtually all of the Turtle Lake shoreline property owners have improved their lake management practices.

Nancy Hill

Hill was a member of Crew 3. Following graduation, Hill became executive director of the Green Lake Association in Green Lake County. She initiated the Revitalization of Shoreland Vegetation Project (RSVP) that encourages regeneration of shoreland vegetation through educational efforts targeted at property owners and businesses that provide property management services to lakeshore owners.

The association partnered with the Green Lake Sanitary District — whose executive director, Charlie Marks, also is an LLI graduate — to help manage the fish-rearing facility purchased by the district. This ensures that fish will remain available for stocking Big Green Lake.

Both Hill and Marks have been instrumental in the creation and support of the Green Lake Conservancy Foundation, which has established eight conservation preserves around what is the deepest natural lake in Wisconsin.

For details about the conservancy and its efforts, visit www.greenlake-conservancyfoundation.org.

Paddle tales



A 1907 St. Croix River excursion is among the outings detailed in a book by Martha Greene Phillips, below, which compiles the writings of her father who led the trips.



EARLY 1900s CANOE JOURNALS CAPTURE MOMENTS OF HISTORIC ADVENTURE, PRESERVED BY THE DAUGHTER OF THE MAN WHO WROTE THEM.

Story by David Horst and photos courtesy of Martha Greene Phillips

Author Martha Greene Phillips is extraordinarily attached to history. Her father was 79 when she was born. She is just one generation removed from a man who was alive as the Civil War was ending and served in the Spanish-American War.

But she has an even stronger connection to the past — eight leather-bound journals of canoe excursions taken in the early 1900s by her father and a group of friends along with his young sons and their friends. The journals were written by Phillips' father, Howard Greene, one for every trip that was made. He also meticulously copied each journal for members of the travel parties, individually typing each one, and Phillips was fortunate to inherit a complete set.

In an effort to share Howard Greene's unique paddling tales with a wider audience, Phillips turned the journals into a coffee-table book. Known to many as Marti, the retired mental health counselor from Portage did extensive research to add footnotes, information on trip geology, historical details and other context, including a guide to all the paddling party members, to create the book.

"Border Country: The Northwoods Canoe Journals of Howard Greene, 1906-

1916," was published in 2017 by the University of Minnesota Press.

The 350-plus-page history includes hundreds of photographs — all but a handful taken by Greene with his Graflex camera — plus maps and sketches from the journals. The book fully reproduces six of Greene's journals, with summaries of the other two.

Phillips' copies of her father's journals eventually will become exhibits at the Wisconsin Historical Society, but she is happy their content can be shared in "Border Country."

"I wanted to publish the journals so that others could paddle the rivers and lakes with my father in early-twentieth-century America," she writes in the book's prologue. "With the publication of 'Border Country,' my long-standing wish is granted."



Eight trips into the wild

Howard Greene was born in Milwaukee in 1864. After graduating from UW-Madison in 1886, he worked at his family's wholesale drug company in Milwaukee, taking over the business by 1900 after the death of his parents. Back then, running a pharmacy business meant dealing mostly with herbs and other botanicals. His release from the rigors of work was to take extended trips into nature.

Greene's trips were taken with a group he called "the Gang," three or four men and four to eight boys, paddling off into the wilderness for three to four weeks at a time. Howard — or Dad, as everyone in the Gang called him on the trips — shot photographs and took notes throughout the excursions and upon returning produced his journals for each participant.

In Greene's day, photographing nature was nothing like pointing a digital camera and making it work with Photo-shop later. He hauled his Graflex camera, tripod and hood on each trip and processed 4-by-8-inch negatives, and even glass plates, out on the river banks.

Beginning in 1906, the group made eight trips, some of them in areas now known as part of the Boundary Waters Canoe Area Wilderness. Imagine how those still-wild places looked more than 100 years ago.

"The Gang sought uncivilized areas," Phillips writes. "They wanted days and weeks in poorly mapped wilderness areas where they were constantly discovering places they would know very little about in advance and had to learn how to make their way through."

The trips, and Greene's accounts of them, included:

- Wisconsin River, 1906, with the journal made up mostly of Greene's letters to his son, Howard T., left behind because of a health issue, from a trip that included Eagle River, Rhinelander, Tomahawk, Merrill, Stevens Point, Nece-dah and Kilbourn (Wisconsin Dells).

- St. Croix River, 1907, written by Greene from notes made day-to-day in camp on the trip from Gordon Dam to St. Croix Falls.
- Presque Isle River, 1909, concentrated at the south shore of Lake Superior in Michigan's Upper Peninsula.
- Rainy Lake Country, 1910, in Minnesota, with canoe travel from Ely to Ranier, which likely was the group's most adventurous trip, Phillips notes.
- Dawson Trail, 1911, a trip that took place almost entirely on rivers and lakes in Canada.
- Pigeon River, 1914, the Gang's first major trip in three years, which took them to Lake Superior's north shore in Minnesota.
- Tower to Ranier, 1915, another Minnesota trip, with a smaller group since Greene's sons were getting older and several in the Gang couldn't spare time for outings.
- Chippewa River, 1916, the last go-round for Greene and the Gang and back in Wisconsin, a fitting bookend to the Wisconsin River trip of 10 years before.

It wasn't that the group planned to end its outings at that point, Phillips writes, but circumstances dictated it.

"While in camp, Dad and (his good friend) Doc read from a book on socialized Germany; the war in Europe was just beyond the horizon," she notes in her introduction to the last trip. "In April of the next year, the United States would enter the Great War. Everything changed."



Howard Greene's son Carl, top, and Dr. Ernest Copeland, a Milwaukee obstetrician and lifelong friend of the Greene family, were among those participating in the Gang's 1900s escapades. "Doc," as he was known, is seen here patching a canoe.

Great times for the Gang

Phillips knew about her father's journals while growing up. They were almost revered in the household. "There was a lore in the family," she said in discussing her book. "My dad wrote very well."

Some of the boys participating in the trips were Phillips' half-brothers, quite a bit older than she was. Greene's first wife died in 1932; he married Phillips' mother a few years later and they had three children, with Phillips the youngest.

At the time of the Gang's trips, there was no way girls would have been included. But when Phillips read of their adventures, "I was so envious of the boys," she said. Their experience was one of total freedom in nature.

Phillips was 13 when her father died in 1956 at age 92. He had been a very involved father, she said, so her five years of work with the journals only confirmed for her that he was the same man in his younger years, rather than revealing the man to her. "I wasn't looking for that," she said.

The journals featured other characters she enjoyed getting to know.

There was Doc, an obstetrician who was an avid hunter and collected art. Billy Mac managed a Gimbels Department Store and was on the Marquette University Board of Regents. And there were her older half-brothers.

The oldest of these brothers, Howard T., graduated from UW-Madison and took over the family's Brook Hill Farm in Genesee Depot. Interested in conservation, he eventually donated a large tract of the land for public use, including more than 60 acres of open fields and wetlands now managed by Carroll University as an outdoor laboratory (Greene Field Station).

Another of Phillips' half-brothers, Jack, became a commercial artist, working in Waukesha and Milwaukee. Her brother Carl suffered a sadder fate, returning shell-shocked from service in World War I and never fully recovering.

Clay Judson, a close childhood friend of Howard T., also was among those involved in the canoe trips. He became a prominent attorney in Chicago, but maintained a lifelong friendship with the Greene family.

"When I began writing this book," Phillips notes in the epilogue, "I was able to locate and contact Clay's grandchildren, who needed no explanation, none whatsoever, about these canoe-camping journals. Their grandfather had often talked about the days of the Gang and had kept his copies of all of the journals."

Other members of the Gang included Charles Ilsley, part of the family involved in Milwaukee's Marshall and Ilsley Bank, and Fred Hanson, another who went on to a prominent business career in Milwaukee.

Important chronicle of history

In writing about her father's journeys, Phillips makes it clear that these were not the kind of trips in which men of privilege took guides and servants into the woods and came back to the club to brag about bagging a moose. The Gang did take a logging camp cook along, but their adventures were self-reliant.

They engaged farmers with teams and wagons at some of the portages. As educated men, the group knew about plant identification. They often recorded the species of birds and other animals they saw. In one four-week wilderness trip, they noted they encountered only one deer but saw many moose. The journals also include details on interactions with native Ojibwe.

A list prepared for a Customs check on one trip into Canada details what their menu was like. Items on the list included three pounds of coffee, four pounds of tea, 10 pounds of navy beans, two boxes of chocolate, 30 pounds of bacon, a dozen cans of Underwood devilled tongue, 50 pounds of oleomargarine and 25 pounds of California prunes.

The group carried wool blankets for bed rolls. Sleeping bags were just starting to be available. Their canvas tents had no floors or mosquito netting. They carried shellac and white lead to patch their canvas canoes.

Phillips did substantial research just to understand some of the terminology of the day. Greene wrote of eating dynamite — that turned out to be sort of a dewatered pea soup stuffed into sausage skins, giving them the appearance of a stick of dynamite. It was kind of the power bar of its day.

She praised the job the University of Minnesota Press did in designing the book, and also offered thanks to the Wisconsin Historical Society. One

of Phillips' brothers had accumulated the negatives of Greene's photos and was making prints, but a fire destroyed almost all the negatives. The Historical Society agreed to shoot all the available images to make them usable for printing while also providing a few supplemental photos for the book, including some by noted photographer H.H. Bennett.

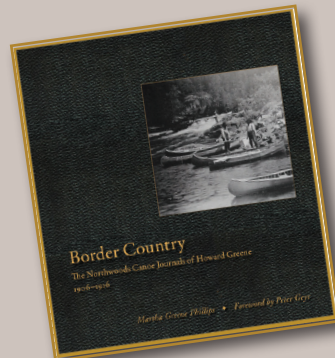
Phillips said publishing her father's collection verified her feeling that the journals were important and historically influential.

"Of course Dad's journals tell his story, but they also tell about life a hundred years ago," she writes in "Border Country."

"Dad's journals are gems to read, and they are obviously significant historical writings. No parallel chronicle of the times and region exists." ❧

David Horst is a former newspaper writer, editor and nature columnist now working at a nonprofit in Appleton. He has a blog about the outdoors, "Up on the Sandhill," found at uponthesandhill.blogspot.com.

>>> ABOUT THE BOOK



"Border Country: The Northwoods Canoe Journals of Howard Greene, 1906-1916" was written by Greene's daughter, Martha Greene Phillips of Portage, who inherited a set of the journals. The book was published in 2017 by the University of Minnesota Press, \$39.95. For information or to order a copy, go to www.upress.umn.edu and search "Border Country."

"Experience in fields, camps, and sundry places has taught me that the best form of recuperation for a tired mind and body is to break loose from the usual manner of life and to go away with men who live outdoors in the great open places where the postman does not come."

— Howard Greene



Explore the state's great outdoors



HAYLEY PARSONS

With a new OutWiGo effort promoting the benefits of outdoor activity, Mirror Lake State Park in Baraboo is one of numerous state properties that offer hiking and other recreational opportunities.

A new initiative from the Wisconsin State Park System encourages residents and visitors to get out and be active at state properties, with an emphasis on the health and community benefits of outdoor recreation.

OutWiGo aims to engage people of every ability with activities of all sorts and in all seasons. The initiative officially kicked off May 17 at Mirror Lake State Park in Baraboo with an event that included a hike along Echo Rock Trail and kayaking on the lake. A variety of OutWiGo activities have followed at other state properties, with more planned throughout the year.

"OutWiGo is all about promoting the positive impacts of outdoor recreation on our overall health and wellness," said Ben Bergey, parks director for the Department of Natural Resources. "At the end of the day, we want everyone who visits Wisconsin state parks to feel good in the great outdoors and to leave the park feeling better than when they arrived."

OutWiGo uses DNR social media

platforms such as Facebook, Twitter, Instagram and YouTube as well as traditional media avenues to keep the public informed about the state's plentiful outdoor opportunities. The goal is to encourage 20,019 people to sign the OutWiGo pledge to "feel good in the great outdoors" by the start of 2019. Check dnr.wi.gov/topic/parks/outwigo.html for details. And use #OutWiGo to share photos on social media.

"State parks, trails and forests make outdoor recreation even more accessible in Wisconsin," Bergey noted. "They provide a place for people of all ages, backgrounds and abilities to gather together. Whether they're into bird watching or mountain biking, camping or snowmobiling, Wisconsin residents can find their own outdoor oasis close to home."

"We look forward to showcasing these special places throughout the year and highlighting the positive impact they continue to have on life in Wisconsin." ❧

— WNR staff

Our treasured terns



NANCY NABAK

SAFEGUARDING THESE VULNERABLE SPECIES IS CRITICAL TO THEIR CONTINUED PRESENCE IN THE STATE.

Sumner W. Matteson

When I was 18, I joined my father on a canoeing expedition down the Northwest Territories' Coppermine River to the Arctic Ocean.

The year was 1970 and we were the eighth party ever to go down the river, according to legendary Canadian wilderness canoeist Eric Morse, with whom my father consulted before deciding which Canadian river he was going to conquer next. I remember catching Arctic char on many a cast, and I'll never forget the long lakes that were part of the trek and their crystal-clear waters where you could see down 30 feet.

But I also remember my father stopping one afternoon along a flat

lakeshore, an alluvial fan of sorts, and insisting we check out this congregation of birds that were quite vociferous. I ventured over, blissfully ignorant of what to expect, and soon discovered that these birds, Arctic terns, were in the midst of raising young — and darn if they would stand for some tall, skinny and unwanted potential predator in their midst!

The adults at the edge of the colony, soon followed by many others, came over and relentlessly attacked me, swooping and striking the top of my

head repeatedly. My father, sitting in the stern of our canoe, laughed. Until he also was dive-bombed — at which point we quickly made a hasty retreat.

And so began a love affair with all things terns.

Four species of terns occur regularly in Wisconsin, all on the state's endangered species list: the common tern, Forster's tern, Caspian tern and black tern. The continuity of these species in our lakes and wetlands depends on our ability to safeguard them as part of the state's natural heritage legacy.

Sterna hirundo: **For the common good**

In 1974, four years after that fateful Arctic encounter, I was asked by my good friend, James T. Harris, to join him in conducting the first-ever (University of Wisconsin Sea Grant-funded) systematic survey of colonial waterbirds along the western shore of Lake Superior. I remember meeting with naturalist and endangered species advocate Ruth Hine at the Department of Natural Resources. She was especially interested in the status and distribution of the common tern, which she feared was not very common in the state.

At that time, Jim and I found three small colonies of common terns on Lake Superior. One consisted of 24 pairs at an island of mortared stone, a square of about 15-by-5 meters, near the Washburn boat landing. A second colony occurred across Chequamegon Bay on the Ashland breakwater, with 12 pairs depositing eggs in depressions in bare rock — which ultimately filled with rain water and proved ruinous.

A third colony occupied a former Ashland pier remnant, only about 70-by-70 feet in size and supported by dilapidated railroad ties that held the island together. Here, 20 pairs of common terns could only nest in the rotting pockets of the railroad ties because the island was overgrown with paper birch and tag alder, and grasses and forbs.

Nesting success in 1974 was dismal — about four chicks for 56 nesting pairs — among the tern colonies in Chequamegon Bay. But there was one other location to investigate far to the west, the Duluth-Superior Harbor.

No colonies in Superior, but across the way in Duluth, common terns occupied four locations: At least 10 breeding pairs occupied sandy scrapes at the Sky Harbor airport on Minnesota Point; another 10 pairs occupied piles of ash and scrap along the mainland at the Minnesota Power and Light Co. (MPL); and approximately 10 to 15 pairs occupied two small, low-lying islands south of the MPL plant in the St. Louis River estuary.

The fourth site, the largest tern colony in western Lake Superior at the time, was at the Duluth Port Authority. Here — near and below the interstate highway bridge system and scattered



The common tern, shown here and on the opposite page, is the subject of extensive management efforts by DNR experts and partners to help stabilize and grow populations.

CARROL HENDERSON

across a broad sandy deposit — we located 150 nests in sparsely vegetated areas, along with two pairs of nesting piping plovers, one herring gull nest and one ring-billed gull nest.

Creating current habitat

Fast-forward to today. All of the common terns in the Duluth-Superior area are concentrated with about 13,000 pairs of nesting ring-billed gulls on Interstate Island, a 6-acre dredge spoil island (mostly in Minnesota) in the St. Louis River estuary that has been managed for nesting terns since the late 1980s. Back in 1974, there were fewer than 575 ring-billed gull pairs nesting across the entire Duluth-Superior area.

At Interstate, segregating the gulls from where the terns nest — through a fenced and string-grid rectangular area — has minimized gull impacts, but occasional gull predation of tern eggs and chicks occurs. More recently, high water on Lake Superior is threatening to overtake Interstate Island, where the number of nesting tern pairs has been cut in half from about 300 to less than 150 in 2017. Efforts are underway to attempt to stabilize the island.

Meanwhile, back at Ashland, we

have restored the island twice, in 1986 and 2002, with Wisconsin Coastal Management and EPA funds, respectively. A complete remodel occurred in 2002 with the aid of the Bad River Band of the Lake Superior Chippewa overseeing project reconstruction.

The island, known as Ashland Tern Island, was rebuilt using a combination of a steel frame and wooden wall crib, with riprap providing protection from storm and ice activity. Once completed, the island stood about 6 feet above water and was engineered to stand intact for at least 50 years, and to withstand a 100-year storm event.

A steel mink phalange around the island's outer perimeter top was added in 2005 to deter marauding mink. Then, in spring 2018, I secured U.S. Fish and Wildlife Service (FWS) funding to repair the island's deteriorating interior wooden walls.

For reference, about 100 pairs of terns produced 179 young at the Ashland site in 2017.

In-depth research

At this point, let me emphasize that most of the annual common tern habitat management and monitoring in



Ongoing conservation work with common terns involves using geolocators and GPS tags to track full life-cycle movements from Great Lakes breeding grounds to wintering grounds in Central and South America, and also to identify stopover sites during spring and fall migration.

ED CULHANE PHOTOS

the past 30-plus years at both Ashland Tern Island and Interstate Island has been conducted by Fred Strand. The now-former DNR wildlife manager is legendary in the field for his comprehensive work with terns, and he continues his exhaustive efforts under contract with the DNR.

I have had the privilege to assist Strand annually in his work. In recent years, University of Minnesota Ph.D. student Annie Bracey also has accompanied him weekly to both tern colony sites. In addition, since 2013 Strand, Bracey and I have been involved with a pioneering study using geolocators and GPS tags to track tern movements both locally and during their fall and spring migrations to ascertain migratory pathways, stopover sites and wintering locations.

Together within a larger Great Lakes geocator study involving common terns from Lake Winnipeg in Manitoba, Lake Huron in Ontario and Oneida Lake in New York, we have

learned that our Great Lakes' common terns overwinter in Panama, Nicaragua, Venezuela and along the Gulf of Mexico. But most (70 percent) winter in southern Peru.

That makes the region very important to the Great Lakes population. It also raises the dubious proposition that the terns are highly vulnerable to a stochastic, or statistically random and unpredictable, potential climatic event affecting the local fishery in southern Peru, which could seriously impact the Great Lakes population.

Partners in conservation

One last and by no means least word on our breeding common terns comes from the shores of lower Green Bay, Lake Puckaway and Lake Butte des Morts. The DNR has many fine partners in endangered species conservation, and for common terns, one need look no further than the Green Bay office of the FWS, particularly wildlife biologist Gary Van Vreede.

Working with DNR wildlife biologist Josh Martinez, Van Vreede has spearheaded efforts to build two small wooden rafts and place them adjacent to a cell that comprises part of the mile-long Cat Island restoration chain in lower Green Bay. These rafts, lined with fine-gravel stones, have attracted 25 pairs of nesting terns and proved to be a reliable short-term solution to providing tern nesting habitat in north-eastern Wisconsin.

Similarly, on Lake Puckaway, two pontoon boats, modified by Lake District staff, provide similar substrate (mixed with sand) for about 40 pairs of breeding terns. This project is monitored by longtime DNR cooperator Daryl Christensen.

Finally, under the guidance of now-retired DNR fisheries biologist Art Techlow, a small, roundish dredge spoil island was created in 2008 on Lake Butte des Morts through the FWS Natural Resource Damage Assessment and Restoration Program. Common terns immediately took to the island, but success has been difficult. One year, partygoers wiped out the nests, and in recent years great horned owl predation has taken a toll.

Despite periodic predation and high-water issues, our managed common tern sites in 2017 had a combined total of 299 breeding pairs that fledged 422 chicks, an average of 1.41 young per pair — more than adequate to maintain a stable common tern population. But the state's population has ranged widely between nearly 300 and 500 pairs over the past 15 years, with the number of nesting pairs at Interstate a determining factor.

Management goals

Over the past three to four decades, we have learned much about how to manage common terns, whose population numbers in the Great Lakes have declined from a high of about 21,000 pairs in the 1960s to around 9,000 pairs today. Reasons for the decline — most obviously apparent in Wisconsin — have been vegetative succession/habitat loss, exploding numbers of ring-billed gulls usurping nesting sites, mammalian and avian predation, human disturbance of colony sites, changing water levels and chemical contamination.

Managers across the Great Lakes,

however, agree on one important point: Without ongoing active management at extant colony sites, the species stands little chance of surviving extirpation.

Wisconsin site managers have adapted to changing conditions over time and remain optimistic that, barring circumstances beyond our control, we can achieve a stable state breeding population of common terns. Perhaps it is one that will average at least 500 nesting pairs per year over a 10-year period, with a mean annual production of at least 500 young.

This goal would be a revision of the 1988-set target of 1,000 nesting pairs per year, but one that would ensure common terns will continue to frequent our large lake ecosystems for posterity.

***Sterna forsteri*: Help for a marginalized population**

Forster's terns resemble common terns in size (both about a foot long with a 2½-foot wingspan) and appearance, except for the Forster's orange-red bill and frosty primaries. Forster's terns prefer to breed colonially in large lake marsh ecosystems.

Before widespread European immigrant settlement in the 19th century and the subsequent alteration or loss of wetlands, Forster's terns likely moved from site to site as habitat conditions varied with changes in water levels and muskrat activity.

The Forster's tern became state-listed as endangered in 1979 due to poor productivity at extant colonies and the small number and instability of those colonies. Since the late 1970s, 200 to 900 pairs have occurred at eight colony sites: Lakes Poygan and Butte des Morts in Winnebago County; Horicon Marsh in Dodge County; Big Muskego Lake, Waukesha County; Lake Puckaway and Hope Marsh in Green Lake County; Lower Green Bay; and Winnebago County's Rush Lake.

Today, Forster's terns often occupy marginal sites or suboptimal habitats where the emergent stands are dwindling, thinly vegetated or exposed to the vagaries of wind, waves and seiche, temporary disturbances in water level. Nowhere is this more apparent than on Lake Poygan, where for several decades the state's largest Forster's tern colony occurred. It was finally abandoned in 2017 due to the



JACK BARTHOLMAI



SUMNER W. MATTESON

Habitat help is critical for the Forster's tern, which requires stable large lake marsh ecosystems to thrive.

effects of persistent high water.

The delisting goal for this species is: Over a 10-year period, establish an average annual statewide nesting population of at least 800 pairs at an average annual number of 10 or more colonies, with no more than half of all nests on artificial structures and with a mean annual production of at least 800 young. This goal was established in 1988 from a recovery plan written by now-retired DNR research scientist Michael Mossman.

Over the long-term, Forster's tern management activities will likely be focused on conservation of the remaining lake wetland sites in east-central Wisconsin that support most of the state's breeding population, and on wetland habitat restoration at Lake Poygan and Lower Green Bay. There is considerable interest in habitat restoration of the lower bay, including restoration of wetlands in the Cat Island chain shadow.

"Restoration potential is high in the

lower bay," said John Huff, DNR's Peshtigo-area wildlife supervisor.

The use of artificial nesting platforms is a means to halt or slow the decline of Forster's tern populations, and in some cases, such as in Lower Green Bay, provide an alternate breeding opportunity until marsh conditions are restored. Working with FWS, staff at DNR have installed a string of nesting platforms in the lower bay, strategically placed, since May 2014.

Annual surveys will likely occur to monitor colony fates and to determine if Forster's are occupying new or former colony sites — for example, along the Mississippi River in Buffalo, Trempealeau, Vernon and Crawford counties. Annual monitoring is recommended given the species' vulnerability to drought and storm events that could affect habitat conditions and available prey during its life cycle, which includes long-distance migrations to the Gulf Coast, Caribbean, Mexico and Central America.



SUMNER W. MATTESON



LAURIE JOHNSON

Colonies of Caspian terns flourish in the open cobble-gravel or barren islands of the Great Lakes, isolated areas that can be increasingly difficult for the species to find.

Hydroprogne caspia: A disastrous taking of terns

In 1905, something not to be repeated occurred on Gravel Island, off the northeast coast of the upper Door peninsula and visible from Newport State Park.

Henry Ward, ornithologist with the Milwaukee Public Museum, led an expedition to Gravel Island, where he had heard the rare Caspian tern was nesting. Here, he found about 1,500 breeding birds. But this was a collecting trip for the museum, and the taking of migratory birds was not yet illegal (the Migratory Bird Treaty Act of 1916, amended in 1918, outlawed the shooting of migratory birds).

Ward and his crew blasted away, and the terns did not return the following year, which elicited his wry comment: "The absence of the terns may, perhaps, be accounted for by our shooting a number of birds the preceding year."

Prolonged human disturbance has been and may still be the most important factor

affecting colony stability for this species.

Historically, ornithologists Ludwig Kumlien and Ned Hollister, who wrote "The Birds of Wisconsin" in 1903, reported Caspian terns nesting intermittently on islands off the north shore of Lake Michigan and in Green Bay from 1879 to 1893. These are the earliest known Caspian tern breeding records for Wisconsin.

Also, wildlife artist and naturalist Owen Gromme's personal field notes from his collection days at the Milwaukee Public Museum included a June 8, 1881, reference to zoologist B.F. Goss collecting Caspian tern eggs on an island (Gravel Island, perhaps?) near the northern tip of Door County.

Noteworthy is that this tern species is a Great Lakes obligate of open, cobble-gravel or barren island habitats isolated from human disturbance and mammalian predators. Colony instability (in part influenced by human disturbance), poor production and the low number of nesting pairs were

determining factors in its 1989 state-endangered species listing.

Caspian terns did eventually return to Gravel Island and have nested there intermittently during the past 115 years. In 2017, I surveyed the island with Sadie O'Dell of the FWS, with logistical support from wildlife biologist and boat operator Randy Jurewicz, now retired from DNR. We found 1,229 Caspian tern nests amid higher portions of limestone rock and gravel, occupying the same areas where Ward found them in 1905.

Until 2014, Caspian terns also nested intermittently on Pirate Island, off the northwestern Door County peninsula and visible from Peninsula State Park. High water has submerged most of the island since that year, especially the low-lying, flat, non-vegetated portion of the island where nearly 350 pairs of Caspians previously nested on an extensive bed of bleached-white zebra mussel shells. It is unknown where the colony went, since there was not a pronounced increase of Caspians at Gravel Island, which also had been affected and reduced in size due to high water levels.

Continued monitoring will occur at the Door County colony sites to assess population stability in northeastern Wisconsin, particularly since this species is highly vulnerable to water temperature changes affecting cold freshwater prey and Great Lakes water level rises affecting habitat requirements. Less understood are what challenges Caspians face on their Gulf Coast, Mexican, Central American and Caribbean wintering grounds.

The only other Wisconsin site that holds nesting Caspian terns is the Cat Island restoration chain, managed by FWS and surveyed regularly by biologist Tom Prestby. On a narrow portion of a sparsely vegetated mile-long dike, near its northern end and surrounded by breeding ring-billed gulls, about 70 pairs of Caspian terns attempted to nest.

Although Caspians occur as breeding birds only at these two Wisconsin sites, they are regular birds of the Lake Michigan shore during summer, less conspicuous along Lake Superior. The raucous call of this gull-sized tern in flight is unmistakable. Listen and look for our gull-sized tern with the black cap at such places as Point Beach State Forest, whenever you visit the beach.



Shallow marsh areas provide important breeding grounds for the black tern.

LAURIE JOHNSON

***Chlidonias niger:* 'Waif' of the wetlands**

The state's smallest (10 inches) and lightest (2 ounces) regularly occurring tern species is the black tern, perhaps the most vulnerable of our tern species because of its affinity for nesting in marshes close to the water line, making it especially susceptible to storm-wave action. And yet, the black tern has persisted in our wetlands since time immemorial.

The ornithologist Arthur Cleveland Bent described this bird nearly 100 years ago as "a restless waif of the air, flitting about hither and thither with a wayward, desultory flight, light and buoyant as a butterfly."

In the early 1900s, the black tern was "universally common" in North American marshes and wet meadows. The continental population, however, has declined by two-thirds since the 1960s due to wetland loss. It is a species highly vulnerable to drought conditions, which affect its requirement of stable water levels during the breeding season, while temperature increases on its Mexican and South American non-breeding grounds could affect the availability of food resources — insects and minnows.

Concerns about population declines in the mid-1970s led to the first statewide survey of black terns in 1979, a roadside survey adjacent to suitable or potentially suitable breeding habitat. In that year, state and federal agency personnel and volunteers conducted surveys of more than 300 wetland sites.

Based on those surveys, permanent road survey transects were established in 1980 to serve as an index of statewide distribution and abundance and pro-

vide baseline data for long-term monitoring. Systematic surveys were conducted in 1980-82, 1995-97 and 2009-11.

What did we learn from these roadside surveys? A 70 percent reduction in the number of birds observed between the first and last survey periods, and a notable reduction or disappearance of sites that formerly held breeding black terns.

For example, black terns completely disappeared as breeding birds from Lake Superior wetlands, and we know from all but one site, there was no change in the amount of available breeding habitat. The roadside survey program, accordingly, spanned more than 30 years and its results provided the primary source for the bird's endangered listing in 2014.

After the bird was listed in the state, I was part of a team of three — with professor David Shealer of Loras College and naturalist Daryl Christensen — to plan a study to investigate more thoroughly the bird's actual abundance and distribution across the state. The idea was to leave roadsides and instead canoe and kayak all wetlands that contained black terns.

The process involved several steps, including classifying wetlands and compiling a list of known black tern colony sites. We also consulted state records on the birds from Wisconsin eBird and the Wisconsin Breeding Bird Atlas II.

During the first four years, we found more than 2,300 black tern breeding adults at 115 colonies in 32 counties. Most of these colonies were small to intermediate in size, with two to 25 breeding adults. We found breeding black terns throughout much of the state occupying shallow waterfowl production areas, FWS refuges, impoundments and flowages with sedge and cattail marshes, and at lake bay marshes and lake edge marshes and bogs.

Based on our surveys to date, we believe wetlands with smaller colonies may provide a buffer against catastrophic nest failures in larger wetlands, where predation pressures may be greater. With the black tern and each of the state's treasured tern species, their continued presence at lake and wetland sites will be directly tied to ongoing conservation efforts involving this unique component of Wisconsin's natural heritage. ❧

Summer W. Matteson is an avian ecologist with DNR's Bureau of Endangered Resources.



ABOUT TERNS

- There are four regularly occurring tern species, each state-endangered, in Wisconsin: the common tern, Forster's tern, Caspian tern and black tern.
- There also are five tern species occurring so rarely they have their own Wisconsin Society for Ornithology designation. The Arctic tern is considered "casual" in the state, observed at least once every one to five years. The least tern, sooty tern, royal tern and white-winged tern are "accidental," with "less than one record every five years" for each species.
- Taxonomically, our Wisconsin terns belong to the class Aves, order Charadriiformes, family Laridae, subfamily Sterninae. Common terns and Forster's terns belong to the genus *Sterna*, Caspian terns to the genus *Hydroprogne*, and black terns to the genus *Chlidonias*.
- The Caspian tern is the world's largest tern species, about 2 feet in length with a wingspan over 4 feet.
- Typically, the nest of the common tern and the Forster's tern will contain three eggs, sometimes two, and rarely more than three. The Caspian tern will normally have two eggs per nest, while the black tern usually has two or three eggs in a nest.
- The common tern, Forster's tern and black tern incubate their eggs for approximately three to four weeks and their young fledge (take wing) at about three to four weeks of age. Caspian terns take about four weeks to incubate their eggs, and their young don't fly until five to six weeks of age.
- Breeding terns feed primarily on small forage fish such as chubs, dace, shiners, sticklebacks and sculpin, though black terns and Forster's terns pluck insects from the air and Caspian terns take small to medium-sized fish.
- As for breeding habitat, the common tern prefers island or artificially created island sites of the upland Great Lakes and some large inland lakes. The Caspian tern typically seeks Great Lakes barren coastal islands or sometimes remote coastal dredge spoil sites. Large shallow marshes and flowages with a mix of open water and emergent stands of vegetation are the choice of the black tern, while Forster's terns have a predilection for openings or edges in lake marsh islets of emergent vegetation.



COVER PHOTO CREDIT

The day our Spring issue hit readers' mailboxes, we heard from Jennifer Nunn, Janesville, who was excited to see her photo on the front cover. We are happy to give her credit for the fine photo that perfectly conveyed the celebratory mood of the issue. Thanks, Jennifer!

FAVILLE GROVE FIXES

In the Spring story "Rooted in the past, a sanctuary grows," a mention of the "native Stoughton Faville Prairie Preserve" is a reference to the Faville

Prairie State Natural Area, on the banks of the Crawfish River. The SNA, so designated in 1952, is owned by the University of Wisconsin and managed by the UW Arboretum with help from the Madison Audubon Society, especially during summer months. It should be noted that access to this SNA, one of the largest low prairie remnants in Wisconsin, is restricted because it is classified as a research area by UW.

Also, in the story and an accompanying photo, a lily plant found at the sanctuary was misidentified. It is not the Turk's-cap lily but the nearly identical (at least to non-botanist folks) Michigan lily (*Lilium michiganense*).

BACKYARD BEAUTY IN MICHIGAN

We are very blessed to have these awesome opportunities. This photo was taken in our yard.

*Diane Henschel
Stephenson, Michigan*



BIRD FEEDER DRAMA

Early in March, outside our kitchen window, a sharp-shinned hawk took a junco under the bird feeder. I grabbed the camera and the hawk was in no hurry to leave and posed for a few pictures. After five minutes it flew off with its lunch.

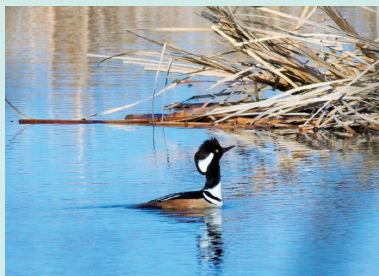
*Richard A. Stoelb
Howards Grove*

HORICON HOODIE

I just wanted to share this photo with the magazine that I captured at Horicon Marsh on March 19.

Ken Kearney

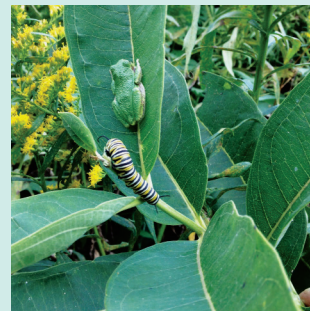
Thanks for sharing this great shot of a hooded merganser!



DOUBLE THE PLEASURE

While perusing the December 2017 issue of your magazine, I saw two separate photos from readers, one of a tree frog and one of a monarch caterpillar. I remembered I had taken a photo last fall that had both of these critters on a milkweed plant in our prairie. Love your magazine. So glad you will continue to publish it.

*Mike Young
Hillpoint*



BETTER THAN TUNA

Thank you for Nicholas Saiia's article about suckers in the Spring 2018 issue ("Learn to love a sucker"). My husband and I have been fishing and eating redhorse since we grew up in the '60s. Our mothers fried the redhorse and we have memories of picking out bones as we ate. Then my dad got a recipe from a friend for canning redhorse. The recipe follows:

Canned redhorse

2 T. salt

2 T. salad oil

6 T. vinegar

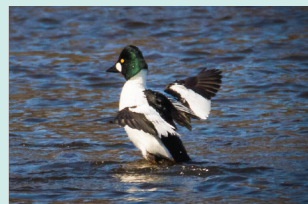
6 T. catsup

Redhorse or sucker, filleted and cut into 1-inch pieces (a dozen medium-sized fish yields about 8 pints).

Mix all ingredients and divide equally among sterilized pint canning jars. Pressure cook for 75 minutes at 15 pounds pressure.

Canned redhorse can be substituted for tuna in any recipe. It tastes better and doesn't have tuna's fishy smell. Fried patties with canned redhorse, mixed with crushed crackers and an egg, are good alone or on a bun. We especially like to make open-face sandwiches with canned redhorse mixed with mayo, chopped onion, celery, salt and pepper, topped with cheese and baked or broiled on our favorite bread.

*Margie Novak
Kerman*



GOLDEN OPPORTUNITY

Thought you would like to see the photo I took Easter Sunday on ice-free water of the Yellow River (Burnett County) of a male common goldeneye duck.

*Judy Curnow
Frederic*

SUDSY SITUATION

I enjoyed reading about the history of the DNR (Spring 2018, "A DNR is born") and the photo of the foam below the Wisconsin Dells Dam from 1965. While it is much better today, I thought you might be interested in several photos I snapped on April 20, 2008, at the same location. The river was at a very high stage. I estimated the foam to be about 8 feet deep and it can be compared to the Dells tour boat in the photo. My wife and I live in the Portage/Wisconsin Dells area and are frequent geocachers in the Wisconsin state parks and are glad your magazine survives in its seasonal format.

I can remember when the river smelled like a paper mill and no one would eat the fish from the Wisconsin River. There are some beautiful places along the river, with the Dells being one of them. We have a geocache hidden down in the lower Dells that has been in place since 2001 and people are amazed when they actually get down in the lower part of the canyon and walk the shoreline to the cache. It sure gets them away from the touristy part of the river in a hurry.

*John and Gail Bush
Portage*

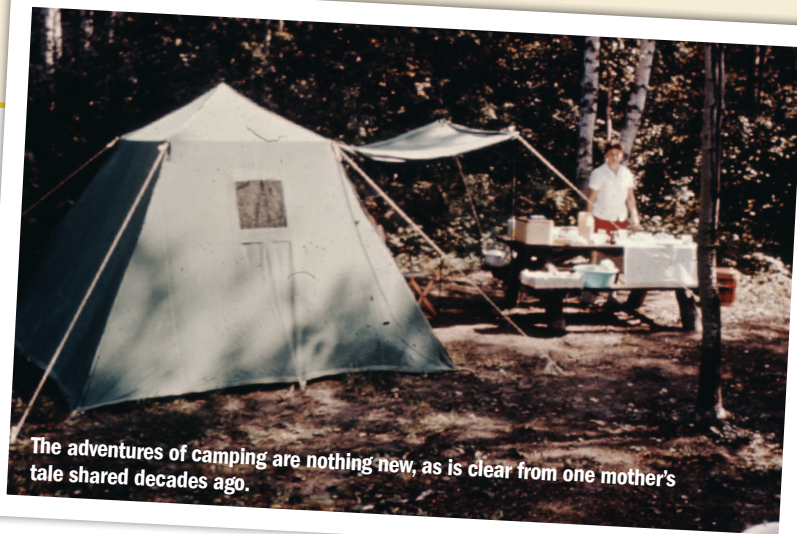


Back in the day

Before glamping, a mother took adversity in stride.

Kathryn A. Kahler

glamp'-ing: shorthand for glamorous camping; luxury camping.



The adventures of camping are nothing new, as is clear from one mother's tale shared decades ago.

DNR FILES



A half century before the word glamping was officially recognized by Merriam-Webster's Dictionary, a 16-day camping trip to Wisconsin was a recipe for disaster for an Indiana woman and her family. A DNR campground manager shared their experience with readers of the Wisconsin Conservation Bulletin in this excerpt from the May/June 1968 issue, along with his perspective while reading her four-page, handwritten letter. It takes us back to a time when life was a little less glamorous, and perhaps a little more mannerly.

Sometimes I wonder why I chose a career in natural resource management. The hours are long, the pay sometimes low and often the great out-of-doors is viewed through the window. Across the desk come a multitude of knotty problems.

One day as I was going through the morning mail, I found a letter that started like this:

"Our family of six recently camped for 16 days at one of your forest campgrounds. On the way we had a five-hour delay in 90-degree heat due to car trouble. Upon arrival we had to set up our tent in three different locations before we found a cool spot where there was a little breeze from the lake. Just as we became comfortably settled, it began to turn cool; then it rained, it hailed and through it all the wind blew."

At this point I breathed a sigh of relief. So far, the lady had only complained about the weather, and I didn't believe anyone would hold me liable for that. The opening of the next paragraph caused me to shudder a little, however.

"A psychotic skunk delighted in wandering around under our picnic table while the children and I waited patiently out on the road a safe distance away. Every night there was also a mouse in the washroom who couldn't decide if he should run away or stay

and scare us away. To make matters worse, one woman came to the washroom carrying an axe over her shoulder, which was definitely more frightening than the mouse."

Things are getting worse! I thought I told all the attendants to warn the campers about skunks and to discourage them with an ammonia squeeze bottle. (If there is anything a skunk can't stand, it's a strong odor.) No doubt the lady with the axe has taken care of the mouse in the washroom, which accounts for those chips in the cement floor. The third paragraph started getting serious.

"My son cut his head and knocked a tooth loose. My daughter caught a cold, my husband's sinus trouble got worse and I got a sore throat. We sat around our campfire in the rain and decided that we must be nuts to pay \$2 a night for what we were going through."

Now I was starting to get the message. Here comes the big one, I thought. The gods of wrath have showered misfortune on this woman and she is going to divert the overflow on me. What a plot this thing would make for an Excedrin commercial! Suddenly the letter took a change of tone.

"We are all now safe, snug and warm at our home in Indiana and counting the days and months until we can come back to your camp-

ground! We have camped all over the United States but your campground is the only place that we have returned to a second time.

"Your campground is a beautiful spot. Poor development might have ruined such a spot, but here the beauty has been preserved. The campground attendants go out of their way to be nice to campers. We don't know what your wonderful state does to train your attendants, but if they were all like the ones we met, your state would be overrun with tourists. We are looking forward to our return again next year!"

As I tacked the letter to the bulletin board where the campground attendants would be sure to see it, I anticipated the chuckles they would get from reading it. I selfishly shared the pat on the back for a job well done.

Amazing what a little thing like a 5-cent stamp (6-cent now) and four handwritten pages can do for morale. Maybe we stay in this game because every once in awhile when it seems you need it most, someone comes with the greatest motivator of all, a compliment!

Thank you Mrs. Bond of Valparaiso, Indiana. Come back soon. 60

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



PERROT STATE PARK

At the confluence of the Trempealeau and Mississippi rivers, with stunning views from high atop 500-foot bluffs, sits one of the Wisconsin State Park system's oldest gems: Perrot State Park.

Established in 1918 on land donated by John Latsch, the park is named for French explorer Nicholas Perrot, one of the first Europeans in the area who used the site for his camp. The park is nearly 1,500 acres and includes a campground with about 100 reservable family campsites plus four group sites.

More than 12 miles of hiking trails wind through the 100-year-old park. The 2.5-mile Riverview Trail has excellent views of both rivers and Trempealeau Bay. A half-mile western segment of the Brady's Bluff Trail includes rock steps, walls and a shelter constructed in the mid-1930s by the Civilian Conservation Corps. The CCC's 2606th Company, also called Camp Perrot or sometimes Camp Trempealeau, existed at the park from fall 1935 until late July 1937.

CCC work included transplanting trees from park areas that were to be flooded when Mississippi River Lock and Dam No. 6 near Trempealeau began operating in 1936. The corps also helped on projects in the nearby Trempealeau National Wildlife Refuge and Merrick State Park. Foundation remnants of the CCC camp barracks, which housed about 150 CCC workers, can still be seen near the Perrot park office.

Also at Perrot, visitors will find bicycling opportunities with direct access from the park's campground to the Great River State Trail, a 24-mile route through the upper Mississippi River Valley. And the Voyageurs Canoe Trail, a 3.4-mile loop on Trempealeau Bay, is named for the French-Canadian explorers who arrived at the area in the mid-1600s. Canoe and kayak rentals are available at the park.

Perrot's river bank and wetlands are a stopover for many species of migratory birds. The park also has a unique feature known as goat prairies, a variation of tallgrass prairie found high on the park's bluffs.

— WNR staff

