

WISCONSIN NATURAL RESOURCES

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FALL 2020 \$3.50



Highlighting **WOMEN WHO HUNT**



INSIDE

THOUSAND-MILER SETS ICE AGE TRAIL RECORD

KESTREL NESTING

A MILESTONE FOR RECYCLING

SPECIAL SECTION: AQUATIC PLANT MANAGEMENT

OPENING NOTES

Raise your hand if you enjoy hunting. Fishing? Hiking or trail running? How about paddling, skiing, bird watching, swimming, snowmobiling or volunteering for conservation work? The list of ways we enjoy the outdoors goes on and on — it is as diverse as we are. That's an important thing to remember of late, when sometimes it seems our divisions have begun to overshadow our commonalities. Outdoor pursuits can bring us together — parents and guardians with their children, extended families, good friends (when we can do it safely), and at times even total strangers coming together to share an outdoor experience. With that in mind, we'd encourage everyone who values Wisconsin's natural resources to be a hunter this fall. Pursue a favorite game species if you'd like. But, more importantly, hunt for ways you can come together to appreciate all the outdoors have to offer while hopefully also appreciating each other.



Young visitors look for butterflies in the prairie with help from staff at Milwaukee's Havenwoods State Forest in this photo from 2017.

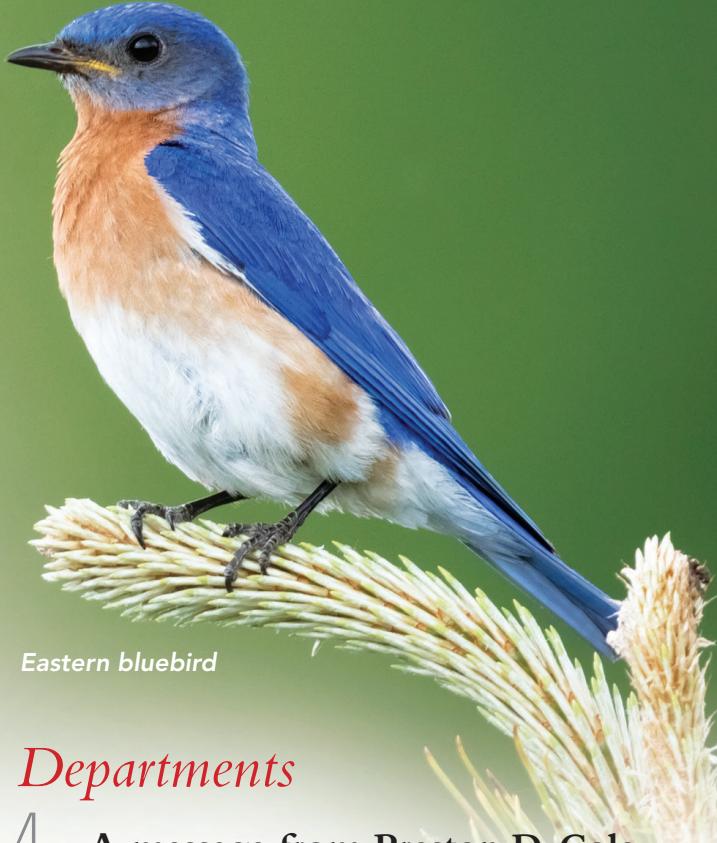
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FROM THE SECRETARY

Preston D. Cole



MIKE GORSKI

As we continue to navigate the unprecedented times of COVID-19, Wisconsinites have had to deal with fundamental changes to the way we live our lives.

The ongoing pandemic has impacted the way we teach our children, the way we care for our families and the way we connect with each other. It has rearranged how we work, collaborate and gather.

None of this has been easy, and it's going to continue to be hard to sacrifice the things we are so used to regularly doing. I am so thankful to those who wear a mask where they can, keep their distance and find safer ways to relax, decompress and de-stress.

During COVID-19, there are two places people can regularly be found: in their own homes or outdoors. We at the DNR have the great privilege of caring for the remarkable opportunities people have in our great state to enjoy the outdoors while staying closer to home.

Since mid-March, we've seen more than 6.4 million visitors to our state parks. The vast majority of our campsites are booked, totaling more than 200,000 nights, at sites where visitors have been having fun, making memories and enjoying amazing views since camping reopened in June.

We've seen tremendous growth in license sales for fishing and turkey hunting this year as people seek productive solo activities, sometimes for the first time. More than 1.4 million fishing licenses and more than 400,000 turkey licenses already have been purchased, both representing a spike in purchases over the same time last year.

Our partners at the Department of Tourism also have seen incredible growth in people researching how to get outdoors. Some web search topics like trails, hikes and waterfalls have seen percent increases in the triple digits. People are seeking out ways to find their own adventure, to go wild in Wisconsin.

Over the last few months we've further understood that our parks and natural resources are truly essential to the way we live our lives — not just for opportunities to get outdoors, but also in supporting the economy.

Outdoor recreation is a \$7.8 billion industry here in Wisconsin, which means that time spent outdoors has an impact on local communities, business owners and workers. Whether it's purchasing supplies for hunting, or safely patronizing a local restaurant for takeout on the way home from a park, you're supporting livelihoods and jobs.

I know the realities of COVID-19 can be stressful. One of the best ways to deal with that stress while remaining safe is to take time outdoors and appreciate the remarkable natural resources we all have surrounding us across the state.

I look forward to seeing how fall will greet our residents and visitors alike as they make their way to state parks or find a new way to enjoy the outdoors.

I also wish those of you who hunt a bountiful harvest this season. I'm sure many Wisconsinites are looking forward to returning to that great tradition or perhaps even trying it for the first time this year.

Be more than safe. And thanks to all who have found solace in our great outdoors during this time.



DATELINE DNR

OCTOBER 17

Statewide hunting season opener for furbearers and game birds including pheasant, bobwhite quail and Hungarian partridge (except select counties), plus ruffed grouse and cottontail rabbits in some zones. Ending dates vary by species; check dnr.wi.gov/topic/hunt.

NOVEMBER 3

Exercise your voting right on national Election Day.

NOVEMBER 21

Any deer hunter worth their salted venison jerky knows this is the opener of the nine-day gun deer season. For all the details about the 2020 hunt, check dnr.wi.gov/topic/hunt/deer.html.



LINDA FRESHWATERS ARNDT



LINDA FRESHWATERS ARNDT

NOVEMBER 26

Prepare the turkey, trimmings and pumpkin pie — it's Thanksgiving!

SHOT IN THE ARM FOR NATIONAL PARKS

Support for America's national parks prompted a rare show of bipartisanship from Congress in June and July, when the Great American Outdoors Act passed comfortably in both the Senate (73-25) and House of Representatives (310-107).

The bill will pay for maintenance on federal lands through a new National Parks and Public Land Legacy Restoration Fund, using \$1.9 billion from development of oil, gas, coal and alternative energy on federal lands and waters. It also provides \$900 million a year in permanent funding for the Land

and Water Conservation Fund, created in 1965 to provide outdoor recreation opportunities and safeguard water and other resources.

Federal lands in Wisconsin include the Apostle Islands National Lakeshore and Chequamegon-Nicolet



THOMAS MEYER

National Forest (pictured here), plus several wildlife refuge, scenic river and scenic trail properties. Specifics of the bill's project funding are to come.

DNR UNVEILS A NEW LOOK ONLINE

Check out the DNR's online upgrades at dnr.wi.gov. The website for this magazine also has been revamped and enhanced — wnrmag.com. Easier to navigate and more mobile-friendly, the new look web pages bring all the information you need and content you enjoy right to your fingertips!

ONCE UPON AN OCTOBER MOON

Beware the Halloween full/blue/blood moon! Oct. 31, a Saturday, is Halloween of course and a full moon — the second of the month, which is called a blue moon. Because of the timing, it's also known as the hunter's moon, dating to Indigenous hunting traditions, or sometimes the travel moon, dying grass moon, blood moon or sanguine moon. (Oct. 1 is the first full moon of the month, named the harvest moon because of its proximity to this year's Sept. 22 autumnal equinox.) Finally, Oct. 31 overnight is when Daylight Saving Time ends, officially at 2 a.m. Nov. 1, with the "fall back" change allowing an extra hour — to howl at that moon, perhaps.



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Governor Tony Evers

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**ANDREA ZANI AND
KATHRYN A. KAHLER**

As the number of women in hunting and shooting sports continues to grow in Wisconsin and nationwide, we sought to showcase the voices of some of those hunters. A number of them are heard on the following pages.

Many of the women in Wisconsin's hunting community are found right here at the DNR, as might be expected from an agency charged with natural resources management. Plenty of others are represented as well.

Some grew up in a family of hunters. Others took it up as adults. A few of these women view hunting as a deeper way of life for themselves, pursued with obvious passion and expertise. Others focus on learning new skills and having distinct experiences.

Caring for natural resources and supporting conservation are points of emphasis for many, and several reference the unforgettable experience of a first harvest. A number of these hunters express an obligation to be more self-sufficient or a desire to provide their own sustainable food.

Many talk about being with family and friends and the important role that plays in their enjoyment of hunting. And nearly everyone mentions how much they relish being in the outdoors and feeling a deeper connection to nature.

Whatever their stories and individual motivations, all these women have one thing in common: the pride they take in being part of Wisconsin's rich and enduring hunting traditions. 

Andrea Zani is managing editor and Kathryn A. Kahler is associate editor of Wisconsin Natural Resources magazine.

INFORMATION

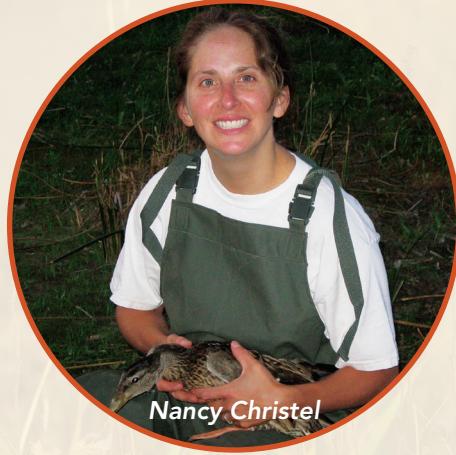
For everything you need to know about hunting in Wisconsin, check dnr.wi.gov/topic/hunt.



Chantel Barber



Sara Kehrli



Nancy Christel



Julie Widholm





40 years on the *hunt*

Memories of a first harvest, importance and inspiration — and learning the true gauge of success

KATHRYN A. KAHLER

I started hunting 40-some years ago because I wanted to share the experience with my husband, Bill, who had grown up hunting.

After we married and started our family, he would go deer hunting each fall with friends and tell me his hunting stories. Always a lover of nature and the outdoors, I grew more and more curious — and maybe a little jealous — about the experiences he related.

One year, he asked if I wanted to go along and sit with him on his stand, just to see if I liked it. Other than the cold — the one element I've never been able to embrace — I loved it.

The next year, Bill taught me how to shoot. We asked permission to hunt

on land near our hometown, Wisconsin Dells, then scouted and set up some ground blinds and bought our licenses. We had permission to shoot a doe.

Always an early riser, this before-dawn thing was new to me. Opening morning that year was marked by a cold, steady rain.

We had decided I would sit next to him, at least the first day, so he could tell me what to do. These days, it's called "mentoring," something he does with great pleasure.

Mid-morning, as I was scanning the woods to my left, Bill whispered, "Deer. Straight ahead."

I slowly turned my head and saw three or four does walking single file toward us. I was transfixed and didn't move.

Bill "suggested" that I drop slowly to one knee and rest my elbow for a

steady shot. I did, and the deer stopped in their tracks but didn't run.

"Aim just below the neck of the deer in front," Bill whispered, "and whenever you're ready, squeeze the trigger."

Before I could even question whether I was ready to shoot my first deer, she was lying on the ground 20 yards in front of us. My shot had hit its mark and she had dropped where she stood.

As we stood over the doe, I remember thinking how beautiful she was and how much we would appreciate having venison in the freezer that winter.

PERSONAL JOYS OF HUNTING

The following season, my addition to the hunting team took on new importance. We hunted that year with an old friend who, like Bill, is a bit color blind.

There was no snow that season to provide a blank canvas for blood droplets to show in contrast to the white. When Bill shot a deer and called for help, I watched as the two of them desperately searched the oak leaves



Kathy Kahler



for signs, unable as they were to see the red spots.

I glanced down, put my finger next to a small blood droplet and said, "You mean like this?"

My credentials as an expert tracker were immediately confirmed, and I joked for years that this was the real reason they always asked me to come along.

Over the years, friends and acquaintances have asked me why I hunt, and it's often hard to find words to explain.

Hunting is a very personal experience. What I love is sitting on my stand as the sun rises and the world comes alive before me. The landscape changes with each minute, as shadows change shape, frost vanishes and birds awaken.

I love being alone with my thoughts. Over the years, I've solved family differences, rehearsed conversations with co-workers and friends, wondered about the mysteries of nature, written and rewritten stories about those wonders to share with others in this magazine.

I love hearing and seeing wildlife

and the anticipation that at any second, something could appear around a nearby tree. Besides deer, I've been blessed to see a fox, a coyote, turkeys, cranes, eagles, squirrels, chipmunks and birds of all kinds.

Most importantly, I love spending time afield with my best hunting buddy, scouting public land for "good spots," planning and scheming strategies for the next two-person drive.

After so many years, the schemes are less complicated as arthritic knees and hips have entered the equation. But they always have the same successful outcome — even if it's just in our minds. 

Kathryn A. Kahler is associate editor of Wisconsin Natural Resources magazine and has worked at the DNR for just about as long as she's been hunting. She and her friend Sheila Lychwick were the first two women to earn undergraduate degrees from UW-Madison's Department of Wildlife Ecology in 1972.

WHY WOMEN HUNT

Our coverage of women in Wisconsin's hunting community was inspired in part by a new coffee table book we came upon recently. "Why Women Hunt" includes stories and beautiful photography profiling 18 women, including from Wisconsin, who are devoted to the sport of hunting. The book is written by Minnesota author K.J. Houtman, herself an avid outdoors woman, and published by Wild River Press (\$49.95). It is available at wildriverpress.com or from online booksellers.



Why do I *hunt*?

"I had my first hunting experience through the DNR's Learn to Hunt turkey program last spring. I enjoyed it so much that I did Fish for Food and Learn to Hunt deer and squirrel that same year. ... Not too long before my first Learn to Hunt, I tore my ACL (knee ligament), which kept me from doing many of the outdoor activities I enjoy. So hunting seemed like a great way to enjoy being outdoors and experience nature in a different way."

LAURA LEWEIN

Learn to Hunt participant

"My most memorable hunting experience is probably the first deer I ever shot, when I was 26. I had recently been hired by the DNR and part of my job duties included sharpshooting deer. I had never shot an animal before. My grandfather and uncles had a deer camp up north at our family cottage. I was able to go out hunting with them, along with my 12-year-old cousin, also a new hunter. I spent the weekend half hoping a deer would walk by and half dreading it! ... It was an amazing experience to spend time with my grandfather, uncles and cousin. I never expected to enjoy hunting, and that hunt opened the door to the other opportunities I've had since."

SARA KEHRLI

DNR wildlife biologist in Poynette (far left in photo)

"I grew up in the Wisconsin Northwoods. My family farmed, gardened, fished, hunted. For me, taking up hunting as an adult was about getting back to that heritage of a life immersed in nature and intertwined with the land."

JESSIE CANCE

Outdoors lover now living in Madison, and Learn to Hunt participant

"Why do I hunt? It's simple — I love cooking and eating wild game. It's sustainable and I love supporting conservation funding through hunting. I also love any excuse to spend time outdoors."

SUZY LIMBERG

DNR Water Program coordinator, who met her fiancé at a 2015 DNR Learn to Hunt event

"My last adventure was squirrel hunting with a team of wardens when I shot this squirrel. We had a blast, and I feel that just being in the field with friends and the outdoors is a wonderful experience. I also love to cook and experiment with recipes involving fish and game. I won first place in a chili cook-off two years ago using a pheasant white chili recipe that I was very proud of."

SHAWNA STRINGHAM

DNR conservation warden in La Crosse

"As a full-time working mother of three young boys, I must be efficient. Hunting is the ultimate way to multi-task. I can enjoy the outdoors, bird and wildlife watch, clear my mind, get some exercise, breathe some fresh air and hang out with friends — all while having the potential of bringing home some food. ... No one in my immediate or extended family hunts. I grew up in a city with my mother and three brothers. While in college, I decided to become a hunter. At first, I tagged along with a friend who taught me good hunting ethics. I took a hunter safety course and practiced shooting. I watched other hunters, but mostly learned by trial and error. ... Probably because my mom was always financially stressed, I love being self-sufficient when it comes to food. My big-city brothers always say that if the world falls apart, they are moving in with me, because I can provide."

NANCY CHRISTEL

2019 Wildlife Biologist of the Year for the DNR and the Midwest Association of Fish and Wildlife Agencies





ERIK BARBER

"I started hunting with my dad when I was 12 years old. The outdoors were a huge part of my upbringing and instilled values I took with me into adulthood. I hunt to provide free-range wild meat for my family, but most importantly, I just enjoy being outdoors and the entire process of 'the hunt.' Some of my best memories have been made while hunting, from sharing camp with family and friends, my first buck and even my engagement — which happened in a tree stand! It's made me who I am and helped cultivate lifelong relationships for me."

CHANTEL BARBER

Hunter and DNR "Wild Wisconsin" video collaborator



"Hunting is a new type of challenge for me that taught me to be patient and persistent. It also taught me to truly push myself. As a female hunter, hunting has allowed me to counter societal norms; I can walk into the woods alone in the dark, I can clean and maintain my firearm, I can handle it safely, I can harvest my own game ethically and process it. Hunting has empowered me to overcome societal and self-imposed barriers. The love of being outside coupled with an opportunity of a unique new hobby encouraged me to hunt, but the community of fellow hunters and the amazing new meals are what keep me coming back. I came for the exercise and stayed for the camaraderie!"

FLORA CSONTOS

On staff of Gov. Tony Evers, and a recent devotee of turkey hunting



"When I was a kid, I always would go out with my dad to help put up his tree stands or clear a new shooting lane. I would usually 'help' him track his deer after he shot them, although it wasn't until I was much older that I realized he knew where the deer was the whole time. He just wanted to introduce me to that aspect of hunting. Growing up in a small northern Wisconsin town, going through hunters' safety courses was a bit like getting your driver's license — everyone was excited about it long before it happened."

LAUREN ARNDT

Shown several years ago at age 13 in a photo taken by her mother, freelance photographer and magazine contributor Linda Freshwaters Arndt



"Being able to give back to nature is what makes hunting most important to me. It's not about the chase or taking game anymore. It's about the experience and mentoring new hunters. It's about making memories and hanging out with good friends and family. It's about conservation and giving back to nature — prepping and maintaining my land for the different hunting seasons by planting large wildlife area habitats, offering different types of water sources, setting up wood duck houses, clearing trails and planting trees and food plots for a variety of wildlife. I have progressed through the five stages of hunting (referenced in hunter education: shooting, limiting-out, trophy, method, sportsman) over the years and I can honestly say I am in the 'sportsman stage' at this time in my life because it has become my way of life. It's how I eat and how I spend my spare time. I love the outdoors, wildlife and being a hunter. The preparations, anticipation, participation and resulting rewarding experiences all make my life more exciting and enjoyable."

BRENDA VON RUEDEN

Coordinator for the DNR's Hunter Education Program and shooting ranges

Why do I *hunt*?



"I haven't been hunting since I moved away from the Midwest, but my favorite parts were: the camaraderie with other enthusiastic beginner and seasoned hunters, and the quiet mornings. I wasn't too fussed about getting anything from a successful hunt, so I just really enjoyed sitting out in nature, enjoying the peaceful environment."

ANU KHAN

Becoming an Outdoors-Woman Learn to Hunt participant (at left in photo)



"Looking at 12-year-old Julie, hunting would probably be on the top 10 least likely activities you'd guess I'd be participating in as an adult. I grew up a vegetarian, anti-hunter, who spent hours saving insects from swimming pools instead of swimming. But my love of outdoor recreation and my growing interest in the field of wildlife ecology were

my gateway into the world of hunting.

Through my studies, I began to appreciate the role hunting played in wildlife management, both through population control and the funding it provides for conservation (through the Pitmann-Robertson Act). Starting my career with the DNR, I was suddenly surrounded by people passionate about wildlife, conservation and public lands, and I wanted to be one of them. They also happened to be hunters and since hunter dollars were now paying my wage, I figured I'd better give it a try. Luckily, the mentors in my professional life were willing to share their love of hunting with me."

JULIE WIDHOLM

DNR wildlife biologist who hunts mainly deer with her mentor, retired DNR wildlife biologist Mike Foy, pictured



"I hunt to consume sustainable, local food. It's important to me that I know where my food comes from and that I have a hand in how I acquired it. To me, food tastes better when you've had to work for it, whether that be by planting and nurturing or hunting and harvesting.

I grew up in a hunting community

but was always hesitant to actually go out with the guys, despite having a slight interest. After college, I was invited to join a group of friends, and the offer was too good to be true. ... I had a strong desire to hunt to make sure I could be self-sufficient. Ethically, it felt wrong of me to always expect someone else to kill the animals I ate, especially if I couldn't do it myself. A Learn to Hunt for Food program came along and presented the perfect opportunity for me to harvest my own meal."

LILLIE HERBST

Aldo Leopold Foundation recent fellow now living and hunting in Minnesota (pictured with hunting mentor Ryan Serve of the DNR)

"Women have always been important in hunting cultures, not to mention we make up over 50% of the population. And I'm pretty sure every single hunter was made by a woman. Female hunters are the fastest growing demographic in hunting."

DR. ELIZABETH BAKER

Backcountry Hunters and Anglers, Wisconsin chapter, board member and Wisconsin Sporting Heritage Council member

"I got interested in hunting tagging along with my dad and mom as a young girl. My father did his best to pass his passion for hunting to us three girls. I think women bring so much not just to hunting but all outdoor pursuits because collectively, generally we tend to bring a deep appreciation for our pursuits. ... In the Becoming an Outdoors-Woman program, I did notice the camaraderie and encouragement we provided each other. It is wonderful to be part of a group of women learning new things and supporting one another. I continue to hunt to be part of the experience with my father as much as I can. ... My husband and my two sons are much more likely to join in my non-hunting outdoor pursuits like hiking, biking, kayaking and outdoor photography. ... And if there is anything that 2020 has taught me, it's that time with family in all its forms and with all generations is important."

JESSICA TOMASZEWSKI

UW-Stevens Point College of Natural Resources academic and career adviser and Becoming an Outdoors-Woman adviser



"I hunt because I love to be outdoors and know I'm the only person for miles. It also helps my understanding of wildlife dynamics, improving my knowledge as a wildlife biologist. I most enjoy the connection I feel to nature, the peacefulness — nothing else compares."

JANET BREHM

DNR's Peshtigo area wildlife supervisor and turkey hunter since 2014

SPORTING HERITAGE COUNCIL WORKS TO WIDEN PARTICIPATION, AID CONSERVATION

As the number of women who hunt continues to grow, their input and influence on the hunting community grows as well.

That includes the Wisconsin Sporting Heritage Council, the bipartisan 12-member council established in 2011 to advise the governor, Legislature and the State of Wisconsin Natural Resources Board on hunting, trapping, fishing and outdoor recreation matters.



Dr. Elizabeth Baker

In June, the council welcomed Dr. Elizabeth Baker as its newest member, confirmed by the Natural Resources Board.

Dr. Baker, a foot and ankle surgeon at the Reedsburg Area Medical Center, was nominated to the deer hunting position on the council by the Wisconsin Backcountry Hunters and Anglers, a group dedicated to protecting the state's public land legacy. She is a lifetime member of the group and serves on its board of directors.

Dr. Baker said her entry to hunting came in high school, when her family relocated to Wisconsin and she began reconsidering her views about the sport.

"Here, I met new friends who had grown up in wonderful hunting families," she said. "They had these traditions of spending time

together outside and sharing a meal together of what they had harvested. It clicked for me as ironic that I was against hunting yet ate meat."

Her family began exploring different outdoor recreational pursuits, but it wasn't until college that she took a hunter safety class.

"My husband, Mitch, and I moved to Arizona for my medical schooling and there, I purchased my first bow deer hunting license," she said. "Mitch introduced me to the fun of archery hunting for mule deer, coues deer and elk in the desert mountains."

"It combined my enjoyment of physical activity, exploring public lands and spending time with my husband."

Dr. Baker describes hunting as a challenging process and says she enjoys "every new experience and encounter with wildlife. I want to reinforce and build positive relationships between private land owners and hunters who need access."

The latter, she said is a point of emphasis for the recruitment, retention and reactivation efforts of the DNR and other groups. "Access and opportunity are vital to the R3 movement."

R3 PROGRAM REACHES OUT

The Sporting Heritage Council is tasked with improving recruitment and retention of Wisconsin sports enthusiasts by encouraging youth participation and improving public access, among other objectives.

Along with Dr. Baker, a second woman in the hunting community, Jessica Tomaszewski, was considered for the council earlier this year, nominated by the Ruffed Grouse Society for the bird hunting spot. Tomaszewski is an academic and career adviser for UW-Stevens Point's College of Natural Resources.

The Natural Resources Board ultimately voted narrowly to retain the incumbent, Mark LaBarbera, credited with doing much good work in that council spot. But the vote process included important discussion focusing especially on the need to encourage and support women in hunting.

"The challenge with the Triple R program is to reach out to other segments of our population," board member Bill Smith said during the discussion. "And younger people, women in particular, are showing increased interest and increasing numbers."

"By the seats on this council, we can communicate that the outdoors world is open to a wider range of people than our history. And I think it's a very significant statement to make and I think it's incumbent for our success in the future to recruit and expand the base of people that support conservation."

Opportunities such as Learn to Hunt and other R3 related programs can educate about hunting and bring more people to the table, which in turn will aid conservation, Tomaszewski noted.

"Good hunters fundamentally understand the game they are pursuing and the place they occupy in the ecosystem," she said. "Good hunting requires putting in the time and energy to gain information, through observation and study, and access to lands for hunting. Sometimes, luck and good equipment can help, but at a fundamental level the hunter must hone their skills to be successful."

"Hunting and fishing are currently at the financial heart of conservation efforts. For our ecosystems to be in the best shape possible, hunters and fishers must continue to come to the table with the best of our observations, listen to the science of our biologists and collaborate for solutions that keep our ecosystems as healthy as possible."

— KATHRYN A. KAHLER AND ANDREA ZANI



Jessica Tomaszewski

Why do I hunt?



"We all enjoy hunting together and it gives us a real sense of place at our cabin. My daughters are very adept at knowing the land and knowing the animals on that land. Every year we get photos of all kinds of artistic scenes from the deer blind."

blind. They have taught me as much about hunting as I have them because of their really broad interest in all things nature. Hunting with them has greatly expanded my horizons and made me appreciate family time much more. Now that they're both in college, time is tougher to come by, but that is a temporary challenge. They'll always have hunting and will come back to it — hopefully with grandchildren."

KEITH WARNE

DNR Fish, Wildlife and Parks division administrator whose daughter, Sophie Klimowicz, is pictured here in 2013 at Mud Lake Wildlife Area, Columbia County



"Though hunting wasn't a family tradition, I think exploring the natural world around us and my family's giant backyard garden sparked something in me. Working in the garden and helping with canning and freezing was a family affair and generated deep connections with people and place and the work and reward of our efforts in the food we ate. While I've spent my career working in positions tied to conservation, it wasn't until my late 30s that I began to explore hunting as another vital connection for me to natural spaces and the ecology of wildlife populations, people, food and best of all dogs — all the things that nourish who I am. The aspects of hunting that speak most to me are things like dog training for upland birds, time outdoors scouting and exploring during spring bird migration and early morning turkey hunting, and mentors and friends who continue to spur me to be better."

DR. LINDSEY LONG
DNR wildlife veterinarian



"A few years ago, I accompanied my friend Brittany on her first deer hunt. She was participating in a Learn to Hunt program through the Wisconsin Department of Natural Resources, which initiated the program in 1996 in response to a decade of falling hunter numbers both in Wisconsin and the United States. ... After sitting in the rain for seven hours, Brittany shot her first deer — a beautiful doe. For both of us, this experience embodied more than a few hours of outdoor recreation. Hunting together allowed us to help pave the way for new groups of people to interact with nature in a powerful way that is fading with our changing culture. ... Over the last few decades, the number of female hunters has been going up ever so slightly as the number of men goes down. This shift presents a unique opportunity for wildlife managers to learn more about women as a growing demographic of Wisconsin hunters and to explore ways to better support women interested in hunting."

EMILY IEHL

DNR R3 Program and Learn to Hunt coordinator
(excerpted from a 2015 blog post for the Aldo Leopold Foundation)



"I didn't really start seriously hunting until I was in my 20s. I asked a friend to tag along because I was always intrigued — loved spending time outdoors and loved to eat. Fast forward to today. My entire being is consumed with hunting, wildlife and conservation. I hunt to feed my belly and my soul, feel closer to God and nature, to continue to learn patience and to embrace the uncomfortable when our lives today are full of comforts. I count the days until I can head West to chase elk, only to return to months of whitetail bliss, take a short break before turkeys are gobbling and then do it all over again."

CHRISTINA KUKOWSKI

Avid hunter from Arena who collaborates with the DNR's Deer Management Assistance Program



"As a Learn to Hunt for Food program coordinator and a trained hunter mentor, I've had the opportunity to introduce dozens of beginners, mostly women, to hunting. It's interesting to me that one motivation for women to take up hunting is the same motivation that brought me to hunting — food. Women new to hunting often talk about wanting a connection to nature, to know where their food comes from, to be able to sustainably and responsibly harvest an animal that roamed free during its lifetime. All of these things are important to me, too. Mentoring new hunters is fun and rewarding. The excitement of preparing for the hunt, sitting together the first morning as the world wakes up, and sharing my knowledge feels like a privilege to me. I'm encouraged that there are so many women who want to learn to hunt. I'm happy to be a part of helping them become hunters."

PEGGY FARRELL

Becoming an Outdoors-Woman coordinator and hunting mentor
(at left, pictured with mentee Erika Kachama-Nkoy)

HUNTING TOGETHER STRENGTHENS FATHER-DAUGHTER BOND

John Motoviloff has long hunted, fished and enjoyed other outdoor pursuits with his daughter, Anne. As the hunting R3 coordinator for Wisconsin's National Wild Turkey Federation chapter, he also has a unique perspective on hunter recruitment and what keeps people coming back to the sport.

Motoviloff, who previously worked in R3 with the DNR, has been a regular contributor to this magazine, mostly sharing hunting, fishing and foraging tales and favorite recipes for preparing the bounty. He was eager to weigh in on hunting and why it's special to him.

Even better, he recruited Anne to share her thoughts as well — a father-daughter tag team from the hunting community.

WHY DO YOU HUNT?

Anne: From a really young age, I was exposed to wild game, how to cook with it and how different it is from any other meat you can buy. Once I had the chance to go hunting with my dad, I think I realized that in partaking in the hunting itself, you are connected to that same food in a unique and extremely important way.

So there's something of an obligation in my mind, and not in a bad way, but one that pushes me to understand the impacts of what I eat and kill, directly or indirectly, to create a relationship with what I am responsible for. I think hunting gives you an opportunity to be in nature in a way that hiking does not, and having those experiences has helped me to appreciate the beauty of the environments I've been exposed to.

John: I have always had a strong bond with the natural world, and I've fished since I was about 5. Hunting came to me later in life, in my 20s, when I met two older duck hunters I worked with.

Now, for me it's equally about food, family and connection to nature. As an R3 coordinator, I'm also lucky enough to teach others about the outdoors for a living. It comes full circle.

WHAT INSPIRED YOU TO HUNT?

Anne: Mainly my dad. I think he made a really conscious effort to create thoughtful and healthy spaces for me when I was learning how to hunt, and he still does.

What I was exposed to was centered around my interests and comfort level, and the experiences that came out of this were intentionally positive. I appreciate how much effort he put into that, and I think it allowed me to develop my own relationship with hunting and what I found value in.

John: What inspires me now is hunting with those who are learning, like my daughter and like

the folks enrolled in Hunt for Food and Fishing for Dinner classes. Many of them have become close friends, and it's so cool to watch them develop into full-fledged outdoorspeople. I say people because half the classes are male and half female.

WHAT ARE SOME OF YOUR FAVORITE MEMORIES OF HUNTING?

Anne: The memories I associate with hunting are pretty much all positive, but there are a few standouts. The first one that comes to mind was one of my first times hunting, during the youth hunt in 2016.

We got to this small creek before the sun rose, and it was early fall, so the air was cold and damp without the sun to warm it up. About an hour into sitting on the side of this creek, all I could see was mist as the sun started to rise. The tree silhouettes slowly became visible, and I started to hear wood ducks fly overhead nearby.

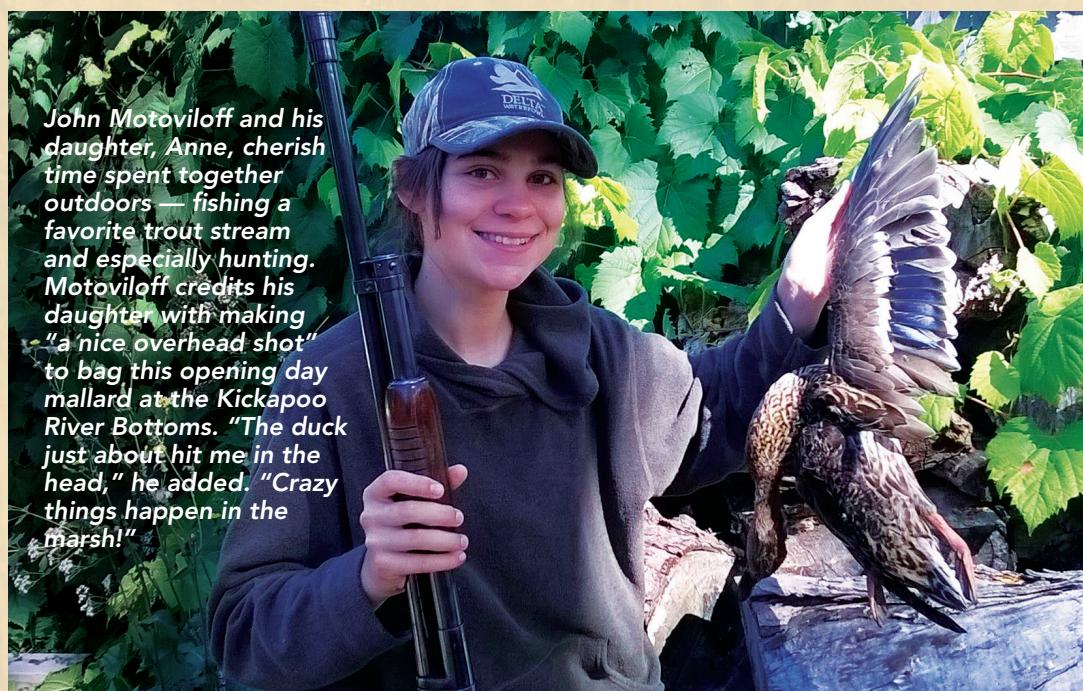
It was calm, quiet and peaceful in a way few other natural experiences have been for me, and I know I'm extremely lucky to have been in that environment that morning.

John: Experiencing the Youth Hunt with Anne — and my hunting pal Jason Stein and his son, Zane — is right up there. It was a magical day with all the elements coming together. To top it all off, we had a massive breakfast at the Unique Cafe in Boscobel after the hunt. Food, family, friends and fowl. What more can you ask for?

— WNR MAGAZINE STAFF



PHOTOS BY KERRY MOTOVILOFF



John Motoviloff and his daughter, Anne, cherish time spent together outdoors — fishing a favorite trout stream and especially hunting. Motoviloff credits his daughter with making "a nice overhead shot" to bag this opening day mallard at the Kickapoo River Bottoms. "The duck just about hit me in the head," he added. "Crazy things happen in the marsh!"



Ultrarunner takes on the Ice Age Trail to become fastest 'thousand-miler'

RUN FOR THE RECORD

STORY BY JOSHUA MORRIS AND PHOTOS BY KEVIN YOUNGBLOOD

Setting out to run the fastest known time for Wisconsin's Ice Age National Scenic Trail was not a deliberate goal for Coree Woltering.

The ultrarunner from Ottawa, Illinois, stumbled on the idea of running the trail after all other races were canceled due to COVID-19. Shifting gears, Woltering added a few tweaks to his training routine and was off to the races.

Woltering took three weeks to prepare for breaking the IAT's fastest known time (FKT) and three more weeks to run it to completion. On June 22, he finished the roughly 1,200-mile run in 21 days, 13 hours and 35 minutes, beating the previous FKT record set by Milwaukee's Annie Weiss by just about 4½ hours.

"I didn't necessarily do any special type workouts or anything," said Woltering, who already does much of his training at Devil's Lake State Park and the Kettle Moraine State Forest-Southern Unit, which features a segment

of the IAT. The terrain was familiar enough for him to comfortably choose the IAT for his next trail run despite the spontaneity of that decision.

"Training in the Wisconsin area provides a perfect mix of runnable terrain but hilly enough that it's challenging," he said. "If you can do well here, you can usually also do well when you go to other places."

The Ice Age Trail is unique in that it is one of only 11 National Scenic Trails in the U.S. It is cooperatively managed by the Wisconsin Department of Natural Resources, the National Park Service and the Ice Age Trail Alliance.

Over a million people use the IAT each year to hike, backpack and meditate while being surrounded by beautiful Wisconsin scenery. In its 60-year history, many have finished the lengthy hike, whether segmented or all at once, earning the coveted designation of "thousand-miler."

Only a select number of people run the trail for a record time, and only one holds the FKT record. As of now, that's Woltering.

CHALLENGES APLENTY

Woltering started running on June 1 at the IAT's western terminus, located in

Coree Woltering battled bugs, mud, heat, humidity, a sprained ankle, sleep deprivation — even the remnants of a tropical storm — to run the 1,200 or so miles of Wisconsin's Ice Age National Scenic Trail, start to finish, in record time.

Interstate State Park in St. Croix Falls. To beat the record, he planned to run roughly 50 miles a day.

By day six, he had experienced a heavy barrage of obstacles during the run, including an ankle sprain that would plague him for the entirety of the race.

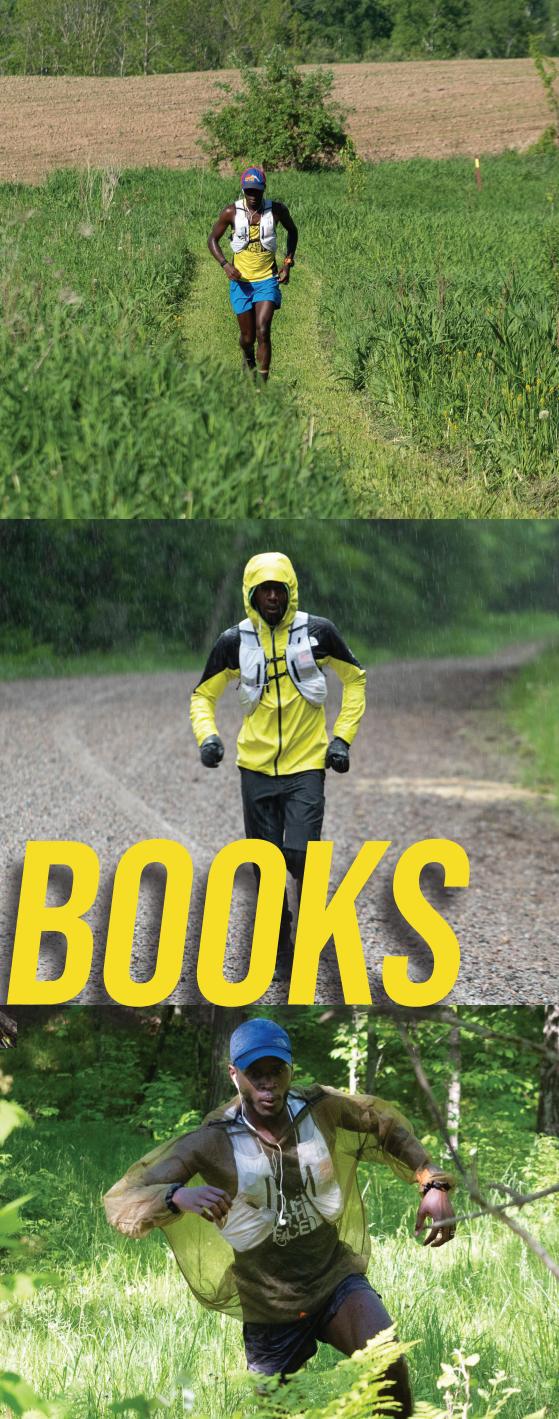
"The funny story would be the remnants of the tropical storm (Cristobal) that were coming across Wisconsin," he said. "We had ticks, mosquitoes, mud, humidity and water.

"I didn't think it was funny then, but I can laugh about it now."

As with many ultrarunning events, the last legs of Woltering's Ice Age Trail run were the most challenging. With more than 1,000 miles of the IAT behind him, he had to muster all the strength he had left if he had any shot of breaking the FKT.

He endured a final push of roughly 157 miles in 40 hours, sacrificing two nights of sleep in the process, and finished at the trail's eastern terminus in Door County's Potawatomi State Park.

On top of becoming the new FKT record holder, Woltering also raised over \$28,000 for Feeding America, a national nonprofit that assists food



BOOKS



banks across the country. Donations to his "Big Run for Grub" can still be made; check facebook.com/bigrunfor to learn more.

WINDING ROAD TO SUCCESS

Like the changes that led to his record trail run, Woltering's origin in the sport of ultrarunning follows a recurring theme of shifted plans. In high school, he began running merely to stay in shape for other sports but eventually realized he had what it took to run competitively.

In college and his early 20s, Woltering began training and participating in cross country, half Ironman races and other triathlons.

HEAR MORE 'OFF THE RECORD'

Shortly after completing a new fastest known time on the Ice Age Trail, ultrarunner Coree Woltering sat down with Katie Grant, the DNR's digital communications section chief, to talk more about his record-setting experience. An excerpt of their conversation is featured below.

You can hear the full interview on an upcoming episode of "Wild Wisconsin: Off the Record," the DNR podcast that brings you inside voices on Wisconsin's outdoors. Find it at: dnr.wi.gov/social/podcast.html.



Q: Have you ever done a race that's this long before or this many consecutive days?

A: No. So, the longest race that I've ever done was like 106 miles. For consecutive days maybe a little over a week, but it wasn't all just running. So, yeah, this was completely different for me.

Q: What was the longest single day run you did?

A: So, in like a 24-hour period, I believe I covered 104 or 105 miles in one stretch.

Q: You got into this run sort of at the last minute. What does it look like to train for something like this?

A: For me, I was going about it as if I was training for a 100-mile race or something. I didn't really increase my overall run volume. I didn't necessarily do any special type workouts or anything.

I guess the biggest thing was that I had a couple weeks where we did some back-to-back long run days. Or I'd go out for maybe four hours on one day and six hours the next day.

I didn't put in a six-month build of big back-to-back long run weekends or big midweek workouts. I just consistently ran 80 to maybe 100 miles a week for a few weeks.

Q: You recently tweeted about the discovery of a "burrito pocket" in your vest. While you're running, other than burritos — which I just want to add is a great idea for portable food — what snacks or meals do you like to carry with you?

A: Yes, the "burrito pocket" became a "many things pocket" over the course of this FKT. So, we discovered that Kwik Trip has cheeseburgers and chicken sandwiches that are enough calories and the right size to also fit in that pocket.

My diet on this thing was Kwik Trip cheeseburgers, chicken sandwiches, and then I was eating chicken and stars condensed soup straight out of the can and SpaghettiOs.

While living in Colorado in 2014, he was intent on becoming a professional triathlete.

After training with a group of trail runners, Woltering realized he was most passionate about this form of running. Ultrarunning generally means any race over the marathon distance of 26.2 miles.

Approaching seven years as an ultrarunner, Woltering, now 30, adds the new Ice Age Trail FKT to a long list of career accomplishments. He is sponsored by The North Face and has participated in races internationally, reaching as far out as Japan.

Woltering said he runs because of his passion for competition and trails,

and he uses his platform to promote diversity in outdoor sports.



Joshua Morris is a communications specialist in the DNR's Office of Communications. Kevin Youngblood is a freelance photographer who spent three-plus weeks chronicling Coree Woltering's Ice Age Trail journey for UltraRunning magazine.

ABOUT THE ICE AGE TRAIL

The Ice Age Trail Alliance has information for everyone from history buffs to day hikers to aspiring thousand-milers. Check iceagetrail.org to learn more.



Thriving at 30

Wisconsin's recycling law adapts over the decades to save resources, spur economy

AMY DUBRUIEL

Can you remember back when you first learned about recycling?

Maybe it was a lesson in school or something you picked up at home. For many of us, recycling has been part of our lives for as long as we can recall.

This year marks the 30th anniversary of Wisconsin's recycling law, which established how we recycle, provided partial funding for local recycling programs and banned certain items from landfill or incinerator disposal. The recycling law and subsequent disposal bans apply everywhere in the state, including homes, businesses, schools, institutions and at special events.

Wisconsin's recycling system recovers valuable materials, saves landfill space, reduces greenhouse gas emissions and keeps toxic materials out of the environment. It also is a major driver of the economy, supporting hundreds of community-based jobs and manufacturing in the state.

In 2018, local government recycling programs in Wisconsin, called responsible units, reported recycling over 420,000 total tons of landfill-banned paper plus metal, glass and plastic containers from households — an amount that has been

consistent over the last 10 years.

Wisconsin has a strong history of recycling, but it is not without its challenges. Recycling programs have adapted to meet the needs of their customers while still implementing the law.

SWITCH TO SINGLE STREAM

The Tri-County Materials Recovery Facility, which opened in 2009 in Appleton, is a good example of a place that has adapted to changes in the recycling landscape. The MRF operates through a unique partnership formed in 2003 between Brown, Outagamie and Winnebago counties. It serves over 65 communities and recycles more than 100,000 tons of materials from households, schools and businesses annually.

Before becoming the DNR's waste reduction and diversion coordinator in 2016, Jennifer Semrau worked for Winnebago County's recycling program for 17 years, giving her a firsthand look at the Tri-County partnership.

One big change comes to mind when she thinks of her experience, Semrau said: "The shift from dual stream, where residents sorted their curbside recyclables by type, to single stream recycling, where residents commingle recyclables in a cart."



Commingled recyclables arrive at the Tri-County Materials Recovery Facility in Appleton, where a front loader makes room on the tipping floor and pushes materials toward the sorting lines. After sorting, plastic containers enter the baler.

The Tri-County MRF started laying the groundwork for the change in 2007 and two years later became the first publicly owned Wisconsin MRF to switch to single stream.

The benefits were multifold. Communities recycled more and collection became more efficient and safer for workers.

But with single stream recycling, contamination became a bigger issue. Long-held practices, such as encouraging residents to bundle newspapers together

MARISSA MICHALEK/EMC PHOTOS

with twine or placing recyclables in plastic bags, became hinderances to recycling.

"Now, outreach is focused on keeping materials that get tangled in recycling equipment, like plastic bags or twine, out of the recycling stream," Semrau noted. "When the Tri-County MRF was built, Winnebago County still utilized a line of workers dedicated to debugging recyclables."

MARKETS DICTATE CHANGES

Some shifts in recycling have been due to broader changes in recycling markets and consumer behavior. Online shopping raised the demand for recycled fiber for manufacturing cardboard, and markets for some plastics fluctuated.

"Markets for #3-7 plastics used to be relatively nonexistent but had expanded around the time the Tri-County MRF was built. Since 2017, this market has diminished again," Semrau said. "Whereas, the markets for #1 and 2 plastics have remained steady."

The code on plastics indicates the type of resin used to manufacture the plastic. Some, like PVC, are not recyclable, while the recyclability of others depends on what is banned from landfill or incinerator disposal and their use in

manufacturing new products.

As for other industry changes, some have been more subtle — not only did paper copies of newspapers decrease, but newspapers became smaller. Today's plastic bottles and aluminum cans are thinner than their predecessors.

"Recycling programs often need to adapt and look for efficiencies," Semrau said. "The Tri-County partnership is a great example of how three recycling programs pooled their resources to the benefit of the communities they serve."

Before the partnership agreement, all three counties operated an MRF and a landfill, essentially competing for business. Today, Outagamie County runs the MRF, and facilities in Brown and Winnebago counties are transfer stations.

CHALLENGES TO MEET

Perhaps the biggest industry change in recent years came in 2017, when a seismic shift occurred in recycling markets. That happened when China announced its "National Sword" policy, largely banning imports of certain recyclables, including many paper and plastics.

MRFs were forced to meet new



Most materials recovery facilities use a combination of hand sorting and mechanized sorting with simple technology like magnets and eddy currents. Here, employees at the Tri-County MRF sort paper and pick out materials that can't be recycled.



contamination standards, which increased their costs, and adjust to new pricing for recyclables. To meet the challenges, many MRFs evaluated their operations and focused their outreach on controlling costs by reducing problematic materials that slowed operations or rendered materials unrecyclable.

In 2019, the DNR conducted a survey of MRFs to discover which contaminants were the most detrimental to operations.

"We wanted to learn which contaminants were causing the biggest issues so the DNR can provide accurate information to the public," Semrau said.

Of the 41 MRFs that operate in the state, 30 responded to the survey. Plastic bags and film were noted as a top contaminant. These items get wrapped around machinery, causing problems with sorting lines.

"Workers need to manually cut out the bags when they are wrapped around equipment, which can take several hours a day," Semrau said.

"Tanglers" such as rope or baling twine are another top contaminant for the same reason. Food contamination also ranked high among MRFs.

"Emptying and rinsing containers is an easy step that can have a lot of positive impact on the value of sorted recyclables," Semrau said.

NO SHARPS, NO FILMS

Some materials are considered contaminants because there are not yet adequate recycling markets for them. Foam polystyrene packaging such as used for food and beverages must be taken off the line and landfilled. Bulky plastics like lawn chairs or toys must be sorted out as well.

Beyond slowing down operations, some contaminants pose a significant safety risk to workers. Sharps such as needles, syringes or lancets can enter facilities in unmarked plastic containers that are easily broken.

"Even in highly mechanized facilities, some hand sorting is required and in other facilities, a lot of sorting is done by hand," Semrau explained. "If a worker gets stuck by a needle, they typically undergo months of testing for infectious diseases."

If not the recycling bin, where do these items go? Many types of plastic film — including shopping bags, newspaper bags, dry cleaning bags and plastic wrap around toilet paper — can be recycled by placing them in collection bins at many grocery stores (if clean, dry and not mixed with other material).

Food waste can often be composted, and scrap metal can be taken to a municipal metal collection site or a private metal scrapper. For most of the other top contaminants, such as diapers or food waste that cannot be composted, the best disposal option is the garbage. However, there are several resources to help divert materials from landfills.

Find more information at dnr.wi.gov, search "What to recycle."

LOOKING TO THE FUTURE

The next five years will continue to bring change to curbside recycling programs and MRFs. Starting next year, for example, plastics will be subject to export restrictions due to the Basel Convention.

While this international treaty was designed to address the movement of hazardous waste between nations, the issue of plastic waste in the marine environment has resulted in the new restrictions.

"The DNR will continue to evaluate and work with recycling programs to meet recycling challenges," Semrau said. And that's no different than it's been for the past 30 years.

"While markets will always change and evolve, Wisconsin's longstanding recycling program has provided valuable, consistent feedstock to recycling industries," she said. "We celebrate the 30-year anniversary of the recycling law, recognizing the strong economic and environmental benefits of recycling." 

Amy Dubruel is a senior waste management specialist in the DNR's Waste and Materials Management Program.

DON'T TRASH AND BURN

Here's a look at when certain items were banned from landfill and incinerator disposal in the state:

1990 Lead acid batteries, waste oil and appliances

1993 Yard waste

1995 Newspaper, cardboard, magazines, office paper, steel/bi-metal, aluminum, glass and plastic containers (#1 and #2)

1995 Tires

2010 Electronics

2011 Oil filters



RECYCLING TODAY: 'SO MUCH MORE THAN PAPER'

How far we've come and what a difference we've made since Wisconsin passed its recycling law 30 years ago. Government and industry leaders in Wisconsin celebrate the importance of the law that's benefited the state's natural resources and business interests alike. Here are a few of their thoughts.



Cole

DNR Secretary Preston D. Cole: "This anniversary not only marks a milestone, it highlights the fact that for 30 years Wisconsinites have been making a difference by recycling, which in turn benefits the community and the environment. From reducing the amount of waste sent to landfills, saving energy and conserving natural resources such as timber and water, every little bit helps. At the DNR, we are charged with protecting the state's natural resources, a job we take very seriously. Through recycling, everyone can help protect our natural resources for generations."



Pellitteri

Dave Pellitteri, owner of Pellitteri Waste Systems and member of the Council on Recycling: "Recycling has become ingrained in Wisconsin residents' way of life. Growth in shipping directly to your home (a.k.a. the 'Amazon effect') is causing the volume of recycling within a home to explode. In the past, a home could get by with a large, wheeled cart picked up every other week, but now some municipalities are needing to increase the recycling cart pickup to weekly."



Johnson

Meleesa Johnson, Marathon County Solid Waste Director and president of Associated Recyclers of Wisconsin: "Wisconsin's environmentally progressive history fostered support for the law we now know as the recycling law. Wisconsinites were driven by a deep desire to reduce the need for more landfills and to require that valuable recyclables be diverted into productive use. Today, a statewide network of recycling and waste reduction professionals connect and collaborate to implement not only the statutory provisions of the law, but also carry on with the spirit of the law."



Anderson

Julie Anderson, Racine County Director of Public Works and Development Systems and member of the State of Wisconsin Natural Resources Board: "It's amazing to see how far we've come in our knowledge about recycling in the past 30 years. Personally, I like to see overflowing recycling carts instead of overflowing garbage carts. ... We have made great strides over the years and now, so much more than paper is recycled in the office! Recycling means conserving our finite natural resources, saving energy and providing economic benefit to various end users."

Barb Worcester, deputy chief of staff for Gov. Tony Evers and member of the Council on Recycling: "As we celebrate the first 30 years of the recycling program, Wisconsin should be proud of the progress we have made and remind ourselves of the positive impact it is having on making our neighborhoods, our communities, our state and our planet a safer and healthier place in which to live."

RECYCLING NUMBER SYSTEM TRACES ROOTS TO WISCONSIN

The triangle-numbered system has become synonymous with recycling, but did you know the woman who invented it was a Wisconsin native? Longtime Sauk County resident Mildred "Milly" Zantow pioneered the plastics recycling movement and created the numbered system used for identifying different types of plastics.

Zantow, born in Oklahoma in 1923, came to Wisconsin in the 1960s. She got involved with the International Crane Foundation in Baraboo and, during a 1978 trip to Japan with the ICF, became enthralled with that country's system for sorting waste materials for reuse.

Upon her return home, Zantow learned her county landfill was closing and there wasn't another lined up to replace it. Determined to create a plan for the heaps of plastic waste material in the dump, she worked to eliminate a major barrier to recycling — identification.

Zantow's research on the properties of different kinds of plastics led to her invention of the numbering system we use today. She also started a recycling collection center in Sauk County, worked to spread the word on the benefits of recycling and helped to write Wisconsin's recycling law, passed in 1990.

Zantow died in 2014. Because of her efforts on behalf of recycling, she was inducted posthumously into the Wisconsin Conservation Hall of Fame in 2017, considered an early "recycling revolutionary." Two websites are excellent resources for adults and children to learn more about Zantow:

- womeninwisconsin.org/milly-zantow
- pbswisconsineducation.org/biographies/zantow.html

— DNR STAFF



DORIS LITSCHER GASSER

Milly Zantow in 1990

At Dynamic Lifecycle Innovations in Onalaska, aluminum is prepared for shipment after being separated from electronics using a high-tech shredder.

E-cycle law turns 10

Electronics recycling conserves and protects valuable resources

SARAH MURRAY

Since January 2010, Wisconsinites have recycled nearly 325 million pounds of electronics through E-Cycle Wisconsin, a program created to make recycling unwanted TVs, computers, monitors, printers and related equipment easier for households and schools.

By doing so, they have helped conserve valuable resources for reuse, including approximately 47 million pounds of steel, 16 million pounds of copper and 8 million pounds of aluminum. In most cases, more than 90% of the materials in electronics can be reused or recycled.

Recycling electronics also has kept hazardous materials, such as lead, mercury, cadmium and brominated flame retardants out of landfills and the environment.

Worry about where these hazardous materials could end up if not managed properly was one of the

main motivations behind electronics recycling laws passed in Wisconsin and several other states just over a decade ago.

PATH TO THE PROGRAM

In the early 2000s, the United States was heading toward a switch from analog to digital signals for over-the-air TV broadcasts. While this change meant improved picture quality and more local broadcast channels, it also meant a lot of picture-tube TVs would become obsolete without special equipment to capture the new signals.

As flat-panel, high-definition TVs became more affordable, many experts anticipated the digital transition (eventually completed in June 2009) would result in the disposal of millions of old TVs. There was a problem, though: The cathode ray tubes in those TVs contained several pounds of lead embedded in the glass — enough to make most of them hazardous waste.

In anticipation of this transition, and in response to the growing use and disposal of electronics overall, government regulators, electronics industry



DNR FILES



DNR FILES

Personal protective equipment prevents exposure to leaded glass in cathode ray tubes that have been removed from TVs and monitors for further processing at Dynamic Lifecycle Innovations.

representatives, recyclers and other stakeholders began discussing national legislation to improve and provide funding for electronics recycling.

When attempts at a national solution stalled in the mid-2000s, states began enacting their own laws. Between 2007 and 2010, 20 states passed electronics recycling legislation; in all, 25 states plus Washington, D.C., eventually put some type of electronics recycling program in place.

In Wisconsin, state Sen. Mark Miller worked with stakeholders and legislative colleagues for several years before successfully passing a bill in 2009. The law used a product stewardship approach — in which manufacturers, retailers, consumers, collectors, recyclers and governments share responsibility for ensuring safe end-of-life management — to set up the electronics collection and recycling program now known as E-Cycle Wisconsin, which began on Jan. 1, 2010.

Under the law, manufacturers of TVs, computers, monitors and desktop printers must register with the Department of Natural Resources the brands they sell to Wisconsin households and schools. Those manufacturers also must recycle a target weight of electronics each year based on their sales.

Manufacturers contract with state-registered collectors and recyclers to meet their targets. The law also banned



DALE HALL

Data security procedures at Universal Recycling Technologies in Janesville include drilling holes in a computer hard drive.

landfill and incinerator disposal of many electronics beginning on Sept. 1, 2010.

INCREASED INFRASTRUCTURE, CHANGING MARKETS

E-Cycle Wisconsin grew rapidly in its first few years. Electronics collectors registered 309 permanent collection sites and one-day collection events in January 2010, a measure of the infrastructure that existed when the law passed.

By 2013, the number of sites and events had increased 120%, to 681.

Wisconsin's program was a national leader in collection sites and pounds collected per capita.

Several high-tech recyclers in the state expanded to meet the increased volume of electronics coming from Wisconsin and nearby states with similar laws. These were outcomes the proponents of the electronics recycling law had hoped for when advocating for the legislation.

In the program's early years, many collectors offered free recycling to consumers for most items. Markets for recyclable materials harvested from electronics were strong, and sales of these materials together with manufacturer funding covered the majority of collection, transportation and recycling costs.

By 2015, the economics of the program had shifted. While manufacturer funding remained relatively steady, recyclers' costs increased. Many passed these costs along to collection sites — which, in turn, began charging consumers more.

A major driver was changing markets for leaded glass from cathode ray tubes. For several years, the main outlets for this material had been lead smelters and "glass-to-glass" recycling that produced new cathode ray tubes, largely for overseas markets. With that technology on its way out, the world's remaining glass-to-glass furnaces began charging to accept glass, then shut their doors.

New outlets emerged — primarily for use of the glass in European and South American ceramics production — but recyclers had to pay more to send glass there. With TVs and monitors consistently making up two-thirds of weight collected under E-Cycle Wisconsin, this had a major impact on overall costs.

WEIGHTY ISSUES

When first-generation flat-panel TVs and monitors began entering the recycling stream, the news wasn't much better.

Devices produced during the first decade or so of the new technology were lit by thin, mercury-containing fluorescent tubes. The devices were time-consuming to dismantle by hand and carried a risk of mercury exposure if recycling workers broke the fragile tubes. Plus, the displays didn't have enough valuable commodities inside to cover the high labor costs.

These higher costs, along with lower values for commodities recovered from electronics, meant payments from manufacturers often didn't cover the full costs of collecting, transporting and recycling electronics under E-Cycle Wisconsin.

The program also consistently collected millions of pounds more than the manufacturer recycling targets set under the law, because the weight of new devices being sold was much less than the weight of older devices being recycled.

The higher costs led some collection sites to stop taking electronics or to switch from permanent sites to a couple of one-day events per year. From 2013 to 2019, the number of sites and events registered with E-Cycle Wisconsin dropped 25%.

In that same period, the percentage of collectors charging consumers fees for at least some items rose from 63% to 91%, and the percentage accepting some electronics for free dropped from 70% to 51%.

EVOLVING TO SUCCEED

Despite these challenges, Wisconsin's electronics recycling infrastructure remains much stronger today than in 2010. The program has had at least one registered collection site in every county, and the number of collection sites has remained steady at just over 500 for the last few years, about 200 more than at the start of the program.

As Wisconsin's recyclers have grown,

an increasing share of electronics collected under the program has been processed in-state, supporting jobs at several large facilities.

The changing nature of electronics has brought many benefits to consumers. Manufacturers have greatly reduced the use of hazardous materials in electronics and have reduced overall material use through innovations that have made products like TVs and cellphones lighter.

Tradeoffs have come with these changes, though, such as components glued into devices like tablets and cellphones, making them harder to repair or dismantle. Small, powerful lithium batteries have made portable electronics ubiquitous, but these batteries can easily catch fire if damaged during the recycling process or if thrown into the trash and crushed in trucks, transfer stations or landfills.

Ensuring battery-containing devices

are safely managed adds costs and risk to the waste industry as a whole.

In addition, recyclers have had to be innovative to handle the increasing amount of personal data stored on smartphones, tablets, computers and even TVs — not to mention "smart home" devices, fitness trackers and similar items that didn't exist in 2009. High-tech recyclers have strict procedures to ensure data-containing devices are managed securely, with hard drives and other data storage wiped or destroyed.

STILL LOTS LEFT TO E-CYCLE

The DNR has conducted a series of statewide household surveys to understand Wisconsin residents' behavior and questions when it comes to electronics recycling. The surveys have shown that most households are storing electronics they no longer use.

In the most recent survey, in fall 2018, 74% of responding households



had at least one TV, computer, tablet or cellphone they no longer used. In total, there were an estimated 9.3 million unused devices in Wisconsin households — still plenty of electronics to recycle.

Among survey respondents, the most common reasons for not recycling electronics were not knowing where or how to do so, cost, lack of convenient locations and concerns about data security.

The DNR's E-Cycle Wisconsin team is working with stakeholders to address these barriers, including annual outreach campaigns to increase e-cycling awareness and maintaining an online list of collection sites and events. An online mapping feature has been added, along with information about manufacturer mail-back and trade-in programs, often free to consumers.

The DNR also works with stakeholders to identify program challenges and recommend solutions in an annual report to the Legislature and governor.

Today, landfilling of electronics is relatively rare, and there are recycling options for most Wisconsinites, even in rural areas of the state. Yet the need for responsible reuse and recycling of electronics is only growing.

In its first 10 years, Wisconsin's electronics recycling law created a strong framework of shared responsibility that, with help from all stakeholders, will ensure E-Cycle Wisconsin can meet the challenges for decades to come. 

Sarah Murray has been the DNR's E-Cycle Wisconsin program coordinator since 2010.

FIND MORE ONLINE

More coverage marking the anniversaries of Wisconsin's recycling and e-cycling laws is available on the *Wisconsin Natural Resources* website, wnrmag.com. There, you'll find Q&As with three recycling/e-cycling industry representatives: Matt Reynders, a recycled fiber buyer for Green Bay Packaging's paper mill; Miles Harter of Dynamic Lifecycle Innovations in Onalaska; and Jim Cornwell of Janesville's Universal Recycling Technologies. The latter two businesses are among the Midwest's largest electronics recyclers, combining to recycle over 140 million pounds of electronics in the 10 years of the E-Cycle Wisconsin program. For details about recycling in Wisconsin, check dnr.wi.gov/topic/recycling, and for e-cycling, see dnr.wi.gov/topic/ecycle.

TIPS FOR E-CYCLING

Here are things to think about when you need to recycle electronics.

Have a plan for your data.

- Back up files you want to keep before beginning to wipe data.
- Check with device manufacturers, operating system providers and electronics retailers for specific instructions or software, such as factory resets that can help with data wiping and protection.
- Disconnect from web- or cloud-based services, websites, etc., especially those tied to a credit card or bank account, or that automatically sync or upload files.
- Get help if you need it — many electronics retailers or repair shops offer data wiping services.
- Look for recyclers certified by the National Association for Information Destruction (NAID) or with clear data protection procedures in place.

Does your device still have value?

- For items like phones and computers, there may be trade-in options that offer small rebates or credits for newer items in good condition. Check retailer or manufacturer websites or services like BuyBackWorld and Gazelle for options.
- Don't donate items unless the recipient wants them — no one needs old tube-style TVs, even if they work.

You may need to pay a fee.

- Even though electronics manufacturers help fund electronics recycling, proper management of hazardous/toxic materials is costly.
- Fees help cover costs like packaging, collection site staff time, data security procedures and transportation for programs that don't have another way of covering these costs.

What are your recycling options?

- Find local electronics collection sites and manufacturer mail-back programs at dnr.wi.gov, search "ecycle."
- Check the E-Cycle Wisconsin website for newly posted one-day events in spring, summer and fall.
- Don't leave electronics on the curb or put them in a bin with regular recycling.

— DNR STAFF

E-CYCLING BY THE NUMBERS

350

Number of permanent e-cycling collection sites in Wisconsin, not including additional short-term collection sites and events.



325

million



Approximate weight, in pounds, of electronics recycled through E-Cycle Wisconsin since January 2010. That's more than 50 pounds of electronics per state resident!



Percentage of electronics collected in the last program year that were recycled in Wisconsin (the rest were processed in the upper Midwest).

8
million

Pounds of aluminum recycled since 2010.



16
million

Pounds of copper recycled since 2010.



47
million

Pounds of steel recycled since 2010.



9.3
million

Number of unused TVs, computers, tablets and cellphones stored in Wisconsin households as of 2018.

53%

Increase in the number of unused cellphones in Wisconsin households from 2013 to 2018.

GOOD READS

TRY ON
THESE TITLES FOR
(BOOKMARK) SIZE

WNR MAGAZINE STAFF

With a bonus bookmark included in this issue, it seems appropriate to put together a short reading list to accompany it.

CONSERVATION LUMINARIES GET THEIR DUE

From DNR avian ecologist Sumner Matteson, also a past contributor to this magazine, comes a labor of love celebrating the biologists, ecologists and land stewards who have been at the forefront of conservation efforts in the state.

"Afield: Portraits of Wisconsin Naturalists, Empowering Leopold's Legacy"

shares the detailed stories of numerous noted conservationists in their own words, painstakingly gathered by Matteson over decades of research and recorded histories. The book is the first in a planned three-volume project.

It started when Matteson interviewed Sigurd Olson more than 40 years ago, preserving the words of the noted wilderness advocate on an old tape recorder. The project evolved to include a veritable who's who of the Wisconsin Conservation Hall of Fame.

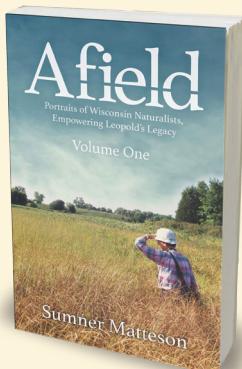
Volume 1 includes profiles of 19 conservationists — from more well-known names such as Olson, Ruth Hine and Francis and Frederick Hamerstrom, to others including Lois Nestel, Eric Epstein, Jim Zimmerman, Sam Robbins, Lorrie Otto and more.

In an interview earlier this year with Wisconsin Public Radio, Matteson said he hopes the book project will serve as inspiration to everyone to explore the natural world, something he said is important "for young people, especially, and for people, really, of all ages."

"It's very important to get out and take time to spend time with nature, to observe as much as they can interactions in the wild between animals and to observe and take note of what plants are out there," he told WPR. "This is a way of enriching one's life."

"And this book really, I think, hopefully, will inspire people to take stock of our conservation history."

■ "Afield" (\$29.95) is available from Little Creek Press, littlecreekpress.com, and online booksellers.



'LOOKOUT' FOR GIRLS CAMP HISTORY

A new title from the Wisconsin Historical Society Press tells the tale of a long-ago special place in Door County.

"From the Lookout: Memories of Peninsula State Park's Summer Camp for Girls"

"State Park's Summer Camp for Girls" chronicles the history of Camp Meenahga, open from 1916 to 1948 at the park between Ephraim and Fish Creek.

The book is written by Kathleen Harris, who worked for two decades as Peninsula's naturalist before retiring last year. Through history lessons, camper memories and tales of Meenahga traditions, Harris brings to life the camp established by Alice Orr Clark and Louise "Kidy" Mabley.

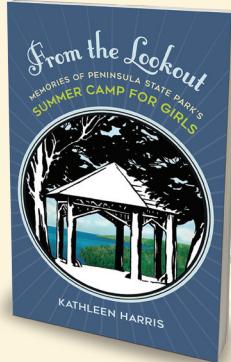
"Along with all the riding, tennis playing, hiking and swimming, campers at Meenahga practiced etiquette and learned the art of conversation at formal teas and luncheons," writes Harris, whose stories about Camp Meenahga and other state history have appeared in *Wisconsin Natural Resources*.

Public performances, games, music and writing also were encouraged along with numerous outdoor activities offered at Wisconsin's first residential camp for girls, Harris adds.

"The model Clark and Mabley developed blended tradition with modernity," she writes, noting that the women guided hundreds of girls through the years.

Even two world wars weren't enough to halt camp life, which finally came to an end after more than 30 spectacular Door County summers.

■ Learn more about "From the Lookout" (\$22.95) and order by searching for "Lookout" at wisconsinhistory.org, or buy through online booksellers.

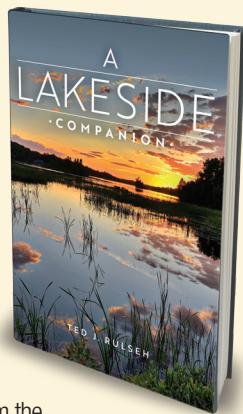


SHEDDING LIGHT ON LAKE LIFE

With the Aquatic Plant Management special section in this issue, lakes are on the mind. Wisconsin author Ted J. Rulsey's book, "A Lakeside Companion," spotlights the science of lake living in a fun and engaging way that will make the reader appreciate even more these vital Wisconsin waterbodies.

Rulsey, active in groups including the Wisconsin Citizen Lake Monitoring Network, touches on everything from the whys of what fish live where to the ecology of plants and the making of a healthy lake.

■ "A Lakeside Companion" (\$22.95) is available from the University of Wisconsin Press, uwpress.wisc.edu/books/5756.htm, and online booksellers.



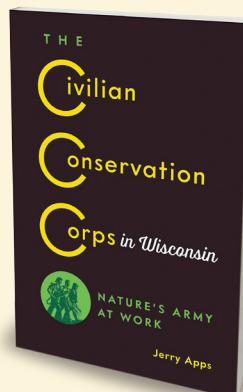
WRITER APPS EXPLORES WORK OF THE CCC IN WISCONSIN

Stories of Wisconsin's connections to the Civilian Conservation Corps appear frequently in this magazine, especially in "Back in the day." A new book from writer Jerry Apps and the Wisconsin Historical Society Press takes a closer look at the New Deal program that built up and beautified the state while also putting young men to work during the Great Depression.

"The Civilian Conservation Corps in Wisconsin: Nature's Army at Work"

"Nature's Army at Work" guides readers through a comprehensive history of the CCC's work, including at state parks, between 1933 and 1942. Corps members lived in rustic camps around the state while they cut trails, built structures, planted trees and took part in other conservation activities.

■ The book (\$18.95) is available at wisconsinhistory.org and from online booksellers. For other titles by Apps and his regular blog, check jerryapps.com.



All in to boost birds

Alarming drop in populations spurs actions around the state

LISA GAUMNITZ

Lynn Christiansen of Saukville traded the perennials in her flower beds for native species and added dogwood trees, native grasses, shrubs and a bur oak. When she moves to a 3-acre site near Grafton this year, she plans to double down on native landscaping for birds.

Cattle producer Jerry Marr uses rotational grazing, enrolls some of his family's 256 acres in northern Lafayette County in a federal program to conserve grasslands, and keeps plows off his hillsides so the eastern meadowlarks, bobolinks and Henslow's sparrows find plenty of insects to eat and places to nest.

Wausau Bird Club members are restoring native trees and shrubs and removing invasive buckthorn on Barker-Stewart Island, located in the Wisconsin River in downtown Wausau, and carefully tending the new plantings during the summer.

Members scoop water out of the river in buckets and carry them to the middle of the island to water the trees.

"We're hoping to lure the migratory birds along the river with native plantings," says Susan Haug, the club's treasurer. "We hope they'll have more of the foods they like instead of getting trapped in downtown Wausau with all of the taller buildings and glass windows to collide with."

All across Wisconsin, people are adding native habitat and taking other steps to help the birds they love.

It's exactly what conservationists say must happen if we are to save the birds that delight our eyes and ears, serve as pollinators, seed dispersers, pest control and food for other wildlife, and anchor a birdwatching industry that generated \$107 billion nationally in economic impact, 666,000 jobs and \$13 billion in tax revenue in 2011.

National studies are revealing a steep loss of birdlife in North America since 1970 as science hammers home the concept that conserving birds means protecting them throughout their life cycle.

"Before the early 2000s, the focus of

"No matter where you live and no matter how much land you influence, you can have a positive impact for birds and the insect species that many of them depend on for food," he says.

NUMBERS CONFIRM WORST FEARS

Hard numbers now confirm what many bird lovers have noticed for years at their feeders, along roadsides and in fields and woods: Birds and birdsong are disappearing from our lives. North America has 2.9 billion fewer breeding birds than there were in 1970, representing a net loss of nearly 30%.

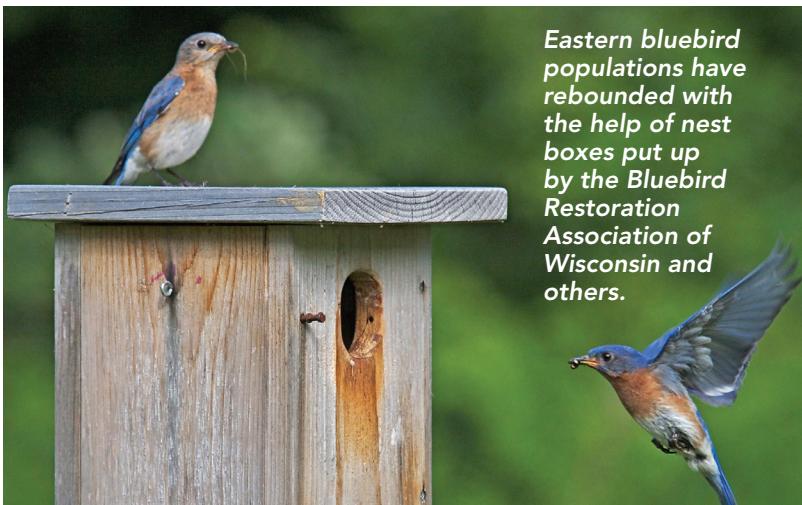
Those numbers, from a study published in *Science* magazine in September 2019, was based on long-term bird surveys and night radar showing spring migrations. Even common, beloved species have fallen off the cliff.

Evening grosbeak populations have plunged 90%, wood thrushes 60%, eastern meadowlarks 75% and dark-eyed juncos 50%, according to the research by seven leading bird conservation

organizations including the Smithsonian Migratory Bird Center, Cornell University's Lab of Ornithology and the American Bird Conservancy.

The only groups of birds doing well are raptors, waterfowl and woodpeckers, all conservation success stories reflecting, respectively, the ban on DDT and Endangered Species Act protections, public and private investment in wetland protection and restoration, and the maturation and protection of woodlands.

Trends in the state generally track the



Eastern bluebird populations have rebounded with the help of nest boxes put up by the Bluebird Restoration Association of Wisconsin and others.

PATRICK READY

bird conservation in North America was very much on protecting and restoring breeding grounds," says Owen Boyle, species management chief for the DNR's Natural Heritage Conservation Program.

While breeding grounds are obviously critical for bird productivity, if migratory birds die on the wintering grounds in Central or South America or while returning to Wisconsin, it doesn't matter how good the breeding grounds are because there are fewer birds to use them, Boyle says.

North American study results, based on data collected through the Wisconsin Breeding Bird Atlas II, a comprehensive five-year survey carried out by more than 2,000 volunteers partnering with the DNR, Wisconsin Society for Ornithology, the Western Great Lakes Bird and Bat Observatory and the Wisconsin Bird Conservation Partnership.

The only exception is that forest birds have fared better in Wisconsin, reflecting the rebound of our northern forests and their ability to provide important nesting areas for many species of warblers, thrushes, vireos and more.

HABITAT LOSS DRIVES DECLINE

While the North American study didn't look specifically at causes for the declines, research has zeroed in on habitat loss, followed by habitat degradation due to fragmentation, invasive species and declining water quality, as the top two causes driving the declines.

"Habitat loss is the silent killer," Boyle says.

Native landscapes have been cleared to make way for agriculture, development, resource extraction and other land uses, eliminating the native plants and natural communities that have evolved in Wisconsin over eons to support bird species that are year-round residents.

About 96% of all land birds feed their young insects, and native plants support a ready supply. Chickadees bring mostly caterpillars home to their young, one caterpillar every three minutes, according to Doug Tallamy, a University of Delaware entomologist and author of "Bringing Nature Home: How You Can Sustain Wildlife with Native Plants."

That's 350 to 570 caterpillars every day for each of the 16 to 18 days it takes the chicks to fledge.

Oak trees support 534 species of moths and butterflies, which in turn provide food for many birds including those migrating from neotropical wintering grounds to nesting sites in Wisconsin. Oaks also offer vital nesting cavities for owls, woodpeckers, nut-hatches and bluebirds, Tallamy writes.

Native plants have evolved along with the insects that eat them, which are able to detoxify and digest the native plants. Most insects lack the enzymes necessary to eat non-native plants, like the ornamental trees and other plants so common in landscaping.



Palm warbler

Eastern whip-poor-will

CYNTHIA BRIDGE

WADE DEMICHEN

Pileated woodpecker

RYAN BRADY

Orchard oriole

JAMES KINDELMAN

Warblers, finches and swallows have suffered staggering losses in North America, though Wisconsin declines have been less severe. Eastern whip-poor-wills and eastern meadowlarks are among big decliners in the state, while pileated woodpeckers and orchard orioles are big gainers thanks to conservation work and protections.

LINDA FRESHWATERS ARNDT

Up to 90% of the world's plant-eating insects can feed only on a small selection of plant species.

Research showed that in East Coast suburban neighborhoods where less than 70% of native vegetation remains — and that means most neighborhoods — the birds do not have the insects and seeds they need to eat and are having trouble reproducing, says the DNR's Craig Thompson, a migratory bird expert who leads the Natural Heritage Conservation Program's Integration Section.

"85% of Wisconsin is privately owned," Thompson says. "So what happens on private lands really matters for birds."

IMPORTANCE OF NATIVE PLANTS

Like her parents, Christiansen fed birds mainly at feeders until inspired by a 2011 "Grosbeaks Galore: Birds on Your Landscape" workshop put on by the DNR and partners in the Wisconsin Stopover Initiative. Tallamy was a featured speaker.

"That seminar was a complete eye-opener for me," Christiansen says. "It brought home that bird feeding isn't the end-all-be-all to support birds. Native plants are more important to supporting birds in the long run."

She still provides bird feeders but started adding as many native plants as she could to her Saukville yard and enrolled in landscaping classes at Milwaukee Area Technical College with a goal of creating a bird haven and beautiful native landscape at their new house. She's learned that landscaping isn't just about looks.

"Don't just plant something because that's what they sell at the store. Plant something to benefit insects and birds," she says. "It's a good thing when insects are eating your plants."

KEEPING A LEGACY ALIVE

Tallgrass prairies are among the most decimated and threatened natural communities in the Midwest and the world. In Wisconsin, less than 10,000 acres, or 0.5% remain.

Working farms like the one Marr and his family have farmed for three generations are vital for providing the open habitat grassland birds need. Together with remnant prairies, the pastures, hayfields and conservation lands of these farms form a growing patchwork of lands helping to stem — and hopefully reverse — a steep decline in grassland birds.

Marr is manager and part owner of

the family farm and is proud to play a role in saving grassland birds. He credits his father, Robert, for teaching him and siblings Richard, Greg, Jim and Mary Jean to care for the land.

"My dad was a great conservationist," he says, noting that Robert received "about every county conservation award there is. His attitude was always, 'Do what's best for the land.'"

The elder Marr put some of his land into the USDA's Conservation Reserve Program to keep it as grassland, knowing the program would allow the family to maintain income but also reduce work. He never plowed the hillside, preserving the soils, reducing runoff and nurturing native plants that produced a bumper crop of insects for birds and other wildlife.

"We all worked very hard after my dad bought the land to plant trees and maintain the farm," Jerry Marr says. "To get it to this point was a huge family effort."

Robert passed away in 1992 and the farm was put into a trust. Richard Marr and his wife, Kitty, and their children ran the farm for 25 years before Jerry Marr started managing it.

All along, the family has followed the same grassland management practices benefiting their cattle operation and birds, even as many farms in the region switched to row crops. Jerry Marr takes pride in seeing the fields alive with bobolinks, eastern meadowlarks, upland sandpipers and Henslow's sparrows — all species declining precipitously.

"I can think of many times a meadowlark perched on the top wire of a bird wire fence with a beak full of insects," he says. "As I'm out there checking cattle and spending time in the grassland, just to hear the birds and see them ... it's just good for the soul."

WAUSAU FLIES HIGH FOR BIRDS

The growing scientific understanding that urban areas could provide important habitat helped spur the creation in 2009 of Bird City Wisconsin to recognize municipalities for their bird conservation and education activities.

To date, 111 communities have attained Bird City status and 25 have qualified as "High Flyers." Wausau is one

of them, thanks in large part to the Wausau Bird Club in cooperation with the Wausau and Marathon County Parks, Recreation and Forestry Department.

In addition to the habitat work on Barker-Stewart Island and a native plant garden at Monk Botanical Gardens, members have engaged youth groups in building nest boxes and planned a bluebird trail project with a local middle school (put on hold during the COVID-19 pandemic). They have participated in bird surveys and documented a state-threatened warbler species at Nine Mile County Forest, which Haug hopes can help protect the bird's habitat.

Also in Wausau, several golf courses host bluebird trails, one has obtained an exemption to the mowing ordinance to let areas go natural by adding native plantings, and still another is a "Certified Audubon Cooperative Sanctuary."

The city uses dark sky friendly outdoor light fixtures when possible to direct light to the ground, reducing light pollution and allowing birds to better see the stars needed for navigation.

"We're proud of the efforts the city and other partners are doing," Haug says.

"We feel it's important to do at least the little we can."

"People in the club just appreciate birds — their beautiful colors, their songs — just seeing them in their backyard." 

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



DAVID HAUG

Partners tackle bird conservation near and far

LISA GAUMNITZ

Karen Etter Hale discovered the beauty and wonder of birds as a 4-year-old taking yard walks with her Aunt Peg in Lake Mills.

"Birds are captivating," she says. "They fire the imagination with their flight, diversity, beauty and fascinating behaviors. And because you can find them everywhere, birding is like a treasure hunt. Birds are our direct connection with nature."

Her early experiences launched a six-

decade flight path of appreciating birds and working on their behalf, including 25 years as executive secretary for Madison Audubon and, for the last 18 years, as chair of a coalition of 180 partners committed to conserving Wisconsin's native birds.

Now, as study after study documents birds' declining fortunes globally and at home, Etter Hale finds hope in the comeback in Wisconsin of bald eagles, sandhill cranes, wild turkeys, eastern bluebirds, peregrine falcons and more

— and in the growing partnerships of organizations and individuals working to save birds.

"In Wisconsin, we have all of these groups working very hard," she says. "We know what needs doing. By collaborating and not duplicating efforts, we will make more progress in bringing back our birds."

"None of us can do it alone. Focusing on that and on all the great people working on behalf of birds is what keeps me going."

The Wisconsin Bird Conservation Partnership, Southwest Wisconsin Grasslands Network and the Neotropical Flyways Project are some of the many partnership efforts working together to save Wisconsin birds.

Partners work at large geographic scales to better protect and restore bird habitat here and in the Central and South American lands where dozens of Wisconsin's migratory bird species winter.

Here's a look at each of these partners working on behalf of birds.

WISCONSIN BIRD CONSERVATION PARTNERSHIP

More than 65 bird clubs, hunting and fishing groups, government agencies, land trusts, nature centers, environmental groups, universities and businesses came together in 2001 to create the Wisconsin Bird Conservation Initiative.

Members pledged to work collectively to assess bird populations, restore bird habitat, promote breeding bird populations, protect migrating species and help more people enjoy watching birds.

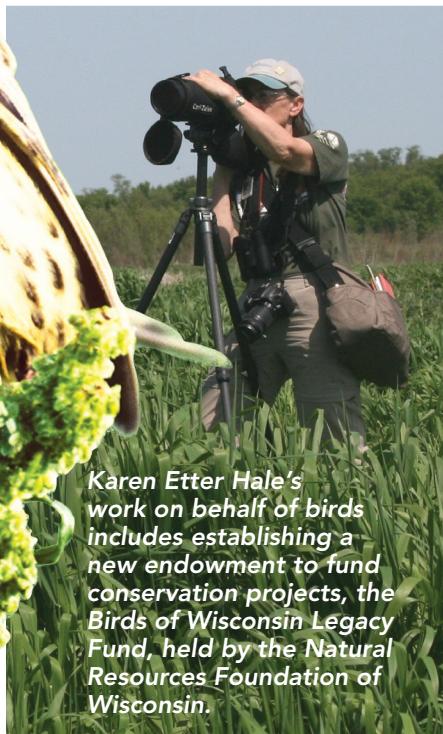
In the organization's first 18 years with Etter Hale at the helm, the number of partners grew to 180. Collectively, they identified and designated 93 Important Bird Areas, critical habitat sites for birds statewide, and developed the Wisconsin All-Bird Plan detailing actions to save 116 species most in need of help.

Partners actively engaged citizens in bird conservation through volunteer monitoring projects and establishing



The Southwest Wisconsin Grasslands Network features places like Marbleseed Prairie, a unit of the York Prairie State Natural Area near New Glarus.

DAVID SAMPLE



Karen Etter Hale's work on behalf of birds includes establishing a new endowment to fund conservation projects, the Birds of Wisconsin Legacy Fund, held by the Natural Resources Foundation of Wisconsin.

COURTESY OF KAREN ETTER HALE



Colombian biologist Angela Caguazango assesses the age of a female cerulean warbler as part of the Neotropical Flyways Project.

NICK BAILY



MELODY WALSH

the Bird City Wisconsin program. More than 110 communities are now recognized as Bird Cities for everything from installing nest boxes, to hosting bird festivals, to working with the Milwaukee Bucks to incorporate bird-friendly measures at Fiserv Forum.

In the last two years, the group released a new strategic plan, swapped the “Initiative” in its name to “Partnership” to better characterize the longstanding effort, and unveiled a new logo. They brought on board a project manager to evaluate the status of the 93 Important Bird Areas.

“Our goal is to determine which five to 15 would be highest priority to have conservation actions that can help keep common birds common and bring back those that are declining,” Etter Hale says. “We’ll partner with local stakeholders to develop strategies for each of these, which will serve as a catalyst for the rest.”

Learn more: wisconsinbirds.org

SOUTHWEST WISCONSIN GRASSLANDS NETWORK

In 2009, the DNR completed a master plan for a nearly 500,000-acre area in southwestern Wisconsin as one of the best opportunities in the Upper Midwest to conserve the open grassland and savanna habitats eastern meadowlarks need — and to reverse their population decline, along with declines in Henslow’s sparrows, bobolinks and many other grassland birds.

That Southwest Wisconsin Grassland and Stream Conservation Area is now embedded in an even larger partnership project, the Southwest Wisconsin Grass-



GARY DINEEN/MILWAUKEE BUCKS

Bird City Wisconsin worked with the NBA’s Milwaukee Bucks to make their new Fiserv Forum a bird-friendly building, including design efforts to help stem bird-window collisions.

lands Network. The DNR and over a dozen federal, state and county agencies, land trusts and other nonprofit conservation organizations have joined to work with landowners and each other toward common goals of protecting and managing grasslands for the benefit of wildlife, water quality and working lands.

Cindy Becker is coordinating the effort. She has been involved in private lands outreach and education in the Driftless Area for 13 years and before that worked as an inventory botanist, surveying sites across the Midwest.

“We have a lot of people already doing amazing work,” says Becker, who works for the Driftless Area Land Conservancy out of its Dodgeville office in a position mostly funded by the DNR’s Natural Heritage Conservation Program and the U.S. Fish and Wildlife Service.

“There’s a lot of energy around the issue of grassland birds and, more recently, pollinators.”

The network area includes a high number of unplowed prairie remnants,

concentrations of rare grassland plants and animals, and many landowners who already maintain open fields and pastures. Some have voluntarily enrolled their croplands and grassland fields in conservation programs that pay for erodible fields to be planted to grassland cover including prairie restorations, left uncropped or planted with cover crops.

Network partners are seeking new landowners who may be interested in preserving grasslands. Becker listens to their hopes for the land, talks about the rare and high-quality resources they may already have, and steers them to the agency or program that may be the best fit.

To aid those efforts, Becker and partners are writing a landowners’ guide to agency partners and programs providing technical and financial help. They’re also seeking out grant opportunities to expand funding sources and working to complete grassland restoration projects on private lands across the region.

In 2021, the network’s “Celebrate Grasslands” exhibits funded by a Cornell Lab of Ornithology grant will rotate through local libraries including in New Glarus, Mount Horeb, Dodgeville and Mineral Point. Family field days will aim to introduce more landowners to grassland birds and opportunities to help them, Becker says.

“Our survey of landowners in the region shows grassland birds matter to people as an influence for their decision-making. That was surprising to me and inspiring,” she says.

“We really all do have a common ground. Landowners do what they can individually to benefit wildlife and water, and collectively, all of these efforts are making a big difference.”

Learn more: driftlessconservancy.org (under “What We Do” tab)

NEOTROPICAL FLYWAYS PROJECT

Half of Wisconsin’s bird species are considered neotropical migrants, meaning they spend the winter in Mexico, Central and South America and return here in the spring to nest.

“So what happens in Nicaragua, Colombia, Panama, Mexico — really all of Central and South America — impacts our birds,” says Craig Thompson, who leads the DNR’s bird conservation efforts.

Forests in those places are declining, being converted to agriculture and degraded for fuel wood, which in turn reduces winter habitat for Wisconsin birds. One third of the 340 migratory bird species in the U.S. are declining in part due to habitat



ADRIAN DELGADO



NICK BAYLY

Biologist Yuly Caicedo extracts a migrant bird from a canopy net in Costa Rica as part of the Neotropical Flyways Project. The closeup shows blackpoll warblers captured in Colombia upon arrival in South America following trans-oceanic migratory flights.

loss and other threats in these lands.

"We have to have conservation strategies that are hemispheric in scope, and that is very challenging to do," Thompson says.

One challenge is a lack of knowledge about migration and critical stopover sites in the southern hemisphere. To help find answers, the DNR and the Natural Resources Foundation of Wisconsin are part of a partnership with the Cornell Lab of Ornithology and a nonprofit in Colombia called SELVA to identify critical migratory stopover regions and habitats.

Money raised through the Natural Resources Foundation's Great Wisconsin Birdathon, which continues through Oct. 15, helps to pay for this and eight other priority projects aiding Wisconsin birds.

New stopover sites will be identified and mapped, and mist netting and radio tracking will determine how birds use these sites. Study results will be used to develop conservation plans.

"The Neotropical Flyways Project is unlocking the secrets of hemispheric migration," Thompson says. "The effort will help ensure this avian phenomenon that has played out over eons will continue and thrill bird lovers well into the future."

Learn more: neotropicalflyways.com



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

BOOK HIGHLIGHTS LAKE MICHIGAN STOPOVER SITES

Weighing in at one-third of an ounce — roughly the same as two nickels — the beautiful sky-blue cerulean warbler flies 5,000 miles roundtrip between wintering grounds in South America's Andes Mountains and summer nesting grounds in Wisconsin's hardwood forests.

Stopover sites where the warbler and Wisconsin's other 200-plus migratory bird species can rest and refuel are crucial to their individual survival and to the overall fate of their species.

North American numbers of cerulean warblers have dropped 70% in the last half-century. The species is listed as threatened in Wisconsin, and disappearing habitat on nesting, wintering and migratory grounds imperil the bird.

Sites in Wisconsin's Lake Michigan coastal counties are particularly important as these warblers and other species tend to follow the shoreline and rely on coastal habitats, from sometimes just a few yards up to a few miles inland.

Now, the most important of these sites are identified in a book aimed at helping spur full protection and long-term conservation of sites. Stopovers are categorized as "fire escapes," "convenience stores" or "full-service hotels" based on their ability to shelter or refuel birds.

"Birds are at greatest peril during long migrations, so the long-term conservation of the sites are critical for conserving the birds we love," says Sumner Matteson, a DNR avian ecologist and an author, along with now retired DNR colleague Kim Grveles and Kim Kreitinger, outreach coordinator for the Natural Resources Foundation of Wisconsin.

The book, "A Planning Tool for Migratory Bird Conservation Along Lake Michigan," includes maps and detailed information on more than 40 stopover sites. A full PDF of the book is available on the DNR website; go to dnr.wi.gov and search "birding" to find a link.

The book also has been provided to nearly 100 Lake Michigan coast city officials, conservation organizations, bird clubs and land managers.

"We hope that local and regional planners and conservation groups will use our document to factor in the importance of migratory bird habitat as they consider how best to manage and conserve landscapes along the Lake Michigan shore," Matteson says.

The book is a partnership of the DNR, Wisconsin Stopover Initiative, Natural Resources Foundation and Wisconsin Coastal Management Program.

"We've received a lot of positive feedback from our stakeholders about the publication," Kreitinger says. "We know that conservation partners are referencing it."

While the book is aimed at planners, land managers and local decision makers, it offers a wealth of information birders can use to guide their birdwatching and to advocate for long-term conservation of the sites, Matteson says.

"Twice a year, one of the great natural spectacles occurs," he says of bird migration. "Go out this fall or spring to one or more of the sites in our book and observe the variety of birds passing through our state."

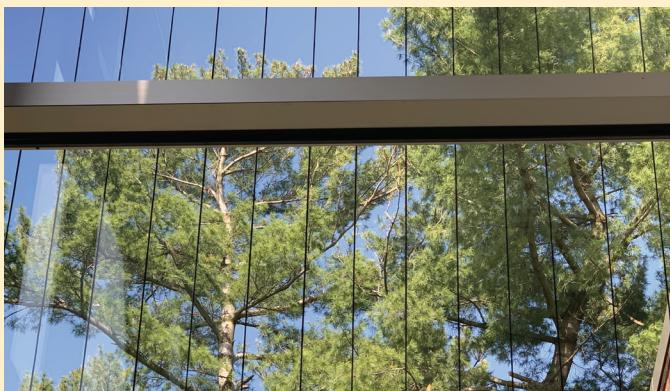
"You will marvel at what you see!"

— LISA GAUMNITZ



JEREMY MEYER

This cerulean warbler was photographed in May at Milwaukee's Whitnall Park, a migratory bird stopover site.

CATIE ANDERSON
RICHARD WUNSCH

The Leigh Yawkey Woodson Art Museum in Wausau has added parachute cord to the outside of a large window to help break up the reflection and prevent collisions by birds.

MUSEUM PULLS STRINGS TO SAVE BIRDS FROM WINDOW COLLISIONS

Visitors migrating to the Leigh Yawkey Woodson Art Museum this fall for the internationally renowned "Birds in Art" exhibition will find another new installation reflecting the museum's commitment to birds.

Museum staff took advantage of the building closure during the early months of the COVID-19 pandemic to turn a 40-foot-high glass window into an aesthetically pleasing example of how a few hours and a few simple, inexpensive materials can save birds from colliding with windows.

Up to 1 billion birds are estimated to die each year in the United States after hitting windows. By day, birds perceive reflections in glass as habitat they can fly into. By night, migratory birds drawn in by city lights are at high risk of colliding with buildings.

Breaking up window reflections by using film, paint or string can help reduce collisions and save birds.

At the Woodson Art Museum, migrating birds would occasionally fly into a glass-enclosed stairway in the museum's new wing, particularly during the spring. Curator of Education Catie Anderson mentioned the problem last fall to Craig Thompson, a DNR bird expert who was at the museum giving a presentation about steps people can take to help birds.

After the talk, Anderson showed Thompson the window. He suggested creating a curtain of cords running the length of the window and spaced a few inches apart to break up the reflection.

The museum director committed to doing the project, and the quarantine was the perfect time because there were no people on the grounds or in the building, says David Jones, the museum's facilities manager.

Jones purchased L-shaped angle irons and 1,100 feet of parachute cord. Following instructions found on the birdsavers.com website, Jones and Anderson drilled holes in the angle irons and threaded them with long lengths of paracord. They safely got on the roof and secured the angle irons with the paracord hanging down.

The paracord lengths could then be pulled tight and secured at ground level. All told, the materials cost \$250 and the project took the two of them about six hours over two days.

"It's a very doable project for almost any facility or homeowner ... and it has been wildly successful," Jones says. "Anybody concerned about a situation like that

should just go ahead and do it. It's paid for itself."

Museum staff haven't found any stunned or dead birds beneath the window since the "bird savers" were installed in May. The museum has an appealing and accessible solution to share with visitors.

"We've had a long history of using an interdisciplinary approach and this year, the bird-friendly window is a great example of combining science, engineering and technology," she says. "For us, it was another teachable moment."

For Thompson, it's a compelling example of what can be done for birds. "It's a dandy conservation success story," he says. "Anyone, especially homeowners, can easily do this."

— LISA GAUMNITZ

ABOUT THE EXHIBITION

Artwork from 114 artists worldwide will be featured in the 45th annual "Birds in Art" exhibition, on view Sept. 12 to Nov. 29 at the Leigh Yawkey Woodson Art Museum, 700 N. 12th St., Wausau. "Birds in Art" presents original paintings, sculptures and graphics created within the last three years. In light of COVID-19, check the museum's website for the latest visitor information: lywam.com.



"Chickadee & Strawberries," oil, Rebecca Korth

BIRDWATCHING TAKES FLIGHT, PROMOTES DIVERSITY

Birds' brilliant colors, beautiful songs and feats of flight impress even the most casual outdoor enthusiasts and draw many outside to connect with nature.

Never were these attributes more valued than during the COVID-19 impacts of spring, when many people found themselves at home, unable to enjoy typical social activities and eager to find relief outdoors. Birdwatching was a solution.

Nationally, downloads of popular bird identification apps like those from the Cornell Lab of Ornithology and National Audubon Society reportedly doubled this spring compared to last year. According to one source, sales of bird feeders, nesting boxes and birdseed jumped 10% to 15%, even as demand for other nonessential goods plummeted.

The popular online bird reporting system, eBird, declared May 2020 the most active usage month in its 15-plus years, including a 37% increase in submitted sightings compared to the same time last year. In Wisconsin, the number of eBird checklists submitted in spring 2020 increased 27% over 2019, far outgaining annual jumps of 4%, 15% and 16% recorded over the three previous years.

Subscribers to the DNR's weekly birding report grew 18% since spring 2019, and 48% more teams joined the Great Wisconsin Birdathon. Through mid-summer, \$17,000 more had already been raised for priority birds than the previous year, with donations still being collected through Oct. 15. Check wibirdathon.dojiggy.com for details.

Finally, an informal poll of nearly 40,000 Wisconsin-based birding-oriented social media users seemed to validate anecdotal accounts of increased birdwatching activity in the state this spring.

Of more than 750 respondents, about 62% indicated they birdwatched more often in spring 2020 compared to previous years, while only about 7% said less often. A recurring theme among established birders was spending more time watching birds at or close to home than past years, with many citing the joy of discovering nearby public spaces they had not previously explored.

Another bit of birdwatching news also came this spring: the celebration of Black Birders Week. The virtual initiative developed in late May and early June via social media after a racist incident in New York's Central Park involving a Black man falsely reported to 911 while birdwatching.

Coming alongside nationwide demonstrations for racial justice, Black Birders Week featured hashtags such as #BlackInNature, #AskABlackBirder and #BlackWomenWhoBird to promote events on Twitter and encourage Black birdwatchers and others to join the conversation about their own experiences and diversity in the outdoors.

With birdwatching in the news and gaining popularity, a significant number of new birders found the time and motivation to take up the hobby — discovering the relief from stress, gateway to nature and genuine entertainment birding can provide.

— RYAN BRADY, DNR CONSERVATION BIOLOGIST



MELODY WALSH



ISA GAUMNITZ

From expansive wildlife areas to urban settings, birdwatching offers a way for all ages and experience levels to connect with nature.

LEARN MORE ABOUT SIMPLE WAYS TO HELP BIRDS

3 Billion Birds Gone is the simple, stark name of a website — a cooperative effort of bird conservation groups — designed to draw attention to the dire challenges facing many bird populations today.

The website offers details on the billions of birds lost since 1970, a video looking at "What's Behind the Declines?" in bird populations and ways everyone can help be part of the solution. The latter includes

"7 Simple Actions to Help Birds." In short:

- Make windows safer;
- Reduce plastic use;
- Keep cats indoors;
- Plant native plants;
- Do citizen science;
- Drink shade-grown coffee; and
- Avoid pesticides.



RYAN BRADY

For more on bird declines and ways to help, check 3billionbirds.org. For bird habitat and conservation information from the DNR, go to dnr.wi.gov and search "birding."



A FAVOR FOR THE 'FALCON OF SPARROWS'

*Nesting box project aids American kestrel,
smallest raptor in North America*

PATRICK READY

Imagine you are driving along an old, dusty farmland gravel road and notice a little bird perched on a telephone wire.

As you pass by, you notice the shape of the bird is not one of a blue jay or mourning dove, but of a predator bird with talons and a hawk-like head. As it takes flight, you notice the distinct barring color pattern on its tail feathers.

After your vehicle passes and you continue on your way, the raptor takes flight and hovers above the prairie, scouring the ground for prey, perhaps an unsuspecting mouse, grasshopper or a thirteen-lined ground squirrel.

The bird spots a European house sparrow that has ventured above the safety of its barn home. Instantly, the unsuspecting sparrow becomes a mid-air prize for the hungry falcon, which brings the meal back to a large, wooden nesting box and feeds its chicks.

This compact but effective bird of prey is the American kestrel, North America's smallest falcon. It also is the continent's most prevalent falcon.

If current trends continue, however, that could soon change.

HELP FOR DECLINING POPULATIONS

According to the North American Breeding Bird Survey, which provides reliable population data and trend analyses for more than 500 bird species, American kestrel populations in the U.S. have been steadily falling over the past 50 years.

The drop is estimated at an annual rate of 1.39% and means there are more than 51% fewer kestrels nationwide than there were 50 years ago, according to the survey. In the Wisconsin region, populations have declined by 41%.

Research indicates it's difficult to pinpoint an exact cause of the kestrel's decline. Many environmental factors may be at play, including increasing challenges in finding nesting habitat across the landscape. That's where conservation work may provide a boost.

In Wisconsin, efforts to help con-

serve these small-sized birds of prey have been underway for more than 50 years. Dedicated volunteers have spent many hours building nest boxes, gathering data and documenting kestrel activity to reverse the species decline.

To help support kestrel populations, community members, bird conservation organizations and citizen-science programs began constructing wooden nest boxes within the kestrel's breeding habitat. Kestrels are cavity nesters and take readily to human-made nest boxes, though good nest boxes are built with the ideal specifications to attract kestrels and facilitate their successful nesting.

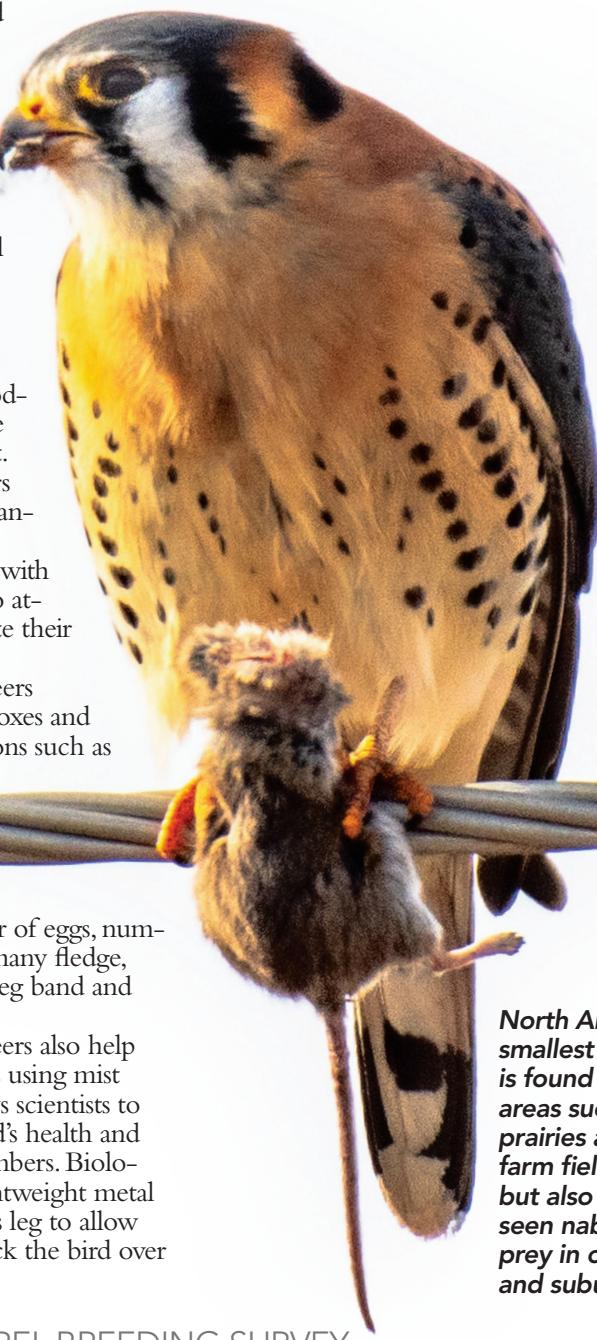
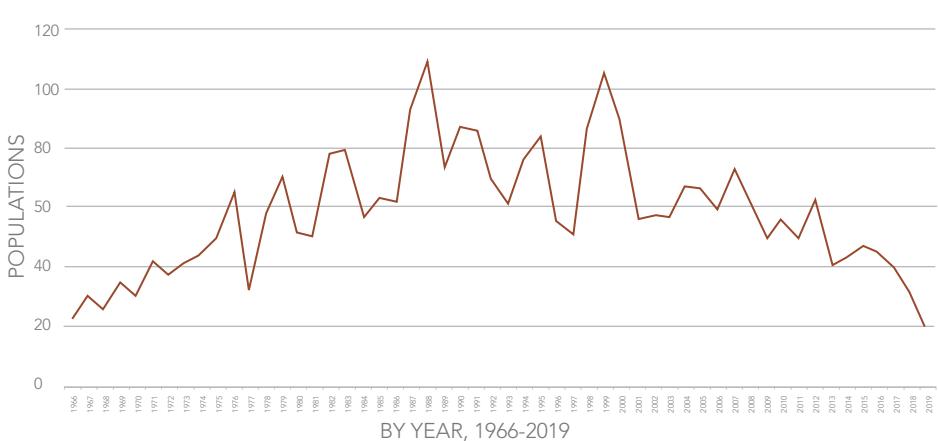
In some cases, volunteers help monitor the nest boxes and record several observations such as

nest occupation, number of eggs, number of chicks and how many fledge, adults equipped with a leg band and other vital statistics.

In a few cases, volunteers also help scientists capture kestrels using mist nets, a process that allows scientists to record an individual bird's health and estimate population numbers. Biologists also can wrap a lightweight metal band around the falcon's leg to allow wildlife biologists to track the bird over its lifetime.

North America's smallest falcon is found in open areas such as prairies and farm fields, but also can be seen nabbing prey in cities and suburbs.

AMERICAN KESTREL BREEDING SURVEY



TIMOTHY HANSEL



Cameras mounted on nest boxes provide an unobtrusive way to peek inside at any occupants, large and small. Average clutch size for the American kestrel is four to five eggs.

PATRICK READY

GOOSE POND PROVIDES REFUGE

In Wisconsin, near Arlington, one kestrel monitoring project has been ongoing for 35 years, started by Mark Martin and Sue Foote-Martin at Madison Audubon's Goose Pond Sanctuary. This ecological preserve provides refuge for many bird and wildlife species throughout the year.

In 1985, a local power company was removing electric lines along the roadway. The Martins realized there was a unique opportunity to aid the American kestrel, and Sue asked the utility if it could leave up some power line poles as a place to erect kestrel boxes.

When the project began, 10 nest boxes were installed and checked for activity at the end of each year. In 2009, the program got an infusion of attention from volunteer Brand Smith, who worked to increase the data collection frequency and nest boxes across south-central Wisconsin.

Smith monitored over 70 nest boxes himself at that time, logging more than 500 miles of travel between nest boxes each summer. He worked to recruit more volunteers to help, and with



MADISON AUDUBON

A total of 179 kestrel nest boxes are included in the Madison Audubon monitoring program this year.

support from Madison Audubon, the efforts grew into a full-fledged Kestrel Nest Box Monitoring Program with volunteer involvement and nest box counts.

In 2012, Smith trained volunteers to use an unobtrusive technique employing camera mounts to observe eggs and chicks while they were in the nest boxes. He continues to lead the program today.

As a bonus, this work can be done independently, making it a wonderful and useful pastime during a global pandemic.

BANDING BOOSTS MONITORING EFFORTS

In addition to installing and monitoring nest boxes, Madison Audubon also partners with Central Wisconsin Kestrel Research (CWKR), a program in Stevens Point, to band kestrel adults and chicks. The program has been supported and revitalized in the past by the Department of Natural Resources in partnership with the Aldo Leopold Audubon Society.

Janet and Amber Eschenbauch are coordinators for the CWKR program and hold a master banding permit. Each spring near Goose Pond, the two offer a hands-on experience with kestrels, teaching participants why and how the birds are banded.

This year's public banding activities were canceled due to COVID-19, but Madison Audubon members Bob and Sue Volenec attended a similar field trip to Goose Pond in 2017. They became enthralled with the opportunity to help with kestrel banding and soon began monitoring kestrel boxes near their home in Jefferson County.

"(Kestrel monitoring) has gotten us involved with Scout troops building and installing more boxes and science fair exhibitions where we have introduced school kids and adults to what kestrels are," the Volenecs note. "All of this, along with the experience of facilitating successful kestrel reproduction, is quite rewarding."

They now bring their grandchildren to kestrel monitoring activities and banding field trips and are happy to learn new things every time they volunteer at events to support kestrels.

Another volunteer, Terri Bleck, signed up for Madison Audubon's Kestrel Nest Box Monitoring Program in 2020.

"I witnessed the whole nesting process of an American kestrel, from mauve speckled eggs that hatched into white fluff balls, then developed dark feathers on their backs and wings, and finally morphed into a beautiful fledgling kestrel," Bleck said. "What a grand experience!"

This year, the monitoring program has a total of 179 kestrel nest boxes, including on state lands such as Poynette's MacKenzie Center, making it the second largest program in the country. More than 60 volunteers are signed up to help.

In 2019, the program had 171 kestrel nest boxes and monitoring showed that 55 were occupied. In the past four years, from 2016-19, a total of 338 chicks and 55 adults have been successfully banded by the program, and an estimated 662 kestrel chicks have fledged.

OTHER VOLUNTEER OPPORTUNITIES

Madison Audubon continues to seek volunteers for the Kestrel Nest Box Monitoring Program and offers many other citizen science activities available to the public. Opportunities include: Bald Eagle Nest Watch, monitoring eagle nest success and productivity; Bird Collision Corps, a bird-window strike monitoring program; and monarch tagging, an effort to track monarch butterflies when they migrate to Mexico in the fall.

Other programs, such as maintaining songbird nest boxes and recording butterfly and orchid counts, have been occurring at Madison Audubon sanctuaries for many years. Such programs create opportunities for community members to engage with birds and conservation in an up-close and memorable way while also addressing important research needs in local communities.

To learn more about volunteer opportunities, visit madisonaudubon.org/citizen-science.

The American kestrel may be slight and its future unclear, but scientists and citizens alike are learning more about these birds every day. As work continues to provide better kestrel habitat, the hope is it may improve the chances for a resurgence in population of these small but beautiful falcons.



Christopher Tall is a communications specialist with the DNR. Brenna Marsicek is Madison Audubon's director of communications and outreach.

ABOUT THE AMERICAN KESTREL

The scientific name of the American kestrel, *Falco sparverius*, means "falcon of the sparrows." They can be found in wide-open areas such as prairies, grasslands and farm fields but also are noted in cities and suburbs.

Kestrels nest in tree cavities and rely on unoccupied woodpecker holes, tree hollows and nooks in human-built structures to make a home. Suitable nesting cavities are scarce due to competition from other animals. Kestrels may evict bluebirds, northern flickers or even small squirrels to acquire a habitable nesting location.

A few relevant numbers regarding kestrel breeding:

- Number of broods — one (two in the South), when prey is abundant.
- Clutch size — four to five eggs.
- Nesting period — 28 to 31 days.
- Time to fledge after hatching — 30 to 31 days.

A kestrel's diet includes insects, grasshoppers, beetles, dragonflies, spiders, butterflies and moths. They also eat mice, shrews, voles, bats, small songbirds and occasionally small snakes, lizards and frogs. They capture their prey by pouncing on them, using talons on their feet to seize them. Kestrels may be seen hovering in mid-air before diving to catch their prey.

A kestrel's key identifying features include pale feathers with dark barring when seen from below and warm, rusty brown spotted with black when seen from above, with a black band near the tip of the tail. Males have slate-blue wings, while females' wings are reddish-brown. Both sexes have pairs of black vertical "mustache" marks on the sides of their faces.

To learn more about American kestrels and their habitat, check these websites.

- Madison Audubon's Kestrel Nest Box Monitoring Program: madisonaudubon.org/kestrels
- Madison Audubon's Goose Pond Sanctuary: madisonaudubon.org/goose-pond
- Wisconsin Kestrel Research Program: wisconsinkestrels.org
- Audubon Field Guide to Kestrels: audubon.org/field-guide/bird/american-kestrel
- All About Birds (Cornell Lab of Ornithology) American kestrel Information: allaboutbirds.org/guide/American_Kestrel
- American Kestrel Partnership, a project of The Peregrine Fund: kestrel.peregrinefund.org
- Wisconsin Breeding Bird Atlas II statistics at eBird.org (Cornell Lab of Ornithology): ebird.org/species/amekes



HERBERT LANGE

Kestrels are cavity nesters, readily taking to human-made nest boxes.

Snapshot moment in time fortifies an aging river rat

JON CHAPMAN

Having fished the Mississippi River in western Wisconsin for the past 63 years, I think of myself as a river rat of sorts. My time on the river has only increased over the last 16 years, post-retirement, when I've spent more than 100 days per year on the water.

Now, at age 72, I increasingly find myself pondering the future. How much longer will I be able to be on the river and enjoy my love for it?

As I contemplate that future, I often reflect on the past, recalling wonderful fishing days, up-close wildlife encounters and memorable outdoor experiences. There is one moment, though, that stands above the rest.

I didn't have the presence of mind to attempt to capture the image on camera, so the scene I most remember from the Mississippi is only in my mind's eye. But there, it is as vivid as a museum canvas — easily my all-time favorite river recollection.

EXTRAORDINARY SCENE

It was late one calm, cloudless, mid-November day. Low humidity helped to create an unusually blue sky.

It was my final day of Mississippi River fishing for the 2017 season. That last day always yields mixed feelings. Fishing hadn't been good that day; my spirits were down.

The sun had just set, and I was headed upstream toward my Alma launch site when several somewhat ordinary occurrences collaborated to create an extraordinary picture. I shut my boat down to focus on them.

While the sun was down from my vantage point on the water, it still shone brightly on the gorgeous tall river bluffs. The trees, now barren of leaves, reinforced the changing seasons.

A sizeable skein of snow geese flew high above the bluffs, the sun reflecting brightly off their white bodies and beating wings, framed against that remarkably blue sky. Their cacophonous yet lonely calls seemed to speak to their urgency in migrating toward winter sanctuary.

Elsewhere, perhaps 100 yards upstream from me, a mature bald eagle flew west to east across the channel barely 50 feet above the water. Eventually, it stopped to roost near the top of a dead tree where it sat in majestic glory, surveying its domain.

LEFT IN PEACE AND HARMONY

Also catching my attention was the colorful, picturesque town of Alma, nestled under the bluffs. A southbound Burlington Northern freight train ran along a narrow rail strip between Alma and the river.

Finally, a loaded tow boat pushing a full complement of 15 barges was rounding the last bend, heading toward Alma Lock and Dam No. 4. So much going on in that 90 or so seconds, all within my view!



Then, the train and the snow geese were gone. The sun no longer shone on the bluffs. Only the eagle and I were left to reflect on the barge creeping out of sight.

Everything became quiet and a great sense of calm and rightness settled over me. I sensed a presence of my dad, Charles — a.k.a. "Chappie" — who first brought me to this gorgeous place when I was 9. He taught me to fish, to love this area, and so much more. Chappie died on a fishing trip here in 1991.

Reflecting on all I had just



WARREN RIVETTE

witnessed, I was very much at peace, interacting in harmony with nature. I sensed a presence of Chappie and knew that he, too, would have found this brief moment and its unforgettable images extraordinary.

ABOUT THE ARTIST

Warren Rivette of Buffalo City painted this image of the Mississippi River scene recalled by his friend and writer, Jon Chapman, who took Rivette in a boat out on the river near Alma to show him the exact spot of the memory. Rivette created the scene initially in watercolors and, after Chapman's review, using acrylic paints on masonite for the final version — an 18-by-24-inch piece Chapman hung in a special walnut and mahogany frame. Rivette is retired from the Milwaukee Police Department, where he worked for his last 11 years as a sketch artist. A hunter and angler who often enjoys these pursuits on the Mississippi, he also has worked as a taxidermist since the 1970s.

As I ponder the future and recall the past, the message seems clear. In memory and honor of Chappie, and in light of many wonderful Mississippi experiences, I'll gratefully wear my river rat hat as long as I am able. **W**

Jon Chapman is an Army veteran and retired MBA/CPA who had a 32-year career with John Deere, including a mid-1970s assignment in Horicon. Retired to Tallahassee, Florida, he spends about four months each year in Buffalo City.

TASTE OF WISCONSIN

Honey occupies distinct place in history

KYLE CHEREK

Outdoors folks have known for a long time that our ecology is far more connected than many realize. For those who acquit themselves of the built world and spend time in the natural one, the interconnectedness of habitat starts to shine through.

I've always thought the best introduction to knowing the deeper layers of nature was through buzzing things and flora — pollinators and, specifically, bees. Their industry is an intimacy with the land and the things that grow from it.

Looking at it through a food history lens, pollinators have been the engines of everything. They have long pollinated the things that animal and insect kingdoms consumed and in doing so, distributed the Earth with its bounty — from apples to olives to almonds, many grains and grasses as well as literally tens of millions of other flowering plants that fruit.

If you are sipping your coffee while you read this, thank a pollinator. If your 401(k) is ticking upward because of investments in biofuels, fibers like cotton, medicines, forage for livestock, construction materials or the annual \$577 billion of the global food system business, remember it is pollinators that make it possible.

All told, 75% of the world's food crops rely, at least in part, on pollination.

The realm of pollinators is vast and varied. There are, for instance, just over



SHUTTERSTOCK

20,000 species of wild bees. There are also species of butterflies, moths, wasps, beetles, birds, bats and other vertebrates that contribute to pollination.

When people in Wisconsin think of a bee, they may first envision honey bees diligently doing their work pollinating our crops and, by virtue of that, aiding our economy and our gardens alike.

Because agriculture is so vital to the state, honey bees fall under the attention and management of Wisconsin's Department of Agriculture, Trade and Consumer Protection. As one orchard keeper told me years ago, "My orchard bees are an agricultural animal, the way that cows and pigs and chickens are."

Wisconsin has one of the nation's oldest Honey Producers Associations, dating from the mid-1800s. One of their first actions was to submit a bill to the Legislature for an apiary inspection program, the first of its sort in the nation.

As a state, Wisconsin is 16th in retail honey production, with about 51,000 working hives putting forth honey worth \$6.3 million annually.

HONEY BEE HIGHLIGHTS

Originally from the tropical region of Eastern Africa, the honey bee spread across Asia and Europe before coming to the Americas. It made its way to North America first, by way of early settlers from Europe and the transportation of enslaved peoples from Africa. Honey, as we think of it, was not in existence in North America before the 1600s.

Looking back further, honey was so treasured by ancient Egyptians, it was found in King Tut's tomb. Because of its composition and pH, it was still edible 3,000 years later. For these ancient peoples and a multitude of others, honey was a flavoring, a foodstuff and a medicinal remedy.

Thousands of years before King Tut's time, the world's oldest known references to collecting honey can be seen on 8,000-year-old cave paintings found in Valencia, Spain. I think it is fair to say what early peoples chose to paint on cave walls was immensely important to them; to that end, honey fit the bill.

The work honey bees do is truly amazing and borders on alchemy. The nectar collected by bees to make honey is often up to 80% water. Through the process of making honey, the bees remove that moisture, with the end result being something that is a reduction of the nectar as well as crucial elements added by the bees.

The closest comparison would be the way an earthworm turns dirt into soil. As a bee stores nectar inside itself for the ride back to the hive, it turns it into honey. Astonishingly, the main way the water is removed from the nectar is by the bees flapping their wings as they access it.

Imagine the rich, complex veal demi-glace reduction a chef might make as a



WADE DEMICHEN

The honey bee is a key contributor among pollinators, especially in agriculture.

delicious sauce from the bits left in the pan after sauteing a couple of steaks. Just pour some water into the hot pan and keep reducing the liquid until it is nearly gone and has the consistency of a sauce. Voila! Great concentrated flavor.

The bee method would forgo reducing to a sauce via the heat of the pan, but instead evaporating the liquid by waving your arms — all while sucking up the nectar and hovering in midair. Bees are amazing.

SUPPORT FOR POLLINATORS

Separate from honey bees, the Department of Natural Resources keeps focused on native pollinator species, many of which are bees. Whether you are a devil-may-care capitalist or an ardent environmentalist, new data regarding the fate of pollinators is deeply worrying.

In 2016, a groundbreaking study by the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services stated, “A growing number of pollinator species worldwide are being driven toward extinction by diverse pressures, many of them human-made, threatening millions of livelihoods and hundreds of billions of dollars worth of food supplies.”

Still, I take heart regarding the future of pollinators in Wisconsin. We are, after all, the state that gave the world Gaylord Nelson, creator of Earth Day, who understood the ties between ecology and economy. “These biological systems are the sustaining wealth of the world,” he once said.

This summer, as I enjoyed my evening walks, I also was heartened by nature’s nightly slow-moving fireworks — fireflies — which are pollinators themselves. Fireflies are a part of my summer that goes back as far as I have memories.

I hope that they and the thousands of other pollinators will add to the memories for generations to come. 

Kyle Cherek is a culinary historian, food essayist and former host of the Emmy Award-winning TV show “Wisconsin Foodie” on PBS. He and his wife own Amuse Bouche Entertainment Productions and together create unique culinary events including presentations, cooking demonstrations and storytelling dinners.



JESSICA KAMINSKI

Polenta Orange Honey Cake

September is National Honey Month, celebrated since 1989 by the USDA's National Honey Board.

For my recipe in this issue, I thought I would reach back generationally. My mother-in-law is perhaps the best and most astute non-professional baker I have ever known. Though she is loath to give away a recipe, this one is near enough to what I can suss out from her — with credit to the Inquiring Chef website, inquiringchef.com.

INGREDIENTS

For the cake:

1 cup butter, softened
1 1/4 cup natural cane sugar
3 cups almond flour
3 large eggs, lightly beaten
Finely grated zest and juice of a large orange
Scant 1 cup polenta
1 level teaspoon baking powder
1/2 teaspoon ground cardamom (optional)



JESS SMITH/INQUIRING CHEF

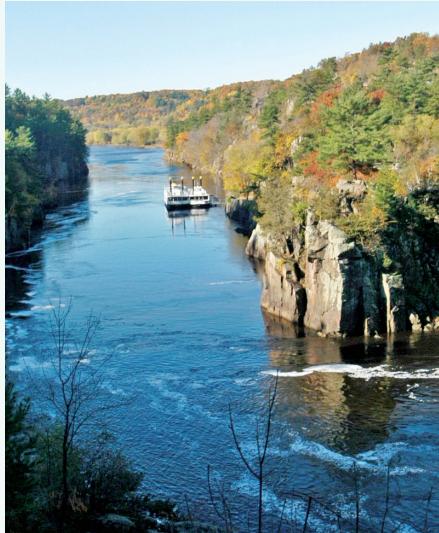
For the syrup:

Juice of 2 lemons
Juice of 2 oranges
4 tablespoons honey

INSTRUCTIONS

- Grease an 8-inch cake tin with a one-third flour and two-thirds softened butter mixture and line the bottom with parchment paper. Preheat the oven to 350 degrees.
- Beat the butter and sugar on high until light and fluffy. Add the almond flour to the mixer and beat on low just until combined. Remove the mixer bowl from the stand and, using a wooden spoon, gently stir the eggs and zest and juice of an orange into the batter. In a separate small bowl, whisk together the polenta, baking powder and ground cardamom. Fold these dry ingredients into the batter, just until combined.
- Pour the batter into the lined tin and smooth the top. Bake for 30 minutes, and then reduce the oven's heat to 320 degrees and bake for another 25-30 minutes or until the cake is firm and deep golden brown on top.
- To make the syrup, squeeze the lemon and orange juice into a stainless steel saucepan, bring to a boil and add the honey, stirring to combine. Keep the liquid boiling until it has formed a thin syrup (four to five minutes).
- Spike holes into the top of the cake (while still warm and in the pan) with a skewer then spoon the hot citrus syrup evenly over the top. Leave in the pan until nearly cool, then lift out of the tin.
- Serve the cake (which is gluten-free) in thick slices with thinly sliced fresh oranges (and iced black coffee if you are my mother-in-law).

READERS WRITE



DNR FILES

ADD ANOTHER 10 YEARS

A little blurb under "Dateline DNR" on Page 5 of the Summer issue acknowledges Interstate as the Wisconsin Park System's oldest at 110, but then goes on to say it was established in 1900, which was 120 years ago. If 1900 is correct, then it is the oldest. But I have a T-shirt from Peninsula's centennial, 1909-2009, which makes it 111 years old.

Kathy Kieper
Mercer

Indeed, our math was off. Interstate was established in 1900, making it 120 years old and Wisconsin's oldest state park. Land to create Peninsula was purchased in 1909. Good catch, Kathy. Sorry for the confusion — and the poor arithmetic!

MOTHER HEN AND HER POULT

Friends of ours who subscribe to your magazine encouraged me to subscribe as well and submit some photos I took for your consideration. I have attached images of a wild turkey hen who was in our field along with one of her poult. Thank you!

Kim Robel
Cameron



ROWDY DINNER COMPANIONS

I captured these photos of American white pelicans enjoying the spring walleye run on the Fox River in De Pere. Their fishing methods are fascinating. However, they're not exactly into helping each other or sharing. They take cheap shots to steal from one another. I thought your readers might enjoy seeing them. Pass the tartar sauce.

Adam Jackson
De Pere

WITNESS TO A WATERSNAKE LUNCH

I was recently back home in Wisconsin visiting family and went fishing at Port Andrew on the Wisconsin River near Blue River. I was able to snap a picture of this snake and his lunch. We are subscribers to *Wisconsin Natural Resources* magazine and thought this would be a great picture for your publication.

Tim Degenhardt
San Diego



DNR conservation biologist Rori Paloski replies: "Thank you for submitting the photo! The snake is a non-venomous common watersnake (formerly called the northern watersnake). As their name implies, they can be found near a variety of water sources including rivers, streams, lakes, ponds and even Great Lakes shorelines. Although fish and amphibians make up the majority of their diet, you definitely have to be in the right place at the right time to witness a watersnake actually catching and eating a fish!"



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

EARTH DAY CONNECTIONS

I grew up in Madison and learned the

term eutro-

phication in

junior high. As

a high school

freshman, I

remember the

first Earth Day

celebration.

1970 was a heady year as in

May, anti-war protesters came

to high school protesting the

American invasion of Cam-

bodia, and in August, UW's

Sterling Hall was blown up by

anti-war protesters.

A friend of the family and

a mentor of mine was Bud

Jordahl. He was considered

the primary man behind the

scenes for Sen. Nelson, who

created Earth Day. Many

noted conservationists have

connections to Wisconsin

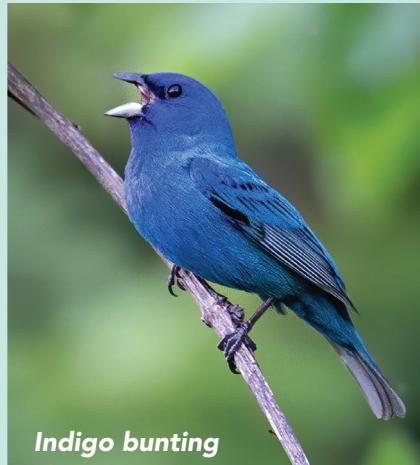
such as John Muir, Aldo Leo-

pold, Ding Darling and War-

ren Knowles. I was blessed to

have such an upbringing.

Dean Farr
Crystal Lake, Illinois



Indigo bunting



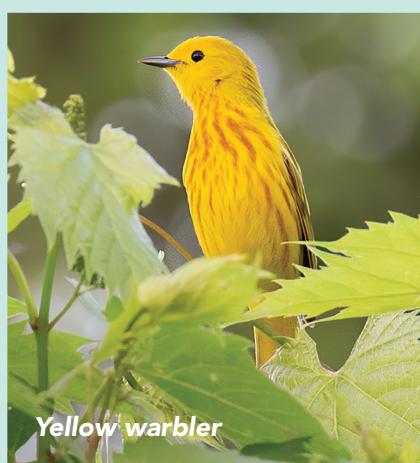
White-tailed deer



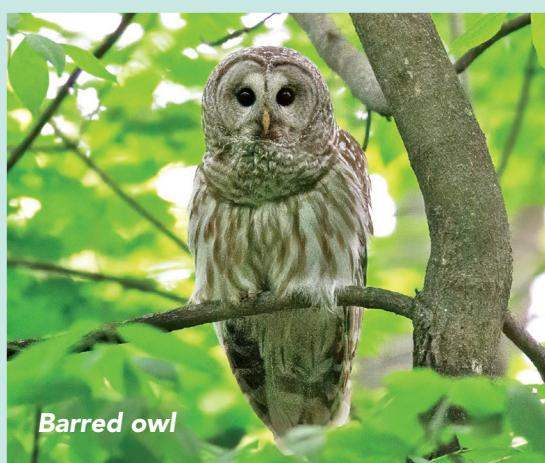
Red squirrel



Red fox kit



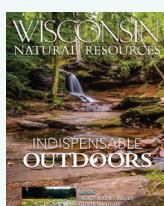
Yellow warbler



Barred owl

OWL UPDATE

So very thrilled to see that my story, along with photos, was published in the Summer issue of Wisconsin Natural Resources magazine ("Your Outdoors") — thank you so much! I am sharing one with my daughter and sending one to my parents, who live in an independent living facility, quarantined. I'm sure they will enjoy the entire issue.



The owls are still here but nested somewhere outside my property this spring. They have two young ones and are on the night shift already. I hear them call for food, many times at dusk and into the night. ... Kind regards.

Lisa Vandervest
Mequon

PHOTOGRAPHY OUTINGS ARE 'PRETTY AWESOME' FOR MOM, TEEN SON

My son and I have been out honing our photography skills since "safer at home" took place in our state. My son, Keegan Knudsen, is 17 years old and has had a tough time not being in school or hanging out with his friends. With our love of nature, we took this time to explore the trails and state parks in our area.

Keegan is a natural at photography and locating wildlife. He has photographed a raccoon, indigo bunting, yellow warbler, red squirrel and barred owls, while I took photos of a deer with newborns and barred owls, including an owlet.

We have had a lot of fun searching and photographing nature together. This has been pretty awesome hanging out with him during this time and a wonderful bond we will continue to share.

Heather Landers
Kaukauna



EAGLE LANDS AT HALF MOON LAKE

I've been trying to keep an eye on the birds of prey around Half Moon Lake (Polk County) after a tornado last year. I wasn't sure if their nests had been damaged and if they'd come back to roost again. Sure enough, they're back — including this juvenile. I was able to catch it perching on a branch and making a less-than-graceful departure.

Leo Balestri
Milltown



AMERICAN BITTERN IN THE WILD

I wanted to share a photo I took of an American bittern. This is the first time I have seen one in the wild. I took the photo on May 24 near the Sandhill Wildlife Area in Wood County. We were on our way to the refuge area to view the swans that hang out there. Earlier that day, we saw a pair of swans within the wildlife area that had six cygnets with them — I was surprised to see that many cygnets with one pair.

Daniel Morzewski
Wisconsin Rapids



FROG FITS FOR SURE

I snapped this photo of a gray treefrog warming itself up on the roadway at Irvine Park in Chippewa Falls. I moved him to a nearby rock out of traffic. Not sure if it would fit in with your Readers Write section or not.

Sean Kitchell
Stanley

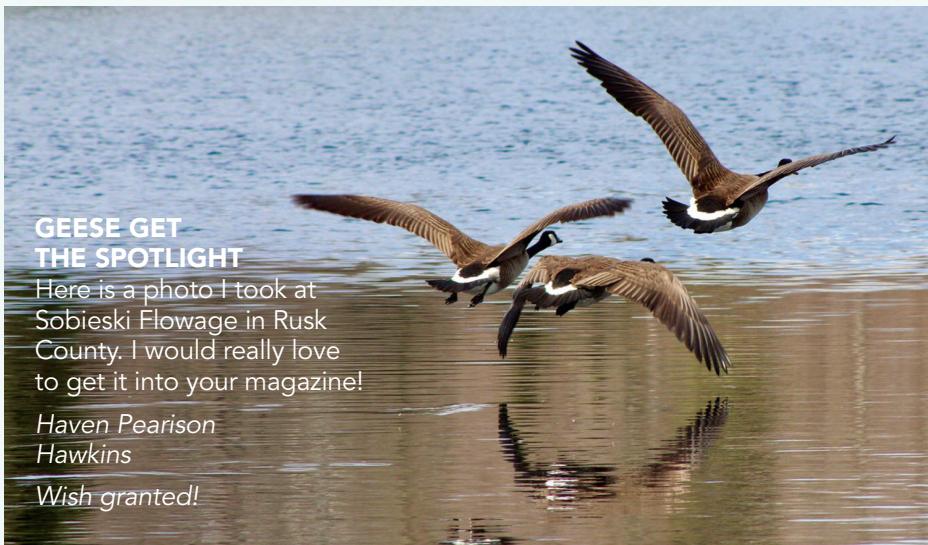
In fact, it fits in perfectly — thanks for sharing!



WATCHING WAXWINGS

My husband, Jim, captured photos of cedar waxwings at Regner Park in West Bend and Ziegler Park in Mayville. Here's a favorite. We enjoy walking and bird watching at the local parks. We also enjoy sharing our joy!

Bonnie Halper
Kewaskum



GEESE GET THE SPOTLIGHT

Here is a photo I took at Sobieski Flowage in Rusk County. I would really love to get it into your magazine!

Haven Pearson
Hawkins

Wish granted!

BONDING OVER RECYCLING, RESOURCES

My father-in-law, Tim, is a longtime subscriber to WNR and recently got me a year-long subscription to the magazine. Since I first met my husband and began bonding with his family, my father-and-law and I have bonded over our mutual appreciation of Mother Nature.

One of his first gifts to me was a backyard composter. On Saturday mornings when he would take all of the recycling to the center in town, I would ask endless questions about what could and couldn't be recycled, and Tim would describe the intricacies of the process to me. When he came back, we would birdwatch from the kitchen window and he would tally any new species in his bird book.

I wanted to share that as a Wisconsin transplant and longtime lover of the outdoors myself, I really have enjoyed your publications. Thanks for connecting readers to our state's amazing natural resources and each other!

Emily Schuler
Milwaukee

The timing of Emily's letter couldn't have been better, coming just as magazine editors were planning content for this issue celebrating anniversaries of Wisconsin's recycling and e-cycling laws. Check out the coverage starting on Page 18.



Grouse encounters:

'You won't believe this!'

STORY AND PHOTOS
BY TOM PRIJIC

In my 55 years of hunting deer, each year brings some new experience, and 2018 was no exception.

I was bowhunting in central Wisconsin on Nov. 11 and got out to my deer stand early as usual. At first light, I saw a ruffed grouse walking through the woods and told myself if I get a good shot at it, I might take it.

The grouse soon flew up in the evergreen tree next to me, landing on a branch 8 feet below me. It watched me for the next 15 minutes, which I thought was unusual.

Over the next hour, it gradually made its way higher until it finally flew onto the branch my bow was hanging on, landing 18 inches away. I could have reached out and touched it.

After that, it flew onto my deer stand and perched between my boots, then onto my seat and snuggled up next to me. Finally, because there wasn't much room on the seat, it flew onto my lap, landing on my right leg.

By this time, it no longer seemed alarmed or concerned about me as



it snuggled on my lap, fluffed up its feathers and helped me watch for deer. Over the next 90 minutes, it would hop from my right to my left leg back and forth every 15 minutes or so, even landing a few times on my bow, which was resting on my lap.

When I decided to quit hunting around 10 that morning, I called my wife, Carol, who was hunting 150 yards from me.

"You won't believe this, but there has been a ruffed grouse on my lap for the last hour," I told her. "You have to come over here and see this!" My talking didn't bother the grouse in the least.

When the grouse saw Carol coming, it unfluffed its feathers, stretched its head and neck and watched her as she got closer and closer. Finally, when she was about 10 yards from the bottom of my stand, the grouse flew off into the woods.

I was happy she got to see the grouse but a little disappointed that I didn't get a picture. I didn't think anyone would ever believe my story.

Four days later, while hunting the same woods, I heard a crunching in the snow as I was setting up my deer decoy. It was dark, but I finally saw my grouse friend walking toward me about 4 feet away.

I walked to my stand with the grouse following me through the snow, climbed the ladder and looked down — there was the grouse sitting at the base of my stand looking up at me. It flew onto the first rung, then the second and onward until it reached the top, where it rested between my boots. It eventually reached my lap and sat for the next hour, watching the woods with me.

This time I had a video camera with me and was able to get about 20 to 30 minutes of once-in-a-lifetime video as the grouse flew onto my shoulder, walked up my arm and went from shoulder to lap for the rest of the morning.

I don't know why this particular grouse hung around with me those two mornings, and I never did get a deer, but it was a hunting experience I will never forget. After that, I know I could never kill another ruffed grouse, either, no matter how good they taste!



Tom Prijic and his wife, Carol, avidly hunt the woods around their home in Amherst Junction. Tom invites readers to watch his YouTube videos of the grouse encounter (where these screenshots were taken) at youtube.com/channel/UC66VDBK_o2PN4xei5s8vV2Q.

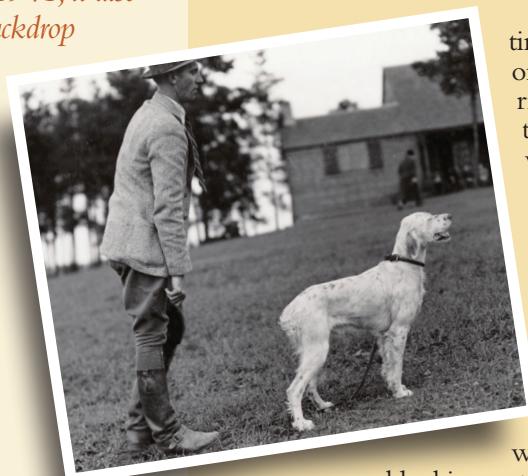
BACK IN THE DAY

Set sights on another type of point and shoot this fall

KATHRYN A. KAHLER

As summer wanes and afternoon shadows lengthen, Wisconsin hunters begin their plans for waterfowl, small game and deer seasons. No doubt fall is prime time for hunting, but as Dorothy Ferguson wrote in 1941, it also provides a fitting backdrop for a variety of photographic subjects.

Ferguson, who after marriage went by Dorothy Cassoday, was one of the first photographers for the Wisconsin Conservation Department, and her interests included hunting, especially with dogs. Antiquated equipment and gender sensitivity aside, her call to replace — or supplement — gun with camera for a day or two this fall could make for lasting memories.



AUTUMN PHOTOGRAPHY

BY DOROTHY CASSODAY

[Excerpt from vol. 6, 1941, Wisconsin Conservation Bulletin]

The first cool, crisp autumn days are upon us and there is a familiar light in the eyes of the sportsman as he dusts off his favorite shooting iron, wonders where he put his ear muffs, and buys his first supply of shells for the fall campaign.

The local ducks are flocking together and word passes around that the flight may be early this year. To us who do our hunting with a camera, the fall season is one of the most interesting, for the brilliant foliage of the countryside offers the most beautiful of all camera subjects, and the faraway honk of Canada geese presents a persistent challenge to the cameraman.

On well established duck marshes and lakes, the camera blinds must be put up early so the ducks will be familiar with them before the flight comes. Then the fun starts. Up before the sun, to take the ducks as they rise from the marsh to fly to surrounding lakes or feeding grounds, and the phrase "The sky was black with them" comes to mind as they rise in clouds.

In a short time, a group of 50 or 100 rises, circles the marsh and wings off into the distance, followed by another and another group in increasing numbers, until it seems like waves of wings blocking out the sky.

Judgment demands a steady tripod and a still camera with the birds providing plenty of movement. The most difficult part of it is to follow a small flight across the sky without jerking the camera and making the ducks look like the bouncing ball in a movie musical subject.

The time goes so rapidly with the

excitement that soon the sun is high, and there are only a few stray birds which have not joined the flock. You then try to unfold your congealed limbs to get out of the blind and find your legs do not belong to the rest of your anatomy — they have become limbs of stone.

When you have decrystallized in a warm room, the memory comes back to you in all its glory, and you can hardly wait until the next morning at four when you will be crawling across the frost-crusted ground to the blind for another sight of the ducks.

To the field with a good hunting dog is the best possible subject for a camera. While the sportsman tests his new dog on game or dusts off the rust from an old pointer or setter that has become fat and lazy through the winter, there is a variety of subjects which make very appealing pictures.

The perfect point and retrieve of a good dog is one of the finest camera subjects to be recorded, because it brings out perfect companionship between a man and his dog. Every dog has his special qualities, and every hunter has his favorite species, and can argue far into the night on the merits of his strain over the demerits of any other.

Whether your dog is good, bad or indifferent, you will enjoy having some movies of him in action. Leave your gun at home a couple of days this season and try camera shooting of your dog pointing a bird, quartering the ground, retrieving a bird or duck.

You will have the movies for years after, and the pleasure of your favorite hunting trip many times over, during the long Wisconsin winter months — which is more than you can say for that roast pheasant or duck, even though it is pleasure for a short time.

There is an abundance of photographic material in the fall season, so dust off your box cameras, fancy lenses and gadgets, movie cameras, and get yourself some color film. The results will be most satisfying, and you will have the pleasure of some perfect days in the open field.

ABOVE: Hunting dogs were a favorite subject of Dorothy Ferguson, including her own award-winning setter, shown in September 1937. **OPPOSITE PAGE:** As seasonal activities moved from summer fishing to fall hunting, Ferguson's photos reflected the change. A young musky angler proudly displays his catch near Woodruff in August 1940, top, and Mrs. Robert Doyle, one of the state's only women licensed as an outdoor guide at the time, hunts for ruffed grouse in Sawyer County in October 1943, bottom.



Dorothy Ferguson was primarily a photographer for the Wisconsin Conservation Department in the late 1930s and early '40s.

She is shown here early in her career, circa 1935, at the State Game Farm in Poynette.



EUGENE SANBORN



ABOUT DOROTHY FERGUSON

With historic DNR photos used regularly in this feature, there has been interest in knowing more about one of the photographers whose work is so often highlighted here: Dorothy Ferguson.

With this issue including Ferguson's photos and her words as well, it seemed a good time to find out more about the young woman who surely was a trailblazer in her field "Back in the day."

From the dates given for her work, we know Ferguson's tenure at the Wisconsin Conservation Department was approximately 1935 to 1943, in her mid-20s and early 30s. In addition to photography, the Minnesota native was a sometimes writer and a video editor for the department's earliest offerings in that medium.

Ferguson had a name change during her time at the department to Dorothy Cassoday, reflected on her photo credits. That came in August 1939, when she married Eldon J. Cassoday, a lawyer in Madison and grandson of one-time Wisconsin Supreme Court Chief Justice John B. Cassoday.

Research shows the two eventually went their separate ways, perhaps about the time the nation entered World War II and Eldon went to work for the U.S. Treasury and later the Foreign Service. At some point in the 1940s, Dorothy got remarried to George Schuknecht.

Further research shows she had two children with George and lived in California. She died in 1985, at age 75, and is buried in Santa Barbara County. Both her husband and children, it appears from obituary records, are also now deceased.

While it can't be certain whether Dorothy continued her focus on photography and apparent love of the outdoors during her lifetime, given the eye for images we see in her work and her place in history with the department, we certainly hope she did.



ARCHIVES NOTE

All volumes of the Wisconsin Conservation Bulletin are now accessible online at the Hathi Trust Digital Library, a nonprofit collaborative of academic and research libraries (including UW-Madison). Go to hathitrust.org and search for "Wisconsin Conservation Bulletin," choosing the "Catalog Record" option to see all available volumes, 1936-1975.

Magazine editors Andrea Zani and Kathryn A. Kahler and DNR public information officer Jonna Mayberry contributed to this research.

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KIRK SCHIEFFE

OUTSIDE IN WISCONSIN

CREX MEADOWS WILDLIFE AREA



The importance of having access to public lands for hunting was a theme we heard from several contributors to our "women who hunt" coverage. State-managed wildlife areas are an excellent resource — for hunting and any number of outdoor activities — and Crex Meadows Wildlife Area is one of the most outstanding. In Burnett County near Grantsburg, Crex features 30,000 acres of forests, wetlands and brush prairies, with all but a 2,400-acre refuge open for hunting. Scenic sunrise marsh vistas will greet waterfowl hunters at the wildlife area, established in 1946 when the state purchased 12,000 acres of land once used by the Crex Carpet Co. for production of grass rugs. Other hunting opportunities include deer, small game and bear. Bird conservation, featured in this issue, also is closely tied to Crex, a designated Important Bird Area and one of few sites in Wisconsin with management for northern sedge meadows and marshes, pine-oak barrens and emergent marsh habitats. Also boasting two State Natural Areas, Crex Meadows is a wonderland for wildlife viewing and spectacular scenery year-round.



— ANDREA ZANI