Wisconsin Natural Resources

THE WISCONSIN DNR'S GUIDE TO THE OUTDOORS | WNRMAG.COM

A SPRING STATE OF MIND

- STAY SAFE WHEN LIGHTNING STRIKES
- PLAN A PICNIC IN THE PARK
- MAPLE SYRUP MAGIC

SPRING 2023 | 3.50

OPENING SHOT

ARLENE KOZIOL

American robin* (Turdus migratorius), *Wisconsin's state bird

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COVER PHOTO: STORM CLOUDS IN OZAUKEE COUNTY BY JEFFREY PHELPS

FROM THE SECRETARY
ADAM N. PAYNE


MIKE GORSKI

As a hunter, angler, conservationist and public servant, I am excited and honored to serve as secretary of the Wisconsin Department of Natural Resources.

Wisconsin's people and natural resources are what make this state great. More than 5.8 million people call Wisconsin home and even more come to the state to enjoy all it offers. Though the DNR has many responsibilities, none are more important than helping to ensure that we safeguard and provide access to safe water to drink, clean air to breathe, and exceptional spaces to explore outdoors.

Since beginning his first term, Gov. Evers has made clean drinking water a top priority. His proposed 2023-2025 Biennial Budget includes investments to ensure Wisconsin remains a leader in protecting not only water but all its natural resources for generations to come.

In a state with 84,000 miles of rivers and streams, 15,000 lakes, 800 miles of Great Lakes shoreline and 190 miles of Mississippi River shoreline, access to safe water is almost always top of mind. From growing up on the Wisconsin River in Stevens Point to raising my family near the Sheboygan River and Lake Michigan, I know firsthand that our waterways are the lifeblood of communities and our great state.

The DNR's talented and hardworking staff are dedicated to protecting our natural resources. However, as you know, we can't do it alone. Protecting our natural resources for everyone requires us all to be part of the solution.

I look forward to working with the DNR's strong and diverse team, the Natural Resources Board, Wisconsin Conservation Congress and our many partners and stakeholders to leave things better than we found them for the future.

In my first weeks at the DNR, I have yet to meet a person who doesn't want people to be able to turn on the faucet and access clean drinking water. We cannot take this for granted. We will work together to ensure this is possible through open communications, creative problem solving and prudent investments to change lives now and reduce the likelihood of more expensive hardships down the road.

Within this issue of *Wisconsin Natural Resources* magazine, we discuss the importance of healthy soil and how conservation and best practices are essential to our agriculture community. I spent my teenage summers working on my grandma's century farm in Sheboygan Falls. In addition to learning about resilience and hard work, I developed a strong appreciation for how farmers are essential to natural resource protection and enhancement.

I appreciate our agriculture community in Wisconsin and hope to further grow and strengthen these critical conversations about land use and best practices.

This issue also includes an article about making maple syrup. This traditional practice reminds us that some of the sweetest things in life take time and trust before they turn into magic. I encourage you to try the delicious recipe that is included.

We also learn about the rich history of trapping in Wisconsin, dating back to the 1600s. When I was a boy, my brother Mark and I trapped muskrats, mink and raccoons, checking our trap lines before and after school. I look forward to picking it up again with my grandchildren someday and continuing the tradition.

Within these pages, we also highlight the hard work of our conservation wardens in a multiyear invasive species investigation. Their thorough work has led to enforcement and education on the negative environmental consequences of introducing invasive species to our waterways.

I hope you enjoy this issue of *Wisconsin Natural Resources* magazine. I am humbled and honored to lead and be a part of the next chapter of our DNR. On, Wisconsin!

NEWS YOU CAN USE


Northern long-eared bat

KEITH SHANNON/USFWS

BAT SPECIES UPDATE

Facing extinction due to the devastating impacts of white-nose syndrome, the northern long-eared bat has been reclassified as federally endangered by the U.S. Fish and Wildlife Service.

"This listing is an alarm bell and a call to action," said USFWS Director Martha Williams, who noted the importance of working with partners to reduce impacts of white-nose syndrome and protect surviving northern long-eared populations.

The northern long-eared bat (*Myotis septentrionalis*) is listed as threatened in Wisconsin and is one of eight bat species in the state. Conservation work is ongoing for all Wisconsin bats species, especially through the Wisconsin Bat Program, part of the DNR's Bureau of Natural Heritage Conservation. The program relies heavily on citizen scientists to help collect monitoring data and offers resources such as how to build bat houses. Learn more at wiatri.net/inventory/bats.

BOOMING BUSINESS

Celebrate one of the state's most unique grassland birds at the annual Greater Prairie Chicken Festival, April 16 in Stevens Point. The gathering at Eron's Event Barn (3471 County Road C) includes presentations, exhibits and an opportunity to observe spring mating behavior, known as booming — a showy display of stomping feet, flapping wings, strange sounds and puffed-out appearances.

The annual festival honors the late naturalists Frederick and Francis Hamerstrom, known for their work with greater prairie chickens (*Tympanuchus cupido*). For details and to reserve a spot in the morning observation blind ($25, including breakfast), go to cleangreenaction.org, check facebook.com/WIPrairieChickenFest or email wisconsinprairiechickenfest@gmail.com.

OUTWIGO GREEN THIS MAY

Get ready for outdoor fun in the Kettle Moraine State Forest-Southern Unit this spring with OutWiGo Green, a Wisconsin State Park initiative focused on breaking down barriers to outdoor recreation and providing hands-on outdoor activities.

The event — May 13 in Dousman — will include activities such as guided hikes, paddling, fishing, rock climbing, wilderness safety, campfire cooking, backpacking, mountain biking and more. Food trucks, a kids' zone, music and vendors will be located at the Ottawa Lake Recreation Area, off Highway ZZ.

This special event is open to participants of all ages, abilities and experience levels. A state park vehicle admission sticker is required for entry, and some activities may include a fee. For more on OutWiGo, check dnr.wi.gov/topic/parks/outwigo.

TAKE A FIELD TRIP TO THE GREAT OUTDOORS

Another season of fantastic field trips will be underway soon from the Natural Resources Foundation of Wisconsin, with more than 260 options to explore the state's beautiful outdoors. Expert guides, including many from the DNR, lead the way and educate participants about critical conservation issues.

The full schedule of 2023 field trips will be available in late March. Foundation membership is required to sign up, with options to join starting at $25. Additional fees apply for field trips, with opportunities suiting all age levels and a wide variety of outdoor interests.

The nonprofit Natural Resources Foundation of Wisconsin supports the state's lands, waters and wildlife with programming and fundraising efforts. To learn more about the foundation and how to get involved or participate in field trips, check wisconservation.org.


VANESSA STEVENSON

Learn about conservation of the state's mussel species and other activities on a Natural Resources Foundation of Wisconsin field trip.


RACHEL HERSHBERGER/TRAVEL WISCONSIN

LETTERS TO THE EDITOR

A SCAVENGER HUNTS

I wanted to submit photos I took of a coyote in Wauwatosa this afternoon, Dec. 4. This past week, I saw a red fox and this coyote both during the day in the same urban area. Both were nonaggressive and appeared to be scavenging for small mammal prey. I would love to know the wildlife biologists' point of view.

William Bloom
Wauwatosa

The day before this sighting, another reader in Greenfield sent photos of an animal she wasn't sure was a wolf or coyote (it was a coyote). Joyce Tomasetti said she spotted the animal in her front yard, and "it was rather large." We reached out to DNR wildlife biologist Shawn Rossler, a large furbearer expert, for his take on urban coyote sightings:

"Coyotes can be active during both the day and night. I can't say for sure what these animals are doing based on the photos — likely moving between green spaces and looking for prey (small mammals) as they navigate through the neighborhood. Coyotes do very well in urban neighborhoods as these areas hold lots of small mammals, which are a large part of a coyote's diet."

BRIDGE TO THE OUTDOORS

I very much enjoy reading *Wisconsin Natural Resources* magazine and love all the beautiful photos you include in each issue. For your consideration, here is a photo of Natural Bridge State Park just outside Leland, in Sauk County. I took this photo while hiking in the park on a beautiful late September afternoon.

Joe Laubmeier
Madison

COMPOSTING SUCCESS

After learning in your Summer 2022 issue about composting services, we gave it a try. We contacted Brew City Compost and started service at our condominium in late August. It's worked out perfectly. Our trash is down by 20-plus pounds a month, and we feel great to be helping our part of the world. Thank you for describing these types of services and providing company names to get us started.

Joanne Johnson-Clauser
Brookfield

DEER HUNTING'S NEXTGEN

With fewer kids heading out to the woods, it's always exciting to see kids have success while hunting. My daughter and a few of her friends had successful hunts during the 2022 gun-deer season, and it has encouraged them to start talking about it with their other friends.

While some kids see it as boring or are unwilling to sit in the cold, these kids are learning about patience, perseverance and working for something they want. My 15-year-old daughter, Emily, shot this once-in-a-lifetime buck in Green Lake. The excitement and pride she has from bagging this animal will keep her hunting for many years to come.

Andy Gryske
Green Lake

WISCONSIN DNR

'OLD GOAT' GOES BACK TO WORK

I read with interest your article on goat grazing in the Winter 2022 issue. I've had goats grazing for several years in my woods near River Falls to get rid of invasive buckthorn. How did the goats do? In goat language, "Meh."

The goats had plucked off leaves but left behind stems and roots. The "inconvenienced" buckthorn just resprouted. Other more desirable plants are gone. I have several thousand dollars invested in goat grazing over three years but am going back to hand-pulling by this one old goat.

William S. Cordua
River Falls

Thanks for the letter, William. We asked Mary Bartkowiak, DNR invasive plant coordinator, for her thoughts about your experience and goat grazing in general:

"Grazing goats to control woody invasives in a woodland is a chemical-free option for one step in an integrated pest management plan. We encourage land managers to use a mixture of tools when looking to control an invasive plant.

"Our approach at the Brule River State Forest was to introduce goats and allow them to browse the area for a first round or rotation. We then cut the buckthorn down to a level the goats could reach and they browsed a second round, then the herd returned later in summer for a third rotation.

"This gap allowed the buckthorn to flush out new leaves and, by doing so, stress the plant by forcing it to use up valuable resources at a time when it normally would not. The goats will return this year in late spring for a final fourth rotation. We will then determine next steps for the buckthorn control. Since Mr. Cordua has incorporated grazing for several years, he may want to consider intense grazing rotations followed by another form of control. He also might consider consulting with a local goat grazing farmer/contractor — they may have some good suggestions specific to his property."

Q&A

You asked, our DNR experts answered. Here is a quick roundup of interesting feedback sent to us on Facebook.

Q: I'm planning a big spring cleaning project at home, and I have a lot of old batteries. Should I just throw them in the trash, or can they be recycled?

A: First, it's important to know batteries should never go in household recycling bins. You can reduce waste by buying rechargeable batteries when possible. When rechargeable batteries come to the end of their lifespan, they can be recycled. Visit Call2Recycle — call2recycle.org/locator — to find drop-off locations participating in their battery recycling program.

Single-use alkaline batteries have little recycling value and may be safely thrown in the trash. Many hardware stores and other battery retailers will accept batteries for recycling, so check with your local stores. You also can check Call2Recycle to find a place to drop off this type of battery for recycling.

Still have questions? Scan the QR code or check dnr.wi.gov/tiny/1296 to visit the DNR's battery webpage.

Q: I have the classic "bag of plastic bags" hanging in a closet, but it's getting really full. Should I throw them in the garbage?

A: You can recycle the plastic grocery bags — but not in your household recycling bin! Instead, take them to a drop-off site at a local grocery store or retailer such as Target or Home Depot. Just make sure they're clean and dry. Find a drop-off site near you at bagandfilmrecycling.org/view/whattorecycle.

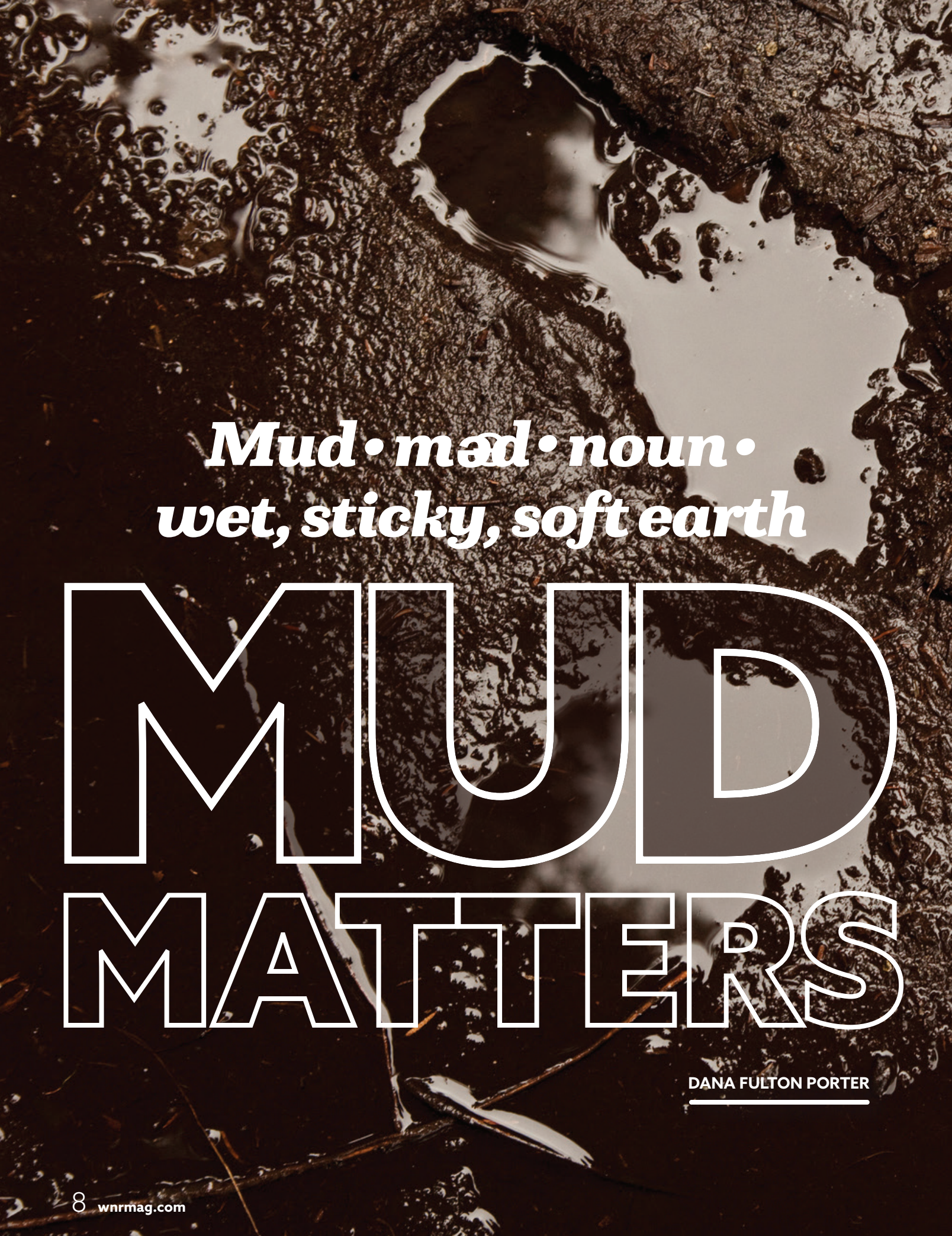
There are many other types of plastic bags and wraps that can be recycled at drop-off sites, too. This includes newspaper bags; bread and produce bags; stretch film found around new furniture or electronics; plastic shipping envelopes (remove labels), bubble wrap and air pillows (deflate); zip-top food storage bags; plastic wrap around paper products, diapers, soda and water bottles; and dry-cleaning bags.

When in doubt, don't recycle. Bags and wrap with food particles or excess moisture, or items labeled compostable or biodegradable, can disrupt the recycling process and prevent the reuse of entire loads of recovered bags and wrap.

Q: Where can I get rid of an old computer?

A: Spring is when many communities around Wisconsin hold events to collect and recycle electronics and household hazardous waste like pesticides, oil-based paints and light bulbs. Scan the QR code to find an event or collection site or check dnr.wi.gov/tiny/1411. And check out the DNR's household hazardous waste webpage for more info at dnr.wi.gov/tiny/1406.

Write in by sending letters to DNRmagazine@wisconsin.gov or WNR magazine, PO Box 7921, Madison, WI 53707.



Mud • mæd • noun • wet, sticky, soft earth

MUD MATTERS

DANA FULTON PORTER

ISTOCK/MAYBAYBUTTER

The combination of snow melt and steady rain showers often turns the spring season into mud season.

Saturated soil — the preferred term used by soil scientists — is more than a splashy nuisance to clean off the carpet. Mud is home to a vast microbial universe. It serves as a rich preserve of human history, a support for wildlife and a possible measure of climate change.

"The soil is a record of past activities and climates," said Alfred Hartemink, chair of the University of Wisconsin-Madison's Department of Soil Science. "It is also an open book; more can be learned the more you read it."

DIGGING DEEP

"If you pick up a handful of soil, you are likely holding more microbes in your hand than there are people on Earth," said Thea Whitman, associate professor of soil ecology at UW-Madison.

Healthy soil is the foundation of a healthy environment, from bountiful forests to clean air and water. All the tiny organisms play their part in the soil's food web, which in turn fuels the plants growing from the dirt and the larger animals that rely on those food sources.

Unbalanced soil, whether physically or chemically unbalanced, can have effects that ripple up the food chain.

Too much rain may damage that balance by pulling important organisms and nutrients from the soil and washing it away. This also creates

ISTOCK/THANCHAIYAN TANTIAMNUAY

A little mud provides a stable foundation for our growing world.

problems further downstream with an overabundance of nutrients in waterways that may not be equipped to handle that influx.

WASHING IT AWAY

Soil erosion concerns trace back to the earliest settlements in the United States. Overly saturated soils caused the same havoc and nutrient deficiencies then as they do now.

For as long as erosion concerns have existed, so have natural erosion abatement plans. Tiered retaining walls and adding more plants are two popular solutions used for centuries.

Though modern infrastructure is getting better at combatting soil erosion, we're far from solving the issue. Proper soil management plans for construction and agriculture sites are vital for maintaining soil health and avoiding erosion.

Additionally, efforts to protect wetlands must continue. These muddy reservoirs serve multiple roles: water retention, dense and diverse habitat, and as a "sink" to store carbon.

To learn more about the role of wetlands in our environment, go to dnr.wi.gov/topic/wetlands.

SHIFTING GROUND

Climate change conversations are often focused on ways to slow our rapid progression toward a warmer, more unstable climate. The increased frequency of heavy rains and more harsh temperature swings are already severely damaging soil health in many areas. But instead of combatting the clouds, some soil scientists are looking for resiliency in the ground.

"In my view, we should pay more attention to soil properties that can be climate-smart, resilient instead," said Jingyi Huang, assistant professor of soil science at UW-Madison.

The U.S. Department of Agriculture also is paying attention. It offers a variety of programs and services that bring climate-smart solutions into agriculture and forestry operations.

Recently, a USDA grant invested $9.3 million in Wisconsin soil. A portion of the grant money will help fund the Wisconsin Environmental Mesonet, a new project that intends to build weather and soil monitoring stations across rural Wisconsin.

The collected data will help both the agriculture and forestry communities and gather more information on creating resilient soil.

SEARCHING FOR STABILITY

Creating perfectly balanced, healthy soil for all — from microbes to trees — in our changing climate with our expanding agriculture needs may sound as easy as running in mud. Like a three-legged stool, the three main branches of soil health must be perfectly balanced.

"One leg encompasses chemical properties, another physical, and last but not least, the third leg relates to soil biology. These properties are interconnected and depend on each other," said Francisco Arriaga, associate professor of soil science at UW-Madison.

"If one 'breaks' or is shorter than the other, the stool will fall or be unstable."

Healthy soil — and a little mud — is our stable foundation. In a world that prioritizes environmental sustainability, the focus has to come from the ground up.

Dana Fulton Porter is a publications supervisor in the DNR's Office of Communications.

DENNIS YOCKERS

A shallow, muck-bottom lake is fitting for the Mud Lake Bog State Natural Area in Waupaca County, one of more than 100 Mud Lakes in the state.

THESE NAMES ARE MUD

Tell someone you're visiting Mud Lake, and they'll likely ask just one question — which one?

Wisconsin is home to more than 100 Mud Lakes, and that's not counting nicknames for local watering holes. It's an easy name that invokes a good sense of what to expect upon arrival.

It could be a visit to Mud Lake State Wildlife Area, the 2,290-acre property in northeastern Door County that's home to just one of the many Mud Lakes in Wisconsin. This one boasts a variety of aquatic plants, from common reed to wild rice, and provides perfect habitat for rare dragonflies. The surrounding wetland is built on rich peats and mucks, creating a boreal forest habitat, a rare find in Wisconsin.

Or perhaps one of the Mud Lakes in Dane County is the topic of conversation. All four offer fishing opportunities for panfish and largemouth bass, but the two Mud Lakes on either side of Lake Waubesa also hold walleye and catfish.

Maybe the focus is on the Mud Lake in the Chief River Wildlife Area in Sawyer County. At 464 acres, this Mud Lake has the most surface area and includes a public boat landing. Anglers will find musky and walleye in the waters, and the entire wildlife area provides a variety of upland hunting opportunities.

If flowing water is of interest instead, Wisconsin has a variety of Mud Creeks to select. Some offer shallow riffles for fishing, while others are deep enough to kayak.

And there are several names that may not be "mud," but they invoke the same earthy feeling.

Take Black Earth Creek, for example. The high-quality trout stream winds through western Dane County and has a rich, dynamic history. The name dates back at least to the 1850s, but the creek hasn't always been the abundant fishing corridor it is today.

The resource was once dammed up as a millpond. After removing the millpond, decades of work restored the stream, including intensive DNR habitat work to improve the stream's health and public access. The creek is now as healthy as the black soil in the surrounding valley.

— Dana Fulton Porter

ISTOCK/EDWARD SNOW

WHAT'S THE BUZZ

Found throughout the eastern United States, mud daubers are known for their small, unique nests, which often look like organ pipes and are built of mud. Mud daubers are also easy to identify by their very thin waist.

Like most wasps, mud daubers are solitary insects. They're typically not aggressive, which means stings are uncommon. They are usually found in gardens and meadows.

FIND YOUR quiet pla

AT THESE SCENIC STATE PARKS

In the hustle and bustle of our busy lives, sometimes we just need a quiet moment to settle our minds and refresh our perspective. Here are some of the best Wisconsin state parks to visit if you want to "take five."

BIG BAY STATE PARK

On the eastern side of Madeline Island, the largest of the Apostle Islands National Lakeshore archipelago, Big Bay State Park features picturesque sandstone bluffs along 4 miles of Lake Superior shoreline.

CROSS PLAINS STATE PARK

Just west of Madison, near the village of Cross Plains, this area contains an outstanding collection of glacial landforms, a gorge carved by meltwater and expansive views of both driftless and glaciated terrain. The park can be quite busy on weekends, but you're likely to run into very few people during the week. That makes weekdays a good time to enjoy the meandering trails and segments of the Ice Age National Scenic Trail the park has to offer.

Wildcat Mountain State Park

MOLLY MEISTER

ace


CLIFTON FACEY

Big Bay State Park

KETTLE MORAINE STATE FOREST LOEW LAKE UNIT

As a day-use property, the Loew Lake Unit of the Kettle Moraine State Forest is more low-profile than other areas of the state forest. Situated along the Ice Age National Scenic Trail, it's an amazing property for watching migratory birds, especially from its no-wake lake.


DANIEL ROBINSON

KINNICKINNIC STATE PARK

Considered a much quieter sister property to Willow River State Park, Kinnickinnic is great for hiking and mountain biking. Located where the St. Croix and Kinnickinnic rivers meet, the park offers experiences in two types of worlds. Enjoy the solitude of the Kinnickinnic River Valley or join the many popular water-based pursuits on the St. Croix River. Visitors also can explore 10 miles of hiking trails.

NEWPORT STATE PARK

Newport's wilderness experience offers more than 2,300 acres of forest on 11 miles of Lake Michigan shoreline. With 30 miles of hiking trails and backpack camping, it's a quiet alternative to bustling Door County. Found at the far end of the Door Peninsula, the park is designated as a Dark Sky Place, a perfect destination for stargazing.

ROCK ISLAND STATE PARK

Take the ferry from Washington Island to this smaller, more primitive Lake Michigan island from Memorial Day weekend through Columbus Day. No vehicles are allowed at this unique park featuring the Pottawatomie Lighthouse, as well as stone buildings built by a wealthy inventor who owned the island between 1910 and 1964. Rock Island offers rustic, walk-in campsites, hiking trails, a swimming beach and miles of shoreline to explore. Even during peak summer visitation, you may find yourself alone on the beach.

STRAIGHT LAKE STATE PARK

Lake views and glacial features provide great vistas on the trails in this 2,000-acre park. Carry-in boat launches, 10 walk-in campsites and a picnic area with reservable shelter are found on the south side of the park's two wild lakes. A premier segment of the Ice Age National Scenic Trail runs through the park.

WILDCAT MOUNTAIN STATE PARK

Located on a ridge rising steeply above the Kickapoo River, Wildcat Mountain offers camping for families, groups and horseback riders. Explore 21 miles of scenic hiking, nature and equestrian trails through the park, where an observation point and picnic areas overlook the Kickapoo Valley. Few people visit this park to hike, so time on the trails can be a quiet and remote experience.

LEARN MORE

Scan the QR code for more on these and other DNR properties or visit dnr.wi.gov/topic/parks.

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

PERFECT FOR A PICNIC

LAURIE MERCURIO

There are so many picturesque picnic spots across Wisconsin. Consider packing a picnic basket and visiting one of these Wisconsin state parks for your next family outing.

• **Devil's Lake State Park** offers magnificent views from quartzite bluffs overlooking the lake, making it an excellent scenic picnic spot. With large picnic areas on both the north and south shores, each with tables, drinking water and grills, you have all you need for the perfect picnic. Once you've finished lunch, enjoy nearly 30 miles of hiking trails, beaches, paddling opportunities and naturalist programs.

• **High Cliff State Park** gets its name and amazing views from the limestone cliff of the Niagara Escarpment, which parallels the eastern shore of Lake Winnebago. There are four picnic areas with tables, grills, water and restrooms, and two with playgrounds and swings.

• If visiting Door County, consider a picnic at **Peninsula State Park**. There are picnic areas at Fish Creek, Nelson Point, Nicolet Beach and Pines Area,

RACHEL HERSHBERGER/TRAVEL WISCONSIN

With 8 miles of shoreline on Green Bay, Door County's Peninsula State Park has plenty of good picnic spots.

NARAYAN MAHON/TRAVEL WISCONSIN

Pack a picnic and hit a state park this spring and summer.

Eagle Terrace, Weborg Point and Welcker's Point, all with picnic tables, charcoal grills and vault toilets. And with 8 miles of shoreline, a summer theater, an 18-hole golf course, a sand beach, bike trails and a lighthouse, there's something for everyone once you've finished your picnic.

• Enjoy a picnic at **Mill Bluff State Park** while taking in the spectacular view of rock formations. There are hiking trails, a swimming pond and a shelter at this park just outside Camp Douglas, a great place for the family to stop along I-90/94.

• With 6 miles of sandy beach on the Lake Michigan shore, **Point Beach State Forest** is a great spot for a picnic and a walk. All picnic and shelter areas include picnic tables, grills, drinking water and restrooms. There's even a concession stand in the lodge that sells picnic supplies, so no worries if you forget the utensils or plates. The park has a playground, volleyball courts, a baseball diamond and the historic Rawley Point Lighthouse.

• Featuring the highest waterfalls in Wisconsin and the fourth-highest east of the Rockies, **Pattison State Park** offers breathtaking views for a picnic. There are three picnic areas with tables, grills, water and restrooms. And with a lake, beach, nature center and hiking trails, your family will love it.

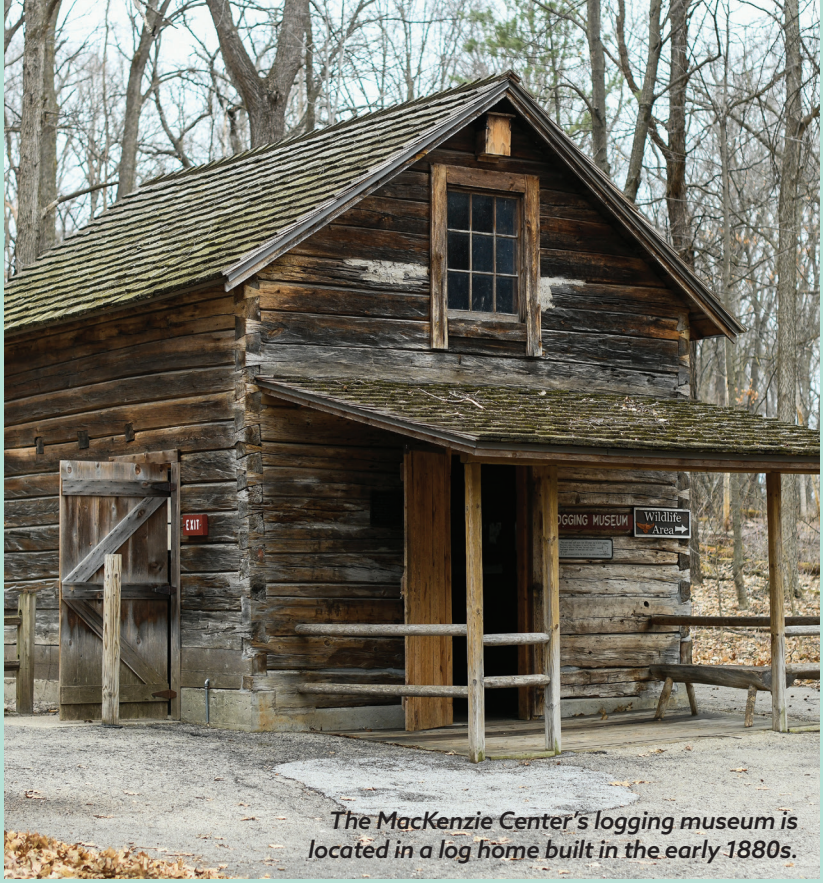
• **Interstate State Park** provides scenic views of the St. Croix River and the steep-sided gorge known as the Dalles of the St. Croix. There are several different areas with picnic tables, grills, water and restrooms. There are even reservable picnic shelters for group outings. Once you've relaxed and enjoyed your picnic, learn about Wisconsin's glacial history at the Ice Age Interpretive Center.

• **Wyalusing State Park** is another great spot for a scenic family picnic, with bluffs overlooking the confluence of the Wisconsin and Mississippi rivers. Wyalusing has several picnic areas, all near shelters. And there's plenty to do once you've packed away your picnic, with hiking trails, a canoe trail, Native American burial mounds, fishing, boating and bicycling.

PLAN A PICNIC

Scan the QR code for the DNR's Find a Park feature to plan a state park picnic or go to dnr.wi.gov/tiny/801.

Laurie Mercurio is a public information officer in the DNR's Office of Communications.



The MacKenzie Center's logging museum is located in a log home built in the early 1880s.

Early pioneers hung metal buckets over a fire to boil sap for syrup.

Maple magic

PHOTOS BY NICOLE HANSEN

ANDI SEDLACEK

SPRING BRINGS SWEET FUN TO MACKENZIE CENTER

It truly is a labor of love. Maple sugaring, that is.

From the patience it takes to wait for the sugar maple trees to reach sap-tapping age to the stamina needed to run the sugar shack, maple sugaring is no easy feat. But the pure magic of the sweet maple syrup is so worth it.

In southern Wisconsin, the MacKenzie Center near Poynette is one of the premier places to go for maple sugaring each spring.

With interpretive trails, exhibits and educational programming, MacKenzie welcomes people of all ages to come together and learn.

The property is home to a large sugar bush, an area of forest where sugar maple trees are dominant. All the maple trees in the center's sugar bush were originally planted by Harley MacKenzie, who in the 1930s was director of the Wisconsin Conservation Department, or

Volunteer Pat Beyer tends to boiling sap, skimming off impurities as it cooks on the wood-fired arch stove.

what is now the Department of Natural Resources.

MacKenzie had the foresight to know it would be years — about 30 to 40, in fact — until the trees would be mature enough to tap. This gift to the community was just one of the ways MacKenzie demonstrated his deep dedication to conservation and the environment.

WHEN THE TIME IS RIGHT

Each spring, maple is the main event at the MacKenzie Center. Weekdays bring school groups of fourth graders to the center for the full maple experience, produced with the help of many longtime volunteers.

Starting in the sugar bush area, students learn how to identify a maple tree and what happens inside of it to make sap. They learn the sap is about 3% sugar, and trees can produce sap for their whole lifespan once the tree diameter reaches 3 to 4 feet.

Most of the maple trees at MacKenzie are sugar maples, but there are some black and red maples, too. When daytime temperatures are above freezing and nighttime temperatures are below, it creates the perfect environment for sap to move within a tree.

Lucky visitors get to sample MacKenzie Center's sweet syrup.

During the warmth of the day, the sap moves up from the tree's roots to provide the sugar the tree needs for energy to make leaf buds in spring. When chillier temperatures come at night, the sap moves back into the tree's roots to prevent it from freezing.

This small window of time is when the sap can be harvested. Once nighttime temperatures stay above freezing, the sap remains in the trees' branches and buds.

The "sweet spot" in maple tree physiology is the perfect time for students to come to MacKenzie to experience the magic of maple sugaring, and for many other Wisconsinites to make it at home.

LEARNING FROM THE PAST

After learning the secrets of the maple trees and sap, the students get to work making syrup.

First, they make their own spile — the tap that goes into the tree to draw out the sap — just like they were made back in the day: with a small piece of elderberry branch. These branches are soft in the middle and can be bored out to make them hollow. This is done with a thick, sturdy wire called a reamer.

In more modern tapping methods, spiles are made of metal and have a spout on the end, so the sap has a smooth trip from tree to collection

School groups visiting MacKenzie Center learn about ways maple syrup was made by Native Americans and early pioneers.

Hundreds of years ago, elderberry branches bored with a wire reamer served as spiles to tap maple trees.

When spring temperatures turn just right, maple sap runs and tapping can begin in the MacKenzie Center sugar bush.

bucket or bag. The spiles are tapped about 2 inches into the south side of the sugar maples.

After this step, student visitors head down to MacKenzie's Maple Area, where the experience takes them back to the 1300s and Native American traditions. They step into a ciporoke, which means "round dwelling" in the Ho-Chunk language.

A ciporoke is a type of home a Ho-Chunk Nation family would have lived in during the maple sugaring season in the 1300s. The frame is made from saplings, which are covered with reed mats in the spring and bark in the winter.

The MacKenzie Center's ciporoke was built by Ho-Chunk tribal staff who worked with the center's staff as well as volunteers from the Friends of MacKenzie to construct it. It's built each fall in preparation for the spring.

Next comes the actual creation of the maple syrup, as the Native Americans likely would have done it.

Rocks about the size of a softball are placed in a fire to heat up. A log is cut in half the long way, then hollowed out to create a small trough, which is filled with sap. Hot rocks go straight from the fire into the trough to heat the sap to a boil, creating the maple syrup.

After the ciporoke visit, the next stop shows students how early pioneers likely made syrup. Pioneers brought metal with them to North America, which allowed them to create ways to boil the sap more quickly and at hotter temperatures.

They hung metal buckets over a fire, carrying the buckets of sap to and from the fire using a yoke. Students get to try their hand at carrying the syrup this way, being careful not to spill any of the precious liquid.

Jon Steidinger has been volunteering at MacKenzie since 1995 and was on hand to help guide school groups last spring. "My favorite part of this is getting outside and seeing the kids," he said.

OFF TO THE SUGAR SHACK

Fast forward to today and come into the Wallen Sugar Shack. It's named after Bob Wallen, the MacKenzie Center's first naturalist. He retired in the early 2000s, but his legacy lives on in the sugar shack.

Inside, it's warm and sweet, like a hug from an old friend. The main room of the shack is dominated by an open-top wood-burning stove, called an arch stove. It has a firebox underneath, where firewood is added to keep it hot.

On top of the firebox is a wide, flat, open pan. That's where the maple sap goes, fed in through a pipe connected to a stainless-steel maple sap holding tank.

The firebox's chimney is at the back of the stove, rather than right above the fire, causing the fire to arch across the entire bottom of the flat pan, creating an even boil throughout the sap and a faster rate of evaporation. The stove uses technology from the 1860s, but it still holds true today.

In six or seven hours, a 100-gallon batch of sap is boiled down to about 4 gallons.

VOLUNTEERS MAKE IT WORK

Volunteers diligently watch over the sap the entire time in the sugar shack, skimming off the light brown

foamy impurities, adding wood to the firebox, measuring the depth of the sap and narrating the process for curious visitors.

Patrick Matson started volunteering during the pandemic. "I walked into Wallen Sugar Shack and thought, this is where I want to be," he said.

Art Woodward has been volunteering at MacKenzie for 20 years. "One of my friends said, you're a farmer, you know how to start a fire. You're going to work here," he recalled. He's worked in the sugar shack ever since.

Pat Beyer is another dedicated sugar shack regular. Beyer has been volunteering at MacKenzie Center since 2018 and also cooks syrup at home using sap from the red maple, birch and black walnut trees on his land.

"I figured I'd come up here and learn how to really do it," he said of making syrup.

Back in the sugar shack, after plenty of boiling, the bubbles in the syrup turn the color of root beer, become very fine and fill up the flat pan. It's time for the next step.

The crew measures the syrup's sugar content using a hydrometer. When it hits 63% sugar, it's just right. The syrup then heads to the finish house for more boiling — this time done a little more precisely on a gas stove.

The finish house volunteers cool the syrup a bit, put a small drop in a refractometer and inspect it. When it looks right compared to their chart, they know the syrup is at the magical 66% sugar content. The syrup is filtered and ready to be put in jars, making about 2½ or 3 gallons.

LEARN MORE

Scan the QR code to learn more about the MacKenzie Center or go to dnr.wi.gov/tiny/1386.

For a delicious recipe featuring maple syrup, see Page 38.

MAPLE'S BIG DAY

The big show for maple sugaring comes in early April at the MacKenzie Center's Maple Syrup Festival. The center and its Friends Group welcome hundreds of people for the day-long event.

Visitors can enjoy everything the school groups do, like guided tours of the sugar bush, demonstrations of tree tapping and syrup making, and interpretive talks about how Native Americans and early pioneers made syrup.

They also can indulge in treats such as homemade ice cream topped with pure maple syrup while they listen to live music.

It's clear the maple program at the MacKenzie Center is a beloved community mainstay. In 2022, 54 volunteers donated 2,095 hours of their time to Maple Syrup Festival and the maple education program, which welcomed more than 1,000 student visitors last year.

All of that love is apparent in just one jar of MacKenzie Gold, the syrup produced at the center. But you can't buy the special syrup anywhere — the purpose of the maple program is to teach, not to sell syrup.

So what happens to this liquid gold? Most of it is shared with visiting school groups and the center's volunteers. Some of it stays on the shelves of the finish house. Once the syrup is jarred, it can last for years, and the fruits of past labors are sorted by year in the finish house's cozy kitchen.

In 2022, 113 sugar maples were tapped at MacKenzie, collecting over 1,800 gallons of sap. That produced a total of 337 pints of syrup — or pure maple magic.

MacKenzie Center's exhibits include a ciporoke, a structure where Ho-Chunk Nation families lived during maple sugaring season in the 1300s.

Andi Sedlacek is a public information officer in the DNR's Office of Communications.

Pollinators including a purplish copper butterfly gather on stiff goldenrod.

SPRING SHOWE
WILDFLO

PRIORITIZE NATIVE PLANTS TO MAKE YOUR GARDEN A POLLINATOR HOT SPOT

Butterflies, bumble bees, hummingbirds — oh, my! Pollinators are essential to our ecosystem and are slowly running out of habitat. But you can help, starting with the plants you choose for your garden this spring.

ANDI SEDLACEK

ERS BRING *OWERS*

JAY WATSON

PLANT NATIVE

Let's dig into the reasons native plants are important. First, they are designed and adapted to live in our environment.

"Native plants are reliably adapted to local climate and soils," said Amy Staffen, conservation biologist for the DNR's Natural Heritage Conservation program. "This makes them low maintenance and more likely to survive after becoming established."

That means less work, water and fertilizer for you.

Because native plants are meant to live here, our native pollinators have evolved to be able to extract nectar from these plants using a specialized bill or mandible, or to digest the plants if they contain a certain enzyme. Attracting pollinators to these plants helps them do their job: pollinate! They'll help spread these plants around your environment and produce fruit and seeds for other wildlife, increasing biodiversity.

MILKWEED MADNESS

Monarch butterflies are excellent pollinators, but their population has declined by 90% in the last decade due to a drastic loss in habitat. You can help them by adding milkweed to your garden — they depend on it 100% for their food source.

Milkweed is consumed by monarch larvae, the black, white and yellow-striped caterpillars you may see from June through early September. Because milkweed is the only plant monarch larvae eat, adult monarchs lay their eggs on milkweed, making it a vital part of their life cycle.

Research has found that a chemical in milkweed known as a cardenolide gives monarch larvae and adults a bad taste to predators, helping to protect them throughout their life. Once a predator, like a bird, tastes a monarch, they'll soon associate its pattern and coloring — both as a caterpillar and a butterfly — with the bad taste and will avoid preying on them in the future.

LEARN MORE

Spring is when native plant sales start popping up throughout the state, generally from late March until June. The DNR keeps a running list online, so check it early and often. To learn more about plant sales and native plants in general, including resources for planting, scan the QR code or go to dnr.wi.gov/topic/tiny/1391.

This all means that planting milkweed should be in your plans if you want to attract monarchs to your yard. Look for common milkweed (*Asclepias syriaca*), butterfly weed (*Asclepias tuberosa*), and red milkweed, also called swamp milkweed (*Asclepias incarnata*).

POLLINATOR PARTY

Hummingbirds and bumble bees are important pollinators, too. Both have special adaptations to help spread pollen around your garden and beyond — from the tiny hairs all over a bee's body to the long bill of a hummingbird that causes pollen to get dusted over its face.

If you're pining for some hummingbirds in your garden, opt for plants with colorful, tubular flowers like columbine, butterfly weed, cardinal flower and wild bergamot.

Most bees aren't very picky, but there are a few native plants they really love.

New England aster and aromatic aster will be absolutely buzzing with bees late in the summer and into early fall. Additionally, you can't go wrong serving up purple coneflower and joe-pye weed.

KEEP THE LOVE FLOWING

Helping our pollinators goes beyond the flowers blooming in the warmer months. Keep the pollinator love fest going into the winter by leaving your hollow-stemmed native plants standing in the garden and not cutting them back when the frost hits, as they offer winter homes for some bees.

Andi Sedlacek is a public information officer in the DNR's Office of Communications.

Plant the Rainbow

Use the trusty **ROYGBIV** acronym to create a rainbow of color in your garden. Red, orange, yellow, green, blue, indigo and violet can brighten the landscape while helping to attract and support our pollinators.

Cardinal flower *(Lobelia cardinalis)*
Blooms from July to September.

Butterfly weed *(Asclepias tuberosa)*
Blooms from July to September.

Red milkweed *(Asclepias incarnata)*
Blooms from July to August.

Showy goldenrod *(Solidago speciosa)*
Blooms from August to October.

Anise hyssop *(Agastache foeniculum)*
Blooms from July to September.

Meadow blazing star *(Liatris ligulistylis)*
Blooms from August to September.

Common milkweed *(Asclepias syriaca)*
Blooms from June to August.

Purple coneflower *(Echinacea purpurea)*
Blooms from June to October.

New England aster *(Symphyotrichum novae-angliae)*
Blooms from August to October.

Aromatic aster *(Symphyotrichum oblongifolium)*
Blooms from September to October.

GRAPHIC BY BAILEY NEHLS

CAITLIN WILLIAMSON

Money from the Wisconsin Pollinator Protection Fund boosts projects at places like Dewey Heights Prairie State Natural Area, within Nelson Dewey State Park.

PARK PURSUITS, OTHER PROJECTS

PROTECT WISCONSIN'S POLLINATORS

ANDREA ZANI

When it comes to protecting our pollinators, it's an "all hands on deck" effort.

"Our native pollinators are incredibly important to maintaining Wisconsin's native ecosystems, many fruit crops and backyard gardens, but they need our help," said Jay Watson, DNR insect ecologist.

A new funding source is supporting the commitment to protect these critical species. In 2019, the Wisconsin Pollinator Protection Fund, managed by the Natural Resources Foundation of Wisconsin, was kick-started by an anonymous $500,000 donation. Since then, the fund has powered pollinator aid thanks to numerous contributors — DNR programs, federal and local government, community and private partners, and people like you.

"The great thing about pollinators is that everyone can get involved, from individuals to schools to businesses to farmers," said Caitlin Williamson, director of conservation programs for the Natural Resources Foundation. "Our small actions, combined together, can make a difference."

JAY WATSON

Black and gold bumblebee

The Wisconsin Pollinator Protection Fund supports habitat management by both public and private partners. DNR projects and programs around the state are supported through the fund, which to date has invested more than $653,000 to support native pollinator conservation and education efforts.

Much of the activity is happening at state parks, with DNR staff leading a "Pollinators in the Parks" program to create pollinator gardens and other habitat enhancements.

So far, 11 park properties have benefited — Blue Mound, Governor Dodge, Hartman Creek (via the park's Friends Group), High Cliff, Lake Wissota, Nelson Dewey, Roche-A-Cri, Willow River, Wyalusing and Yellowstone Lake state parks, plus Havenwoods State Forest. More parks will be added this year.

DNR's Wildlife Management program also plays a role in pollinator work at state wildlife areas with help from the Pollinator Protection Fund. And at state natural areas, the Bureau of Natural Heritage Conservation guides more efforts. Money for that work also comes from the DNR's Endangered Resources Fund through the sale of special license plates and direct donations, including via the state income tax form checkoff.

In addition, the Natural Resources Foundation supports the Wisconsin Monarch Collaborative, endangered bee surveys and the DNR's Wisconsin Bumble Bee Brigade citizen science program — all to support the state's hard-working pollinators.

Williamson emphasized the importance of aiding pollinators, which are vital for Wisconsin's natural communities and agricultural crops. It takes everyone's efforts, she added.

"Pollinator conservation will take decades of work," she said, "and long-term sustainable support."

Andrea Zani is managing editor of Wisconsin Natural Resources *magazine.*

LEARN MORE

Everyone can help Wisconsin's pollinators by planting native plants, adding milkweed for monarchs and getting involved with the citizen science efforts of the Wisconsin Monarch Collaborative (wiatri.net/projects/monarchs) and Bumble Bee Brigade (wiatri.net/inventory/bbb). Donations also make a big difference. Give to the DNR's Endangered Resources Fund at dnr.wi.gov/topic/endangeredresources or donate to the Natural Resources Foundation of Wisconsin at wisconservation.org/donate.

Be sure to brush up on safety tips before paddling at Lake Kegonsa or other fun on the water this season.

RACHEL HERSHBERGER/TRAVEL WISCONSIN

BACK TO

WISCONSIN'S WATERS ARE CALLING: REMEMBER SAFETY FIRST

Boating

MOLLY MEISTER

With 84,000 miles of rivers and streams twisting through our landscape and 15,000 lakes dotting the map, Wisconsin offers a smorgasbord of opportunities to hit the water during every season.

Each year, hundreds of thousands of Wisconsinites and out-of-state visitors load up their boats, kayaks, canoes and paddleboards and head for some floating fun.

As you pull together your gear for your next outing, make sure you don't overlook the most essential item on the list: at least one U.S. Coast Guard-approved life jacket per person on board, as required by law. And once you bring it, wear it.

Last year, the DNR reported 20 boating-related fatalities. Investigators found the vast majority of those victims were not wearing life jackets, even though they often had them packed.

"Wardens have responded to numerous drowning deaths only to find a life jacket stuffed inside a kayak or floating near the capsized canoe," said Lt. Darren Kuhn, the DNR's boating law administrator. "Deaths from drowning are preventable. Putting on a life jacket before wading, playing along shores or getting in a boat gets you ready to focus on the fun."

Today's life jackets are much more comfortable, lightweight and stylish than those of the past. There are innovative options such as inflatable life jackets, allowing mobility and flexibility for boating, fishing, paddling or hunting, and they are much cooler in the warmer weather.

And don't forget about a boating safety course — a Wisconsin boating safety certification or out-of-state equivalent certification is required for operators born on or after Jan. 1, 1989. Anyone is eligible to take the class and receive a safety education completion certificate; however, courses are designed at a fifth-grade level or up.

Statistics show boaters who wear life jackets and take boater safety courses are most likely to stay safe on the water. Always follow basic safety tips and enjoy Wisconsin's waterways with family and friends.

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

LEARN MORE

Scan the QR code for more on boating in Wisconsin, including safety tips, registration details, regulations and complete life jacket information, or check dnr.wi.gov/topic/boat.

SPRING WATER SAFETY TIPS

- Sign up now to take a boater education course.
- Conduct a basic safety inspection of the boat before you head out for the first time this season.
- Double-check to make sure you have safety equipment like fire extinguishers, visual distress signals and a functioning engine cut-off switch on board and that the plug is properly inserted.
- Always wear a properly fitted life jacket that has a snug fit and is fastened when you're on or near the water.
- Be aware that water temperatures are still cool at this time of year. A fall overboard can turn dangerous quickly as hypothermia sets in.
- Enjoy the waters sober and know your limits. Alcohol blurs a person's judgment, reaction time and abilities.
- Be ready for the unexpected. Keep an eye on the weather and let someone know where you're going and when you'll return.

Lightning over Wind Point Lighthouse, Racine.

JEFFREY PHELPS

LIGHTNING FACTS

• Lightning travels at 90,000 miles per second.
• Over the Lower 48, an average of 20 million cloud-to-ground lightning flashes are detected each year.
• The average lightning bolt is only 1-2 inches thick.
—Source: National Weather Service

STAY SAFE WHEN LIGHTNING STRIKES

DANA FULTON PORTER

With warmer weather and more sunlight, spring often sparks the desire to start spending more time outdoors. It also sparks an increase in thunderstorms and the threat of lightning.

According to National Weather Service Storm Data, over the last 30 years, the United States has averaged more than 40 reported lightning fatalities per year.

While people may think golfers account for the greatest number of lightning deaths, this is actually a myth. A National Lightning Safety Council report shows that beach activities, camping and fishing each account for more lightning fatalities than golf.

If you hear a rumble of thunder, you are close enough to be at risk from lightning. Even if it sounds like a distant rumble, know that there have been documented cases of lightning strikes 20 miles away from a parent storm.

"There is no place outside that is safe when thunderstorms are in the area," said Katie Rousonelos, public information officer for Wisconsin Emergency Management.

As the saying goes: When thunder roars, go indoors.

KNOW WHERE TO GO

A sturdy, fully enclosed structure such as a building or a hard-topped car is the best protection from lightning.

Even inside a home, you're not completely in the clear. It's recommended to avoid windows, plumbing and wired electric devices. The electrical current from lightning can travel through wiring or plumbing if the building is struck.

"Having a lightning safety plan in place will help prevent tragedy," Rousonelos said. "Make sure you know where to go for safety and ensure you have enough time to get there."

If you are outside during a thunderstorm, here are some tips from Wisconsin Emergency Management to help reduce your risk of being struck by lightning.

• Immediately get off elevated areas such as hills, mountain ridges or peaks.

• Immediately get out of and away from ponds, lakes and other bodies of water.

• Stay away from objects that conduct electricity, including wires and fences.

• Never shelter under an isolated tree. Lightning tends to strike the tallest objects in an area.

• Never lie flat on the ground.

If someone is struck by lightning, they need to seek prompt medical attention, as their injuries may not be immediately visible.

Lightning victims do not carry an electrical current, so those helping are able to safely touch the victim. If someone is unresponsive, starting CPR and calling 911 can make the difference between life and death.

Dana Fulton Porter is a publications supervisor in the DNR's Office of Communications.

PAGE 26 PHOTOS BY DOG GRIN PHOTOGRAPHY

STRUTTING IN THE SUBURBS

URBAN TURKEYS IN WISCONSIN

DANA FULTON PORTER

Walk through the University of Wisconsin-Madison campus in the spring, and you'll get a full view of Wisconsin "waking up" from winter. Students laughing, bikes blazing down trails and even a little wildlife. The usual robins and rabbits ... and one larger bird you may not expect to see mingling among students.

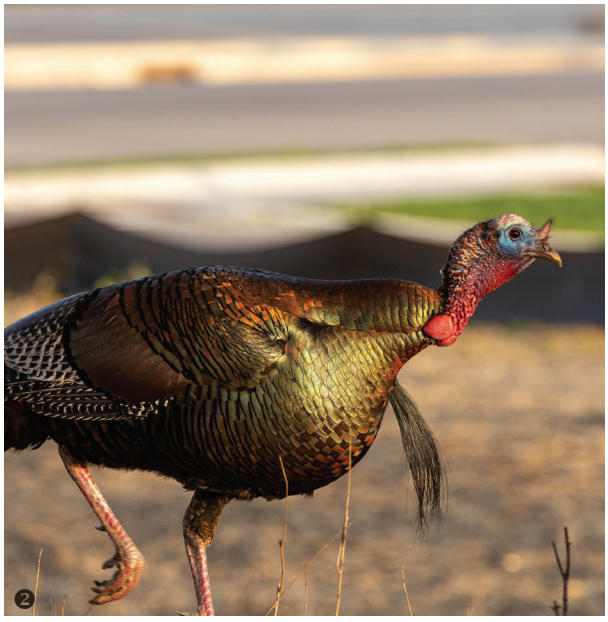
Urban wild turkeys are a common sight in Madison. The Capital City isn't alone; wild turkeys can be spotted in neighborhoods from Rhinelander to Janesville. Some local flocks are so popular that the birds have prompted support via Instagram accounts and Facebook groups where people share photos and tales of their turkey encounters.

It makes sense: Many Wisconsin suburbs provide decent turkey habitat and a minimal threat from predators. There's also ample food. Turkeys are omnivorous and enjoy acorns, seeds and insects, even smaller animals like lizards.

LOVE IS IN THE AIR

There's often an uptick in sightings and photo postings from February to April due to a little more movement: It's mating season.

Male turkeys, known as toms, will show off by puffing out their feathers and fanning their tails to appear more dominant and try to attract females, known as hens. During this time of year, the distinct, rumbling gobble from a tom can often be heard echoing through Wisconsin forests and occasionally in suburbia.



❶ *Flocks of turkeys are so popular in some areas they've developed their own social media followings.*

❷ *With mating season in spring, toms are on the move.*

❸ *Suburban and even urban areas provide decent habitat for wild turkeys and less threat from predators.*

PHOTOS BY ARLENE KOZIOL

❶ *The search for food such as acorns, seeds and insects may take turkeys just about anywhere.*

❷ *As commonplace as turkeys seem, it's important to remember they're still wild birds.*

❸ *Successfully reintroduced in Wisconsin in 1976, turkeys represent a big win for conservation.*

❹ *Why are these turkeys crossing the road? To reach the other side, of course!*

KEEP WILD GOBBLERS WILD

As fun as it is to see poultry sitting on picnic tables in Potosi or strutting around Sheboygan, it's important to remember these fowl aren't domestic birds. Urban turkeys are still wildlife and need to be respected as such.

The DNR encourages everyone to keep wildlife wild. Thankfully, we're not alone in this messaging. UW-Madison's housing department has even issued public statements reminding students, "DO NOT FEED THE TURKEYS!"

Attempts to feed wild turkeys usually come with good intentions, but those actions can have negative consequences for the birds. It creates a dependence on humans and can slowly domesticate a local population.

It is best to allow the birds to search for food the natural way, like they were foraging in the forest — even if that "forest" may now include swing sets and park benches.

Dana Fulton Porter is a publications supervisor in the DNR's Office of Communications.

THE TURKEY TALE

Wild turkeys in Wisconsin are a conservation success story. Unregulated hunting and disease from domestic birds had decimated the wild turkey population. In 1881, the last wild turkey in Wisconsin was spotted near Darlington in Lafayette County.

Almost 100 years later in 1976, 29 wild turkeys were brought from Missouri and reintroduced to Vernon County. The birds thrived, and turkeys have since become an integral part of Wisconsin's wildlife community. Wild turkeys now roam through every corner of the state — from the Northwoods to downtown Madison.

— Dana Fulton Porter

PHOTOS BY ARLENE KOZIOL, LEFT, AND DOG GRIN PHOTOGRAPHY

ARLENE KOZIOL

DANA FULTON PORTER

HOW CLIMATE CHANGE, DISEASE MAY AFFECT THIS TOUGH OLD BIRD

TURKEY TROUBLES

The formidable turkey can weather harsh storms and adapt to changing landscapes, but the bird is not indestructible.

"Wisconsin's turkey population is very healthy," said Taylor Finger, DNR biologist. "But we want to keep monitoring and making sure we are managing the factors we can to ensure high productivity to sustain healthy turkey numbers."

This means keeping habitat as a top priority.

The destruction of their natural habitat, due to climate change and urbanization, is shrinking the suitable habitat for turkeys. We know some turkeys can survive in suburban or even urban environments, but long-term turkey management plans must rely on preserving the natural forests and woodlands of Wisconsin.

WEATHERING THE STORM

The impact of climate change on the Wisconsin turkey population isn't exactly cut and dried. Some changes may be beneficial, while others could decimate nest survival rates.

"With warmer winters and lower snowfall amounts, turkeys will fare much better during the winter and be in better condition going into breeding and nesting season," Finger said.

However, a warmer climate also is fueling larger rain events and larger late-season snowstorms. Large snowstorms are shifting and occurring at more unpredictable times.

"These events during nesting and brood-rearing season could dramatically negatively impact turkey survival rate and productivity," Finger said.

DISEASE PREVENTION

Data also suggests a warmer climate will lead to a more hospitable environment for diseases.

While highly pathogenic avian influenza has not yet been detected in a wild turkey in Wisconsin, wild turkeys in Wyoming and Montana did test positive for HPAI in 2022.

GET INVOLVED

Help us measure turkey population success. Each August, you can use the Game Brood Survey App to record adult and poult sightings. Scan the QR code or check dnr.wi.gov/tiny/1471 for information, including details on how to download the app and complete the survey.

LINDA FRESHWATERS ARNDT

With warmer winters and less predictable snowfall events, climate change may affect turkey populations.

LINDA FRESHWATERS ARNDT

Chris Pollentier, DNR biologist, said lymphoproliferative disease virus is getting the most attention for wild turkeys.

"LPDV is an avian retrovirus that was first identified in wild turkeys in 2009 in the U.S.," Pollentier said. "Historically, it's been restricted to domestic turkeys in Europe and Israel. To date, I'm not aware of it being detected in Wisconsin, but other states, including Iowa, have had birds test positive."

Since LPDV is fairly new in the U.S., the impacts on wild turkey populations are still unknown.

Dana Fulton Porter is a publications supervisor in the DNR's Office of Communications.

AIR TIME

FOCUS ON CLEAN AIR MEANS HEALTHIER BODIES AND MINDS

ANNA MARIE ZORN

Wisconsin has come a long way from the days of unregulated air pollution. Since 2005, the state has reduced its sulfur dioxide emissions, or SO2, by 92%, and in 2022 the entire state complied with the 2010 SO2 federal air quality standard.

That's a great thing, according to Gail Good, director of the DNR's Air Management program. "The massive reduction in sulfur dioxide emissions is one of the great successes," she said.

In the 60 years since the first iteration of the Clean Air Act became law in 1963, we've seen federal standards change people's lives across the country. According to the Environmental Protection Agency, the Clean Air Act prevents up to 230,000 premature deaths annually.

But even with these improvements, the work is not finished. Health-related impacts of poor air quality lead to more early deaths than all other natural disasters combined.

Whether respiratory, cardiovascular or neurological, every system in both healthy and vulnerable bodies can be affected by polluted air. Clean air can be the difference between life and death.

Urban areas such as Milwaukee produce ozone precursors, making them more prone to air quality issues.

The DNR maintains a robust network of air quality monitoring sites throughout the state, including this one in Sheboygan.

WISCONSIN DNR

PRIME TIME FOR OZONE

While Wisconsin is meeting standards for SO2, it is exceeding federal levels for another common air pollutant: ozone. What is it? Ground-level ozone is not directly emitted by air pollution sources. Instead, it is created by chemical reactions in the atmosphere between ozone-forming pollutants like volatile organic compounds and nitrogen oxides.

"We continue to make progress with ozone," Good said, "but there are ongoing challenges, particularly along Lake Michigan."

Ozone is tricky for Wisconsin. Brad Pierce, director of UW-Madison's Space Science and Engineering Center, said ozone is the biggest air pollution problem facing the state.

With urban centers along the Lake Michigan shoreline producing the precursor chemicals needed to make ozone, late spring and early summer become prime ozone production time. This ground-level ozone is an odorless and invisible gas that causes both immediate and long-term health issues for residents who breathe it in.

Children, older people and those with certain health issues such as heart and respiratory ailments are at greater risk. Communities of color and lower-income communities are especially impacted, as many are in the urban areas where the ozone precursors are produced.

LONG-TERM ISSUES

Dr. Tim Richer, a pediatrician at Tosa Pediatrics in Wauwatosa, is vigilant about ozone when it comes to his patients. "For my severe asthmatics, I do tell them about those high ozone days," he said.

While Richer hesitates to tell children not to run around outside and play, he knows the consequences of ozone exposure for some can mean a trip to the emergency room. While ozone in the short term can cause coughing and

WISCONSIN DNR

AIR MONITORING SETS SAIL

This summer, the DNR's enhanced ozone monitoring equipment, in cooperation with the National Oceanic and Atmospheric Administration's Great Lakes Environmental Research Lab, will be on board the Viking Octantis expedition cruise ship on the Great Lakes. The equipment will collect over-the-water air quality measurements, something not successfully done before this project. The work will help the DNR issue air quality forecasts and advisories and fill a research gap in studying ozone over the Great Lakes. Look for a full story in the Fall issue of *Wisconsin Natural Resources* magazine.

Up in the air at Kites over Lake Michigan, Two Rivers.

GLENN SANDERSON/TRAVEL WISCONSIN

wheezing and exacerbate asthma, consistent, long-term exposure to ozone can completely restructure our airways.

"Ozone is a very strong oxidant," Pierce said. "You inhale it and it can get down into your respiratory system, where it inflames your respiratory cells."

Once this happens enough times, especially in early development, the lungs can structurally change, in what's known as airway or lung remodeling, Richer explained. Essentially, with too many asthma or breathing traumas, the airway walls narrow and thicken, compounding breathing troubles.

SMALL SIZE, BIG IMPACTS

While ozone might be the most discussed air pollution issue in Wisconsin, it's not the only one.

"The health impacts of aerosol pollutions are more significant than ozone," Pierce said.

He's referring to particulate matter 2.5, or PM2.5, which are tiny aerosol particles 2.5 microns or smaller in diameter. Consider that a single hair from your head is 70 microns, so PM2.5 is nearly 30 times smaller.

These particulates might be familiar to anyone who has read about wildfires out West since PM2.5 also is produced by fires. Some particulates can travel via the jet stream hundreds or even thousands of miles and reach Wisconsin.

PM2.5 can trigger and worsen health issues, from respiratory and cardiovascular disease to neurological problems. Research also indicates PM2.5 increases our risk of neurological diseases like Parkinson's, Alzheimer's and dementia.

KNOWLEDGE IS KEY

The good news is that researchers continue to make strides toward better understanding and management of air quality.

Pierce said this spring will be exciting for scientists who study air quality when a NASA-funded mission sends a satellite into space carrying an instrument called Tropospheric Emissions: Monitoring Pollution. TEMPO will provide scientists with hourly data on ozone precursor emissions.

"We'll have an unprecedented amount of measurements to help understand air quality," Pierce said.

With more data comes more informed regulations, which Good thinks will be key as Wisconsin moves toward compliance with National Ambient Air Quality Standards. The Clean Air Act requires the EPA to set standards, NAAQS, for common outdoor air pollutants that are considered harmful to public health and the environment.

More data also may be key as climate change begins having a greater effect on air quality. Research has shown, for example, that even a small increase in summer temperatures results in increased ozone and PM2.5 concentrations.

"We learn new things every day," Good said. "We keep better understanding the science and the health impacts of air pollution."

Anna Marie Zorn has background as a science writer and is communications manager for the National Wildlife Federation's Great Lakes Regional Center.

CLEANER AIR FOR EVERYONE

SIMPLE THINGS YOU CAN DO TO IMPROVE AIR QUALITY

LAURIE MERCURIO

ISTOCK/STOCKSELLER_UKR

Buying local produce can help keep trucks off the road, reducing vehicle emissions.

ISTOCK/OLASER

Try biking to work or when running errands to cut back on vehicle use.

Spring is here — are you getting out for more fresh air? Small things can add up to make a big difference. Do these to breathe a bit easier this year.

❶ BUY LOCAL FOOD

On average, fresh produce travels more than 1,500 miles before being eaten. Tractor-trailers haul much of our produce and only get about 6 miles per gallon of diesel fuel. Driving a tractor-trailer 1,500 miles emits about 5,550 pounds of carbon dioxide, or the same as what an average passenger car emits in seven months!

Buy fresh produce from growers at local farmers' markets. Look for locally grown produce at the grocery store. Don't see what you're looking for? Ask your grocer to carry more local products.

❷ GROW YOUR OWN

Consider gardening. Growing your own food reduces emissions by lessening the energy needed for packaging, processing and storing food.

❸ PRACTICE 'GREEN' LAWN CARE

Replace gas-powered equipment with electric, rechargeable or manual equipment. If using gas-powered equipment, fill and use it in the evening hours and buy a spill-proof, low-emitting gas can. Keep mower blades sharp and the undersides clean, so the mower will be more efficient.

Water the lawn in the evening or early morning. Established lawns need about 1 inch of water per week to stay green, split over two or three applications.

Purchase or make a water gauge to measure the amount of water (including rain) that falls on the lawn each week. Setting up barrels to collect rainwater for the lawn or garden also reduces the water and energy spent on lawn care. (For a kid-friendly rain gauge project you can make at home, see page 40.)

❹ SAVE ENERGY AT HOME

Conserve energy by turning off lights when leaving a room and computers and televisions when not in use. Purchase energy-efficient lighting. Find appliances that include the Energy Star label and install windows that are energy efficient.

As temperatures warm, open windows at night to let in naturally cooler air. Close windows and use shades during the day to keep sunlight from warming the house.

❺ TRAVEL WISELY

Consider biking or walking when commuting to work or running errands. Vehicles on the road create more than 25% of all air pollution nationwide.

Combine errands into one trip. Several short trips taken from a cold start can use twice as much fuel as a longer multi-purpose trip covering the same distance when the engine is warm.

Idling can consume as much as a gallon of gas per hour. When waiting in the school pickup lane, turn off the engine to save fuel and reduce fumes.

Get rid of excess items in the trunk. The extra weight makes engines work harder, which burns more gas and releases more emissions.

Laurie Mercurio is a public information officer in the DNR's Office of Communications.

ISTOCK/TACOJIM

GET SET FOR Trapping IN WISCONSIN

ANDI SEDLACEK

Trapping's rich history in Wisconsin dates back to the 1600s, when Native American hunters exchanged beaver pelts with French traders for knives, beads, blankets and more.

Today, it is highly regulated, with particular season dates and deadlines for most species. Specific techniques and practices are required by law. The DNR is involved in ongoing research dating back to the 1990s to establish best management practices for traps and trapping techniques with animal welfare in mind.

Trappers use the animals they trap in as many ways as possible. The pelt can be used to create hats, gloves or wallets. The meat can be turned into dinner for humans or pets. Harvested animals can even be taken to a taxidermist and used for education purposes.

Those who enjoy trapping spend a lot of time outdoors, learning the

Muskrat trapping dates vary by zone.

LINDA FRESHWATERS ARNDT

WHAT CAN YOU TRAP?
Below is a list of species that can be trapped in Wisconsin. For season dates, license information and complete trapping regulations, scan the QR code or check dnr.wi.gov/topic/trap.

- Beaver
- Bobcat
- Coyote
- Fisher
- Gray fox
- Mink
- Muskrat
- Opossum
- Otter
- Raccoon
- Red fox
- Skunk
- Weasel
- Woodchuck

habits and tendencies of wildlife in their area. They also must check their traps regularly, regardless of the weather.

For the DNR, trapping is an important wildlife management tool, allowing staff to collect data on important species and informing future management plans to ensure the overall health of our state's furbearer populations.

With some species, the data can be as simple as harvest details or even anecdotal notes about the landscape in which an animal was harvested. For species like bobcat, fisher and otter, successful trappers must submit biological samples in addition to normal harvest data.

Raccoons can be legally trapped in the state each fall and winter.

LINDA FRESHWATERS ARNDT

Trapping season for the red fox begins in mid-October.

LINDA FRESHWATERS ARNDT

LEARNING HOW

The state's trapping community is passionate about its high level of ethical standards, which led the DNR and the Wisconsin Trappers Association to begin a trapper education program more than 30 years ago.

Want to start trapping? You'll first need to complete a trapper education course. These generally are offered in the off-season, making spring and summer the best times to get certified.

The Wisconsin Cooperative Trapper Education Program offers both online/correspondence courses and in-person options — a 14-hour course taught over a few days.

In 2021, two DNR wildlife management biologists, together with the Wisconsin Trappers Association, established a women's trap camp, a three-day workshop focused on building a safe, comfortable, empowering atmosphere for women interested in learning how to trap.

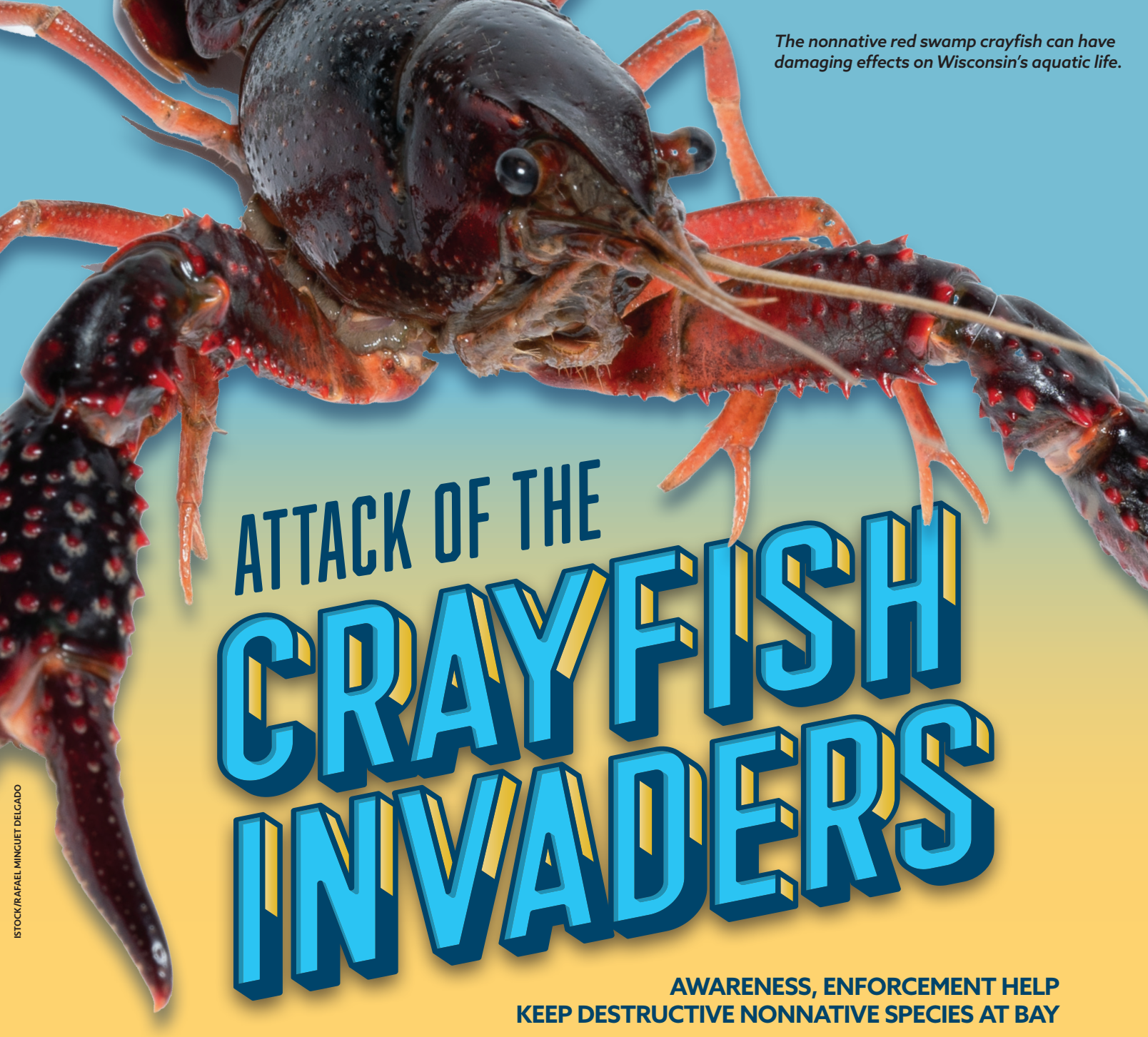
The program received national attention for helping to pave the way toward making Wisconsin's traditional wildlife management practices more inclusive. More trap camps are in the works for 2023 and beyond.

Andi Sedlacek is a public information officer in the DNR's Office of Communications.

WHAT YOU NEED TO GET STARTED

The gear you need for trapping can vary based on weather, terrain and the species you're targeting. But there are some basic pieces of gear you'll need to get started with any type of trapping.

- **Trap tags.** A metal trap tag is required for all Wisconsin traps, including cable restraints, cable snares, cage traps and colony traps. Tags must be stamped or engraved legibly with the name and address or the DNR customer ID number of the trapper. Choose tags made of rust-resistant materials like copper, brass or aluminum.
- **Pack basket, bucket or heavy bag.**
- **Hatchet, small axe or pocket saw.** To cut limbs, drive stakes, chop ice or make certain sets of traps.
- **Knives or multi-purpose tools.**
- **Trowel or digging tool.**
- **Wire and galvanized cable.** To hold traps, baits or cubbies in place.
- **Pliers and cable cutters.**
- **Trap stakes, drags or grapples.**
- **Lures, scents and baits.** Keep these items separate from your other trapping equipment to eliminate the chance of contamination.
- **Sifter.** To cover the traps.
- **Long gloves and waders for water trapping.**
- **Trap setters.** Aid in setting traps safely.
- **A method to mark where your traps are located.** This could be a paper map, detailed notes, GPS or a smartphone. By law, traps must be checked daily.
- **A trapping license.** Buy online at gowild.wi.gov.
- **A copy of the current trapping regulations.**



The nonnative red swamp crayfish can have damaging effects on Wisconsin's aquatic life.

ISTOCK/RAFAEL MINGUET DELGADO

ATTACK OF THE CRAYFISH INVADERS

AWARENESS, ENFORCEMENT HELP KEEP DESTRUCTIVE NONNATIVE SPECIES AT BAY

LT. ROBERT STROESS

There are times when aquatic invasive species seem like something from a horror movie. Species such as bighead and silver carp, invasive water garden plants and nonnative crayfish can self-clone and multiply with astonishing speed and precision leveraged to destroy native fish, wildlife and plants.

All too often, these damaging invasive species find passage into the state through vendors who know what they're importing is illegal. But they also can hitch a ride with consumers who aren't aware that what they're buying is an invasive species.

The results can be plant-choked ponds, wiped-out native fish and wasted remains of once-diverse aquatic plant habitats. Any number of aquatic invasive species can have this effect. However, crayfish, whether from a well-intended crayfish boil or an aquarium pet setup, have been the focus of recent DNR work involving invasive species enforcement under Chapter NR 40 (Wis. Adm. Code).

PROHIBITED PETS

Wisconsin forbids keeping live nonnative crayfish species, a rule meant to minimize the importation and possible release of invasive species. And yet, crayfish are among the most common invasive species in the pet industry.

In one case, DNR wardens were alerted of possible illegal crayfish sales at a Milwaukee pet store. An

Already widespread in the state, the invasive rusty crayfish may be harvested with a small game or fishing license, if none are allowed to escape.

WISCONSIN DNR

investigation discovered several companies from neighboring states had supplied dozens of Wisconsin pet stores with about 950 invasive crayfish during a two-year period.

The primary distributor and many of the pet stores had already been notified by the Wisconsin DNR about invasive species rules in the state after an earlier illegal invasive species delivery. In all, the investigation resulted in 125 convictions against the primary distributor and another 22 against 10 other defendants.

In 2020, wardens investigated a Green Bay man who was raising the world's only self-cloning crayfish species, the marbled crayfish, and shipping them around the country. It takes just a single marbled crayfish to start a new infestation that can outcompete native species.

It turned out the man's supplier in Ohio was shipping these harmful invasive crayfish to 36 states. The investigation led to the seizure of more than 1,000 self-cloning crayfish around the country, with the two distributors convicted in state and federal courts.

SEEING RED

Native to northern Mexico and the southern United States, red swamp crayfish often are shipped live for use in the popular crayfish boil. But the species is illegal in Wisconsin because it can have damaging effects on the state's native aquatic life.

Before the feast, they might be kept in a small pool and sometimes escape and wander off. Or leftover crayfish that aren't boiled might get dumped into a nearby waterbody.

In 2009, residents in southeast Wisconsin reported "mini-lobsters" crawling in their yards. These turned out to be invasive red swamp crayfish that had infested three neighborhood ponds, costing an estimated $800,000 to eradicate them.

In a more recent case, the Dane County Circuit Court last August convicted a Louisiana seafood wholesaler on 10 counts related to illegally supplying live red swamp crayfish for sale in Wisconsin. These were the first-ever criminal convictions under the state's invasive species law related to the importation of live red swamp crayfish.

The investigation revealed significant illegal importation of live red swamp crayfish throughout the Great Lakes region.

BOIL LEGALLY

To avoid potentially expensive or even disastrous environmental consequences tied to the invasive red swamp crayfish, it's vital to use only native species for any crayfish boil in Wisconsin. Native crayfish species may be harvested and brought home alive.

The rusty crayfish, an invasive species already widespread in the state, also may be harvested and brought home alive if none are allowed to escape. Harvesting wild Wisconsin crayfish requires a small game or fishing license.

Lt. Robert Stroess has been a Wisconsin conservation warden for 23 years and is the administrator of the Aquatic Species in Trade Enforcement Program in the DNR's Division of Public Safety and Resource Protection.

LEARN MORE

For more about invasive species in Wisconsin, including nonnative crayfish and other aquatic invasive species, see dnr.wi.gov/topic/invasives.

CULINARY
SPOTLIGHT

TAPPING INTO NATURE'S GIFTS

LEAH KNIGHTS

Jeremy and Abi Solin, co-owners of Tapped Maple Syrup.

KATIE GRANT

Drip... drip... drip... it's the sound of maple sap collecting in a bucket, each drop a little contribution to what will become gallons of syrup.

It's a crisp morning, and with each drip, the excitement of the season is palpable. Take a few seconds just to be still in the woods — the world stops and that dripping sound echoes beautifully. With the sun shining, even better.

The excitement of maple syrup season and gratitude for what the woods gives them are what Abi and Jeremy Solin, of Tapped Maple Syrup near Neva, reflect on at this time of year. But they acknowledge it's easy to lose those moments in the rush of the season.

"You're in the woods at a time when everything's coming to life," Jeremy said. "So that symbolizes the trees coming to life. But at the same time, you're seeing birds coming back, chipmunks are coming out, squirrels are getting more active, green sprouts of leeks are starting to pop up through the snow.

"The forest is literally waking up around you. (That's) the fun part of this, and being able to share it with family and community is a fun thing to be a part of."

STEWARDS OF THE LAND

In the summer of 1917, Solin's family settled on the land where he and Abi now live and tap maple. Although Abi and Jeremy are co-owners of the

maple syrup business, Jeremy's dad, Dave, remains involved, managing much of the operation.

On any given day during the height of the season, you can find three generations of Solins, and a whole lot of people from around the community, in the sugar shack.

Being a good steward of the land is paramount to the operation. The Solins work to ensure they're providing good wildlife habitat, protecting the soil and controlling invasive species. Diversifying the forest, both in terms of species and age of trees, is also a critical component of their operation.

"What keeps us, me, going is the opportunity to be connected to the land and to have that annual experience of needing to be working on the land," Jeremy said. "And then I think just long-term, what would happen to it if we don't continue to take care of it? There's a very high likelihood it gets gobbled up and converted into fields.

"I don't want to see that happen. We hope our kids have a connection there and value the land. And hopefully, we've built the foundation so they'll want to keep it going, too."

CREATIVE AND CONNECTED

It's not just the forest the Solins are hoping to protect. They see Tapped as a way they can help support rural economies and their community, dedicating part of their revenue to Farm Shed, which works to build sustainable local food systems.

They also find ways to work with local businesses to get more creative with the uses for their syrup — like their Old Fashioned Cocktail Maple Syrup and their Whiskey Barrel-aged Maple Syrup.

For both Abi and Jeremy, Tapped is a side business; they both have full-time jobs away from the trees. And while it's very time-consuming throughout the year, they keep coming back to ensure it stays in the family because it allows them to be connected to the land.

Katie Grant is communications director for the DNR.

MAPLE SYRUP GLAZED SWEET POTATOES

Created by Abi and Jeremy Solin and chef Christian Czerwonka from Chef's Kitchen/Father Fats Public House in Stevens Point

NICOLE HANSEN

Maple syrup, spices and bacon turn sweet potatoes into a delectable dish.

INGREDIENTS

- 4 sweet potatoes
- 3 tablespoons vegetable oil, such as avocado oil
- Salt and pepper, to taste
- ¼ teaspoon ground cloves
- ¼ teaspoon ground cinnamon
- ¼ teaspoon ground nutmeg
- ¼ cup maple syrup
- ¾ cup bacon, cooked and crumbled into medium pieces

DIRECTIONS

1. Preheat oven to 425 degrees Fahrenheit.
2. Cut sweet potatoes in half and then into ¼-inch thick slices; toss with oil, salt, pepper, cloves, cinnamon and nutmeg.
3. Evenly spread sweet potatoes on a roasting pan and bake until cooked through, about 10-12 minutes.
4. Remove from oven and toss with maple syrup and bacon crumbles. Serve warm.

PHOTOS BY
NICOLE HANSEN

KIDS
CORNER

Making a rain gauge is a fun way to keep track of spring rainfall.

Rain, Rain, come and play!

ANDI SEDLACEK

Springtime can feel really rainy in Wisconsin, though some spring seasons are rainier than others.

For example, data from the Wisconsin State Climatology Office shows that in May 2021, Wisconsin got about 3 inches of rain, the same as in May 2020. But in May 2019, the total was about 5½ inches. How much will we get this year?

What causes all that rain? The clouds!

Clouds are made up of water droplets, which condense (or combine) into each other and get bigger. When the water droplets get too heavy for the cloud, they fall to the ground as rain.

The rain collects in bodies of water like oceans, lakes and rivers. Eventually, it evaporates and returns up to the clouds to start the water cycle all over again.

Want to know how much rain falls this spring? Be a backyard meteorologist and find out for yourself by making a rain gauge.

Andi Sedlacek is a public information officer in the DNR's Office of Communications.

SAVE THAT RAIN

Rainwater doesn't have to sit in puddles in your yard. You can collect it in a rain barrel and reuse it to water your garden and plants.

Many garden supply and hardware stores sell rain barrels you can hook up to your house's downspouts or set in an open area to collect the rainwater. Rain barrels often have spouts to attach a hose or to empty the water into a watering can so you can reuse it.

It's important to know rainwater is nonpotable, meaning you cannot drink it.

MAKE YOUR OWN RAIN GAUGE

SUPPLIES

- Clear plastic bottle (like a 2-liter soda bottle)
- Scissors
- Ruler
- Permanent marker
- A few marbles, pebbles or small rocks
- Water
- Tape

DIRECTIONS

1. Cut off the top of the bottle using the scissors and keep the top but discard the bottlecap. Ask an adult for help with this step. Be careful — the cut edge may be sharp.

2. Using the ruler, make a mark about 2 inches from the bottom of the bottle and write "0" next to it. Starting at that mark, use the permanent marker to mark 1-inch increments on the bottle all the way to the top. Number the marks as they go up, starting with "1" at the bottom.

3. Place the marbles, pebbles or small rocks in the bottom of the bottle to weigh it down.

4. Add water to the bottle up to the "0" mark. This will help ensure your rainfall measurements are accurate.

5. Put the top of the bottle back on but upside down so it will act like a funnel for the rainwater. Secure it with tape.

6. Find a spot outside that is uncovered and flat, like a driveway or walkway, to place your rain gauge.

And now it's time to wait for rainfall. After it rains, check the amount your rain gauge collected using the 1-inch marks you made on the side. Compare your rainfall amount with what the National Weather Service reports to see how accurate your gauge is.

After a rainfall, empty your rain gauge and refill it to the "0" mark. In between rainfalls, check to make sure the water has not evaporated below the "0" mark. If it has, fill it up to "0" again so it's ready for the next rainfall.

Measure and mark lines an inch apart then fill the bottom of your gauge to weigh it down when it rains.

Highlights Hidden Pictures™

Picnic

Illustrated by Olivia Cole

crescent moon

slice of pie

ladle

tack

candle

jar

lollipop

open book

hatchet

fork

fish 1

handbell

mug

pitcher

ghost

glove

banana

pennant

egg

crayon

crown

mushroom

bowl

high-heeled shoe

fish 2

www.Highlights.com

Look for puzzle answers in the Summer issue.

GET OUTSIDE WITH EXPERT LEADERS TO EXPERIENCE WHAT MAKES WISCONSIN SPECIAL.

260+ Field Trips are available statewide. Become a member of the Natural Resources Foundation of Wisconsin and register starting April 4, 2023.

Visit wisconservation.org to learn more.

PHOTOS BY MARC WILLIAMS, CAROL JAKSIC, JOE JANNSEN, LICIA JOHNSON, AND REBECCA THIEME-BAESEMAN

Natural Resources Foundation of Wisconsin

ISTOCK/MARCHELLO74

LESSONS FROM LAW PARK

City of Madison planners envision a transformation of the corridor along the John Nolen causeway between Olin and Law parks, welcoming visitors and connecting neighborhoods with the lakefront.

KATHRYN A. KAHLER

More than 25,000 Madison commuters and visitors to the capital city drive past it each day. They might know the narrow strips of land surrounding the Frank Lloyd Wright Monona Terrace as Law Park, but most don't know it was once part of Lake Monona's lakebed.

The vision to expand Lake Monona's shoreline sprung from several key Madison figures. According to a historical marker at the park, James R. Law, Madison's mayor from 1932 to 1943, planned to move the shoreline 200 feet into the lake to make way for the downtown park.

Law wasn't the only one with this vision. The expanded Lake Monona shoreline was part of the dreams and plans for Madison drawn up in the early 1900s by Wright and other famed urban and park planners, including James Doty, John Olin, John Nolen and Ladislas Segoe.

Creating the new land required years of planning and preparation, though not necessarily through the means we'd use today. Newspaper accounts over the years say Law Park was a dumpsite for trash, appliances and building debris from the 1930s until 1951. Though this occurred more than two decades before state laws were enacted to regulate solid and hazardous waste sites, Law Park is still considered a historic waste site.

According to the DNR's remediation and redevelopment database, the park became a superfund site in 1995 after a hazardous substance discharge occurred there. The dumping created a permanent waste site stretching more than a third of a mile along the shoreline, which could potentially damage the environment in the future if not properly managed.

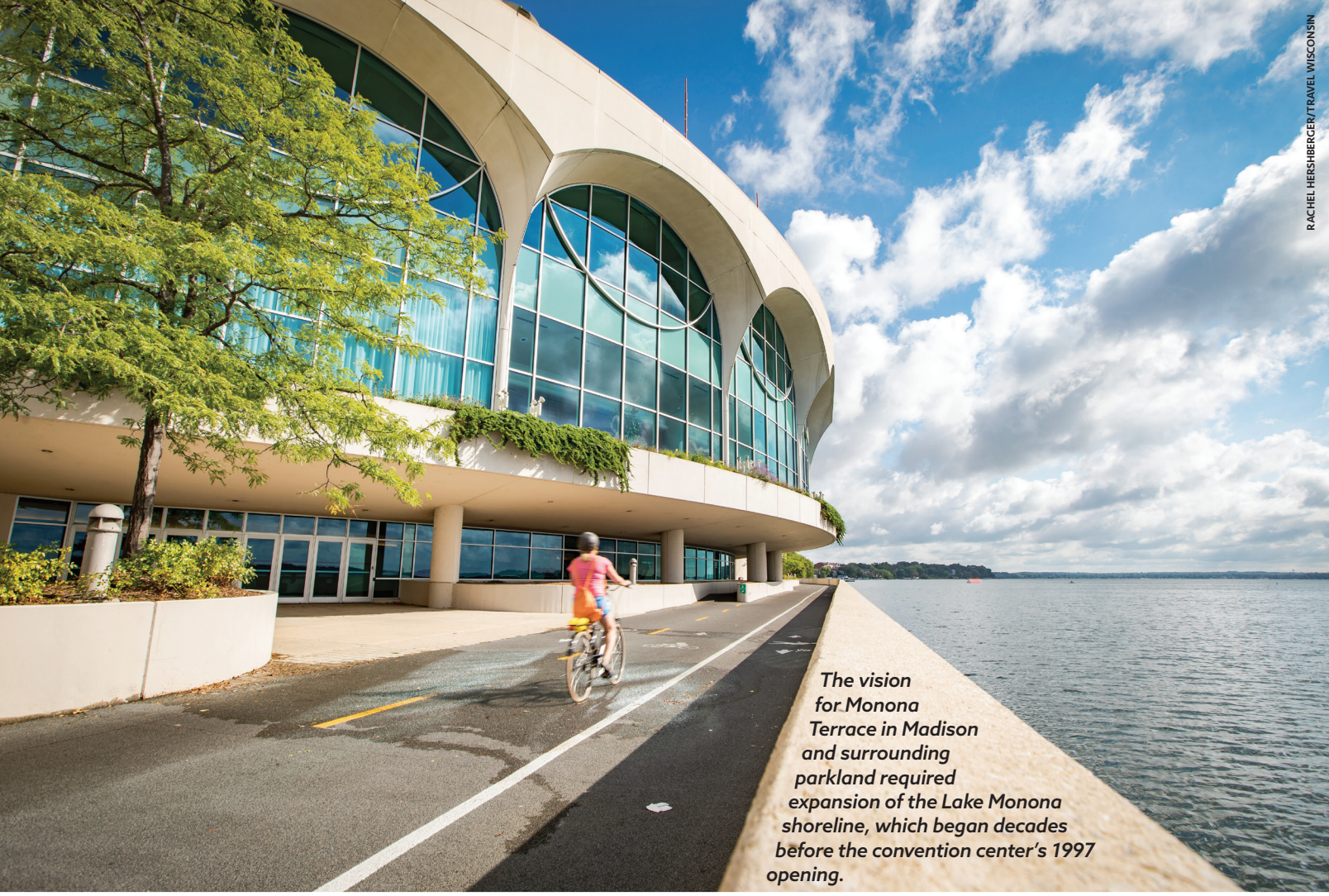
Law Park can be viewed as a teaching moment for environmental history. Today's landfills in Wisconsin do not resemble the landfills or dump sites of days past, thanks to knowledge acquired and regulatory safeguards put in place.

A CHANCE TO DO BETTER

Today, the southern gateway to Madison, encompassing the John Nolen causeway and Lake Monona waterfront footage at Olin and Law parks, is back in the spotlight.

In March 2022, city planners kicked off a design challenge to come up with a plan to transform the corridor to be more welcoming for city visitors and one that connects urban neighborhoods with the lakefront.

Last summer, planners chose a trio of internationally known urban planners — Sasaki Associates, Agency Landscape and Planning, both of Massachusetts, and New York's James Corner Field Operations — to develop plans for consideration. The firms were tasked with creating



RACHEL HERSHBERGER/TRAVEL WISCONSIN

The vision for Monona Terrace in Madison and surrounding parkland required expansion of the Lake Monona shoreline, which began decades before the convention center's 1997 opening.

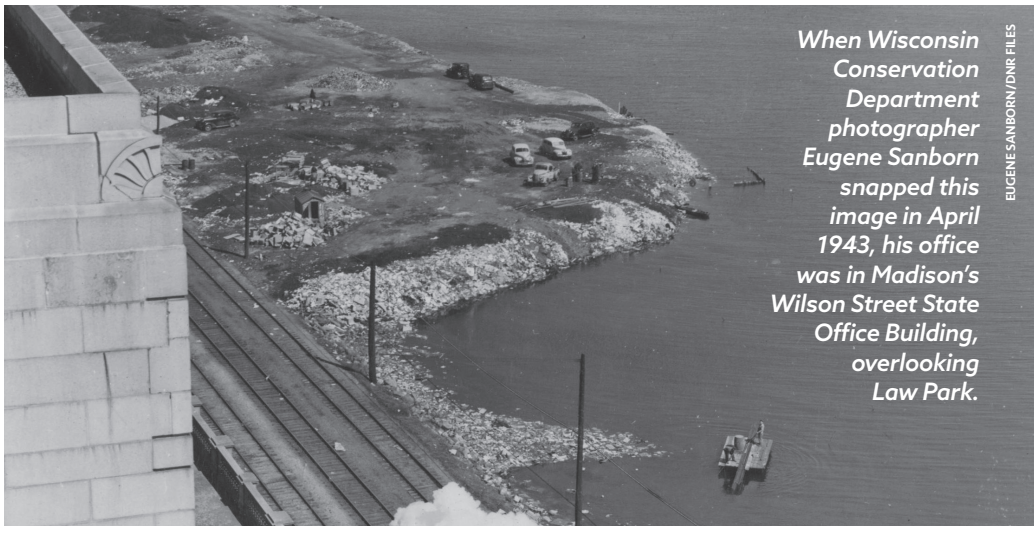
"a visionary, inclusive and environmentally focused master plan for 1.7 miles of shoreline and 17 acres of Madison's foremost public lakefront."

According to the Friends of Nolen Waterfront, the plans also address improvement of "Lake Monona's water quality and aquatic habitat ... and preserve Lake Monona's cultural history from the Ho-Chunk nation to the present day."

Besides water quality, the planning committee mandated that proposals address a host of other environmental issues, including fish life cycle concerns, from spawning at the lake's edge to deep water fishing; the effect of shoreline filling on storm events, flooding and nutrient load; and goose management.

The three proposals were presented to the public on Jan. 26.

"In late March, the Lake Monona Ad-hoc Committee will select a preferred master plan to be refined by the chosen design team," said Mike Sturm, landscape architect with the Madison Parks Department. "The refined plan will be introduced to the Madison Common Council in mid-August with the goal of a final plan by the end of 2023."



EUGENE SANBORN/DNR FILES

When Wisconsin Conservation Department photographer Eugene Sanborn snapped this image in April 1943, his office was in Madison's Wilson Street State Office Building, overlooking Law Park.

Approvals will be needed from multiple Madison departments, committees and councils, as well as state and federal agencies like the DNR, state Department of Transportation and the U.S. Army Corps of Engineers.

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

Be Bear Aware

Safeguard Against Unwanted Bear Encounters This Summer

Scan the QR code to learn how to live with bears in Wisconsin

WINTER ISSUE PUZZLE ANSWERS

NEW YORK TIMES SUNDAY CROSSWORD

A	T	B	A	T	S	■	T	E	A	E	G	G	■	L	O	T	S	■	P	A	C
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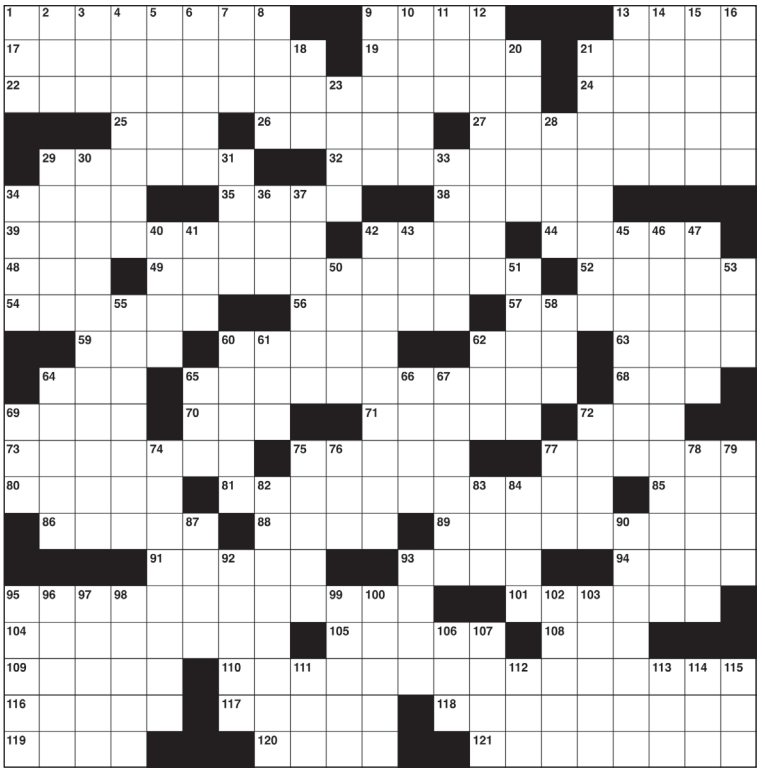
NEW YORK TIMES
SUNDAY CROSSWORD

HOLLYWOOD REMAKES

BY JEREMY NEWTON /
EDITED BY WILL SHORTZ



ACROSS

1 King, queen, etc.
9 Overly impulsive
13 Something in a cocoon
17 It may produce both a cringe and a laugh
19 Acclaimed rock 'n' roll biopic of 2022
21 Emerald or aquamarine
22 *"That cult's initiation ceremony is brutal!" [1983]*
24 Creator of the games Xybots Klax
25 Bit of memory, for short
26 It's quite the stretch
27 Not stay outside, informally
29 Spurred into action
32 *Bronzed New York basketball player from Bangkok [1997]*
34 Junk
35 Prominent features of Sphynx cats
38 Treaty that was dissolved in 2020
39 Neighbor of a return key
42 Places
44 ___ Stavro Blofeld, enemy of 007
48 Therein lies the rubbed
49 *Why the Devil was forced to pay "The Greatest" [1969]*
52 Parks at a pier
54 Anise-flavored liqueur
56 Passes (out)
57 Not play by oneself, perhaps
59 "Remarkable!"
60 Bucatini, ziti and rigatoni, e.g.
62 High point of a trip to Europe?
63 Total breeze
64 Do some making up
65 *Cry after remembering to meet at noon [1984]*
68 Somewhat off
69 English football powerhouse, to fans
70 Time out in pre-K?
71 Change for the better
72 Belly, cutesily
73 "You didn't fool me!"
75 One way to cross a lake
77 One in the oil business?
80 Actress Davis
81 *"You there, hoarding the Quattro razor! Scram!" [2002]*
85 Losing line in tick-tack-toe
86 Wryly comical
88 Word with pie, pot or port
89 Subject of SETI space scans
91 Partner of Clark in American history
93 Stefani who sang the 1996 hit "Don't Speak"
94 Six-foot runners?
95 *How one cannibal felt after devouring the other [2000]*
101 Like "threads," for clothing
104 Latest releases, of sorts
105 Neighbor of an Emirati
108 Anxiety condition, for short
109 I.T. bigwig
110 *Some optical illusions created with one's fingers [1999]*
116 Rival of a 'Vette
117 "Socrate" composer
118 Auditing a class, maybe
119 Part of H.K.
120 Miffed, with "off"
121 Compliment to Daisy during a game of fetch

DOWN

1 Summer hrs. in Dallas
2 "Nice joke!"
3 Previously, poetically
4 Bit of apparel that covers the face
5 Turn into confetti
6 Big change in price or power
7 Classic record label
8 Lug around
9 [Yuck!]
10 Greeting that means, literally, "love"
11 Crime-show spinoff, to fans
12 Skedaddle, with "it"
13 ___ Hall, home of the N.C.A.A.'s Pirates
14 Many a Zoroastrian
15 Line at a karaoke bar
16 "Hogan's Heroes" colonel
18 Ambassador, in brief
20 Pile of papers
21 Cosmic comeuppance
23 Big drinkers
28 Pay (up)
29 Freak
30 What you get upon reading aloud the answers to the seven italicized clues
31 "Works for me!"
33 Historic builders of rope bridges
34 Recipe qty.
36 Syst. of unspoken words
37 Diamond shapes
40 Make an appearance
41 Many a watch display, for short
42 1983 No. 1 hit for David Bowie
43 Work of appreciation
45 Dozes after a dose, say
46 Category for which every 30-Down in this puzzle was recognized, aptly
47 Its loss can cause baldness
50 Ganja
51 Didn't go anywhere
53 Filling-station brand
55 "Not good, amigo"
58 Missions, in brief
60 "___ OK!"
61 One who makes calls
62 Writer Rand
64 Like the death of 19-Across, some claim
65 Grammy-winning DiFranco
66 Out of control
67 Cowboy's cry of excitement
69 Aerial threat during the Cold War
72 Classic Disney film that opens at Flynn's arcade
74 On display, as a painting
75 Tapped
76 Feel bad
77 Travel through time?
78 Easily persuaded sort
79 Things pandas have 20 of
82 Chew the fat
83 Jubilant cheer
84 Options for "bee's knees" cocktails
87 Alternative to Levi's
90 End of a flight, in two senses
92 Serves, with "on"
93 Nickname for Mom's mom
95 Grind
96 Brought about
97 "Well, shucks!"
98 Contacting on Twitter, for short
99 Compadre
100 Journalist in a field
102 Ball game?
103 Like the smell of burnt rubber
106 Rapper behind the "King's Disease" trilogy
107 "Copy," to a cat
111 Great Basin people
112 D.D.E.'s W.W. II battleground
113 Sci-fi film staple, for short
114 White-wine aperitif
115 Show with a "What's Up With That?" segment, for short

Look for puzzle answers in the Summer issue.