WITH THIS ISSUE

2017 FRIENDS OF WISCONSIN STATE PARKS CALENDAR

NATURAL HERITAGE CONSERVATION ANNUAL REPORT

WISCONSIN NATURAL RESOURCES

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Wilderness TREKKING

Get the scoop about Wisconsin snow

Take a peek below the ice

Deer Lake residents reduce phosphorus for clearer water

Back in the day

A man of his time

Dorothy Kruse

George Ruegger's education came from the school he found at his back door.

PHOTO COURTESY OF DOROTHY KRUSE

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PHOTO COURTESY OF DOROTHY KRUSE

George Ruegger was a weather-bitten, woods-smart man whose records of 30 years of trapping were a reservoir of early wildlife management data.

Things That Happen in 50 years – I Geo. Ruegger, Boren year of 1881 January 26th, at Hiqland, Illinois…

These were the opening words of an autobiography by 50-year-old George Ruegger.

Father was a Butcher, We Moved to Dieterich, Illinois, on a Farm 1887. I went To A Contry school until I was 12 years old, graduated When I Finished the 4 Reader Then I got My First job-Herding cattle on Wild Prary-Land 1 cent a day for Each Head of stock, Which Was from 35 to 65 Head for The summer months. Had a good Poney and a good Dog, to Help.

George was writing about "unbroken prairie" in Illinois where he lived with his family and eventually met his wife, Isadora Huddlestone. In 1906, George bought a home seeker's railroad ticket for 30 days to visit Isadora's brother in Radisson, Wisconsin. About that visit he wrote, "I liked this contry of woods Menny Loging camps — going west and North." George and Isadora never used the return ticket.

Unfortunately, this ended George's diary, but his story was far from over. His life became the focus of articles written by Mel Ellis, Ernie Swift and Gordon MacQuarrie. Part of George's claim to fame would evoke protests today, but in the 1890s there was an abundance of game with few regulations. He was a masterful trapper and because of his reputation, was contracted by the state to trap animals — fox, beaver and bear — considered bothersome at the time.

As a state trapper, George was called when farmers lost livestock to black bears or when beavers built homes in creeks and streams, causing them to flood. An article in The Milwaukee Journal gave this account:

"Ruegger is a weather-bitten little man who smokes a short black pipe which he fills from a buckskin pouch. Many sportsmen and naturalists know him as a sportsman, but few know him as a professional trapper, which has put him on the spot many times when local trappers have failed to erase a sheep-killing bear, or when, 'nobody can get them beaver out'n there.'"

He'd arrive in a worn, high-wheeled truck with knobby rear tires for getting over bad roads and interview the complaining farmer, giving no hint that he was a guy who felt he had to make good. He didn't dare miss because, "If I did, pretty soon they'd get another man to do the job."

George Ruegger loved the north country. He was "woods-smart" far beyond school learning. As one writer put it, "What he did was simply attend the school he found at his back door."

He walked 125 to 150 miles per week, often on snowshoes, rather than setting up camp, because he didn't feel right being away from Isadora and their eight children.

George kept records for almost 30 years of animals trapped, the date, who commissioned it and damage the animals caused. Gordon MacQuarrie said of George's records:

"Those records with Ruegger's splendid story of wildlife knowledge are a reservoir of wildlife management facts for this area. He is such a rare treasure that the Conservation Department has had his trap line history analyzed and graphed as a valuable field guide to typical wildlife transition of Wisconsin's north. In spite of his accomplishments there is no more pretense or sham in Ruegger than a stand of giant hemlocks."

It is not unusual for people of humble existence to seek out men of fame and fortune, but in George Ruegger's case, the tables were turned.

Ernest Swift wrote, "I would not trade three days of grouse hunting with George, for a whole winter in Florida. Ruegger gives dignity to hunting. His code of ethics is one of the strictest I have ever seen."

Mel Ellis once wrote, "Nothing escaped Ruegger's attention in the woods. A feather, bent bracken, turned stone, broken spider web…were all words in the story of what had transpired on the earth along which he walked."

George Ruegger was as much a part of Wisconsin's Northwoods as a white-tailed deer, tall sugar maple or wood violet and worthy of his own chapter in Wisconsin's history.

Dorothy Kruse writes from Oregon, Wisconsin. Her husband's uncle, Sam, was one of George Ruegger's eight children.

WISCONSIN NATURAL RESOURCES

CATHERINE KHALAR

December 2016 | Volume 40, Number 6

STEVE APPS

DNR FILES

CHARLES MORTENSEN

FRONT COVER: Enjoy a snowshoe trek in Wisconsin's winter wonderland. It's invigorating and great exercise. Our cover story tells of one such trip into the wilderness, and a father-son experience that had them eager and planning for more.

R. J. & LINDA MILLER

BACK COVER: Red and white pines cling to a sandstone cliff within the Catfish Eddy Terraces State Natural Area in Jackson County. INSET: White pine cone. For more information about the State Natural Area Program visit dnr.wi.gov and search "SNA".

BACK COVER PHOTO BY THOMAS A. MEYER, DNR
INSET PHOTO BY SCOTT NIELSEN

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In search of winter

BACKPACKING INTO A FROZEN LAND

Story and photos by Ed Culhane

I thought I would be warm and cozy that first night sleeping in a snow coffin, deep in a winter wilderness. It didn't work out that way.

Weather conditions, equipment failure and human stupidity combined to make for a cold, miserable night of fitful sleep. The packed snow inside my coffin was hard and glossy smooth and it was, most unfortunately, not level.

Try as I might to wedge myself inside, I kept sliding down and out through the flap over the entrance hole, leaving the bottom half of my body — only partially encased in a sleeping bag with a broken zipper — exposed to the freezing night air. Gripping the bag from the inside, I'd wiggle my way back into that tight space and pound elbows into the hard, merciless snow in a futile bid to gain traction. Then just as I was falling asleep again, the cursed bag would begin its inevitable downward slide.

My son, David, didn't do much better in his coffin. In fact, it caved in on him.

Setting the scene

It was late February 2016. We were deep in the Rainbow Lake Wilderness in Bayfield County, having hiked in on snowshoes, carrying heavy packs. We would have three days and two nights without another soul in sight.

Let's call it a learning experience, an experiment in father-son bonding. It was invigorating, after all, and we'd found the challenge we were looking for. There were moments of great beauty, blissful isolation and quiet contentment in that snowy wilderness. And in the end — a shared feeling of elation.

At this point one might understandably conclude this was my first time at this, but I had slept out in the winter three times before. Once was in a double-walled tent, once in a snow coffin and once, long ago without shelter, in a borrowed, minus 20-degree-rated sleeping bag, encased in a waterproof sack

Winter backpacking and camping sharpen your senses. You are enlivened by the awareness of risk and the knowledge you are on your own.

made of breathable nylon.

On previous trips, one member of the expedition always pulled an inexpensive plastic sled piled high with heavier gear and other supplies that didn't fit into backpacks.

David, an experienced backpacker at age 27, had never made a winter trip before. He argued against pulling a sled and I concurred. Sleds were for sissies, we agreed in shared manliness. We would keep gear to a minimum.

Another important difference: my previous trips were all led by one or more experienced winter backpackers. This time I was the leader, though my son, starting at age 2, has always had trouble with this concept.

The first setback was a sudden change in weather. By late February, when we were finally able to coordinate calendars, there was little or no snow on the ground in much of Wisconsin. There was still 2 to 3 feet in Bayfield County, but a lodge owner in the area said it had the highest moisture content he had ever experienced.

Weather is the critical component on such trips. Ideally you want deep, soft snow and temperatures between zero and 30 degrees, the optimum being 15 to 25 degrees. Anything above freezing is a problem because of melting snow.

Two days before we left, the previously ideal forecast shifted dramatically. Temperatures that Saturday were expected to rise well above freezing under a bright sun. Determined to push ahead, we rationalized temperatures would be lower during the early and later parts of the day and fall below freezing at night.

We stayed at a motel Thursday night in Iron River and packed our bags. My son was unforgiving. Things that weren't absolutely necessary were disinvited. The fleece liner I'd planned on stuffing inside my sleeping bag was deemed a bulky luxury and left behind, along with other things I had hoped to bring.

When he suggested I leave my little tin coffee pot behind, however, I rebelled. I can put up with a certain amount of privation, but going three days without brewed coffee felt like cruel and unusual punishment. I also insisted on bringing a small, metal wood-burning stove as a backup to my backpacker stove. There is no way you can carry enough water for three days in a frozen landscape. The ability to turn snow into boiling water is critical.

The packs were ready to go before one last night in a bed. Using a bathroom scale I'd brought along, we weighed them. Each had two 32-ounce water bottles attached (8 pounds of liquid, not counting my whiskey flask). David's pack weighed 53 pounds; mine weighed 45.

Into the wilderness

Early Friday morning, we left the car at a pull-out on a little-traveled road in the Chequamegon National Forest. One of our rules was there had to be enough snow to require snowshoes. There was. Average depth was about 2 1/2 feet, and in areas of drift it was much deeper.

Donning the huge backpack for the first time, I was shocked by the sheer weight of it. Not pulling a sled was cool, but I now realized the subsequently heavier packs could be a limiting factor. More frequent rest breaks would be necessary and the distance we could cover would be less. Still, I'm in half-decent shape for a gray-hair, so I fell into the rhythm of it.

David was my secret weapon. He's quite strong. Once when I fell, with all that weight on my back and my snowshoes splayed out behind me, he hiked back. I squirreled around and bent my knees to provide upward thrust. He crouched down and simply lifted me back on my feet. Clever of me to bring him along.

"This is cool," David observed on one of our breaks. "Not many people go winter camping with their dad."

Then, after further reflection, "You

Eventually the trekkers came upon a small lake encircled by pine-green slopes and set up camp on a north-facing cove.

know, this is the first time I've been in the woods with you when we weren't fishing."

Quest for the perfect site

The key to building a snow shelter is getting an early start, so we wanted to reach our destination while the short winter day still offered a few hours of light.

We hiked down into a valley, circled a large lake, and then set out for something more distant, winding our way up progressively steeper hills and carefully negotiating the downhill runs, which can be difficult on snowshoes. The condition of the snow worked against us. It was heavy with moisture, and on south-facing slopes, the freeze-thaw cycle formed a hard, slippery crust. I used a pair of ski poles to prevent downward slides, bracing myself around sharp corners.

Eventually, a frozen creek bed led us to a small, pretty lake, its surface a blanket of unblemished snow, a pure white disc encircled by pine-green slopes. The tracks we made across the lake were the only evidence of human activity.

This is the wonder of winter backpacking. It all looks so soft and pristine, embracing and nurturing, but at the same time completely indifferent to your comfort or survival. It is a stark and terrible beauty, and it sharpens your senses. You are enlivened by the delicious awareness of risk, the knowledge that you are on your own.

We turned into a north-facing cove, sheltered from sun and wind, where the snow was deep, and climbed onto a natural shelf between the protective arms of two fallen trees — our new home. I dropped the pack and breathed a sigh of relief. I felt light and springy.

Setting up camp

The first order of business was to pack down the area with our snowshoes. Without them, every footfall would have dropped us into a 4-foot hole. We found a log for a bench, flattened out an area for the kitchen and used a shovel to sculpt out a "kitchen counter." We then beat down paths to the sleeping area and, in another direction, to the designated bathroom. After a couple of hours, the kitchen floor and paths became hard enough to walk on without snowshoes. Taking them off brought a second wave of relief.

People shiver when I tell them I'm camping out in winter, but staying warm is generally not a problem. Layers of high-tech materials preserve body

David placed branches to form the roof of his snow coffin. Next came a tarp, then a layer of snow.

Even careful planning and unforgiving discipline meant the author's pack weighed in at 45 pounds. He used ski poles to prevent downward slides on steep slopes.

heat and wick away moisture. The key is in regulating movement. Sweat is the enemy, so if moving too fast or exerting yourself too hard causes you to perspire, simply slow it down. If inactivity makes you feel cold, get moving and you'll warm up in no time. There are always tasks at hand, such as building a sleeping shelter.

There are various kinds of snow shelters. A quinzee, for instance, is formed by creating a huge mound of snow, waiting hours for it to solidify and then hollowing it out from the inside. These are wonderful but take too long to build, and the excavator ends up soaking wet.

A snow coffin can be built quickly from the outside. Start by digging into a slope, excavating a rectangular depression in the shape of a coffin with enough extra room for rolling over on your side and other night movements. The excavated snow is used to build up the three sides of the elongated U-shaped hole, a few feet longer than your height. Place branches across the top for support and spread a thin plastic painter's tarp over them, securing it along the edges with packed snow. Shovel a good layer of snow over all of this and in a couple of hours it hardens into a sturdy cover.

Ideally, the coffin floor is a few feet above ground level. The entrance area, now covered by some kind of flap or backpack, is dug closer to the ground, with side walls. You crawl into this lower area and then up and into the coffin. The lower area becomes a "cold sink" and whatever warmth your body generates gathers in the elevated coffin while colder air sinks into the lower entrance cavity.

In our case, David built sturdy coffins, but they were a bit too large and I'd forgotten to tell him about the cold sink. Wider than necessary, they required longer sticks for the roofing with inside space too wide to be efficiently heated by our bodies.

The biggest problem was the snow, so heavy with moisture it bordered on slush, and too heavy for the thin plastic tarps that took up miniscule space in the packs.

"It's like half-dried concrete," David observed.

The problem with my coffin was the barely noticeable but wickedly effective downward slope. In David's, the heavy snow cracked a supporting branch and a basketball-sized area of snow-filled plastic caved in where his head needed to rest. He managed to pound it into a smaller bulge and arrange some kind of support, but it condensed the moisture of his breath into cold water that dripped on him all night. (Hint: when designing a snow coffin, create a bit of an arch above so moisture rolls down the sides.)

David chose a high tree branch to hoist food and other sweet-smelling supplies out of reach of bears and other nocturnal marauders.

The evening's entertainment was watching David prepare to hoist our food and anything sweet-smelling, such as toothpaste, high above the ground where it would be inaccessible to bears and other nocturnal marauders. He chose a high tree branch some distance from camp and using a stainless steel thermos for weight on one end of a long line, made a dozen attempts before successfully throwing it over the branch.

That first evening, taking a few "medicinal" sips from the whiskey flask, we were rewarded by a dazzling night sky, thick with bright stars.

This is another gift for those who seek winter wilderness. Stars are brighter, more distinct. Freezing air is dry and crisp, more transparent. And in winter, the northern hemisphere is pointed away from the light pollution created by the Milky Way. Ask any die-hard sky watcher and they'll tell you — winter nights are better, and when far removed from city lights, they are fantastic.

The silence was so profound it was almost a presence. We fired up the tiny wood stove and watched the dancing flames. It was one of those moments when you felt you were in exactly the right place.

"It's hard to explain," David said. "You're cradled in the great mother's arms out here. It's all good, a little spot of safety and warmth in a huge frozen wilderness."

As if in affirmation, the resonant call of a barred owl rang across the night sky.

Later, in our inadequate shelters, encased in inadequate sleeping bags, we'd feel less wonderful about things, but you take your joys as they come.

A new day brings new challenges

We woke with the sun, refreshed ourselves with coffee and breakfast, and then, free of backpacks, went on a snowshoe hike to explore our new world. I had a topographic map of the Rainbow Wilderness, and using compasses and various landmarks, we made a wide loop that would bring us back to camp.

The sun was a burner and soon we were peeling off layers. It felt great to be so lightly dressed and after a night of shivering, to bask in solar heat, but it soon became a problem. Winter was melting before our eyes. The snow became soft and sticky, pulling at our snowshoes like wet glue.

Back in camp, mercifully shaded by an arc of tall pines to the south, we did what we could to improve the snow shelters. The floor of my coffin was carved level. I spent a frustrating hour trying to get the zipper on my bag to work, while inventing new curses as I went along.

We had another great dinner. Then, after turning a great deal of snow into boiling water and warming our food, my backpacker stove inexplicably ceased to work.

Conditions were quickly shifting. The wind had picked up, bringing in clouds to hide the stars, and temperatures fell below freezing. I tried to fix the stove, but my fingers became clumsy with the cold and I gave up. Instead, we gathered a small mountain of twigs for morning fuel.

We woke to howling winds and squall-

ing snow. I had endured another night of fitful sleep, waking often and feeling chilled. I was in no danger of frostbite. From a survival standpoint, my situation was more than adequate, but it wasn't the warm comfort I'd enjoyed on earlier adventures.

David had slept miserably under dripping condensation. His clothes were no longer completely dry and he was a bit cranky.

Despite the wind and cold hands, we managed to start a fire in the tiny wood stove. By burning enough twigs to fill a bushel basket, we transformed a great deal of snow into a quart of boiling water, brewing enough hot coffee to fill our thermos bottles and warm our hands in the process. We wholeheartedly agreed this was the best coffee ever brewed in the history of mankind, and clear evidence of our ninja wilderness skills.

We bagged the idea of breakfast, packed rapidly and disassembled the snow coffins, retrieving the torn and ripped tarps as garbage. We policed the site to make sure we left nothing behind. New snow was already erasing evidence of our stay.

By midday we were in the car and soon seated at the Delta Diner, where the staff was entertained by the sheer volume of food David consumed.

We were already making plans for next winter's expedition, debating ways to improve sleeping conditions. One thing was certain: I was going to purchase a seriously good sleeping bag, rated for subzero weather.

"I want to do three nights," David said. "We had enough food. I want to go in the deep winter, when it's cold and there's a ton of snow. We need to plan better and make more adversity for ourselves."

"More adversity?"

"Well, if it's not hard, it's not fun," he said, "but if it's too hard, it sucks."

Somewhere in the middle, we agreed, was the sweet spot.

Ed Culhane is a DNR public affairs manager stationed in Appleton.

>>> TIPS FOR SUCCESS

Campfires "leave a trace" when wilderness camping. Good alternatives are backpacker stoves that burn a variety of fuel.

- **A WORD ABOUT FIRES** – Different wilderness areas have different rules, but the general idea is to "leave no trace." A campfire is always allowed in an emergency, but can certainly leave a trace depending on how you manage it. Also, a campfire is a lot of work and of limited benefit since it only provides warmth if you stand near it. The question of fire depends on the situation and your own judgment. On my first winter expedition, one of us built a small breakfast fire which was most welcome. On subsequent trips, we got along fine without it.

  A small wood-burning camping stove is an alternative. Some have hinged sides for compact storage. Again, the benefit is muted by the stove's insatiable appetite for twigs. To keep the fire going requires a prodigious pile of them. Still, the flames add a lovely ambience to the campsite and are good for hand warming.

- **BRING FIRE STARTER MATERIALS** – Cotton balls rubbed with petroleum jelly and stuffed into a film canister will burn like crazy. There are also many commercial options, like "fire jelly." Squeeze some on the end of a long stick for an instant torch, excellent for reigniting kindling. Also, bring a saw, axe or cutting wire for building an emergency fire.

- **EAT "LIGHT"** – Foil packages of dehydrated backpacker meals found in outdoor stores are amazingly tasty but also quite expensive. In planning meals, the goal is to limit weight and volume. Soup mixes in paper packets are great. Discard the box at home and write the instructions on the packet with a permanent marker.

  We carried two dozen flour tortillas, vacuum-sealed pouches of tuna, salmon and chicken, and two packages of grated cheese. Heat a tortilla in a pan, cover half with ingredients and fold it over, pressing down on the sides to seal it all up with melted cheese. Yummy!

  Bring a thin, sturdy platform like a cutting board, on which to place your stove so it doesn't melt into the packed snow "kitchen counter."

- **MAKE A PLAN** – If you've never backpacked and slept out in winter, consider easing into it. Make a plan and test it in deep snow in your backyard. On your first trip, don't go so far that you can't hike out without great difficulty if things don't work as planned.

- **DON'T GET LOST** – Obtain a USGS topographic map for your destination. Learn how to use a compass with the map, called orienteering. Carry one compass on a lanyard and a backup in a secure pocket. In a snowstorm, it's easy to become disoriented.

- **THREE BACKPACKERS ARE SAFER THAN TWO** – If one person becomes injured or ill and cannot walk, that leaves one person to stay with the injured companion while the other hikes out for help.

- **A CELL PHONE** is a marvelous emergency tool if there is a signal, not always the case in a wilderness setting. Keep it turned off to preserve battery power, bring a small portable charger, or do both.

- **BEFORE DEPARTING FROM HOME,** leave a map with a friend or family member showing where you plan to park and an approximation of where you intend to camp. Include the phone number for the sheriff's department or ranger station. Establish a time you will call to say you are back out and safe, giving yourself adequate time to hike out or drive into cell phone range.

  If you plan well, there is nothing inherently dangerous about winter backpacking. Being prepared for emergencies is just part of a good plan.

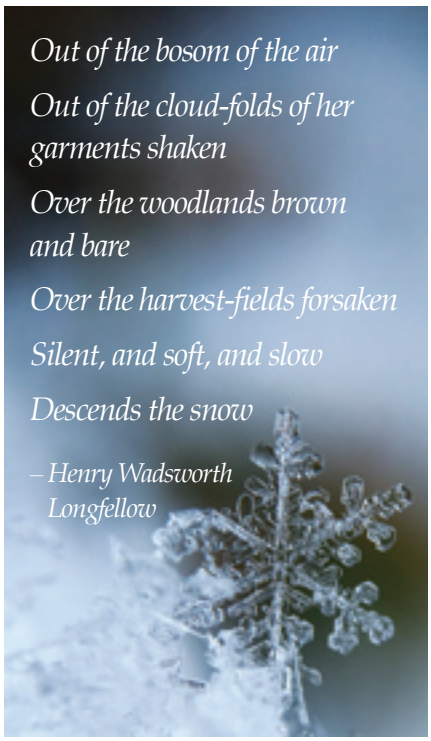
Wisconsin snow is measured by averages and extremes, but can be more predictable than you think.

STEVE APPS

Let it snow

"PANHANDLE HOOKS" BRING WHITE STUFF PERFECT FOR PACKING.

Richard Kalnicky

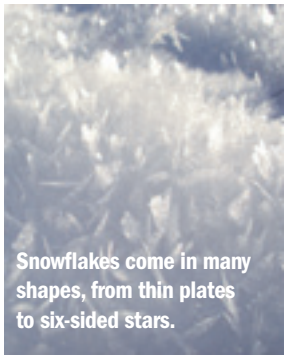


PIXABAY

This is what I saw first in the late 1940s on my parents' dairy farm 6 miles north of Boyceville, in northwestern Dunn County. The browns were replaced by glistening whites. Hills, valleys, forests and fields alike became bright white, the landscape's beauty enhanced by snow-covered tree branches. Not all snowfalls were peaceful, with the occasional blizzards and drifts caused by high winds and the rare heavy thundersnows. As the winter season progressed, snow continued to accumulate, reduced at times by warm spells and too quickly gone after the early spring thaw.

My brother and I took advantage of the snows and hilly farm landscape in the 1950s and early '60s to enjoy sledding and downhill skiing, going as fast and far as possible on our toboggan. What fun and great exercise! In the 1980s and '90s our children graduated from sledding on our gently sloping lot in west Madison, to saucer sliding on the Cherokee Middle School hill, to inner tubing on the steep, long and fast slope of Elver Park. Now fully retired, my wife and I have recently taken up snowshoeing. Throughout these years family members have also enjoyed building snowmen, constructing snow forts and snow angel artistry. We're grateful for such a great variety of fun activities to experience in and on Wisconsin snow!

Having enough snow for recreational pursuits requires the accumulation of incalculable numbers of individual snowflakes. Special photo-microscopes can capture images of freshly fallen snowflakes. The most symmetrical and mostly six-sided crystals usually occur during light snowfalls, without wind and with colder temperatures. However, symmetrical snowflakes are the exception. Most snow falls as asymmetric combinations of small crystal fragments. Snowflakes can grow into many forms: slender needles, thin plates, columns, multi-branched stars and myriad other interesting shapes.



Snowflakes come in many shapes, from thin plates to six-sided stars.

PIXABAY

Wind direction matters

The snow that falls over Wisconsin is associated with cyclonic storms of various paths and intensities. Alberta clipper snowstorms travel from northwest to southeast, frequently bringing lighter fluffier snow with less moisture content. Alberta clippers are often followed by cold Canadian air masses with strong northwest or north winds. If these winds cross ice-free sections of Lake Superior, they create lake-effect snow that greatly increases snow totals in sections of far northern Wisconsin. As the Canadian high pressure moves eastward, the associated east to west air flow over ice-free Lake Michigan can create lake-effect snow episodes on the west shore, episodes that occur less frequently and with significantly less total snow than their Lake Superior counterparts.

Another weather pattern known as a Colorado low heads eastward from Denver through Chicago and generally brings Wisconsin heavier snows than Alberta clippers. The most powerful storms are Panhandle hooks. These storms travel from Texas and Oklahoma northeastward to the Midwest, bringing Gulf of Mexico moisture in the form of heavy snow. Lake-enhanced snow can occur near these storms if the circulation

Six inches is the required snow depth for most snowmobile trails statewide. Check the Wisconsin State Climatology Office website for current snow depth in your area, or go to travelwisconsin.com/snowreport for local snow conditions.

WISCONSIN DEPARTMENT OF TOURISM

crosses ice-free Great Lakes, depositing extra snow on specific locations near lakeshores and for miles inland.

Averages and extremes

More than 120 years of snowfall observations show Wisconsin receives a statewide average of 52 inches of snow each winter. January is the snowiest month, averaging 14 inches. Next is December at 12 inches, followed by February and March, each with about 8.5 inches. November averages 6 inches, April almost 3 inches, with less than one-half inch each in October and May. The winter of 1996-97 had the most at 80.2 inches while 1967-68 had the least at only 21.7 inches. December 2008 was the snowiest month with 33.2 inches.

Annual snowfall varies considerably across the state. As expected, annual snowfall totals increase as one travels northward. Based on 1981-2010 data from 100 stations across Wisconsin, Beloit at 31.9 inches is the least snowy locale while Hurley at 167.5 inches receives the most snow. Most of the larger cities in the state receive close to or slightly below the statewide average: Milwaukee – 46.9 inches, Madison – 50.9 inches, Green Bay – 51.4 inches, La Crosse – 43.3 inches, Eau Claire – 46.8 inches and Wausau – 59.6 inches. Farther north the annual totals increase dramatically: Minocqua – 110.5 inches, and Lac Vieux Desert in northern Vilas County near the border with the Upper Peninsula – 122.5 inches.

For recreation, it is not the total snowfall over the winter season that matters. What counts is the depth of snow on the ground. There needs to be sufficient snow to permit snow-related recreation. Local units of government decide when their snowmobile and cross-country ski trails are open for snowmobile and ski enthusiasts. Snow depth is one of the factors governments use to determine whether trails on their properties are open or closed. According to Darren Parks, Dane County Parks Division, Dane County has a 6-inch required snow depth for the snowmobile trail system to be open on Dane County lands.

Determining snow depth requires several measurements across a designated space, with the average of the measurements recorded as that station's snow depth on that date. However, depths at locations near the station can vary from the "official" measurement. Drifting moves snow from one area to another, greatly altering depths. Also, south-facing slopes subject to greater melting due to direct sunlight have shallower snow depths while north-facing slopes with little sunlight have deeper snow.

How much is enough?

Taking all of this into account, I believe the best number to represent sufficient snow depth for each and every recreation activity is 6 inches. There are activities that can be enjoyed with smaller depths, but the risk of encountering bare spots or insufficient snow increases with each inch of decreased depth.

How often do Wisconsin locations experience snow 6 or more inches deep? As expected, based on data from 1950 through 2015, northern locations such as Lac Vieux Desert and Minocqua have deep snow more often, while southern locations such as Milwaukee and Madison have the least number of days with deep snow. There is also considerable variability from year to year in the number of deep snow days at each of the 12 stations on Table 1.

When can you expect to have depths of 6 inches or greater to enjoy snow recreation? There are few absolutes or guarantees, but there are probabilities based on 1950-2015 data. Again, the northern locations tend to have the highest probabilities for deep snow for longer intervals, while southern locations have the lowest probabilities for deep snow and for shorter intervals. See Table 2 for more details.

The American Birkebeiner, the largest cross-country ski marathon in North America, is held each February on a course that begins in Cable and ends in Hayward. This race has occurred since the early 1970s, except in 2000 when a last-minute thaw turned the course into slush and stones. However, records from the Hayward Ranger Station indicate 2000 to be the rare exception. Based on 1951-2015 data, there is about a 90 percent chance of 6 or more inches of snow on the ground for the Birkie each day in the last half of February.

For more information on recent snowfalls or current snow depths for Wisconsin locations, go to travelwisconsin.com/snowreport; the Wisconsin State Climatology Office website, aos.wisc.edu/weather/index.htm; or weather.gov. For historical data, go to weather.gov, National Climatic Data Center (www.ncdc.noaa.gov) and Utah Maps Utah Climate Center (climate.usurf.usu.edu).

But most importantly, get out and enjoy your favorite snow-related activity. Do it when enough snow is on the ground, either near your home or away, on your property, a friend's property, government land or at a commercial facility. Most important of all, let it snow, let it snow, let it snow!

Richard Kalnicky is retired from the Department of Natural Resources and writes from Madison.

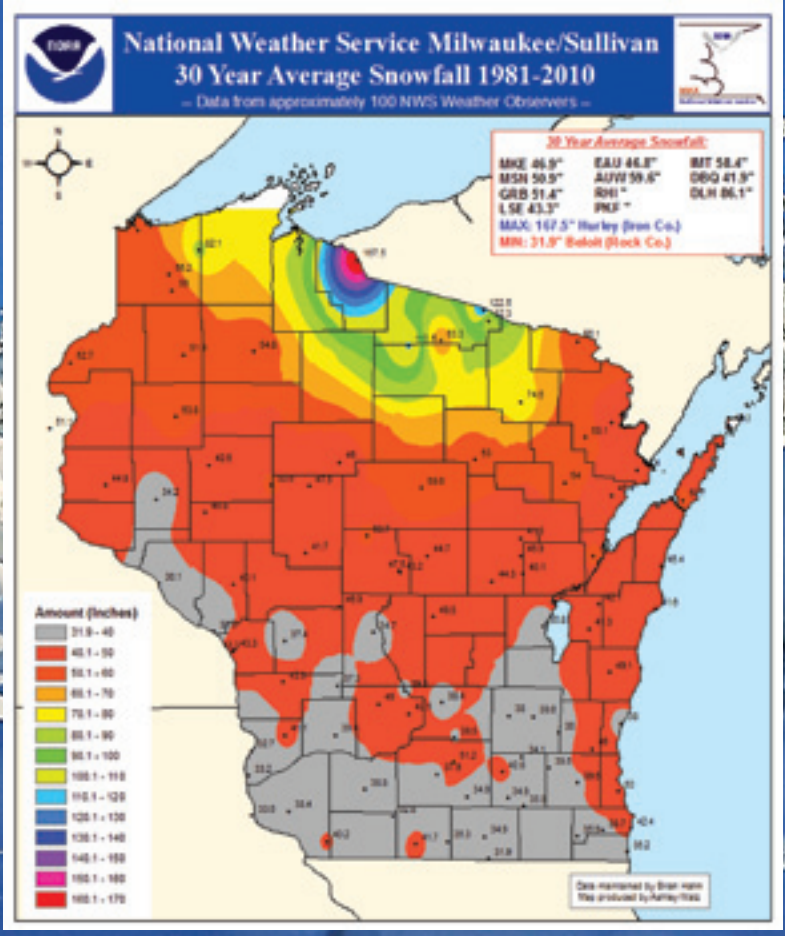


TABLE 1 Days per winter with snow depth 6 inches or more, based on 1950-2015 data.

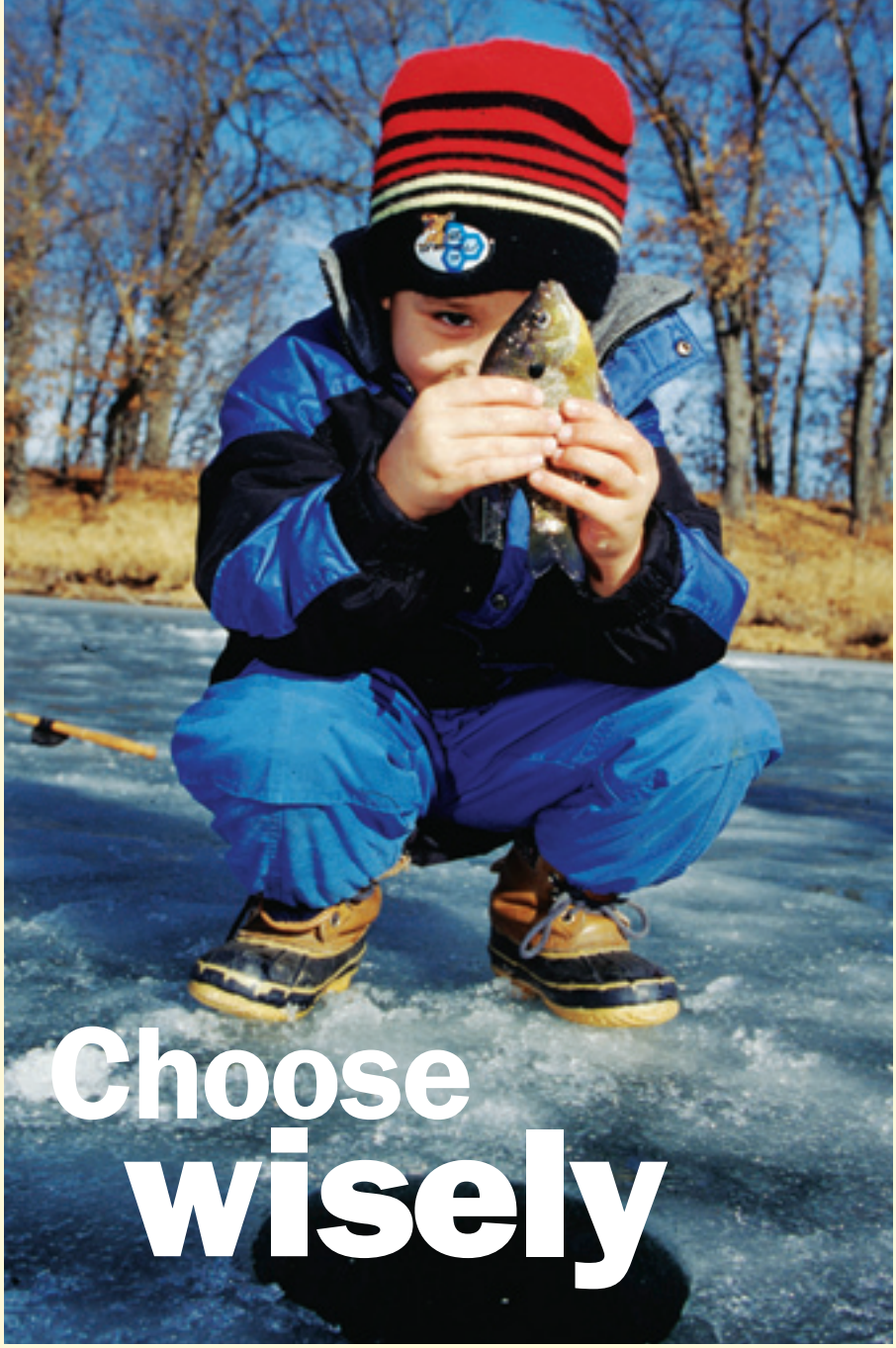
STATION	LOWEST	AVERAGE	HIGHEST
Appleton	0	36	110
Eau Claire	0	50	123
Hancock	0	50	115
La Crosse	0	34	113
Lac Vieux Desert	43	123	183
Madison	0	27	105
Milwaukee	0	22	74
Minocqua	46	106	150
Spooner	4	69	135
Sturgeon Bay	0	54	114
Superior	0	67	142
Wausau	7	63	119

TABLE 2 Probabilities and dates with snow depth 6 inches or more, based on 1950-2015 data.

STATION	25% OR MORE	50% OR MORE	75% OR MORE	HIGHEST/DATE(S)
Appleton	Dec. 19 – March 11	Jan. 26 – Feb. 11	NA	63% on Feb. 5
Eau Claire	Dec. 17 – March 20	Jan. 13 – March 24	NA	68% on Jan. 30, Feb. 2
Hancock	Dec. 19 – March 21	Jan. 12 – Feb. 21	NA	67% on Feb. 3
La Crosse	Dec. 25 – March 9	Feb. 3 – 6	NA	52% on Feb. 3
Lac Vieux Desert	Nov. 21 – April 16	Dec. 3 – April 8	Dec. 16 – March 29	100% on Feb. 1, 4, 19 and 22
Madison	Jan. 1 – Feb. 25	NA	NA	43% on Jan. 26 and 27
Milwaukee	Jan. 8 – Feb. 18	NA	NA	37% on Jan. 27
Minocqua	Nov. 29 – April 6	Dec. 9 – April 1	Dec. 21 – March 20	100% on Feb. 3 – 6
Spooner	Dec. 9 – March 28	Dec. 31 – March 12	Jan. 24 – 29	77% on Jan. 25 and 28
Sturgeon Bay	Dec. 27 – March 26	Jan. 8 – Feb. 26	NA	74% on Feb. 4
Superior	Dec. 8 – March 26	Dec. 28 – March 14	NA	74% on Jan. 25 – 29
Wausau	Dec. 15 – March 25	Jan. 2 – March 14	Feb. 1 – Feb. 6	77% on Feb. 2, 3 and 6

PIXABAY

Data for tables 1 and 2 (except the Lac Vieux Desert station) comes from the National Weather Service. Data for Lac Vieux Desert is from the National Climatic Data Center website.



Choose wisely

R.J. AND LINDA MILLER

R.J. AND LINDA MILLER

R.J. AND LINDA MILLER

DNR OFFERS AN "EATING YOUR CATCH" GUIDE.

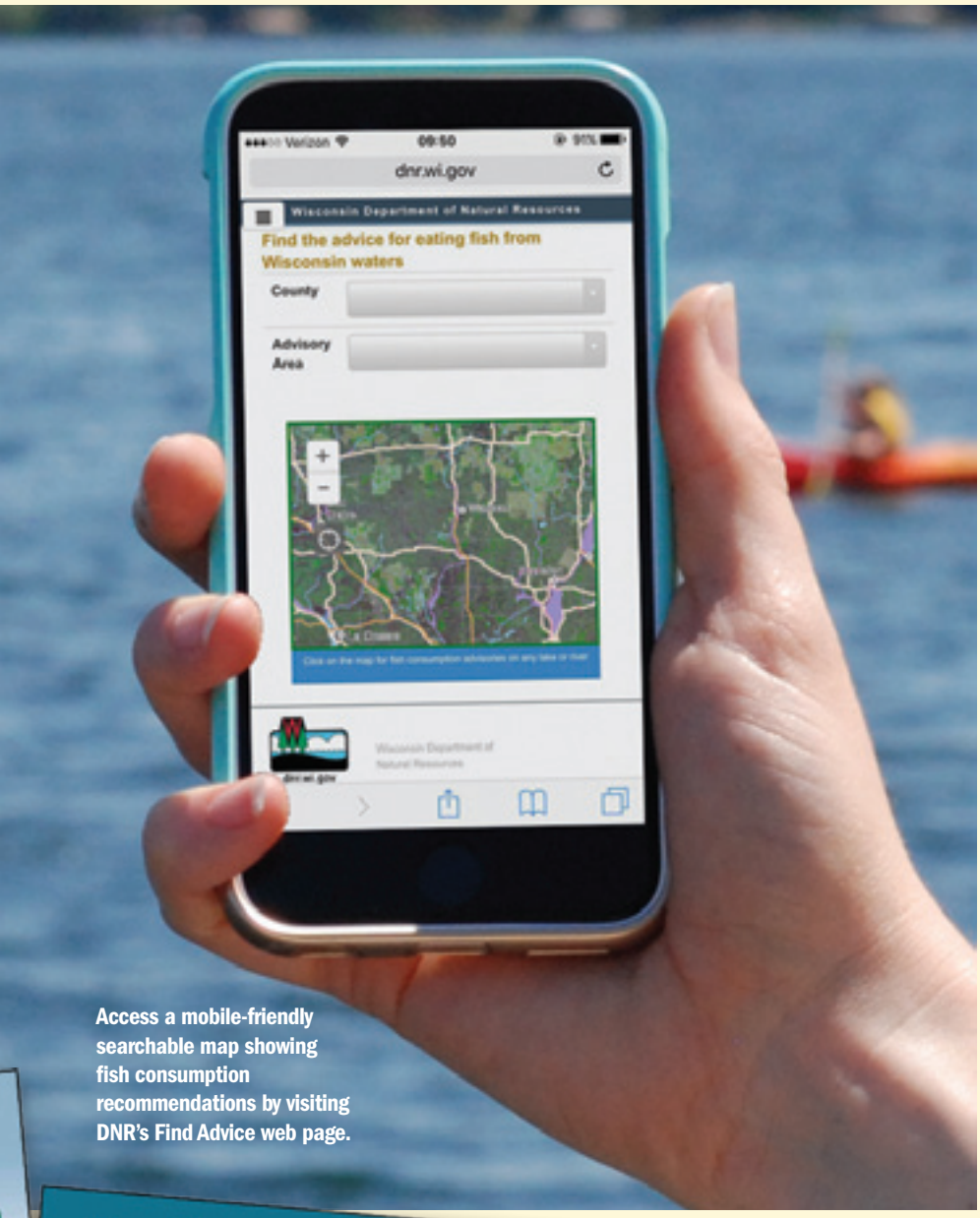
Meghan Williams

Figuring out which fish to eat is as easy as dropping or casting a line, thanks to the DNR's Find Advice web page. You can even use it on the water — it's that simple.

Fishing in Wisconsin isn't just a fun pastime: your catch can also be a tasty part of your diet. Fish are a great source of low-fat protein and beneficial omega-3 fatty acids, which can help keep you and your family healthy.

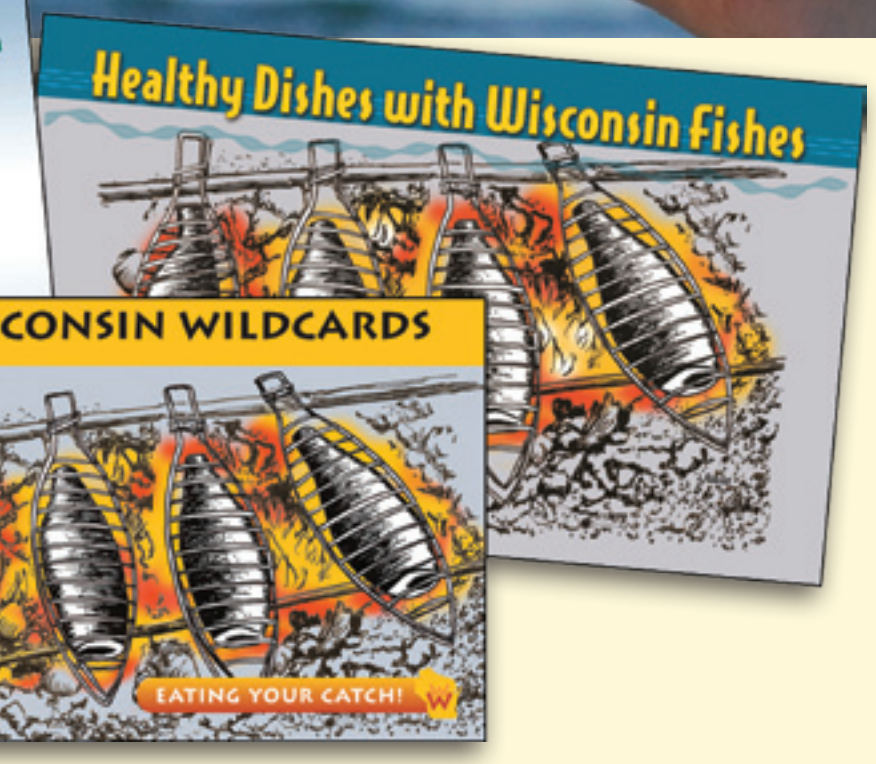
However, most fish living in Wisconsin waters contain at least a small amount of contaminants. At some locations, fish have higher concentrations of mercury, polychlorinated biphenyls (PCBs) and other chemicals that anglers need to know about to choose wisely.

Fortunately, the Department of Natural Resources has tools to help you figure out how frequently and which fish you and your family can safely eat. One such tool is the Find Advice website, a



Access a mobile-friendly searchable map showing fish consumption recommendations by visiting DNR's Find Advice web page.

DNR FILE



mobile-friendly interactive map showing fish consumption recommendations for every lake and river in the state!

Confidently take your catch off the hook and onto the grill by following these three easy steps:

1. Visit dnr.wi.gov and search "eating your catch."
2. Then, click on the link to the "online query tool."
3. Use the dropdown menus to select your county and lake or river stretch, or select all other waters. Or, click anywhere on the map to find advice for your fishing spot.

If you have GPS enabled on your phone, you can click the icon to find advice for eating fish from your exact location.

You probably won't be the only person on your lake using Find Advice. With over 260,000 visits since 2013, the Find Advice tool is a popular way for anglers to find information on what fish to eat, how frequently to eat them, and from which waters they should eat their catch.

Afraid you'll drop your phone in the water? No problem.

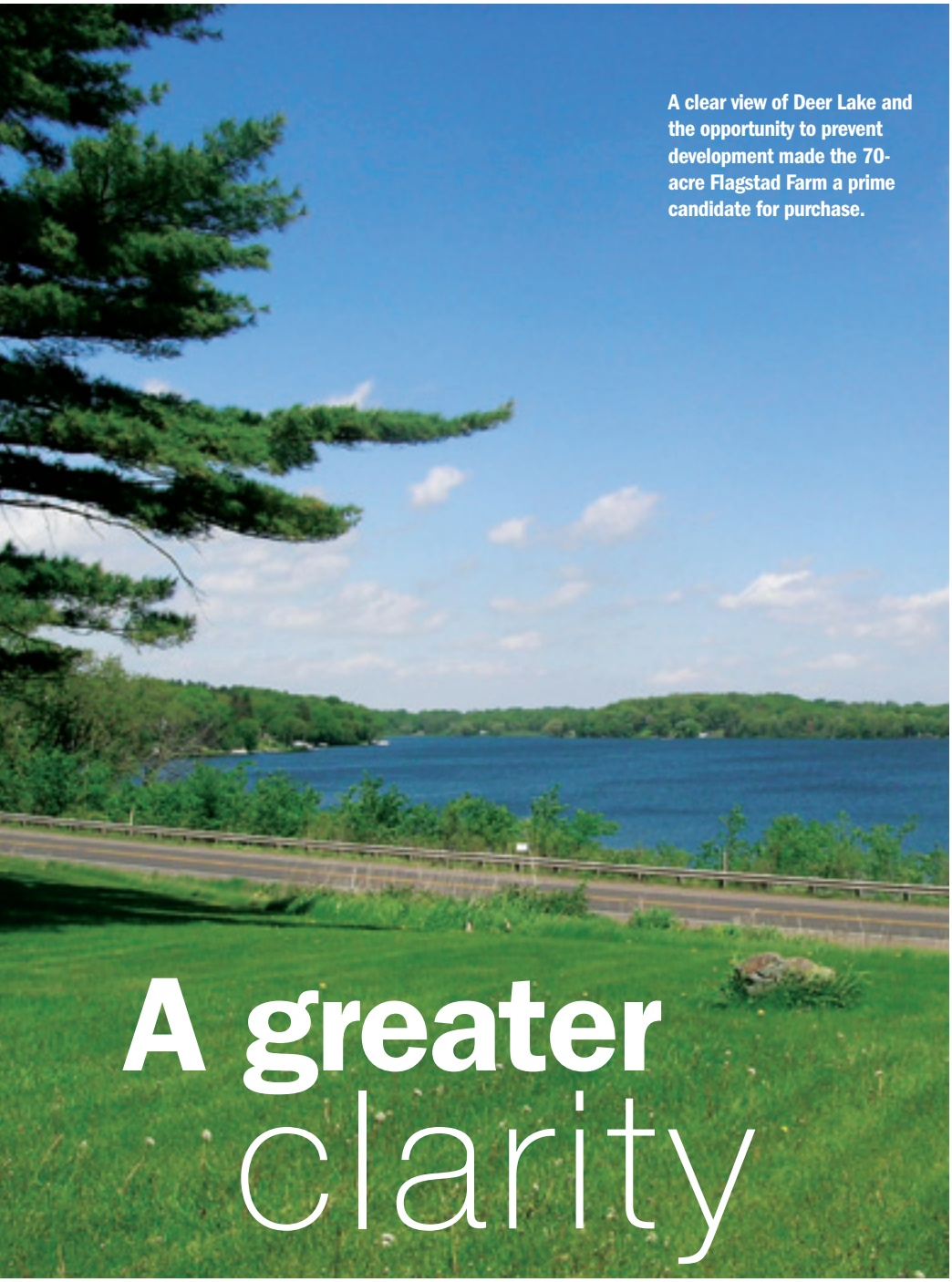
- The newly redesigned Choose Wisely booklet is on the shelves at local DNR and health department offices, and is updated regularly.
- You can also tuck an "Eating Your Catch" Wisconsin Wildcard in your tackle box for a quick reminder of general advice for most Wisconsin waters.

Reel in other new materials by visiting the Eating Your Catch website!

- "Healthy Dishes with Wisconsin Fishes" is a free cookbook including 25 recipes submitted by Wisconsin anglers and chefs. It has tips for choosing fish with the least contaminants, and highlights the healthiest recipes.
- You'll find a link to the cookbook on the Eating Your Catch website, or go to dnr.wi.gov and search for "healthy dishes."

For general information about Wisconsin's fish contaminant monitoring program and consumption advice, check out the department's other Eating Your Catch web pages, including answers to frequently asked questions, and links to more information.

Meghan Williams is a DNR environmental toxicologist.



A clear view of Deer Lake and the opportunity to prevent development made the 70-acre Flagstad Farm a prime candidate for purchase.

A greater clarity

UNPRECEDENTED CITIZEN ACTIONS LED TO A CLEANER, CLEARER DEER LAKE.

Cheryl Clemens and Jim Miller / Photos by Deer Lake Conservancy

Deer Lake is a beautiful 812-acre lake in northwest Wisconsin about 4 miles east of St. Croix Falls. It faces many of the same impacts as other Wisconsin lakes, from agricultural production in its watershed to residential development along its shores. Like other lakes across the state, Deer Lake residents had witnessed declining water quality in the late 1980s.

What distinguishes Deer Lake is that lake residents have been able to see a water clarity improvement of 14 feet by installing a series of watershed protection projects over the last 25 years.

The story of lake improvement is a long one, but the time and investment have been worth the effort.

A conservancy is born

Volunteers began measuring water clarity in 1987 using a Secchi disk, an 8-inch black-and-white disk they lower below the surface of the lake. The point at which the disk is no longer visible is recorded as the Secchi depth. Greater Secchi depths are equivalent to greater water clarity. Secchi disk measurements in the late 1980s indicated that water clarity was decreasing and the lake was becoming more polluted.

In the early 1990s, the Deer Lake Improvement Association sponsored lake planning grant studies through the Department of Natural Resources to identify the reasons and specific sources of decreasing water clarity.

Study results suggested most of the pollution was coming from the watershed — the land that drains to the lake. The pollutant of greatest concern was identified as phosphorus, the main reason for algae growth in Deer Lake and many Wisconsin lakes.

A small group of people recognized that considerable resources and an efficient organizational structure would be needed to reduce watershed pollution. They formed the Deer Lake Conservancy, a tax-exempt, nonprofit organization, to take on the task.

Between 1992 and 2015, the Deer Lake Conservancy obtained DNR grants to fund land acquisition, conservation practices and ongoing lake and watershed monitoring and planning. Total project costs over that period were approximately $1.3 million, about $846,000 of which was funded through state grants.

The conservancy focused efforts on areas north and south of the lake. Initially they focused on reducing phosphorus entering the lake from agricultural watersheds to the north along Dry Creek. These projects helped to capture and infiltrate stormwater runoff where intermittent streams carry runoff to the lake. Latest efforts have shifted to the south, with acquisition and restoration of the Flagstad Farm Preserve.

A sediment basin north of Deer Lake captures and filters runoff from farmland before flowing into the lake.

Conservation practices at Dry Creek

Dry Creek drains one of the agricultural watersheds on the north side of the lake. A number of conservation practices were put in place to improve lake water quality.

Sediment basins – Earthen berms were constructed to capture runoff water from agricultural land. Ponds that form behind the berms allow dirty water to settle and release clean water slowly. By reducing the rate of flow, downstream erosion is also decreased. The pond created by the earthen berm near the trail reaches the base of the trees more than 100 feet north of the dam during periods of peak flow. A second pond with a permanent pool of over an acre is located on private property to the north.

Wetland restoration – Wetlands were restored by removing drainage tiles originally installed to increase the land available for farming. These wetlands now capture and filter runoff water, providing habitat for pond-dwelling creatures.

Prairie restoration – Ten acres of native prairie planted in 1999 provide habitat for butterflies and grassland birds. Burning is used occasionally to reduce growth of weeds, shrubs and trees.

Tire cleanup – The conservancy removed over 20 truckloads of discarded tires from the Dry Creek streambed. A water diversion directs clean runoff away from a farmstead and down a rock waterway to the stream.

Conservation practices at Flagstad Farm

Land acquisition allows the Deer Lake Conservancy not only to install conservation practices, but to ensure they are maintained over the long term. The conservancy currently owns 167 acres of land and has installed conservation practices along nearly all of the intermittent streams that carry stormwater runoff to the lake. As a result of the work, the estimated annual watershed phosphorus loading to Deer Lake decreased by 53 percent from 1996 to 2009.

One of the most important acquisitions was the 70-acre Flagstad Farm Preserve on the south side of Deer Lake which the conservancy purchased in August 2002. The goal of the land acquisition was to prevent development of the parcel and to allow water quality improvements.

Once the farm was acquired, a series of conservation practices were put in place.

Prairie restoration – Row-cropped farm fields used to drain directly to Deer Lake through three large culverts under U.S. Highway 8. In June 2003, the fields were planted with more than 100 species of native prairie grasses and flowers. Seeds were collected and grown within 50 miles of the prairie, creating one of the largest local-ecotype restored prairies in the state. This change from row crops to prairie significantly reduced pollutant loading to the lake.

Gravel pit reclamation – The conservancy hauled three truckloads (5 tons) of scrap metal and other garbage from the site and then had the area shaped and seeded to native prairie.

Wetland restoration – Plugging a drainage ditch along the southern property boundary resulted in additional water-holding capacity in a pond and decreased agricultural runoff to Deer Lake.

Waterfront owner conservation projects

Once most large agricultural areas were addressed, the conservancy turned its focus to waterfront properties beginning in 2006. Runoff water carries nutrients and sediments that lead to algae growth. Installing rain gardens, native plantings and rock infiltration trenches and pits helps to capture, infiltrate and purify runoff water and reduce erosion. With the great success the conservancy had in reducing phosphorus from the larger watersheds, these smaller waterfront projects increased in importance.

A quick tour of some of the projects follows. Many thanks are extended to property owners who took the initiative to improve their properties and protect Deer Lake!

Boathouse removal with native plantings

Owners Dorothy Goldie and Ralph Schwartz enjoy an improved view of the lake with the boathouse gone. They enjoy the native plants used to stabilize the bank and the critters the plants attract.

When asked why they completed the project, they said, "We have been on Deer Lake for many years. Our boathouse came with our 1920s-era cabin, and back

in the day a boathouse was an essential part of lake life. This is no longer the case. Our boathouse was derelict and scary, and we were interested in having a more natural shoreline that would provide runoff filtration. We felt that removing the boathouse would benefit the lake and help create the kind of shoreline that interested us."

When asked how well it works for them now, Goldie and Schwartz said, "It's great! Where the boathouse was is now a little cove that has pretty shoreline plants like flags that we enjoy. As the ice pulls away in the spring, migratory waterfowl can find open water there that makes for great bird-watching. We hear peepers there. In winter, we now have a gentle slope that makes getting on the lake to snowshoe really easy.

"We are lucky to have a strong lake conservancy that has done so much to improve our lake quality. The vision of the founding conservancy members was really extraordinary. We have had great support from our homeowners and the state of Wisconsin.

"Now that we are on the lake year-round we see the role it plays in providing a resting spot for huge numbers of migratory birds in the spring and fall. We enjoy seeing the interesting wildlife on the ice in the winter. We're glad our lake is healthy and that we were able to play a small role in that through our project."

Rain gardens and diversions

Rod and Terri Johnson installed a series of rain gardens on their property. Rain gardens are depressions that allow the water to soak into the ground. Runoff flowed from Pinewood Road right down their driveway to the lake, causing considerable erosion along the way. Along with the rain gardens, they installed trench diversions across the driveway.

"One of the primary reasons we purchased a home on Deer Lake was because of the outstanding efforts of the Deer Lake Conservancy to protect and improve the quality of the lake," the Johnsons explain. "During our first year on the lake, we observed a fair amount of surface water erosion through the lawn and landscaping. That, combined with the desire to do our part to prevent surface water runoff into the lake, led us to work with an environmental consultant and the conservancy to install rain gardens and plantings that stopped the erosion and held back the runoff."

Nancy Deschane and Dean Sather get a view of a rain garden as they enter their driveway. They explain that shortly after completion of their building project in 2008 on Deer Lake, it became evident runoff from and around the new buildings had to be addressed. The property is situated on the precipice of a steep ravine that flows directly into the lake. The area around the garage was especially prone to erosion due to the sandy soil composition and the heavy amount of runoff from the gutterless roof. A rock trench below the roofline of the garage now captures additional water that had been causing erosion to a stream that flows to the lake.

Through the professional guidance and financial assistance of the Deer Lake

Rod and Terri Johnson installed rain gardens and trench diversions across their driveway to slow and filter runoff that flowed down to the lake.

Besides filtering pollutants, rain gardens add beauty to yards and neighborhoods and provide habitat for birds, butterflies and insects.

Dick and Susan Ward installed an underground infiltration device below their garage to infiltrate water from the downspout through buried plastic cells lined with filter fabric. This provides temporary storage for water until it can soak into the ground.

Areas filled with rock are another option for creating water storage to alleviate erosion by filtering water runoff from roads and driveways.

Mark and Patty Thayer's rain garden captures water flowing from the road on its way to the lake.

Nancy Deschane and Dean Sather's gutterless garage was causing erosion, so they installed a rock trench to catch and infiltrate water.

Conservancy, Deschane and Sather say they were able to address the areas of concern. Both rain gardens continue to capture and slow runoff into the ravine. The conservancy was instrumental in the coordination of their project and providing them with valuable knowledge to effectively manage the runoff.

Hard work leads to improved water quality

As a result of this citizen-led watershed work, water quality has improved significantly. While major projects were installed from 1997 to 2006, results became clear in the lake beginning around 2011 and clarity increased by 14 feet! Secchi depth measurements are recorded twice a month by Lake Improvement Association volunteers.

In recognition of this striking lake improvement, the Deer Lake Conservancy received the 2015 "Lake Management Success Story" award at the 2015 North American Lake Management Society (NALMS) Symposium in Saratoga Springs, New York.

Deer Lake's success story demonstrates the importance of effective lake organizations, partnerships with state and local government and dedicated engagement by volunteer lake leaders.

Cheryl Clemens works at Harmony Environmental and Jim Miller is a member of the Deer Lake Conservancy Board.

Researchers found a diverse meadow of brown-fruited rush, water lobelia, quillwort and dwarf hyssop at the bottom of Big Carr Lake on March 1, 2015.

PAUL SKAWINSKI

A world beneath the ice

AQUATIC GREENERY THRIVES, EVEN IN THE WHITE SEASON.

Paul Skawinski

Aquatic plants grow in nearly all lakes, streams and wetlands. They provide oxygen, shelter for aquatic creatures and habitat for spawning fish; they stabilize sediment and absorb wave energy. Aquatic plants perform all of these functions day-in and day-out, and are readily visible all summer long. But what happens to this underwater flora when the water freezes? During the winter of 2012, a small group of intrepid biologists — myself included — set out to get some answers.

First, I had to find someone else crazy enough to walk frozen lakes all day in the middle of winter, drilling holes and getting wet. That someone had to be willing to identify aquatic plants in varying stages of growth or decay. Fellow aquatic biologist Susan Knight, UW-Trout Lake Station, agreed to be the other half of this crazy duo. We found several others eager to assist in different regions, including Chris Hamerla of Golden Sands Resource Conservation & Development Council, Inc., Andrew Teal (now with Bayfield County Land & Water Conservation Department) and Carol Warden of UW-Trout Lake Station. Together we would drill hundreds of holes across 14 lakes, tapping into a mystery only a few eccentric biologists could get excited about.

Aquatic plant communities can vary based on sediment type and water chemistry, so we selected lakes to visit based on their characteristics. In some cases, we had personal experience sampling these lakes and were familiar with their characteristics. We selected others based on their region and by reviewing water chemistry data from the Wisconsin Citizen Lake Monitoring Network.

Once lakes were selected, we had to address the question of how we would observe the plants below each hole in the ice. I decided to fashion a homemade cage made of PVC pipe to mount an underwater camera. Another mount for a submersible floodlight would illuminate the darkness under the ice and snow. After adding a rope and some strategically placed weights, it was ready for its first adventure.

What we saw in our first hole was exciting! Not only were there plants down there, they were green and attracting all kinds of aquatic life! Daphnia — tiny crustaceans, also called water fleas — scooted around between the plants, caddisflies scraped algae off of them and various fish hid among the leaves. It was a scene reminiscent of summer, except that the creatures moved much more slowly.

Every time we drilled a hole, we first lowered the camera to record video of what was in the area surrounding the hole. We could identify most plants by simply watching the video footage. Then we used a long-handled rake to sample the vegetation and collect specimens to deposit as official records in the UW-Stevens Point Freckmann Herbarium.

Each lake yielded a different mix of aquatic plants. The hard-water, mineral-rich lakes tended to have a mostly dormant aquatic plant community, with mostly macro-algae persisting through the winter, including species of *Chara* and *Nitella,* known as stonewarts. Most larger plants had gone dormant, with stems and leaves in various stages of decay. Soft-water, mineral-poor lakes in our study tended to have a larger group of evergreen species. One of them, Tomahawk Lake in Oneida County, had a whopping 10 species present on a single sandbar in the middle of January!

So why did soft-water lakes have a

Ten species of native aquatic plants were collected from a sandbar on Tomahawk Lake in mid-January.

PAUL SKAWINSKI

greater number of evergreen species? We suspect it has something to do with the available nutrition for these plants. Soft-water lakes, most common in north central and northwest Wisconsin, tend to have few minerals and nutrients available in their water or sediments. With these materials in short supply, aquatic plants may not be able to rebuild themselves each year. It probably requires fewer resources to remain green year-round.

A total of 30 species were observed in the 14 lakes we visited, representing about 20 percent of all aquatic plants of Wisconsin. Tomahawk Lake supported the highest diversity of plants with 10 species, and Big Carr Lake, also in Oneida County, came in second with nine.

Evergreen aquatic plants likely create gathering places for other aquatic life in winter. Since photosynthesis is minimal while the lake is covered in ice and snow, these plants probably aren't producing much oxygen, but they certainly appear to provide shelter and food for a wide variety of invertebrates and fishes.

From left to right, Susan Knight, Paul Skawinski and Andrew Teal haul equipment back from a cold day on Tomahawk Lake.

PAUL SKAWINSKI

Winter is here once again. It is an unforgiving season that appears frozen in time. But beneath the bitter winds, crunching snow and unforgiving ice, lakes live on.

The author sends his homemade camera setup down the first hole.

CHRIS HAMERLA

Paul Skawinski is the statewide coordinator of the Wisconsin Citizen Lake Monitoring Network. He also teaches Aquatic Plant Taxonomy at UW-Stevens Point, and is the author of Aquatic Plants of the Upper Midwest: A Photographic Field Guide to our Underwater Forests.

>>> WATCH ON YOUTUBE

The underwater research team posted a video clip to YouTube from a trip to Big Carr Lake in Oneida County. Watch "Winter in the Underwater Forest" at youtube.com/watch?v=5bsfC4ARIYs.

Wolf song

HIKERS WERE SERENADED ON A CRYSTAL-COLD MOONLIT NIGHT MORE THAN A HALF-CENTURY AGO.

Stephen Lars Kalmon

His ancestors' howls echoed from the glittering faces of glaciers; their packs prowled the vast grasslands reborn in this area after glaciation and before forestation. Their daily cry, like now, claimed territory and prey; their possessive howls troubled the sleep of natives in their thin-skinned homes. It was his ancestors who put fear of darkness in early white settlers. We heard their descendant one night, and it was certain this was a wolf, *Canis lupus*, whose howl we heard.

The song of a wolf has no equal for haunting the soul. Heard in a natural setting, the emotional impact of such song will last until memory itself is lost.

We heard such a song one night in late 1954 in north central Wisconsin. It could have been one of the last wolves to roam that section of the state.

This wolf and others like him disappeared entirely from the state about that time. Now, 62 years later, there are packs inhabiting several areas of northern Wisconsin.

Moonlight flooded the earth the night of the howl. Winter had come early that year and by December the snow was knee-deep in the woods, and banks along the roads already were high.

It was late on a Saturday. The evening stars were in the western sky and to the east the moon, red and large, brushed tops of maples, basswood and popple whose boughs earlier laden with greenery, this night were bony fingers reaching skyward in the little woods.

Supper was over. A quiet time came upon us sitting at table. Our voices mixed comfortably with cello and oboe music from the radio. Inside, we were warm, snug and secure. Outside was moonlight and crystal cold.

Someone said, "I'm getting drowsy, how about a walk?" The answer from three of us was to jump up and begin donning winter wear.

Out of doors there was winter music. As we walked the trees cracked, and the frozen snow tinkled to ground glass under our boots as we headed north. A snowshoe hare, white on white, went to a hiding place under a dark pine limb. Far off, a great horned owl hooted triumphantly. Nearer, two barred owls discussed the rabbit population.

Between night sounds there were vast stretches of silence that were large and hollow under the deep blue sky overhead, which paled to pearl blue at horizon. The warm kitchen seemed far away and almost alien as we traveled north without thought of destination.

Talk was infrequent and quiet. A tree or bush would hold our collective atten-

tion momentarily; we saw its strange shape in the moonlight. A curved limb of elm in daylight became this night the curved neck of a swan admiring itself in some placid pool. Bushes seemed as bird wings, or as exotic animals seen only in a faraway space or time.

We saw shadows deep and dark enough in which to take refuge; others only graced the snow like the footprint of some small winter bird. Finally, a curious trancelike feeling of peace and silence struck us and we were standing still on a small rise in the road.

As we stood there totally taken with the silence and moonlight, we heard the first howl. It was not the nattering political comment of the coyote or the baying of some farm dog, but the deep-bodied sound of a timber wolf. A sound as unmistakable as that of a giant organ played in some volcanic cavern with broad winds from earth's center flowing through its mighty reeds and out the fiery mouth. We could almost hear the rush of air into the wolf's lungs as it prepared for a second howl.

When the compelling song began, it was deep and stayed deep, climbed only slightly in intensity, then slowly dropped a note or two and ended suddenly.

As we listened, in my mind's eye I could see this great and shaggy beast on some seldom-visited forest ridge, his mighty muzzle to the sky, singing the millennia-old song. I could see him sucking gusts of broad north winds into the red forge of his lungs and pumping out great waves of sound. Winds which gathered tone as they brushed against frost-cracking trees, granite cliffs, snow-covered hills and licked up icy coldness from meandering rivers frozen to stillness, changed into great bellowing organ notes that echoed from the hillsides, the sky.

Those notes, which wolves have sung forever, sang of hot steaming kills on frigid nights, and sang perhaps of puzzlement at the recurring moon. They sang of great power and ability to beget and nurture young in this land and the desire to do so. Tonight that song secured all prey in the knowledge that one of them would feed this wolf this night. And then that age-old song — which seems to mean more to humans when it opens to the full moon and bright purity of the stars — was suddenly finished.

The world was silent as if the wolf had never been there, never howled. Yet he had been there, and we were richer in experience and wonder at the workings of the world — and even our universe — for the song. That great song sung in confluence of our time, his time, his space, our space, made us still. Words were useless, further walking futile and pointless, symphonies anticlimactic.

The cry did not come again. Slowly we walked home with our minds spiritually broadened from God and his universe to our universe and that of the wolf.

Stephen Lars Kalmon was reared on a farm in Taylor County in the Chequamegon National Forest where he still resides. He was a free-lance writer for the Marshfield News Herald, a columnist for the Medford Star News and originally wrote this essay for the Milwaukee Sentinel in the 1980s.

PIXABAY

Rewards of a little cabin in the woods

A neglected cabin on Jackson Lake in the Chequamegon-Nicolet National Forest became a respite in all seasons.

EVERY SEASON HAS A STORY.

Story and photos by Charles Mortensen

It all started with an old black-and-white photograph — a proud 12-year-old holding a 13-pound northern pike — and son saying to the pictured fisherman, "Dad, let's go fishing in the area where you caught that big fish."

The big fish eluded us, yet we caught something more valuable — the chance to rebuild a cabin. It had been empty and neglected for three years on the east shore of Jackson Lake, within the boundaries of the Chequamegon-Nicolet National Forest. It was connected to Namekagon Lake through a winding scenic channel bordered by pickerelweed, arrowhead, water lily, tamarack and a beaver lodge.

Let the rewards begin.

The spring air is fresh with the scent of large-flowered trillium.

Spring – the air

After the long icy grip of winter gives way to greenup with aspen and birch leaves in fluorescent yellow-green, one notices the air — how fresh it feels, smells and even tastes — sweet, of the earth, warm. It is bracing, yet not cold. It feels light, not heavy and soon it will hold the music of returning birds. Before long it will be time to put in the dock, replete with memories of grandchildren running to pier's end and into the water with joy and laughter. Those memories are second only to those of bluegills, bass and northern pike they reeled in from the same spot. The air has a scented freshness born on the boughs of balsam and colored by the pure white blossoms of juneberry and large-flowered trillium.

The color of nature is even more apparent. Among the canopy tree branches, many species of migrating warblers flash their iridescent blue, green, orange and yellow while looking ever so closely for insects feeding on emerging leaves. It is as Henry David Thoreau described in "Autumnal Tints," "Visible for miles, too fair to be believed."

There is also the psychological effect spring brings — the light, quick step and the thought of new growth to come. Ephemeral flowers (sessile bellwort, trout lily and starflower) come and go with summer flora yet to appear. Most of the small 7-ounce warblers will pass, but some stay to nest for now the leaves are full, bringing more insects for food. Shortly, "hummers" (ruby-throated hummingbirds) will streak from branch to flower, insect to insect and many feeders throughout the northland.

One year the ice yielded the unexpected when a bald eagle landed on an ice floe. It was May 1, a bright and sunny day. It appeared that the eagle, while scanning the lake surface for fish, might also be basking in the sun for the same reason northerners do — spring warmth.

Going to the mailbox

Initially thought of as a chore, the half-mile walk on a gravel road has turned into an inspiring respite and learning opportunity through the seasons. It starts with an overarching, mostly sugar maple canopy, lined with raspberry shrubs in places and gives way to an opening created for a landing strip long ago. One can see forget-me-not and wild columbine in spring, black-eyed Susan and orange hawkweed in summer, followed by New England aster and goldenrod in fall.

Spring also brings the sweet resinous fragrance of the Balm of Gilead tree, better known as popple. Supporting the admonition that the only constant in nature is change, an advancing colony of aspen grows larger each year, closing the

The warmth of spring sees the passage of warblers — like this male golden-winged — but some will stay to nest.

opening of the 1930s landing strip. Bluebirds and tree swallows populate several nest boxes and the voices of spring peepers resonate in a wet vernal depression at road's end.

Returning, talk is of mail received (or not), and a look downward yields interesting pieces of geological history in the gravel at our feet. The massive Wisconsin glacier of 10,000 years past brought rocks containing jasper, quartz, sandstone, agate, granite, greenstone, basalt and more.

Each walk is different, for one never walks the same road twice. One particular spring day points to the truth of that axiom. Nearing our driveway, we glanced to our right. There not less than 10 feet away in a small group of saplings, in all its brilliant red-and-black glory, was a male scarlet tanager. It moved ever so slightly, looking for insects and seemingly oblivious to our appreciative eyes. It soon flew to more distant cover — one viewing per customer!

Summer – the pipsissewa and a chick

It seems like most northern retreats have a name and we decided to join that fraternity. It came about as we were exploring the steep 70-degree incline to the lake. I noticed a small plant with shiny dark green leaves and a delicate, pinkish flower. Memory of a similar plant from a forest hike long ago recalled the name pipsissewa. After looking it up I had confirmation, and our 3 acres became Pipsissewa Shore and a special summer week for our grandchildren would become Camp Pipsissewa.

October throws flaming colors from maple, birch and oak.

The plant derives its scientific genus name, *Chimaphila*, from the Greek words for winter and love. Apparently the name relates to an ability to stay green throughout the winter. One of our few herbaceous evergreen plants, it is small in height (3 to 10 inches) with leaves arranged in a whorl and is best seen when one is on hands and knees.

Like many others, we also have the good fortune to live on a lake with nesting loons and have enjoyed learning their four distinct calls. Pairs are not always successful in raising chicks, owing to predation and heavy storms washing away shallow lake-edge nests. With high hopes we joined a group trip in an excursion on our lake, hoping to see a pair with chicks in the open water. Pure joy emanated from the nine assembled at pontoon's edge — a pair with a chick! We were transfixed as the parents dove to capture fish and feed the just fledged nestling — a reward indeed.

Fall into winter

The warm languid days of summer give way to raking leaves and chips left from the wood splitter, thinking of the warm fireplace to come. A lifetime brings just so many summers when living is truly a little easier, especially in the north. So let the summer dawdle into fall with its warm breezes, dancing butterflies, streaking dragonflies and moonlit water.

Now, October throws flaming colors from maple, birch and oak and the bright sparkling points of light on rippling waves seem to be more intense. November brings the early snows of winter, usually soft and gentle, capping the verdant green of hemlock, balsam, spruce and pine.

For many the balsam fir's highest appeal and value may well be related to aesthetics. Though it has solid importance as a Christmas tree, it also provides pulpwood for paper and cover for snowshoe hare and ruffed grouse. Few will not be thrilled by the beauty of fresh snow gracing dark green branches glistening in sunlight, or in the silhouetted whiteness of a full moon. If fresh snow is one of the elixirs of life, the sight of the forest edge replete with snow-capped balsam fulfills that need many times over. Interestingly, the older trees develop the perfect spire, like a church steeple. Both, when viewed against an azure sky are beacons of grace, elegance and form.

Now, it is time to go in and do those things that were abandoned to the busy outside activities of summer. The fireside beckons, its warmth enhancing conversation, reading, knitting and listening to music — simple joys, but well remembered. Soon, the 40-item checklist for closing the cabin will be completed, the harsh winds and bitter temperatures will come as they have for millenniums and longer. Then that sweet smell of spring will once again arrive and a million more small joys and rewards will follow, like those calls of the loons who never fail to return.

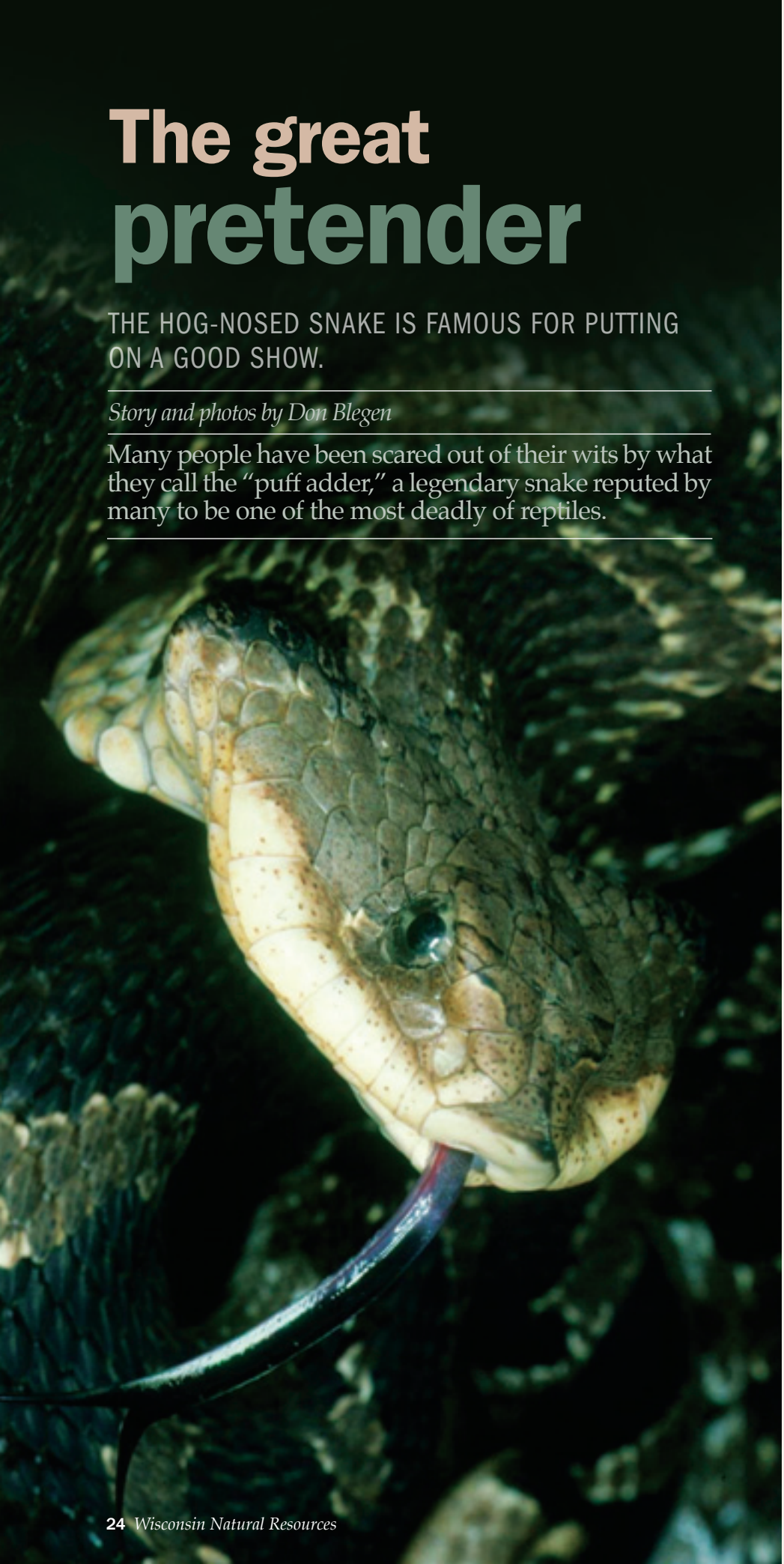
Charles Mortensen writes from Janesville. He is a Wisconsin native and professor emeritus of natural resources and environmental management at Ball State University in Muncie, Indiana. He recalls his son's "big fish" moment 5 years after the cabin's purchase on a rainy August morning, when he called for his dad's help. A legal musky was netted off the pier, then returned to its life under the waves.

The great pretender

THE HOG-NOSED SNAKE IS FAMOUS FOR PUTTING ON A GOOD SHOW.

Story and photos by Don Blegen

Many people have been scared out of their wits by what they call the "puff adder," a legendary snake reputed by many to be one of the most deadly of reptiles.



It has other names: blow snake, spreadhead snake, hoop snake and its actual name, the hog-nosed snake.

When surprised or confronted, this snake goes through a whole repertoire of aggressive behavior. It hisses; not just little hisses, but loud hisses, puffs or blows like a punctured tire losing air. Its head flattens like the triangular head of a rattlesnake. It is a thick-bodied snake like most venomous pit vipers and even increases its sinister appearance by flattening its body and spreading its throat like a cobra's hood. Its tail has a hard spike that it vibrates, and in loose leaves or brush may easily be taken for a rattlesnake's buzz. It lunges again and again, even though you may be out of reach and it gives a convincing performance of wanting to sink venomous fangs into you.

Yet it should really be called the "bluff adder," because all of this is just that: a phony and dramatic bluff by a completely harmless snake. If you have the confidence and courage to put your hand within reach of Mr. Bluff Adder, your hand will be struck with a closed mouth. If all this high drama fails to frighten you away, it has one more trick: it will play dead.

First it convulses and spasms, ejecting foul-smelling musk and feces, rolling around in it. Then it rolls over on its back, sticks out its tongue and lies motionless. If you flip it over, it rolls on its back again, apparently believing that a convincingly dead snake must always be belly up. It won't close its eyes, because like all snakes it has no eyelids, but you get the feeling if it could, it certainly would.

This aggressive and feared snake of the Northwoods is a complete but very convincing phony. Most who meet up with it probably run away in terror, adding to its fearsome legend. It's not surprising tall tales result.

Remember the horny tip on its tail it can buzz like a rattlesnake? That hard, sharp tip has been mistaken for a "stinger" and may be the source of the hoop snake legend occasionally told in parts of North America. Legend has it the hoop snake lies in wait at the top of hills, scrutinizing the slopes below for prey. Seeing a likely victim, it takes its tail into its mouth, forms a hoop and rolls down the hill at a high speed, timing the roll and direction so as to drive the deadly stinger into its prey an instant after removing it from its mouth.

This precision attack takes lots of practice. Legend also says some prey are savvy enough to defend against hoop snakes by dodging behind tree trunks, resulting in

An eastern hog-nosed snake has a repertoire of aggressive behavior to ward off trouble. Its thick body and triangular-shaped head mimic a rattlesnake, but it is harmless.

It is named for its upturned nose, like a pig's nose, that helps it burrow in light, sandy soil.

the hoop snake stinging trees by mistake. Furthermore, some claim young hoop snakes practice their rolling and timing on elm trees, causing the envenomization and consequent death of many trees most people mistakenly think died of Dutch elm disease, oak wilt or other infections.

Hoop snakes then make their way back up to the hilltops, and are vulnerable to enemies when they do so. If all the hissing, striking and playing dead fails to ward off an enemy, as a last resort they take tail in mouth and swallow themselves, thereby disappearing into invisibility. Once danger has passed, they regurgitate themselves and take up a position again on a hilltop, lurking to attack their next victim.

So much for legend. You will have to decide for yourself how much of this information may be stretching the truth. But there are some facts beyond reproach.

The eastern hog-nosed snake gets its name from its upturned snout, like a pig's nose, which is used for burrowing. Its range is limited to areas of light, sandy soil which makes for easier burrowing.

Hog-nosed snakes are remarkably varied in color. Some are spotted, others solid; some are mostly brown, tan or black. Others change color with age. They all, however, have the upturned nose, the hornlike tail tip and the repertoire of bluffing and playing possum. No matter the color, spotted or solid, the behavior and upturned nose give them away.

They feed almost exclusively on toads. Toads have toxic skin secretions that protect them from most predators. Anyone who has had a young dog go after a toad, only to spit it out, gag, foam at the mouth, vomit and even in rare cases die, knows toad toxins are pretty potent. Hog-nosed snakes are immune to the effects. Toads also puff themselves up as a defense mechanism, making it impossible for an enemy to swallow them. Hog-nosed snakes have rear fangs and specialized teeth that puncture and deflate the swollen toad, making this defense useless. Research also shows they have venom especially effective against toads.

This raises an interesting question: If the hog-nosed snake is a rear-fanged snake, then it is distantly related to such venomous snakes as the African boomslang, which has been responsible for fatal bites. What would happen if it did not strike with a closed mouth and actually did bite you?

There have been such cases, though rare, and the only result has been slight swelling and redness, not much different from a small cut, laceration or bee sting. So the puff adder, blow snake, spreadhead snake, hoop snake, whatever you wish to call it, is indeed harmless. Rather than screaming and running, turn around and take another look at one of the most outrageous — yet most interesting — phonies in the animal kingdom, the eastern hog-nosed snake, perhaps better named the "great pretender" or "bluff adder"!

Don Blegen is a photographer, author and retired teacher of biology, English and photography who writes from Spring Valley.

Readers Write

HUMMER NEST
I found this hummingbird nest on August 12 with two babies. It's at Shep's campground on Island Lake in Rusk County.

Karl Fisher
Bruce

KING OF THE FOREST
Pileated woodpeckers approach the size of crows, but are rarely seen up close. I found a nest site in a dead aspen tree this spring and, using turkey hunting gear and techniques, was able to watch the pair exchange duties incubating and brooding. I was also able to clearly see the differences between the male and female. When they changed responsibilities, the mate taking over waited outside the nest hole for the other mate to leave. The mate leaving did so in a great hurry, while the one coming to the nest cavity never flew directly to the tree, but seemed to approach nearby trees before finally landing on the side of the aspen. The male has more red about his head than the female. Here, the male pileated woodpecker waits for the female to leave the nest cavity before entering. He never knocked, just waited for the female to leave.

Jerry Davis
Barneveld

COMMENT ON A STORY?

Send your letters to: Readers Write, WNR magazine, P.O. Box 7191, Madison, WI 53707. Or email letters to dnrmagazine@wisconsin.gov. Limit letters to 250 words and include your name and the community from which you are writing.

NO ACCESS TO THE WEB?

Don't have access to a link we mention in a story? Let us know when you want to follow a link we list. We'll do what we can to get you a copy of the material if it is available free of charge and is relatively short in length.

FROG LEGS ON THE MENU

While my family and I were traveling through central Wisconsin the last weekend of July, we visited the Marshfield zoo. While we were there, my son was walking along a small creek that runs through the property. He told us he just saw a mallard eat a frog. I walked over to the creek a short time later to witness and get a picture of the duck eating a second small frog. I was not aware that frogs were a part of a mallard's diet.

David Schmidt
De Pere

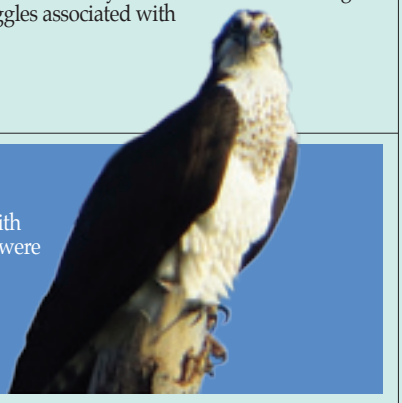
An online search revealed the mallard's diet varies based on its breeding cycle, food availability and competition, but mostly consists of snails, insects, crayfish, worms and many kinds of plants. Wikipedia states, "It usually feeds by dabbling for plant food or grazing; there are reports of it eating frogs."

EAGLE SNOW ANGEL
I read with great interest in the August 2015 issue Readers Write column the account of two eagles battling for "supremacy of the airways" and the imprint in the snow left by the vanquished as it hit the ground. I too came across a similar "eagle snow angel" this past winter as I snowshoed my property just outside of Mercer. While I did not see the activity leading up to it, in the absence of any other prints in the immediate area, I could only guess that an eagle had landed on the snow to capture a lesser bird. While initially thinking I had come across some unexplainable activity on the surface of the snow, with closer inspection I was able to recognize how the tail feathers and wing tips were delicately cast in the snow indicating perhaps the life-and-death struggles associated with Wisconsin's most elegant bird.

Mark Suckow
Mercer

EAGLE-EYED OSPREY
I had just stocked my pond with largemouth bass. I think they were on this bad boy's menu.

Steve and Dana Bremer
Brooklyn



CORRECTIONS

We heard from several astute readers about a duck we misidentified in our October issue. In the story "An aerie of eagles," on page 24, the duck in the middle photo is a scaup, not a ring-necked duck. One avid reader, Michael Berman, said this: *Being an avid waterfowler myself, I actually recognize this duck as a lesser scaup or bluebill. Since bluebills have a defined limit of three ducks per day of our six-duck bag and ringnecks do not, I would hate for someone to misidentify their birds in the field and over-take their scaup limit.*

We also misidentified a crane in "Wisconsin Traveler" on page 31. The crane in the photo is a grey crowned crane from Africa, rather than a black crowned crane. We regret both errors and appreciate that so many readers pay such close attention to our stories.

Also, two photos in the "Urban coyotes" story had incorrect photo credits. On page 7, the photo should be credited to "DNR file photo" and the large photo on page 9 was taken by Dianne Robinson.

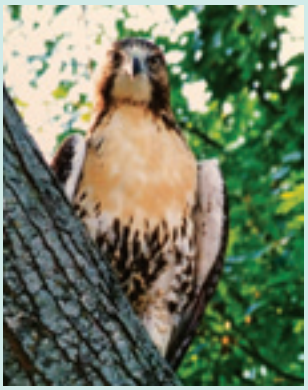
NATURE'S ARTWORK

I have wasps in a downspout this year, and found this "work of art" recently. It is a cement bird house that the wrens and bluebirds have used and this year the wasps chose to make it home! We were gone one weekend and when I came back the wasp nest (which I had hung near our deck as a "garden ornament") was all messed up. At first I thought maybe the grandkids had done it. Then this morning I discovered what really happened. The woodpecker stuck his head way in the nest to check for any more pupae. He's come back a couple of times this morning. Nature is so interesting!

Dan Behnke
Lindsey

RED-TAILED HAWK STAREDOWN

For several days this hawk staked out our backyard to hunt and eat prey. When I went out with the camera to take some shots, it flew right at me (wing spread had to be at least four feet!) and at the last second, swooped up into the tree I was standing under. We stared at each other while I got these close-ups. I'm not sure what kind of hawk it is. Maybe you or your readers will know. Thanks!



Bob Schermacher
West Bend

This is a red-tailed hawk, one of the most common birds of prey in Wisconsin. Red-tails are generalists in habitat and diet, occupying fields, woodlands, urban areas and suburban backyards where they eat mice, chipmunks, squirrels, snakes and other birds. Populations are doing well thanks to this flexibility, laws against persecution and the banning of DDT in the early 1970s.

FEEDBACK FROM A CONSERVATION PATRON

Conservation Patrons are a loyal group. I read your magazine cover to cover, then pass it on to a school library. Three suggestions:

1. My turkey permit was for April and May. Why does the license expire almost a year later on March 31? Your computer should be smart enough to have the license expire on the last legal turkey hunting day.
2. Print my name and address on a removable label so I can easily recycle it through the school.
3. Allow me to purchase the Conservation Patron's license in the fall (before Christmas) so I will be able to gift-wrap them for my six grandchildren.

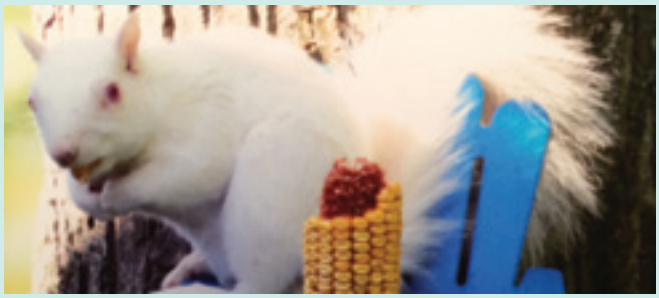
For over 20 years I have been trying to get the DNR to sell the Conservation Patron license before Christmas. I always hear the same excuse — "We are not set up to sell the license before Christmas." I know that, but having worked information technology for the Air Force I know it is not a difficult undertaking. Hey guys — this is a marketing tool!

Harold Clement
Chief Master Sergeant
U.S. Air Force Retired
Prescott

WANDERING WAXWINGS

I just read your informative article about waxwings ("Wandering waxwings," February 2006). Thank you for all the fascinating information. Waxwings have been my favorite bird ever since I saw a flock of them in a tree growing along the Chicago River in 1993. They look more like an artist's watercolor of a bird than an actual living thing. Yesterday, I was surprised to see a flock of about 18 waxwings in a Siberian elm growing on the bank of the Yahara River behind my house in Madison. I couldn't believe that they were here in February! But you say in your article that some flocks do winter in Madison and Milwaukee. So I suppose my sighting wasn't as unique as I had thought.

Barbara Bejna
Madison



A TRUE ALBINO

My wife and I enjoy sitting on our deck watching the birds and squirrels. One morning in April we saw this albino squirrel in our backyard. We've seen it once or twice a week since April. This is the first albino squirrel we have seen. How rare are they?

Roger and Kathie Demmon
West Bend

Sources say the rate of albinism in gray squirrels is one in 100,000. Some white squirrels are actually leucistic and may have patches of gray fur and black eyes. Yours is truly albino, as evidenced by its red eyes.

INVASIVE CRAYFISH

We always read about invasive species coming into our state. Well, back in 1960 my uncle Howard "Johnny" Topel of Pensaukee was contacted by our old Wisconsin Conservation Department to trap 500 crawfish (crabs) to send to Sweden. I wonder what the results were and how they turned out. They may have turned out to be invasive there like the rusty crabs are here. Might make an interesting article in your magazine.

Ellis Mercier
Oconto

[Editor's Note: Mr. Mercier sent us photocopies of correspondence among his uncle Johnny, C. W. Threinen of the Wisconsin Conservation Department and Dr. Gunnar Svardson of the Institute of Freshwater Research in Drottningholm, Sweden. The letters detailed the arrangements whereby Johnny Topel was permitted by the WCD to live trap up to 500 crabs during the closed season in the Green Bay area. The Swedish government instructed him to ship 100-150 specimens, preferably pregnant females, by air from the Green Bay airport to Bromma, Sweden.

"We have already got another American Crayfish species from California," wrote Dr. Svardson, "and this [method of] transport gave a quite insignificant mortality. They were packed, as fish eggs, with ample space, and some ice melting from the top of the container, giving moist and low temperature."

Johnny Topel was compensated for his efforts by the Swedish government in the amount of $10.

We were unsuccessful in our attempt to contact someone at the Swedish research institute to see if they could answer Mr. Mercier's question. An online search, however, produced this possible explanation.

In the early 1900s, a water mold known as crayfish plague severely depleted native crayfish in Sweden and spread throughout Europe. Attempting to find other species of crayfish to replace the native species, noble crayfish, Swedish officials in 1960 imported North American species to reestablish commercial crayfish fisheries. Notably, the signal crayfish from California and the Pacific Northwest did very well and quickly invaded waters from Sweden to England, Italy and across Europe. It was not known until the signal crayfish was well established across Europe, that it was also a carrier of the crayfish plague.]

HOOF FUNGUS
I photographed the following images of a fallen birch tree on an island in the Chippewa flowage. I was wondering if you could identify the object attached to the tree for me?

Deb Petrusha
Milwaukee

This appears to be a fungus called Fomes fomentarius, *a species that most typically grows on hardwoods; in northern areas, it is most common on birch. Its common names include tinder conk and hoof fungus.*

TOADSTOOL
I am sending the attached to share with your readers if you deem them appropriate. Just documenting the recent plethora of mushrooms in the Kenosha County area.

Sharon Schoen
Union Grove

CARP SHOULD BE EATEN
Today I received my copy of the August 2014 *Wisconsin Natural Resources* magazine. I read the story on the inside page of the cover, the report on Wisconsin DNR seining Lake Winnebago to fish out the European carp that for some years were killed off as rough fish. DNR [once shipped] them to big cities like New York, Chicago, St. Louis and others where ethnic populations live who traditionally like to eat carp. Now I hope that the DNR in many states will look at the Asian carp in many of their lakes and rivers as food. The people in China eat Asian carp and many American/Chinese restaurants in the U.S. cook and eat them too.

Richard G. Kortsch
Milwaukee

AN ENTERPRISING ROBIN
I sent a follow-up photo to one that was published in your August 2016 issue (Readers Write), of our robins' nest built in a set of antlers on our garage. Here is a photo of the same nest being used this year. Four nestlings!

Cathy Zimmerman
Cornucopia

TRUMPETER TERRITORIAL DISPUTE
Here is a sample of a series of photos documenting trumpeter swans involved in a territorial dispute. I was lucky enough to get the swan flying across the lake, landing, fighting, displaying and ultimately chasing away a rival. This happened on Sauntrys Pocket Lake in Wascott (Douglas County).

Judy Hilgers
Middleton

BEE TREE HUNTING
The August issue had the article by Staber Reese "Wild about honey" in which he detailed how he and two other Conservation Department employees found and cut down a bee tree to obtain the wild honey back in the 1940s. I was disappointed the editors did not include a disclaimer warning readers today to not do that, which destroys the hive. Considering the importance of honeybees and all the problems they have — colony collapse, mites and others — they need our help and support.

Ron Winter
Boulder Junction

We appreciate your feedback, Ron, and you are right about the need to protect honeybees today. Like all subjects chosen for the "Back in the day" column, it was meant as a reflection on how things were in the past, not as a promotion for readers to go out and do them now. We believe there is still merit in knowing — and teaching our children — concepts like triangulation and how to use a compass.

JACK AND POPPA
Loved reading Jessie Stevens' article titled "Kid fishing" (June 2016). The descriptions not only took me back to when our kids went on their first fishing expeditions (tangled lines, dropped poles, hooked fingers and dumped worm buckets) but it brought back memories of my first fishing adventures!
And, now, we are grandparents who had the pleasure of taking our grandson, Jack, out for his first line-wetting experience. At just over 1 1/2 years of age, he might seem a bit young, but he sure was interested, and even insisted on being the one who got to toss the small fish back in the water! Here's a picture of Jack's first official catch; a nice-sized perch. Just wanted to share the new memories! Always enjoy reading your magazine!

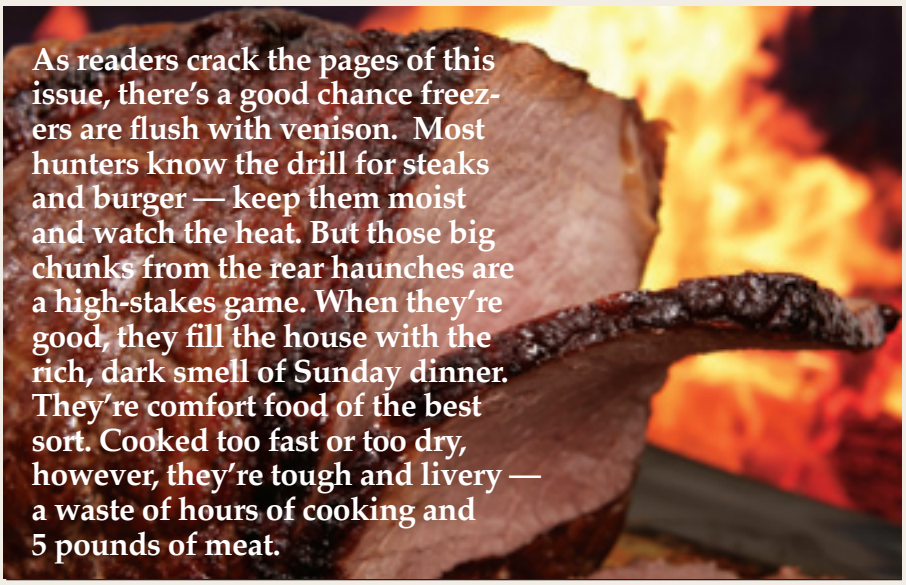
Jim Ulwelling
Eau Claire

Keeping it wild: Outdoor food and forays

WHEN MAKING THE PERFECT VENISON ROAST, WAITING IS THE HARDEST PART.

John Motoviloff

KERRY MOTOVILOFF



PIXABAY

As readers crack the pages of this issue, there's a good chance freezers are flush with venison. Most hunters know the drill for steaks and burger — keep them moist and watch the heat. But those big chunks from the rear haunches are a high-stakes game. When they're good, they fill the house with the rich, dark smell of Sunday dinner. They're comfort food of the best sort. Cooked too fast or too dry, however, they're tough and livery — a waste of hours of cooking and 5 pounds of meat.

How do you cook a venison roast fork-tender? It's best done as a weekend kind of thing. It takes time — and lots of it. Of course, thyme is good, too, but that goes in later. Even thawing should be done slowly, in the refrigerator, over a period of several days. Meat thawed on the counter in a few hours tastes soggy, bloody and a little off.

Once your roast is thawed, begin by trimming away all visible fat, sinew and silverskin. You don't need to tear the roast apart and cut between layers, but you do want to get off as much as you can while leaving the roast intact. Dredging in flour and searing in hot grease are the next steps. Season the flour with salt, pepper and herbs of your choice, such as thyme or rosemary. Sear the roast on all sides in a clear, light oil such as peanut or sunflower. Bacon grease or butter will also work. Searing locks in the juices. The resulting crusty flour coating does double duty: it keeps the meat moist and also provides a built-in thickening agent. Gravy with no extra work!

As the roast browns, preheat the oven. Don't crank it to 400, 350 or even 300 degrees. Go for 250 degrees if you plan on allowing 3 or 4 hours. If you've got the time, allow 4 to 6 hours at 225 degrees. Best of all, cook it all day at 200 degrees. If you're struggling with what to put in the roasting pan, don't fret. My research over the last two decades shows that a glass of red wine helps cooks think more clearly.

You've got red wine, right? So deglaze the roaster with a cup and throw in a chopped onion and some chopped mushrooms. If fruit's your thing, go with a cup of cider or white wine and some sliced apples or dried fruit such as cherries or cranberries. If you lean sour, pour in a can of beer and a cup or two of sauerkraut. Root vegetables — such as carrots, turnips and parsnips — add depth of flavor.

Tom Petty says, "Waiting is the hardest part." What's true of love is apparently also true of venison roasts, because it can certainly seem like an eternity while they slowly and tantalizingly cook. Your stomach growls, you salivate. This is the time to relax. Put a log in the woodstove. Write someone a letter.

Better yet, use the time to figure out what your side dishes are: mashed potatoes, egg noodles, spaetzli, or maybe rice pilaf or wild rice. You'll also want to include a green salad or other crispy vegetable. While you're at it, you can also stew up a bag of cranberries or a few pounds of apples. A loaf of rye or sourdough bread is a must for sopping up the delicious juices.

At some point in the cooking process, you will take a peek. That's OK. You can see whether more liquid is needed. If so, go ahead and add a cup of wine, water or broth. If there's too much liquid, consider stirring in a tablespoon of sifted flour and mixing it into the juice. If the roast is already fork-tender, you are set to serve it. If not, give it another hour.

When you actually sit down to eat, think about punching up some classic Petty…*Oh, baby, don't it feel like heaven right now? Don't it feel like something from a dream? Yeah, I've never known nothing quite like this. Don't it feel like tonight might never be again …*

*John Motoviloff is a hunter, fisher and forager. He also wrote "*Wild Rice Goose and Other Dishes of the Upper Midwest."

"SUNDAY DINNER" VENISON ROAST

1 4- or 5-pound venison roast, trimmed of fat, sinew and silverskin
1 cup flour seasoned with salt, pepper, thyme or other herbs
½ cup peanut oil
1 cup dry red wine
1 onion, chopped
8 ounces mushrooms, chopped
2 cloves garlic, minced (optional)

1. **Preheat oven to 225 degrees.**
2. **Dredge roast in seasoned flour.**
3. **In a roasting pan or Dutch oven, heat oil and brown roast on all sides.**
4. **Remove roast to clean platter; brown mushroom, onion and optional garlic in pan drippings.**
5. **Return roast to pan, add wine and cover.**
6. **Check roast after four hours. If not fork-tender, cook another hour and check again.**
7. **Serve with green salad, mashed potatoes and rye bread.**

Note: If liquid evaporates during cooking, add another cup broth, wine or water. To make gravy from pan drippings, remove roast and whisk in sifted flour, 1 tablespoon at a time, until desired consistency is reached.

Traveler

Winter — indoors and out

Kathryn A. Kahler

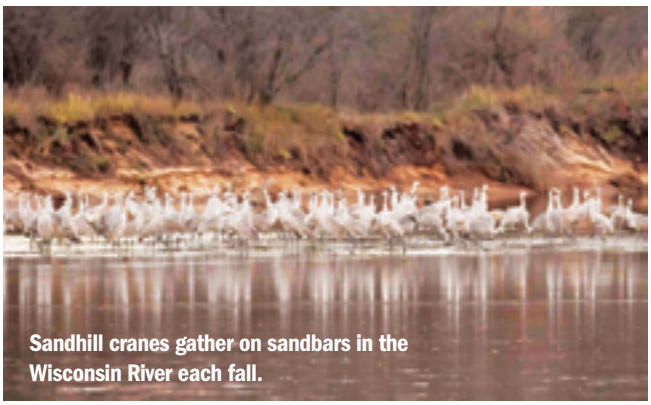
Driving might take extra caution and daylight may be at a premium, but there's no reason to not get out for a day-trip or two this winter. Events at state parks, nature centers and outdoor venues across the state await you, or load up your skis, boards or snowshoes for a day on the slopes or trails. Here's a sampling we've found to jumpstart your plans. For more DNR-sponsored events, go to dnr.wi.gov and search for "parks calendar." Click on "Get outdoors! Nature Programs and Events Calendar" and narrow your search by activity type, location or date range.

Enjoy a horse-drawn carriage ride around Heritage Hill State Park.

HERITAGE HILL STATE PARK

Staff at the **Kettle Moraine State Forest – Northern Unit**, Ice Age Visitor Center, greet young and old for indoor storytime and crafting sessions. "Chick-a-dee-dee-dee Nature Storytime" (Thursday, Dec. 1, 6-7 p.m. and Friday, Dec. 2, 9:30-10:30 a.m.) is for 3- to 6-year-olds with accompanying adults. Meet at the Ice Age Visitor Center for an hour of nature fun. Children ages 6 to 12 will love creating a gift from nature at "Gifts from the Heart of Nature" (Saturday, Dec. 10, 10 a.m. to noon). To ensure plenty of supplies, call 920-533-8322 by Dec. 9. To sign up or get more information, call 920-533-8322 or email jackie.scharfenberg@wisconsin.gov.

Join the folks at the **Aldo Leopold Foundation,** Baraboo, for "Sandhill Crane Congregation" (Dec. 2 and 3, 3-5 p.m.). Each fall, thousands of sandhill cranes use the sandbars and islands in the Wisconsin River for staging prior to migration. World-renowned bird expert Dr. Stan Temple will lead the program from the premier vantage point behind the Aldo Leopold Shack. Each date is limited to 25 people and advance registration is required. Call 608-355-0279, visit aldoleopold.org or email anna@aldoleopold.org.



Sandhill cranes gather on sandbars in the Wisconsin River each fall.

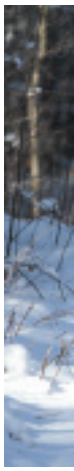
ROBERT ROLLEY

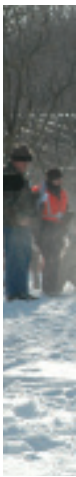
Experience the magic of a mid-19th-century Christmas at **"A Wade House Christmas,"** in Greenbush (Dec. 3-4 and 10-11, 10 a.m. to 4 p.m.). Guests will see rooms decked with fresh evergreen garlands, play games for young and old and hear stories from yesteryear. Hop on a horse-drawn wagon ride for an even more memorable day. For more information, call 920-526-3271, email wadehouse@wisconsinhistory.org or visit wadehouse.wisconsinhistory.org/.

Spend a few hours this holiday season surrounded by the natural beauty of a **Natural Christmas, at the Ridges Sanctuary,** Bailey's Harbor (Dec. 10, 3-6 p.m.). Stroll the softly lit Hidden Brook Boardwalk and join us in our beautifully decorated Kaye Cabin, while sipping on warm cider, eating delicious cookies and listening to holiday music. This program offers a wreath-making workshop, holiday crafts, and even marshmallows and chestnuts around the open fire. Guided hikes and tours of the Range Light are available throughout the event. Admission to Natural Christmas is free. Wreath-making is $10, which includes materials for one wreath. Additional wreaths and swags are $5 each. Call 920-839-2802, visit ridgessanctuary.org, or email info@ridgessanctuary.org.

Head over to **Heritage Hill State Historical Park** in Green Bay to celebrate "The Spirit of Christmas Past" (Saturday, Dec. 10 and 17, noon to 6 p.m.). Learn about how Christmas became an American tradition and how it was celebrated during different periods of Wisconsin's early history. Warm up near the fire as you listen to Christmas stories written more than 100 years ago. Enjoy seasonal music performed by local musicians and choirs. Kids, make a Christmas craft and meet St. Nicholas for a treat and family photo. See the beauty of the many Christmas trees donated from local tree farms and decorated by groups from the community. Enjoy a horse-drawn wagon ride around the park, and warm up with hot chocolate from the concessions stand. A per-person admission is charged for this event. Call 920-448-5150, email info@heritagehillgb.org or visit heritagehillgb.org/ to sign up or get more information.

A crisp hike under the full





Experience the legendary Birkie Trail without the competition.

AMERICAN BIRKEBEINER SKI FOUNDATION © RANDOLPH

moon is a Wisconsin experience not to be missed. Join the **Lodi Valley Chapter of the Ice Age Trail Alliance** (Tuesday, Dec. 13, 7-9 p.m.) for a 2-mile round-trip walk and a great view of the moon over Lake Wisconsin and Paradise Island. Dress for the weather, bring a flashlight or headlamp and leash your pooch, if you'd like. Meet at the ColSac Ferry parking area (West Point). For start directions, visit https://goo.gl/maps/5SdNk. For more information call Bill Welch at 608-843-3926 or email billpatti@charter.net.

Want to experience the legendary Birkie Trail system without the competition of a race? Head to Cable for the **Birkie Tour** on Jan. 15. Starting from the Birkie Ridge Trailhead just north of Hayward, participants get a tour of the world-class trail system on their choice of 12-, 25- or 44-K perfectly groomed loops. Park, start and finish in the same location, enjoy the aid stations along the trail and when you're done, warm up in the big tent, and enjoy the hot food, beverages and camaraderie. Best of all, you'll be skiing, either classic or skate, on one of the best cross-country ski trail systems in the world. Call 715-634-5025, or visit birkie.com/ski/events/birkie-tour/ to register.

Snowshoe races start at 8:30 a.m., Jan. 21, at Mosquito Hill Nature Center.

MOSQUITO HILL NATURE CENTER

Head to Greenbush for "A Wade House Christmas" the first two weekends of December.

WADE HOUSE

Don't worry about mosquitoes in January! If you're a competitive snowshoer or just looking for a family day playing in the snow, join the fun at **Mosquito Hill Nature Center, Snowshoe Races and Winter Family Fun Day** in New London (Jan. 21). Snowshoe races start at 8:30 a.m. on 1-, 3- and 5-mile courses. All courses are groomed and fairly flat, with the 3- and 5-mile course skirting the Wolf River and Oxbow Ponds. Call 920-779-6433 or visit mosquitohill.com for registration, cost information and race times. From noon to 3 p.m., there will be human foosball, ice bowling, an otter slide for the kids and a chili bar to warm your innards.

Sip warm cider and munch on cookies in the Kaye Cabin at the Ridges Sanctuary in Bailey's Harbor.

RIDGES SANCTUARY

Kathryn A. Kahler is interim editor of Wisconsin Natural Resources.

Wisconsin, naturally

CATFISH EDDY TERRACES STATE NATURAL AREA

Thomas A. Meyer
State Natural Areas Program

Notable: In a broadly curving bend on the east bank of the Black River lie a series of sandy terraces that climb out of the river's floodplain to the adjacent uplands. The slopes are covered by a forest of older-growth red pine, red oak, white oak and red maple. A few large "super-canopy" white pines — so named because they soar above the surrounding tree canopy — are present in small numbers. Adding diversity to the natural area are moist sandstone cliffs, springs and groundwater seepages emanating from the steep terrace slopes. Catfish Eddy Terraces is within the Black River State Forest and was designated a State Natural Area in 2010.

How to get there: From the intersection of Highways 54 and 12/27 in Black River Falls, go south on 27 1.2 miles, then west on West 7th Street 0.3 mile to its intersection with River Drive. Park on the road shoulder and walk west and south into the site. There are no designated trails or other facilities on the property. Visit dnr.wi.gov and search "Catfish Eddy Terraces" for a map and more information.