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WISCONSIN

NATURAL RESOURCES

February 1999 \$3.00



Watch the
northern lights

Lightning-fast licenses

Where to see sharp-tailed grouse

The winter romance of
great horned owls

<http://www.wnrmag.com>



VICTOR APANIUS

A great horned owl hardly looks the part of "Mr. Excitement" on a winter night.

Winter romance

Great horned owls spark on frigid nights.



Anita Carpenter

Cold, clear, bone-chilling days. Long, frigid nights. Howling winds. Drifting snow cover. Not ideal conditions for raising a family out-of-doors. Yet great horned owls defy all our rules of comfort.

After most creatures have either migrated south or hibernated to avoid the shortage of food and the perils of winter, great horned owls, *Bubo virginianus*, have love on their minds.

Normally solitary, the birds begin to call each other shortly after dusk and again before dawn,

beginning in late November and continuing into December. Their mellow *whoo-whoo, whoo, whoo-whooo's* resonate like foghorns through the woods. Lower hoots are males returning the calls.

As winter deepens and the pair bond is sealed, great horned owls set up housekeeping. They find a big cavity, take over an old crow or heron's nest, or appropriate a red-tailed hawk's nest, much to the chagrin of the homecoming hawks. The owls just use what they claim, rarely repairing or enhancing the nest site.

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Editor
David L. Sperling

Associate Editor
Maureen Mecozzi

Circulation Manager
Kathryn A. Kahler

Promotions Manager
Pam Hujanen

Business Manager
Laurel Fisher Steffes

Staff Writer
Katherine Esposito

Art Direction
Nancy Warnecke
Moonlit Ink

Printing
Straus Printing Company

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WISCONSIN NATURAL RESOURCES

February 1999

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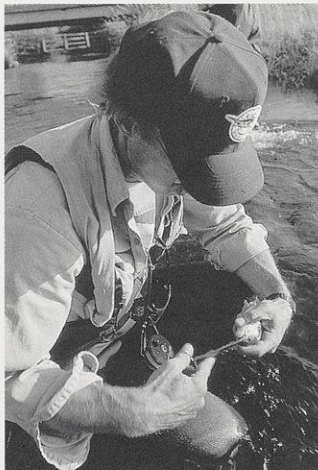
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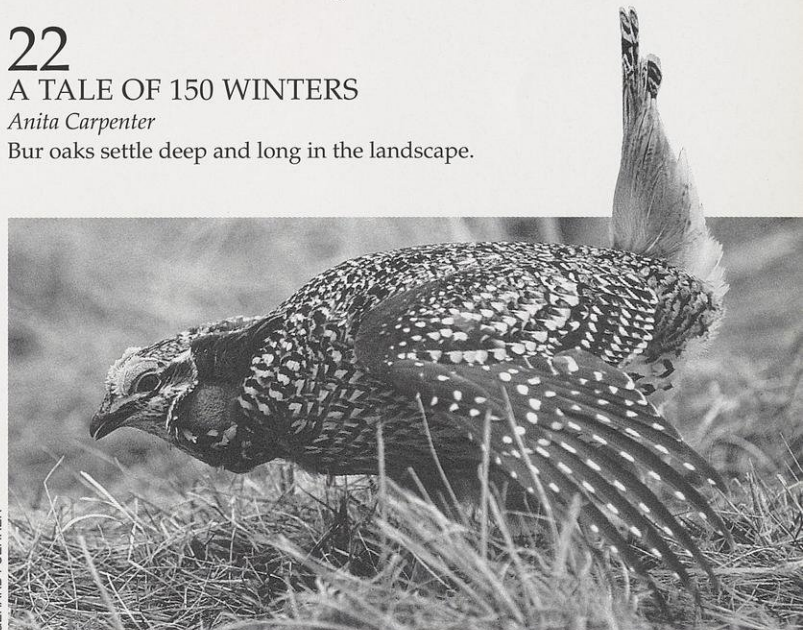
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CELESTIAL SHIMMER

The northern lights are
crackling in a sky near you



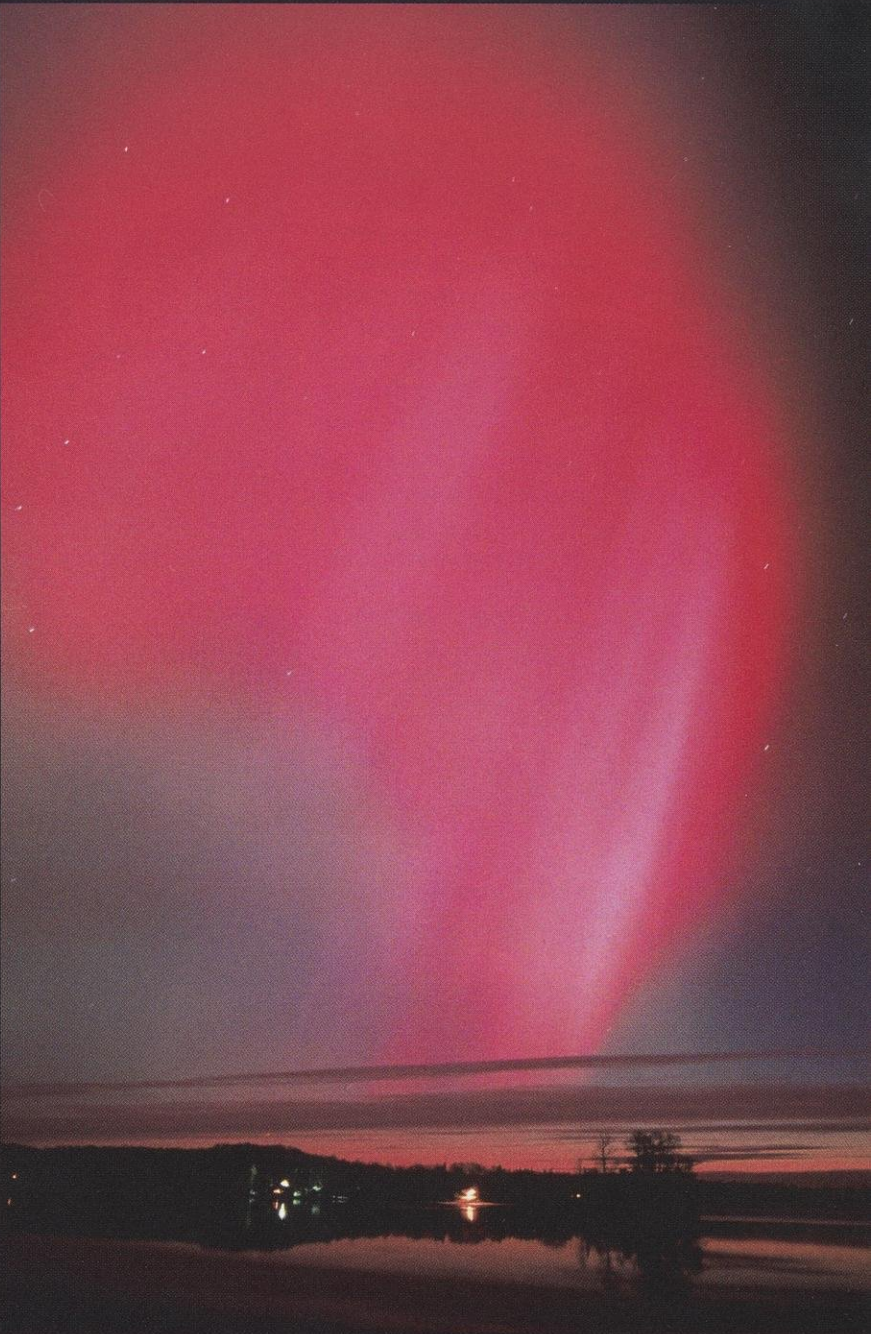


High-speed particles in solar winds colliding with atmospheric gases produce the northern lights. These magnetic particles strike different gases at varying heights showing ribbons and flares of red, green, white and golden hues.

Robert "Dock" Stupp; Story photos by Scott Nielsen

The science behind one of nature's most spectacular mysteries is demonstrated daily in one of life's most mundane chores — laundry! As your clothes twirl around in the dryer and rub against each other, static electricity builds up. A sock sticks to a T-shirt. When you pull the shirt and sock apart, electrons crackle and spark, then snap back to the way they were.

Similarly, protons and electrons whipped up in solar winds smash into the gases of the Earth's atmosphere. The atoms become "excited" — they move faster, and some of the gases in the atmosphere, like oxygen, become agitated. Electrons held in orbit around these oxygen atoms skip away from their centers. When they snap back, light is given off.



The light given off by billions of such atoms colliding with air molecules in the atmosphere creates a colorful light display, an aurora.

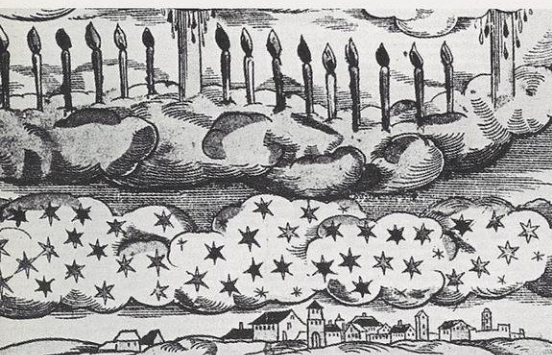
In 1621 French scientist Pierre Gassendi referred in his writings to the lights in the northern sky as the *aurora borealis*, or northern dawn. Aurora was the name of the Roman goddess of dawn; Boreas was the god of the north wind.

The direction "north" is the key, for every aurora needs three things: particles from the sun, atmospheric gases, and a powerful magnet. Here in northern Wisconsin we are near such a magnet, the North Pole. (There are also southern lights, but we will concern ourselves with the ones you can see without traveling well south of the equator.)

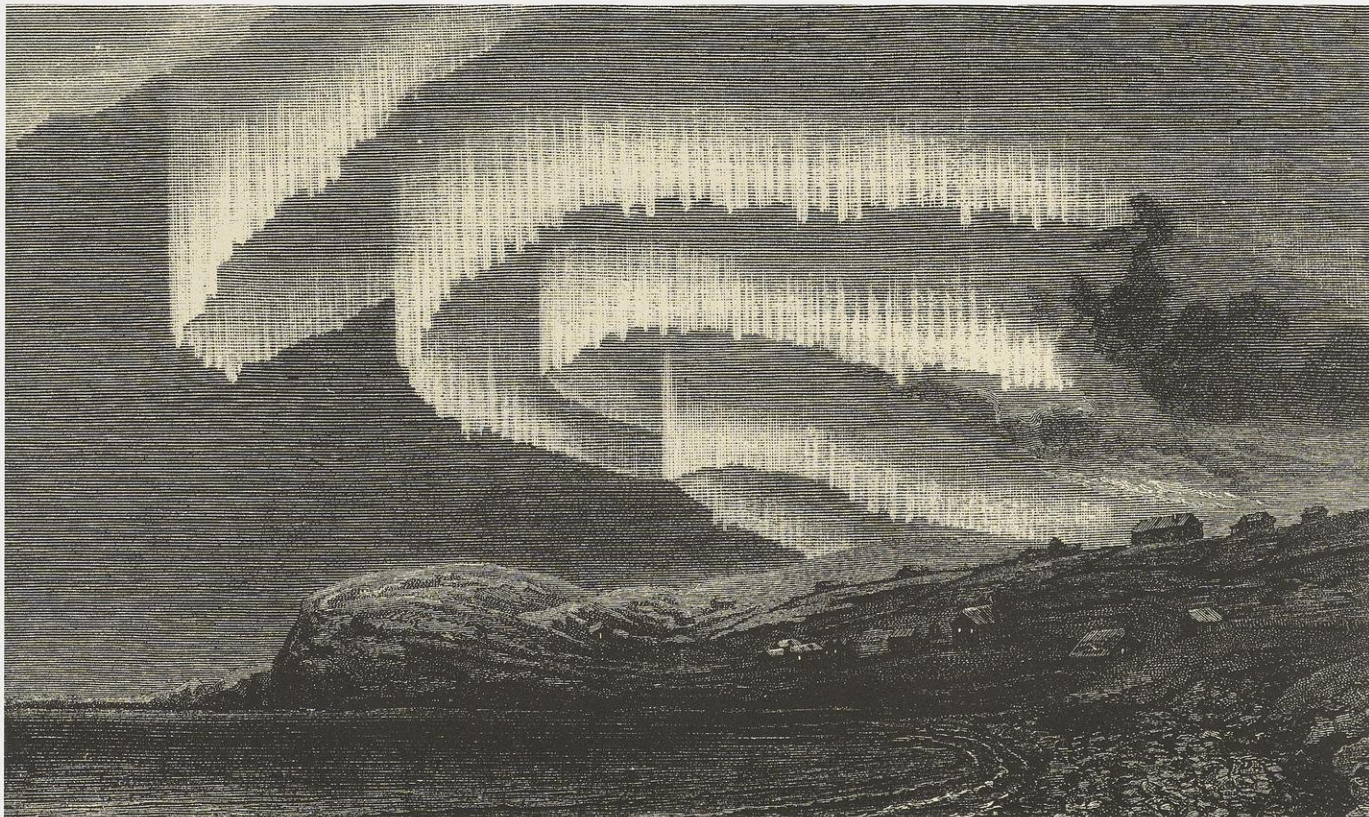
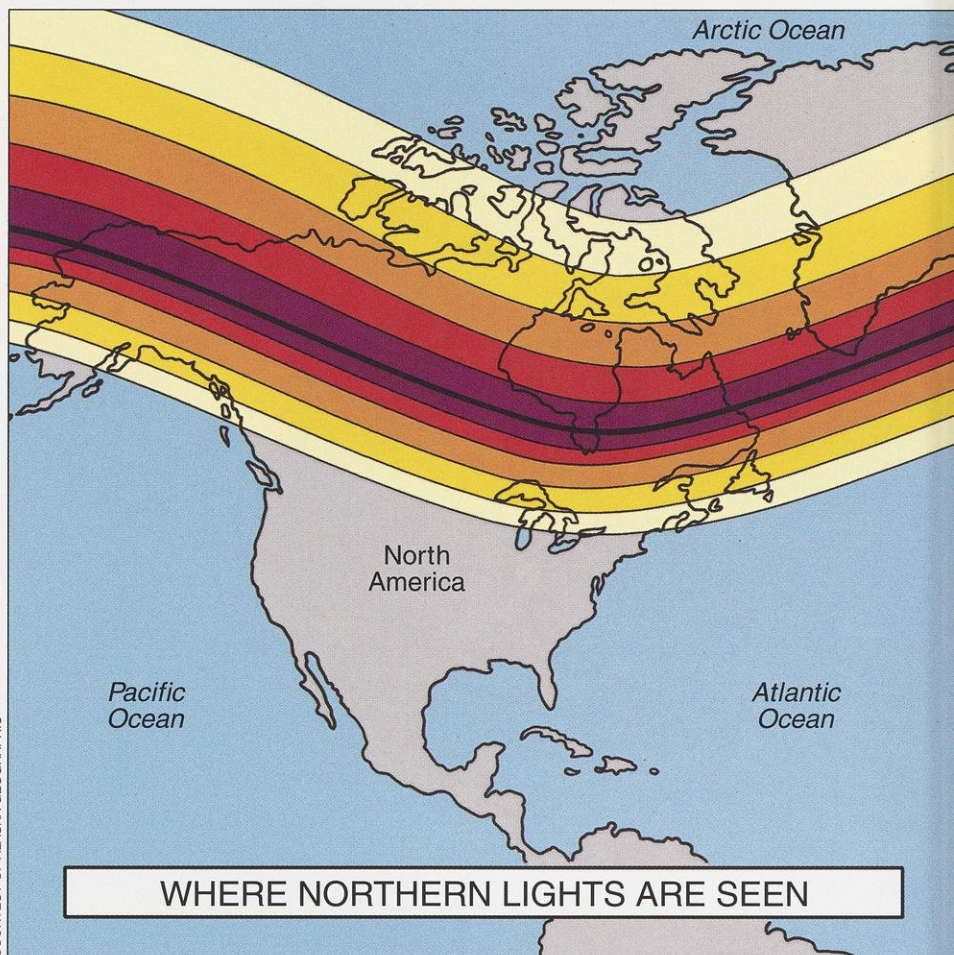
NORTHERN LIGHTS

The sun's tremendous heat is the source of its powerful magnetic field. Temperatures in the atmosphere just above the sun (the corona) can reach several million degrees. At such temperatures gas particles collide so violently that the atoms split into electrons and protons. These high-energy particles (called plasma) escape through holes in the sun's magnetic field. As the particles escape, they are thrown out by the rotating sun in an ever-widening spiral. This is called the "garden-hose effect," from the similar pattern of

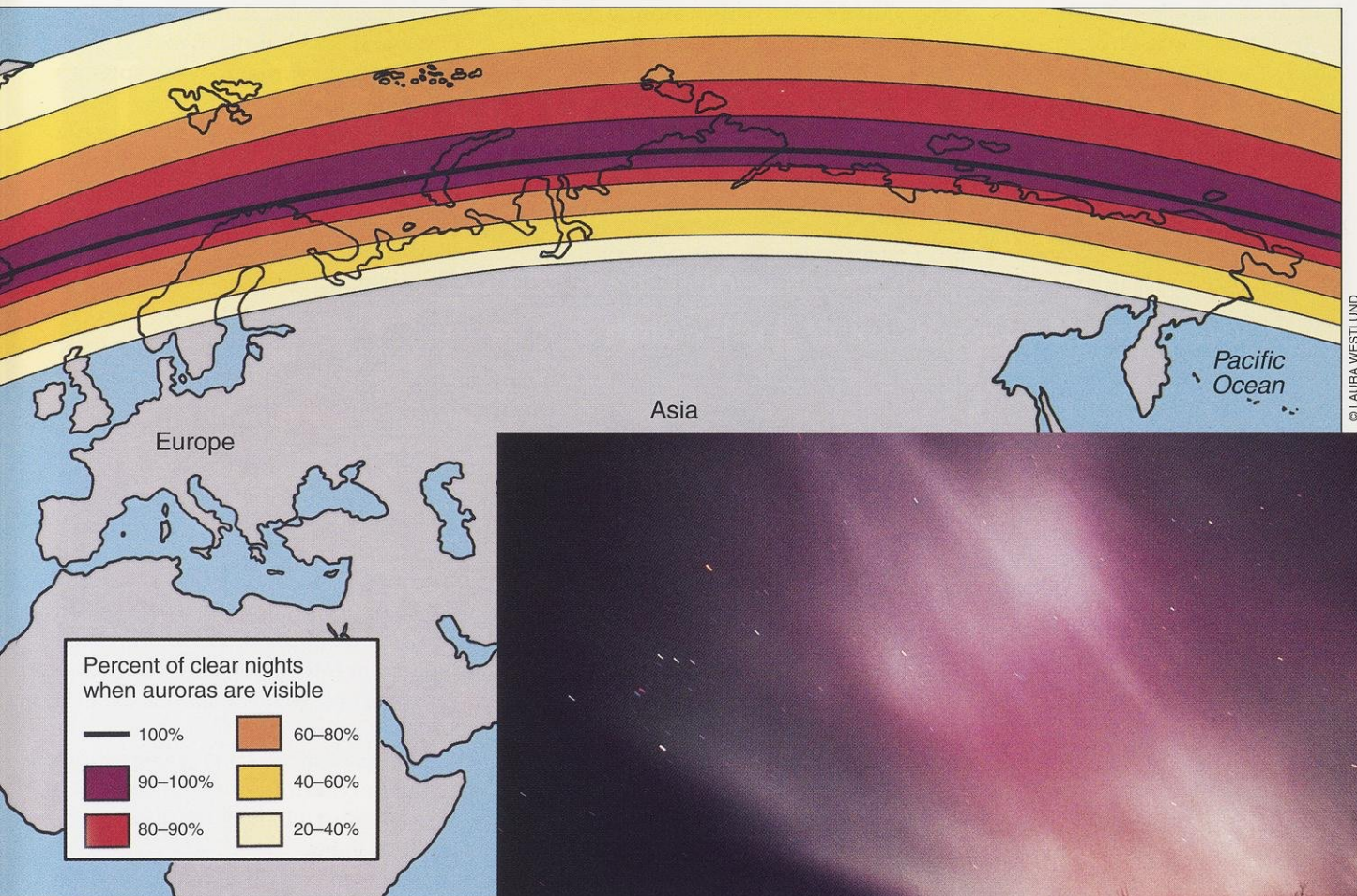
The sinuous, fleeting forms in northern lights inspired myths and legends.
(below) A medieval interpretation from Bohemia.
(bottom) An 1886 engraving of curtain-like ribbons of light from Scandinavia.



THE ASTRONOMER ROYAL OF SCOTLAND.
COURTESY OF ALASKA GEOGRAPHIC



M. LENSTRUM. COURTESY OF HARVARD COLLEGE LIBRARY



The lights are visible at the North and South Poles where Earth's magnetic field acts like a tunnel where charged solar particles spiral toward the surface and crash into atmospheric gases.



water droplets formed if one swings a garden hose around and around above one's head.

This solar plasma escapes as a stream of particles with enormous velocity. As the particles speed through space, they act like miniature magnets. In two to five days, when they reach Earth's magnetic field, the two forces push against each other like opposite poles of two magnets. The sun's particles sweep around Earth's field and fan out like water passing around a rock in a stream.

When the solar particles arrive at the far side of the rock — Earth's magnetic field — many of the particles will be trapped in the field. Some particles flow almost around the end of the field. Others spiral down toward the North Pole.

There they collide with oxygen, ni-

trogen, argon and other gases, releasing some of this energy as light — the aurora borealis. We see the auroras near the Earth's poles because the magnetic fields are open only at the poles. At lower latitudes near the equator, the magnetic fields are "locked."

Sometimes the lights look like a faint glow in the sky. At other times, the lights appear as a sparkling curtain, a twisting, twirling ribbon, or pockets of color. The colors undulate across the sky. Arcs, streaks, and whirlpools may splash the evening sky with reds, greens and, sometimes, dark purples in a spectacular colorama.

Where do the colors come from? The answer lies in the atoms and molecules of gases at different levels of the atmosphere.

We see these same colors on the

ground in neon signs. By removing all the air from inside a glass tube, we can fill the void with a small amount of different gases found in the atmosphere. We seal the tube and wire it for electricity. Then, just as in an aurora, a stream of electrons is sent through the tube. When the stream strikes the gas, the electrons in the gaseous atoms get excited. As the atoms and molecules calm down, they snap back to their normal state and release energy which creates a glowing red light.

Neon produces a red light, but so-called neon lights do not always contain neon. If a mixture of argon and mercury is used, a green, blue, or gold light will shine from the tube.

With the northern lights, however, the colors we see depend not only on the gases that are struck, but also on

how far they are from Earth.

If electrons in solar winds spiraling down towards Earth strike oxygen atoms at 150 to 100 miles from the ground, a deep red appears in the dark night sky. Closer to Earth, but still much higher than jet airplanes travel, oxygen atoms flash a greenish white, greenish yellow, or green light when struck. Because oxygen atoms are more "ex-

citable" than other atoms, this is the most common color we see.

But how common are the northern lights? When and where can they be seen?

The most spectacular displays usually appear around midnight. Your chances are enhanced at times of a new moon or moonless cycle when the sky is clear. Here's a tip: If you hear a weather

report mention that flares are exploding on the sun, set up watch two days later. If this is the case, you may see splashes of color earlier than midnight.

For more enthusiastic viewers, a phone recording at the Space Environment Service Center in Boulder, Colorado — (303) 497-3235 — can help you decide when to set up a night watch. The recording gives callers a forecast of solar activity and geomagnetic activity including a "K" index. This is a measure of the disturbance in the Earth's magnetic field. If the "K" is five or higher, you can count on seeing the lights well south of Canada.

The best place to watch for a beautiful light display is on top of a hill in the countryside, away from city lights. If you are on or near a lake, look toward the horizon. A glow may appear and you may dismiss it, thinking it is only light from town. Stop and wait! Keep watching and you'll be in for a colorful surprise.

For Wisconsinites, the closer you are to the northern half of the state, the greater your chances of seeing the northern lights.

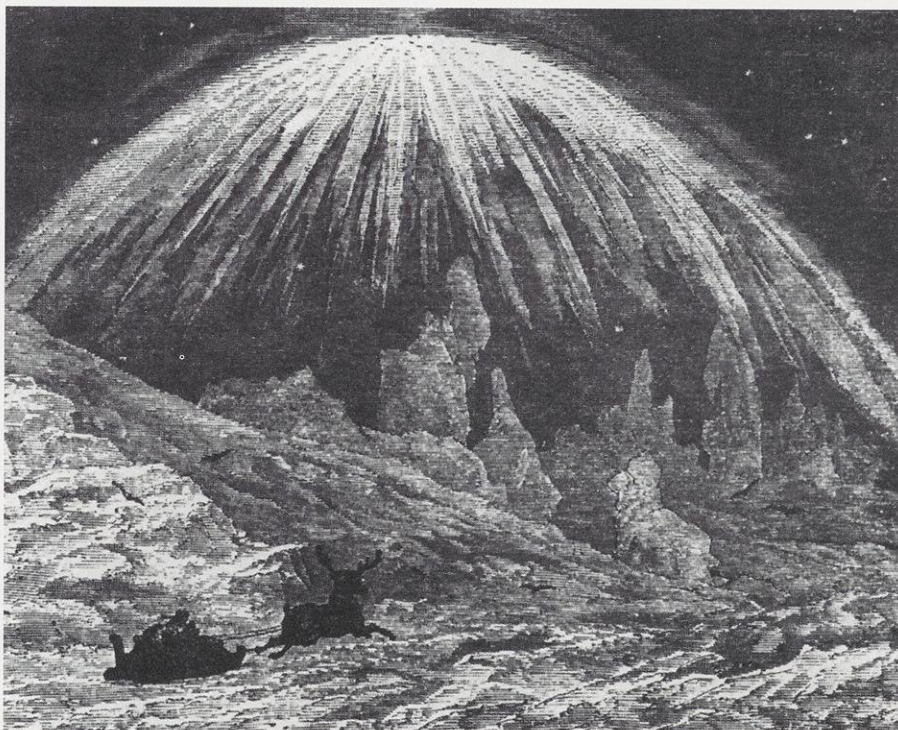
A kaleidoscope of adventures awaits the night sky viewer. The wavy motion is mesmerizing, and perhaps will bring you back to a time when the Menominee people of Wisconsin believed that the lights were torches used by great friendly giants of the North to help them spear fish on a moonless night.

What will you picture in the northern lights? Use your imagination, adjust your daylight eyes, and prepare yourself for a magnificent midnight surprise. □

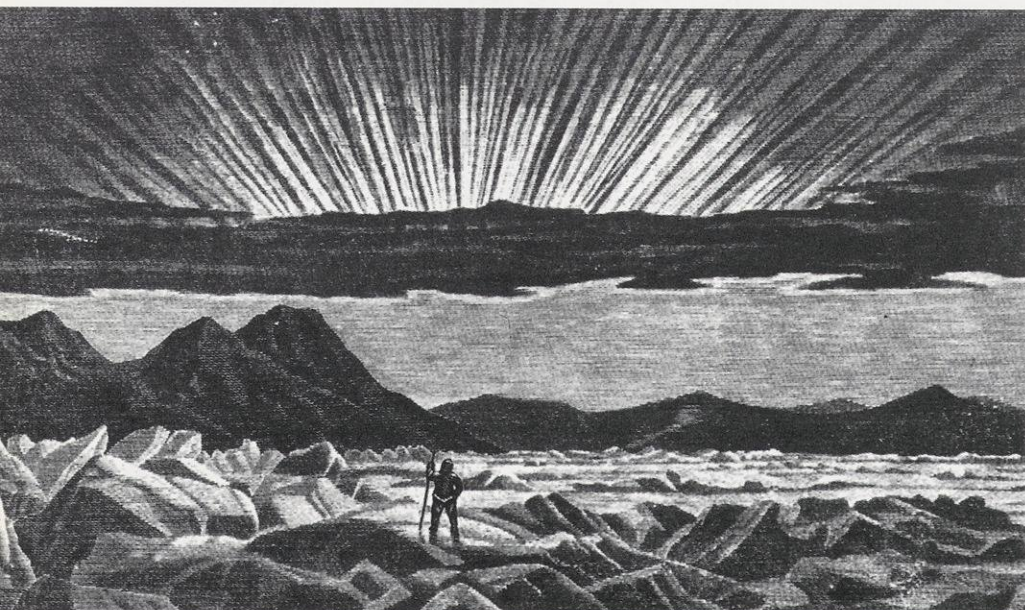
Robert "Dock" Stupp writes from Crystal Falls, Michigan.

(below) When the aurora is near its zenith, the lights appear as a curved corona.

(bottom) Researchers and amateur astronomers track solar activity and geomagnetic reports to catch the northern lights at their peak.



SOPHUS TROMHOLT 1885. COURTESY OF ALASKA GEOGRAPHIC



NORTH POLAR EXPEDITION 1876. SPECIAL COLLECTIONS, UNIVERSITY OF SASKATCHEWAN

Lightning-fast licensing

A new system for issuing licenses, permits and passes is your quick ticket to outdoor adventure.

David L. Sperling and Wendy K. Weisensel

Story photos by Robert Queen

Once you've freed up time in your business, family, and community schedules, you want to enjoy Wisconsin's lakes, forests and parks without wasting a minute. You told us so, and we got the message.



Almost six years ago, the Department of Natural Resources began planning a new way to vend outdoor licenses and permits so customers could purchase them more quickly and conveniently. That automated system is being installed and tested now. By mid-March, every DNR station, county office, sporting goods shop, hardware store, marina and bait shop that sells licenses and indicated an interest by last December should be linked to the new system. A companion toll-free phone system will allow license purchases any time, day or night.

The Automated License Issuance System (ALIS) provides flexibility to accommodate the meticulous vacation planners who pack their bags two months before an outing as well as those spontaneous day trippers who decide at 6 p.m. Friday to head up North for the weekend and want to buy their licenses through the car phone.

To make it happen, the Department of Natural Resources had to move a step away from paper licenses and stubs. The agency invested about \$10 million in technology and training to incorporate electronic point-of-purchase transfers similar to credit card purchases into the licensing system.

The system is streamlined, but will not replace all paper licenses with a plastic outdoor credit card. Outdoor users will still need to buy licenses to fish, hunt deer or pursue small game, but these licenses will look different.

"We interviewed and surveyed customers more than four years ago to guide this system," said Marilyn Davis, director of DNR's Bureau of Customer Services. "Customers told us they wanted more durable licenses that fit into their wallets. They told us they didn't care about having outdoor recreational stamps if they could have outdoor privileges incorporated on their licenses at the time of purchase.

"Customers said they were tired of running around to several different outlets trying to find a vendor who had not run out of the license they wanted to buy," Davis added. "And they wanted us to use technology to cut the amount of time it takes to purchase licenses."

Business quick and easy

In many ways, buying a hunting or fishing license using Wisconsin's new Automated License Issuance System won't be much different than it used to be. You will head to a place that sells DNR licenses, tell the seller which licenses you want, show some identification, pay your fee and receive your licenses. But automation offers some new conveniences at each step of the license sale along with changes in a few procedures, especially for first-time customers.

Here's a rundown on what to expect.

Buying a license in person — More than 1,400 DNR-authorized agents will offer licenses at sporting goods stores, bait shops, hardware stores, resorts and marinas. You may also buy licenses at DNR Service Centers, which offer information about hunting and fishing seasons, regulations, state park and forest maps. Pick the site that's most convenient for you. You don't have to use the same location each time you buy a license; once you're part of the automated system, any authorized agent can lo-



Automated licensing offers the promise of speedier transactions at convenient locations to buy recreational licenses and permits.

cate your automated customer record and sell you a license.

Each location hooked up with the ALIS equipment will offer a complete selection of DNR licenses including hunting, fishing and trapping licenses, patron's licenses, duplicate licenses, even parks admission stickers. Because

licenses will be printed on demand, no licensing station will run out of inventory and several licenses can be printed on the same form at the same time.

The first time you buy a license under the new system, you're considered a "new" customer. The license agent will ask for identification. If you have a new Wisconsin driver's license or Wisconsin ID card, the ALIS system can read this information from the encoded magnetic strip. Older driver's licenses feature a special number that the agent can enter to accomplish the same task.

Residents who don't drive and non-residents should provide a picture ID or other form of identification. They will be asked to complete a New Buyer's Form the first time a purchase is made on the ALIS system. The buyer will receive a copy of that form which should be carried along with the license. The other copy of the form will be sent to the Department of Natural Resources by the license agent so that name and address information can be entered into the ALIS system.

A Social Security number will be requested the first time all customers buy a license. Thereafter, buyers will receive a unique DNR customer number, which will automatically link to name and address information to hasten all subsequent purchases.

Customers concerned that licensing agents or others will have access to their Social Security numbers can rest easy. Those numbers will not appear on the license.

"New state and federal law require us to ask customers for their Social Security numbers for one reason only," Davis explained. "The numbers are provided to the Wisconsin Department of Workforce Development solely to determine if the applicant is delinquent in making child support payments."

Customers can also buy licenses for other people who have filled out and signed a DNR application form specifically designed for this purpose. Even parents who want to buy licenses for their children will need to complete this form with their offspring ahead of time. Applications are available at DNR Service Centers.



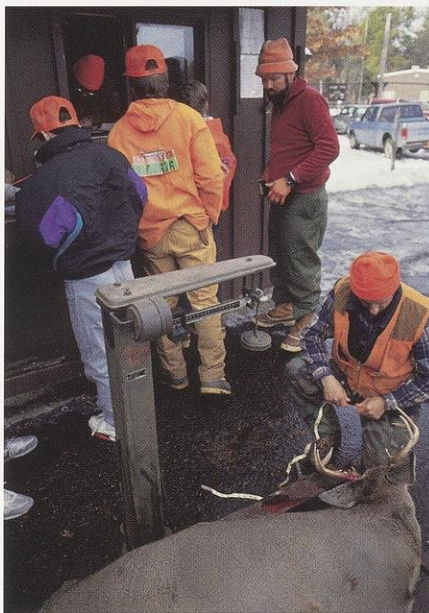
Once the sales agent has entered basic data about you into ALIS, the system assigns your permanent DNR customer number that will be printed on all licenses and receipts. Transactions for recreational licenses, permits, and special permit applications in subsequent years will be more easily and accurately processed," Davis said.

The licenses will be printed immediately on durable waterproof stock — good news for those of us who have watched our outdoor privileges wash, rinse, spin and die in the laundry when a fishing license or trail pass was left in a shirt pocket.

When your purchase is complete, a two-ply receipt will list the types and prices of each license, the total fee, and your DNR customer ID number. You will be asked to sign the receipt and a statement declaring your residency. The sales agent will give you one copy of the receipt.

Each licensing agent will have a supply of outdoor regulations for each license or permit privilege purchased. A button on the ALIS machine will allow licensing agents to order a supply of regulations quickly as supplies start to dwindle.

Buying a license over the telephone — A toll-free phone number, 1-877-945-4236, allowing customers to purchase



Hunting, fishing and other licenses for outdoor privileges can be purchased at the same time in person or over the phone.

DNR recreational licenses every day at any time will be available this spring. (The starting date was not confirmed by our press time.)

Callers will be asked which licenses they wish to purchase. They will also be asked to provide the same information as if they were buying a license in person at an outlet equipped with the ALIS terminals.

The operator will tally the charges.

All phone orders must be paid for with major credit cards. A \$3 handling charge will be added to each phone order to cover costs of compiling and mailing license regulations and other documents to each phone customer.

At the time of the phone transaction, the customer will be given an authorization number. Licenses, permits and regulations will be mailed shortly thereafter.

The authorization number will allow the customer to enjoy "instant privileges" for licenses that don't require a hunting carcass tag. Those buying a deer gun license or archery hunting license will have to wait until receiving the back tag in the mail to hunt.

The phone service will likely be popular with vacationing residents or non-residents, who can call in a license application and quickly head out the door to start fishing with their authorization number in hand. In fact, for short-term licenses of two to 15 days, there may be no reason to mail the actual license at all once the transaction is complete and the authorization number has been issued.

Side notes to your license purchase

Deer hunters will find that most procedures will be similar to the present sys-

tem, but more convenient. The deer hunting license will be printed directly on the back tag. A separate carcass tag will be printed on the same durable material which has a peel-off sticky backing that allows licenses to be conveniently folded to fit in a wallet and carcass tags to be affixed to harvested deer.

ALIS will also change the way hunters apply for special permit applications for hunter's choice, goose permits, turkey permits and the like. Instead of paying \$3 for an application form, the customer will pay \$3 for a sticker that will contain the customer number and a bar code. The customer will apply the sticker to a free application form and fill out the rest of the information that we currently ask for —

unit designation, landowner information and choice of a hunting zone or period. The coded sticker will better ensure that applications are understood and forwarded to the proper person at a current address.

Conservation patrons may find license renewal even easier. They will have the option of renewing licenses by mail, over the phone or at any ALIS location.

Stamp privileges (Great Lakes salmon and trout; inland trout; pheasant; turkey; waterfowl) will be printed directly on your fishing or hunting license. Collectors can still pick up a commemorative stamp at DNR Service Centers to keep as a memento. The only actual stamp hunters will still have to carry is a federal duck stamp required

to hunt migratory waterfowl.

Hunter safety course graduates will be asked to present the certificate issued by Wisconsin or another state when buying hunting licenses. License agents will also ask you to write down the certificate number on the sales receipt and sign your name. Once that data is entered into your customer record, you won't have to present the certificate to make a license purchase.

DNR conservation wardens can call a toll-free number at any time to verify license sales. If, for example, you're from another state or you move to another state and try to claim Wisconsin residency to dodge higher nonresident license fees, the warden can discover this through ALIS — so be forewarned.

Great Lakes charter boat captains will still be authorized to sell two-day sport fishing licenses and Great Lakes trout and salmon stamps for their customers who arrive for pre-dawn charters without a license.

Your gateway to state parks and parks trails

State parks stickers also can be purchased through ALIS. For a daily pass, display your receipt on the driver's side of the dashboard, in a spot where it can be seen through the windshield. If an annual admission sticker has been purchased, redeem the receipt for a window decal at the first park office or trail you visit. If the park office is not staffed when you arrive, display your receipt on the driver's side dashboard so it is

State Parks Trail Passes can also be bought through ALIS purchases at DNR Service Centers and parks offices.

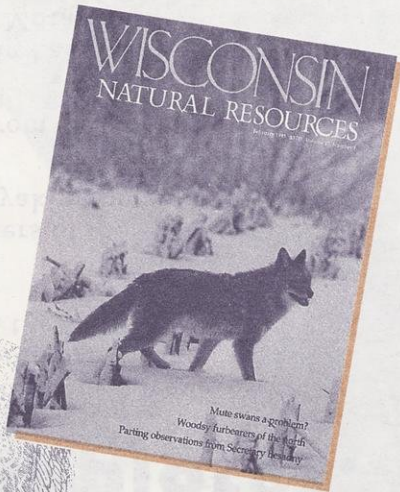


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& outdoor
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—IN BEAUTIFUL COLOR!



Stop...listen...explore...

...the wind is rustling through the pines, waves are dancing on the rocks, the loons are calling. Come, journey with us through the state of Wisconsin!

- ◆ Slip a canoe into the headwaters of the Chippewa River or try sea kayaking on Lake Superior.
- ◆ Admire prairie restorations from Walworth County to your own backyard.
- ◆ Find a new hot spot for fishing Lake Michigan or birdwatching in the Kettle Moraine.



ALIS sales started last fall. Licenses and back tags can be printed and issued at each site. By spring, nearly 1,400 outlets will be equipped to sell recreational licenses at DNR offices, parks, convenience stores, sporting goods stores, and some resorts.



visible through the windshield. To reduce the chance of losing or misplacing a receipt, exchange it for a decal as soon as possible.

State parks trail passes can be purchased at DNR Service Centers and state parks properties equipped with ALIS terminals.

As in past years, vehicle admission stickers for state parks will also be sold at all DNR Service Centers, state parks, forests, state parks trails and recreation areas.

The process for making reservations at state park campgrounds is also being automated. Our next issue will carry details about the toll-free phone reservation system.

Getting updates

Conditions often change between the time people buy outdoor licenses, make their plans and take their trips. DNR relies on newspapers and broadcast media to spread the word when floods close trails, diseases affect wildlife, and special seasons are set for fishing and hunting. With the ALIS system, all of the more than 1,400 license outlets can become valuable sources of information as well.

The computerized system includes a broadcast feature so short messages can

be sent to each terminal and printed out for display. For example, when violent weather blows down trees or floods state trails, when waterfowl seasons are opened or closed in late fall, or when new units are opened for fall deer hunting permits, DNR can broadcast short details of those changes to each outlet. That can make the corner bait shop, convenience store or sporting goods store another important source of information for outdoor enthusiasts.

"Our licensing agents told us they would be willing to do more to inform the license-buying public about changes if we just developed a way to talk to them more often," Davis said. "We want to form those partnerships and use these 1,400 voices to spread the word when changes happen."

Getting the system in place

All of the outlets where recreational licenses now are sold were given the opportunity to sign up as outlets for the new system. Most of the outlets chose to stay in the system, as the costs were very reasonable and the service brings in customers. License agents will pay a one-time security deposit on the computer equipment, which will be refund-

NEW LICENSING SYSTEM

ed if the site is subsequently closed. The ALIS equipment has been installed at about 100 test sites at DNR offices and stores. The remaining 1,300 sites will receive ALIS equipment by mid-March. More than 200 additional businesses and offices have expressed interest in selling recreational licenses.

Each outlet will have three pieces of equipment — an electronic keypad to choose licenses and enter information about license purchasers, a printer to produce licenses and hunting back tags, and a receipt printer similar to those used for credit cards to print two-ply receipts of all transactions. Once the equipment is hooked up, those selling DNR recreational licenses will be trained, and a "help desk" will be staffed around the clock to answer questions. The terminal itself prompts the seller through each sales transaction.

Sellers will continue to receive a 50-cent commission on each license sale. Sales records will be collected automatically and funds will be transferred automatically on a weekly basis. This is a vast improvement over the previous system, in which receipts were forwarded to DNR periodically and the dollars customers spent on licenses took a long time to be returned to the state treasury and allocated to the Department of Natural Resources to fund outdoor programs.

Whether you decide to buy your recreational licenses via phone or at an outlet, automation should provide an easier, quicker ticket to enjoy the outdoors. □

David L. Sperling edits Wisconsin Natural Resources magazine. Wendy K. Weisensel is a senior public affairs manager for the DNR in Madison.



LEAVES IN ICE



JIM BISHOP, JR.

RICHARD HAMILTON SMITH

The last outing of
the ice-fishing
season took an
artful turn.

Jim Bishop, Jr.



JIM BISHOP, JR.

A blowing leaf was trapped in a freezing ice-fishing hole.

The south wind swept around me in a warm caress this last day of February. This was it. One last chance to grab my tip-ups and jig poles and head out across the ice to an open, uncluttered space. The northern pike season would close today until the opening weekend in May, and I felt drawn to my favorite lake that had given up a fish or two during the hard-water season. Out here I had savored many sunrises, and a few sunsets (when the fishing was really slow). All the trips had been enjoyable.

On this last trip I noticed the oak leaves. They had caught the late winter sun and their warm brown hues had trapped just enough heat to melt ice and emboss the leaves into clear pools on the frozen waterway.



JIM BISHOP, JR.



JIM BISHOP, JR.

Dark leaves warmed by the late winter sunshine slowly melted into the ice creating new designs of light, color, shape and texture.

continued to examine this icy canvas. I stopped and left my tip-ups and ice drill behind. It was my camera, not my jig poles, which bobbed slightly as I clicked away, noting each leafy detail that would soon melt from this brief mural.

It was a fine display of winter light and color. The sun reflected a million mirrors of warmth from the fragmented ice and patchy snow. The sky was an intense blue behind and above a vast tree-studded shoreline.

I was grateful for this moment in time, the small brown leaves and the unseen fish that had lured me onto this magnificent easel. □

Jim Bishop, Jr. is the Public Affairs Manager for DNR's Northern Region in Spooner.

By the time winter days dawn, most leaves have had enough. Maple, birch and aspen leaves fall early, but oaks hold on to the bitter end. Here, they held tight through November gales and pelting snow, but were finally shaken free by some fierce arctic blast and tossed from their former loft.

Most fallen leaves took refuge on some distant shore. A few stayed, lying like sunbathers nestled into the winter sands of a silver beach. They were scattered about everywhere I

looked and each had its own character. Some shone softly, like bronze medals on a general's coat. Others flashed like gold emblems on crystalline glass. A few were weathered and etched in the ice by an unseen sculptor.

Random chaos or nature's palette? A bit of both, I think.

My walking pace slowed as I



STUCK *on* WISCONSIN

*How to label an
undying passion for
the Badger State.*



Ah, Wisconsin! For residents and visitors alike, it's like falling in love each time you step out the door. With its captivating landscapes and abundance of wildlife, Wisconsin leaves even the most resolute of outdoor enthusiasts breathless: "So many thrilling, rewarding, and just plain pleasant things to do...and so little time!"

Balancing an affair of the heart this serious with the demands of work and the commitments of daily life can be tricky.

To help you out, **Wisconsin Natural Resources** proposes to make it **sticky**.



Using your stickers



etting stuck on Wisconsin is easy. On one of those wicked February nights (when the weather can't decide whether to snow, sleet or rain and so does all three), on a muddy spring day, or when you need to beat the summer heat, find a comfortable spot, gather your family, brew up a favorite beverage, unfurl a calendar — and start sticking.

Use the 70 stickers in this booklet to plan and organize your outdoor activities for a year. Place them on the appropriate dates, and with each glance at your calendar, our bright labels will remind you of the delights and duties that lay ahead.

You could start by using the "vacation" stickers to mark out the year's major R&R events.

Maybe you've always wanted to spend a week or two on a houseboat exploring the Mississippi River backwaters between Alma and Cassville. Mark the dates now with our stickers and you're much more likely to begin planning the trip in earnest.

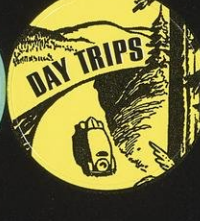
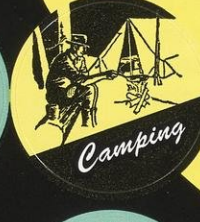
Try the "day trip" stickers to highlight those brief but important breaks — a Saturday to spend biking the Elroy-Sparta State Trail, a Sunday hike and picnic in the Kettle Moraine State Forest, a weekend of fishing on the Big Chip or cross-country skiing in the Chequamegon.

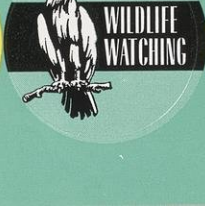
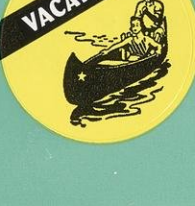
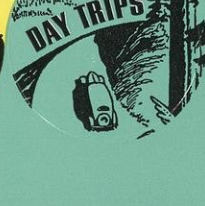
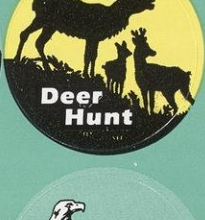
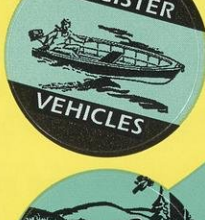
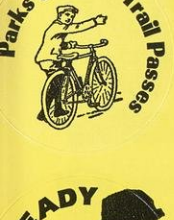
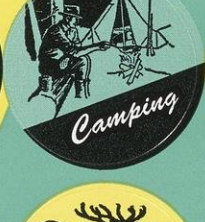
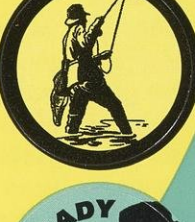
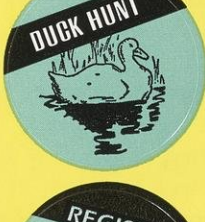
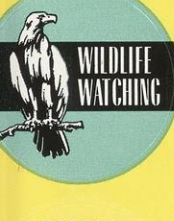
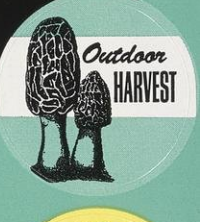
Need a nudge when it's time to pick cherries in Door County or morels in Muscoda? Let a sticker notify you of approximate harvest times throughout the year. And use stickers to mark bird migrations and other opportunities for wildlife watching.

Hunters and anglers live by the calendar. You'll find our stickers indispensable for marking trips, season openings, application deadlines, license renewals, vehicle registrations and other important dates you won't want to miss.

We've even included stickers to remind you to sign up for outdoor recreation and safety classes, to join in Wisconsin's Free Fishing Weekend and State Parks Open House, and to register for the Natural Resource Foundation's field trips.

If you're uncertain about where to put some of these stickers, rest easy. Just remember to renew your subscription to **Wisconsin Natural Resources**, and we guarantee you'll be kept well informed about all things outdoors in Wisconsin. And how will you remember to renew? Take a guess!





Sticker suggestions



Some of the stickers encompass broad categories. For instance, the "camping" stickers don't indicate which state parks to visit, or when. Use them as reminders to reserve campsites, or to make note of camping trips.

Stickers noting time-based events can be adapted to your needs. The "upland game" stickers can be used to mark hunting seasons for six different species — bobwhite quail, woodcock, Hungarian partridge, pheasant, ruffed grouse and sharp-tailed grouse. Just write the name of the hunt you're interested in underneath the sticker.

The following information will help you plan the specifics:

goose hunt — Wisconsin offers a general goose season each fall, a special September hunt near urban areas, and separate zone hunts at wetland complexes near Horicon Marsh, Theresa Marsh, Collins Marsh and along the Mississippi River.

duck hunt — For those days when you'll be scanning the skies for mallards and teal.

deer hunt — Bow hunting season opens the third Saturday in September through the Sunday before the gun deer hunting season opens. Bow hunting opens again from the Saturday after the gun deer season closes until the end of the year. The gun deer season currently opens the Saturday before Thanksgiving and closes the Sunday after Thanksgiving.

upland game hunt — Pheasant, grouse, quail, woodcock, crow and Hungarian partridge seasons are available each fall.

small game hunt — Mark your fall days afield for squirrels and raccoons. Plan some winter rabbit or hare hunts.

wild turkey hunt — Spring and fall hunts are offered. Apply for one of six hunting periods each spring and the month-long fall season.

buy hunting licenses — General hunting licenses are valid from April 1 through March 31 each year. Deadlines for specialty hunts include: spring turkey hunt (December 10); bear pursuit and harvest (January); hunter's choice — deer (July 20); bonus antlerless permit/tag (by mail July 20, additional sales at DNR counters thereafter when available); fall turkey hunt (August 10); waterfowl (seasons vary annually and are typically set by the end of August).

fishing — Fishing licenses are valid April 1–March 31 each year. The general fishing season opens the first Saturday in May. Also purchase Great Lakes and inland trout stamps, and a separate sturgeon spearing license to enjoy those pursuits.

parks sticker and state trail passes — These are valid January 1 through December 31, but can be purchased any time during the year.

camping — Use the stickers to note dates for weekend camp-outs, or as reminders to reserve campsites. Phone-in reservations can be made at 1-888-WI-PARKS.

outdoor classes — The DNR and volunteer instructors offer courses in hunter education, boater education, snowmobile safety, angler education, recreational safety and outdoor skills across the state. Contact regional DNR offices for details.

register vehicles — Boats, personal watercraft, snowmobiles and all-terrain vehicles must be registered. Renew registrations every two years.

Natural Resource Foundation field trips — Check the April issue of **Wisconsin Natural Resources** for a list of trips and an application form. Trips run spring through fall.

day trips — On the trail or on the water, with companions or alone, a day spent outdoors is a day to be treasured, no matter how brief. Use these stickers for hikes, picnics, bike trips, ski outings, canoe trips and all the other ways you love to while away the hours in Wisconsin.

Free Fishing Weekend — It's the first weekend in June!

State Parks Open House — The first Sunday in June — all state parks and trails can be used free of charge.

get ready — Consider stickers for the following seasonal chores: take boat out of storage, service boat, put boat in storage, inspect waders and PFDs, sight-in firearms, tune-up snowmobile, tune-up ATV, open up

the cabin for the season, work weekend at the cabin, close the cabin.

buy gift subscriptions — Give a gift of **Wisconsin Natural Resources** to friends, relatives and colleagues at any time of the year, for any reason — birthdays, graduations, holidays, Earth Day! Call 1-800-678-9472 or subscribe online at www.wnrmag.com

outdoor harvest — Collect maple syrup in March, pick morels in May, pick wild asparagus in May, pick berries in summer and fall, gather wild rice in August–September, collect prairie seed in September and October, pick nuts each fall, collect pine cones in fall and winter.

wildlife watching — Mark your calendar for these events: fall goose migration, fall hawk migration, winter eagle watching, sturgeon spawning in March and April, salmon migration spring and fall, prairie chickens dancing and sharp-tailed grouse booming each April.

trapping — There are late fall seasons through winter seasons for bobcat, coyote, fox, fisher, muskrat and mink. An otter season runs in three zones December through spring; beaver season runs in four zones late October through spring. Check with DNR offices for details.

vacation — Mark those weeks you've been waiting for!

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Written by: Maureen Mecozzi

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PLACE
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Good value, just compensation

As lands are bought for public use and taken off the tax rolls, a host of programs keep the costs from rolling onto your tax bill.

David L. Sperling and Daniel Huegel; Story photos by Robert Queen

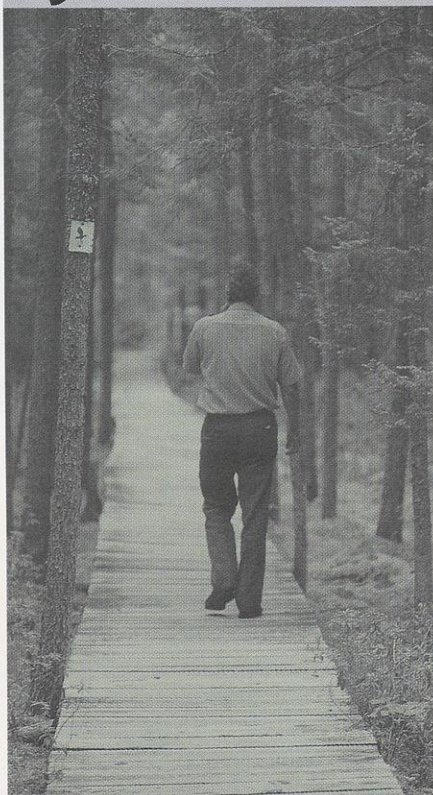
In February, reality hits you a little hard right in the kisser. The holidays are long over (except the bills), the snow that took a long time coming feels like it will never leave, and daylight is still in short supply. While you are calculating if you can afford a vacation, Uncle Sam and the state want you calculating your tax bill.

(top) Public forestland have been primarily valued for planting and providing tomorrow's timber needs.

(above) We've also valued the recreational space forests provide. A new report shows how taxation policies buffer the burden on local taxpayers when public lands are taken off local tax rolls.

In these grumbling days, when the value of public schools, public works and public lands seem as slim as your wallet, perhaps a little positive news about taxes would cheer you up. A new Wisconsin Department of Revenue report examines what happens to community tax burdens as lands are purchased and become public.

Many people believe property taxes rise when lands in their communities are bought for public use. Though people appreciate the aesthetic and recreational benefits of public spaces, they believe taking these lands off the tax roll shifts the tax burden to property



owners in the area. In fact, many programs combine to minimize the tax consequences of setting aside places for common enjoyment. To appreciate these programs, we have to delve a bit into Wisconsin's property tax system.

The taxonomy of taxes

Several types of government in Wisconsin have the authority to levy property taxes. The state, counties and municipalities (cities, towns, and villages) can do so, as can technical college districts, school districts and special districts to manage sewage, provide drinking water, protect lakes or rehabilitate communities. In rural areas, the major taxing authorities are school districts, counties and towns.

Except for the state tax, each of these authorities can set its tax levy, which is usually adjusted annually. Most jurisdictions calculate this levy by determining how much money is needed to provide services for the coming year; subtracting expected revenue the community will receive from federal and state grants; and subtracting other fees, fines, interest and income. The difference between expenditures and revenue is the amount of money that needs to be raised locally through taxes.

To calculate the tax rate, the net cost of all public services is divided by the full market value of taxable property in an area to determine a tax rate in thousandths per each dollar of value (the so-called *mill* rate, from the Latin word for thousand).

Within a community the tax burden is distributed among property owners according to the assessed value of the property.

Federal, state and county governments use the *market value* of land in an area to determine tax levies for schools, colleges and taxes. The community tax assessor uses the *assessed value* to divide these costs among property owners in a community.

To understand the effect of public land on property taxes, we need to delve just a bit deeper.

School districts — Most state school aids are paid through a formula that guarantees each school district a certain

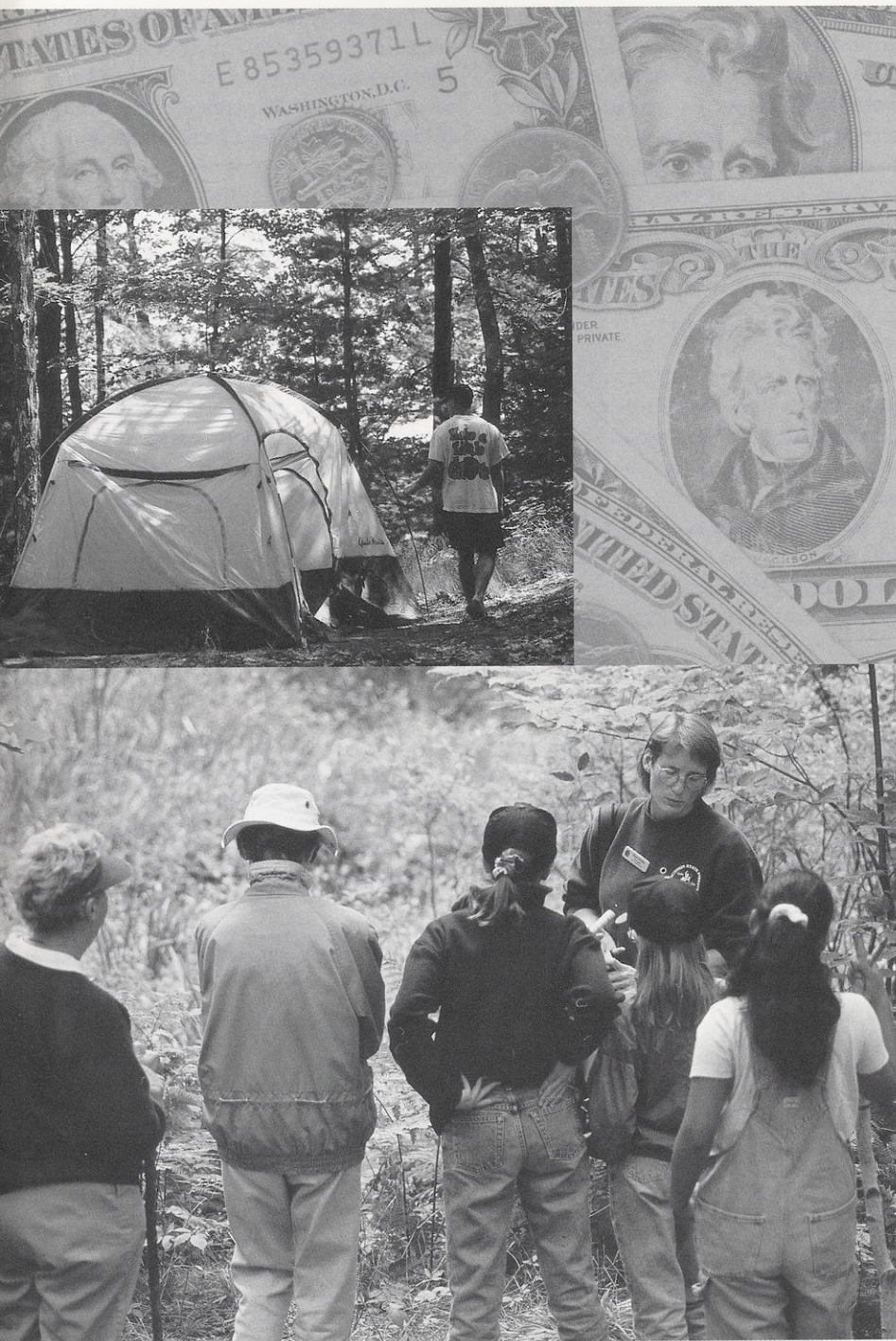


Aside from tax consequences, public forests add measurable value to the quality of life, provide access to wild spaces, and maintain the value of nearby private property.

amount per student to finance district schools. When public lands are taken off the tax base, the school aids formula compensates for any increases in the gap between taxable land values in a school district and a guaranteed minimum value per student. As a result, if the amount of public land in a school district increases, the state aid to the

district will usually increase to offset most if not all of the loss in the local tax base. The school district's tax rate for local taxpayers will change at most by a very small amount as a consequence of public land purchases.

County taxes — Counties have a wide variety of revenue sources including user fees for some services, sales



Those living near public forests are more likely to enjoy them more often for outdoor recreation, natural study and relaxation than people who must travel long distances to reach these properties.

taxes, state reimbursements for some programs, and "shared revenue." One portion of the shared revenue takes a similar approach to the school aids by guaranteeing each county a certain tax base per person. If the amount of public land in a county increases, shared revenue may increase to compensate for the loss of taxable property. Practically

speaking, since most counties cover several hundred square miles and have large tax bases, even large public land purchases lead to imperceptible changes in the county tax rate. Counties also receive special payments for public land purchases, as we will discuss.

Municipalities — As land in cities, towns and villages is made public prop-

erty, the same market forces prevail, and public green space increases the value of nearby property. Obviously, towns with large tax bases can better absorb the "loss" in taxable property with the smallest tax changes, but shared revenues and special payments certainly offset most of the tax revenues lost.

Special districts — Taxing districts like sanitary districts and lake protection districts typically serve the more densely-populated and developed parts of a community. Since the majority of public land purchases occur in the unpopulated, undeveloped areas of town, the taxes on special districts usually are not affected by public land purchases.

Sharing the investment in public lands

To provide further incentive to buy public lands and soften the tax burden on people living near public properties, state laws provide a variety of community payments in lieu of taxes when public lands are bought. County forests, private property enrolled in several forestry programs, DNR properties and federal lands all partially reimburse communities where public lands are bought.

County forests constitute the largest type of public properties in Wisconsin, covering 2.3 million acres in 28 counties and more than 250 communities. Incentives to form county forests were born in 1928 when large tracts of northern Wisconsin had been cutover, farming failed, and counties were obligated to take title to abandoned lands. A succession of conservation laws encouraged county governments to reforest the land for timber, recreational use and wildlife habitat.

To bolster county forests, state law provides lots of incentives. Annually, the Department of Natural Resources pays municipalities 30 cents per acre for county forest lands maintained within their boundaries. Second, county boards can annually request interest-free loans from DNR for up to 50 cents per acre of county forest land to buy, preserve or maintain these forested acres. Third, when the county harvests

timber from these lands, 20 percent of the proceeds are given to DNR to repay forestry loans; 10 percent goes to the local municipality and 70 percent is retained by the county.

The Forest Crop Law of 1927 (FCL) was the first of three major state laws to encourage private landowners to reforest their acres and maintain tree cover to prevent soil erosion, provide timber and keep lands productive. Until 1998, FCL was the largest tax program ever provided to Wisconsin's private property owners. More than 1.26 million acres in 67 counties are still enrolled.

Under the FCL, lands that were planted to trees are taxed at a very low annual rate and the timber is only taxed when it is cut. The program was designed to reduce tax delinquency, keep rural owners from going belly-up, slow

the number of farms that were abandoned in the desperate days of the 1920s, and provide a stable supply of forest products for Wisconsin's growing forest products businesses. Those who owned at least a quarter of a quarter section (40 acres) could petition the Conservation Department to enroll in the program. If the land could grow marketable timber within a reasonable time, landowners would sign a contract agreeing to grow trees for either 25 or 50 years. Owners agreed to follow sound forestry practices, notify the Conservation Department of harvests and open their land for public hunting and fishing.

While FCL land is exempt from general taxes, the owners continue to pay the municipality either 10, 20 or 83 cents per acre annually, depending on when

the property was enrolled in the program. DNR supplements this with a 20-cent per acre annual payment and a severance tax of 10 percent of the value of harvested timber. Landowners withdrawing from the program pay penalty taxes. The FCL program ended in 1986, but so many people enrolled for 50-year contracts that the program will continue until the year 2035.

The Woodland Tax Law, enacted in 1954, extended similar benefits to people owning smaller parcels of at least 10 acres. These landowners signed 15-year contracts with the Conservation Department to follow a forestry management plan and raise timber. These small parcels don't have to provide public hunting or fishing. Landowners also make a small annual payment of \$1.67 per acre to the local municipality.

Proceeds from harvests on public lands, cost-sharing in other forestry programs and state taxing policies combine to offset tax losses when public land purchases take property off local tax rolls.



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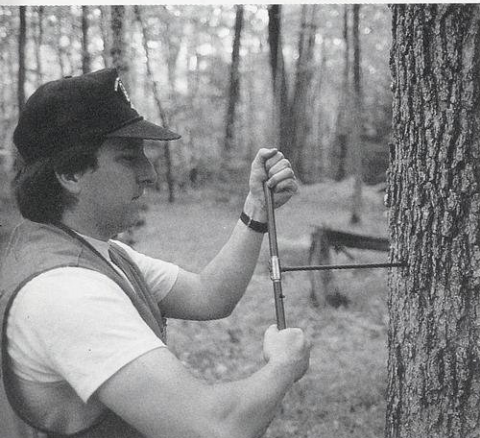
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Since January of 1986, both the Forest Crop Law and Woodland Tax Law were replaced with the Managed Forest Land law (MFL), now the largest tax laws benefitting private forestland owners. Over a million acres of Wisconsin in 71 of our 72 counties participate in this program. Any owner of 10 contiguous acres of forestland can apply for the program. Lands must be enrolled for 25 or 50 years and must follow a forest management plan. At least 80 percent of the enrolled property must be of good quality that can grow at least 20 cubic feet of marketable timber each year. Most land in the MFL is available for public hunting, fishing, hiking and other uses. If the landowner doesn't want to offer public access to the acres, the owner's tax payments are a bit higher on those acres; normal fees are

Professional management maintains public forestlands to sustain their economic, recreational and ecological value.



now 74 cents an acre, but the landowner pays an additional dollar per acre for lands closed to the public.

Like the previous programs, when timber is harvested on these lands, the state receives a five-percent yield tax, which helps to fund the program. Portions also go to municipalities and counties to offset lost tax revenue.

Payments from recreational lands

Local government is also compensated when the state purchases parks, hunting grounds, fish hatcheries, game farms, natural areas and other land for recreation. For lands bought before July 1969, DNR pays 88 cents per acre. On lands bought between 1969 and 1991, DNR pays the full property tax the first year, then taxes are reduced by 10 percent each year for 10 years. Thereafter, the state compensates locals at 10 percent of the first year's payment or at least 30 cents per acre. For lands purchased since 1992, the DNR compensates communities for the full amount of property taxes that would have been paid had the property been privately owned. Each year the amount paid is adjusted to keep current with changes in local land value and local property tax rates.

The federal government also makes special annual payments to states and communities for lands owned in a region. In 1997, the most recent year for which figures are compiled, the federal government paid Wisconsin in lieu of tax payments on 1.3 million acres. These funds are distributed to communities from the federal Bureau of Land Management through the Wisconsin Department of Natural Resources to cover payments for National Park Service lands in six Wisconsin counties; the Chequamegon and Nicolet national forests; Army Corps of Engineers lands along the Mississippi River in 17 counties; and Fish and Wildlife Service properties

including the federal portion of Horicon Marsh, the National Wildlife Health Laboratory in Madison and the National Fish Health Center in La Crosse. In addition, 25 percent of the gross proceeds from timber, mineral rights, grazing, and recreational fees on the national forests are returned to the counties where properties are located.

A little-known federal program in the Department of Education also compensates communities who educate the children of federal employees stationed in their districts. Twenty-four Wisconsin school districts receive such aids.

Public lands as a respite and a draw

Aside from these tax compensations, public lands are a tremendous asset to communities. Public protection preserves many of our finest parcels for parks, fishing, hunting, hiking and natural beauty. Certainly the people who live near these natural gems are more likely to visit the properties on a regular basis and enjoy them as a local playground.

Public protection preserves regional green space and provides a permanent buffer from further development. Adjoining property owners know their parcels will only increase in value because they abut land that will remain open. A peaceful quality of life will be perpetuated in many of these areas.

Public lands are also economic magnets. People visiting parks and natural attractions purchase fuel, food, lodging and other services locally as they enjoy a day, weekend or a longer vacation in the surrounding community.

So the next time someone grumbles about "tax loss" from public lands, tell them to find something else to grouse about. When is spring coming anyway? □

David L. Sperling edits Wisconsin Natural Resources magazine. Daniel Huegel is an economist with the Wisconsin Department of Revenue. A complete copy of his report "Public Land and Property Taxes" is available after March 1 from the Wisconsin Dept. of Revenue's Division of Research and Analysis, P.O. Box 8933, Madison, WI 53708-8933.



A tale of 150 winters

Bur oaks stand the test of time.

Anita Carpenter

Frostbite winds on sub-zero days sweep across the snow-covered landscape, chilling everything in their path. Even the rays of a mid-winter sun can't moderate the penetrating cold. On days such as these, animal activity diminishes: gray squirrels stay snuggled in their globular leafy nests, rough-legged hawks huddle in dense evergreens and tree sparrows, if they must, forage on the ground out of the blustery winds.

Of course, not all living organisms have the option of hiding from cold winds and nature watchers. Trees and shrubs can't move and winter gives me the opportunity to study the characteristic shapes of various trees.

One species repeatedly attracts my attention. On a rise in the gently rolling countryside stands a solitary bur oak tree, a 50-foot sentinel that has withstood the icy blast of perhaps 150 winters. The massive trunk, covered in deeply furrowed bark rises and divides into large, spreading branches that split into smaller angular twigs that form a rugged, rounded crown. As I gaze upon this symmetrical, open-grown hardwood, I wonder what the grand old tree has seen in its lifetime. If only it could speak.

An acorn germinating one autumn 150 years ago sent down a tap root as much as four feet its first year. The young bur oak sprouted simple, alternate, deep-lobed leaves. The middle lobe reached almost to the midrib of each leaf. In its early struggle for survival, did a white-tailed deer browse its tender shoots? Did fire rage over the

prairie, consuming everything in its path except this sapling oak protected by its corky bark?

As the slow-growing oak matured, how many acorns did it produce to ripen in the autumn of the year they were fertilized? Were families of squirrels nurtured by the bountiful gift of acorns? Did any grow to be mighty oaks?

I imagine this oak stood perhaps 20 feet tall when the prairie became cropland. Why was this tree spared when the land was cleared? Perhaps it was too big. Perhaps someone cared. How many farmers paused in the coolness of its shade on a muggy summer afternoon?

As the tree grew and towered over the landscape, how many red-tailed hawks or snowy owls perched on its limbs hunting for meadow voles? How many families of bluejays has it cradled and protected? How many violent thunderstorms, blizzards, gentle spring rains, droughts and misty mornings has it experienced? The oak does not tell.

Today, it stands alone still reaching for the sun, producing mast, providing shade on a sunny day and occasionally posing for a photograph. I can't help but wonder how many people have ridden by in horse-drawn carriages, steam trains, tractors or automobiles and not taken the time to appreciate the rugged beauty of *Quercus macrocarpa*, one of Wisconsin's early settlers. □

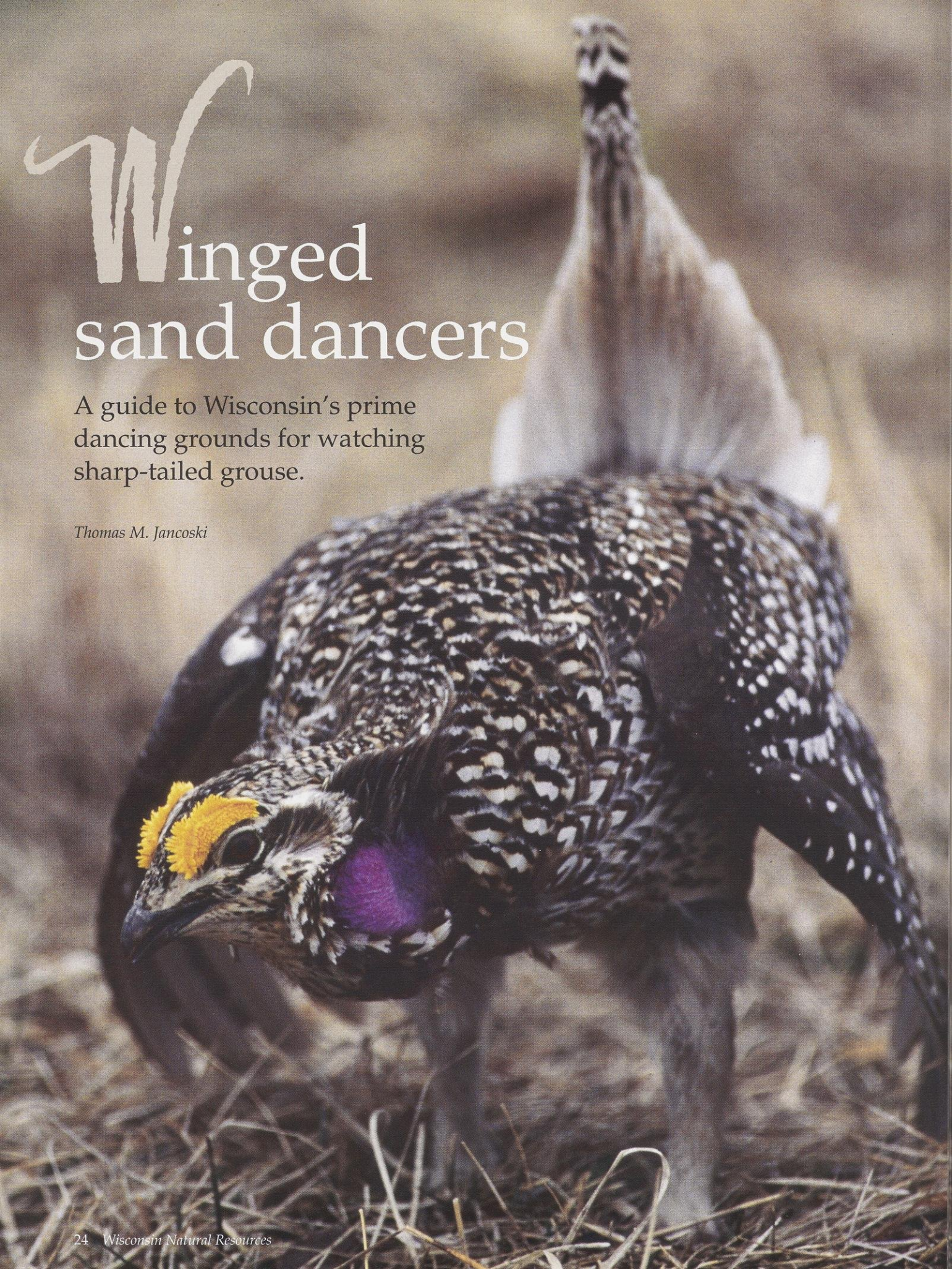
Anita Carpenter writes from Oshkosh.



Winged sand dancers

A guide to Wisconsin's prime
dancing grounds for watching
sharp-tailed grouse.

Thomas M. Jancoski



For me, April can't come soon enough. It's an exhilarating time to wander the sandy back roads of Wisconsin. From the lonely brush and bog frost pockets of Wood and Jackson counties to the open-air cathedrals in Bayfield, Douglas and Burnett counties, we stop, look and listen.

Like variations on a theme of music, all of the sharp-tailed grouse haunts have the same open vistas, variously called pine barrens, brush prairies, oak savannas, sedge meadows and bogs.

On frosty April mornings prairie grouse gather on dancing grounds, or "leks." These are usually sparse grassy openings, slightly elevated, offering good visibility. But we've found the birds dancing on little traveled sand roads, fire lanes and even on cranberry dikes.

The dancing starts before dawn, when it's almost too dark to see their pure white tails pointing straight up to the starry sky. As if inspired by the old Quaker hymn "Life Flows On In Endless Song," soft cooing and gobbling fill the still air. The excited males try to attract a hen by "flutter-jumping" and dancing in a small arc, their feet a blur, tail feathers clicking. Colorful yellow eyebrows and inflated violet neck pouches decorate the males.

One predawn pilgrimage found my wife and me stumbling along a dark trail out on the Namekagon Wildlife Area — the "Barrens." She whispered her much-asked phrase, "Are there any bears around here?" "No," I lied reassuringly, "too early for blueberries." While scouting the day before, we found our assigned dark green canvas blind on the edge of a well-used lek. Finding your blind out on the open prairie in the dark can be a challenge.

By 4:45 a.m. cackling and hooting males poured in to stake their claim. We counted a chaotic melee of 27 males that eventful morning. This was the Barrens at its peak of the ten-year cycle.

A pair of ravens, attracted by the bedlam of flutter-jumping males, swooped down as the hens sauntered nonchalantly through the lek. Not very alarmed by these intruders, the grouse just scooted out of reach. One raven got into the act and jumped after the grouse

while its mate watched, no doubt perplexed by its partner and the displaying grouse making such a spectacle of themselves.

The prairie hoedown began again with more grouse flying in to join the dancers. At any disturbance the males would freeze in their bowed positions. Then, as if a band leader was starting "On Wisconsin" with a down stroke of his baton, they all resumed their hooting and dancing, almost like students at Camp Randall during a Badger football game.

Ten minutes later the lek exploded



Sharp-tailed grouse court each April on "leks" — open brush prairies, meadows and barrens. You can reserve space to watch their early morning dancing from a blind.

with grouse. Some came rocketing only a few feet over our blind. A northern harrier hawk had just zoomed through in an unsuccessful attempt to pin a grouse to the grass.

The St. Croix River on the west and the wild Namekagon River to the south border the Namekagon Wildlife Area. Dry Landing Road cuts through the middle until it reaches the Douglas County line on the north. It's rather remote and hard to get to, but the Barrens is a favorite of many recreationists.

Early risers who want to experience

the sand dancers' ancient rite of spring can reserve a blind at six managed properties. Out of the 20 properties originally designated as sharptail habitat areas by the old Wisconsin Conservation Department, 14 no longer have established leks.

Crex Meadows

The largest Wisconsin property managed for prairie grouse and waterfowl is Crex Meadows north of Grantsburg in Burnett County. First Nation Ojibwa, Dakota and Fox tribes hunted game

and gathered the abundant berries and herbs on this tall-grass prairie. The area was drained in the 1890s, and what was once a diverse ecosystem became a dry sedge monoculture. From 1912 to the 1930s wiregrass sedges were cut here and made into carpets. In 1946 the tax-delinquent land was bought by the State of Wisconsin and restored as a wildlife area.

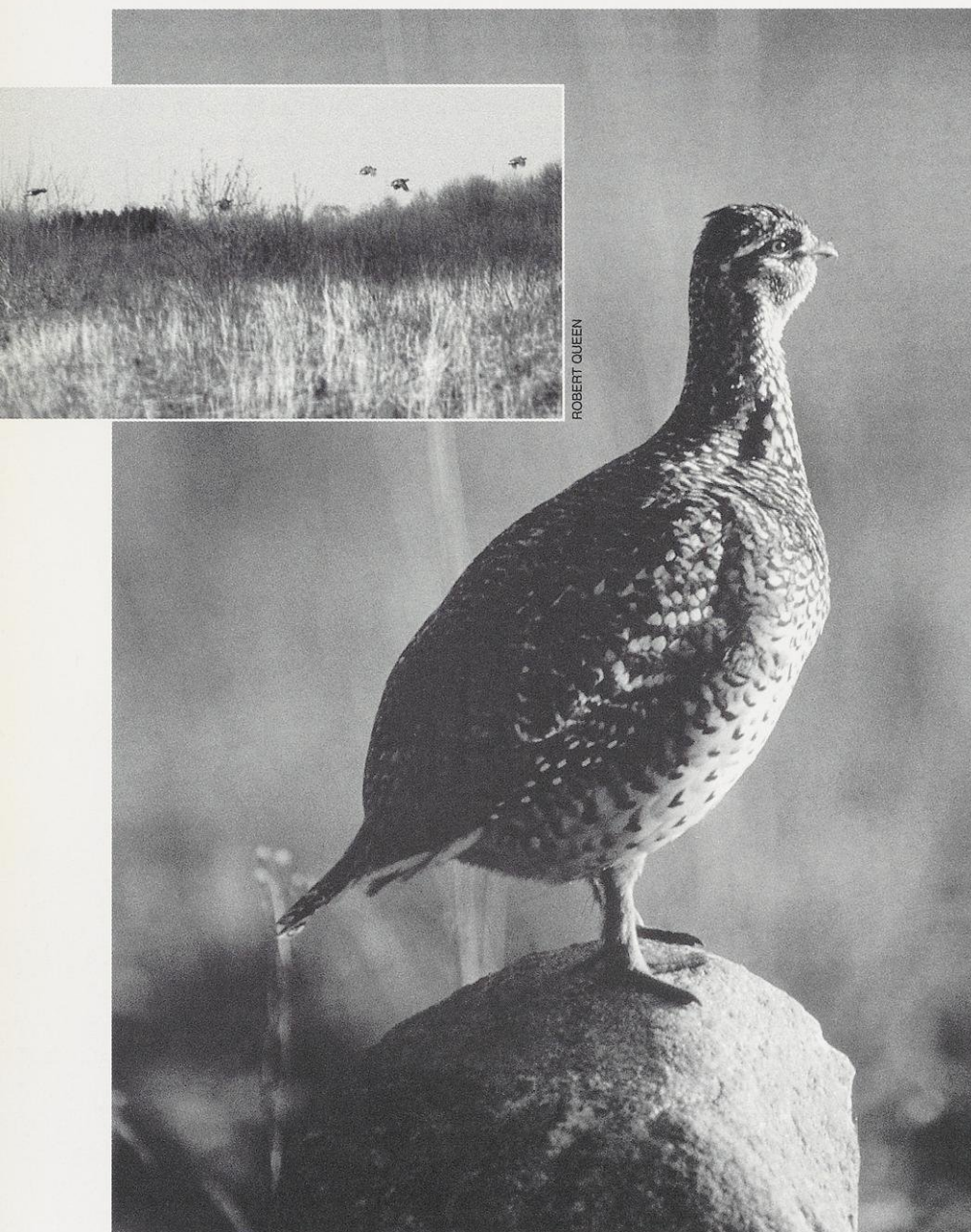
Current management uses refined management practices that Norm Stone fought for and pioneered during the 1950s. Their work epitomizes the best in wildlife managers and copes with opposition to current management techniques including controlled burns and fluctuating water levels.

Moquah Barrens

Probably the most beautiful pine barrens in Wisconsin is found in the Chequamegon National Forest in north central Bayfield County. Aldo Leopold described Moquah Barrens as one of the finest sharptail areas in Wisconsin. In the 1930s jackpine was planted and the frequent wild fires were suppressed, signaling the end of the sun-loving

ROBERT QUEEN

ROBERT QUEEN



ROBERT QUEEN

NEAL NIEMUTH

The vast, open dancing grounds need to be cut, burned and actively managed to stave off brush and trees. Lots of sharptail habitat has gotten too woody, but several grassy areas are still managed to provide food, cover and nesting habitat for these prairie grouse, including (inset) Pershing Wildlife Area.

sand dancers. The 7,200-acre steep rolling prairie was reborn in 1965. Nutrient-rich ashes fed the pine barrens, which burst forth with blueberry, pasque flower and fern. Seventy-one sharptails were translocated from Crex and Kimberly-Clark wildlife areas in 1990 and 1991.

During the disastrous first winter, wildlife technician John Denomie found nine radio-collared grouse killed by hawks. John, who works with the Great Lakes Indian Fish and Wildlife Com-

mission, spent long hours on snowshoes monitoring the birds. He showed us the spot where he found his first brood of sharptail chicks and described the elation he felt realizing the success of the relocation efforts. I helped John remove the blinds he had set up on two well-used leks. He then sprinkled kinnikinnic (ceremonial tobacco) over the lek, as an offering of respect and thanksgiving to the sand dancers and Mother Earth for sharing their sacred rite of spring.

Douglas County Wildlife Area and nearby sites

Just southwest of Solon Springs in Douglas County lies the 4,000-acre Douglas County Wildlife Area nicknamed the "bird sanctuary." It is maintained as a brushy grassland with small stands of young aspen and jackpine. A puzzling rapid decline in sharptail populations occurred recently. One explanation is that uncontrolled use of ATVs disturbed the birds on their leks where blinds were run over and smashed. No dancing grounds have been found in recent years.

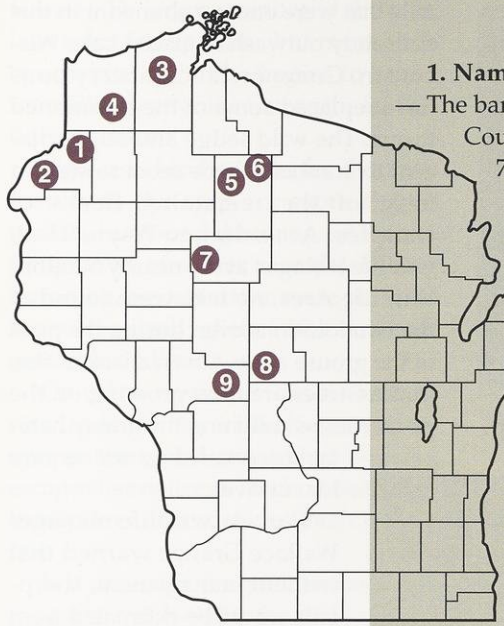
East of Solon Springs and Gordon, a complex of clear-cuts and newly planted red pine plantations harbors the largest population of sharptails in Wisconsin. Unfortunately the situation is only temporary, as these pine barrens are managed for pulpwood. The only hope for sharptails in the area is to manage a portion of the state-owned Brule River State Forest as a monoculture to keep it in open brush savanna.

On a calm dawn survey last April, I was following a set of huge timber wolf footprints down a sandy fire lane east of Solon Springs. A maze of sharptail tracks crisscrossed the lane with excited grouse flying and calling from leks on both sides of the break.

It was as if I had been transported back to the pioneer era when the land was first cleared and prairie grouse populations exploded. On such mornings in spring and fall it is not too rare to see over 100 grouse out in the barrens. These open shrub prairies are teeming with wildlife and sun-loving forbs and grasses.

The glacial sand outwashes called "pine barrens" preserved the legacy of the frequent wildfires that once swept through these drought-prone areas. Because of this importance, a pine barrens management and research workshop is scheduled for March 10-11, 1999, at the Northern Great Lakes Visitor Center west of Ashland. It is co-sponsored by the Wisconsin DNR, the USDA Forest Service, the Sigurd Olson Environmental Institute, the Bayfield Forestry Department, and the Great Lakes Indian Fish and Wildlife Commission.

To watch the birds dance



Kimberly-Clark and Riley Lake wildlife areas

Price County is blessed with two managed sharptail properties. Kimberly-Clark, the much larger of the two at 8,600 acres, is a rather recent Wisconsin DNR wildlife area, obtained as a gift from the Kimberly-Clark Corporation in 1963. Timber sales followed by controlled burning made it prime habitat for prairie grouse. Clouds of billowing smoke from the burn conducted by congenial and experienced property manager Jack Koch caught our attention during a visit. He pointed out an occupied osprey nest not too far from a sharptail blind and told of a local timber wolf family. This last spring Koch made two blinds available for recreationists and photographers.

Riley Lake Wildlife Area is an intriguing lowland mix of leather leaf, black spruce, alder and sedge with only 570 acres in upland grassy openings. It was thought to be too small and isolated from the Kimber-

1. Namekagon Barrens Wildlife Area

— The barrens are in northeastern Burnett County five miles north of Highway 77. Take Namekagon Trail Road to St. Croix Trail. Go east 0.9 miles to Dry Landing Road. Go north for another six miles through the center of the barrens to find two blinds. DNR property managers are Ken Jonas and Gary Dunsmoor. To make a reservation to use the blind, contact them at the Spooner Ranger Station (715) 635-4092 or (715) 635-4091.

2. Crex Meadows — The

wildlife area is in west central Burnett County about a quarter mile northeast of the village of Grantsburg. Travel just east on County Highway F and north of County Highway D. The property is managed by Pete Engman. Reservations to use the blinds can be booked through the property naturalist, Jim Hoefler, (715) 463-2896.

3. Moquah Barrens — The wildlife area is in north central Bayfield County in the Chequamegon National Forest. From Ino on Highway 2, take Forest Road 236 north for about five miles to enter the southeast corner of the barrens property. Two blinds in that portion can be reserved through John Denomie, wildlife technician with the Great Lakes Indian Fish and Wildlife Commission, (715) 682-6619.

4. Douglas County sites — The wildlife area is located three miles south of Solon Springs on Highway 53. Travel west on Highway M into the property. No blinds are available, but you can make a reservation. Contact Wildlife Biologist Fred Strand at (715) 372-8539 Ext. 116. Contact Biologist Greg Kessler at (715) 372-8539 Ext. 115 to discuss the Mosinee Paper Co. property in Douglas County or Bayfield County sites or write them at Wisconsin DNR, P.O. Box 125, Brule, WI 54820.

5. Kimberly-Clark — The wildlife area is 14 miles west of Phillips on County Highway W. Go one mile north on Price Lake Road. Some 8,639 acres are available for viewing. Another good spot is three miles east of Price Lake Road heading toward the Flambeau River. Make reservations with DNR property manager Jack Koch, (715) 762-4684, Ext. 129, or write him at Wisconsin DNR, Box 220, Park Falls, WI 54552.

6. Riley Lake — The area is in the Park Falls management area of the Chequamegon National Forest about 20 miles southeast of Park Falls on Highway 70. Contact the forest services property manager Norm Weiland (715) 762-5194 or Wildlife Technician Mike Bablick, (715) 762-5117, to reserve one of the two blinds.

7. Pershing — The wildlife area is in west central Taylor County west of Highway 73 and the village of Hannibal. Contact property manager Frank Vanacek at (715) 532-3737 or write him at DNR Ranger Station, W8945 Highway 8, Ladysmith, WI 54848.

8. Wood County — The wildlife area is in southwestern Wood County just west of the village of Babcock. The area lies between the Meadow Valley Wildlife Area to the south and the Sandhill Wildlife Demonstration Area to the north. No blinds are available. Property manager is Mike Zeckmeister. The wildlife biologist is Wayne Hall, call him at (715) 884-2437.

9. Dike 17 — The wildlife area is in eastern Jackson County two miles south of Highway 54 and three miles west of the Wood County line. From Highway 54, turn south on North Settlement Road to the property. Reserve spots with Wildlife Biologist Greg Mathson, (715) 284-1419.



RICHARD HAMILTON SMITH

ly-Clark property to sustain a viable population of sharpies. Mike Bablick, a wildlife technician with the U.S. Forest Service, showed us the lek locations with blinds. He also pointed out a cluster of giant boulders used by wolves to survey their domain. The wildness reminded me of the endless black spruce taiga in the Alaskan interior that burn frequently during dry summers.

Pershing Marsh

Finding the sharptails at Pershing Marsh was easier than we expected,

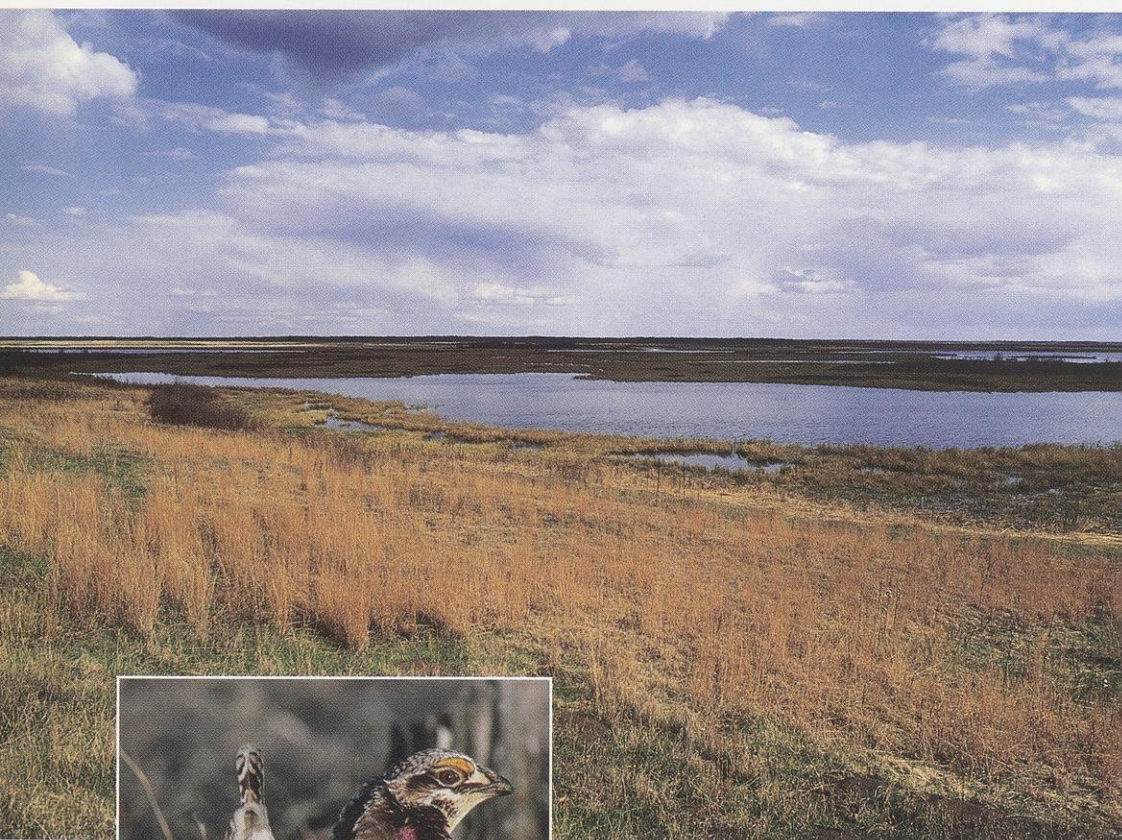
thanks to a detailed map given to us by Larry Gregg, DNR researcher and sharptail expert. Mid-afternoon is usually no time to be looking for grouse, but as we walked cautiously down the sandy lane, my wife Pat caught sight of a flutter-jumping grouse. We scooted into a nearby blind after flushing a few clucking lovesick birds. It wasn't long before they returned, sailing in right over a still-smoking section of a burn.

Property manager Mr. Vanacek told us later that sharptail viewing was becoming very popular. Blinds are reserved for many April mornings. Estab-

miles of each other, but lack the sharp-tails that were once so abundant in this flat sandy outwash of glacial Lake Wisconsin. Commercial cranberry bogs have replaced some of the abandoned farms. The wild sedge and bogs adjacent to cranberry beds seem to sustain most of the remaining flocks of sharpies. According to Wayne Hall, wildlife biologist at the nearby Sandhill Wildlife Area, no leks were found at the two locations even during the peak of the grouse cycle. Given a lack of fire, mature trees are now growing on the properties, eliminating the grassy habitat sharp-tailed grouse require for survival.

Pioneer wildlife manager Wallace Grange warned that without management, sharp-tails would be extirpated from the Wood County area by the year 2000. To prevent that from happening, the Wisconsin Sharp-tailed Grouse Society is introducing a central Wisconsin integrated management plan. The goal is to insure the survival of oak savanna, prairie and bog species so our children can rise early on frosty April mornings and witness the age-old ritual of the sand dancers. □

Thomas M. Jancoski of Grafton visited all of Wisconsin's prime sharp-tailed grouse grounds during the last few years. He is an avid grouse watcher and member of the Wisconsin Sharp-tailed Grouse Society.



ROBERT QUEEN



SCOTT NIELSEN

The mix of grasslands, wetlands and open spaces vital to sharp-tailed grouse also sustain waterfowl, songbirds and a host of other species. Enjoy exploring areas like Crex Meadows year-round to see them.

lished in 1953, Pershing Wildlife Area contains 15 flowages on its nearly 8,000 acres. There is an osprey, cormorant and heron rookery on the property, too.

Wood County Wildlife Area and Dike 17

Wood County Wildlife Area and Dike 17 in Jackson County are within 25

From late January into February, the female, the larger member of the pair, lays from one to three, but most often two, white eggs. She begins to brood immediately after the first egg is laid, so it won't freeze.

Time tests her fortitude, for she alone incubates the eggs for more than a month, hunkered down on a nest, exposed to all of winter's insults. During brooding, her attentive mate presents her with a steady diet of rabbits, meadow voles, and mice.

On calmer, warmer days, she may rise up and gaze with lemon-yellow eyes on the world around her. Nothing escapes her notice as she huddles for 35 lonely days on a stick nest high up in a tree.

Is it necessary for great horned owls to nest so much earlier than other birds? Yes. Unlike robins, which incubate eggs for 12 days and fledge their young in another two weeks, great horned owls watch over their owlets for months. Six weeks after hatching, the young birds test their wings, but they do not yet try to fly. Twelve weeks after hatching, the owlets fly but they are still fed by their parents well into July. Although parental attention starts to wane, the family remains together into autumn when the young either leave or are driven off by the adults.

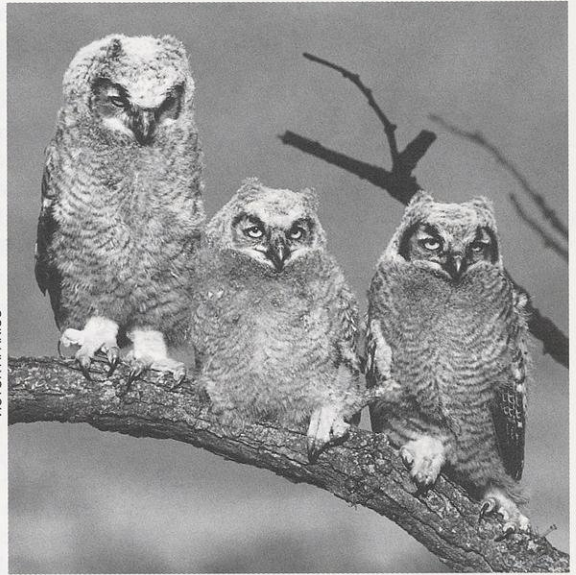


Eggs are incubated in the frigid days of January.

ven off by the adults.

If you're interested in seeing a great horned owl, February is the month to search the countryside. Bare trees make it easier to locate the large, bulky, nests, which may seem unoccupied, but look carefully for two ear tufts rising just over the nest rim, a telltale sign that a great horned owl is in residence. Also look for a rounded lump in the center of the nest which may be the brown-feathered back of an incubating owl.

Take time to appreciate the stamina of this 3½ pound owl. Although she is heavily insulated with layers of fluffy



Great horned owls typically have two owlets, but occasionally three. The owlets stay with their parents through early fall.

feathers, her exposure to frigid weather for so many days sends tingles down my spine. When bird watchers become chilled, we climb into the warmth of a heated car out of the wind and cold. Great horned owls aren't so fortunate. They endure the elements until warmer weather arrives. □

Anita Carpenter explores winter wonders near her Oshkosh home.

Readers Write

ANT INVASION SOLVED

Thank you for writing us about winged ants. Your description of why ants grow wings and where the ants hide really aided me in my search. We eventually found them in a wet area under the tub and treated the area...no ants since late September. Thanks for the advice.

*Lawrence R. Dewulf
Chicago, Ill.*

Several questions about ants prompted us to book a much more extensive piece on household ants found in Wisconsin. Look for our piece in the June issue.

RIGHT IDEA, WRONG WORD

Your October description of the front cover describes a deer in vellum. My dictionary says "vellum" means like parchment. I think you meant velvet.

*Henry Maibusch
Kenosha*

What we meant was "velum," the thin, vascular membrane that surrounds deer antlers in summer feeding a rich supply of blood to the spongy antler tissue. The antlers that grow within toughen up in early fall. The velum stops feeding blood, and the parchment-like sheath is scraped away as the antlers

harden. The term is also used to describe a thin covering on plants and marine snails. "Velum" describes a very fine leather of calves and kid goats used in the bindings of fine books and scrolls.

BLUEBIRD TOUGH GUYS

We enjoy your pieces about bird observations and offer this one.

The last few years a pair of bluebirds have been mating in a birdhouse in our back yard. This year, I decided to put up another bluebird house in hope of enticing a second pair to our yard.

The first pair came back on schedule and started nesting in

their old house. Then I thought "what would stop sparrows and other birds from moving in?"

The resident bluebirds answered that in a hurry. Whenever the sparrows hung around the new house the bluebirds would fly over and chase them away. Eventually the bluebirds raised four young birds, then the adult pair moved over to the new house and produced four more young birds. I would certainly give this pair of bluebirds an "A" for effort.

*Don Wachlin
Edgerton*

ON BIRD SYMBOLISM

Thank you for the piece on eagles and pigeons by Justin Isher-

wood in the October issue. We sure like how he thinks.

*Vivian Curran
Taylor*

REMEMBERING ALDO LEOPOLD

I enjoyed the June pieces that mentioned Professor Aldo Leopold. I recollect my own encounter with him 58 years ago.

In July 1940, I was a student on the University of Wisconsin campus and got a call from the Student Employment Office offering work at the new woman's dormitory, Elizabeth Waters Hall, for the then going rate of 35 cents an hour. The work was hauling luggage to rooms and waiting tables for attendees at an important convocation of natural resources conservationists, wildlife protectionists and allied professionals.

I recall the opening meeting took place in a large room overlooking Lake Mendota. The introduction emphasized the critical nature of our relationship with our environment. The speaker used the term "ecology" to identify the purpose of the seminar. I recall asking one of the other waiters, "What is this 'ecology?'" He answered, "From what I can tell, it has something to do with diseases of lakes."

The speaker, I am almost positive, was the mentor of ecology, Aldo Leopold. He stated that the greatest threat to our well-being in the foreseeable future was the abuse of our water resources. I could tell that this statement was a surprise to many of those sitting and facing the nearby lake.

I wonder how many in that room that day went forth to spread the word so learned from the great man?

*Bob Seward
Santa Barbara, Calif.*

MORE ON MERCURY

In February 1998, you published an article concerning concerns with mercury in our lakes ("The metal that slipped away"). One night I began to think about this and wonder about the larger view of this problem. I drew up a diagram of what I thought was going on. I'm clueless about mercury concentrations and rates of change. Does anyone have a better picture of just what might be going on?

*Charles S. Kottke
Crivitz*

Could you send me a copy of "The Mercury Source Book" described in your story and a listing of inland

lakes that have been tested and you found a mercury level?

*Hector T. Mayheu
Eau Claire*

Your diagram shows many of the potential sources and movement of mercury.

Mercury comes from a number of diverse sources. Our story listed common sources including power generation. Mercury is a natural contaminant trapped in small quantities in coal.

The Mercury Source Book is almost 700 pages long. Consequently it isn't widely distributed but is provided to community planners who are compiling regional strategies to reduce small mercury discharges from wastewater treatment plants, power generation, and other public services provided by communities.

Listings of waters where mercury contamination has been documented in fish is available

on the web and as a booklet. Contact DNR Bureau of Fisheries and Habitat, P.O. Box 7921, Madison, WI 53707 to ask for "Health Information for Eating Wisconsin Fish," or access the document on the Internet at <http://www.dnr.state.wi.us/org/water/fhp/fish/advisories>.

WINTER ON THE SLIDE

Nature asked me how badly I wanted to use the west side of my wood shed. The 24-foot lean-to on the side of our hunting cabin at Spirit Lake keeps the pile dry for our winter visits and comforting fires.

Repeated freeze and thaw cycles slowly shook loose the snowy blanket and it slid off the roof in a graceful curve in one piece. A great engineering job!

*Ray Meyer
Wausau.*



RAY MEYER



RAY MEYER

DEER 2000

The Deer 2000 project continues to make progress. Approximately 26 town hall-type meetings are being scheduled around the state and will likely be held the last two weeks in February. Anyone interested in deer management will have an opportunity to identify the issues they feel need to be addressed in the future. The Design Team for the project has developed a list of question that they would like the public to answer. Each meeting will take approximately 3 hours, and will be run by professional facilitators.

Meetings will be held in Antigo, Arcadia, Baldwin, Black River Falls, Brule, Cumberland, Dodgeville, Dunbar, Durand, Green Bay, Hayward, Janesville, Madison, Mellen, Milwaukee, New Berlin, Oshkosh, Peshtigo, Phillips, Portage, Racine, Richland Center, Sheboygan Falls, Wausau, Wautoma and Woodruff.

Anyone unable to attend a meeting may receive an opinionnaire that contains all the questions by contacting Kevin Wallenfang at (608) 266-8130 or Box 7921 Madison, WI 53707.



WISCONSIN TRAVELER

day evening, race all day Saturday, dance at the Mushers' Ball Saturday night, and get up on Sunday morning for more competition. Races begin at 9 a.m. (888) 475-3386.

Snoblast, Nekoosa

— A winter fun fest with hayrides, fireworks, bonfires, an auction, a

DNR PHOTO

dart tournament, and a BIG bake sale at the Lake Arrowhead Clubhouse. Fri. 4 p.m.–midnight; Sat., 9 a.m.–midnight; Sun., 9 a.m.–4 p.m. (715) 325-2904.

6th Annual New World Championship Snowshoe Races, Luck

— Join web-steps from all around the country as they leave waffle prints on the snow of the Luck Golf Course. There'll be 5K, 10K (and (catch your breath) half-marathon races. Registration begins at 7 p.m. on

Friday and races are run between 10 a.m. and 4 p.m. on Saturday. (715) 472-8231.

Snowmobile Enduro Races, Lac du Flambeau — Tune up that 'ol ski-doo and join in the

exhibit and races featuring vintage snowmobiles built before 1967. Fri., Sat. and Sun. at Fence Lake Lodge. (715) 543-8152.

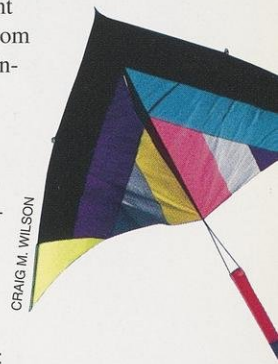
WXPR's White Pine Jam-boree, Rhinelander — Fiddlers cross bows Saturday in a contest at 5 p.m.; the dancing begins at 6:30 p.m. at the Rhinelander Labor Temple. (715) 362-6000.

Kites on Ice, Madison — Watch 25 of the best kite flyers in the world demonstrate their skill on the ice of Lake Monona. See giant kites, rare kites from the Smithsonian Institution, and the "Nightlights and Kites" show. Sat. and Sun., noon–6 p.m. Monona Terrace Convention Center. (608) 831-1725.

And TRAVELER's favorites:

Return to Romance, Kansasville — Forget that moldy box of chocolates! Instead, take your valentine on a candlelit hike through Bong State Recreation Area. Enjoy a bonfire, fine desserts and hot beverages at the Visitor Center. Sat., 7–9 p.m. (414) 878-5600.

Valentine Sleigh Rides, Appleton — Snuggle up to your sweetie on horse-drawn sleigh rides through the Gordon Bubolz Nature Preserve. Sat. and Sun., noon–4 p.m. (920) 731-6041. □



CRAIG M. WILSON

A choice weekend

Is it just TRAVELER'S imagination, or are there a whole lot more things to do on winter days these days? February used to be the high-water mark of the winter doldrums, the month when the cases of cabin fever threatened to overwhelm the most stalwart of barkeeps.

Not so today. February offers so much outdoor activity of such variety that any excuse to stay indoors sounds, well, old-fashioned. To give you a general idea of just how much is going on, we selected one weekend — **February 12–14** — and a couple of events to represent February fun. For more ideas, visit <http://badger.state.wi.us/agencies/tourism/guide> — the Wisconsin Department of Tourism's web site.

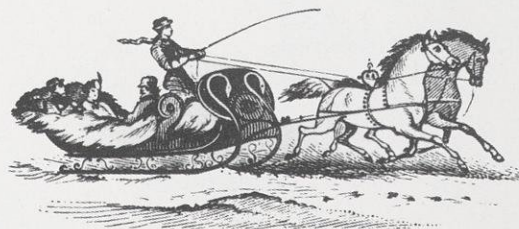
Madeline Island Sled Dog Race, La Pointe — Howl for your favorites in a 60-mile race for six-dog teams and a 100-mile

race for teams with any number of dogs. (Poodles and other canine aberrations can compete in a 10-mile recreational race.) Dine at the Mushers' Banquet on Fri-

Every winter weekend is full of good reasons to get outdoors.



STABER REESE



Wisconsin, naturally

OAKFIELD LEDGE STATE NATURAL AREA

Notable: The Niagara escarpment, a bedrock formation composed of resistant dolomitic limestone, is exposed in Wisconsin's eastern counties. This same geological feature forms the spine of the Door Peninsula and arches northeast through Canada to its well-known exposure at Niagara Falls, NY. At Oakfield Ledge, the escarpment forms a series of prominent cliffs 40 feet high. Pitted rocks, clefts, and crevices in the ledge are the result of weathering from wind and water. Several springs seep from the base of the cliffs. Its proximity to Horicon Marsh to the west makes the ledge a prime area for migrating birds.

How to get there: Fond du Lac County. From the junction of County Highway B and Y in Oakfield, go south on Y 2¼ miles to Breakneck Road, then west 2 miles to a small parking area north of the road before it descends the ledge. There are no established trails at this site. Wisconsin Atlas and Gazetteer: page 46, grid C1 For more information or a map of the area, contact the State Natural Areas Program, DNR, Box 7921, Madison, WI 53707 or call (608)266-0394.

