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April 1998

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WISCONSIN

NATURAL RESOURCES

April 1998 \$3.00



41

Field trips
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Get ready for boating

Mapping
bird territories

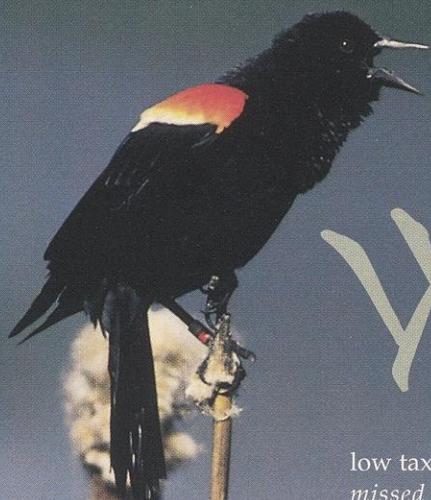
Six colorful fish you can raise

<http://www.wnrmag.com>

Coming back home

Even the birdlife is feisty back
in Wisconsin

Steve McLain



When people ask why we moved back to Wisconsin from North Carolina my stock answer is: We couldn't stand the nice weather and

low taxes! In truth, it was what we *missed* and not what we *had* that brought us back. Things like great state parks nearby, long skeins of migrating Canadas, kettling sandhill cranes, clean waters, the Horicon Marsh, bald eagles on the river, and so on.

We lucked out in our search for a lake lot when we found our 65-acre Willow Spring Lake in the Town of Mukwonago. Laws prohibiting gasoline-powered outboards, snowmobiles and power augers assured us of the quiet refuge we were seeking, at least from the noises of motors.

The wildlife are another matter. They are plentiful, but very vocal.

I've identified 122 different species of birds in just two years. On the list, I've had the thrill of watching an osprey dive from 80

feet and hear it "scree" as it takes a fish at the lake's surface. Loons stop here for a two-week layover on their northbound trip. We've heard great horned, screech, barred and long-eared owls at one time or another.

Being semi-retired allows me many hours to observe and photograph wildlife. I've watched a Cooper's hawk pluck a fleeing red-winged blackbird in mid-air; a blue jay fly off with a fledgling warbling vireo in its beak and ma vireo in fruitless pursuit; a sharp-shinned hawk nailing a Northern junco right on our deck! And I'll never forget the evening a great horned owl took his cottontail apart in our largest cottonwood tree.

A lot of the birds will dive, scold and swoop at us. We know there's a red-winged blackbird nesting in the cattails near the pier. The male chases away intruders with warning shrieks and outstretched wings showing brilliant red "invasion stripes." I guess he sort of trusts us, as we found out one day.

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WISCONSIN NATURAL RESOURCES

April 1998

Volume 22,

Number 2

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Katherine Esposito

Four years in the making, a new survey tallies woodland changes in the last 15 years.



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Birders, help us scout out the territory.

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Swab the decks and check out this checklist.

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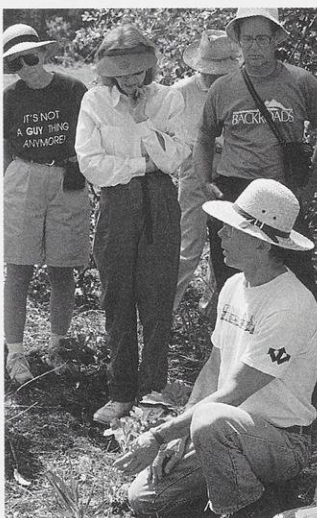


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Sign up for field trips from spring through fall.

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FRONT COVER: A song sparrow in fine spring voice. See our story on breeding bird territories, p.21-25.

STEPHEN J. LANG, Madison, Wis.

BACK COVER: McGilvra Woods. For a map to this Sauk County property, write State Natural Areas, ER/4, DNR, P.O. Box 7921, Madison, WI 53707.

THOMAS A. MEYER, Mount Horeb, Wis.



KATHERINE ESPOSITO

and bundles of browning needles — slash remaining from a harvest not long before. Forty years earlier, C.R. and his five brothers had planted the pines too close together, and the trees crowded in.

(left) Properly thinned red pines reach harvest size more quickly.
(below left to right) Woodland owner C.R. Robinson and DNR forester Jim Kronschnabel. Fifty-seven percent of Wisconsin's forest is privately owned. Getting management advice to owners is never-ending because ownership changes faster than trees grow.

Sustaining the changing FOREST

Trends from the latest forest survey show landowners change more quickly than trees mature. Close contact between foresters and private landowners is critical to keep the forest growing.

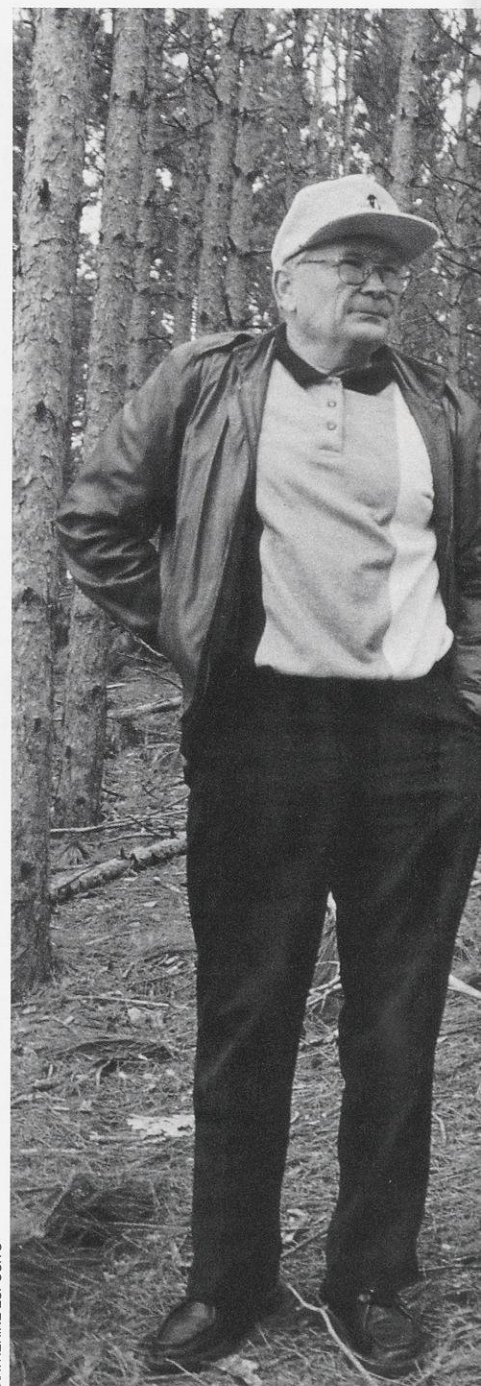
Katherine Esposito

C.R. Robinson and Jack Edson, timber owners each, haven't spent much time mulling over "potential productivity classes" or "growing stock volume." Indeed, ask Robinson, a former insurance underwriter, what these forestry terms mean and the response is dead silence. "I haven't thought about that at all," he says. And why should he?

But one year, after a state forester parted a thick stand of red maple on Edson's acres and found 12-foot oak trees within, neither needed a textbook to know Edson had gotten lucky. Thin those maples out, the man told Edson, let the oaks stretch and grow, help the land produce to its potential. Well, perhaps the forester didn't speak those exact words, but Edson took his advice, and was grateful for it.

"I'd never walked in to see, but, lo and behold, here were some oaks," says Edson, a retired physician living with his wife on 200 heavily wooded acres near Eau Claire. "If we trimmed [the maples] around the oaks, we'd end up with a pretty good oak stand. [The forester's visit] made me look at the area differently."

A few hundred miles away, on a gray day at the 280-acre family farm near Westfield, Robinson and another DNR forester stepped over wayward red pine branches



KATHERINE ESPOSITO

The family finally called in a logger, and the 4,000 red pines sold for pulp brought in \$10,000, enough to pay for repairs, improvements and, of course, more trees.

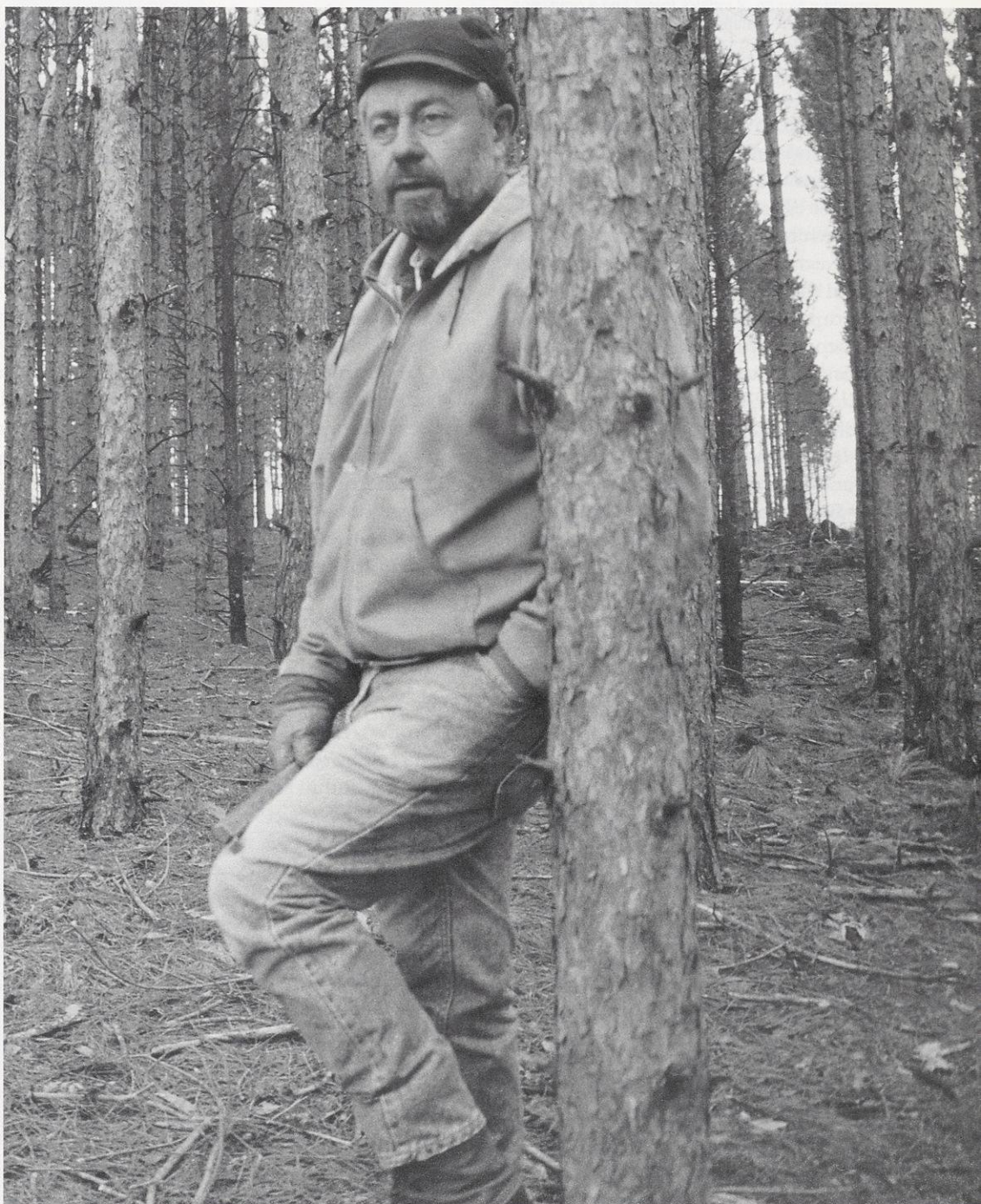
Two acres here, eight acres there — it's little parcels like these that form the statistics that lumber companies, paper-makers and scores of small sawmills across the state use to gauge what wood is available for them for manufacturing and milling. And that data, page after

page of it, is available for the asking in a half-inch thick report called "Wisconsin Forest Statistics, 1996," published last fall by the U.S. Department of Agriculture with generous assistance from the Department of Natural Resources.

Reading the report could numb some minds, but not Bill Gilbert's, who says he peruses it "very carefully." Gilbert, group manager for forest resources with Georgia Pacific in Port Edwards, says the company buys most of

its wood from Wisconsin forests, and needs to know what they can buy now as well as what to expect in the future. They receive some information annually, but the periodic statewide survey is more complete. "It's something we've all been waiting for a couple of years," Gilbert says.

Acquiring the facts to document forest trends is not a project for the easily distracted. It took three years and 40 people to gather the field data and one





DNR PHOTO

(above) Aerial photos and on-ground surveys provide a picture of today's forest and a prediction of tomorrow's. Mature trees and understory plants were tallied.

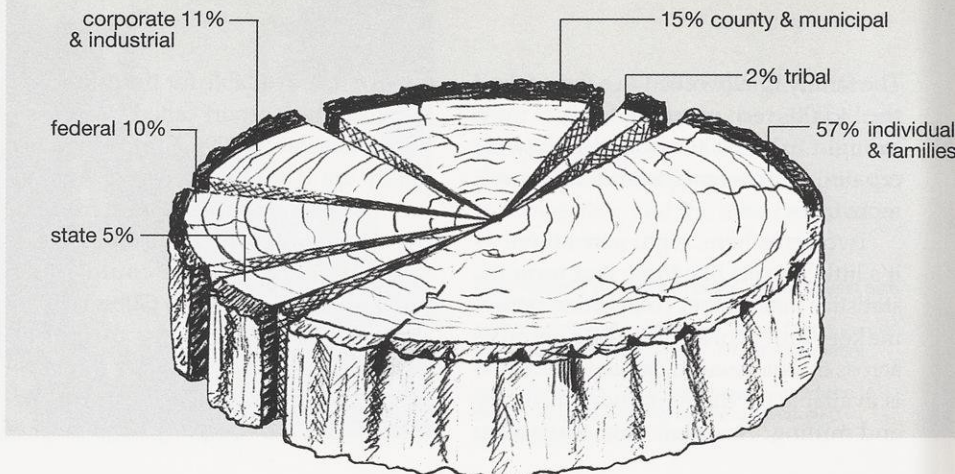
(above right) It's a myth that our forests are mainly owned by commercial producers and government.

more year to assemble it, adding up to thousands of hours of work. Over 250 missions were flown over almost every inch of Wisconsin to take special black-and-white infrared photographs, which were examined by specialists who classified the tree cover. Each 9" by 9" photograph covers four square miles of Wisconsin, and copies are for sale. (Contact your local DNR forester, or call the DNR Bureau of Forestry at 608/266-5202).

It didn't end with the pictures, however. Many more workers returned to the field to verify what the photographs indicated, and to take further measurements.

The report contains some fascinating tidbits for those interested in the woods and the wildlife that dwells in them. A colorful summary brochure is available for the general public. Here are some of those details:

- In a world stricken with worry over tropical deforestation, Wisconsin enjoys the reverse — we grow more trees than we cut. This is due to many factors, chief among them the fact that land heavily logged and burned a century ago is reverting back to woods. We have over one million additional acres of forestland in our state today than we had in 1968.
- Aspen, which became a tree of choice for hungry papermills after paper-makers figured out how to use it, is still abundant, but is declining. The species easily established itself at the start of the 20th century, because aspen loves the barren, sunny fields



that had become so common. And many types of animals, including deer, ruffed grouse and woodcocks, love the aspen too. But these trees die off sooner than others, so uncut stands are eventually succeeded by longer-lived trees nearby.

The state lost about 265,000 acres of aspen between 1983 and 1996. Much of the remaining aspen is in stands dominated by maples and basswood where the aspen will be naturally overtaken by these taller shade-tolerant trees. The change will pose challenges for firms and animals now dependent on the historically plentiful aspen. Other tree species also on the wane include jack pine and paper birch, for similar reasons.

- Most of the rise in forested land has taken place in northern Wisconsin. In 10 northeastern counties, three-quarters of all land is forested and woodlands grew by 400,000 acres between 1983 to 1996. But in southern and eastern parts, from Green County up to Door County, only 13 percent is wooded, and in some counties, even smaller percentages as subdivisions and shopping malls spread.
- For a state uncommonly dependent on trees, boasting about 1,900 forest products companies and employing nearly 100,000 people, there is a surprising reliance on thousands of individual landowners to supply timber and pulpwood. Fifty-seven percent of Wisconsin's woodlands — more than nine million acres — is owned by private individuals and families, with parcels changing ownership every seven years, on average. Counties, towns and cities contribute 15 per-

cent, the next largest share, while the forest industry owns only seven percent. That means that little decisions such as the ones made in 1940, when the Robinsons began to nurture a grove of pines, and in the winter of 1997, when Jack Edson decided to thin some maples, have a tremendous impact on the entire state. Reaching the rest of the tree-owning public and forming management plans with so many people who have not previously grown trees is, perhaps, the biggest challenge of all.

A balance between "wood goods" and habitat

From a state stripped of much of its arboreal majesty a hundred years ago, to an environmental ethic that today leads some people to vow never to fell a single tree, the views of Wisconsin landowners have always resonated far beyond their fences. While it's hard to see how the practices of one person can carry much weight, it shouldn't be difficult to understand how the timber on 10 five-acre parcels can add up to a lot of wood products. ("You're writing on it. You're blowing your nose in it," says Jim Kronschnabel, a DNR forester based in Montello, in describing what would happen to the pines taken from Robinson's lot.) While no one hopes for a return to boundless clear-cutting, refusing to log any trees carries a price, too, for individuals and the economy.

Edson's goal, not only as a landowner but as president of the Wisconsin Woodland Owners Association, a private educational group, is similar to many foresters'. The idea, he says, is to



SAM HAYES

Jack and Jane Edson say owners can learn what their woodlots contain, which directions nature will take the stands, and how wooded property can be managed for a variety of uses.

teach sound reasons to grow and cut some trees, while leaving other areas for wildlife and humans to enjoy.

He has not always held these views. "When we first came in, we wanted to leave everything as nature had it," Edson says. "But I've been brainwashed — uh, educated — by the forest-type people," he adds, with a chuckle.

Those "forest-types" — either a DNR or private forester — sometimes advocate clear-cutting a parcel, a practice some people abhor. In fact, Edson was initially among them. In 1984, however,

faced with 40 acres of scrubby oak that was good only for railroad ties and firewood, he finally ordered the field leveled. Today, the healthy young oaks that replaced them are sheltering wildlife and impressing visitors. "For a year or two, it sure looked like a calamity," he says. "This idea of clear-cutting, to have a more vibrant forest, is something I've learned." In fact, the method is the best way to assure new stocks of aspen. Ironically, on the Edson's 36th wedding anniversary in 1994, a tornado whipped through part of his property and knocked down 30 more acres of trees, which were

subsequently carted away for pulpwood. "If you don't clear-cut, nature does," he says.

Edson's forest management plan now leaves room on his 200 acres for many different purposes. Some places are managed for oak and pine. He has planted about 70,000 seedlings over the years, half by hand. Some areas are left undisturbed for wildlife. Elsewhere, he has created trails for hikers and ponds for frogs and beavers. And last summer, Edson embarked on an ambitious plan to restore eight acres to prairie.

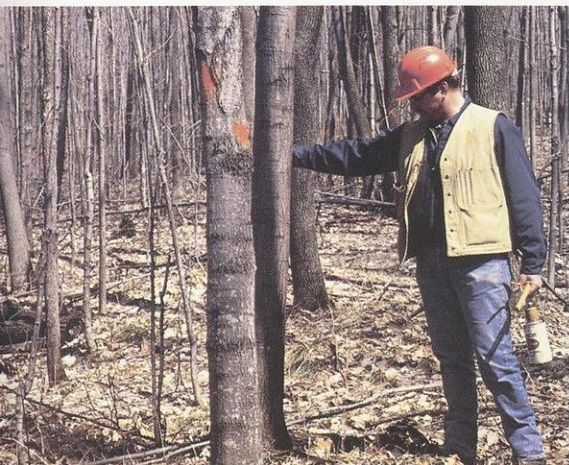
Seeing forest changes

The future of Wisconsin's forests lies in contacting private landowners, accommodating different views, educating people about the benefits of tree management and wildlife habitat, and encouraging them to get involved, Edson believes. "People see forests, and think they're like statues, they don't change," he says. "People forget forests are changing all the time."

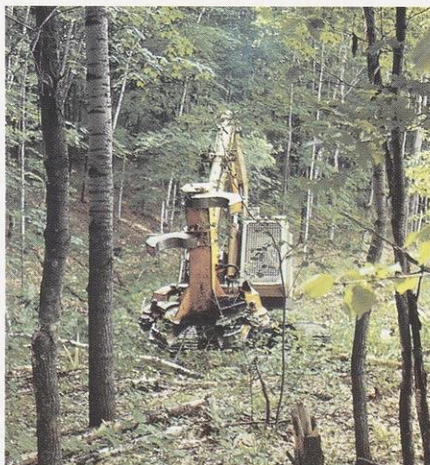
Education means checking in with a forester on occasion, whether someone from the DNR or hired privately. That person can help identify changes in the woodlot, suggest which areas are ready for cutting, and mark specific trees.

Knowing when to give up may be part of the plan, too. That's what Edson may do with a small, aggressive stand of red maples that are crowding out other desirable trees. The maples are beautiful in autumn, but currently are used mainly to make plywood and interior framing for furniture. The species might have a more interesting commercial future if the companies decide to invest their money in researching new ideas. That's what happened to aspen 30 years ago, says Terry Mace, a DNR forest production specialist who worked on the inventory. Aspen were so abundant and so seemingly useless, you couldn't give them away, Mace says. But new technology developed in the 1960s, gave the forest industries new ways to use these plentiful trees, he says.

Woodland management takes partnerships. DNR foresters can assess stands and mark trees. Private foresters and contractors let bids and plan the harvest to protect the land and nurture future growth. Tree sales benefit the owner, the logger and buyers who need a steady supply of raw product to make papers, lumber and other wood products.



DEAN TVEDT



ROBERT QUEEN





The slash and rutting (*inset*) landowners see following a harvest are disturbing, but short-lived. The land recovers quickly. A bigger challenge is predicting how new owners or changing economic conditions will alter Wisconsin's woodlands.

(LEFT AND INSET) KATHERINE ESPOSITO

Knowing when and what to cut

Despite the good news about the state's forests, plenty of challenges remain. Some people are concerned that the most valuable hardwoods, such as red oak, black walnut, and cherry are being cut before reaching their prime. In some areas, that may be the case, agreed Vern Everson, DNR forest resource analyst. But in northern Wisconsin, oak stocks appear to be on the rise.

When it comes to choosing a logger, state foresters recommend caution. Some unscrupulous woodcutters, called "gypsies" by Jim Kronschnabel, prey on older farmers. These loggers take only the best trees and leave the sick and dying, a practice called "high-grading." They also may offer a landowner far less than market price for a load of logs. One owner was offered \$3,000 for a stand, which he eventually sold to a different logger for \$36,000, according to Kronschnabel. That owner became curious and asked a forester's advice, he says. Unfortunately, many people don't.

C.R. Robinson knew better, and

called on Kronschnabel. Last year, after marking the proper trees to be cut on the Robinson property, the forester discussed who could interpret the four bids the family had received and who could help them judge the loggers' past work. The harvest, which is done with big machines with jaws like giant tin snips, leaves behind tire ruts and slash piles, but that will all disappear within five years, Kronschnabel says.

Planning to reach common goals

Woodland owners can even receive property tax relief whether they manage their lands primarily for recreation, timber income, or wildlife habitat. The 25,000 landowners now enrolled in the Managed Forest Law program recognize that providing trees to Wisconsin sawmills is as essential to the economy as is environmental protection and shelter for animals.

On the back cover of the Forest Statistics report an unimposing paragraph, explains why dozens of recent forestry

graduates spent three years tromping the woods with compasses and angle gauges to collect the data within. It speaks of the diversity of the forests, of the people who own them, and the conflicting demands of the people who use them.

Jack Edson thinks about that too. His goal is to steer hundreds of small property owners toward more cooperative land management — an arrangement that would informally join lands that share certain natural features, allow careful logging and provide habitat for animals. Landowners don't need to mirror each other's ideas, Edson says, but occasionally checking in with one's neighbors could help the overall environment.

"Ecosystem is a buzzword, but a good one," he says. "A lot of people love trees, and want to get away from it all. But there's a lot more you can learn to do with woodlands." And tools like the periodic forest survey help. □

Katherine Esposito is a staff writer for Wisconsin Natural Resources in Madison.

WITH A guide AT YOUR side

ANNIE M. SALMONA



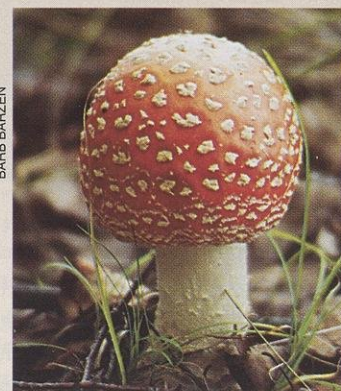
You'll never walk alone on a Natural Resources Foundation field trip.

Christine Tanzer



(clockwise from above) Our guided hikes will take you on the trail of John Muir, teach you to recognize invasive plants, and point out beautiful, but poisonous, mushrooms like the fly agaric (*Amanita muscaria*).

BARB BARZEN



CHRISTINE TANZER

It's a misty fall afternoon, and there you are with basket and knife in an oak-and-hemlock woods, ready to harvest some tasty wild mushrooms for your venison stew.

But wait — are those chanterelles or death angels? Fly agarics or oyster shelves? If only you could consult an expert on the spot!

On the 41 field trips offered this year by the Natural Resources Foundation of Wisconsin, you'll have a knowledgeable guide at your side every step of the way, ready to answer all your life-and-death questions (plus queries of a less pressing nature). Learn to tell an edible mushroom from a fatal fungus with help from a biologist at Wildcat Mountain State Park. Let a wildlife manager explain all the moves during a pre-dawn prairie chicken mating dance at the Central Wisconsin Environmental Station. Two naturalists with a passion for slime will get you down and dirty in the swamp for a closer look at the amphibians and reptiles of Bong State Recreational Area. Whether it's stream ecology, landfill management or prairie preservation, there's sure to be a field trip to satisfy your curiosity and stimulate further exploration.

The foundation's guided field trips help you see the outdoors in a new light through the eyes of the people who work closely with Wisconsin's natural and historical resources.

Fish and wildlife managers, biologists, foresters, ecologists, naturalists and citizens leading the trips enjoy sharing their expertise with people who are genuinely interested. And the small group size of each trip means participants can chat at length with the experts.

It's simple to make your trip reservations. Just fill out the details on the attached tear-out registration card. If there's a fee listed for a trip, assume that it's a per-person cost. Trip fees can be paid by check, made out to the Natural Resources Foundation. (And if you'd care to make a donation to the foundation, you can send a check in as well.) Fee checks, donations and registration cards should be mailed to:

Field Trips
Natural Resources Foundation of Wisconsin
P.O. Box 129
Madison, WI 53701

Sign up for as many trips as you like, but be sure to do it soon — these field trips fill up fast on a first-come, first-served basis, and we wouldn't want you to miss any of the fun. You'll receive confirmation by mail, along with the other information you'll need to get the most from your day in the field. Any questions? Call me at (608) 264-8548 from 8 a.m. to 4 p.m. Monday through Friday.

See you in the field! □

Christine Tanzer is the Field Trip Coordinator for the Natural Resources Foundation in Madison.



BRIAN PARUKA

(above) Stream ecology. Trip 18.
(left) Restoring woodlands and oak savannas. Trip 15.

3 Ancient Mounds of Cranberry Creek State Natural Area

Visit the largest extant mound group in Wisconsin, examining the mystery of its unusual size and setting. View large and small conicals including a bird and bear effigy.

- May 2, 10 a.m.–noon
- Necedah, Juneau Co.
- Victoria Dirst, leader
- limit 25

4 Tour of the 1996 National Tree Farm of the Year

Donald & Rachel Jordan manage 733 acres of hardwood forest for timber, wildlife habitat, research and recreational uses. They will discuss timber stand improvement, logging, trails, stream water quality, walnuts & oaks, wildlife habitat, clearcuts and more.

- May 9, 9:30 a.m.–12:30 p.m.
- Dodgeville, Iowa Co.
- Rachel & Donald Jordan, Tom Hill, leaders
- limit 35
- cost \$5

1 Prairie Chicken Booming at Buena Vista Marsh

Friday evening presentation on prairie chicken behavior/ecology. Saturday pre-dawn observation of prairie chicken mating dance, followed by breakfast and discussion.

- April 24, 7 p.m.–April 25, 11 a.m.
- Central Wisconsin Environmental Station, Amherst Junction
- Todd Knepfel, leader
- limit 20
- cost \$45 (includes lodging & blind rental)

2 Hardwood Tree Planting in Coulee Country

Visit a certified tree farm and view the planting of native hardwoods and conifers with custom-built tree planting machines. DNR foresters will discuss successful forest management and solutions to pest and disease problems.

- April 25, 1–5 p.m.
- Union Township, Vernon Co.
- James Dalton, Thomas Kooyumjian, leaders
- limit 35



ANNIE SALMONA

5 Archaeology of KILLSNAKE Wildlife Area

Tour four important archeological sites ranging from a major Early Paleo-Indian campsite from 9,000 BC to a Potawatomi village from the mid-1800s. Learn how people's adaptations to local natural resources changed throughout time.

- May 9, 10 a.m.–noon
- Calumet & Manitowoc counties
- Victoria Dirst, leader
- limit 25

6 Environmental Quality Issues Surrounding Paper Mills

Tour the Nicolet Paper Company and learn the various processes behind papermaking. Discuss water quality issues and how the mill is successfully dealing with them.

- May 14, 10 a.m.–noon
- Depere, Brown Co.
- Dennis Weisensel, Rick Counihan, leaders
- limit 50

7 Tour the Hayward Tree Nursery

From seed extraction to shipping, tour nursery facilities to see how trees and shrubs are grown for forestry plantings.

- May 16, 10–11:30 a.m.
- Hayward, Sawyer Co.
- Gordon Christians, leader
- limit 40

(below) See wild geranium. Trip 13.
(below left) Recognize and remove nonnative, invasive plants.



8 Identification & Control of Invasive Plants

Learn to identify invasive species and witness the impacts these plants have on various habitats. Landowners, gardeners, or anyone concerned about non-native plants invading grasslands and forests will enjoy this hands-on lesson in possible control methods.

- May 16, 9:30 a.m.–12:30 p.m.
- New Glarus Woods State Park, Green Co.
- Kelly Kearns, leader
- limit 25

9 Protecting Our Lakes, Rivers & Wetlands-Lake Noquebay

Take a boat trip around the lake and learn about aquatic biology, water quality, wetlands, and impacts of shoreline development. Discuss protection of waterways and how citizens can influence local decisions. BBQ dinner after trip.

- May 16, 2–5 p.m.
- Lake Noquebay Co. Park, Marinette Co.
- Robert Rosenberger, leader
- limit 15
- cost park entrance fee plus \$3 (boat fee and dinner)

10 Groundwater Issues and Well Drilling Demonstration

Learn about the importance of protecting groundwater sources and tips to homeowners to protect quality drinking water. See the drilling of a water well to serve a 4-H camp.

- May 22, 9 a.m.–1 p.m.
- Mishicot, Manitowoc Co.
- Dorie Turpin, leader
- limit 40

11 Tour the Poynette Game Farm & MacKenzie Environmental Center

Learn the history of the game farm and see the pheasant hatchery and rearing pens, the Wisconsin wildlife exhibit, buffalo, prairies and possibly a late-season prescribed burning demo.

- May 30, 9 a.m.–1 p.m.
- Poynette, Columbia Co.
- Don Bates, Derek Duane, leaders
- limit 20

12 Trumpeter Swan Recovery Program-Crex Meadows Wildlife Area

See wild trumpeter swans with cygnets on a beautiful marshland. Learn about trumpeter swan ecology and efforts to restore them in Wisconsin. Tour Crex Meadows by bus to see wetlands, prairies and wildlife.

- May 30, 12:30–3 p.m.
- Burnett Co.
- Jim Hoefler, leader
- limit 30
- cost \$3

13 History, Ecology and Management of an Oak Woodland

Visit the recently dedicated Olson Oak Woods State Natural Area and learn about the management practices used to restore the site. See hundreds of woodland plants, 150–250 year old oaks, sink holes and large displays of wild geranium.

- May 30, 9–11:30 a.m.
- Verona, Dane Co.
- Rich Henderson, leader
- limit 20

14 Trout Management and Stream Shocking Demo

Visit Wisconsin's coulee region trout streams and discuss programs to improve stream habitat. See the electroshocking truth of how trout populations are estimated.

- June 6, 10 a.m.–noon
- Coon Valley, Vernon Co.
- David Vetrano, leader
- limit 40

15 Oak Woodland Restoration at Lake Kegonsa State Park

Visit an impressive restoration of a white oak woodland and oak savanna and learn the management techniques used for this project. Persons who are considering beginning a restoration project on their own will find this tour to be very beneficial. Also, tour a nearby wetland and learn about wetland ecology.

- June 6, 9 a.m.–12:30 p.m.
- Stoughton, Dane Co.
- Gary Birch, Deb Weidert, leaders
- limit 20



BARB BARZEN

Sample aquatic bugs on Trip 18 to tell if a trout stream is healthy.

16 Tour of Chiwaukee Prairie State Natural Area

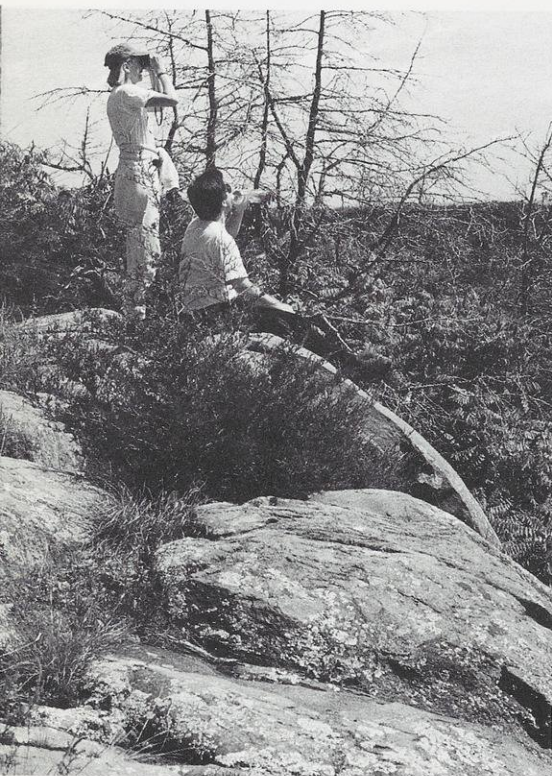
See the richest prairie in Wisconsin, with over 400 species identified. The shooting stars should be at their peak. Learn about prairie ecology and management techniques being used on the site.

- June 6, 9:30 a.m.–1 p.m.
- Kenosha, Kenosha Co.
- Brian Glenzinski, Mark Roycraft, leaders
- limit 25

17 Just For Kids — The Geologic Story of Devil's Lake State Park

An interactive presentation of the history of Devil's Lake designed just for kids ages 5–12. We'll use sand, water and rocks to illustrate the geologic processes that shaped the unusual landforms of Devil's Lake State Park.

- June 13, 1–4 p.m.
- Baraboo, Sauk Co.
- Phil Fauble
- limit 15 children ages 5–12 (limit 2 adults per child)



(above) The high view of John Muir's haunts. Trip 29.
(above right) A lakeside look at limnology. Trip 25.

18 Stream Ecology Workshop: Assessing the Health of a Trout Stream

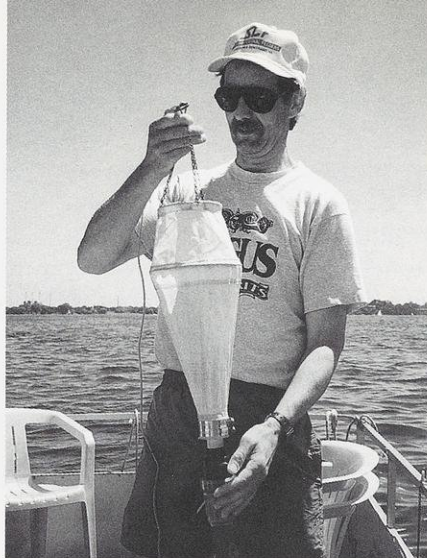
Visit a trout stream and use sampling gear to assess water quality, habitat conditions and aquatic insect and fish populations. Learn how watershed land use affects stream health.

- June 13, 9 a.m.–4 p.m.
- Cross Plains, Dane Co.
- Mike Miller, leader
- limit 25
- cost \$4

19 A Canoe Exploration of the Upper Waupaca Chain O' Lakes

Canoe through a chain of 5 connected lakes and learn the cultural history and management practices of this beautiful area. Paddle through boiling springs, spring fed lakes and the pristine Pope Lake State Natural Area.

- (a) June 13 or (b) September 5, 10 a.m.–3 p.m.
- Hartman Creek State Park, Waupaca Co.
- Merle Lang, leader
- limit 16 per session
- cost \$5 (canoe rental extra)



MARTIN HENERT

20 Mississippi Bluff Prairie and Oak Savanna/Woodland Restoration at Rush Creek State Natural Area

See spectacular views of the Mississippi River valley while learning about restoration techniques used to control invasive species and nurture native animals in each of these communities.

- June 20, 9:30 a.m.–1 p.m.
- Ferryville, Crawford Co.
- Jim Buchholz, Ron Lichtie, leaders
- limit 25

21 Canoe the Flambeau River-Oxbo to State Forest Headquarters

See wilderness and wildlife while paddling down a flat stretch of the Flambeau River. Learn about the history and management of this famed watershed. Very mild rapids will be encountered, so some paddling experience is needed. Canoes and lunch are provided.

- June 27, 10 a.m.–4 p.m.
- Oxbo, Sawyer Co.
- Dave Olson, leader
- limit 30
- cost \$15

22 Turtle Flambeau Flowage Tour & Osprey Banding

Take a scenic boat ride through the flowage while watching wildlife and hearing a management discussion. Visit osprey nests and help with the annual banding/color marking of osprey nestlings.

- July 11, 8:30 a.m.–4 p.m.
- Mercer Ranger Station, Iron Co.
- Bruce Bacon, Roger Jasinski, leaders
- limit 24
- cost \$10 (includes lunch)

23 Fun-Filled Days at Perrot State Park

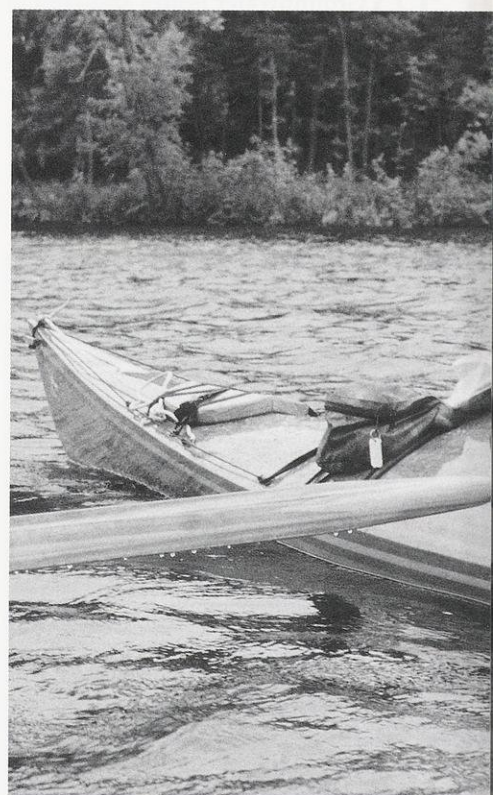
Take a hike to the goat prairies of the Brady Bluff State Natural Area and visit ancient burial mounds with breathtaking views of the Mississippi River. Wake up early to watch the birds at Trempealeau National Wildlife Refuge. Bike an old railroad bed of the Great River Trail, viewing abundant wetlands and wildlife.

- July 10, 1 p.m.–July 11, 1 p.m.
- Perrot State Park, Trempealeau Co.
- Phil Palzkill & park staff, leaders
- limit 30
- cost state park entrance fee, call (608) 534-6409 early to reserve a campsite.

24 Tour of Wisconsin Heights Battle Site

Take a walking tour through this historic battle site, oak savanna restoration, pre-historic mounds and site of the last battle of the Black Hawk War of 1832.

- July 25 (a) 9 a.m.–noon or (b) 1–4 p.m.
- Mazomanie, Dane Co.
- Wayne Schutte, leader
- limit 24

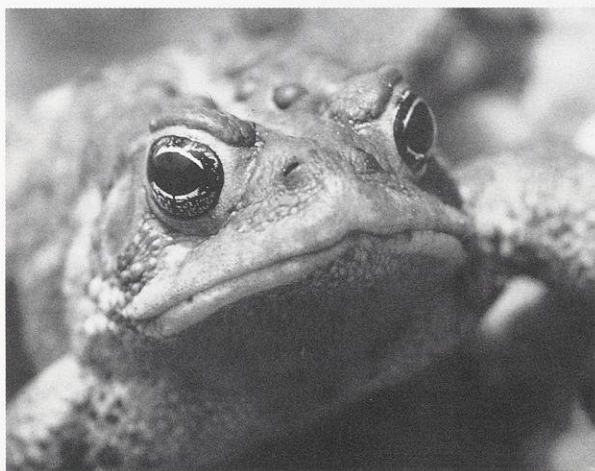


25 A Primer on Lake Limnology — Lake Mendota

Board a pontoon boat to learn about different types of lakes, monitoring equipment, use of data in evaluating lakes, aquatic vegetation management and the Lake Mendota Priority Watershed Project.

- July 25 (a) 9 a.m.–noon or (b) 1–4 p.m.
- Madison, Dane Co.
- Jim Leverance, leader
- limit 12 per session
- cost \$2.50

Meet a toad nose to nose. Trip 26.



DON BLEGEN

26 Scales & Slime: An Introduction to Wisconsin Reptiles and Amphibians

Come stomp in the swamp at Bong State Recreation Area to collect and meet Wisconsin's scaly and slimy creatures — the amphibians and reptiles. Learn to identify these herps and learn why they are important and unique.

- August 1, 9:30–11:30 a.m.
- Kansasville, Kenosha Co.
- Beth Goepfinger, Donna Mosca, leaders
- limit 30
- cost state park entrance fee

27 Prairie, Wetland and Oak Savanna Restoration at the Mallard Ridge Landfill

Visit an active landfill site and explore the various successful restoration projects to reclaim this area.

- August 1, 9–11 a.m.
- Delevan, Walworth Co.
- Rob Grosh, Mike Ettner, Dan Leclaire, leaders
- limit 40

28 Sea Kayak Tour of the Upper St. Louis River Estuary of Lake Superior

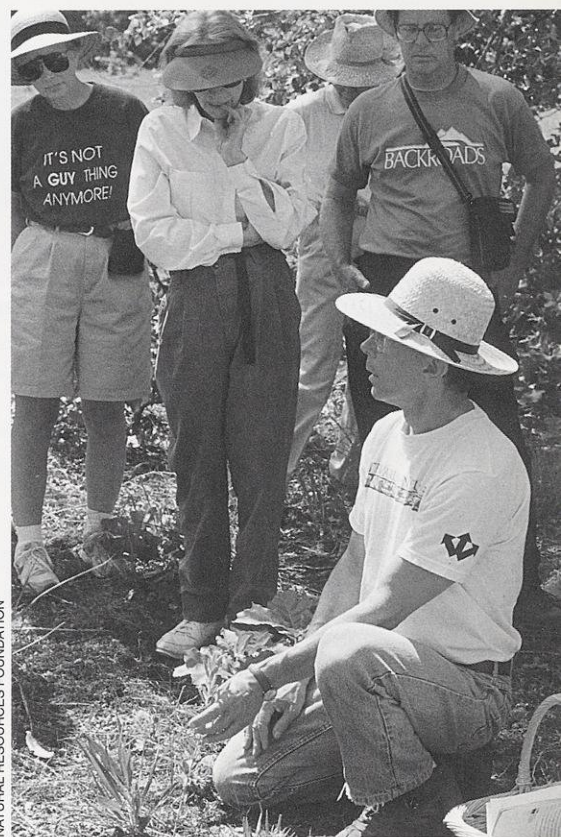
Explore the St. Louis River Streambank Protection Area, a new 5,000-acre project managed to prevent erosion and sedimentation in this high quality wetlands/estuary. Through a six-mile, six-hour paddle, participants will explore steep wooded shores, unique wetlands and meandering tributary bays in this remote wilderness area. Sea kayaks and instruction will be provided by outfitter (beginners welcome).

- (a) August 8 or (b) August 15, 9 a.m.–4 p.m.
- Duluth-Superior, Douglas Co.
- Frank Koshere, leader
- limit 17
- cost \$50 (if renting kayak), \$35 (if using own kayak and gear)



BARB BARZEN

Explore the Lake Superior shore by kayak.



NATURAL RESOURCES FOUNDATION

NRF trips toured the Wisconsin desert at the Blue River Sand Barrens.

29 Tour of Muir Park and Observatory Hill State Natural Areas

Hike through two of John Muir's boyhood haunts. Begin at Muir Park with a walk around the lake to see wetland, prairie and savanna communities and discuss Natural Areas Management. Then off to Observatory Hill to have lunch atop a cedar glade.

- August 15, 9:30 a.m.–1 p.m.
- Montello, Marquette Co.
- Mark Martin, leader
- limit 25

30 Spread Eagle Barrens State Natural Area

Visit the largest barrens in northeast Wisconsin to learn about barrens geology, ecology, management and restoration. See the success of this partnership management effort involving government, advisory groups and private industry.

- August 22, 9:30 a.m.–1:30 p.m.
- Florence, Florence Co.
- Stu Boren, leader
- limit 25

31 Managing Our Discards: Recycling & Landfills in the Modern World

Visit the Watertown Recycling Center and the Deer Track Park Landfill to examine the demise of our discards and recyclables. Educate yourself about a topic that we all need to understand better.

- August 22, 9 a.m.–1 p.m.
- Watertown, Jefferson Co.
- Gene Mitchell, Stacey Thompson, leaders
- limit 35

32 Management of a Lake Superior Fishery

Visit the renowned Apostle Islands and take a boat ride to Manitou Island to visit a historic fish camp. Learn about commercial fishing in the past and present.

- Monday, August 24, (a) 8 a.m.–noon or (b) noon–4 p.m.
- Bayfield, Bayfield Co.
- Mike Vogelsang, Steven Schramm, leaders
- limit 14 per session

33 Does Ozone Affect Your Plants?

Visit a DNR biomonitoring site and see examples of ozone injury on native crop plants and wild plants. View an ozone monitor and the wide variety of plant studies at this site. Explore ozone effects on the wild plants of the Kenosha Dunes.

- August 28, 10 a.m.–noon
- UW-Parkside, Kenosha Co.
- Ed Jepsen, leader
- limit 20

34 Canoe the Chippewa Flowage

Eagles, wood ducks, loons and herons await! Explore the endless maze of islands, points, bays and channels found in the Chippewa Flowage. Paddle your way through an adventure on the third largest lake in Wisconsin.

- August 29, 9 a.m.–4 p.m.
- Hayward, Sawyer Co.
- Ray Larson, leader
- limit 25

Come along! We're leading canoe trips this year on the Upper Waupaca Chain, the Flambeau River, the Chippewa Flowage and the lower Wisconsin River.

35 Edible and Poisonous Mushrooms in Wisconsin's Woods

Once the fall rains begin, a vast array of mushrooms appear in the woodlands. Take a hike in Mt. Pisgah Hemlock-Hardwoods State Natural Area and learn to identify several edible species like chanterelles and oyster shelves, along with poisonous species such as death angels and fly agarics.

- September 12, 1–4 p.m.
- Wildcat Mountain State Park, Vernon Co.
- David Kopitzke, leader
- limit 20

36 Tour of the Mead Wildlife Area

The Mead Wildlife Area offers a unique opportunity to view a large variety of wetland habitat and wildlife species. Visit wetlands, grasslands and upland areas and discuss wildlife and forestry practices in the area.

- September 12, 9 a.m.–noon
- Wausau, Marathon Co.
- Tom Meier, Mike King, Shirley Bargander, leaders
- limit 40
- cost \$5

37 Geology of the Baraboo Hills — North and South

After a brief lecture on the geologic history of the Baraboo Hills, hike the west bluff of Devil's Lake, then enjoy a van tour to Rock Springs. Explore Abelman's Gorge State Natural Area, Van Hise Rock, a rock quarry and the seldom-visited North Range of the Baraboo Hills.

- September 19, 9 a.m.–4:30 p.m.
- Baraboo, Sauk Co.
- Philip Fauble, leader
- limit 40



JIM BISHOP

38 Dells of the Wisconsin River State Natural Area

Spectacular scenery, unique geologic formations, gorges, glens and rare plants await! Trek through this gem of the Wisconsin landscape in areas not normally accessible to the public. The terrain of this three-mile hike is rugged and not appropriate for small children.

- September 26, 9 a.m.–noon
- Wisconsin Dells, Columbia Co.
- Thomas Meyer, leader
- limit 20

39 Canoe the Lower Wisconsin River

Paddle an eight-mile stretch of one of Wisconsin's most beautiful and cherished waterways. Enjoy a day of fall color, waterfowl and wildlife. Learn river history and find out about the efforts to preserve its natural beauty. From Spring Green to Lone Rock.

- October 3, 10 a.m.–2 p.m.
- Spring Green, Sauk Co.
- Wayne Schutte, leader
- limit 30
- cost \$10.50 (for canoe rental and shuttle), \$5.00 for shuttle only

40 Life After Cryptosporidium

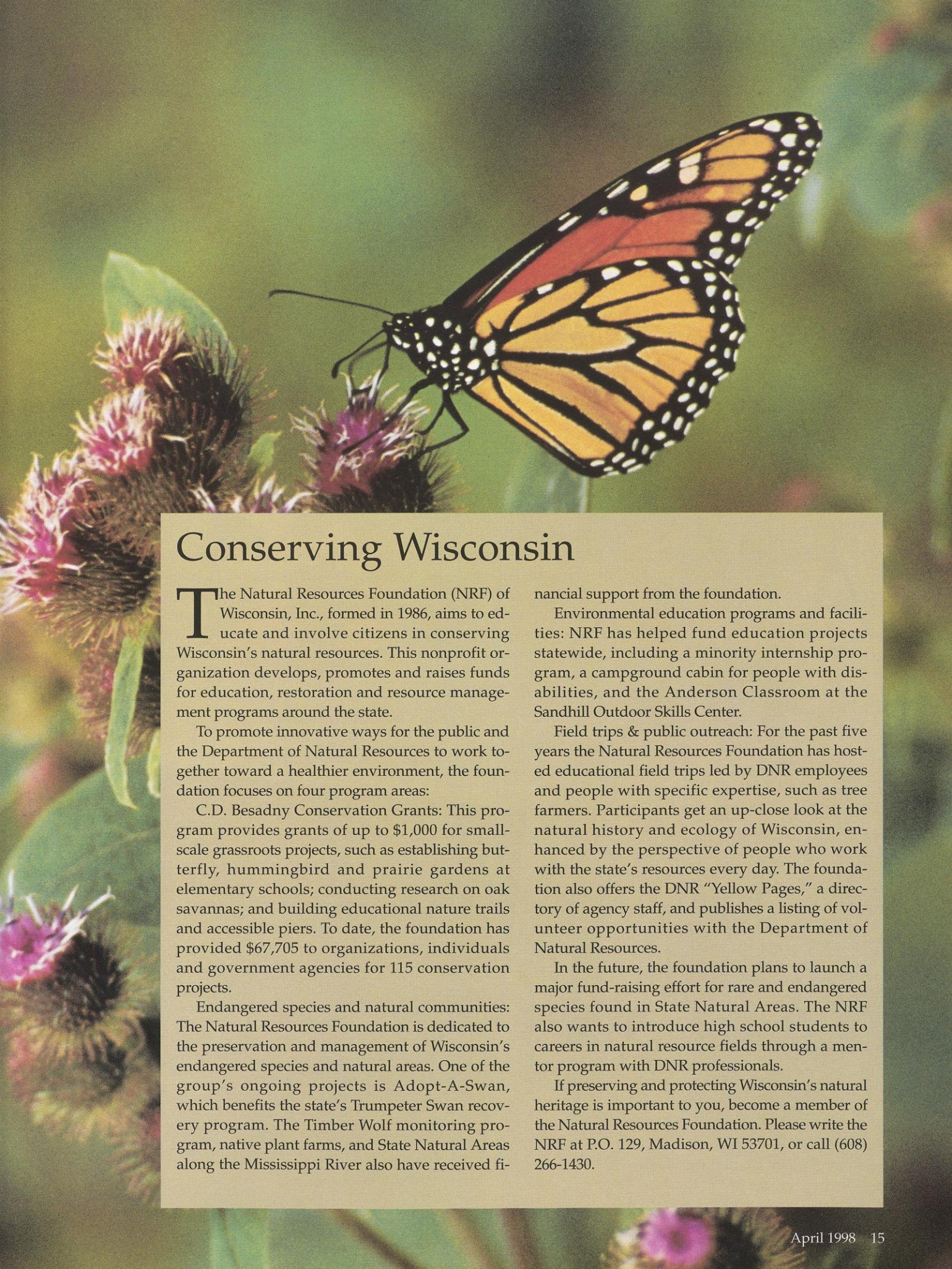
Tour the Milwaukee Waterworks at the Linnwood Water Filtration Plant and learn about the improvements made to Milwaukee's drinking water since the 1993 cryptosporidium outbreak.

- October 16, 11 a.m.–noon
- Milwaukee Co.
- Pat Klappa, leader
- limit 30

41 Ice Age Landforms of the Southern Kettle Moraine

Explore (by bus) the variety of geologic features of the Southern Kettle Moraine area — the impressive moraine, kettle depressions, large outwash plains, gigantic eskers, and vast adjoining drumlin field to the west.

- October 17, 9 a.m.–noon
- Eagle, Waukesha Co.
- Ron Kurowski, leader
- limit 40
- cost \$4



Conserving Wisconsin

The Natural Resources Foundation (NRF) of Wisconsin, Inc., formed in 1986, aims to educate and involve citizens in conserving Wisconsin's natural resources. This nonprofit organization develops, promotes and raises funds for education, restoration and resource management programs around the state.

To promote innovative ways for the public and the Department of Natural Resources to work together toward a healthier environment, the foundation focuses on four program areas:

C.D. Besadny Conservation Grants: This program provides grants of up to \$1,000 for small-scale grassroots projects, such as establishing butterfly, hummingbird and prairie gardens at elementary schools; conducting research on oak savannas; and building educational nature trails and accessible piers. To date, the foundation has provided \$67,705 to organizations, individuals and government agencies for 115 conservation projects.

Endangered species and natural communities: The Natural Resources Foundation is dedicated to the preservation and management of Wisconsin's endangered species and natural areas. One of the group's ongoing projects is Adopt-A-Swan, which benefits the state's Trumpeter Swan recovery program. The Timber Wolf monitoring program, native plant farms, and State Natural Areas along the Mississippi River also have received fi-

nancial support from the foundation.

Environmental education programs and facilities: NRF has helped fund education projects statewide, including a minority internship program, a campground cabin for people with disabilities, and the Anderson Classroom at the Sandhill Outdoor Skills Center.

Field trips & public outreach: For the past five years the Natural Resources Foundation has hosted educational field trips led by DNR employees and people with specific expertise, such as tree farmers. Participants get an up-close look at the natural history and ecology of Wisconsin, enhanced by the perspective of people who work with the state's resources every day. The foundation also offers the DNR "Yellow Pages," a directory of agency staff, and publishes a listing of volunteer opportunities with the Department of Natural Resources.

In the future, the foundation plans to launch a major fund-raising effort for rare and endangered species found in State Natural Areas. The NRF also wants to introduce high school students to careers in natural resource fields through a mentor program with DNR professionals.

If preserving and protecting Wisconsin's natural heritage is important to you, become a member of the Natural Resources Foundation. Please write the NRF at P.O. 129, Madison, WI 53701, or call (608) 266-1430.

Sparkle

of
COLOR

Tiny dace and darters add sparkle to Wisconsin's waters.

John Lyons

Ask people to describe colorful Wisconsin natives, and you'll hear tales of Houdini, Liberace and La Follette. Ask about our most attractive animals, and people will point to birds and butterflies. But shimmering just below the water's surface are a host of Badgerland beauties that are largely unknown. Anglers know brook trout and pumpkinseeds, but I think some of the state's prettiest fishes are nongame species. With just a little effort, you can see and enjoy these colorful fishes, and even maintain them in an aquarium.

Wisconsin is home to a wide variety of fish, with 148 native species, and another 18 or so species introduced from elsewhere. About 35 of these species are brightly colored, with intense red, orange, blue, green, or yellow pigments. The remaining species are cloaked in more somber shades of black, white, silver, gray, bronze, or brown. To a fish scientist such as me, all Wisconsin fishes are attractive in their own way, but some of the colorful species would be considered beautiful by anybody's standards. I think they rival the more glamorous coral reef fishes in appearance.

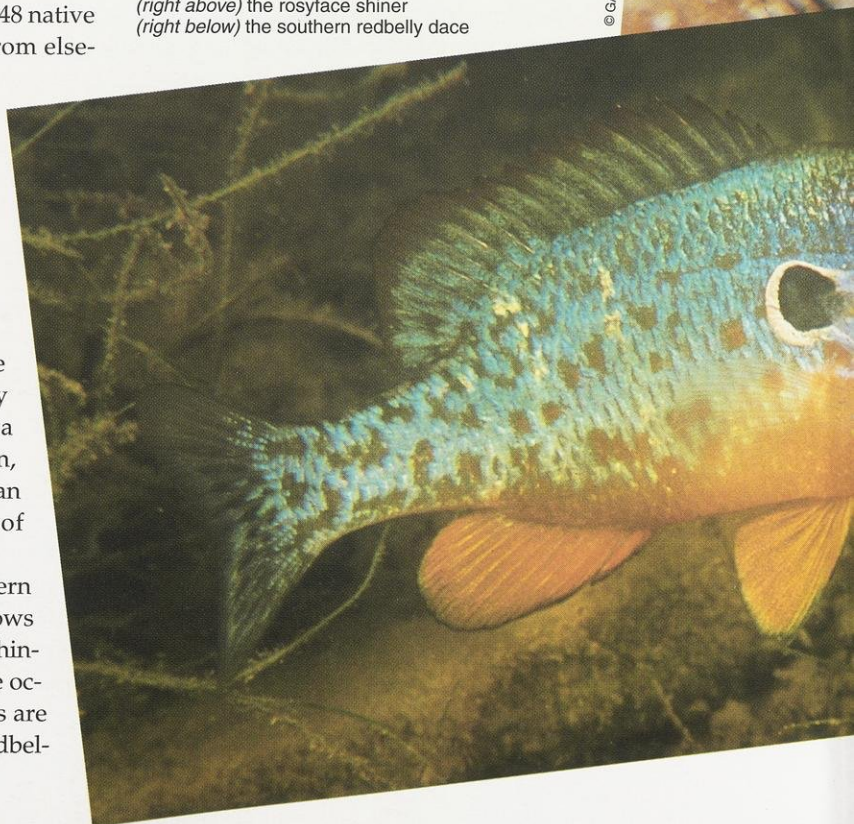
Among the most spectacular Wisconsin nongame species are the rosyface shiner, southern redbelly dace, orangespotted sunfish, rainbow darter, Iowa darter, and banded darter. These species are common, relatively easy to observe or capture, and do well in an aquarium. So let's learn a little more about each of these half dozen native beauties.

The rosyface shiner (*Notropis rubellus*) and southern redbelly dace (*Phoxinus erythrogaster*) are small minnows that live in the rocky areas of streams. The rosyface shiner is found statewide, and the southern redbelly dace occurs in the southern half of the state. The two species are sometimes found together, although the southern redbel-

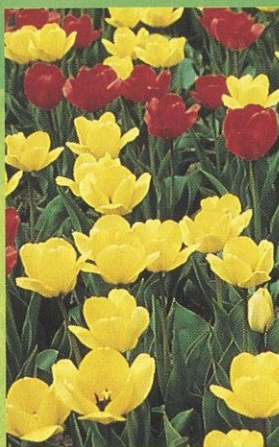
ly dace tends to prefer smaller streams than the rosyface shiner. During the spawning season, typically from early May through mid-June, both take on a brilliant red color. The rosyface is red over its entire body, with the most intense color around its head and darker steel-blue tones toward the back

A trio of Wisconsin's colorful natives
(below) the orangespotted sunfish
(right above) the rosyface shiner
(right below) the southern redbelly dace

© GAROLD SNEEGAS



CATCH SPRING FEVER IN WISCONSIN



Spring Sampler 1998

Spring



Canoeing the Pike River, near Amberg.

n Wisconsin

We eagerly await its arrival. And then it's here. Spring. Shoots poke through moist soil and flowers bloom. A green gauze of young leaves rises to greet the sun. The breeze is balmy, and it beckons us to step outside.

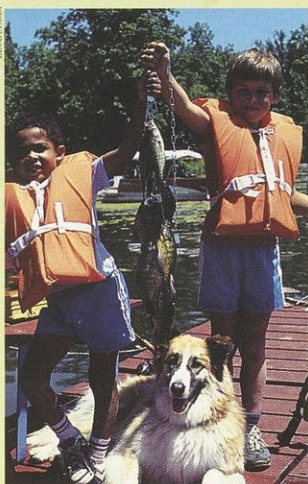
Wisconsin offers many pleasures to those eager to venture out. Fed by melting snow, the state's waterfalls rush and tumble, tossing up crystalline mists. Rivers run rapid, offering challenges to paddlers and anglers. It's a time of renewal, when a hike through the woods yields discoveries of delicate wildflowers and songbirds. Bike paths await. Events abound. So don't hesitate. Experience spring fever in Wisconsin.

JOHN TOUSANT



Daffodils trumpet the season.

DOUG ETIANN

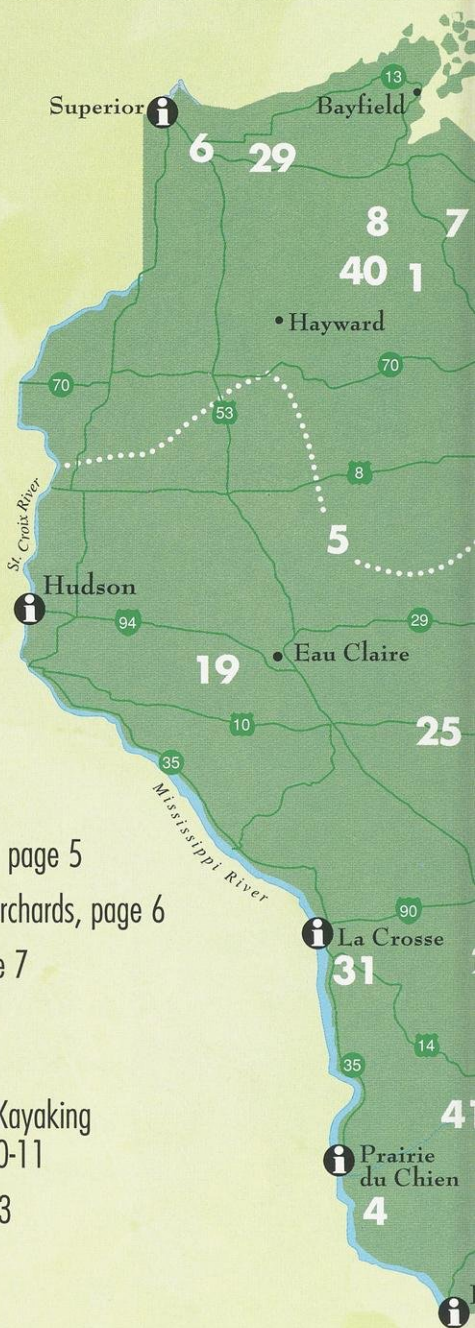


"Catch of the day," Manitowish Waters.

Spring in Wisconsin

This map identifies activities in the guide. Numbers identify specific locations.

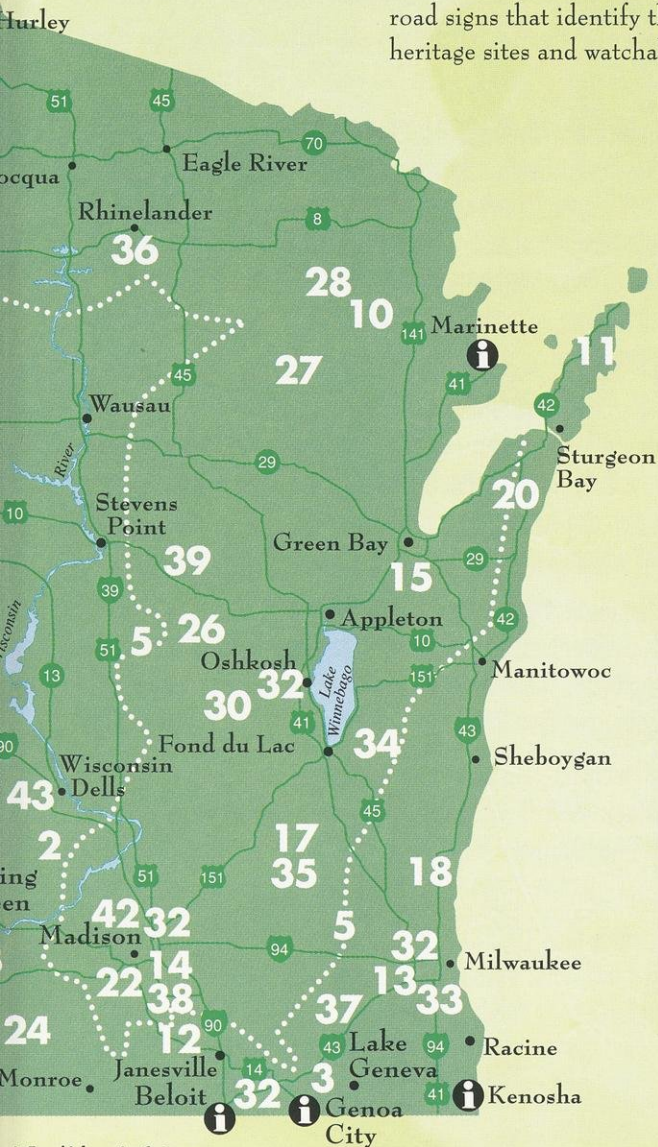
- 1-5** Hiking, page 4
- 6-10** Waterfall Watching, page 5
- 11-14** Spring Flowers & Orchards, page 6
- 15-18** Bird Watching, page 7
Golfing, page 8
- 19-26** Biking, pages 8-9
- 27-31** Rafting, Canoeing, Kayaking
& Fishing, pages 10-11
- 32-42** Events, pages 12-13





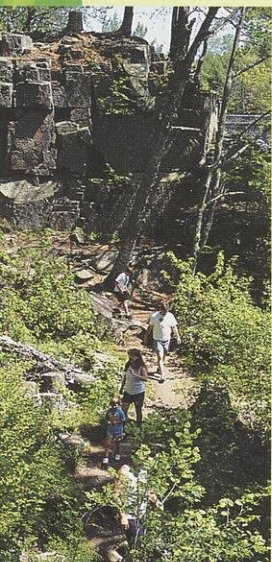
Historical & Wildlife Highway Signs

As you travel in Wisconsin, look for these road signs that identify the location of heritage sites and watchable wildlife spots.



The Path Less Traveled

From the sandy beaches of Madeline Island's Big Bay to the lofty bluffs of Wyalusing, Wisconsin parks and forests offer more than 2 million acres for avid hikers as well as casual walkers out for a Sunday stroll. Here are selections to help take the first step.



Hiking, Eau Claire Dalles.

1 In northern Wisconsin, the **Chequamegon National Forest** includes a 61.5-mile segment of the North Country National Scenic Trail (715/762-2461) through the Rainbow Lake Wilderness and the Marengo River Valley. The Wisconsin segment of this 3,200-mile trail that stretches across seven states from New York to North Dakota, extends from Hurley through Iron, Ashland, Bayfield, Douglas and Burnett counties.

2 At scenic **Devil's Lake State Park** (608/356-8301), Parfrey's Glen features a beautiful miniature canyon harboring plant life typically found hundreds of miles north. A path ascends into the glen and culminates in a stone terrace with a serene view of a small waterfall and rapids cascading out of the Baraboo Bluffs.

3 The resort city of **Lake Geneva** (1-800-345-1020) has a 26-mile walking path around the entire shoreline of Lake Geneva. The trail provides scenic views of old-money mansions (Wrigley, Swift, Maytag) and their landscaped lawns.

4 For hiking trails with breathtaking vistas of the Mississippi River Valley, check out **Wyalusing State Park** (608/996-2261) near Prairie du Chien and **Perrot State Park** (608/534-6409) near Trempealeau.

5 The **Ice Age Trail** (1-800-227-0046), created by the last glacier to move through North America more than 10,000 years ago, is one of nine National Scenic Trails in the country. The trail winds through 31 Wisconsin counties and offers hikers nearly 600 miles of trails.

Waterfall Season

Waterfalls are at their best during spring, when melting snow swells inland rivers and feeds the falls. Most of Wisconsin's largest waterfalls thunder through Wisconsin's Northwoods. Here are a few highlights.

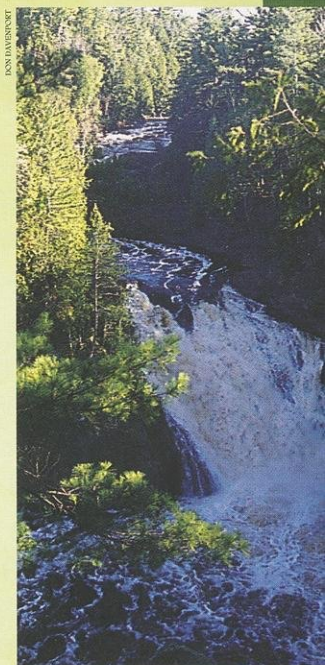
6 Tallest of all, at 165 feet, is awesome **Big Manitou Falls** in Pattison State Park near Superior. About a mile upstream from the big falls, you'll find **Little Manitou Falls**, a two-pronged falls with a vertical drop of 31 feet. Also near Superior is **Amnicon Falls State Park**. Picnic areas on both sides of the "root beer"-colored Amnicon River offer views of the falls, rapids and cascades. (715/399-3111 or after May 1 715/398-3000.)

7 Excellent walks complete with rustic bridges make it easy to view both **Copper** and **Brownstone Falls** and the deep cedar-lined canyons bordering the river in Copper Falls State Park (715/274-5123) about two miles north of Mellen.

8 West of Mellen, in the immense Chequamegon National Forest (715/762-2461), is 70-foot **Morgan Falls**. A rugged two-mile trail leads to **St. Peter's Dome**, a rocky granite summit that forms the highest peak in the forest and offers a panoramic view of hundreds of miles of rugged woodland.

9 If quantity is what you're looking for, **Iron County** (715/561-2922) boasts 15 waterfalls — the most in any county — including **Potato River Falls** near Gurney, which is the highest and most picturesque in the county.

10 In northeastern Wisconsin, Marinette County (1-800-236-6681), also known as "Wisconsin's Waterfall Capital," offers 14 falls. Several are close to the road and easy to view. **Dave's Falls** in Dave's Falls County Park near Amberg is a great spot for a picnic.



Superior Falls, Iron County.

Spring in Bloom

In Wisconsin, spring unfolds woodland wildflowers blossoming on the mossy forest floor. Snow trilliums, pink ladyslippers, dutchman's breeches and wild geraniums are in bloom. Plus, indoor gardens showcase a variety of plant and flower species that seem unlikely in a Midwestern climate. Here are a few to visit.



Forest trillium.

THE OUTDOOR GARDEN

11 At the top of the list is **Door County** (920/743-4456). The area's month-long **Festival of Blossoms** in May features millions of daffodils, countless wildflowers and thousands of acres of blossoming cherry and apple trees. At **Whitefish Dunes State Park** you can see five of the state's endangered plants, including the dwarf lake iris and dune thistle. Rare and endangered plants can also be found at the **Ridges Sanctuary**. **Newport Beach State Park** offers wildflower hikes.

12 During spring, the Japanese Garden at Janesville's **Rotary Gardens** (608/752-3885) comes to life when its lilac trees bloom amid lanterns, rock arrangements, a waterfall and a 2-acre pond. A footbridge zigzags across the pond. The gardens are also home to migrating and native birds.

13 In Milwaukee, 50 acres of formal gardens are located in Whitnall Park at the **Boerner Botanical Gardens** (414/425-1130), home to more than 400 varieties of blooming crabapples, 3,000 perennials, 21,000 tulips and 5,000 rose plants. At **Mitchell Park Domes** (414/649-9800) three domes feature a tropical rain forest environment, a desert habitat and a seasonal dome, which features a spring bulb show.

14 In Madison, **Olbrich Botanical Gardens** (608/246-4550) features outdoor exhibits that bloom in spring including the Wildflower Garden, the Rock Garden and Tulips by the Thousands. The **University of Wisconsin Arboretum** and **Longnecker Gardens** (608/263-7888) is a microcosm of the state's plant communities with 1,260 acres of restored prairies and forests. Trails guide visitors past one of the world's largest lilac collections.

Feathered Friends

The spring migration produces impressive numbers of geese and waterfowl resting in Wisconsin as they use the Mississippi and Lake Michigan flyways. The entire Mississippi River Valley, especially along the bluffs, is rich in migrating hawks and eagles. In May, migrating warblers and other songbirds return to the state in full strength. Rare or beautiful birds can show up just about anywhere in Wisconsin, from urban parks to forests and rivers, but a few places stand out during spring.

15 Bay Beach Wildlife Sanctuary (920/391-3671) is a big hit with kids. The 700-acre urban wildlife refuge in Green Bay offers several lagoons and plenty of opportunities to see Canada geese, mallards and native Wisconsin animals.

16 Necedah National Wildlife Refuge in Necedah (608/565-2551) was established especially for migratory waterfowl. The 44,000-acre refuge is part of the Mississippi Flyway that extends from Canada to the Gulf of Mexico.

17 Each spring hundreds of thousands of migrating waterfowl stop at the 32,000-acre **Horicon Marsh**, an internationally renowned wetland that has been likened to the Everglades. There are trails leading into the marsh and special spring weekend programs and events. For more information, contact the Horicon National Wildlife Refuge (920/387-2658), the DNR Horicon Area Office (920/387-7860) or Marsh Haven Nature Center (920/386-2182).

Great Blue Heron.



THE CHICAGO TRIBUNE

18 The Schlitz Audubon Center (414/352-2880), just 20 minutes north of downtown Milwaukee, is a 225-acre nature preserve located along the Lake Michigan migratory corridor. The center's ravines, woodlands and prairies provide habitat for hawks, ducks, owls, warblers, finches, falcon and many others.

TOURISM PHOTO FILE



Spring songbird.

Get in the Swing of Spring

Get out the clubs — spring is an ideal time to enjoy Wisconsin's golf courses. The links are less crowded and many courses offer lower green fees during this season. Considering the beauty of the state, it's not surprising that Wisconsin's been described as having the best natural golf course landscape in the country. Golf Digest magazine readers rated Wisconsin one of America's 10 best states for public courses and among the top 10 states for golf value.

Perennial favorites include **Blackwolf Run**, at The American Club in Kohler; **The Springs Golf Course**, Spring Green; **Trapper's Turn**, Wisconsin Dells; Milwaukee's **Brown Deer Golf Course**; the **Madeline Island Golf Course**; and in Lake Geneva, **The Grand Geneva Resort & Spa** and **Geneva National**. (Courses are not identified on the map on pages 2-3. For a free guide listing all the state's public courses, call 1-800-432-TRIP.)



RETIRED ARTIST

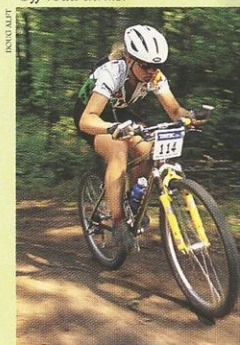
Spring golf, Door County.

Shifting Gears

Bicycle speed is just right for taking in all Wisconsin has to offer during spring: fast enough to get you there, slow enough so you won't miss a thing. For bikers looking to let the good times roll, here are a few on- and off-road options.

19 The popular **Red Cedar Trail** (800-283-1862) in Menomonie has lured bicyclists with its peaceful surroundings for decades. Now it joins the **Chippewa River Trail** (800-344-FUNN) in Eau Claire to form a continuous route of 37 miles between the two cities.

Off-road thrills.



DOUG ALFT

20 From Algoma, the **Ahnapee Trail** (920/487-2041) winds north 18 miles to Sturgeon Bay. This former railroad bed follows the breathtaking Ahnapee River for several miles and features forests, swamplands and wildlife.

21 Southwest Wisconsin is terrific bicycling territory featuring such noteworthy routes as the 32-mile **Elroy-Sparta Trail** (608/463-7109) — one of the nation's first railroad-grade bike trails — which treats cyclists to wooded valleys, small towns and three century-old railroad tunnels; plus the 21½-mile **La Crosse River Trail** (800-354-BIKE), and the 22½-mile **Great River State Trail** (608/534-6409).

22 Madison, recently ranked fourth among the nation's top biking towns by Bicycling magazine, offers the **Lake Monona Path** (608/255-2537) — a 12-mile scenic loop around the lake and through Olbrich Park.

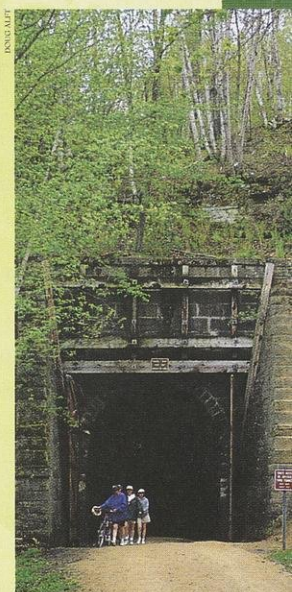
23 Five miles west of Madison the **Military Ridge State Trail** (608/437-5914) stretches 40 miles from Fitchburg to Dodgeville. Dramatic hills and valleys line the trail, which was once part of a military route connecting Fort Howard in Green Bay to Fort Crawford in Prairie du Chien.

24 A former railroad corridor, the 47-mile **Cheese Country Recreation Trail** (608/325-7648) connects Monroe and Mineral Point. Bikers can experience cheese factories, a 440-foot bridge and a historic depot/museum.

Off Road It!

25 Whether you circle the mounds on the **Levis/Trow Mounds Trail** (715/743-5140) near Neillsville or bike over them, you're in for 12 miles of truly unique wooded riding. Years ago, these mounds were islands that rose above a sea of glacial ice.

26 While traveling the eight-mile **Hartman Creek Trails** (715/258-2372), tucked away in Waupaca's beautiful Chain O' Lakes, bikers are treated to scenic and gentle, glacial terrain.



Elroy-Sparta State Trail.

Spring Waters

During spring, Wisconsin waters are at their very best for rafting, canoeing and kayaking. The spring melt makes them higher, clearer and faster than at any other time of year. Additionally, the season's cold, high waters offer fishermen special opportunities for trophy-size trout and walleye.

Paddlers Paradise: Thrill-seekers can get a rush this spring by flying down quick, powerful waters that offer exciting whitewater rafting and canoeing. Outfitters make rafting enjoyable for novices and families, as well as seasoned paddlers. Spring trips are offered from April to Memorial Day. For information about trip outfitters, call Wisconsin Tourism at 1-800-432-8747 or visit the state's Web site (<http://tourism.state.wi.us>).

27 The **Wolf River** (1-888-526-4523), in northeastern Wisconsin, gurgles like a geyser during spring and offers more than 20 miles of heart-pumping whitewater rafting and canoeing. Part of the National Wild and Scenic Rivers System, the Wolf features class 1-5 rapids. Gentle stretches last only long enough for riders to catch their breath.



28 Spring rafting down the **Peshtigo River** (715/582-0327) shows paddlers what "rapid transit" is all about. In spring, the river churns out the year's highest water and most challenging rapids. It is five miles of the best whitewater in the Midwest. The waterway, which runs through the scenic Nicolet National Forest in northeastern Wisconsin, offers class 3-5 rapids.

Rafting the Peshtigo River.

29 The “wild to mild” **Brule River** (715/372-5678), in northwest Wisconsin, offers both quick rapids and calmer waters in spring. The lower Brule is a fast moving river of almost continuous rapids — the season’s fast, high waters provide a challenging, quick ride for kayakers and canoers. The upper Brule is perfect for a relatively easy yet beautiful ride because the crisp, clear water flows steadily through a broad, flat, bog-filled valley.

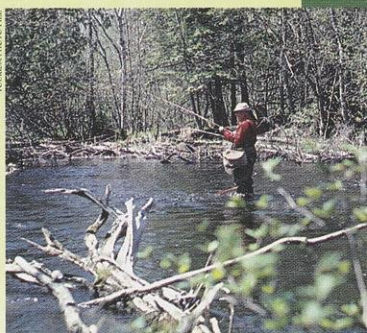
30 For a gentler ride, the historic **Fox River** (920/751-4770) features steady and high-watered spring canoeing on its upper and lower branches. Paddlers on the Upper Fox in south-central Wisconsin can take a 15-mile scenic look at the state’s past — Marquette and Joliet explored this same waterway in 1673. The Lower Fox, a urbanized river with many dams, offers three to four mile stretches of canoeable waters in eastern Wisconsin.

Reel ‘Em In Fishing: Spring brings some of the best fishing on Wisconsin’s rivers and streams. The **Brule River** and the **Kickapoo River Valley** are famous for great trout fishing. Central Wisconsin’s **Wisconsin River** is filled with northern pike. Excellent trout streams can be found in Marathon, Portage, Waushara, Adams and Marquette counties.

Looking for spring walleye? Head to the **Wolf River** in east-central Wisconsin. The walleye spawning run there from mid to late April is legendary. Bivies of boats mark hot spots along the Wolf from Shiocton to Lake Winnebago. New London’s **Big Whopper Weekend** celebrates the fishing with buffalo burgers, fishing contests and fun April 17-19. After the run, fish **Lake Winnebago**; the Wisconsin DNR estimates the lake system holds 1.5 million legal walleye.

31 Known as the “Super Bowl” of fishing tournaments, La Crosse’s **“Operation Bass – The Red Man All American Bass Championship”** May 28-30, on the Mississippi River features 50 fishermen competing for a \$100,000 grand prize. The contest will be broadcast on the cable channels ESPN and ESPN2. (1-800-658-9424).

(Fishing spots are not identified on the map on pages 2-3.) For free Wisconsin fishing guides, contact the Wisconsin Department of Natural Resources at 608/266-1877. For a listing of charter fishing locations, call 1-800-432-TRIP.

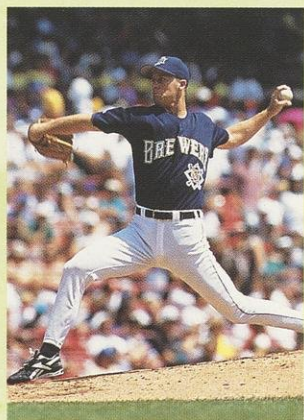


Trout fishing on the Brule River.

Spring Fever Festivals

While the temperature rises, spring festivals, celebrations and attractions throughout the state offer plenty to do before beaches and the lawnmower beckon.

32 Spring training is over and Wisconsin's baseball season is in full swing. The major league **Milwaukee Brewers** (414/933-9000) play at Milwaukee County Stadium. The **Wisconsin Timber Rattlers** (1-800-WI-TIMBER), a minor league affiliate of the Seattle Mariners, play in Appleton. The **Beloit Snappers** (608/362-2272), a minor league affiliate of the Milwaukee Brewers, play in Beloit and the **Madison Blackwolf** (608/244-5666) in the Northern League of Professional Baseball, are in Madison.



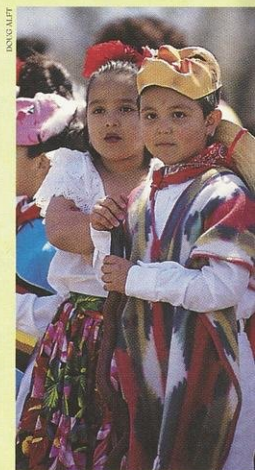
Brewers baseball, Milwaukee

34 Experience living Civil War history at the **Wade House Spring Muster** in Greenbush, April 25-26. Union and Confederate re-enactors set up camp and present historic scenarios. See rifle and cannon-firing demonstrations, and talk with soldiers about Civil War life. (920/526-3271)

35 The **Horicon Marsh Bird Festival**, May 8-10, recognizes International Migratory Bird Day with wildlife games and guided tours on the Red Fox Nature Trail. Located on a natural migration route, Wisconsin attracts loons, great blue herons and bald eagles. (920/324-3491)

36 The **Mudder's Day Off-Road Challenge** in Rhinelander, May 10, features a 22-kilometer mountain bike race and prizes at the Holiday Acres Resort. (800-236-4386)

33 Milwaukee's **Cinco De Mayo** festival, May 2-3, features an open air Mass, Mexican music, cultural dance groups, art, food and family fun. (414/671-5700)



Cinco De Mayo Festival, Milwaukee

37 The **Chocolate City Festival** in Burlington, May 15-17, features a variety of chocolate delights ranging from rich fudge to chocolate eclairs to cheesecake. There's also chocolate sculpture, entertainment — the Oak Ridge Boys — and an arts and crafts show. (414/763-6044)

38 **Syttende Mai** in Stoughton, May 15-17, the largest Norwegian Constitution Day festival outside of Norway, attracts more than 100,000 people annually. See folk dancing performances, rosemaling and handmade quilts, and special-occasion Norwegian foods — lefse, rasaltes and hapskaus. (608/873-7912)

39 At the **Amish Quilt Auction** in Amherst, May 16, prospective buyers scrutinize quilts at the 7 a.m. preview. Bidding begins at 9 a.m. with scores of quilts up for auction. (715/344-2556)



Syttende Mai, Stoughton

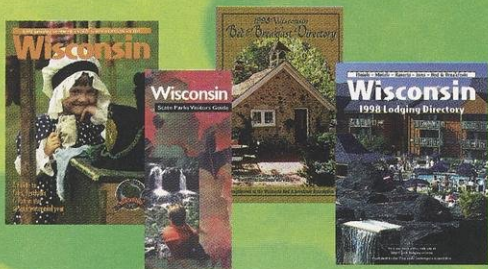
40 The **Cable Area Off-Road Classic**, May 16, in the "Mountain Bike Capital of the Midwest," kicks off the season with a 24-mile point-to-point race on some of the best mountain bike trails in and around the majestic Chequamegon National Forest. (1-800/533-7454)

41 Attend the **Morel Mushroom Festival** in Muscoda, May 15-17, for the "fungi." The festival pays tribute to the morel with a contest judging the mushrooms in three categories. Plus, there are plenty of opportunities to sample and purchase one of the finest edible mushrooms available. (608/739-3770)

42 **Statehood Weekend** in Madison, May 29-30, officially kicks off Wisconsin's yearlong Sesquicentennial celebration. Statehood Day, May 29, will offer a festive ceremony at the State Capitol complete with birthday cakes. Other weekend events include a hot air balloon rally, fireworks, and a Civil War Encampment at camp Randall where hundreds of Civil War re-enactors will commemorate the return of Wisconsin troops from the Civil War. (800-373-6376).

43 The **Great Wisconsin Dells Balloon Rally**, May 30-31, brings together nearly 100 of North America's most skilled hot air balloonists for a spectacular and colorful festival. Live entertainment, sky diving and plenty of food and concessions round out the weekend. (1-800/22-DELLS)

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In 1998, Wisconsin marks
its sesquicentennial –
150 years of statehood.
Come help us celebrate in '98.



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(above left) the banded darter
(above right) a male Iowa darter
(right) the rainbow darter

These small fish and many other colorful species can be caught in small quantities and kept in an aquarium. Most will eat flake food and frozen food commonly available at pet stores. Don't assume you can mix native fish in the same tank with exotic fish purchased from a store. Freshwater tropical fish may need warmer temperatures, and may be more or less aggressive than native species.



and tail. The southern redbelly dace has, as its name implies, the strongest red (or sometimes bright yellow) on its belly, grading to a yellowish or reddish brown on its back. Two black stripes along each side make for a nice contrast, and provide an easy means of identifying the species.

The rosyface shiner and southern redbelly dace both spawn on pebble-mound nests that other species, particularly the hornyhead chub (*Nocomis biguttatus*), build and defend in shallow rocky areas with current. Although the male chub vigorously guards his nest from other male chubs as he tries to entice a female to spawn with him, the chub usually doesn't bother the rosyface shiners, southern redbelly dace or other small fish species that share his

spawning nest.

With a little practice, you will easily pick out the pebble-mound nests that chubs build in the rocky run sand riffles of clear streams. Once you've found the mounds, careful observation will often reveal groups of bright red fish milling around them. If you can stand the cool waters of May in Wisconsin, it's surprisingly easy to snorkel up to these mounds and watch the mating rituals of shiners, dace, chubs, and other species. Moreover, these species can be captured with a small-mesh seine or minnow trap. If they are handled carefully and promptly transported home, they will thrive in an aquarium. Keep the aquarium at room temperature, and feed the fish frozen brine shrimp, bloodworms or dried flake foods, which are readily

available from pet stores.

Though millions of Wisconsin residents and visitors fish avidly for members of the sunfish family (Centrarchidae), which includes such popular sport fish as largemouth and smallmouth bass, bluegills, and crappies, only a handful of non-scientists are aware of Wisconsin's most colorful family member, the orangespotted sunfish (*Lepomis humilis*). This spunky fish rarely grows more than four inches long; it lives in the shallow, turbid backwaters of rivers, where few people venture. This fish occurs in the southern third of Wisconsin and is most common in the Mississippi River. What the orangespotted sunfish lacks in size or angling interest, it more than makes up for in appearance. Breeding male orangespots are almost gaudy in ap-

pearance, with a bright orange belly, bright orange fins and bright blue sides liberally sprinkled with orange spots. Females are less dramatic, but still look nice, with orange spots on a blue-gray or brownish body. Males establish and defend nests in colonies from late May through early July. Females spawn with the males on these nests, and then leave the male to care for the eggs and newly hatched fry.

Since their habitat is normally turbid, it's difficult to see orangespotted sunfish in the wild. They are easily captured with a seine, as long as you're willing to slog through the thick sticky mud that characterizes most river backwaters. Orangespots do well in an aquarium, eating a range of live, frozen,

or flake foods, but the males can be territorial, so a relatively large tank (20 gallons or more) is desirable if you plan on keeping more than one adult male.

The rainbow (*Etheostoma caeruleum*) and banded darters (*Etheostoma zonale*) are denizens of shallow rocky riffles in clear-water streams throughout the southern two-thirds of Wisconsin. Both are small bottom-dwellers that move in quick darts, hence their name. The two species are sometimes found together, although the rainbow darter usually favors slightly faster, more turbulent water than the banded darter. Both species are most colorful during spawning, which occurs in May and June. The breeding male rainbow darter lives up to his name, with deep blue and or-

ange-red bars covering its sides, and bright blue and orange fins and throat. The female is more subdued, with mottled dark brown and tan sides, and less brilliant oranges and blues in her fins. The breeding male banded darter has bright green bands along his sides, and orange and green stripes in his dorsal fins. The female lacks the strong green color and can be easily confused with the female rainbow darter.

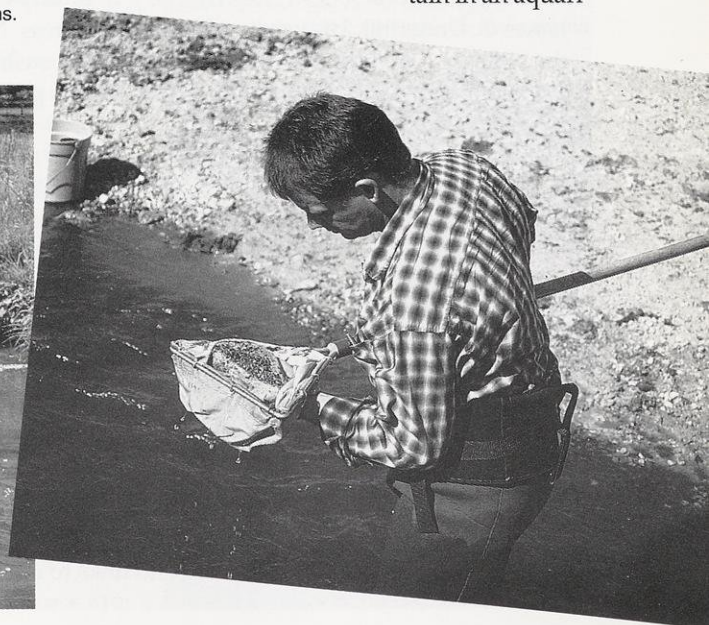
The striking colors of these male darters are used to attract females, and studies show that the most brightly colored males have the greatest spawning success. Bright colors have a downside though — they may attract predators as well as females. For this reason, male rainbow and banded darters establish breeding territories in shallow waters where large fish predators such as bass and pike can't forage efficiently. Brightly colored algae covering these rocky bottoms help the darters blend in to avoid fish-eating birds such as kingfishers and herons.

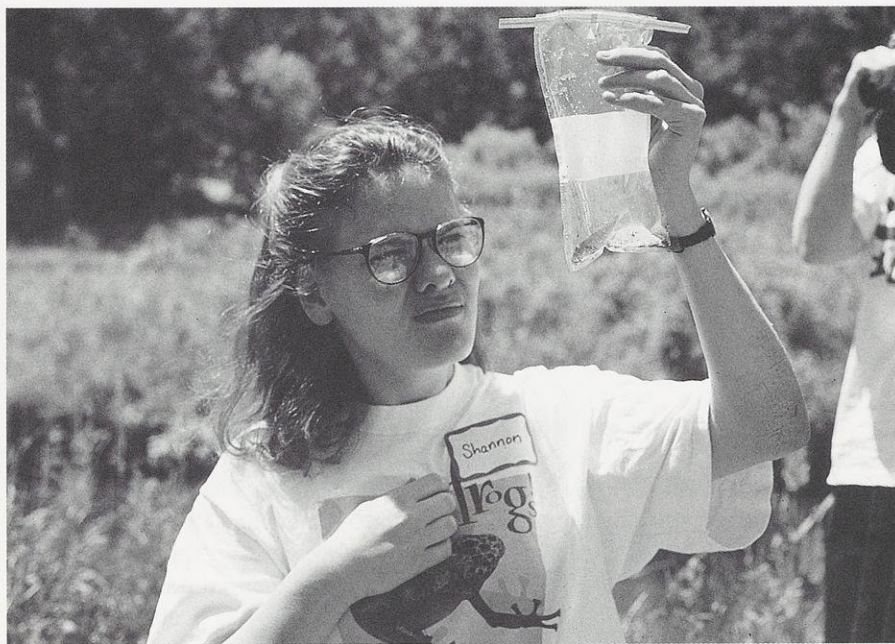
Rainbow and banded darters can be closely approached in the wild, but are often difficult to see because of the shallow, turbulent water they inhabit. Snorkeling or surface viewing can be frustrating, but both species are simple to catch. Hold a small-mesh dip net or seine just below a riffle, then kick up mud and rocks on the stream bottom with your feet to drive the fish into the net. Rainbow darters are easy to maintain in an aquari-

Collecting nongame fish

Wisconsin residents don't need a fishing license to collect most nongame fish species if they use a small-mesh dip net or seine less than 35 feet long. However, non-residents 16 years or older do need a fishing license to collect these species. Up to 600 "minnows" may be possessed without a special permit; the minnow category apparently includes darters and other small nongame species not in the minnow family (Cyprinidae). However, sport fish, panfish, threatened and endangered nongame species must be released upon capture. In certain areas, including designated trout stream, spring ponds, and Lake Superior and its tributaries, minnow collecting is either not allowed or greatly restricted. Boundary waters may also have special regulations. Anyone planning on collecting nongame fishes should consult the 1998-99 Wisconsin Fishing Regulations and Spearing and Netting Regulations pamphlets, which are available where fishing licenses are sold.

Small numbers of many nongame fish can be legally caught and removed from some streams. Place minnow traps in the water, or hold a dip net or seine downstream and walk toward the netting, herding fish as you go.





BARB BARZEN

It's nearly as much fun to take a close look at a fish and let it go.

More about native fish

Fishes of Wisconsin, by George C. Becker, University of Wisconsin Press. The standard technical reference on Wisconsin fishes. Filled with information on identification, distribution, and biology of all fishes in the state. Good black and white photos of all species, but the color photos are largely of preserved specimens and don't illustrate life colors. Out of print, but available in some university libraries.

Fishes of the Central United States, by Joseph R. Tomelleri and Mark E. Eberle, University Press of Kansas. Non-technical book discussing some of the game and nongame fishes found in Wisconsin. Superb color paintings of these species.

Fishes of the Minnesota Region, by Gary L. Phillips, William D. Schmid, and James C. Underhill, University of Minnesota Press. Non-technical summary of the biology of most of the species found in Wisconsin. Good close-up photos of live fish in aquaria, but many of the specimens portrayed are not particularly colorful.

Peterson Field Guides: Freshwater Fishes, by Lawrence M. Page and Brooks M. Burr, Houghton Mifflin Company. Excellent field guide for identification, including all Wisconsin species. Good paintings and line drawings, but limited biological information.

The Audubon Society Field Guide to North American Fishes, Whales, and Dolphins, Alfred E. Knopf Publishers. Excellent photos, and good, albeit brief, biological summaries, but only a subset of Wisconsin species is included.

The North American Native Fishes Association World Wide Web site <http://www.nanfa.org>. This nonprofit organization is dedicated to the preservation and enjoyment of nongame fishes. Anyone can join. This Web site has some nice pictures and information, and links to many other relevant sites.

um, and quickly adjust to captivity, to the point that they learn to swim to the surface looking for food at feeding time. They'll eat a variety of frozen or live foods. Banded darters are more difficult to keep, remaining skittish for a long time after capture, and eating only certain types of live foods such as water fleas (*Daphnia*) or bloodworms.

The Iowa darter (*Etheostoma exile*) is one of the few darters that's more common in lakes than streams. It occurs throughout Wisconsin, but is far more abundant in clear-water northern lakes, where it lives in the sandy and silty shallows among aquatic plants. Like rainbow and banded darters, Iowa darters spawn in May and June, and the male is more colorful than the female. The breeding Iowa darter male has color patterns similar to the rainbow darter, but the Iowa darter has more reddish than orange pigments and the blues have a distinctly greenish tinge. The female Iowa darter is more nondescript. Only its dorsal and anal fins having bright red and blue-green colors

Snorkelers can easily see Iowa darters breeding on aquatic vegetation and plant roots along the shoreline. If you're like me, you'll need a wet suit or even a dry suit to stay warm enough to enjoy the experience. Seining the shallow weedy areas of a lake or stream is the best way to capture Iowa darters. They do reasonably well in aquariums stocked with aquatic vegetation and the fish will subsist on various frozen foods.

These six species are just a small sample of the fascinating variety of nongame species found in Wisconsin. Every stream, river, and lake has nongame species you can catch or observe without much effort. They are not all colorful, but they may have intriguing shapes or behaviors well worth watching. So wade out in the shallow water this spring, and experience the hidden world of Wisconsin's nongame fishes. □

DNR Biologist John Lyons researches lake ecology issues in southern Wisconsin.

Welcome!

We share your outdoor focus



**April is the time
we renew contact with
our conservation
patrons and welcome
new patrons to the fold.**

▼ ▼ ▼ ▼ ▼ ▼ ▼ ▼ ▼ ▼ ▼ ▼ ▼ ▼ ▼

For those readers who are unfamiliar with this program, a conservation patron (CP) license is a convenient, economical way for those who hunt, fish, visit parks and use bike trails to do one-stop shopping for a year of outdoor enjoyment.

DNR sends recreational permits and application forms to the CP's doorstep, as well as an annual subscription to *Wisconsin Natural Resources* magazine.

We'll set our sights to provide a lively mix of stories that keep the CP's and all our readers focused on outdoor fun and outdoor issues.

- This June, we'll recount some of the important historical moments from our conservation past.
- In August, we'll look at the deer herd and lay out the challenges of managing a growing number of geese in city parks and ponds.
- All of that in addition to talk about environmental issues and fun places to travel.

So thanks for caring about the outdoors: a viewpoint shared by all readers of *Wisconsin Natural Resources*.

Conservation Patrons

deadlines at your doorstep

The DNR will be mailing conservation patrons applications to meet the following deadlines this year:

Hunter's Choice	July 20
Fall Turkey Hunt	August 10
Early Goose Hunt	August 7
Goose Hunt	August 21
Bobcat, Otter, Fisher	September 10
Spring 1999 Turkey Hunt	December 10
Bear Hunting	January 15, 1999

More information on the Conservation Patron program is available where DNR licenses are sold.

drop us a line

Whether you want to comment on an article, add a point to our discussions or just tell us what you would like to read about, stay in touch. Our readers often provide the spark that fuels a future story. Make the time to tell us about topics and places you'd like to visit in future issues.



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For the Birds

Across Wisconsin's marshes, forests and fields, intrepid volunteers are gathering vital information for the state's most comprehensive survey of avian life to date. Care to join them?

Maureen Mecozzi

I began atlasing in early April with the first relatively snow-free, non-frigid day. It was an extraordinary day: migrating swans, a song sparrow singing from every stem, the earth steaming with the end of winter in the air. In June I would find broods of turkey and grouse, singing waterthrush and white-throated sparrow.

Memorable experiences filled the season. There were encounters not only with birds, but animals, foods, and weather. I was skunked, nudged by a whitetail fawn, stuffed on serviceberries and blackcaps, drenched in sudden thunderstorms.

What is the most important part of atlasing? Our enjoyment of birds; and personal discoveries in sound, color, movement, and behavior to enrich our lives in ways unlike any other activity.

*Murray Berner,
Atlas regional coordinator*

Take a static noun and make it fly. That's how atlas, generally used to describe a leather-bound behemoth with all the Earth crammed between two covers, becomes atlasing, a lively engaging quest to create a detailed portrait of a certain place at a certain time.

Painting one such portrait of Wisconsin has long been a goal of the Wisconsin Society for Ornithology (WSO). In 1995 the organization embarked on an ambitious 10-year project to compile a record of all the birds breeding in the state at the end of the 20th century. The ultimate product of the endeavor

will be a comprehensive atlas revealing the status of birds in Wisconsin through maps, tables and figures. Researchers will use the atlas to document changes that have occurred in breeding bird populations, to determine how human activities affect bird life and to provide information for similar projects nationwide.

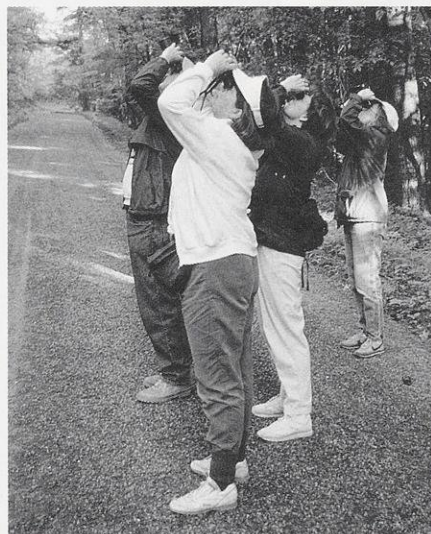
Remarkable for its breadth and scope — every corner of the state will be monitored during the project's five-year fieldwork phase — the Wisconsin Breeding Bird Atlas (WBBA) is perhaps most notable for the hundreds of volunteers observing birds and gathering valuable data in marshes, woodlands and fields statewide. Each "atlaser" tracks the birds present in a "block" — an area three miles by three miles in size — and follows up with observations on breeding and nesting. Analysis of the atlasers' field records and notes will increase our understanding of the natural history, species abundance, and distribution of breeding birds throughout Wisconsin.

Sighting by sighting, atlasers are

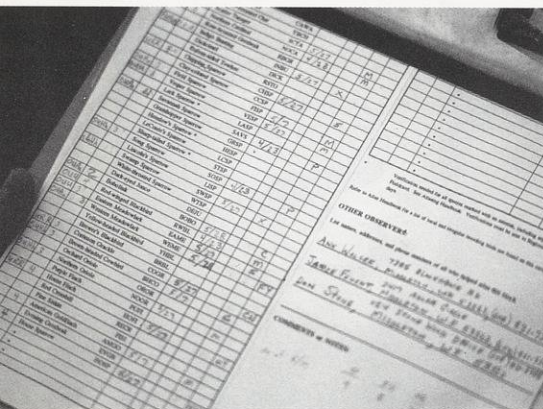
sketching in the detail of this grand feathered portrait, and they're having a grand time in the process. Many have discovered atlasing — which combines sight and song identification skills, habitat analysis, map-reading and recordkeeping abilities, a touch of diplomacy and a knowledge of bird behavior — has added a new level of enjoyment to basic bird watching. Should their avian accounts intrigue you, remember there's always room for more: New volunteers are welcome to sign up for a block or two and embark upon their own atlasing adventures.

(above) Pine siskin.

(below) Birders! Take on the challenge of identifying birds, noting their behavior and mapping their nesting habits.

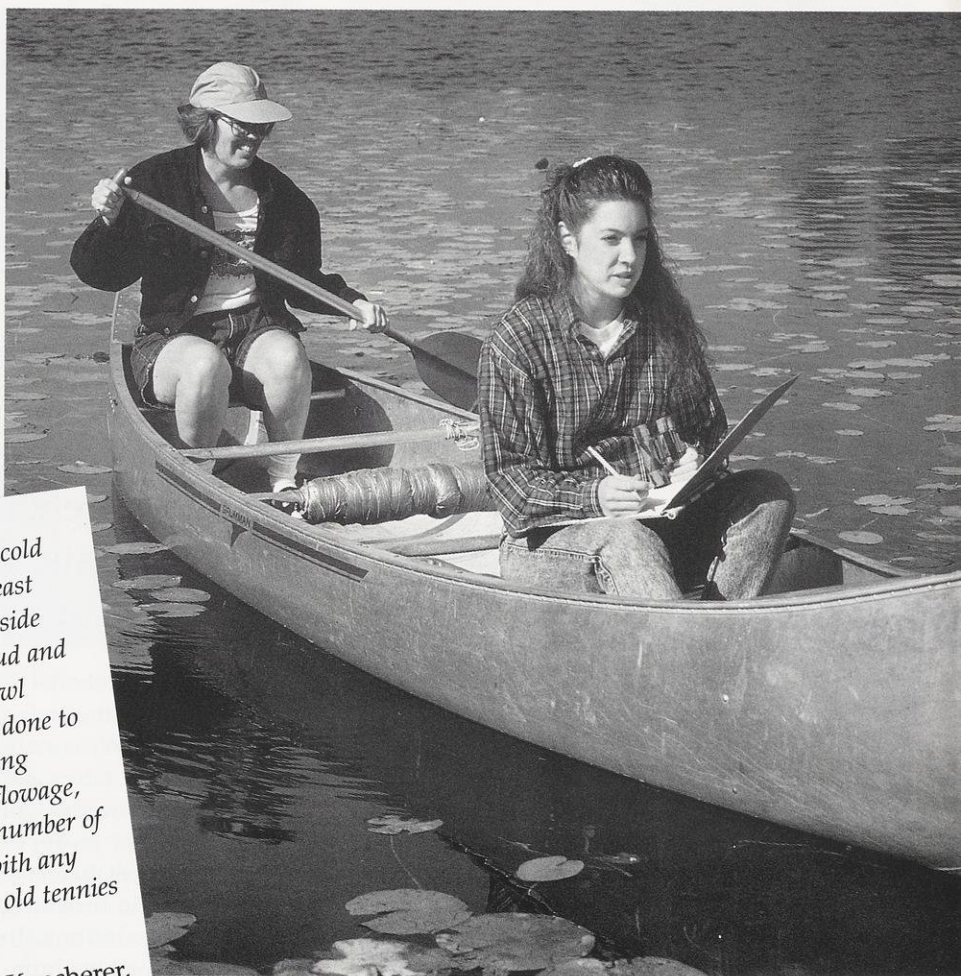


THOMAS SCHULTZ



Atlasers learn a shorthand method for charting bird activities. Field notes flesh out the written tally.

ROBERT QUEEN



Many birds will let people get much closer when approached from the water.



I have climbed the cold forests from the east side of the Andes in Ecuador to the west side going uphill and down through mist, mud and vegetation so thick you had to either crawl through it or cut it. But nothing I have done to date has been more rigorous than atlasing Jackson County. Marsh, bog, swamp, flowage, and moist brush land with an untold number of cranberry beds...to cover the blocks with any degree of proficiency, you just put on old tennies with jeans and jump in.

Major Dennis R. Kuecherer,
Atlas regional coordinator

Atlasing begins with quads — the U.S. Geological Survey's topographical quadrangle maps. Each quad is divided into six blocks, each block being three miles square. Using this method, Wisconsin can be gridded into roughly 6,900 blocks.

That's a lot of ground to cover. To manage the area to be surveyed while maintaining the statistical integrity of the atlas, the WBBA designated the center-east block of each quad as a priority block. All atlasers are required to survey that priority block in their quad before they work specialty blocks (sites of unique habitat or particular interest) or supplementary blocks (the remaining blocks in a quad).

During the breeding season, which runs from February (starting with great horned owls) through September 15,

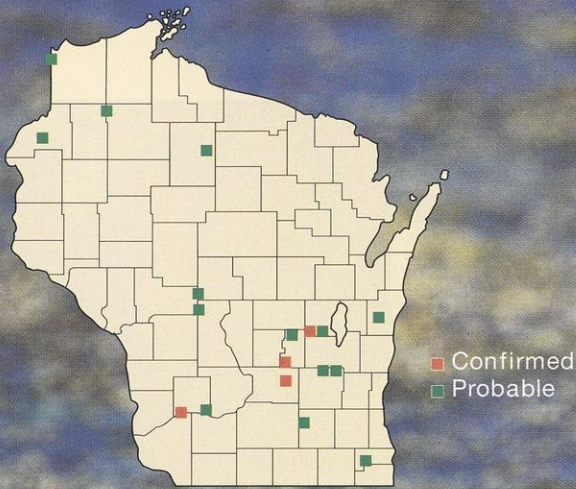
the day all field reports are due, atlasers try to identify all the birds present in their blocks. They then try to confirm nesting for at least 50 percent of the species they find in those blocks. Atlasers mark down sightings and other details on field cards, which are then sent on to one of 27 Regional Coordinators. The RC's review the data and pass the information on to the Data Management Center at the University of Wisconsin Green Bay, where it is processed for the atlas.

Atlasers don't have to visit every single field or marsh in their blocks, but it helps if they can survey every type of habitat in a block. In areas with roads a half-mile apart or closer, much of the observation can be done from roadsides. In other cases, atlasers must get permission from property owners to conduct surveys on private lands. (That's where diplomacy comes in.)

Wisconsin isn't alone in its atlasing

endeavor. Most states east of the Mississippi River have completed fieldwork and are now compiling data. The more states that complete an atlas the better, according to Bettie Harriman, director of the WBBA. With a comprehensive picture of avian breeding in the United States, conservation groups, planners, local governments, and state and national environmental agencies can better address bird conservation needs in future land-use decisions and environmental assessments. "Atlases are especially helpful in understanding the breeding habits of rare bird species and neotropical migrants," Harriman says. "Besides giving us an overall look at the abundance and habits of common species, an atlas can point out species or habitats that may warrant focused conservation efforts."

The WBBA has completed three years of fieldwork, with two more to go. Add another five years for data process-



From late May to August, my life was immersed in the private lives of birds I had taken for granted. I was no longer just ticking birds off a list. A bird within sight captured my immediate attention and scrutiny, and a litany of questions would instantly follow: What is it doing? Is it carrying nest material? Is it carrying food? Does it have a mate? Does it have a nest? Which sex is it? Is this the right habitat? What does that behavior mean?

Jeff Dankert, Atlas regional coordinator

There are ornithologists involved in the WBBA, of course, and some professional atlasers are paid to cover especially difficult or remote blocks, but most of the people working on the atlas are amateurs. "I say that in the truest sense of the word," says Har- riman. "They do it for the love of birds."

Volunteers must be able to identify the birds that breed in Wisconsin, either by sight or by songs and calls. The better an atlaser is at sound identification, the easier it will be to cover a block.

Atlasers are encouraged to visit their blocks often in June, when most species are singing to attract mates.

July is the best time to

(above) Sightings of all nesting birds, like this least bittern, will be tallied and mapped. The information can guide development decisions and track changes over time.

(right) Follow the yearly tales of rose-breasted grosbeaks that nest in Canada and the northern U.S., but winter in Mexico and South America.

WBBA on the Web

Visit the Wisconsin Breeding Bird Atlas on the World Wide Web at <http://wso.uwgb.edu/wbba.htm> where you'll find birding tips, lists of Regional Coordinators, detailed instructions for conducting breeding bird counts, species distribution maps, bird photos, a tally of bird records to date, and lists of other bird atlas Web sites.

ing, analysis and the writing and publication of the atlas. For those who can't wait for 2005, interim results from the breeding bird surveys done to date are available at <http://wso.uwgb.edu/wbba.htm> on the World Wide Web.



HERBERT LANGE

STEPHEN J. LANG

The atlas project will provide a base to note future shifts in populations and breeding habits of species like (clockwise from above) the Eastern bluebird, yellow warbler, scarlet tanager and horned grebe.

confirm breeding, because many species are feeding their young and are easier to spot as they search for food. The early bird gets the worm no matter what month an atlaser surveys. "Getting out early — 5 to 10 a.m. — is the best time for finding most birds," says Harriman.

The field card is the heart of the entire atlas project. Atlasers track sightings and mark down observations using a series of codes. These codes cover habitat types, estimates of abundance, behaviors, and breeding criteria divided into four categories of evidence: Observed, Possible, Probable and Confirmed. Harriman knows the amount of detail needed can be daunting for novice atlasers. Not to worry! After a few visits to a block, an atlaser will become well acquainted with the birds frequenting the site. "This is when you get to be a bird watcher, actually watching the bird's behavior, compared to just making a list of birds observed," she says.

Besides recording specific details on breeding behavior and habitat, the atlasers also are encouraged to write down casual observations of birds and wildlife in their blocks. Recording casual as well as specific observations adds depth to a day in the field, sharpening an atlaser's senses for future outings.

Harriman estimates most blocks require about 25 hours of work to be thor-

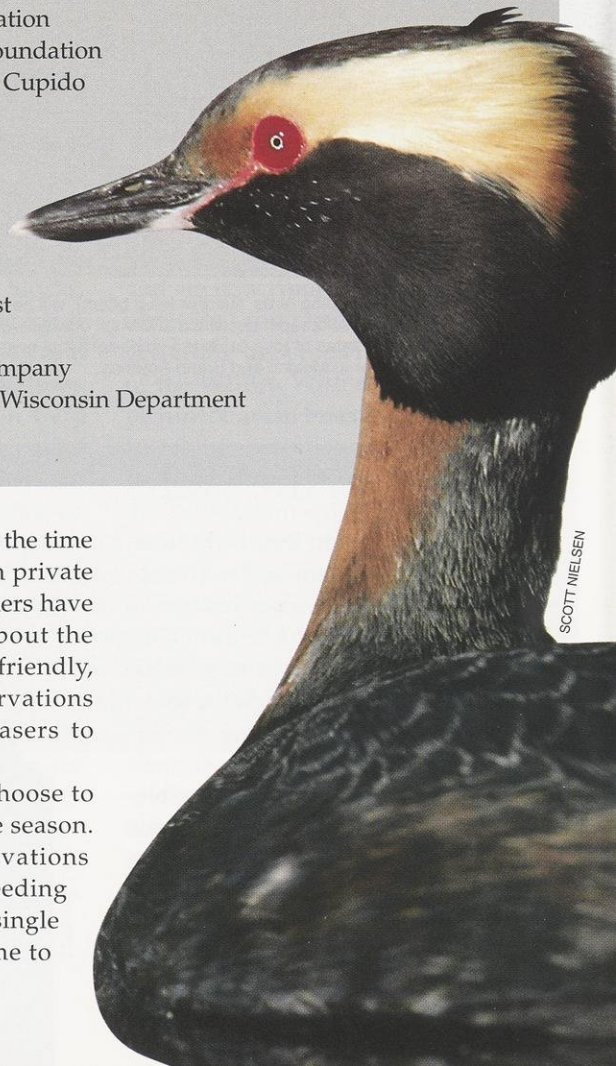
Supporting the atlas

In Greek mythology, the titan Atlas held up the heavens on his shoulders. The following organizations similarly support the Wisconsin Breeding Bird Atlas with funds and technical support:

Bradley Foundation
Consolidated Papers Foundation, Inc.
Environmental Systems Research Institute
Kaytee Avian Foundation
Madison Community Foundation
National Fish and Wildlife Foundation
The Society of Tympanuchus Cupido Pinnatus
U.S. Forest Service
U.S. Bureau of Land Management
Zoological Society of Milwaukee County
F. Weyenberg Charitable Trust
Windway Foundation
Wisconsin Electric Power Company
and a \$25,000 grant from the Wisconsin Department of Natural Resources

oughly surveyed, not counting the time spent getting permission from private landowners. To date, landowners have been not only cooperative about the project, but overwhelmingly friendly, offering their own bird observations and even inviting some atlasers to lunch!

Some volunteer atlasers choose to complete their surveys in one season. Others elect to make observations across two, three or more breeding seasons before completing a single block. Still others are welcome to



SCOTT NIELSEN

forward nesting observations on smaller plots even if they can't complete a whole block. Special forms for such observations are available from the Regional Coordinators.

Close to 1,000 volunteers of all ages are participating in fieldwork to confirm nesting for all of Wisconsin's 220-plus identified breeding bird species. If you enjoy bird watching, want to develop good field skills, learn more about avian life, and experience a genuine sense of scientific accomplishment, there's a place for you in Wisconsin's largest ornithological undertaking. The

Wisconsin Breeding Bird Atlas will be the standard reference on Wisconsin birds for many years to come, the baseline to which future bird research and surveys will be measured. It's a project worthy of your time and effort.

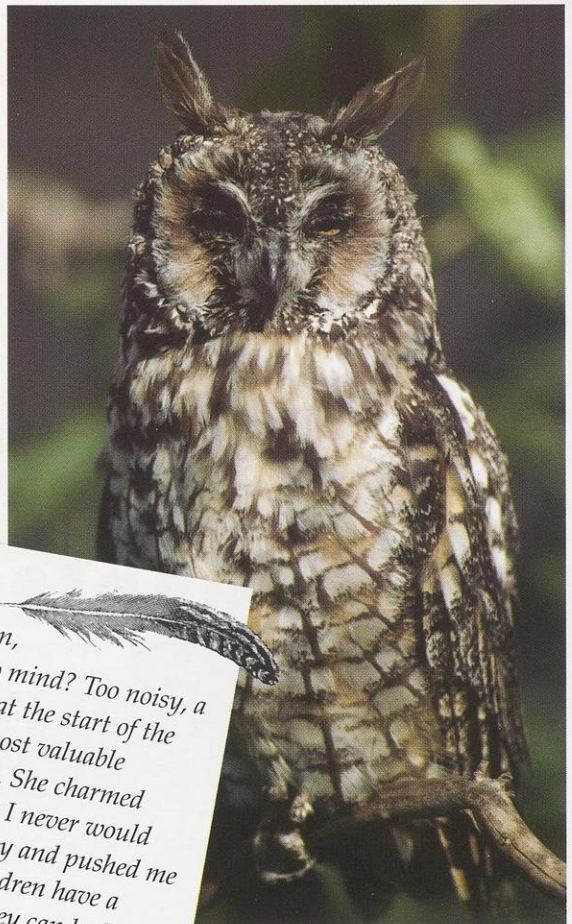
Contact Bettie Harriman at (920) 223-1973 or write her at 5188 Bittersweet Lane, Oshkosh, WI 54901 to get started. You'll be put in touch with a Regional Coordinator, who will

(below) Atlasing can be a family adventure – you search high and let the kids scout low!
(right) Soft hoots, whistles and meow-like sounds might help you find a long-eared owl.



When you think of birding with children, what immediately comes to mind? Too noisy, a pain in the neck? But back at the start of the Atlas project in 1995, my most valuable volunteer was four years old. She charmed landowners, found bird nests I never would have found, had endless energy and pushed me to find those far-off birds. Children have a whole different perspective. They can look up underneath the leaves, which makes nests much easier to spot.

Heidi Parry, Atlas volunteer



STEPHEN J. LANG

provide maps, field cards, and the other information you'll need to survey a block. The WBBA maintains a World Wide Web site and publishes a newsletter to keep volunteers informed as the atlas progresses. Atlasing workshops held at various locations throughout the state cover map reading skills, code interpretation, and hints on finding elusive species. Best of all, you'll meet other atlasers who share a common interest in birds and the outdoors.

Get out those binoculars and get ready to watch, listen and learn. It's time to start atlasing and add your own brushstrokes to the grand feathered portrait for birds in Wisconsin. □

Maureen Mecozzi is associate editor of Wisconsin Natural Resources.

ROBERT QUEEN

Get ready for spring boating

Time to test, tune-up and tweak your boat for a safe season.

William G. Engfer

Article photos by Robert Queen



Modern boats are remarkably well made — resistant to weather, water and steady use. While it's common to have a boat, motor and trailer for 15 years or more, the equipment still needs maintenance, and there's more to getting ready for the boating season than driving to the lake and launching your craft. There is a lot more to consider to ensure a season of safe, enjoyable outings.

Getting ready for the boating season each spring is a bit like buying a house or opening your summer cottage for the season — before you move in you want to check that the electrical, plumbing and other key systems are working. You also might want to spruce it up as it's easier to paint the rooms before they are full of your stuff.

A boat that has been left unused over the winter is a lot like that vacant house. Everything may be working, but you want to check it out before you use it. Perhaps mice have chewed through the wiring, standing water has rotted a support or rust has stiffened up a cable.

The damage is often hard to see, until the consequences are more serious. Each year brings new sad stories of boaters who forgot to put the plug into the stern and the boat sunk within minutes of launching. Or a boater who left at midday to go fishing and stayed out after dark only to discover that the boat lights didn't work. And how many times have you seen a boat towed down the roadway with trailer lights that didn't work so the rig couldn't safely signal turns or braking?

Unfortunately there are even sadder stories of early spring boaters who lost engine power, didn't have a paddle or anchor in the boat, and died because they couldn't stop drifting into a downstream dam. Or a boater who pulled his rig down the road and noticed his boat passing him on the highway at 55 mph because the hitch came loose and there were no safety chains attached to the car, resulting in a serious car accident.

A few precautions will add to your enjoyment and safety on the water. Let's check things out one piece at a time, from the ground up:

Your trailer

Trailer maintenance is a function of trailer use. If yours is used once a season to move your boat from storage to a ramp, it doesn't have to be inspected as often as a trailer that hauls boats down dirt roads to unimproved launches several days a week. Check the frame for signs of rust. Clean and repaint them. Check and tighten bolts that may have rattled loose from bouncing down dirt roads or over gravel. Check trailer hitches, safety chains, rollers and pads.

The "big three" on your trailer that wear most quickly and seem to need repair are lights, tires and wheel hubs.

There's lots to look over before the boating season. (clockwise from upper left) Check the hull for scrapes, loose rivets and holes that need patching. Remove rust from the trailer lights pigtail. Check for cracked, broken wires. Check trailer straps, rollers and safety chains for signs of wear. Clean and grease fittings on winches, cables, the steering wheel and motor mounts. Inspect bearings, hubs and wheels — a vulnerable part of your rig. This boat has both bearing protectors and caps to seal out water during launching.

Your lights are touchy because electrical systems just don't do well when immersed in water. Most launch sites have a fairly steep grade at the shoreline so your boat will float off the trailer as you back up before the back tires of your car get wet and lose traction. On most trailers, this means the lights are going under water. Take the time to disconnect or switch off your trailer lights just before you launch the boat. You can often make your trailer lights waterproof by caulking the taillight housing to prevent leaks. Even so, water often finds its way into the housing, and the prepared boater always carries a few hand tools and some spare trailer bulbs.

The bane of every boater seems to be trailer lights. Many designs are tender and touchy. The prepared boater would rather fidget, fuss and fix his trailer

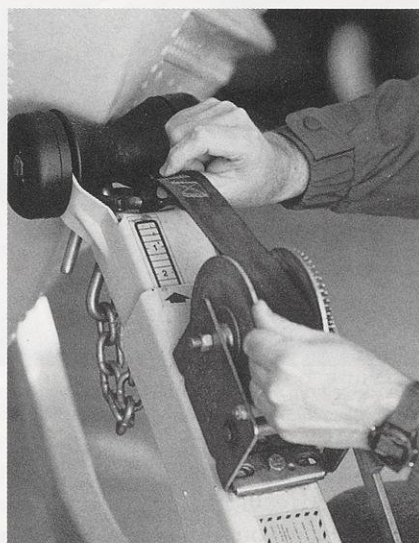
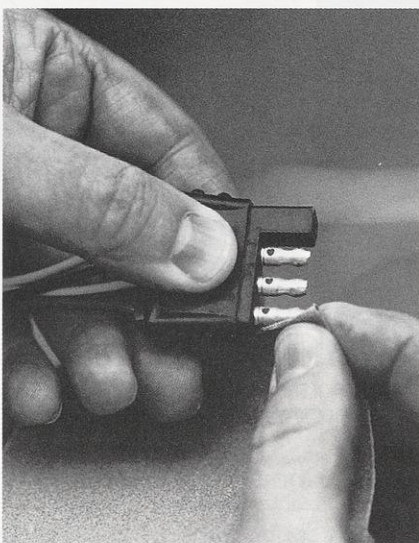
lights in his garage in April than curse at them just before a big trip. Clean off the connections, check for wear and test that the turn signals, brakes and lights are all properly in sync between your tow vehicle and your trailer lights.

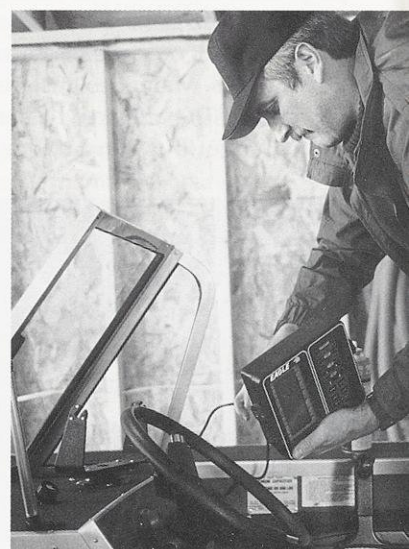
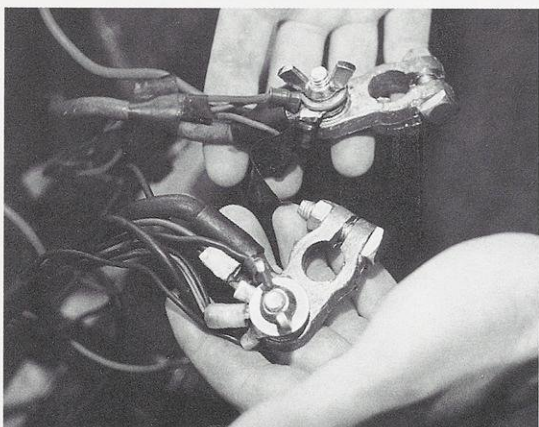
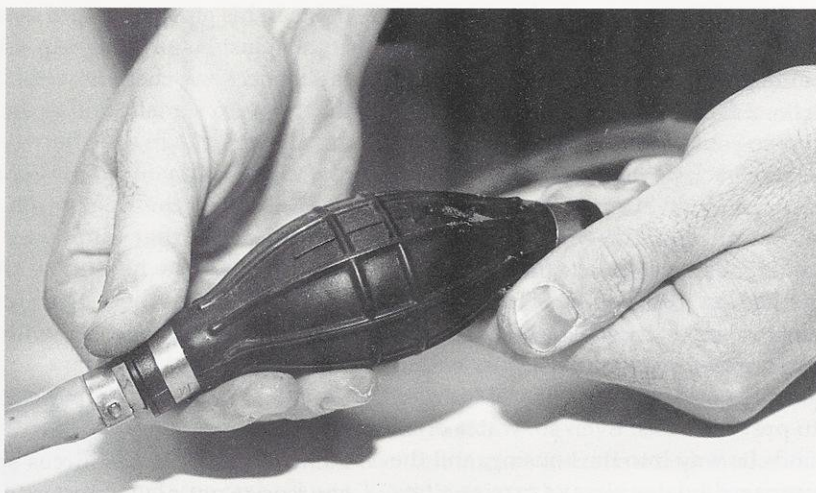
Launching the boat often means backing the trailer into water that is deeper than the wheel hubs. The hubs get darn hot as wheel bearings whirl around the chase and allow the wheel to turn freely. When you get to the launch site, particularly after a long ride, pull off to the side and let the wheels cool for several minutes while you load up gear before launching. Otherwise cold water gets drawn into the bearing as the hot hubs hit the water. This can rust up the bearings. I strongly recommend installing bearing protectors which are spring-loaded caps that

hold in grease under pressure. These protectors keep out water and grease can be pumped into the bearings through handy zirc fittings. It's a lot less work than removing the wheels and hand-packing the bearings a few times during the season.

A blowout on a boat trailer tire is real trouble. Broken axles, spilled boats and serious accidents can happen quickly. Most trailer tires blowout from old age rather than punctures. Check the tire tread, keep the tires inflated to the pressure indicated on the sidewall and inspect the tire for signs of wear. Fine cracks in the tire sidewall indicate aging, thinning tires.

Also don't overload your boat. Trailer tires (and hitches) are rated for the weight of your boat with some light gear. If you're headed out on vacation





(clockwise from above) Before the boating season, also check if life vests are cracked or moldy. Look for hairline cracks in the fuel bulb and fittings. Test your electronic gear and cables. Grease the throttle and directional controls. Check, clean and sort electrical connections to avoid shorts and fires.

and you've loaded up the boat with luggage, food, camping gear, a few bikes and a canoe, your trailer could be overloaded and a weak tire or a lightweight hitch won't handle the weight safely.

A lot of boaters forget to check the trailer tire pressure. If these tires are underinflated, they build up more heat as they rotate. This can cause the tire plies to separate. Also carry a spare trailer tire and the proper kind of scissors jack or hydraulic jack to lift a loaded trailer in case of a flat tire or blowout. And make sure that the weight in the trailer is properly loaded so only five to 10 percent of the weight of the boat, motor and trailer is pressing on the hitch (tongue weight).

Also check the safety chains from the car to the trailer and from the winch to the boat.

Your boat

Early spring is a great time to check out your boat. Check for signs of mice, raccoons, mink and woodchucks that have all been known to hole up in covered boats over winter. Start at the bow and work your way back. Inspect the hull, pulleys, carpeting and fittings. Grease pulleys and check them for signs of wear. Check and lubricate any steering cables. Move on to the electrical conduits, live well, compartments, chairs, benches, transom and the motor. This is the ideal time to enjoy the pre-boating season by installing better anchors and anchor cranking systems, improving the electrical hookups, installing rod holders, cleaning gauges, and getting your motor tuned-up for the season.

Treat yourself by attending a local

boat show. Looking at other rigs is a fun way to see new equipment and get ideas to fine-tune your boat. Pick up hints for storing or organizing your gear to keep the boat as open and spacious as possible.

Charge up your batteries, hook up the systems and check navigation lights, bilge pumps, tilt controls and your accessories — navigation systems, locators, horn and interior lighting.

Check all your lines too. Is the anchor rope frayed? Is it long enough? Are knots securely tied to the anchors? Are mooring ropes in good shape? Are all boat fenders and bumpers in working order?

Don't overlook the fuel lines. Check lines for wear and cracks. Press the fuel bulb and look for hairline cracks that indicate the rubber has dried out, has

holes or is losing elasticity. Check all metal fittings and fuel line clamps for leaks and corrosion. Put in a fresh fuel filter. Inspect your fuel tanks and cap vents. If you stored fuel in your tank over winter (not recommended), check that your fuel stabilizer worked. Open the fuel tank and smell the gas. Old gas that has separated can smell more like varnish than fresh fuel. If you have any doubts, take your fuel tank to a mechanic, marina or hazardous waste disposal site that accepts old fuel, empty the tank and start fresh.

Safety equipment

Next, check your safety equipment. Is your fire extinguisher still working and fully charged? Is your flare kit still dry? Does it need replacing? Do you have fresh batteries in flashlights and an emergency tool kit? Does your first aid kit need replenishing? How about the condition of your life jackets? Are they all pliable? Has the fabric rotted or the vinyl cracked? Are all straps and snaps in working order? Do you have enough? Have you tried them on to check that your PFDs still fit your growing family?

Your hitch and your attitude

Now that your boat has had a good once-over, check the car or truck you will use to tow the rig.

Is the ball and hitch assembly secure? Has the hitch rusted? Are the

brakes on your vehicle in good shape? If you are using a new car to pull your boat, make sure it is rated for the proper towing weight to pull your boat.

Next, check out your sporting equipment — Are your rods, nets, tackle box or skis ready for the season?

Finally, get yourself ready. Review the boating regulations and consider taking a preseason refresher course. The Coast Guard Auxiliary, the U.S. Power Squadron and the Department of Natural Resources sponsor courses to get new skippers and old salts ready for safe on-water fun. If some of your family will be operating the boat this season for the first time, consider taking a course together. If you have access to a computer with Internet connections, check out some of the boating sites. For instance <http://www.boatsafe.com>, has an excellent pre-departure checklist, suggestions for stocking a boater's tool kit and even offers online boating safety courses. And keep in touch with us at the Department of Natural Resources Web site: <http://www.dnr.state.wi.us> for up-to-date advice throughout the boating season.

So before the weather heats up and you get the urge to hit the water, take the time now to prepare for the season to keep your boating experiences safe and enjoyable. □

William G. Engfer directs DNR's boating enforcement and education programs.

Consider making or buying a simple tool kit to hold hand tools and spare parts to make emergency repairs en route or on the water.



STEVE MCLAIN



This turf battle turned ugly as a redwing took on a goose.

continued from page 2

We were feeding corn to a family of Canada geese off the pier. The dozen or so birds enjoyed gobbling niblets off the lake bottom. Obviously, the redwing felt threatened. Out of the blue, the male redwing took a stance on the sentinel cattail and unbelievably began dive-bombing assaults actually landing on a goose and plucking feathers off its back. Even an underwater swim by the offended goose failed to deter the charging redwing. That bird darn near hovered over the submerged goose waiting for the next hit. The last shot must have been a dandy as the goose swam away soon followed by all the others.

The whole battle lasted about a minute and the few-ounce "David" protected his domain from the 12-pound "Goliath." I still wonder what prompted the redwing to challenge the goose with such bold force.

After the skirmish, we were a little uneasy standing on the pier. The redwing blackbird never confronted us, maybe because we were fortunate enough to have good seats and film the battle, so the bird knew we'd bear witness to his tough stance.

Sure, it can be bitter in winter here in Wisconsin, but it got awfully hot and humid in North Carolina for months at a time. I know one thing for certain, we might quietly grumble about the weather, but no Wisconsin songbird is ever going to hear me complain about "noisy" dickeybirds; they're too tough. □

Steve McLain writes from Mukwonago.

Readers Write

SNOWY BLIND

Anita Carpenter's excellent December article, "A hunter in winter white," reminded us of an incident a few years ago.

It had been a particularly nasty winter in Muskego with excess snowfall and very cold temperatures. Early one morning, my wife was returning home from her night job at a local hospital. I had already left for work when she turned our van into the driveway which had partially filled with fresh snow. As she started up the steep slope leading to the house, a white blur appeared in front of her windshield obscuring the entire window. As my wife fought to keep control of the vehicle she realized she was looking directly into two lemon yellow eyes. This rattled her even more. She lost control of the van and spun off the edge of the drive into a high snow bank.

At that moment, the white apparition slid across the windshield and silently drifted off to one side. It was a large snowy owl that had apparently been sitting on top of a snowbank on the left side of the van before it got startled. There was no evidence that the bird was damaged and it slowly flapped its way across the street and into the woods beyond.

I arrived home that evening and my wife was still in a bit of shock over the incident. The van was extracted with some difficulty and we never saw that owl again.

Donald W. Carter
Muskego

NO WHEELS, NO NOISE

In support of Mrs. Gerlach of Salem, I add my nonsupport of ANY facility which indulges ANY fossil-fueled off-road vehicle, and this includes a couple of other junk machines — the snowmobile which runs on snow and its abominable counterpart which runs on water. The "cere-

brally challenged" should have a county, state or country of their own where they can indulge their adolescent fancies to the limit. Autos are headache enough with their attendant noise and garbage dispersal.

That fine writer Augie Derleth would be put to tears. A paragraph from his "Return to Walden West: has meaning for these people and for the Christmas tree merchants too:

"Alas. The countryside was so despoiled. Roads and verges were widened, trees cut down, and in the end the bushes were mercilessly sprayed with poisons by men too ignorant of their kinship with nature to consider the damage they wrought upon the land."

The book is worth your time.

Gordon King
Merrill

GREENER XMAS TREES

I thought "That perfect tree" in the December issue was a real positive piece of work which will give all of the Christmas tree growers something to think about.

I thought Kathy Esposito did a super job of synthesizing what I said into an effective composition. My past experience with writers has been they often take unwarranted liberties in phone interviews. That was not the case in this very nice article.

Don Carney
Rice Lake

AN OLD OUTING

What a surprise I had looking closely at the photo of the old Devil's Lake concession stand in your August article about some of the parks' friends groups. The gentleman standing on the right side wearing a cap and short-sleeved shirt is my stepfather, Stanley Romanski of Wisconsin Rapids. Standing by the trash can with her back to the camera is my mother, Katherine Andrin Romanski. We've figured that

this photo was taken in 1953 and is one we did not have in our family album. Thanks for a great magazine!

George Andrin
Blue Ridge, Georgia

A GOOD FIND

I found your magazine through visiting your Web site at the local library. I recently moved to a rural town to better appreciate all the beauty of Wisconsin. The magazine will help me in that regard.

I've also been told the state has detailed maps of lakes by county. How might I obtain a few?

Dave Dunn
Waupaca

The Department of Natural Resources surveyed lakes and produced lake maps showing shoreline features, depths and vegetation for many of the lakes that are commonly fished. These are available through our regional offices and service centers.

Several private companies have also taken these DNR-produced maps, added color, printed them on waterproof paper and added a narrative suggesting when, where and how to fish these waters throughout the year. Outdoor sporting papers also highlight different lakes throughout the year and publish versions of these DNR maps. Most sporting goods stores and bait shops carry these fishing maps and book stores sell regional collections of these maps bound in paperbacks or spiral-like notebooks.

PHOTO FIX

Two photos of loons accompanying our February 1998 story "The metal that slipped away" were misidentified. The p.19 photo of a loon holding a fish and the p.25 photo of a loon with chicks were taken by Woody Hagge, a professional photographer from Hazelhurst, Wis.

UPDATES

A June article last year described workshops for teachers who want to learn about environmental practices and history along the Mississippi. Exploring the Mississippi River workshops will again be offered to 4th–12th grade teachers from July 8–10 for a cost of \$50. For registration information, call Mike Ripp at (608) 996-2261 or Jeff Janvrin at (608) 785-9005. Registration deadline is May 1st.

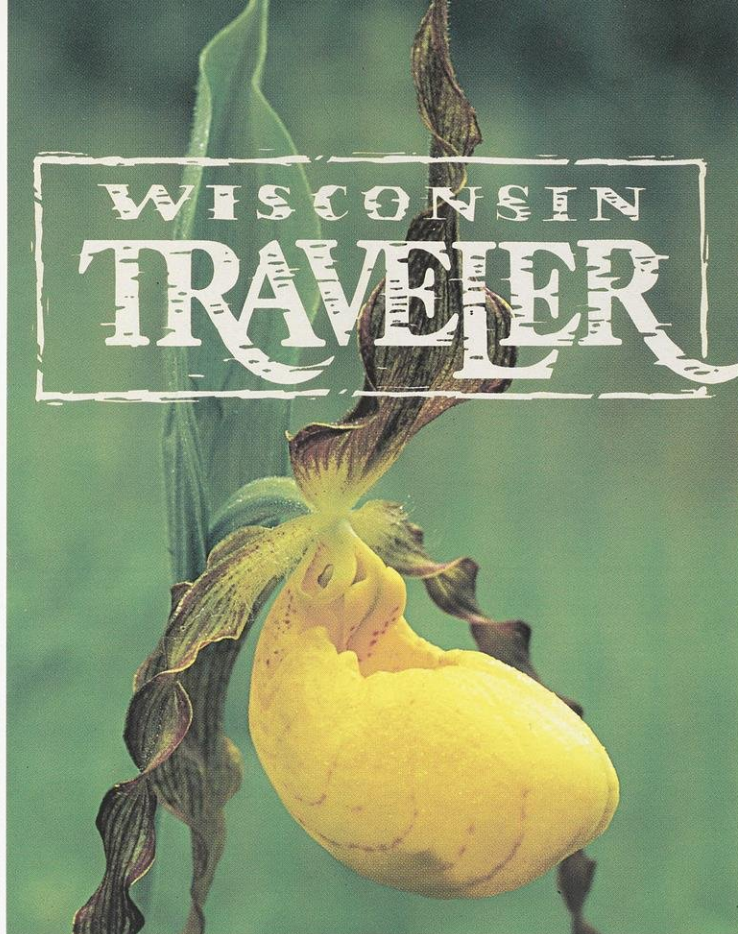
Progress continues to construct a lake schooner, Wisconsin's first tall ship. To date the masts are squared, the keel is laid, 47 frames of the hull are up, the stem, stern, and transom are in place. Deck beams are laminated and the planking is being milled.

When completed, the 137-foot schooner will sail Lake Michigan holding 200 passengers for dockside visits, 146 passengers for day sails and 42 passengers for overnight voyages. The Wisconsin Lake Schooner will be a floating classroom where visitors can learn about Great Lakes history, culture and environment and experience the adventure of life on a tall ship.



MILWAUKEE LAKE SCHOONER

WISCONSIN TRAVELER



Yellow lady's slippers and large-flowered trilliums will soon bloom!



SCOTT NIELSEN

must wait until fall, when you can pick your own fruit, then savor a sweet-tart cherry cobbler and hear the gratifying crunch that only comes from biting into a crisp, blushing Northern Spy.)

Many Door County communities hold special events during the blooming month of May. Contact the Door County

for a listing. For additional information, call Ridges Sanctuary, Baileys Harbor (920) 839-2802; Newport State Park, Ellison Bay (920) 854-2500; Peninsula State Park, Fish Creek (920) 868-3258; Potawatomi State Park, Sturgeon Bay (920) 746-2890; Whitefish Dunes State Park, Sturgeon Bay (920) 823-2400; or Rock Island State Park, (920) 827-2235. □

Chamber of Commerce in Sturgeon Bay at (920) 743-4465

Flowers on stage

If, after a long winter, the cynic in you is thinking "April snows bring May woes" instead of "April showers bring May flowers," TRAVELER suggests a visit to Door County as a seasonal attitude corrective.

Come spring, the county ringed by 250 miles of Green Bay and Lake Michigan shoreline blossoms into colors both delicate and bright as hundreds of wildflowers, ornamentals and fruit trees begin to bloom. The show goes on until late fall, but the best time to experience the floral performance is late April through the entire month of May, Door County's **Festival of Blossoms**.

More than one million daffodils (including a special white-and-apricot variety called the "Doorfodil") raise their buttery heads to the sun as April winds down. The arresting yellowtops soon give way to the subtler pleasures of cool white large-

flowered trillium blanketing forest floors and shaded roadsides in early May. Together, starflower, bunchberry, jack-in-the-pulpit, wild columbine and yellow lady's slipper, to mention just a few, make up a lively supporting cast. Catch the wildflowers on stage at the five state parks in the county (Peninsula, Potawatomi, Newport, Whitefish Dunes, Rock Island) or at the **Ridges Sanctuary**, a wildflower preserve designated as a National Natural Landmark.

The sweet scent of apple and cherry blossoms announce the arrival of mid-May, when the county's famous orchards take center stage. Door County is the third largest red tart cherry producer in the nation, and also raises one of Wisconsin's largest apple crops. Thousands of fruit trees in flower never fail to delight the senses — two of which, sight and smell, can be satisfied immediately. (The other three

Pony up

Trails for hikes, trails for bikes, trails for 'bilers, trails for skiers: Wisconsin has them all, including an extensive network of paths and byways available primarily for the enjoyment of the two-headed, six-legged

recreationist. If that description fits you, snap up a copy of "Horseman's

Guide to Wisconsin Trails," the sixth edition of a trail directory published by the **Wisconsin State Horse Council, Inc.**

Organized by county, the guide lists nearly every place in the Badger State where horses and their riders can trot off into the sunset. Covering federal, state, county and private trails, the guide features trail maps and useful information on assorted horsey amenities at parks and campsites, such as hitching rails, slip stalls and corrals. (Bring your own oats.)

The "Horseman's Guide to Wisconsin Trails" will set you back about as much as a bar of saddle soap. Send \$6 to the Wisconsin State Horse Council, 32 South Luddington Street, Columbus, WI 53925. Or call (920) 623-0393.



ROBERT QUEEN

Get yer giddap guide.

Wisconsin, naturally

MCGILVRA WOODS STATE NATURAL AREA

Notable: A striking display of spring wildflowers rewards visitors to this 65-acre maple-basswood forest. More than 110 plant species have been recorded here including showy species like spring beauty, toothwort, wood phlox, hepatica, nodding trillium and several orchids. At its finest in May, when blooming flowers and migrating warblers bring a dazzling array of color to Sauk County.

How to get there: from the junction of highways 12 and 136 in West Baraboo, go south on 12 one mile to County Trunk W. Go west on W 3¼ miles to Fairview Road. Turn north on Fairview and park. The natural area lies east of the road. Gazetteer: p.35, grid A5.

