



## **Wisconsin natural resources. Vol. 19, No. 2**

### **April 1995**

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# WISCONSIN

## NATURAL RESOURCES

April 1995 \$3.00



Keep a natural calendar  
Warm weather field trips  
Catching walleye: understand the odds  
Plan your travels with a new highway map

Meet this stealthy,  
nighttime prowler.

*Anita Carpenter*

Under cover of darkness, a secretive little bird migrates through Wisconsin in late fall. Its wings are silent. Its voice is quiet — not even a chip note to draw attention to itself. During the day it shuns bird feeders and shrubs laden with the last fall fruits. It doesn't scratch the ground searching for seeds or fill the treetops looking for insects. This bird roosts quietly and unobtrusively in the dense foliage of an evergreen.

After darkness descends, the bird becomes more active, secretly migrating through the forest. This eight-inch powerful ball of fluff is a northern saw-whet owl. Few people see saw-whets, but we know they are here because the tiny owls get entangled in mist nets deployed at several hawk-banding stations along Lake Michigan.

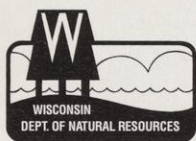
"Cute" defines the saw-whet (*Aegolius acadicus*). It's the smallest owl in Wisconsin. Its solemn gold-yellow eyes seem disproportionately large on small reddish facial disks. Under a fluff of reddish-brown breast feathers and white-spotted, brown back feathers is a diminutive 3.8 ounce frame — about the weight of a king-sized candy bar.

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SAW  
WHAT  
OWL?

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# WISCONSIN NATURAL RESOURCES

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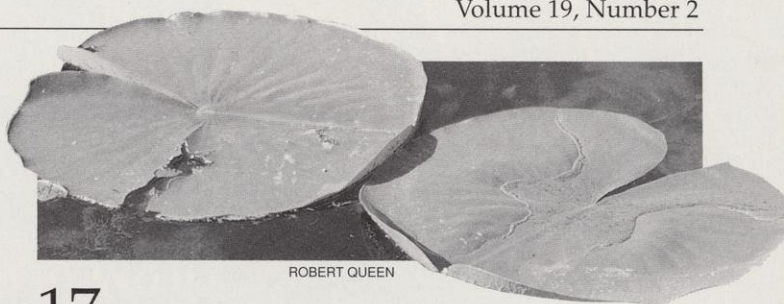
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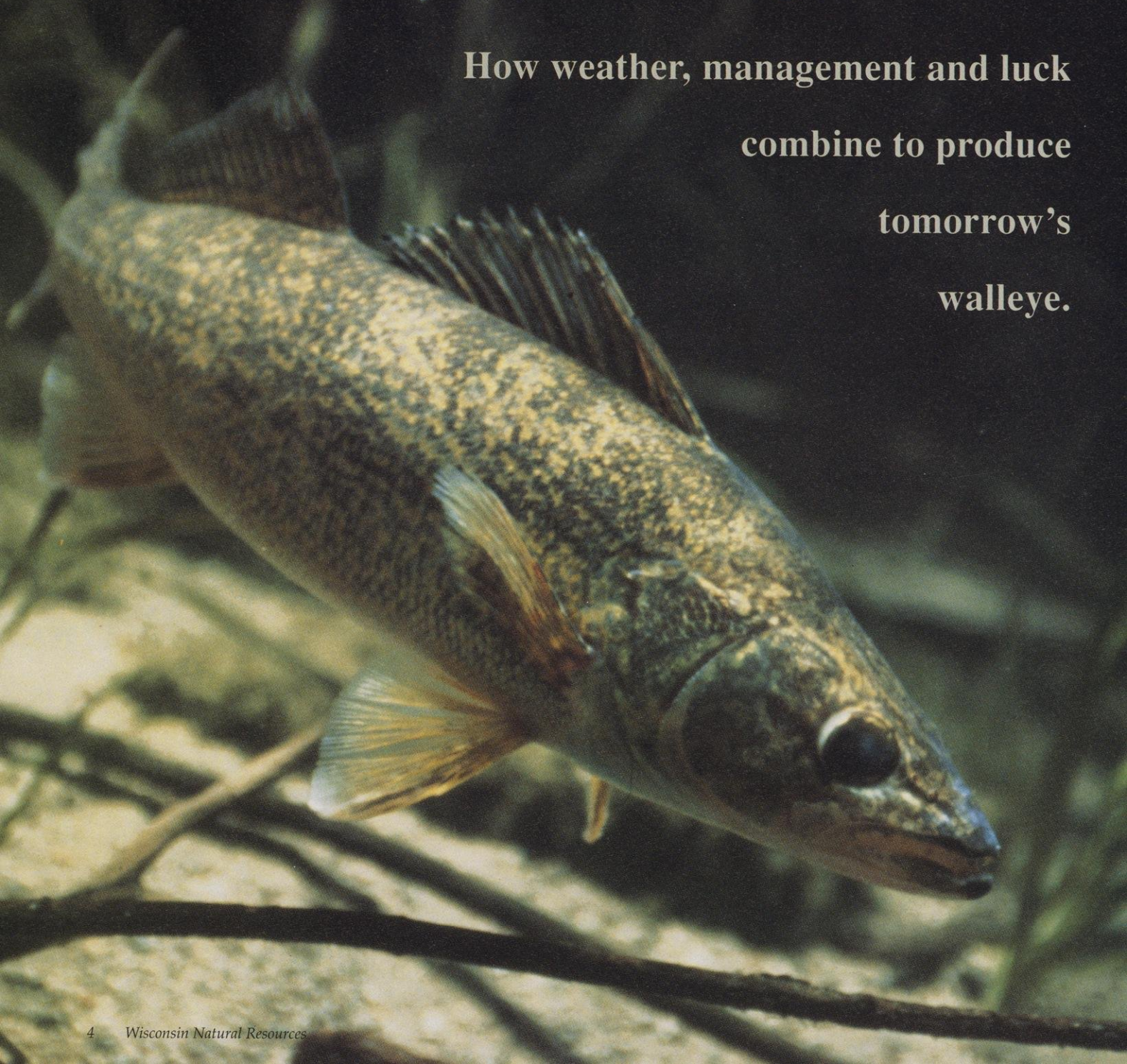
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# Walleye:

How weather, management and luck  
combine to produce  
tomorrow's  
walleye.



# A GAME OF CHANCE

Steve Hewett and Tim Simonson

**T**he walleye is arguably Wisconsin's most popular game fish. More highly prized for its taste than its fight, it is often an elusive predator. While not as difficult to catch as the larger and rarer muskellunge, finding and outsmarting the walleye is the favorite sport of many Wisconsin anglers.

Throughout the Midwest, the walleye is often a controversial target because its populations vary in boom and bust cycles that are similar across several states. Since walleye typically take four years or more to mature, populations recover from low swings in their numbers very slowly. Anglers and fisheries managers often expect fishing to be fairly consistent from year to year, but that is rarely the case with walleye.

Walleye are top predators native to large river systems and connected lakes in the upper Midwest. In the Great Lakes, walleye are common in the large, shallow bays of the deeper lakes and throughout shallower Lake Erie. Stocking programs have modified and expanded the walleye's range in Wisconsin waters. Naturally reproducing populations now thrive throughout the state, particularly in the larger lakes and flowages. Walleye are found in 1,000 of our nearly 15,000 lakes — seven percent of the lakes, but 60 percent of the total lake acreage.

They are also common in 3,200 miles of Wisconsin's rivers.

The natural history of walleye differs from water to water, but four habitats with very different characteristics are easily distinguishable in Wisconsin: inland lakes, large rivers, the Lake Winnebago system, and Green Bay. Walleye habits vary in these distinct habitats and so should your fishing strategies.

## The year-class lottery

In the walleye reproduction game, the odds of having a big payoff of young walleye are pretty slim, so slim that on average only one year in four or five is successful; but that's all it takes to maintain a fishery, if harvest is not excessive.

Walleye typically spawn at night, soon after ice-out, over gravel or rock in shallow areas of rivers or lakes. Spawning peaks when water temperatures are between 42 and 48° F. In Wisconsin, this is generally mid-April to early May. Spawning season in southern Wisconsin is about one to two weeks ahead of northern Wisconsin. Males move into the spawning sites first and will spend up to three weeks or more in the shallow, rocky areas. Females move into the spawning areas only when they are ready to breed, then immediately move back into deeper water after spawning.

Walleye do not build nests or protect their young. Instead they typically

broadcast eggs over the rocky shallows. Within the first hour after fertilization, the eggs adhere to each other and to the bottom. Each female lays thousands to hundreds of thousands of eggs, depending upon her size. If the water warms to the upper 50's, then the eggs may hatch as soon as seven or eight days after spawning. If water temperatures remain in the 40's, hatching may take three weeks.

Young walleye begin feeding on small plankton within three days of hatching. By summer, the young are eating insects, then other fish as they grow. Survival through their first year of life depends on the timing of spring warm-up. The cooler the weather, the slower the hatching and growth.

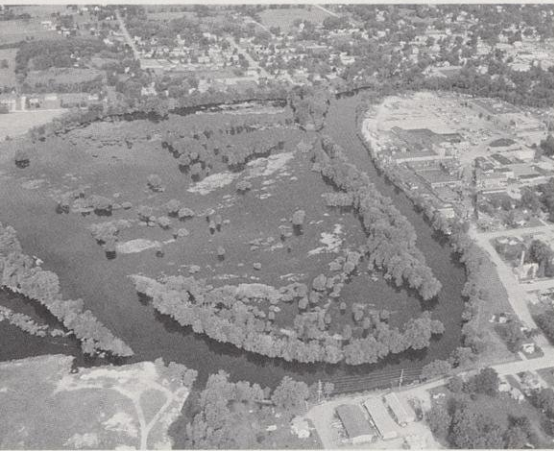
Delayed hatching brings a greater chance that severe weather may disturb or destroy eggs. Slower growth also means the fish spend a longer time as small meal-size food for crappie, bass or other walleye. In the race to survive, those walleye that first grow large enough to feed on other fish gain a tremendous advantage over their siblings. If the young are still small or slender by fall, the odds of surviving their first Wisconsin winter are low.

The group of young that hatch and grow during a particular year are often referred to as a "year-class." Most populations of adult walleye are made up of relatively few year-classes. Many years do not "pull off" a successful year-class. Very strong year-classes, when many young walleye survive,

Walleye must beat stiff odds to reach catchable size in 2½–6 years.

can provide excellent fishing for years to come.

In large river systems like the Mississippi, Fox, and Wolf, survival of young is directly related to spring water levels. Unlike lake walleye, river walleye spawn in flooded bottom



DNR PHOTO

In rivers, walleye often spawn in marsh grasses that flood each spring. It's a precarious time. Waters that rise or fall too quickly can either wash away fertilized eggs or leave them high and dry.

areas. Too heavy a spring runoff or floods will wash out many spawning sites (as happened in 1993). On the other hand, if water levels recede too rapidly during spring thaw, eggs and young fish will be stranded and die.

Weather conditions often determine success for walleye and the fish they eat. When we see a good year-class in one body of water, we often see a good year-class in other similar or close bodies of water.

Rivers in a given area may not show the same pattern as local lakes. Walleye reproducing in the Lake Winnebago system, for instance, are extremely dependent on timing and level of spring floods. These fish migrate as far as 100 miles upstream on the Wolf and Upper Fox rivers to traditional spawning marshes. These river bottom marshes usually dry in the summer but flood when snow melt causes the rivers to overflow their banks in the spring.

Eggs are laid on the flooded marsh grasses so they won't settle into the silty bottom of the marsh. Water flowing across these marshes keeps the eggs oxygenated, and carries the newly hatched walleye from the marsh to the

river before the receding spring flood waters again dry up the marshes.

Drought conditions may hit Lake Winnebago and many river systems especially hard. Man-made changes in water level through dams or impoundments can also wreak havoc because they can be out of sync with the walleye's life cycle. Dams may also block the run to the best spawning areas.

Even when large numbers of walleye survive to their first fall, there's no guarantee they will still be around when they are large enough to be caught by anglers. Survival over the winter is difficult the first year or two of life. Small walleye are eaten by a variety of predators. A good year-class will not appear in the angler's catch for three to four years, and a lot can happen.

## Those that mature quickly beat the odds

Walleye grow and mature more quickly in warm, fertile waters and more slowly in northern lakes or more sterile waters. Growth also depends on abundant prey species and limited predators. Wisconsin walleye have been growing especially well in the Mississippi River. Lake Winnebago walleye historically grow slowly, but an explosion of gizzard shad populations from 1989 to 1991 provided an ample supply of very nutritious food. Now, shad numbers appear to be returning to previous levels, and walleye growth has moderated the last few years.

Males mature between two and five years of age; females at four to seven. Females grow faster than males, particularly after the first two years of life. On average, walleye reach a size of 15 inches and weigh about a pound in four years. In southern Wisconsin's fertile lakes, walleye as young as 2 1/2 years old may be 15 inches while in northern waters, walleyes may be six or seven years old before reaching 15 inches.

Relatively few walleye survive to reach their teens. Fish between 25 and 32 inches long are usually 12 to 17 years of age.

## Escanaba Lake: An outdoor laboratory for walleye

Escanaba Lake, in Vilas County, is a unique system for studying walleye populations. In this research lake in the Northern Highland Research Unit, every fish taken by anglers is counted, measured, and identified by researchers.

Walleye were introduced here early in the 1930s and quickly became the dominant predator in the lake. Since the early 1950s, the numbers of adult walleye have been estimated nearly every year. Since every fish taken by anglers is accounted for, the study lake has provided a wealth of information on many aspects of walleye biology and angler behavior.

## Catch and harvest: the big payoff

The best times of the year to catch walleye are spring and fall when walleye feed actively and grow quickly. The walleye's eye is especially adapted to finding prey in low light, when most prey species are most vulnerable. The most common feeding times are dawn and dusk, although walleye may feed around the clock. Increased daylight and warmer temperatures in mid-summer often reduce active feeding, but don't cut short your fishing time on an overcast day.

The large river systems — the Mississippi, Wisconsin, Wolf, Fox and Rock — are open to year-round fishing, but 50 percent of the annual catch on rivers is taken in March, April and October. More fish are caught in spring but the catch rate (number of fish per hour) is much, much higher in the fall because large river systems have abundant spawning habitat but are often difficult to fish in the fast spring water. Anglers overcrowding some of the hotter fishing spots cause both social and biological pressures on river walleye.

Walleye are finicky fish and can be difficult to catch. However, it is a great thrill to hit those times when schools of large walleye are on the prowl and feeding. Surveys of northern Wisconsin anglers tell us it takes three to five

hours to catch a walleye, 25 hours to catch a musky, 105 minutes to catch a smallmouth bass, and 75 minutes to catch a largemouth bass. Remember that these numbers include all anglers who are fishing for a species, even the beginners who are rarely successful. Avid anglers and guides do much better.

Angling pressure can change the makeup of a lake's walleye population. Advances in fishing techniques and gear, including fish finders and accurate lake maps, lead anglers to selectively remove more larger fish.

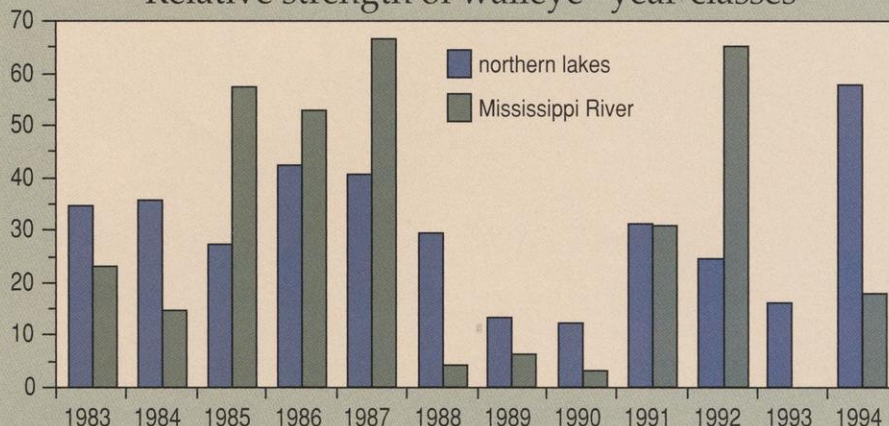
### In the manager's deck

We've used four kinds of regulations to manage walleye — minimum length limits, so fish mature and reproduce before they are kept by anglers; daily bag limits to reasonably restrict the number of fish an angler takes from a lake; season closures to protect fish when they are most vulnerable; and stocking, to introduce walleye into waters where they may survive and thrive.

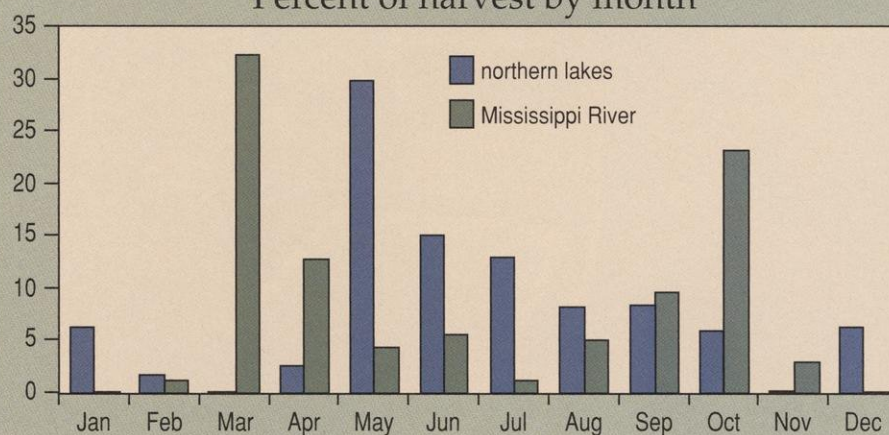
Stocking can also create walleye fishing in lakes lacking suitable spawning habitat to maintain a population. Stocking these aggressive predators can also control stunted panfish populations. Populations that are maintained entirely through stocking provide good fishing, but those fisheries are quite different from lakes where walleye reproduce naturally. The densities of adult walleye in stocked lakes average between two and three per acre compared to four to five in natural lakes. It also takes on average twice as long to catch a walleye in a stocked lake, compared to a lake where the fish naturally reproduce.

Minimum length limits have proven most effective for reducing harvest and allowing more fish to survive to an older age. However, they may not be suitable for all waters and populations. Bag limits are less effective as a management tool because very few anglers catch more than one to three walleye per trip anyway. About half of all anglers that catch walleye during a fishing trip catch only one walleye.

### Relative strength of walleye "year-classes"



### Percent of harvest by month



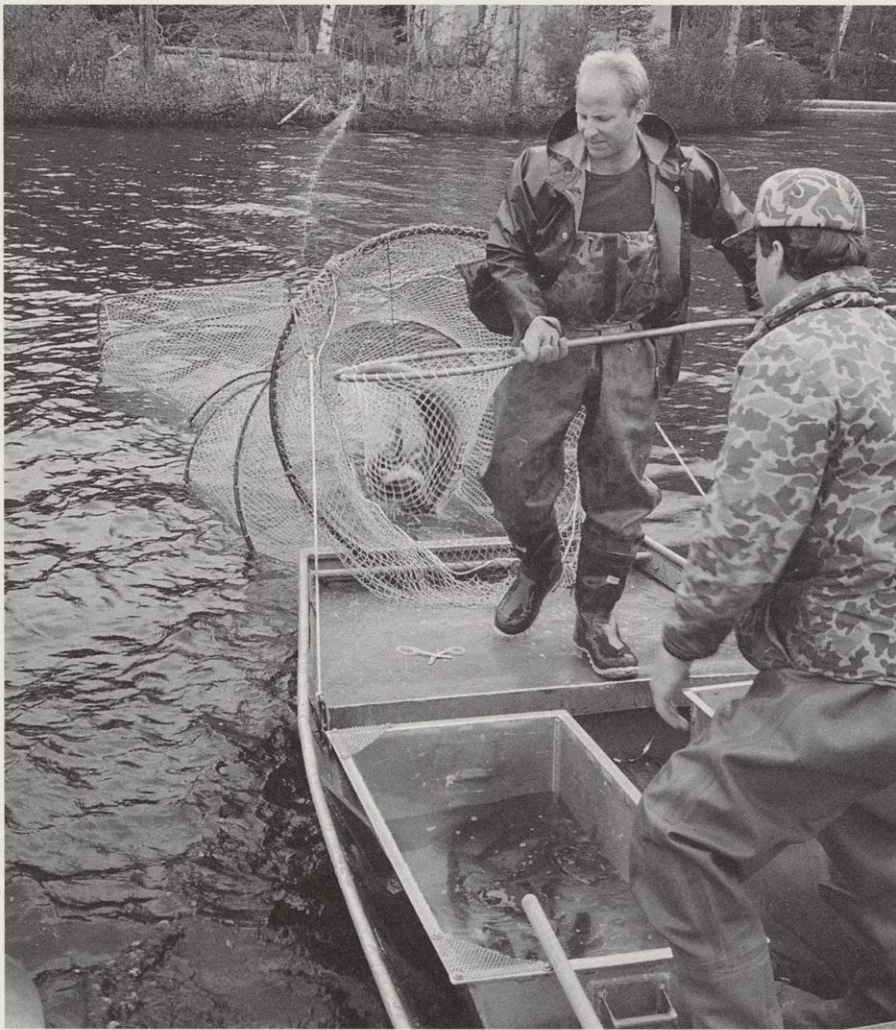
(top) Walleye populations are highly variable. Since young fish take about four years to reach keeper size, fall population surveys predict the next few years should provide better fishing along the Mississippi River before lakes show a strong comeback in 1998.

(middle) May, June and October are key times to fish for walleye.

(below) Spring sampling, creel surveys and re-sampling each fall help fisheries managers estimate walleye population changes.



RON TELLOCK



STEVE GILBERT

By capturing, marking and releasing walleyes in spring, managers estimate walleye abundance and the effects that fishing and spearing have on walleye populations.

## Gauging the numbers

The Department of Natural Resources, the Great Lakes Indian Fish and Wildlife Commission and other agencies annually gauge the walleye populations in northern Wisconsin by estimating the numbers of adult fish each spring and the relative number of young fish each fall. Sampling the shoreline with electroshocking boats effectively estimates the number of five- to seven-inch fish and gauges potential success of the current year-class. Surveys over the past 10 years are giving fisheries managers a picture of the population and an outlook for fishing in the coming years.

The fall surveys show that 1986 and 1987 were very good years for walleye reproduction in northern Wisconsin lakes and the Mississippi River. Fish

hatched in those years have been a staple for walleye anglers in many inland northern lakes. Drought conditions from 1988 through 1990 caused poor reproduction. Over the past seven years, 1994 was the first year to have as good or better reproduction than 1987 for most inland lakes. If this 1994 year-class remains strong, it will provide good fishing beginning in 1998 or 1999. Given the recent pattern, walleye fishing in Wisconsin lakes may get a little worse before it gets better.

Why does the Winnebago chain seem different? Low water and poor timing prevented walleye from entering the marsh areas to spawn all four years from 1986 to 1989. High water beginning in 1990 produced four fairly strong year-classes from 1990 to 1993, with 1991 producing the greatest number of young. While 1994 was a very

good year on inland lakes and moderately successful on the Mississippi, it was not a successful year in the Winnebago system. Winnebago went through the recent low cycle a few years ahead of other Wisconsin waters. While Winnebago currently has fewer walleye between 17 and 20 inches long, the more recent year-classes have produced abundant 15–16 inch walleye. The present and near future looks very bright for walleye fishing in the Winnebago system.

## Betting on the future

Habitat loss and increased fishing pressure will continue to drive walleye management. The Bureau of Fisheries Management is currently evaluating walleye fishing with a committee of fisheries biologists, anglers, fishing guides, resort owners, fishing club members, and others. An angler survey was sent out last fall to learn how anglers perceive the current quality of walleye fishing, fishing opportunities and their reactions to different types of regulations. A draft plan will be written this spring and a series of public meetings are planned for late spring and summer to gather comments.

Effective walleye regulations must recognize the natural variation in walleye fisheries. Anglers also need to accept this natural variation as normal. Fish management may reduce the depths of the population dips, but we can't remove the variation nature produces.

The annual fishing game of chance will soon start again just off the shores of Wisconsin's lakes and rivers. There is no secret regulation that will turn Wisconsin's walleye fishing around without restricting angler harvest. There will simply never be enough walleye to meet the astounding demand for this marvelous fish. We need to protect larger fish and their habitat to build up Wisconsin's fisheries. □

*Steve Hewett and Tim Simonson are fisheries biologists with DNR's Bureau of Fisheries Management in Madison who specialize in studying walleye populations.*

# LOG CABINS

## of the Kettle Moraine



Two log cabins dating from before the Civil War provide a glimpse of the lives of Wisconsin's European settlers.

*Ron Kurowski*

**T**he campsite ethic requires you to carry out all that you carry in, and to leave no trace of your passage. And for many people, the outdoor experience is defined as much by the absence of traces of the passage of other people as it is by the presence of nature. At first glance, then, it might seem inappropriate to restore homes found on state forest lands, as we recently did at the Kettle Moraine State Forest-Southern Unit.

But what if the homes were log cabins built before the Civil War? And what if the cabins were made with timber that began growing before the Declaration of Independence was signed?

The campsite ethic is an admirable code of conduct for wilderness preserves. But the Kettle Moraine State Forest is not a virgin wilderness; the area was farmed for 100 years before it became a state forest in 1936. Surely the log cabins, so deeply evocative of vanished lives, enrich rather than detract from the visitor's experience. People, after all, are part of nature.

Human history and natural history are more tightly intertwined than we



The Gotten cabin before restoration.

sometimes realize. One of the log cabins we restored was made of tamarack logs from the Scuppernong Marsh, a vast wetland area that once lay west of the forest. Stuffed between the logs we found sphagnum moss that had also been gathered in the marsh. Today much of the marsh has been drained. Although isolated wet prairies and sedge meadows can still be found, the tamarack swamps have largely disappeared. The Kettle Moraine cabins speak of lost ecosystems and a forgotten intimacy between people and the natural world.

### The Gotten cabin

The Southern Unit of the Kettle Moraine State Forest is ringed by a 23,000-acre boundary strip, within which the Wisconsin Department of Natural Resources is authorized to bid on properties listed for sale. In 1987 the department acquired a piece of land about one mile west of the town of Eagle. On this land was a dilapidated old shack that had not been used for many years. We knew it was a log cabin because some of the siding had fallen off, revealing logs underneath, but we had no idea whether the cabin was 30 years old or a hundred. Forest visitors considered the forlorn, ramshackle structure an eyesore and urged us to tear it down.

We wanted to find out more about the cabin's history first. We consulted experts at the State Historical Society, looked up old land deeds and talked to people in the area. After some digging we learned that the cabin was built by Henry Gotten, a Prussian immigrant who came to America with his wife, Barbara, in 1845. The Gottens

RON KUROWSKI

bought the land on which they constructed the log cabin about 1855.

Now that we knew what we had, we were determined to preserve it. Intact pioneer cabins are rarely found in the highly developed southeastern part of the state. The log cabins at Old World Wisconsin, the outdoor museum south of Eagle operated by the State Historical Society of Wisconsin, are imported from other parts of the state.



Each culture brought distinct construction techniques. The chinking, corner design and log arrangement in the Gotten cabin typify German building methods.

The Gotten cabin is a typical example of German log cabin construction. It is made of white oak logs, which were probably cut on the surrounding hills and brought to the site by oxen. Between the logs is white-lime mortar, called chinking, that was made by

crushing and burning limestone and mixing the dust with water.

The restoration was done by Eagle Restorations, a local firm that specializes in such work. The logs were numbered and disassembled, the hole was cleaned out, a new foundation was poured, and the cabin was rebuilt log by log. Although the building was in poor condition, the logs were in good shape, and only about 15 percent of them had to be replaced. There was probably fabric or glass in the windows when the cabin was in use, but we put up wooden shutters to thwart vandals.

The cabin is about 20 feet square — about the size of a large room in a modern house — and there is a loft under the gabled roof. There was no evidence of a stone fireplace; the Gottens likely used a cast-iron stove for heating and cooking. The roof was covered with wooden shingles. The Gottens probably obtained their drinking water from a beautiful spring-fed stream running 30 feet to the south of the cabin. The 50-degree water might also have served as an ice box; a later owner built a stone crib in the stream for this purpose.

Most of the Kettle Moraine is marginal farmland, and the Gottens had not chosen a particularly fertile site. The homestead is on what was then the edge of the Scuppernong Marsh, where the soil is sandy and of poor quality.

In 1860, according to the U.S. Census, the Gottens had three children and 80 acres of land, of which 30 had been cleared. They also owned two walking oxen, one milk cow, four other cattle and four pigs. Henry Gotten was farming his 30 acres with \$25 worth of implements, including a plow, a drag, a scythe, and a flail. In 1859 his crops included 70 bushels of wheat, 90 bushels of rye, 40 bushels of Indian corn, 55 bushels of oats, 45 bushels of Irish potatoes and 25 tons of hay — which was probably prairie grass or marsh hay free for the taking. His milk cow produced 129 pounds of butter

Very little is known about the Gottens after 1860. Gotten sold the property at some point, but the family must



When the Fardys lived there, they attached a kitchen wing to the back.

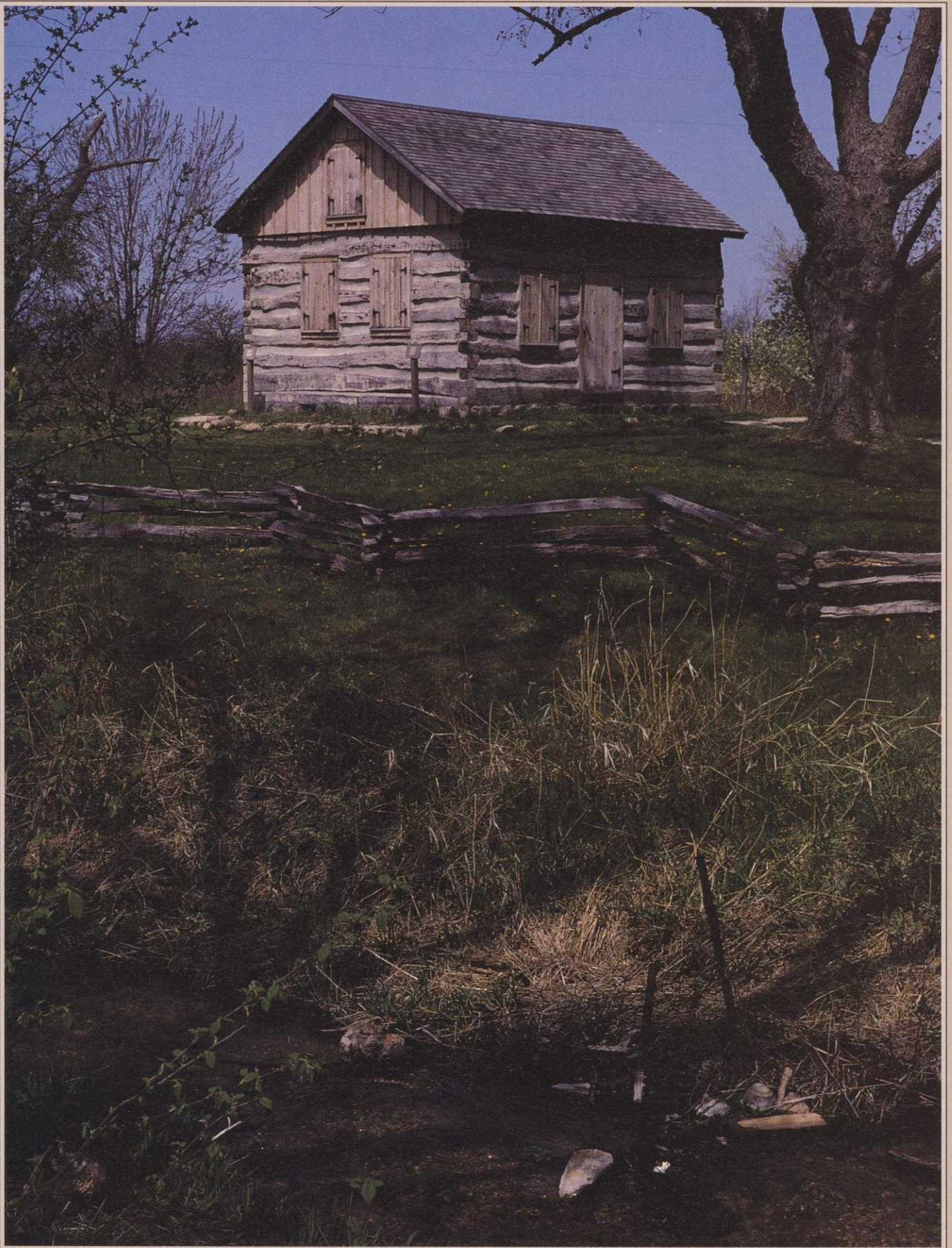
have stayed in the area, because both Gottens are buried in St. Theresa's Cemetery in Eagle. According to the tombstone, Henry died in 1890 at the age of 82; no date of death is given for Barbara.

The property was owned the longest by Lawrence and Sarah Fardy, who lived there from 1883 to the early 1920s. Eleanor Larson, a granddaughter of the Fardys who now lives in Whitewater, Wis., remembers visiting the cabin in the early 1900s. Eleanor's grandmother told her many stories about her life there, but the one Eleanor remembers best is about a Native American woman. One night a large group of Native Americans camped on the far side of the stream. The next day, while Eleanor's grandmother watched from the window, the band broke camp and departed, leaving one woman behind. Thinking she might need help, the grandmother walked over to the campsite. The woman was about to give birth. The grandmother assisted her in her labor and washed the newborn in the stream. A short time later, the woman wrapped her baby, mounted her horse and left to join the others.

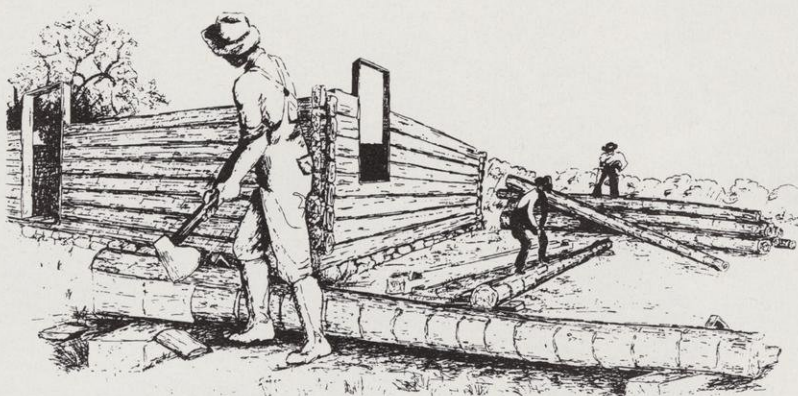
## The Oleson cabin

We were working on the Gotten cabin when David Shouder, who was then acting superintendent of the Ket-

The restored Gotten cabin is across from the Paradise Springs Nature Trail. Both Gotten and Oleson cabins are open on State Park Open House (first weekend in June) and during Kettle Moraine days in the fall.



RON KUROWSKI



tle Moraine, stopped by and mentioned that the maintenance crew had found more logs at another farmstead the department had recently bought about five miles south of Palmyra. I ran over that afternoon and started ripping clapboard off the farmhouse. I could hardly believe what I saw. Here was another log cabin, of a quite different style, made with exquisite craftsmanship and in superb condition.

It turned out that only a small section of the farmhouse was made of logs; the rest had been added at a later date. I called the people who had owned the home last to see what they could tell me about the house's history, but they said they had no idea they had been living in a log cabin. They had merely noticed that the house was rather dark on one side.

Research revealed that this cabin had been built in 1846 by Ole Oleson, a Norwegian immigrant. Then we had a stroke of luck. In 1934 the La Grange Ladies Aid Society had published a book on La Grange pioneers. The book included a long article by Julie Oleson Tice, Ole Oleson's daughter, about the history of the family and the farmstead.

Ole Oleson came to America in 1846 from Hiterdal, Norway, with his wife, Anlang, his mother, and his infant daughter. They crossed the Atlantic in what his daughter called a "sailship." The arduous journey took 10 weeks, during which one of the exhausted passengers suggested that the captain cut the trip short and let them land in Greenland. The captain refused and continued to New York.

The Olesons crossed the state of



The large farmhouse that contained the Ole Oleson Cabin. The two-story cabin (on the right side) was enclosed in boards when the farmhouse was expanded.

New York by means of mule-drawn canal boats on the Erie Canal. They then traveled by sail through the Great Lakes to Milwaukee. From Milwaukee, they traveled by ox team to the La Grange area, where they purchased 80 acres of land from the U.S. Government for \$1.25 an acre.

The Olesons chose a section of land in what was called the Skoponong Settlement, where Ole's brother, Mathias, and other Norwegians had settled. The name was probably borrowed from the Indian name for the vast wetlands west and north of the town of Palmyra. In the earliest maps of the area the river near Palmyra is identified as the "Scupernong," and "scupernong" or "scupernong" is thought to have meant wet, swampy land.

The soil at the Skoponong Settlement was dry and sandy. The Olesons had chosen land even worse than that selected by the Gottens, settling on what was essentially a big sand plain. Julie Oleson Tice wrote: "The choice of this light sandy soil in time was discovered to be a mistake. However, it responded well to cultivation at first. The best land in La Grange had already



Grooved notching kept Scandinavian-designed cottages sturdy and tight.

been taken. But a short distance west on Koshganong prairies rich farming country could have been had for the same price — \$1.25 an acre."

The Norwegians, like many other homesick immigrants, had been seduced by landscapes resembling their homeland. According to Julie Oleson Tice, "The Scandinavians were attracted by woodlots, meadows, springs and running brooks, so much like their native land, rich in natural scenery. To be near relatives and others speaking the same language was also an inducement."

The Oleson log cabin, which is a full two stories and measures 18 feet by 24 feet, is made almost entirely of tamarack logs (the north and south base logs are oak). The logs came from the Scupernong Marsh, and some of them are giants compared to the few remaining tamarack trees. By counting



RON KUROWSKI

The restored Oleson cabin lies along the Ice Age trail that traverses the state forest.

the growth rings on one of the larger logs, we determined that it dated from 1755; the tree was roughly a hundred years old when Oleson felled it.

The Oleson cabin is built in what is called the Scandinavian style. Each log has a groove corner notch that locks it in place much as do the notches on Lincoln logs. On its underside each log also has a concave groove, called a Scandinavian long groove, that allows it to straddle the underlying log. The logs are so tightly seated that a piece of paper cannot be shoved between them. The craftsmanship is remarkable, considering the simple tools Oleson used, such as the broad ax and adze. Huge purlins, or horizontal timbers, support the rafters. Their presence suggests that the original roof may have been sod. A root cellar lined with limestone boulders could be reached through a trap door in the first floor.

The cabin has one feature we didn't immediately recognize. In the modern farmhouse there was an interior stairway that led to the second floor of the log cabin, which served as an upstairs bedroom. At first we assumed that the door to this bedroom must have been cut when the addition was built. But

when we began to tear the addition down, we uncovered evidence that we were wrong.

To hold the logs around windows and doors, V notches had been made in their cut faces, and strips of oak had been pounded into these notches. Because the notches extended the length of the second-story doorway, we knew that the opening was original and that it had always been a doorway rather than a window.

We now think that at one time an enclosed porch and exterior stairway led to this door. Such a design, called a *svalgansture* in Norway, was used by Scandinavian settlers. Some have suggested that the purpose of the *svalgansture* was to provide separate access to the second story, where farm equipment and grain may have been stored. The second story of the Oleson's cabin must soon have been converted to bedrooms, however, because the Olesons raised nine children here.

In 1850, according to the U.S. Census, Oleson had 30 acres under cultivation and owned an additional 50 acres listed as unimproved land. He owned two milk cows, two oxen, two other cattle, and three pigs. He grew 80 bushels of wheat and 10 tons of hay

and produced 150 pounds of butter. The Oleson farm stayed in the family until the 1890s, growing eventually to 120 acres. Ole Oleson died in 1875, but his wife, Anlang Halvor, lived until 1893.

## Homesteads from history

The Gotten log cabin was opened to the public in the spring of 1991 and the Oleson log cabin in the spring of 1992. I sometimes wonder what Henry and Barbara Gotten and Ole and Anlang Oleson would have thought had they known that their log cabins would one day become historic sites. Considering the great love the pioneers often had for their homes and land, I suspect that they would have been mighty proud to know they had left behind a trace of their passage.

Because of budget constraints, the restoration of the cabins was funded privately rather than by the state. The restoration of the Gotten cabin was made possible by a grant of \$20,000 from the Irvin L. Young Foundation, a local philanthropic organization. This grant was an act of faith by Mrs. Fern Young, the foundation's president, who asked me politely after touring the site whether I was absolutely certain the cabin really could be restored.

For the Oleson restoration, Mrs. Young personally contributed \$7,500, and we also received contributions from children in the Mukwonago Public Schools, the Herbert H. Kohl Charities, the Kettle Moraine Natural History Association, Mr. Donald Reed, and Ms. Anna Holton. David Weizenicker, director of Wisconsin's state parks, arranged for state funds to match every dollar donated. We are grateful to all of these contributors, without whose help the buildings would almost certainly have been sold for salvage. Finally I would like to thank DNR Park Naturalist Janet Pettersen, who researched the census statistics for the Gotten and Oleson farms. □

*Ron Kurowski, naturalist of the Kettle Moraine State Forest's Southern Unit for 23 years, never ceases to be amazed at the natural and historical features continually being discovered in the forest.*

# In time for an outing

It's field-trip weather. Book a day trip with us to walk, talk and dive into an issue.

Barb Barzen



Exploring the Brule River State Forest on a guided tour.

Five minutes. Can I get just five minutes of your time? Take a look at these 31 trips and please consider joining us. Whether you want to see wildlife, stroll through prairies, trace Wisconsin history, visit a new place, or learn about environmental protection, there are trips here for you. Just pull out your calendar and send in the trip reservation card. Most of these outings are free, though a \$5 donation to defray printing and postage costs would be appreciated.

The Natural Resources Foundation of Wisconsin is pleased to sponsor field trips that give you the opportunity to meet DNR employees, learn about the variety of tasks we undertake and see the techniques we use to protect and restore resources. The Foundation is a nonprofit organization that underwrites educational programs, and restoration and management activities to sustain Wisconsin's natural resources. Some trips are designed to bring you eye-to-eye with wildlife. Some will introduce you to things you didn't know about Wisconsin, like where to see native cacti (trip #20). Other trips will explain how common things work, like trip #6 where you will see how sewage is treated and

disposed so it won't become a health hazard. Some trips take you behind the scenes on environmental investigations. Perhaps those will interest parents and children who are considering environmental careers. Or maybe you are just curious about the technology and techniques we use to stem pollution.

History buffs, note trips 10, 11, 13, 19 and 21 which explore remnants from Native American culture and early European settlement.

Please notice that the trips are listed in chronological order from outings that start in late April through early October. Also note that the trips are listed by number. Even though the registration deadline is one week prior to the trip date, some excursions fill up much more quickly. Many trips can only accommodate a limited number of people and all trips will be reserved on a first come-first served basis.

Please use the form on the attached card to mail in your reservations. List the trips by number and date, and please tell us how many people are in your party. Those registering for trips which list a fee or enclosing a donation should include their check, payable to the Natural Resources Foundation of Wisconsin. All costs listed are per-person fees.

Return the reservation card to: Field Trips, Natural Resources Foundation, P.O. Box 129, Madison, WI 53701. Enclose a stamped, self-addressed return envelope so we can confirm your trip and forward directions and other relevant information to each party. Also please list a daytime phone number so we can contact you with any questions about your reservation.

Questions about these trips? Call us at the Natural Resources Foundation office, (608) 266-1430, between 8 a.m. and 4 p.m. Monday through Friday.

*Barb Barzen provides staff services for the Natural Resources Foundation in Madison.*

## **1** Prairie Chicken Booming and Radio Telemetry Study at the Buena Vista Marsh

Friday evening presentation on prairie chicken behavior/ecology. Saturday pre-dawn observation of prairie chicken mating dance, breakfast discussion and field demonstration of radio telemetry study of prairie chickens. WHEN: April 21, 7:00-9:00 p.m. and April 22, 3:30

a.m.-noon WHERE: Central Wisconsin Environmental Station, Amherst Junction LEADERS: Todd Knepfel, Jim Keir LIMIT: 20 COST: \$35

## **2** State Laboratory of Hygiene Tour

See how the State Laboratory of Hygiene analyzes environmental samples from fish, sediment, sludge, water and hazardous waste. WHEN:

April 22, 1:00-2:00 p.m. WHERE: Stovall Building, UW-Madison campus LEADERS: Ron Arneson, Bill Sonzogno LIMIT: 20

## **3** Remediation Case Study — Malleable Iron Range Company in Beaver Dam

Explore this case of industrial contamination of land, the clean-up process, legal and financial issues

involved. Slide presentation and on-site visit. WHEN: April 29, 10:00 a.m.–2:00 p.m. WHERE: Horicon DNR Office, N7725 Hwy. 28, Horicon LEADERS: David Edwards, Mark Putra LIMIT: 75

#### **4 Management of Streambank Erosion: Story Creek in Green County**

Inspect and discuss how trout stream damage from cattle grazing can be controlled and restored. Hands-on activities will demonstrate healthy versus degraded streams. WHEN: April 29, 1:00–4:00 p.m. WHERE: Northern Green Co. LEADER: Topf Wells LIMIT: 20

#### **5 Managing Woodlands for Wildlife**

For private landowners and others interested in managing woodlots for game and nongame wildlife. Timber cutting and silvicultural techniques will be discussed and demonstrated.

Trip #8 — Romp in the swamp looking for frogs, birds and plants at the restored Patrick Marsh near Sun Prairie.



NATURAL RESOURCES FOUNDATION OF WISCONSIN

WHEN: May 6, 10:00 a.m.–1:00 p.m. WHERE: Navarino Wildlife Area, Shawano Co. LEADERS: John Huff, Lynn Ackley LIMIT: 25

#### **6 Wastewater Treatment and Collection in Mt. Horeb**

Learn how municipal sewage is collected, treated and managed by visiting the Mt. Horeb collection system, treatment plant and discharge site. WHEN: May 13, 8:00 a.m.–noon WHERE: Mt. Horeb LEADER: John Melby LIMIT: 16

#### **7 Trout Management and Stream Shocking Demonstration**

Wisconsin's rolling coulee region has beautiful trout streams and a colorful history. Visit regional trout streams, discuss programs to improve stream habitat program, and see the shocking truth of how trout populations are estimated. WHEN: May 13, 10:00 a.m.–noon. WHERE: Coon Valley, Vernon Co. LEADER: David Vetrano LIMIT: 60

#### **8 Patrick Marsh — A Glorious Wetland Restoration**

Explore this 160-acre marsh, which was drained in the early 1960s, farmed for nearly 30 years and restored in 1992. Search for birds and nests, tadpoles, aquatic insects, plants and much more. WHEN: May 20, 10:00 a.m.–noon WHERE: Sun Prairie LEADER: Alan Crossley LIMIT: 30

#### **9 Exploring Mississippi River Resources**

Learn how pleasure boating, barges, canals and dredging affect the river's teeming aquatic life. Travel the river by boat to look at different habitats, projects and mussel beds. WHEN: June 3, 10:00 a.m.–4:00 p.m. WHERE: Potosi, Grant Co. LEADER: Brian Brecka LIMIT: 20

#### **10 The Wisconsin Lead Region**

Learn about lead mining in southwest Wisconsin during early 1900s. Take a bus tour of reclaimed mines,

proposed clean-up sites, an open shaft and other historic sites. WHEN: June 3, 10:00 a.m.–3:30 p.m. WHERE: Shullsburg, Lafayette Co. LEADER: Bill Webber LIMIT: 40 COST: \$5

#### **11 "People of the Dunes" Archaeological Dig**

Learn about archaeology of the Whitefish Dunes State Park area through a slide presentation of two digs conducted in 1986 and 1992. Visit the 1992 dig site. WHEN: June 10, 11:00 a.m.–noon WHERE: Whitefish Dunes State Park, Door Co. LEADER: Dr. Victoria Dirst LIMIT: 60 COST: Sticker or entrance fee at state park

#### **12 Bong State Recreation Area: Explore and Enjoy!**

Hear a slide talk about the history of the Bong Recreation Area, followed by a hike through prairie, wetland and woodland. We'll identify plants and do some outdoor experiments. WHEN: June 10, 9:00 a.m.–1:00 p.m. WHERE: Bong Recreation Area, Kenosha Co. LEADER: Beth Goepfinger LIMIT: 25 COST: Sticker or entrance fee at state park

#### **13 Tour of Buckhorn and Roche-A-Cri State Parks**

Visit petroglyphs, Carter Creek "boom" coves, Roche-A-Cri mound, Castle Rock Flowage, and a "sand blow" in these parks. WHEN: June 17, 10:00 a.m.–2:30 p.m. WHERE: Adams/Friendship, Adams Co. LEADER: Joe Stecker-Kochanski LIMIT: 30

#### **14 Natural Resource Aeronautics — A View From Above**

See aircraft and equipment used for animal and forestry surveys, telemetry of wolf movements, fire detection and suppression, aerial photography, and law enforcement operations. WHEN: (a) June 17 or (b) September 9, 9:00 a.m.–noon WHERE: Four Lakes Aviation, Truax Field on Highway 51, Madison LEADER: Greg Stacey LIMIT: 30

## 15 Trumpeter Swan Recovery Program — Crex Meadows

See wild trumpeter swans with cygnets on a beautiful marshland. Learn about trumpeter swan ecology and efforts to restore them in Wisconsin. WHEN: June 24, 9:00 a.m.–noon WHERE: Crex Meadows Wildlife Area, Burnett Co. LEADER: Lisa Hartman LIMIT: 30

Trip #15 — Herald trumpeter swan recovery.



DNR BUREAU OF ENDANGERED RESOURCES

## 16 Havenwoods State Forest & Its Many-Legged Residents

Get an introduction to Wisconsin's urban state forest and learn about its insect residents — a program the whole family will enjoy. WHEN: July 8, 10:00 a.m.–noon WHERE: Havenwoods State Forest, Milwaukee LEADER: Jackie Scharfenberg LIMIT: 50

## 17 Hayward State Nursery Tour

Learn about growing trees from seed to sprout for forestry, wildlife and environmental protection. WHEN: July 8, 10:00 a.m.–noon WHERE: Hayward LEADER: John Borkenhagen LIMIT: 50

## 18 Avoca Prairie-Savanna State Natural Area — The Largest Tallgrass Prairie East of the Mississippi

Hike through part of the 970-acre prairie. Learn about prairie management and plant identification. Enjoy a picnic lunch on the bank of the Wisconsin River. WHEN: July 15,

9:30 a.m.–1:00 p.m. WHERE: Avoca, Iowa Co. LEADERS: Mark Martin, Scott Weber LIMIT: 30

## 19 Preserving the 1673 Look — the Lower Wisconsin River Today

Learn about the management and history of the Lower Wisconsin Riverway while canoeing from Sauk City to Ferry Bluff. WHEN: July 15, 10:30 a.m.–3:00 p.m. WHERE: Sauk City LEADERS: Dave Gjestson, Wayne Schutte, Mark Cupp LIMIT: 40 COST: \$8 per person, if renting canoe.

## 20 From Desert to Wetland — Lone Rock Prairie

Hike from dry sandy prairie where prickly pear cactus and rare poppy mallow are found to a slough where cardinal flowers grow and sandhill cranes nest. Discuss the protection and management of these areas. WHEN: July 22, 10:00 a.m.–1:00 p.m. WHERE: Lone Rock, Richland Co. LEADER: David Kopitzke LIMIT: 15

*continued on page 17*

Trip #19 — Float the ribboned resource and learn how partnerships are preserving a wild look along 92 miles of Wisconsin River shoreline.



NATURAL RESOURCES FOUNDATION OF WISCONSIN

continued from page 16

## 21 Battle of Wisconsin Heights Restoration — Blackhawk Ridge Recreation Area

Take a walking tour throughout historic battle site, oak savanna restoration, pre-historic mound site, and hilltop where Black Hawk directed the 1832 battle. WHEN: July 22, 1:00–4:00 p.m. WHERE: Blackhawk Ridge Recreation Area, Sauk City LEADERS: Dave Gjestson, Wayne Schutte LIMIT: 30

## 22 Weekend at Perrot State Park

Bike, bird, and hike the Great River State Trail, visit an active archaeological dig, watch birds at the Trempealeau National Wildlife Refuge and hike through Brady's Bluff Natural Area. WHEN: July 29 & 30, 1:00 p.m. Saturday–noon on Sunday WHERE: Perrot State Park, Trempealeau Co. LEADERS: Phil Palzkill, Lois Isaacson LIMIT: 25 COST: Sticker or entrance fee at state park. Call 608/534-6409 early to reserve a campsite.

## 23 Prairies of Navarino Wildlife Area

Take a wagon ride through the native prairies of the wildlife area to learn about prairie ecology and management. WHEN: August 13, 1:00–4:00 p.m. WHERE: Navarino Wildlife Area, Shawano Co. LEADERS: John Huff, Lynn Ackley LIMIT: 25

## 24 Plant Injury and Ozone — Is There a Connection?

Visit Chiwaukee Prairie, Kenosha Dunes and the UW-Parkside campus, where the influence of ozone on plant growth and leaf injury are being studied. WHEN: August 19, 9:00 a.m.–noon WHERE: Kenosha LEADER: Ed Jepsen LIMIT: 15

## 25 Collins Marsh Wildlife Area: Wetland and Grassland Wildlife and Habitat Management

Tour the wildlife area by car and foot to learn about wetland management and restoration, grassland restoration and waterfowl banding.

WHEN: August 19, 10:00 a.m.–3:00 p.m. WHERE: Collins Marsh Nature Center, Manitowoc Co. LEADER: Jeff Pritzl LIMIT: 40

## 26 Beach and Dune Hike at Whitefish Dunes State Park

Learn about the rocky cliffs and sandy beach, formation of the highest dunes on the western shore of Lake Michigan, and dune flora and fauna, which include five threatened plant species. Hike to "Old Baldy," a 93-foot dune. WHEN: August 26, 9:00 a.m.–noon WHERE: Whitefish Dunes State Park LEADER: Ginny Haen LIMIT: 30 COST: Sticker or entrance fee at state park



NATURAL RESOURCES FOUNDATION OF WISCONSIN

Trip #26 — Hike the sandy shore and craggy cliffs along Whitefish Dunes, Door County.

## 27 Prairie Communities of the Driftless Area

Visit three prairie types in the unglaciated region of southwestern Wisconsin. Learn prairie ecology and plant identification. WHEN: August 26, 9:00 a.m.–4:30 p.m. WHERE: Perrot State Park, Trempealeau Co. LEADER: Deborah Konkel LIMIT: 20

## 28 Protecting Water Quality as Our Cities Grow — The Lowes Creek Project, Eau Claire

Visit sites in the Lowes Creek Watershed where we can show some innovative techniques used to minimize the effects of urban growth on water resources. We'll discuss stormwater management, construction site erosion controls and conservation easements. WHEN: September 16, 9:00 a.m.–2:00 p.m. WHERE: Eau Claire LEADER: Ron Struss LIMIT: 30

## 29 Bitzke Refuge Hike and Waterfowl Survey — Marathon Co.

Hike a two-mile trail through the refuge and help wildlife biologists

take an autumn waterfowl survey. WHEN: September 27 WHERE: Bitzke Waterfowl Refuge, Marathon Co. LEADER: Mike Winski LIMIT: 25

## 30 Chippewa Area Trails Tour

Learn about development and usage of the Chippewa River, Red Cedar, Old Abe and Buffalo River recreational trails. WHEN: September 30, 9:00 a.m.–4:00 p.m. WHERE: Eau Claire & Chippewa Co. LEADERS: Jean Rygiel, Jim Janowak, Karen Shepard LIMIT: 30

## 31 Spawn Till You Die — Salmon Fisheries in Lake Michigan

Visit two salmon rearing and egg collection facilities in Door Co. to learn about management of coho and chinook salmon in Lake Michigan. WHEN: October 7, 10:00 a.m.–2:00 p.m. WHERE: Sturgeon Bay LEADERS: Paul Peeters, Mike Baumgartner LIMIT: 30

# A TIME *for every* PURPOSE *under* HEAVEN



SCOTT NIELSEN

SCOTT NIELSEN

Tracking nature's cycles  
can be a satisfying and  
reassuring pursuit.

Gregory K. Scott



SCOTT NIELSEN

Your phenological diary can help you catch nature's peaks — goose migration, milkweed in blossom or Bohemian waxwings on the move.

In days gone by, recollecting the dates of certain natural occurrences might have made the difference between seeing wildflowers in the spring and becoming the dirt pushing those daisies up each May. Survival depended on being aware of food-related events — when the wild rice was ready for harvest, or

when the salmon were running.

Today, a variety of annually repeated natural phenomena are observed and made note of by outdoor enthusiasts with a less pressing but equally enthusiastic interest in nature's cycles.

Phenology deals with the relationship between climate or seasons and related periods of biological activity.

After mispronouncing the term for several years, I learned that phenology is a completely different from phrenology — the practice of determining a person's character and mental faculties from the shape of the skull. I now have my head bumps and seasonal humps straightened out.

Phenologists concern themselves





SCOTT NIELSEN

The diminutive, but beautiful, vermillion waxy cap mushrooms (*Hygrocybes miniata*) reach peak color in late summer.

with the changes and movements of animals and plants in relation to weather and seasonal changes taking place in their surrounding environment. For example, the date of arrival of the first bluebird in spring might be a typical entry in a modern-day phenologist's notebook. Another might be the first observation of a flashing firefly in summer.

## A time to reap, a time to sow

Farmers have applied phenological knowledge and folklore to their decisionmaking for ages. A farmer's decision on when to sow his grain or tend his crops often was based upon the observance of natural phenomena like bird migrations, emerging native vegetation or the appearance of certain insects. One old agricultural saying stated:

*When elm leaves are as big as a shilling,  
Plant kidney beans, if to plant 'em  
you're willing.*

*When elm leaves are big as a penny,  
You must plant kidney beans if you  
mean to have any.*

Budding entomologists may want to note when the ichneumon wasps (*Megarhyssa lunator*) lay their eggs.

Farmers noted the conditions of plants and trees from year to year. Thick husks on ears of corn, grape leaves that turned yellow early, and unusually large crops of nuts and acorns were signs of a hard winter to come.

Morel mushroom hunters in my area of north central Wisconsin say that when developing oak leaves are the size of a squirrel's ear, it's time to sneak out to their favorite picking spots in search of the fungus.

## Following phenology

We moderns have "evolved" to the point that many of us track the changing seasons by noting whether or not reruns are playing on TV. Although

First ice is a dicey, fruitful time to fish. Also note air and water temperature.



DON BLEGEN

most of us are at least vaguely aware of the first occurrence of certain events of nature, like hearing the first spring peeper call or seeing the first skein of geese heading south, we seldom bother to compare notes from one year to the next.

Still, a growing number of people are starting to keep track of nature's cycles as an enjoyable hobby. Perhaps in keeping tabs on nature, one gains a sense of security and reassurance that everything is as it should be; the cycles of life are proceeding on schedule. Plus, phenological pursuits can be enjoyed by people of all ages. My whole family participates in our recordkeeping, and we have a friendly competition to see who gets to enter various events on our ongoing list.

I suspect that most hobby phenologists desire to be outdoors and in touch with nature more than they want to make a concerted effort to faithfully record natural events. For the casual observer it may be no more than remembering from year to year the arrival of the first robin of spring or the first ice of fall. But some sort of recordkeeping is an important part of the ritual, and for many enthusiasts collecting and compiling accurate phenological data is a major part of the fun.

Phenological recordkeeping can be

## Phenology fanciers

Want to compare notes with other nature observers? The 300 members of the Wisconsin Phenological Society faithfully collect phenological data over a three-state area. The data are compiled and used for study and the publication of scientific reports.

For a \$2 annual membership fee, you'll receive a regular bulletin of past phenological events and have the opportunity to submit the dates of everything from pussy willows in bud to your first mosquito bite of '95. To participate, write the Wisconsin Phenological Society, c/o Prof. Frank D. Bowers, Biology Department, College of Letters and Science, University of Wisconsin-Stevens Point, Stevens Point WI 54481-3897.

as simple as maintaining a notebook that lists a few favorite seasonal events or as involved as using computer software to track a whole plethora of events. I must admit that I've fallen into this latter grouping. Using a computer program called "Life Cycles," I've compiled and computerized years of data that I can tally, tweak and compare at the push of a button. Serious phenologists follow specific guidelines regarding the collection of data they will use for detailed analysis. But for those pursuing phenology as a hobby, any interesting subject or event of a recurring nature is admissible.

### What to record?

Like the farmers of old, I use phenology to make decisions. I'm an avid bird watcher and I don't like to miss the annual return of my favorite species. I observe and record the dates on which various bird species arrive in my area, register the dates of courtship and mating rituals, and make note of the dates that different species are singing, nesting, congregating for fall migration, etc. Then, when I plan birding outings, I refer to my previous years' phenology lists to decide when the prime time for a given event is likely to occur and schedule accordingly.

As a gardener, I like to keep track of things such as the last frost or the opening of the first tulip blossom for future reference. When the onions were planted or when I harvest my first tomato are also useful bits of information.

What I can't grow, I gather. So I record the date that I find my first morel mushroom and note when the wild blueberries, raspberries and blackberries have ripened. Bluegill and walleye spawning dates are also important in MY phenological listings!

As a photographer and nature enthusiast, I list a large variety of phenological events that I observe from year to year and use my observations to help plan trips for various outdoor activities. Scanning previous years' lists, I know when to schedule a visit to a nearby prairie chicken dancing ground or when to photograph the fall woodlands when they are at their peak colors. I know when to start watching for new fawns of the year or expect to see fox pups romping around the entrances of their dens. I even keep track of the emergence of insects like black flies, deer flies, mosquitos and ticks. (These pesky species are some of the easiest on which to get accurate data, because they come to you when they are available for cataloging.)

### To everything there is a season

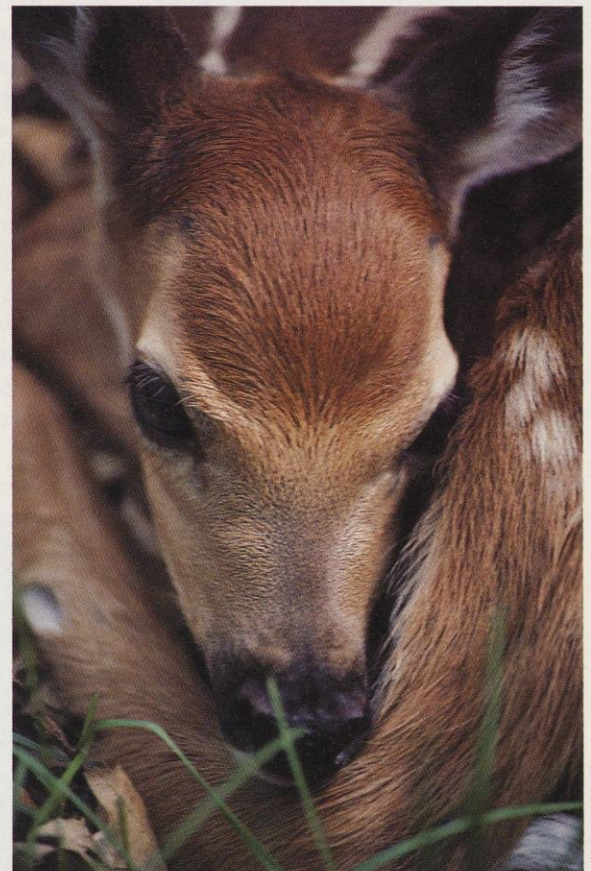
Parts of the country having sharply defined seasons are best suited for

phenological pursuits because of the distinct periods of biological activity and dormancy. Dates of particular events vary from year to year due in part to inconsistent seasonal weather patterns.

Because of a phenomenon known as Hopkins' Law, they also vary from location to location. Andrew Hopkins was an entomologist working for the U.S. Bureau of Entomology in Washington D.C. in 1918. Based upon his observations, Hopkins concluded that from place to place any given phenological event differs by four days for every degree of latitude. Further, it differs one and one quarter day for each degree of longitude and one day for each hundred feet of altitude.

So according to Hopkins' Law, someone living on a high bluff in the northeast corner of Wisconsin could expect that spring will arrive three or four weeks later than someone living in a valley in the southwestern part of the state. Not surprisingly, since they rely on seasonal vagaries as well as the

When and where did you see those spotted fawns? Keep a record!



ROBERT WALLEN

imperfections of human observation, the principles of Hopkins' Law and phenology itself are not absolute. But the dates of many cyclical events are extraordinarily consistent. The swallows of San Juan Capistrano, Calif., and the vultures of Hinckley, Ohio are world-renowned for their consistent return dates.

My own observations over the past

years reveal a surprising consistency to the spring return dates of various species. Great-crested flycatchers and rose-breasted grosbeaks have returned to my area for the last seven years with a variance of only nine days. The blossoms of hepatica have shown their lavender petals in our woodlot within a 13-day span over the last eight years.

Phenological records made at the

same general location from year to year are the best for making serious annual comparisons. Not only are you comparing apples to apples (or at least their flowering dates), but you are more likely to know where to look within your area for particular events to occur. For example, if you know that migrating ducks first show up in the open waters below a local dam and

You might track when the black raspberries are at peak flavor, but hide your notes leading to the secret patch.



DON BLEGEN



GARY F. MARTIN

Ice-out on the Pike River. Snow melt and flood time can provide dramatic photos as the season changes, tree buds swell and your world quickly greens up.

you consistently monitor that area for new arrivals, your data is going to be more accurate than if you keep relocating from one town to the next.

Biology isn't the only legitimate subject of phenological study. For instance, I note when my driveway culvert thaws in spring. That's part of the appeal of this venture: You can track whatever events interest you.

Although our sheltered and secure lifestyle doesn't require as close a synchronization with the patterns of the biosphere as did the uncertain existence of our ancestors, getting in touch with phenological events is still a worthwhile, healthy and enjoyable form of entertainment. Not only will you reap benefits from being active and outdoors, but you'll be gathering useful information and learning something about nature's life cycles as well.



*Nature photographer Gregory K. Scott, whose images regularly appear in Wisconsin Natural Resources, can be found watching the hepatica bloom (and the culverts thaw) from his home in Gilman, Wis.*

## Computing the cycles

To speed his phenological recordkeeping, Greg Scott designed Life Cycles, a simple computer software program based on dBASE IV, a well-known database management package. After the phenological information is entered into the computer, it can be manipulated alphabetically, by date, by a single species or by groups of species.

Here's what a Life Cycles "statistics report" on bloodroot looks like:

### Bloodroot — flowering

Earliest	April 7
Latest:	April 28
Average:	April 19
First recorded:	04/20/85
Last recorded:	04/26/94
Frequency:	10



DON BLEGEN

Bloodroot leads other ephemerals into Spring.

(Translation: Greg has been observing the dates bloodroot flowers for 10 years. He made his first entry in April of 1985 and his most recent entry in April, 1994. During those 10 years, the earliest he's seen bloodroot flower was April 7; the latest was April 28. The average gives a clue as to when he should start looking for bloodroot to flower in the future.)

If you'd like more information about Life Cycles software, write:

Justice Associates Niche Software  
Life Cycles Division  
W14437 Hookers Road  
Gilman WI 54433

Jack Ward Thomas, Chief of the U.S. Department of Agriculture's Forest Service, visited Madison last November to tour the Forest Products Laboratory, meet state resource managers and participate in a technology conference.

Thomas became the Forest Service's 13th Chief in December 1993. His appointment was controversial, especially among forest professions who viewed his selection by the White House as "political" because other recent chiefs had risen through the ranks of the government's executive leadership training.

He earned a B.S. degree in wildlife management from Texas A & M University, an M.S. in wildlife ecology from West Virginia University, and a Ph.D. in forestry from the University of Massachusetts. Thomas built a long career in conservation leadership. He served as president of the Wildlife Society in 1976–1977, and has won a number of conservation and forestry awards including the Wildlife Society's Aldo Leopold Medal and the National Wildlife Federation's Conservation Achievement Award for Science.

Thomas achieved national recognition for his work in the Pacific Northwest. Months before his appointment, he led the team that developed options to resolve the spotted owl controversy based on the best scientific evidence available.

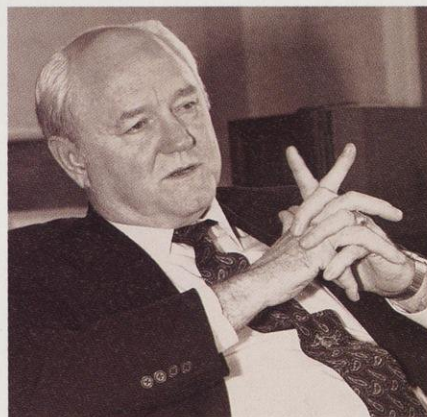
During his visit to Madison, Thomas spoke with reporters Lisa Gaumnitz from the DNR and Erin Bosch from the Forest Products Society.

# Seeing the FORESTS and the TREES

An interview with Forest Service Chief Jack Ward Thomas.

Lisa Gaumnitz

**Q. Both national and state governments are examining ways to "reinvent" how they deliver services. Looking at models proposed to reinvent the Forest Service, what struck me was some of the mandates to put customers first. Who do you think your customers are?**



Thomas: The public sees itself as both customer and owner of national forests.

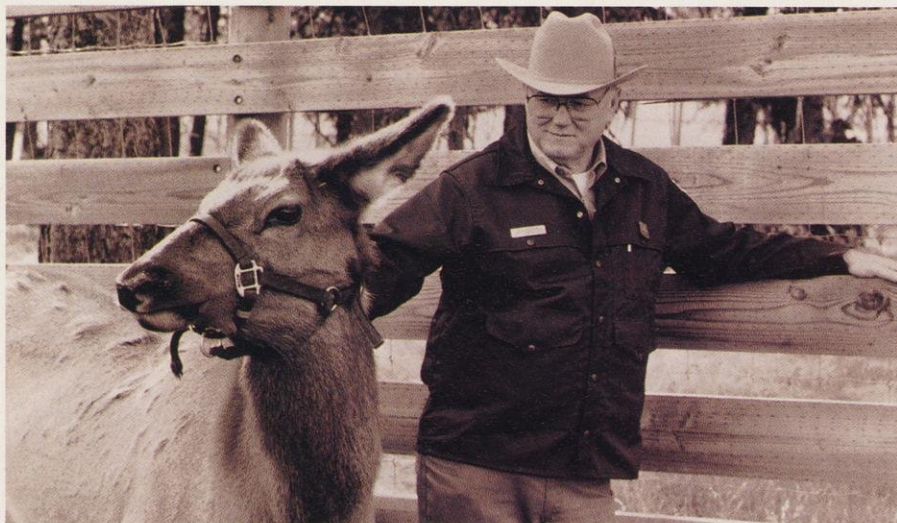
**A.** We held focus groups around the country to talk to people about our reinvention and learn what they wanted. Right up front, people were certain and clear

about one thing: they didn't consider themselves our customers. Rather, they considered themselves the owners, and they wanted us to recognize that. Second, they wanted us to understand that the vast majority of the customers or owners haven't been born yet. Those two things were fairly dramatic.

But we do have customers. We have people that use our campgrounds, hunt on the national forests, float rivers and drive highways. We have people we sell timber to and we have grazing permittees, so we have customers.

**Q. The other word that came up a lot was stakeholders. Are you thinking of logging companies?**

**A.** A stakeholder is anybody who has any stake in the outcome of a decision. It includes permittees — people who get grazing rights, people who buy timber, people who work in the woods, or hunt. It also includes those who live in the local community and are affected by what we do and what the woods look like. It's pretty nebulous, because somebody who lives, say in New York City, has some stake with what happens on western public lands. It's most-



FOREST SERVICE PACIFIC NORTHWEST RESEARCH STATION

Thomas during his elk research days. He published about 250 professional articles, book chapters and books on elk, deer, turkey biology, wildlife diseases, wild habitats, songbird ecology and land use planning before being appointed USDA Forest Service chief.

ly an idea of getting together people who have a real concern over a particular piece of land.

**Q. When you have that many stakeholders, how do you decide which have priority?**

**A.** With great difficulty. A large part of the playing field is defined by law — we must do this and not do that. So it's not a matter necessarily of weighting public opinion. We consider what the public brought to our attention. We consider local economics and local culture — there's a multitude of things that go into deciding whether we would do more or less of any one particular thing.

**Q. Are you saying the forest service doesn't have a lot of leeway; your hands are tied by law?**

**A.** Our hands are tied by law, and appropriately so. I mean they didn't just turn around and say, "Do whatever it is that you would like to do." We have a number of acts under which we must practice — the Multiple Use Sustained Yield, the National Forest Management Act, the National Environmental Policy Act, the Endangered Species Act — so we have to work within the bounds of those laws. What is left, we call "decision space." Within that area we can make decisions and allocations considering what the public has to say, economic and social ramifications, and the country's need for whatever products might be produced there.

**Q. Is reinvention focused on that decision space?**

**A.** No. Most of government reinvention is based on how we conduct business in the most effective and efficient way: how we spend money, how we allocate people and resources, how we regulate our own behavior. It's essentially an efficiency drill.

**Q. In your look at Forest Service "reinvention," you identified some problems the process could address. The review recognized what the Forest Service could do to welcome diverse views.**

**A.** We've been addressing some of these issues for some number of years.

Up until 15 to 20 years ago, people wrote books citing IBM and the Forest Service as the two most effective, efficient organizations in the U.S. Well, IBM is not that any more, and we've slipped a little too. Both organizations did not change with the times as rapidly as we should have. That's simply not acceptable in our society or anywhere else in the Western world.

The old command-and-control militaristic organization doesn't work as well as it did. Times change, people change, mores change. We simply do not have a work force anywhere in the United States that is willing to have a civil service like the Forest Service act like the Marine Corps.

I don't think diverse views were partic-

ularly welcome here. We knew what was best, we knew how to get there, and we behaved very effectively for a long time. But the country's not willing to accept that from us, nor is our work force. As a result, we are changing with the times.

**Q. It strikes me that when you go out to the public in general, they don't have any opinion about the Forest Service; they are relatively uninformed about the issues you are involved in. I would think that would be a problem.**

**A.** It is, but the majority of people said they knew who we were, what we were, that we have national forests, and they felt capable of expressing an opinion of about how their land should be managed. Some of the outcomes were very clear, others were clear in their ambiguity. For example, it was just about evenly split about whether we should harvest timber from national forests or not. That's an interesting fact for us to have at our disposal.

**Q. What responsibility does the Forest Service have to reach out to the vast majority of Americans who live in urban areas and may not be as close to woodlots and forests as people two generations ago?**



STABER REESE

**A.** We have some educational responsibilities, and we're making some small moves in that direction. But given our budgets and projections, I doubt we'll see much more than we do now.

**Q.** Do you envision imposing or increasing fees for visitors who use federal lands?

**A.** Our polls indicate the user groups are ready to pay, provided that their fees support the resources they use. Congress has not been willing to give on that point. Legislators want that money to go into the national treasury and then they'll reappropriate as they choose. That's the quandary. I do not think the idea of designating fees for certain properties or activities will occur without a push and heavy support from users.

**Q.** You have talked about the need to make decisions based on sound science. Do scientists make the decisions, or are decisions political? If it's a political decision, how do you make sure you won't continue some of the premises from the past, like assuming that the nation would put timber harvest first as a management goal?

**A.** As a senior scientist myself, my view is that scientists give advice, scientists analyze, scientists propose, but decisionmakers dispose. When you say something is based on sound science, you do not necessarily mean that you give [one definitive answer]. Besides, there is no unanimity in science. You can bring in a whole bunch of scientists and say "What should I do?" and you are liable to get a broad spectrum of opinions. However, they might not disagree much on the underlying scientific principles or data.

For example, for the President's plan for the Northwest, we gave him 10 options. As scientists, we described each option to the best of our ability. There wasn't one best scientific decision; all the options were equally scientifically based and there were tradeoffs in every case. It was a matter of how much risk for how much benefit the President was willing to take. Option 1, which had almost no timber harvest, [offered] the highest probability of sustaining a broad array of organisms, but you got no production, no jobs, no wood, no

taxes. On the other extreme, an option provided a much higher production of products, but also had much higher risks for the species that were of concern.

**Q.** What if the decisionmakers choose options that, in the scientists' eyes, are less desirable in meeting ecosystem management goals? What is the role then of the Forest Service?

**A.** To execute the decision. If it's within the law, then it's the Forest Service's job to execute the plan as described.

**Q.** You've stressed managing forests to maintain healthy, diverse ecosystems. Since most of forests in Wisconsin and the country are privately owned, how do you plan to meet that goal?

**A.** We can promote it. In fact, I met with some people from state government, industry and others this morning who described how they were proceeding to meet those goals. Basically, we can lead in developing science, forming and selling ideas and concepts about diversity. We can provide access to computer technology that can make that work.

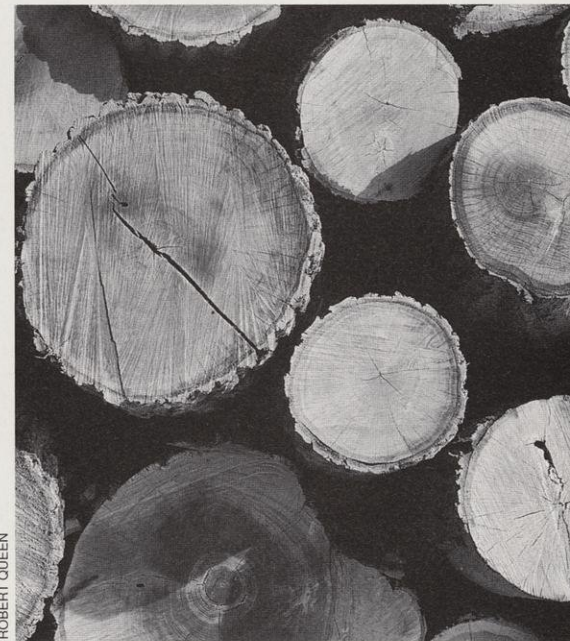
Ecosystem management is an idea you can trace back a thousand years. It certainly came to bear in the 1930s and 40s with Aldo Leopold, who used to be an assistant director right here in this laboratory. He promoted it in a way it appeals to everybody when he said, "The first rule in intelligent tinkering is to save every cog in the wheel." That's the underlying premise of ecosystem management, except now we understand it has to be done over a very long time frame we call "sustainability," and over a much broader area, so the system is essentially seamless.

We can lead in the technology too. I see this as very similar to Mr. Goddard's rockets where he knew in the 1930s how to get to the moon — he knew the mathematical calculations but he didn't have a booster. Then he got a booster and he didn't have anything that could compute fast enough to make the mid-course corrections. Then he got a computer.

We've had the ideas to manage ecosystems for a long time. The concepts are ripe and now we have the computer technology that's capable of monitoring this stuff from space and project changes over time. So we

can get the appropriate arrangement, spacing and timing to see changes on the landscape.

**Q.** Wisconsin DNR sent 300 firefighters out West last summer to fight rampant wildfires. There's been a lot of talk subsequently about "fuel accumulations" in the West — tremendous areas of mature trees and tinder-dry brush that would readily burn. What needs to be done to prevent recurrence of this problem out West and in Wisconsin?



**A.** I don't know enough about Wisconsin to say. We've developed a plan for the intermountain West that include salvage operations, forest health, and fire prevention. In stopping the fires and building fire lanes, we burned up an area as big as the state of Connecticut last year. That doesn't include the amount burned in the big Yellowstone fires two years ago.

I do not see there will be billions and billions of dollars available to deal with this. We will have to manage using current resources.

**Q.** Will thinning trees and holding prescribed burns get the job done?

**A.** We have to be very careful. We can't simply start prescribed fires because there is so much fuel on these lands. We'd have to mechanically reduce the fuel and

*we need to collaborate with EPA about how much smoke the American people are willing to tolerate. Over time, you either decide to tolerate some smoke when we plan it on a regular basis, or a whole lot of smoke when we have wildfire. Sooner or later it happens.*

**Q. As prescribed burning is touted as a main method of reducing fuel accumulations, will Smokey Bear be changing his message?**

**A.** *Smokey Bear's message is consistent. And Smokey's okay with controlled or prescribed fire. It is wildfire and people-caused fires that are Smokey's concern.*

**Q. One of the proposed models for managing public forestlands is called "back to basics." It would shift the philosophy from producing timber and other wood products to producing "amenities." What kind of amenities is the public describing?**

**A.** *Wilderness, recreation, wildlife, scenic values.*

**Q. And the public sees that as back to basics?**

**A.** *I don't know what they see that as, that's what they call it. I think they're talking about a time in our history where we adhered more to multiple use and a whole array of values on public forests. In the last couple of decades, we placed heavier emphasis on commodity production — producing timber and wood products.*

**Q. You will be spending the next couple of days touring Forest Products laboratory and participating in a technology transfer conference. What role will research play in the Forest Service goal of pursuing ecosystem management?**

**A.** *A lot of the research here is directed at being more efficient and effective — using and recycling every bit of wood. If the public expects the Forest Service to pay less attention to wood products from public forests and more attention to recreational amenities or ecosystem protection, where do we make up the difference? The demand for wood is still there. Do we import wood? Do we cut down more trees? Do we use substitutes? Or can we learn to be more efficient and effective in using and grow-*

*ing trees? The Forest Products Laboratory is in the lead on this.*

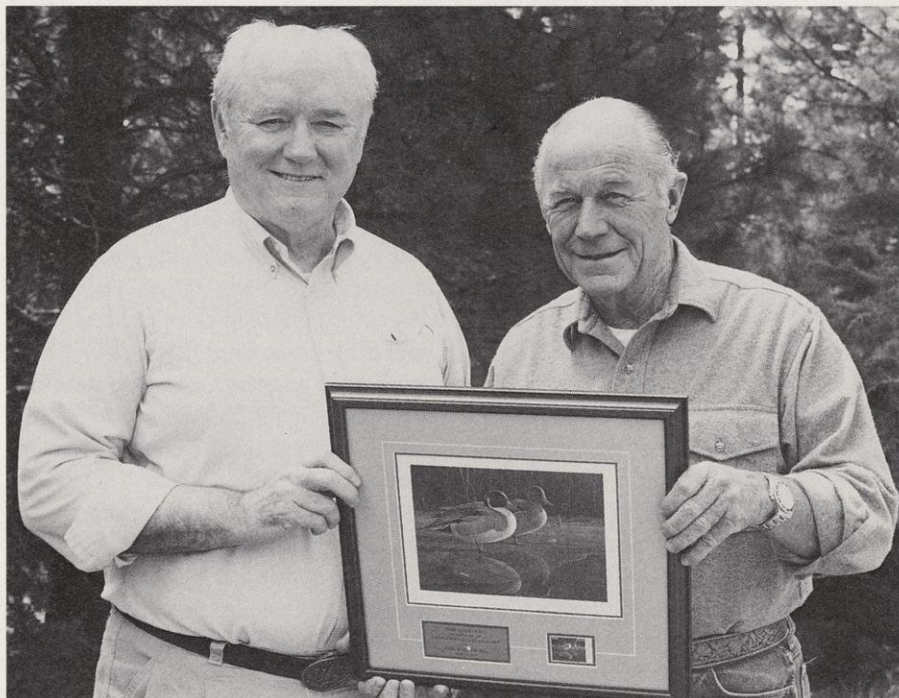
**Q. Are we going to count on biotechnology for greater volumes of wood and wood that may be resistant to problems?**

**A.** *I don't know that I would count on it — but I think it has potential. I don't think you should count on anything till you've got the chickens in your hand, but I think biotechnology has obvious potential.*

*this circumstance in a rational, reasonable fashion, in a coordinated manner so it's not necessary to list the plant or animal?"*

*If the species is already listed, you sit down and say, "How can this be most equitably shared at the greatest chance of success with the lowest social-economic impact?"*

*One would not want to repeat the exercises of the Pacific Northwest where nobody would face up to the issue and everybody continued to twist away from*



Thomas received the National Fish and Wildlife Federation's Chuck Yeager Award in 1992 from the general, himself. The Yeager Award, honoring Thomas's work on the northern spotted owl, is given annually to fish and wildlife professionals who make a difference on the ground and encourage others to follow suit.

**Q. Based on your experience addressing the spotted owl situation, what words of wisdom can you share with Wisconsin as the state prepares to develop a habitat conservation plan for the Karner blue butterfly? What would help us deal with other threatened and endangered habitat requirements that develop?**

**A.** *First, don't let habitat situations get so bad that species get listed. That's playing Russian roulette. Once a species gets listed as threatened or endangered, it quickly slips out of anybody's hands and into the hands of the regulatory agency.*

*That means you get ahead of the situation. You ask "How are we going to address*

*the inevitable. If you look at the history of that particular issue, solutions were proposed and rejected, back and forth. The social and economic impacts kept increasing with each ratchet.*

*The earlier you can address these issues, the more chance it will be addressed rationally with minimal impact. The longer you wait, the longer you thrash, the more options you lose, and the more dramatic the effect becomes in the end.* □

*Lisa Gaumnitz writes for DNR's Public Affairs office in Madison.*

Tameness enhances the saw-whet's cute image. If you can find a perching bird, take a close look so you are sure it is a saw-whet rather than the more common Eastern screech owl. The slightly larger screech owl has ear tufts which the saw-whet lacks. You *could* slowly approach a saw-whet to within petting distance and the bird would not flinch or fly.



NEAL NIEMUTH

The saw-whet's "cuteness" ends within range of its sharp talons and beak.

and insects. This owl must hunt efficiently to maintain its voracious appetite. It often consumes more than its weight in food each night.

The destination of southbound saw-whets is unknown, as is the timing of their northern return. Saw-whets come back to their breeding grounds in tamarack bogs, cedar swamps and dense woodlands of northern Wisconsin this time of year. Now they will break their habitual silence with many calls that penetrate the stillness of a northern night. The saw-whet's eponymous call is a drawn-out, raspy sound that truly does resemble a saw being sharpened on a whet stone. This haunting and eerie call means love to a saw-whet owl.

Northern saw-whets nest in tree cavities, often using abandoned flicker holes. An average of six cream-colored eggs are laid on the nest hole's bare floor. Incubation takes about 26–28 days. The owlets grow rapidly and can fly in five weeks.

Due to their secretive nature, very little is known about the family life and distribution of saw-whet owls. The birds may be more common and widespread in Wisconsin than we realize. It may well take a determined researcher with a strong coffee habit and some modern infrared binoculars to study the saw-whet's nocturnal wanderings and unravel the mystery and mystique of these nighttime predators. □

*Anita Carpenter is on the prowl day and night learning about nature from her Oshkosh home.*

Its eyes show no fear or aggression, only an occasional blink. However, don't try to pick up the owl and beware those talons and beak. This is where all signs of cuteness end. The talons are quite capable of breaking the skin with a vise-like grip that would be difficult to unlock. The beak is designed to tear flesh.

Although the saw-whet is tiny, it is an effective, fearless predator that catches chipmunks, frogs, bats, rats, warbler-sized songbirds, young flying squirrels, shrews

## Readers Write

### WILD CARROTS A GOLD MINE?

On my travels last summer through Illinois, Wisconsin and Minnesota I saw an abundance of Queen Anne's Lace (wild carrot) growing along the roadsides. Can science find a use for this plentiful plant? It seems wasteful not to utilize such bounty.

*Ida M. Sanders  
Lake Villa, Ill.*

*Kelly Kearns, native plant biologist in the DNR Bureau of Endangered Resources, is not aware of any studies investigating the value of *Daucus carota* as a food source for wildlife or humans. Perhaps the best way for us to "use" this plant is to simply enjoy its delicate beauty as one small part of nature's bountiful diversity.*

### STICKING TO THE TRUTH

I enjoyed your article, "Making Business From the Bottom of the Barrel" (Oct. '94). However, I was taken aback at the article's description of the glue-making process. While I applaud Pfister and Vogel for their efforts to reclaim a useful product from industrial waste, the glue process is far from a new discovery. The first recorded use of animal glue goes back to the days of the Pharaohs.

Nor is this P & V's first venture into the glue business. Back in the 1890s, P & V banded together with 17 other tanneries to erect a glue processing plant south of South Milwaukee in an area still known as Carrollville. The tanneries sent approximately 150,000 to 175,000 pounds of leather scraps a day to the plant. After the plant closed in 1987, the waste from the tanning process was hauled to landfills. Perhaps the burden of cost and regulation is what prompted P & V to find a "new" use for the scrap.

*John M. Eberhardy  
Milwaukee, Wis.*

### FRIENDS ACROSS THE LAKE

We were introduced to your magazine by my sister and her husband (Wisconsin residents) who gave us a subscription as a Christmas gift.

We enjoy your magazine. You folks do a nice job of putting together a magazine with outstanding photography and articles that appeal to nearly everyone. Your publishing crew puts a great deal of work into this magazine and it's a very high-quality product.

We wish you continued success. Michigan and Wisconsin share many of the same ecological problems — there are people just across Lake Michigan that share the same concerns you have and write about.

*Herb and Mary Lynn Maxwell  
Niles, Mich.*

### INDEX, ANYONE?

I was wondering why you don't include some kind of index of your articles. When a person thinks of something he doesn't know, he could look for the subject in your index and then find the article without having to flip through a big stack of magazines.

*Steve Christensen  
Appleton, Wis.*

*We publish an annual subject index in the back of each December issue. A subject/author index covering the years 1977–1990 is also available for \$3. Send a check payable to the Wisconsin Department of Natural Resources to WNR Magazine Index, P.O. Box 7921, Madison, WI 53707.*

### PINING FOR AN ANSWER

The "Where's the Air" poster (Dec. '94) sparked my curiosity. In one of the charts on the back of the poster pine trees were list-

continued on page 30

# Readers Write

ed as a natural source of air pollution. Can you explain why?

Jean Goldsmith  
West Salem, Wis.

*Unbelievable as it may seem, trees and some plants can contribute to the formation of smog. Smog forms when nitrogen oxide compounds and organic gases react in the presence of sunlight. Pine trees produce terpenes — organic gases that are the source of that distinctive piney scent. If the conditions were right, pine trees could indeed add to air pollution.*

*Does this mean you should run out and cut down all your pines and never plant another? Absolutely not! Trees absorb carbon dioxide from the atmosphere and release oxygen into the air, provide habitat for birds and animals, and add beauty and grace to the landscape. The benefits trees offer far outweigh their potential to pollute.*

## LET'S BE FRANK

The consistently high quality of writing and editorial content found in *Wisconsin Natural Resources* left me unprepared for the shock of reading Maureen Mecozzi's article ("A howling good time," Dec. '94).

Ms. Mecozzi's characterization of Frank Lloyd Wright, designer of the Seth Peterson Cottage at Mirror Lake State Park, as "one of Wisconsin's most infamous sons" sent me to the dictionary. My Random House Unabridged Second Edition (1987) confirms the definition of "infamous" as "having an extremely bad reputation" or "deserving of or causing an evil reputation; shamefully malign; detestable." Synonyms are shown as "disreputable, ill-famed, notorious" and "disgraceful, scandalous, nefarious, odious, wicked, shocking, vile, base, heinous, villainous."

If it was your intent to

malign the reputation of this world-renowned architect in your publication it was in bad taste beyond understanding; if it was the result of sloppy writing and poor editing, a giant retraction and apology should be forthcoming.

Burt Schell  
Long Grove, Ill.

*Maureen Mecozzi replies: Reputations seldom have one side, and here in Wisconsin Mr. Wright is known both for his extraordinary talent as an architect and his legendary flightiness as a businessman. Perhaps "famous and infamous" would have been better phrasing.*

## PACKERLAND HIGH FLYERS

Flying squirrels come to our feeders each night and when we try to tell people how small and beautiful they are, some can't picture them. Your article "Furry fly-by-nighters" helped (June 1994).

We live only eight blocks away from Lambeau Field, so people are shocked when we tell them about the squirrels. We have a red floodlight in our backyard so people can watch them sail around.

Marlene Spangler  
Green Bay, Wis.

## PICTURE THAT

A picture in the August issue shows a little girl holding up a bluegill. The boat registration in the picture is 1989. It really shows how bad the fishing is when you have to dig that far back for a picture of a fish.

A. Zeiter  
Land O Lakes, Wis.

*Not at all. We were discussing the need to change long-held attitudes. Continual fishing pressure can outstrip any population anglers target.*

## MORE TAMARACK FANS

I share all the praise Timothy Sweet gave the tamarack in his October feature. As Aldo Leopold wrote "the tamarack is to me a favorite second only to white pine...because he sprinkles gold on October grouse." The tamarack isn't the only coniferous tree to shed its needles in a brilliant display. Its southern cousins — the bald and pond cypresses — reach their finest hour in November when they set the swamps ablaze in rusty-orange.

Alan Bennett  
Pardeeville, Wis.

## MORE ON OUR NATURE

Thank you for being my favorite magazine. How about more on native Wisconsin flora and fauna? People need an understanding of our native biological communities and the need to get serious about their protection and restoration. Our greatest resource is not just our soil, clean waters, game animals or forests — it's our biodiversity, wilderness and outdoors. We can't forget that we are part of nature too.

Jesse Bennett  
Bagley, Wis.

## BINOCULAR LIGHT AND POWER

Dave Crehore's December article on binoculars was absorbing, but I hope he hasn't scared off some future bird watchers.

He stated the numbers called "brightness factors" or "twilight factors" were meaningless. Not so; the term "relative brightness" is definitely meaningful. The number is achieved simply by dividing the power (magnification) into the diameter of the object lens, then squaring that number. Choosing 8x40, 6x30, 7x35 or 10x50 binoculars will

all have a brightness factor of 25.

For maximum light-gathering or brightness, a pair of 7x50 binoculars have a relative brightness of 50.1. These are commonly known as "night glasses" in maritime circles.

Secondly, everyone may not be able to afford \$150-\$400 binoculars or even the minimum \$90 he suggests. My 7x35 binoculars have served me admirably. They have rubber eye cups, center focus and individual eye focusing. They cost a modest \$35.

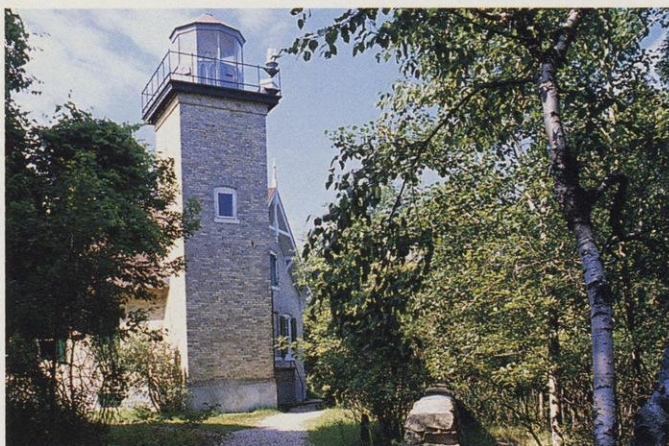
Weldon G. Jacobson  
Milwaukee, Wis.

*Crehore's description of "exit pupil" serves the same purpose you describe and it is easier to remember. As advertised, he presented a reasonably knowledgeable and modestly opinionated guide to buying binoculars. Several people have written and called to thank him for the advice and talk more about field optics.*

## TOO RARE A FISH FRY

Fish Technician Mike Leonard from La Crosse contacted us to respond to a recipe we ran from Fran Hamerstrom's *Wild Food Cookbook* of unusual delicacies. One of the recipes suggested making delicious sucker patties from the blue sucker. May we suggest trying a different species? The blue sucker has been listed as a threatened species since October 1979. Redhorse and other common suckers can be legally collected in the spring when they are flavorful and there is less likelihood that a conservation officer will be stopping by to inspect your "Blue Plate Special."

# WISCONSIN TRAVELER



Eagle Bluff Lighthouse at Peninsula State Park.

## Light on your feet

**T**hey don't call it the Portes des Morts (Door of Death) for nothing, friends. With 250 miles of rocky, treacherous and absolutely stunning shoreline, Wisconsin's Door County — the "thumb" hitching into Lake Michigan — brought many a sailor to an unfortunate end.

Several manned lighthouses built in the 19th and early 20th centuries aided navigators threading the shoals and bars of the waters surrounding the Door peninsula. Although the whale oil lamps, the Fresnel lenses and the keepers who kept the wicks trimmed and the glass polished are long gone, the lighthouses still guide mariners today with automated lighting. These beloved features of the Door County landscape are yours to explore during the **2nd Annual Door County Lighthouse Walk**, May 20-21.

You'll need some kind of vehicle (car or bicycle) to get to

each lighthouse, but once you're on the grounds you can proceed on foot at your own pace. Volunteers from the Door County Maritime Museum will be on hand to answer questions, lead you through selected keeper's quarters and fill you in on the special history each lighthouse holds.

Lighthouses on the tour include:

1. Sherwood Point (1883)
2. Canal Station (1899)
3. Range Lights (1870)
4. Cana Island (1870)
5. Eagle Bluff (1868)
6. Pilot Island (1858)
7. Plum Island (1897)

A fee will be charged for the Lighthouse Walk, but at the time TRAVELER went to press the amount had not yet been set. Contact the **Door County Maritime Museum** at 414/743-5958 or write the museum at P.O. Box 246, Sturgeon Bay, WI 54235 prior to the walk for more details.

## May days

Everyone in the state is trying to get the jump on Memorial Day, it seems. Three other delightful events worthy of your attention (and participation) will unfold on the weekend of May 19-21. With a bit of planning and a modicum of coordination you could attend all three!

**Chocolate City Festival**, Burlington, Racine County. Where else will you find mousse in south-eastern Wisconsin? Chocoholics need not be anonymous during this three-day celebration of the cocoa bean and all the fabulous sweet stuff that comes of it. Enjoy music and carnival rides in chocolate-scented spring air. The festival organizers thoughtfully added a run-walk and/or bike ride to assuage the guilt of those who stay too long at the dessert tents indulging in mud pie, devil's food cake, brownies, fudge, cheesecake, ice cream, pots de creme, etcetera, etcetera, etcetera. 414/763-6044.

**Wisconsin Polkafest**, Concord, Jefferson County. Sure, you can sit around and watch — but the folks who have

Polka party!



the best time at this annual event are the ones who come to *dance*. Polka fans stomp and twirl to the music of the finest polka bands in the region, stepping out with abandon in the Polish-Slovenian or the Dutch-German style. (Didn't know there were different polka styles, did you?) Don't know the moves? That's ok — when polka-ing, enthusiasm is more important than execution. For the exuberant joy the polka brings to dancers and spectators alike, it



ought to be the state dance. Fri. 8 p.m.-midnight, Sat., 1:30 p.m.-12:30 a.m., Sun. 12:30-7:30 p.m. 414/461-5682.

**Morel Mushroom Festival** (May 20-21), Muscoda (Say it right: musk-o-day, not mus-CO-da), Grant County. Truffle pigs can't hold a hoof to

the intrepid hunters who scour the hills of southwestern Wisconsin for *Morchella esculenta*, the savory wild morel mushroom. The precious 'shrooms are bought and sold during the fest, and the town holds a cash competition for the heaviest, widest, and oddest-shaped morel. Don't care to bargain for a fungus? Try haggling for garage-sale goodies at the city-wide flea market. If the morel harvest proves bountiful, you'll have the chance to feast on Muscoda Mushroom Stew, the ambrosia of discriminating fungi fanciers. 608/739-3639.

