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WISCONSIN NATURAL RESOURCES

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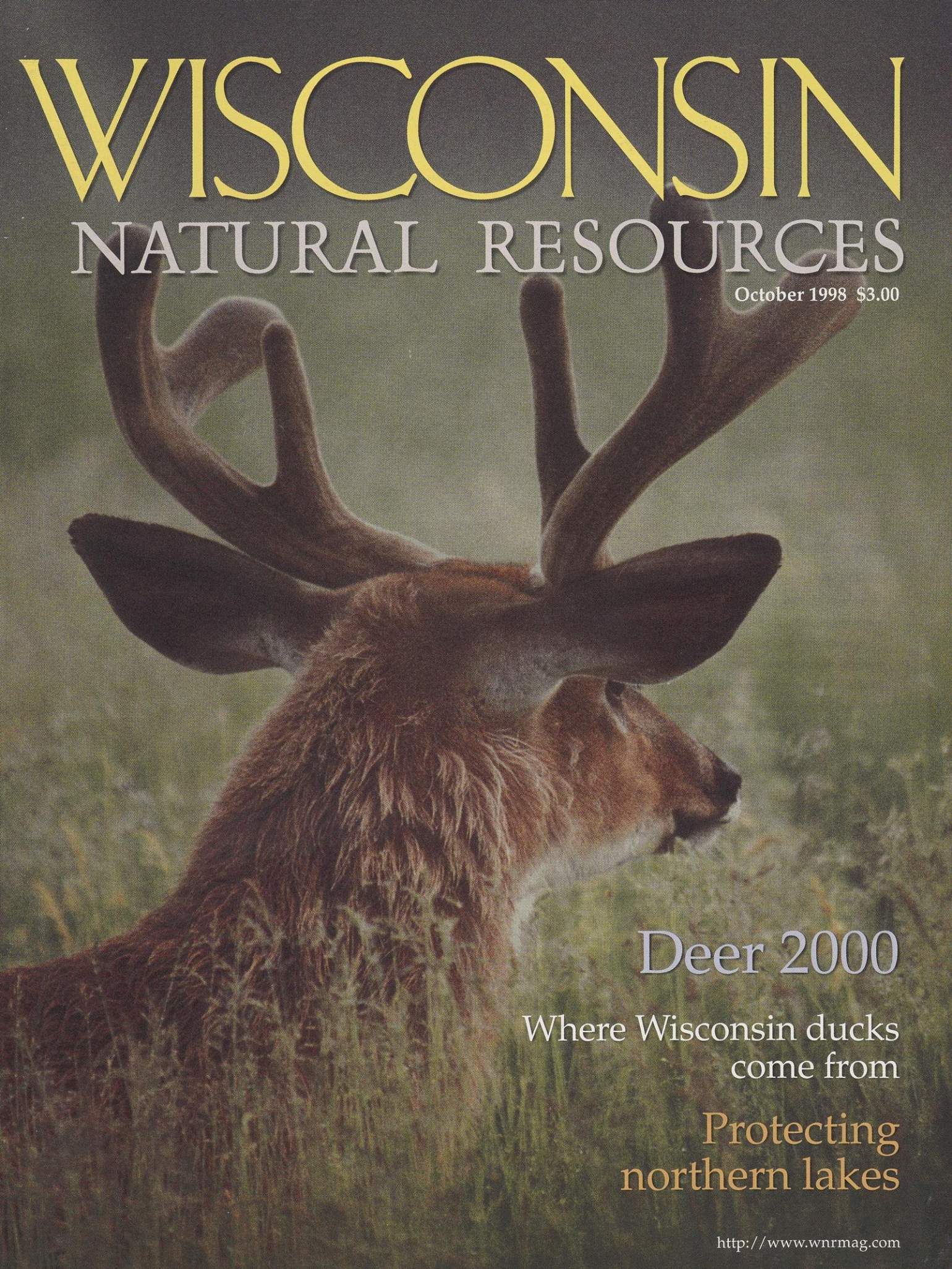

Deer 2000

Where Wisconsin ducks come from

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Bird prejudice

We aspire to soar with the eagles, but it's pigeons we parrot.

Justin Isherwood

People who admire nature have prejudices just as those who do not. Species "bigotry" among nature-watchers is not only visible, it's exalted and unrepentant.

Consider eagles. People of all dispositions and social stripes enjoy eagles; birders watch them and drive long distances to do so because eagles are majestic birds and possess the appointments of sovereignty. Eagles are fashionably dressed with stark contrasting colors and those fabulous yellow talons, not to discount their marvelous wings. It is no wonder eagles are mascots to almost every country, militia, coinage, principality and despot on the planet.

People enjoy watching eagles feed on goods that would be harrowing and revolting to other animals. Millions know the hush of veneration in watching eagles snatch fish. Any extension of this display to human behavior is less appealing. The fact is, more of us identify with the stunned fish at the bottom of the dam than with the eagle whose spillway profits are as routine as any corporate CEO's.

When knocked from our high perch as nature watchers, our appreciation for natural order instantly collapses. We find ourselves on the losing side, identifying with the morsel about to be eaten. It's no fun being set upon by a well-dressed, well-trained, slick-talking, manicure-nailed, razor-cut bureaucrat of a predator.

DAVID L. SPERLING

We admire the stately regal eagle. In truth, our strength is more akin to the drab, adaptable survival skills of urban pigeons.

Tell me, what nature watcher enjoys watching the pigeon? Never mind that every city can support a flock or two. We don't want pigeons, we want eagles or at least osprey. Many naturalists think of the pigeon as proletarian; a dirty, commonplace, all too chummy unattractive bird without flair and too much a product of the flock. We like our birds more independent than that.

continued on page 29

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WISCONSIN NATURAL RESOURCES

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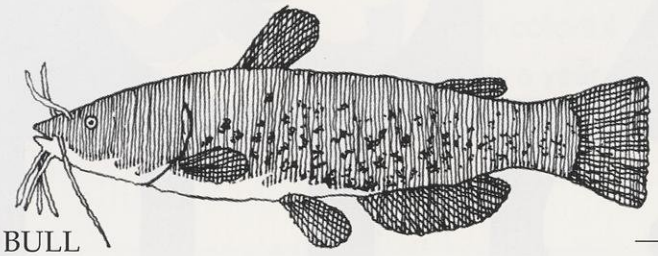
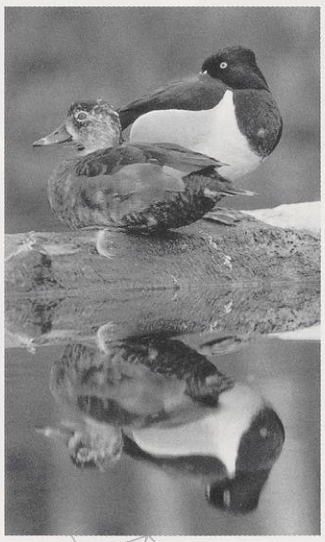




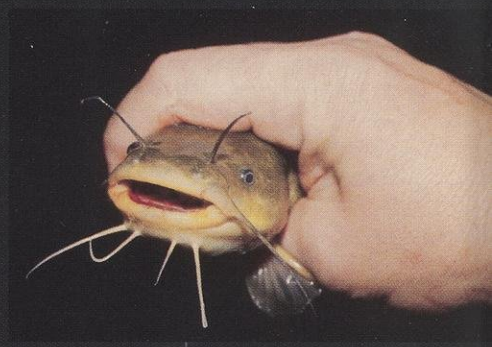
RING-NECKED DUCKS BY SCOTT NIELSEN

DON BLEGEN

FRONT COVER: Summer buck in vellum. See story on p. 16.
R.J. AND LINDA MILLER, La Crosse, Wis.

BACK COVER: Beulah Bog State Natural Area.
THOMAS A. MEYER , Mount Horeb, Wis.

NO BULL



Bottom-feeding bullheads deserve a grunt of praise.

Mark A. Klossner

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US089

Bullheads were as much a part of the summers in my youth as plaid lawn chairs and Brewers baseball. I spent hours with my father, Dave, and Grandpa Frank pulling bullheads from the murky depths of the Rock River near Juneau in Dodge County, even more time cleaning the fish. A plate full of golden-brown, batter-fried bullheads with buttered rye bread was sweet reward. The memories built respect for these fish, but my sentiments certainly aren't shared by everyone. You may loathe the whiskered bottom-feeder; still, the bullhead deserves your admiration as one of the most adaptable and hardy fish species found in Wisconsin.

The three native species of bullheads include the Black *(Ictalurus melas)*, the Brown *(Ictalurus nebulosus)* and the Yellow *(Ictalurus natalis)*. All three are scaleless and average eight to 10 inches in length. Their rounded snouts and wide mouths contain broad bands of tiny, needle-sharp teeth and their tough skin is smooth and slippery. Like other members of the catfish family, their mouths are whiskered with six barbels — four on the bottom and one on each side. Bullheads use the barbels to taste food near the lakebed or river bottom.

It is a safe bet that bullheads roam the depths of most bodies of water in Wisconsin, particularly the river systems. The brown bullhead, the least common species, is found mostly in the Rock, Fox and Wolf river systems in the east, the Chippewa River system of the northwest, and the big lake systems — Lake Michigan, Lake Superior and Lake Winnebago. Yellow bullheads can be found in Green Bay, the Wisconsin River, lakes Winnebago and Poygan and in larger northern lakes. In some areas, bullheads and their cousins, channel and flathead catfish, are found in the same waters. Where this overlapping occurs, the species compete for the same food sources which can slow the growth of each.

As their names suggest, color identifies the three different bullhead species. Brown bullheads are yellowish-brown to black with gray or light brown-mottled sides, light colored bellies and a straight tail fin. Dorsal and pectoral spines on the fins are very jagged. Their barbels are dark brown.

Yellow bullheads are more olive colored on the back. This coloration may vary in tone from black to almost yellow. In most waters, the giveaway characteristic of the yellow bullhead is its yellow belly. Yellows have light colored barbels, a rounded tail fin and jagged fin spines.

The black bullhead is very dark in color, ranging from dark olive to jet black with a pale underside. Its barbels are usually gray or black and its tail is somewhat straight with a notch in the middle. The fin spines are sharp, but smooth.

Bullheads are probably best known for the sting that can result from careless handling. That "sting" is actually a sharp cut from contacting the sharp edges of the dorsal and pectoral fins. Jim Congdon, DNR fisheries manager in Horicon, says the fins are a defense mechanism the bullheads use to prosper in lakes and waterways throughout the state.

"Predators learn to avoid a sharp-finned meal," he notes.

If you, like me, have had the unfortunate experience of swooping your hand into a mass of bullhead fry roaming near a boat landing, you understand how painful those sharp little fins can be. A bullhead "sting," is more painful than that of a bee, and within minutes swelling can occur. The pain can last for a week or more. Congdon explained that bullhead fry have small glands near their side fins which produce a poison that can make getting "finned" by even half-inch fry very painful. These poison glands are common throughout the catfish family. Not to worry though — the poison is not life threatening and the pain can be dulled by dabbing the wound lightly with household ammonia. Don't dab gashes or larger open cuts.

Many anglers believe the stings come from the barbels located around a bullhead's mouth. Not so. Like taste buds on a rope, barbels help the bullhead locate food in murky water. In fact, it is estimated that each fish has over 100,000 taste receptors distributed

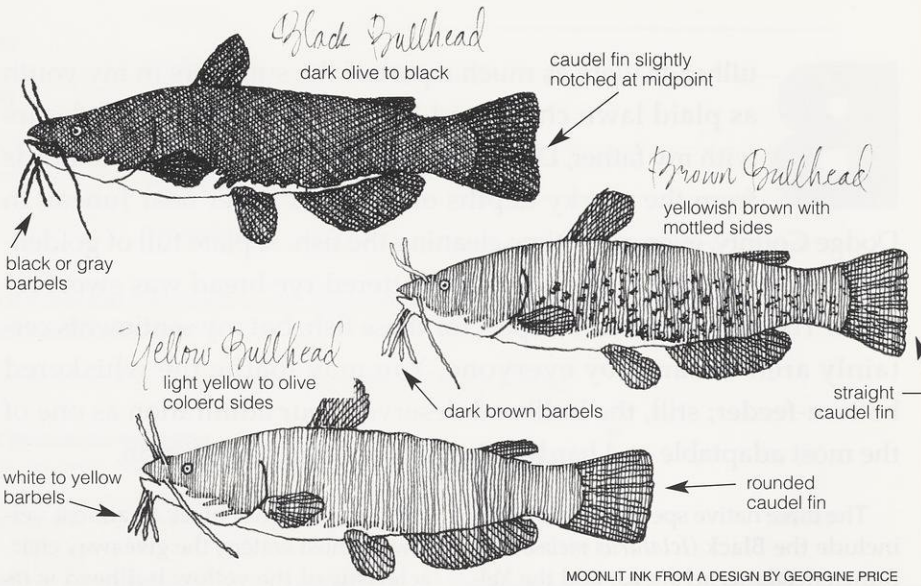
DAVE MARSHALL

(left) Relax. Bullhead fishing leaves time for conversation, *(inset)* even if a yellow bullhead does some of the talking.
(above) Young bullheads travel in schools. They develop sharp spines on dorsal and pectoral fins as juveniles to ward off predators.

all over its body, making it easier to sense food it can't see under low light or no light conditions. They can feed at night protected from larger sight feeders like northerns and bass.

Natural defenses are not the only tools in the bullhead's survival pack. Bullheads can tolerant low oxygen levels and high pollution concentrations that would soon have other fish turning belly-up. Mud, even outside of a body of water, can be home for a bullhead. In fact, lake bottom muds become a safe haven for bullheads in winter. As temperatures drop, bullheads become lethargic and bury themselves, exposing only their mouths and gills to the water. This form of "hibernation" protects the bullheads from winterkill.

As summer approaches and water temperatures reach the mid-70 degree range, bullheads begin to spawn. The three species seek different habitat to build their nests. Black bullheads prefer the muddy bottoms. Brown bullheads will build in rocky and sandy bottoms, and yellows seek weedy areas.



MOONLIT INK FROM A DESIGN BY GEORGINE PRICE

The females form shallow saucer-shaped depressions in the bottom by waving their lower fins. The nests are usually constructed next to structures such as a hollow log, rocks or brush The fish remove larger debris in the nest with their mouths. The number of eggs deposited by the three species varies greatly. The brown may deposit from 50 to 10,000 eggs; the yellow from 300 to 700; and the black around 4,000. Once laid, the eggs are fertilized by the male's milt.

Bullheads excel as parents. Both the male and female protect the nest and eggs. Hatching usually occurs in five to 10 days depending on the water temperature. Small clouds of bullhead fry roam the shorelines as the parents keep circling the school to keep them together. Parental care continues for about two weeks, then the young are on their own. The fish mature in three to four years.

(left) The black bullhead is common in state lakes and streams.
(below) The brown bullhead is the least common, but is found in the Rock, Fox, Wolf and Chippewa river systems. Like catfish, bullheads taste with their barbels and can feed in the dark.

GREGORY K. SCOTT *(INSET)* BUREAU OF FISHERIES AND HABITAT MANAGEMENT

ROBERT QUEEN

Almost any bait will catch bullheads. Weight your line to keep the bait on the bottom.

The bullhead's superior parenting skills are not necessarily good news for fisheries managers. Once a population starts growing in a body of water, the bullhead's high reproductive rates and lack of natural predators can lead to quick overpopulation and stunting, neither of which is good for a lake ecosystem.

"The success of the bullhead spawn depends largely on the conditions of the body of water they're in," Congdon says. "I've observed that bullhead reproduction is the strongest in waters where other fish species do not seem to do well. It seems the better the water quality, the poorer the bullhead's natural reproduction." He explained that bullheads tend to do the most damage in shallow, eutrophic lakes.

The bullhead fills a niche in a lake ecosystem by constantly scavenging on dead fish matter, algae and crustaceans such as crawfish.

Congdon has noticed that large bullhead populations can create turbid or "clouded" water that hampers sunlight from reaching vegetation, slowing or stopping its growth. This vegetation would be used by other fish species and waterfowl as a source of cover and food. Bullheads can survive after other fish species have found the conditions intolerable.

Given no closed seasons, no bag limit and no size limit, bullhead fishing is an attractive proposition for anglers of any skill level. As soon as the ice comes off a lake, river or slough, you can bet these hungry scavengers are ready to bite. Simple equipment is the key. There is no fish better suited for a long cane pole. Any contraption that holds line, a lead weight and a baited hook will work. Use long-shanked hooks and needle-nosed pliers to more easily retrieve bait, or just snip the line and retrieve your hook at cleaning time. Keep an old rag handy to prevent stings and wipe hands free of worm dirt and fish slime.

As far as bait is concerned, the sky is the limit: If it crawls, slides, slithers, swims or stinks, it will catch bullheads. It's hard to beat a night crawler or a piece of cut bait, but don't overlook human food items such as corn, marshmallows or even hot dogs.

Some anglers claim bullheads talk to them, but I attribute that to too much time sitting on a bucket. It's true that when the fish is touched or lightly squeezed the bullhead will sometimes emit an audible "croaking" sound. The sound is produced as air escapes the bullhead's air bladder or digestive tract.

Finding bullheads is easy. Look for shallow lake bays or river eddies. The backwash areas behind bridge abutments are hard to beat. Select a spot, toss out your bait, keep a tight line, and soon your rod tip will be bouncing up and down. Bullheads roam in large schools and are bottom feeders so weight your bait adequately to stay on the bottom. There is no need for a finesse presentation on these guys!

If you've never eaten a mess of properly prepared fried bullheads, you are missing one of Wisconsin's aquatic culinary secrets. The meat is firm and delicious. Some restaurants can pack the house on a Friday night with a fried bullhead special.

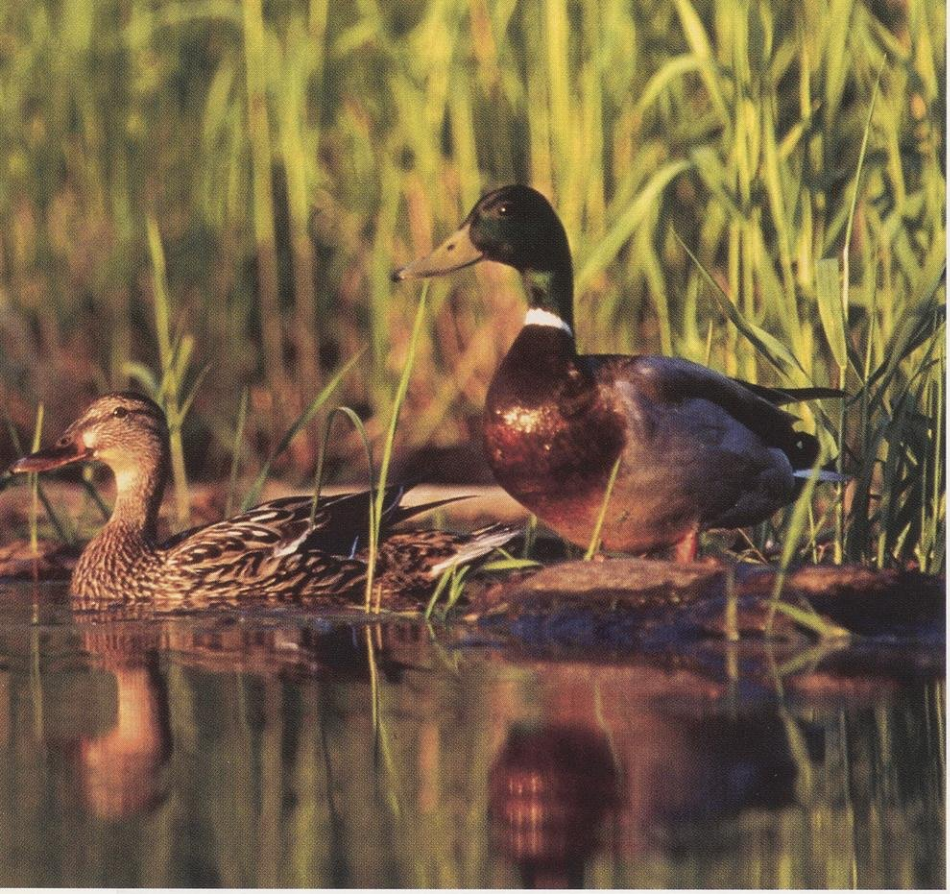
Grandpa Frank has passed on, but the memories of bullhead fishing with him and my father will last forever. For us, bullheads bridged the generations and those spunky fish were ready to bite anytime. Our family therapy could not be more simple: a few plaid lawn chairs, a handful of night crawlers, a little time and the conversation started to flow. Thanks, bullheads! □

Mark A. Klossner writes from the banks of his Spring Green home.

Fried Bullhead

¾ c. flour
½ c. corn meal
2 t. paprika
½ t. ground black pepper
1 t. seasoned salt
cooking oil
lemon or lime wedges

Clean bullheads, cover fillets with milk and refrigerate at least three hours. Mix dry ingredients in a plastic bag. Drain and dry the fillets. Place fillets, two at a time in the bag and shake, coating the fish evenly with the dry mixture. Heat cooking oil ¼-inch deep in a pan until a bit of flour sizzles when dropped in the pan. Cook 2–3 fillets in the pan at a time about 2–3 minutes per side until golden brown. Serve fish with lemon or lime wedges, good tartar sauce and cold beer.



GERARD FUEHRER ▲

SCOTT NIELSEN

SCOTT NIELSEN

SCOTT NIELSEN

SCOTT NIELSEN

Home-grown harvest

Many of the "northern" ducks we watch or hunt each fall are raised right here.

Ron Gatti and Jon Bergquist

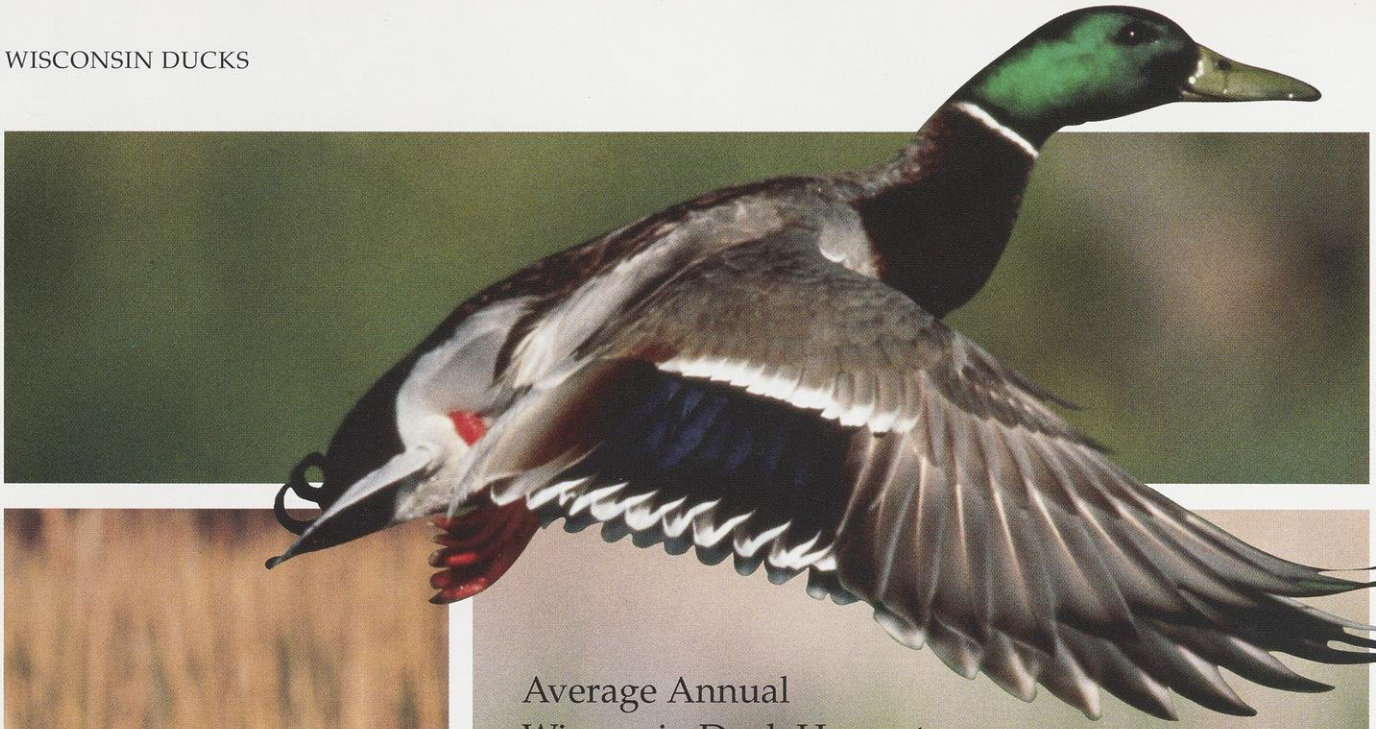
People often question where our wild ducks come from, and of course there's a simple biological answer — eggs! But we know these people are really asking whether the ducks hunted here and the ducks we see migrating through in spring and fall are "resident" ducks that were born and bred in Wisconsin, or are "migrants" that pass through Wisconsin on their way to breeding grounds in Canada.

We know a lot about mallard breeding habits, egg clutch size, and their needs to survive to adulthood. Knowing the regions where ducks breed is critical in managing waterfowl hunting to sustain duck populations.

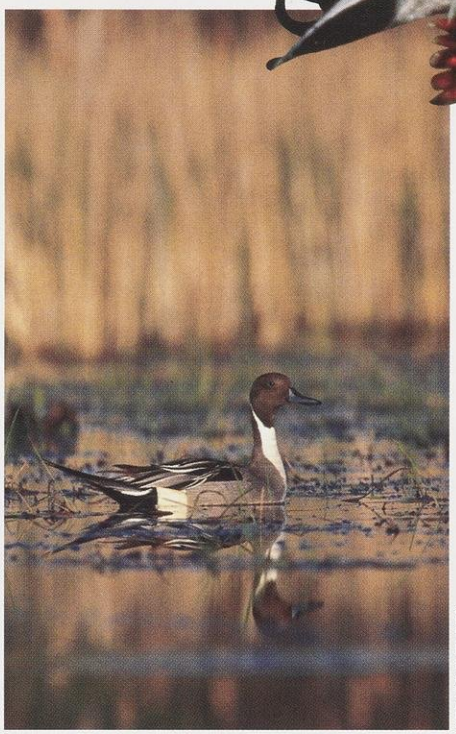
Answering that question has implications for the management steps we use to maintain healthy flocks. First, it would help to know where the majority of ducks harvested during a given period of time were hatched. For example, if we harvest mallards that mainly hatch in the Canadian prairie country, we might be able to offer greater hunting opportunities than if the majority of those birds were hatched here. Similarly, if mallard reproduction is very low in the prairie country (as it was in the late 1980s), we might not need to cut back as much on our harvests here if our birds were raised in-state.

On the other hand, if most of our ducks are locally-raised, then we might be overharvesting when we offer liberal seasons as we did in 1997 and 1998. So it's very important to know where the ducks that we hunt are raised.

Likewise, it is important to know if the sources of ducks available to hunters change during the fall season. For example, if needed, we might protect local breeding mallards by restricting the bag limits early in the season



SCOTT NIELSEN



GERARD FUEHRER

SCOTT NIELSEN

(clockwise from top) Mallards and wood ducks are most commonly hunted all fall. Blue-winged teal migrate early in August and into September, leaving before the duck-hunting peak in Wisconsin, so fewer are taken. Pintails are very fast and wary.

Average Annual Wisconsin Duck Harvest, 1990–96

Species	Average Annual Harvest	Percent of Total
Mallard	131,000	42
Wood Duck	59,000	19
Green-winged Teal	25,000	8
Blue-winged Teal	22,000	7
Ringneck	16,000	5
Scaup	13,000	4
Others*	13,000	4
Wigeon	9,000	3
Gadwall	6,000	2
Canvasback	6,000	2
Black Duck	3,000	1
Northern Shoveler	3,000	1
Pintail	3,000	1
Redhead	3,000	1
Total	**313,000**	**100**

*Others includes mergansers, goldeneyes, buffleheads, ruddy ducks and scoters.

GERARD FUEHRER

and allowing normal bag limits later if we knew that was necessary. It would help to know if we need to reduce the harvest of local mallards or if these birds are available all fall and are harvested at the same rate from early October through November.

Migration rates and harvest information also help us determine where to spend your dollars to enhance duck production. Currently about a third of the money we receive from the state share of the federal waterfowl stamp must go for habitat improvements in Canada. We want to ensure that those dollars are spent where they will provide the greatest benefit to state residents. So we decided to review past research reports and do some additional studies.

To determine what proportions of the "northern" ducks come from Canada and from the United States, we study ducks' leg bands. Biologists annually capture a small sample of ducks in the summer and place small metal bands imprinted with coded information around one of their legs. The bands in no way interfere with or infringe on the birds' survival. When researchers recapture these ducks in subsequent surveys or when hunters bag such ducks, we ask them to report the band information to the U.S. Fish and Wildlife Service. Past studies indicate only a third of the banded birds hunters bag are reported, and better accounting could greatly improve how we manage duck populations. To make reporting as convenient as possible, hunters can mail in the bands to the address provided or call a toll-free number (1-800-327-2263) which is staffed 8 a.m. to 4:30 p.m. Monday to Friday and with automated answering services on evenings and weekends.

Information from past U.S. Fish and Wildlife studies creates a picture of ducks typically hunted in Wisconsin as shown in this table on the left.

So mallards make up 42 percent of the total harvest and wood ducks 19 percent.

In Wisconsin, biologists band about 4,000 wild mallards annually and about 1,200 wood ducks each August and September. Other species are banded as well, but in far fewer numbers than mallards and woodies.

Without going into great detail, we estimate the origin of mallards taken by hunters by totaling information from recovered leg bands in a region. We form a weighted average based on our population estimates of each duck species in that region. This gives us a way to estimate information about the whole duck population based on the number and kinds of ducks harvested.

In past studies, the U.S. Fish and

Youngsters enrolled in Ducks Unlimited's Green Wings and similar outdoor programs help wildlife biologists trap and band ducks each August and September. Areas where ducks feed are seeded with corn and they are captured for banding under rocket-fired nets.

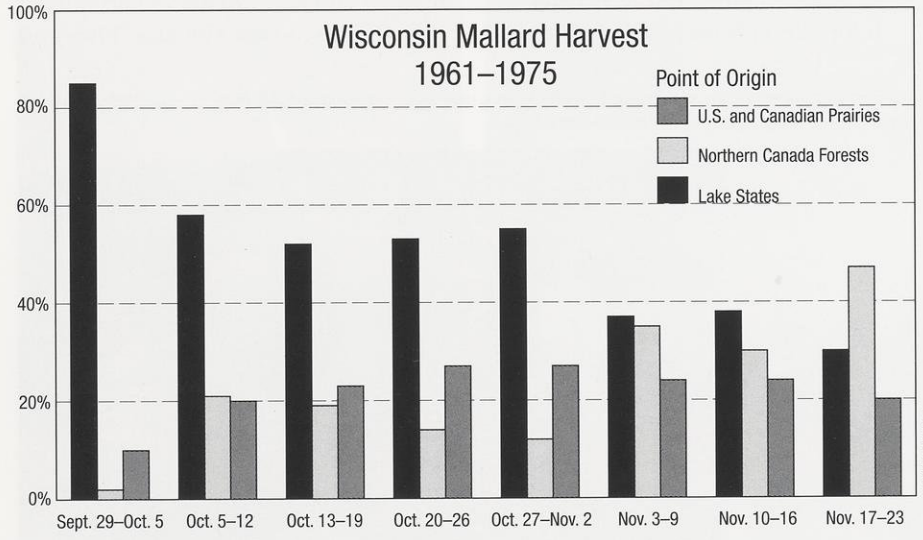
BRENDA HILL

BRENDA HILL

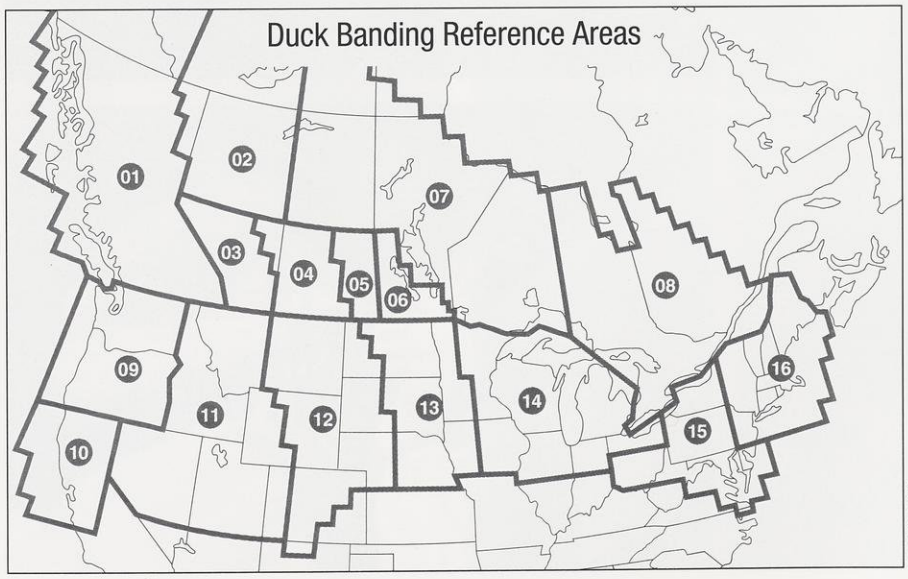
DAVID L. MISTEREK

SCOTT NIELSEN

Reporting information from bands increases our understanding of where ducks breed, when ducks migrate from different areas, and how many can be hunted. Many of the mallards harvested in Wisconsin breed locally in the lake states (reference area 14). Late in the season more ducks come from the Canadian forests (area 07) and the pothole prairie country on the U.S.-Canadian border.



MOONLIT INK



MOONLIT INK

Wildlife Service summarized results for duck bands turned in following the hunting seasons from 1961–75. Those studies estimated that 55 percent of the mallards harvested in Wisconsin come from the so-called Lake State Region of eastern Minnesota, Wisconsin, Michigan and northern Illinois. (Banding Reference Area 14). Nearly 19 percent of the mallards harvested in those years came from the evergreen forests of northern Ontario, northern Manitoba and northern Saskatchewan (Banding Reference Area 7). A nearly equal amount (21 percent) came from the prairie regions of southern Canada and the Dakotas.

A second study some years later (1975–84) produced similar results — about 63 percent of the mallards harvested here were raised in Banding Reference Area 14; 15 percent from the northern Canadian forests (Banding Reference Area 7) and 18 percent from the prairie pothole region. We collected leg bands during the last few years, but have not analyzed them yet to determine if local mallards represent a larger percentage of the harvest now.

The 1961–75 study provided other interesting information that we've summarized here. Percentages will vary a bit year to year due to different season dates, but we believe this still reflects where mallards originate that are found in Wisconsin from late September through the end of November.

Mallards raised here in the Lake States remain a very substantial part of the birds we see or hunt. By mid-November however, more of the birds moving through Wisconsin are primarily coming from northern Canada and to a lesser extent the prairie pothole country. Even in that later part of the season about a third of the mallards harvested come from Wisconsin and adjacent states.

Fewer than two percent of mallards harvested during the fall are taken after the deer gun seasons begin in that week before Thanksgiving. The analysis shows that 36 percent of the ducks harvested in a given year are taken before October 13th and two-thirds of those birds were raised in the Lake States region. □

Ron Gatti is a DNR biologist and landscape ecologist who researches farmland species of wildlife. Jon Bergquist is DNR's migratory game bird specialist.

Never fear, EEK! is here

For kids, an inside source on the outdoors.

Carrie Morgan

Your child comes home from school with an assignment to write about an endangered Wisconsin plant or animal. Of course the paper is due tomorrow and it's getting later by the minute. Where can he or she go to find that information? Never fear, help is as near as your home or library computer.

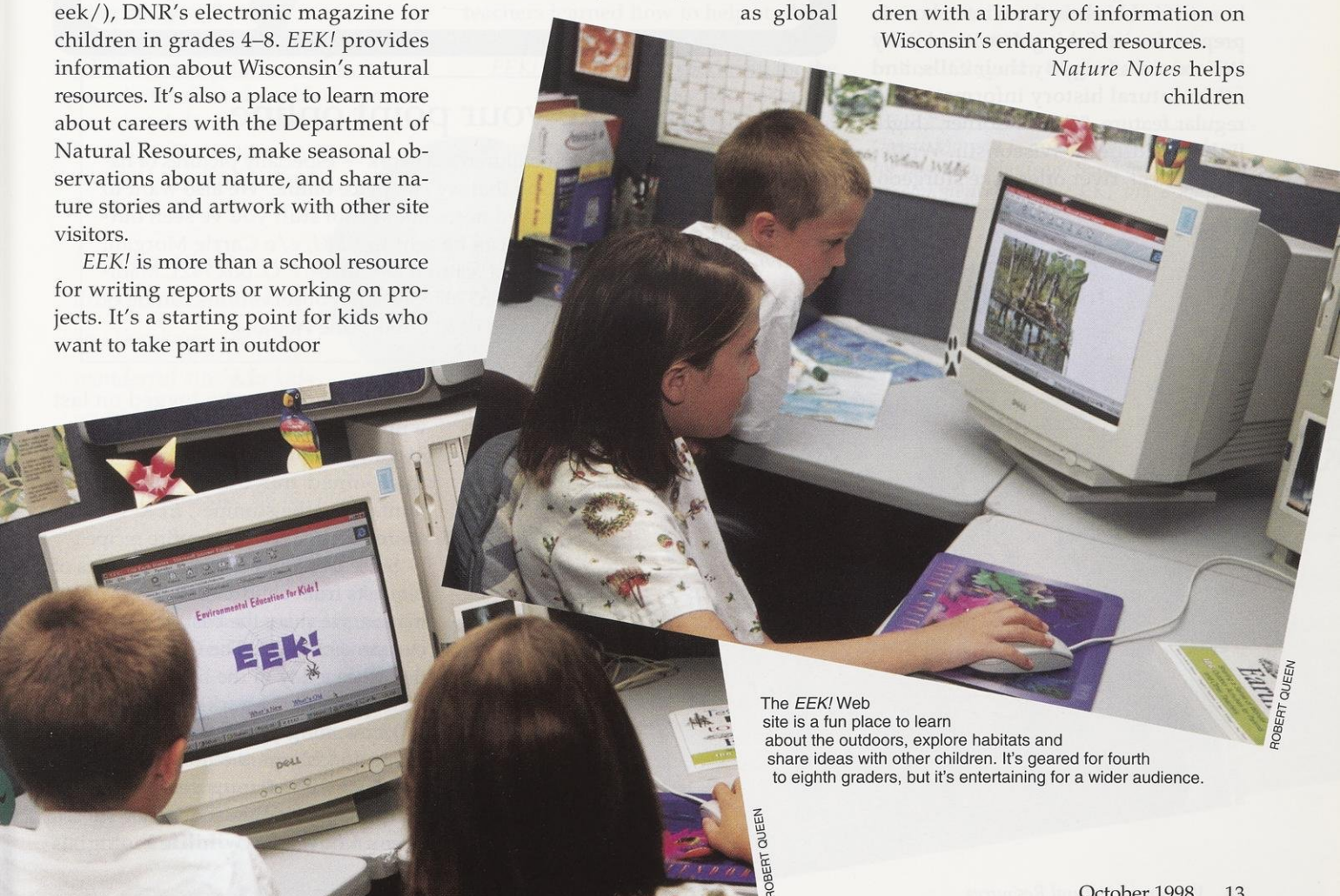
Enter the World Wide Web and connect to *EEK!—Environmental Education for Kids* (http://www.dnr.state.wi.us/eek/), DNR's electronic magazine for children in grades 4–8. *EEK!* provides information about Wisconsin's natural resources. It's also a place to learn more about careers with the Department of Natural Resources, make seasonal observations about nature, and share nature stories and artwork with other site visitors.

EEK! is more than a school resource for writing reports or working on projects. It's a starting point for kids who want to take part in outdoor activities or participate in real environmental monitoring projects. Once students are done surfing *EEK!*, we want them to go outside and enjoy exploring the great outdoors.

What awaits you when you enter the *EEK!* site? Five sections: Our Earth, Nature Notes, Get a Job, Cool Stuff, and The Riddler.

Our Earth features stories and activities about environmental issues. Here you'll explore topics such as global warming, Ozone Action Days, making treasures from trash, and the value of wetlands. A regular feature of this section is "Protecting the Wild Ones," a series of stories about endangered species in Wisconsin. Over the past year, this creature feature has highlighted timber wolf, peregrine falcon, barn owl, Karner blue butterfly, bald eagle and Blanding's turtle. As a new species is featured, the old story is archived on the site. Over time this will provide children with a library of information on Wisconsin's endangered resources.

Nature Notes helps children



ROBERT QUEEN

The *EEK!* Web site is a fun place to learn about the outdoors, explore habitats and share ideas with other children. It's geared for fourth to eighth graders, but it's entertaining for a wider audience.

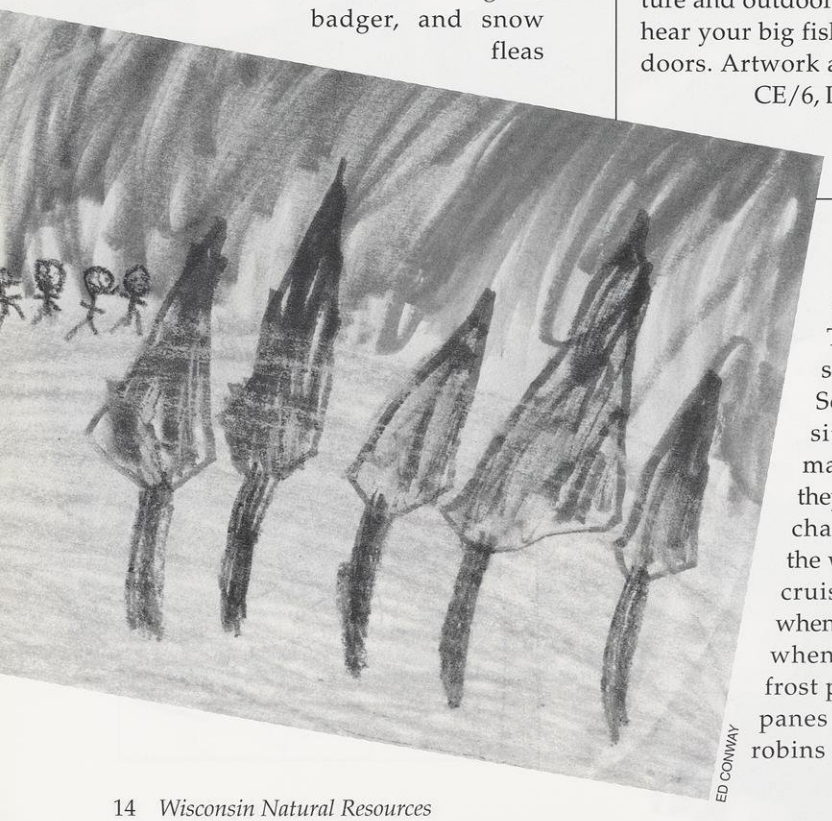
ROBERT QUEEN

"I'm the Educational Technology Consultant for the School District of Phelps. I have given your site to our K-12 staff as an excellent resource for environmental education. I also teach fourth grade and find your Sesquicentennial information on the state's symbols a valuable resource. Keep up the fabulous site!!!"

Dawn Nordine

learn more about the world around them. We simplify the science of everyday occurrences to better explain why and how nature works. Here kids can learn why leaves change color in fall, how to feed birds in the winter, how to prepare for ice fishing, how to identify Wisconsin's frogs by their calls, and other natural history information. A regular feature, "Critter Corner," highlights wildlife in Wisconsin. White-tailed deer, river otter, lake sturgeon, badger, and snow fleas have all been discussed during the last year. The phenology section, "Did You See That?" asks site visitors to e-mail *EEK!* when they notice seasonal changes like when the woolly bears are cruising the fields, when the leaves turn, when the first hard frost paints windowpanes or when the robins return in early spring. Students who logged on last winter took part in an online quiz to identify animal tracks. In the spring, they joined our outdoor scavenger hunt. Over the summer, *EEK!* readers shared their favorite campfire recipes.

Since DNR employees receive lots of requests from children for career information, we share the best answers with everyone on *EEK!*. The *Get a Job* section describes a day in the life of a warden. We explain what a park ranger does. We tell how long you have to crack the books to become a wildlife biologist. Think you have the answers? Visit *EEK!* and take the "biologist quizzler" to see if you know why wildlife biologists



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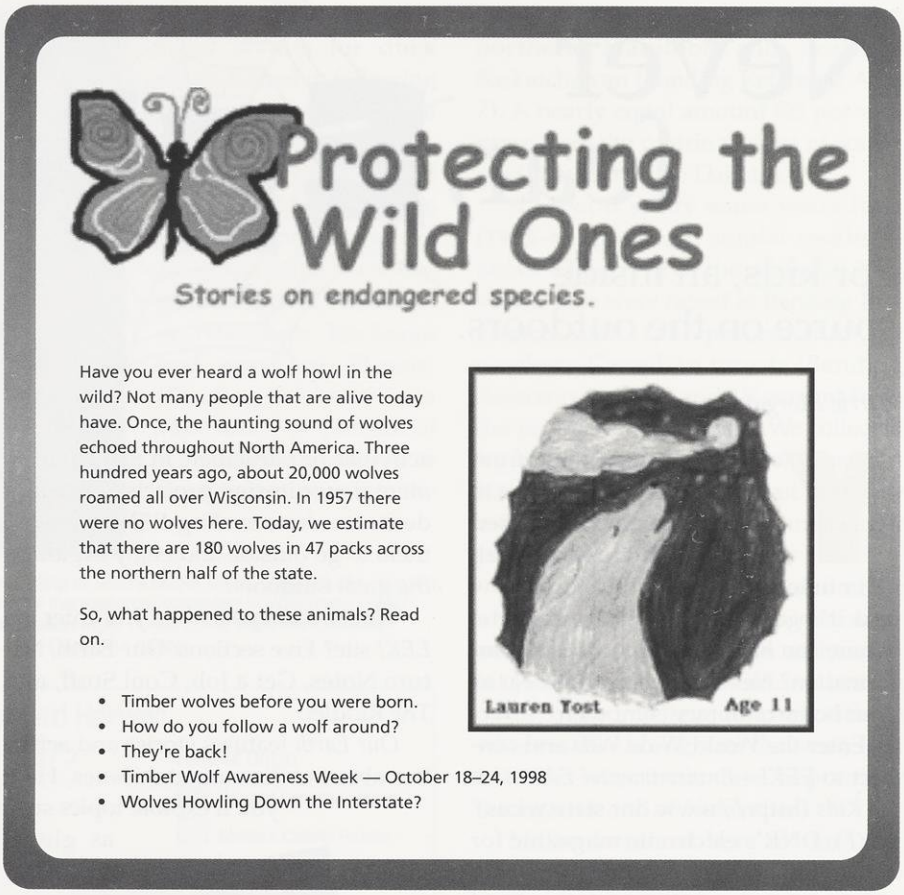
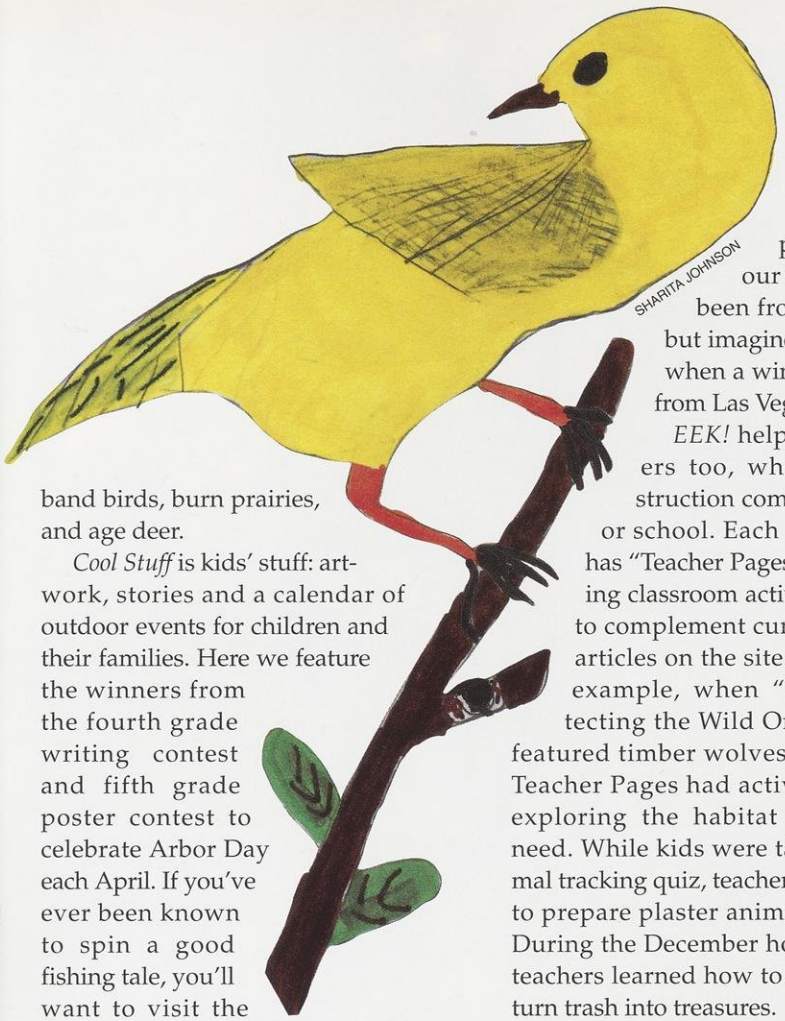


Make your point online

EEK! is on the lookout for children's artwork — especially pictures of nature and outdoor recreation that we can place online. We also want to hear your big fish stories and notes about cool stuff you've seen outdoors. Artwork and stories can be sent to *EEK!*, c/o Carrie Morgan, CE/6, Department of Natural Resources, P. O. Box 7921, Madison, WI 53707. Seasonal observations can be e-mailed to *EEK!* through the Web site.



band birds, burn prairies, and age deer.

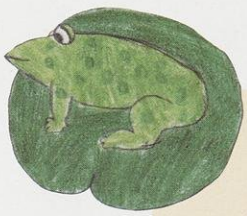
Cool Stuff is kids' stuff: artwork, stories and a calendar of outdoor events for children and their families. Here we feature the winners from the fourth grade writing contest and fifth grade poster contest to celebrate Arbor Day each April. If you've ever been known to spin a good fishing tale, you'll want to visit the Big Fish Stories, pull up an electronic chair and let your yarn unwind. Adults and children interested in learning an outdoor skill can find information about courses, day trips and other outdoor events offered statewide.

If your kids like riddles, they'll love *The Riddler* — one of *EEK!*'s most popular spots. Each month, we feature a new natural history question. The answer can be found somewhere in the *EEK!* site. The first three children who e-mail us with the correct answer win a prize. Most of our winners have been from Wisconsin, but imagine our surprise, when a winner logged-in from Las Vegas!

EEK! helps kids' teachers too, whether the instruction comes from home or school. Each issue of *EEK!* has "Teacher Pages" suggesting classroom activities to complement current articles on the site. For example, when "Protecting the Wild Ones" featured timber wolves, the Teacher Pages had activities exploring the habitat wolves need. While kids were taking the animal tracking quiz, teachers learned how to prepare plaster animal track casts. During the December holiday season, teachers learned how to help students turn trash into treasures.

EEK! is a bit of an experiment for the staff at DNR. Two years ago we began talking about how we could provide children with up-to-date information in a fun, interactive way without some of the costs of a print publication. Many schools, libraries and homes now have access to the Web and an electronic magazine seemed to make sense. Though we've been online for less than a year, *EEK!* is already popular with teachers, students, and families.

What can you and your kids look forward to on *EEK!* in the upcoming year? A special Sesquicentennial edition will feature Wisconsin environmental heroes and heroines. We will also produce a clickable poster on forest wildlife and you'll learn about wild turkey calls. So, next time your children or students want to learn more about Wisconsin's natural resources, send them to *EEK!* and let them surf the outdoors, online. Oh yeah, big kids are invited too. □

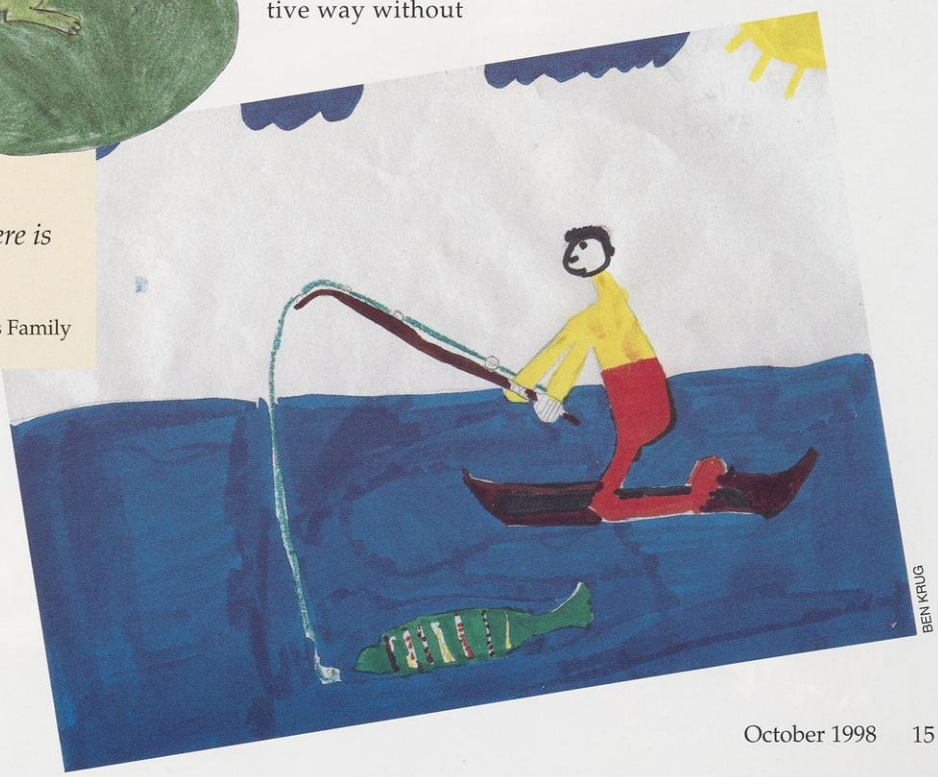


"We think your site is cool and interesting and fun."

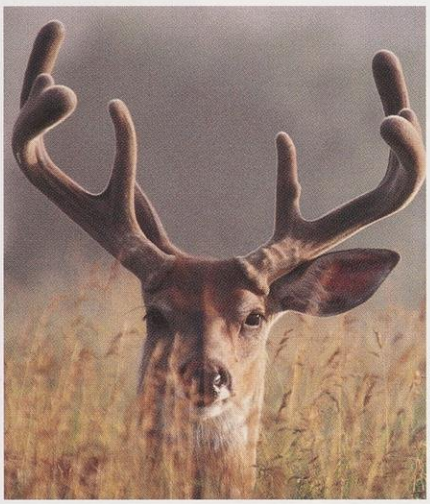
Allison, Shannon and Julia

"I just wanted to drop you a line and say thank you for this wonderful site. My kids and I like to drop in and see what's happening. It's great that there is a site like this for us to come to."

The Gross Family



Carrie Morgan is an environmental educator based in Madison. Send her questions or comments about EEK! via e-mail to morgac@dnr.state.wi.us



R.J. AND LINDA MILLER

Deer on the agenda

When the topic is whitetails; hunters, environmentalists, landowners and businesses all have an opinion.

Kevin Wallenfang

Without question, the white-tailed deer draws more attention than any other animal on Wisconsin's long list of wild species. It may be your favorite to observe or hunt. It may be the bane of your landscaping or automobile. But when Wisconsin people talk about deer, every human emotion will eventually spill out.

That passion keeps hunters, wildlife watchers, farmers, foresters, insurance companies and many others concerned about deer management. And a deep feeling of public ownership has kept people involved in overseeing one of the most intensely managed, highest quality herds anywhere.

Not surprising, hunters have been the cornerstone of this movement, and they have never been shy in telling wildlife biologists how they would like to see the herd managed. The Natural Resources Board recognized there was a more diverse public that is both positively and negatively affected by deer, and the Board set a course to give all interests equal footing in developing future guidelines for managing deer. The resulting planning process called Deer Management for 2000 and Beyond, will use public forums to sort issues and actions into a long-range plan managers will use to address the need to keep the herd, habitat and surrounding communities healthy.

The planning process is led by the Conservation Congress, citizen advisors to the Natural Resources Board who have a long history of mustering community support for conservation, representing the state's fishing and hunting public, and collecting opinions from small and large communities statewide. Given that history, the Congress seemed a good group to help identify and involve a wide range of people.

The Deer 2000 plan aims to collect opinions to set directions to maintain a healthy herd; simplify deer management goals so policies can be applied consistently statewide; and provide flexibility to adjust goals when necessary. Moreover, throughout the process, Deer 2000 will look for partners who will help develop and carry out recommendations.

Initially, a 23-member "design team" of Conservation Congress delegates from around the state are completing logistics for the statewide forums. In addition, wildlife biologists and law enforcement personnel from the Department of Natural Resources are playing an advisory role by attending design team meetings, providing expertise to answer technical questions about managing the deer herd, and addressing public concerns. Also, private consultants have been hired to run the meetings and guide the discussions.

What makes Deer 2000 different from other such efforts? More public involvement. Public hearings, focus groups and task forces have always been an important ingredient in successful deer management. However, in the past, the public would attend a meeting, tell others what they wanted, and go home. In contrast, Deer 2000 hopes to keep people involved in forming public works groups and carrying out recommended projects.

Why involve more than just deer hunters? Because a wider group of people reap the benefits and pay the price of a larger herd. More than $20 million is raised annually selling

Deer 2000 invites hunter, realtor, landowner, landscaper and others to discuss the way whitetails are managed and pressured as the countryside changes.

deer licenses, but that's just the tip of the iceberg. Deer hunting, deer watching, feeding, and many other deer-related activities contribute more than one billion dollars to our state's economy every year. Grocery stores, motels, restaurants, sporting goods stores, realtors, taxidermists and sausage-makers all have a stake in the herd. On the other hand, deer also cause a great deal of monetary loss. Car/deer collisions, loss of agricultural crops, tree damage at nurseries and landscaping losses cost millions of dollars each year as well. Further, those who develop land affect the herd and vice versa. So highway planners, road builders and subdivision developers are being asked to come to the table as well.

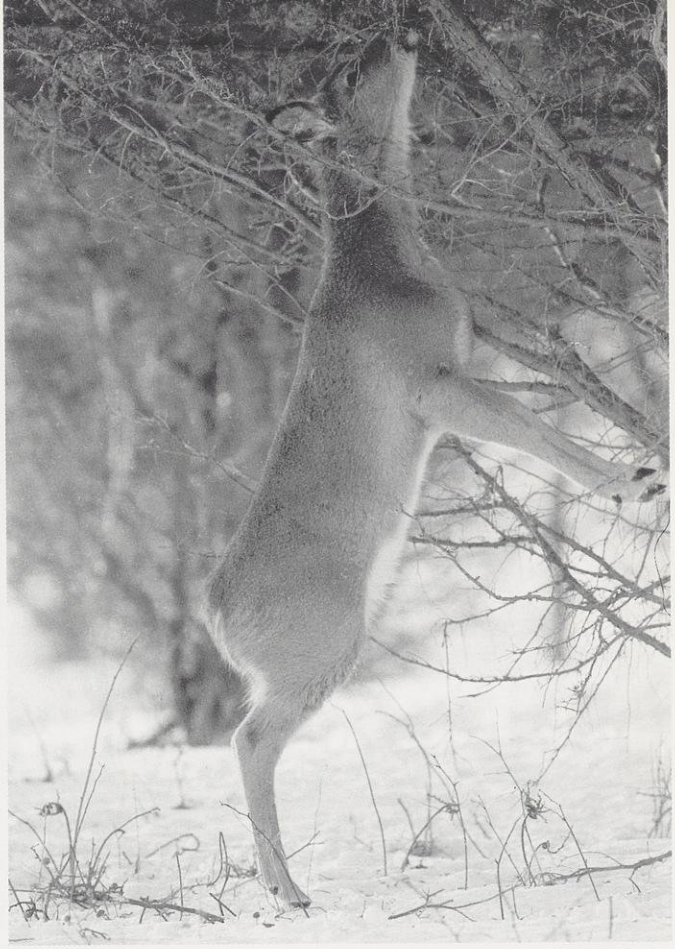
Other "costs" are harder to place a price tag on, such as the biological changes that occur when a large deer herd eats plants and changes habitat for other animals and plants.

By involving many interests, it is hoped the Deer 2000 plan can search out the needs of more users, reduce conflicts among users, and provide the recreational opportunities that all Wisconsin residents have come to expect.

How you can get involved.

The Conservation Congress has already spent a great deal of time meeting with a wide variety of groups to involve farmers, environmentalists, hunters, landowners, loggers, and others. Two conferences were held in July to collect comments on the planning process. This fall, more public meetings will collect comments and identify issues for a deer plan. In 1999, participants will put meat on the bones by discussing each idea and proposing solutions. Then, an educational phase begins in which ideas raised at meetings will be discussed at community meetings, and with local interest groups. Changes in state laws needed to carry out the proposals would also be drafted in spring of 2000. New management programs and projects could start by fall of 2000.

Those who want to track progress, participate and educate themselves on Wisconsin's deer management programs can do so through the mail, e-mail, by visiting the Deer 2000 Web site (www.dnr.state.wi.us/org/land/wildlife/hunt/deer/deer2000/) or by direct contact with Design Team members. □



HERBERT LANGE

Development changes deer habitat, and a large herd of browsing animals changes croplands and forests. Feeding deer can dramatically alter the mix of plants and cover available to other wild animals.

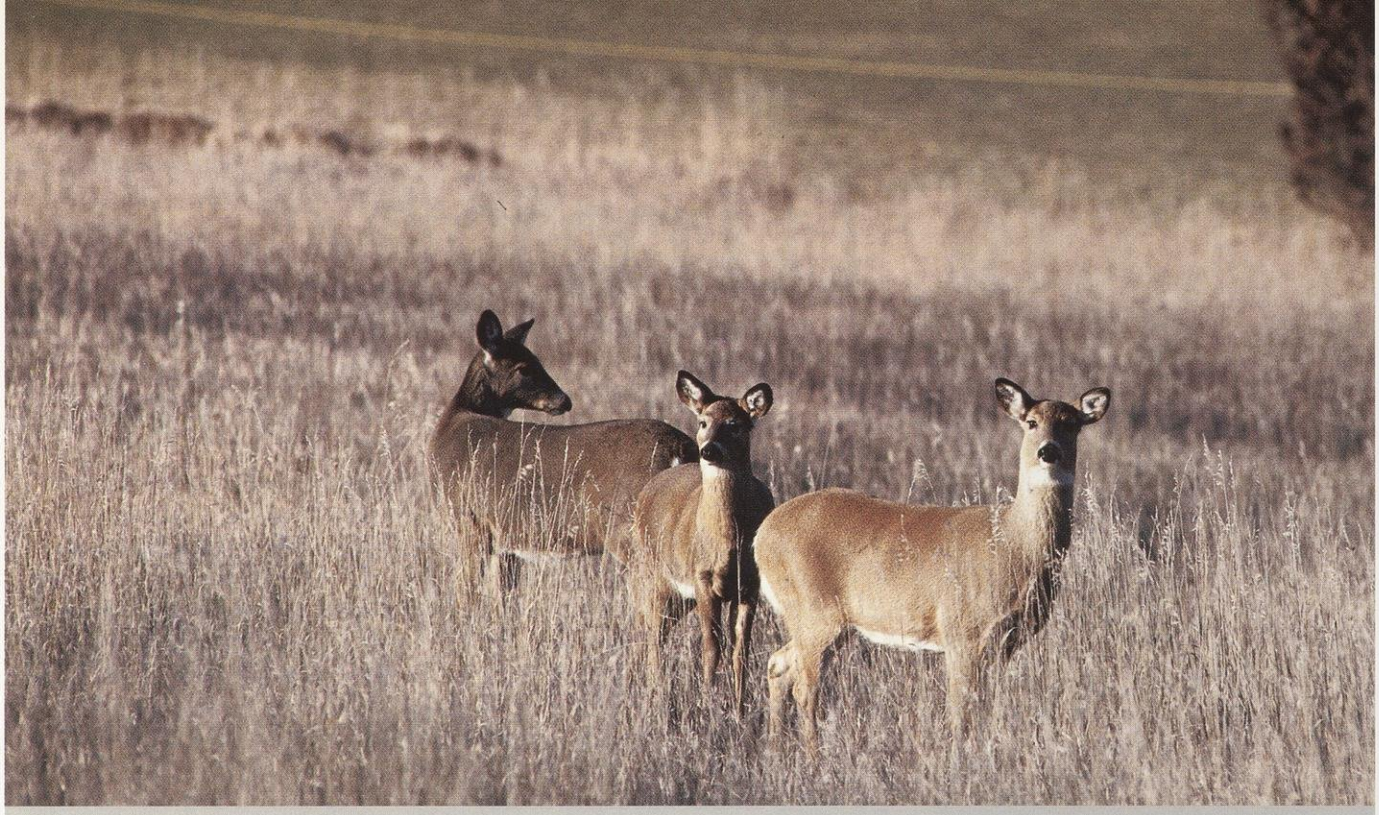
Kevin Wallenfang coordinates the Deer 2000 Project. Call him at (608)266-8130.

Deer 2000 meetings will recommend both policies and activities to balance the costs of those who pay the price for lots of deer with the benefits of a large herd.

KEVIN WALLENFANG

Exhibits at sports shows and other outreach will encourage outdoor groups, environmental organizations and professional groups to help carry out deer management plans.

KEVIN WALLENFANG



HERBERT LANGE

Here are some of the questions the Design Team has raised as a starting point to stimulate broader discussions about managing deer.

1. The deer hunting seasons —

- What do you feel are the most important reasons for having a deer season?
- What are your opinions about the deer season frameworks?
- For you, what factors determine a successful deer season?
- What factors are important for an acceptable deer season?

2. Herd management —

Wisconsin is divided into nearly 130 deer management units each with a population goal. These units are bounded by landmarks people can identify – rivers or roads. Population goals are set based on the number of deer the habitat can support and the number of deer that landowners will tolerate. The deer herd in each unit has a specific sex and age structure that may or may not be acceptable to people.

- What opinions do you have about managing deer by the current deer management units?
- What concerns, if any, do you have about the believability of deer population estimates?
- What points should be considered in managing the sex and age structure of the herd?
- What factors do you feel make up a "quality" deer population?

3. Well-being of wildlife and people —

The deer herd affects plants and animals, wild and domestic. It also raises human health concerns (Lyme disease) and safety issues (car/deer collisions). Concerns about how deer potentially harm livelihoods and property need to be addressed.

- What are your concerns about such ecological issues as the impacts of deer on other wildlife and native plants?
- What are your concerns, if any, about deer impacts on agriculture?
- What are your concerns, if any, about deer impacts on ornamental landscaping?
- What are your concerns, if any, about deer impacts on forests?
- What is your opinion about the current deer damage program?
- What concerns and interests do you have regarding health and safety issues as they relate to deer management?
- What interests need to be considered when deciding how many deer to have?

4. Land use —

Our ability to manage deer in Wisconsin changes as land use and land access change. Development forces the herd to move. Hunters are less welcome on some private property than in past years or may be asked to lease hunting privileges. Hunting on public lands has become more crowded and other users want access to these properties during the deer hunting season.

- What are your issues regarding deer hunting access on private lands?
- What are your issues regarding deer hunting on public lands?
- What are your opinions about deer hunter behavior and hunting practices?

5. Paying for future deer management —

Deer management programs are almost entirely funded by hunting license fees and excise taxes on hunting equipment. Since the herd affects a larger group, should others help pay the cost of herd management?

- What are your thoughts about financing deer management?
- In what way, if at all, would you like to be involved in identifying and making future deer management decisions?

Stumped by a sale

How woodland owners can get burned when selling their trees.

Story and Photos by Katherine Esposito

If a forest can be said to have lost its soul, this one surely has.

Ten to 15 acres of Marquette County century-old white pines, two to three feet in diameter at knee height, are gone, every one. So too are all the half-century pines, the ones that would have dropped their cones to start a new forest. Even trees smaller than those are down, blown over by high winds and weakened by hot sun. When I visited last April, five years after the last logger packed up his chain saw and left, the only signs of life were two or three short wisps of new pine and a panicked wild turkey.

Tornadoes can wreak this kind of havoc. So too can a determined logger who hasn't got the future on his mind. State foresters can be reluctant to talk about the minority of loggers who leave a bitter aftertaste in landowners' mouths, but every one knows they exist. When I asked around last spring, tales tinged with bitterness and regret burst forth, mixed with hope that the telling would prevent a repeat somewhere else.

The lowdown on high-grading

When logging is poorly done, some trees are left, but usually the wrong ones — the sick, the small, or all one species. That practice, called high-grading, makes it hard for the forest to renew itself quickly, to benefit both wildlife and the landowner.

How frequently forests are badly cut is anybody's guess. What the DNR does

Felix and Dolores Scharschmidt's 45 acres of oak and hickory were logged without a contract review by trained foresters. Two years later, the couple still await full payment and don't know the value of logged timber. "We know now how it should have been done," Felix said.

know is that over four-fifths of tree harvests on land owned by private individuals — which accounts for 60 percent of the state's wooded land — are carried out without the help of any forester. Said Curt Wilson, a state forester from Brown County: "What are the chances of a proper harvest? It's a statistic I struggle with all the time, and it doesn't go away."

It's a troublesome figure, but without any research, there's no way to know what it really means. "I can't say that half the timber out there is being cut improperly," said Paul Pingrey, the DNR's statewide private forestry specialist. "There's a lot of anecdotal evidence that it occurs. That's why we offer private forest assistance, but we never actually measure how good a job loggers are doing on their own."

For retired farmers Delores and Felix Scharschmidt and others like them, the damage is less to their forests than to their purses and egos. Their 45-acre Green Lake County woodlot had been logged two years earlier, and Delores was painfully aware of how her beloved backyard woods had changed. Many stately white oaks and hickories had been reduced to dark stumps and slash.

"I cried when I came in here," Delores told me. "[The logger] was gonna come back, and do this, and do this. He never came back."

He also never finished paying them for the trees, and what he did pay may have been below the lumber's worth, according to the Scharschmidts. A copy of their contract with Pete Borchert, the logger, attests to his failure to finish paying — the logger himself in early 1998 asserted that he still owed the couple about $12,000, though they believe that to be low. But as to the wood's worth, the truth may never be known. No one besides Borchert, who never responded to my telephone calls, had tromped the forest to determine the trees' full value — not a trained forester, nor one of the Scharschmidts. Now, checking stump sizes to guess the quality of logged trees is mostly fantasy.

"How to take a reading off these stumps?" said Felix. If he could do it all over again, he mused, he would have measured every log himself, or hired a forester.

"Felix is as honest as the day is long," insisted Delores. "We thought Borchert's word was good, too. We know now how it should've been done. But I don't want it to happen to anybody else."

What's left behind after logging

I had wondered what woodsmen meant by "high-grading," and now, picking my way through a sea of slash piles on Phil Hoopman's land, I knew. Another man who owns a portion of the land, Green Lake wood refinisher Jerry Norris, sounded tired when I asked how he would fix it. "I honestly don't know," he said.

In 1993, about 15 of 210 acres that he and two others bought the following year had been visited by chain saws and skidders. The cut acreage was as open to the sun as a cow pasture, and in a few places windburned tree trunks still stood, ghostly reminders of what the stand had looked like for most of this century.

The problem? The logging crew didn't leave any established pines to reseed the land, and in five years virtually nothing had improved. Had the woods been aspen or possibly even all oak, clear-cutting might have been proper, because aspen sprouts from suckers, oak can shoot up from stumps, and both would benefit from the extra heat and light. But not so with a pine woods. "The point is, it forces Hoopman to do a lot of extra work," said Jim Kronschnabel, a DNR forester based in Montello. "He'll have to go in and replant in sparse areas, and spend a lot of time and money and effort to get the woods back. If it had been managed properly, he wouldn't have to do that."

In fact, in the summer of 1997, after seeing nothing but weeds sprouting for several years, Phil finally paid a man on a bulldozer $1,000 to push a large section of slash into a big circle, freeing space to plant new trees. Barring that effort, something eventually would have

(top) Phil Hoopman paid plenty to push branches and slash off a portion of his pines that were high-graded. He will have to replant sparse areas and spend both time and money reclaiming his pines. *(above)* Another area of his hardwoods were harvested with more care and will regrow naturally.

grown, but it might not have been what he wanted, he said.

Phil had bought his 80-acre share of the land in 1994, but not from the original sellers, the grown children of an elderly couple who'd let him hunt there for two years. He couldn't afford their price of $650 per acre. But the Ort Lumber Company of New London could, so they bought the land and proceeded to log the hundred acres or so that contained trees.

In May I asked the lumber company's vice president, Tom Ort, to visit the tract, five years after his crews cut it. He never did, being enmeshed in a major business deal at the time: the following month, Ort Lumber bought the Tigerton Lumber Company and its 50,000 forested acres for $60 million, bringing Ort's total state acreage to 70,000 acres. "People got different opinions," he finally said. "There's a lot of bad loggers out there that take advantage of people all the time. Ort Lumber doesn't do that. That's not to say 10 acres couldn't have been done differently."

Phil, a quiet sort who works as the director of Ripon's wastewater treatment plant, doesn't rail at Ort Lumber for what they did, though he does admit to a touch of cynicism at times. ("They started high-grading in the dead of winter, when it was 20 below. There wasn't a lot of traffic.") Mostly, he just sighs and contemplates his choices.

"It was like a park in here," he said, akin to the other woods down the road that wasn't cut so completely. In that stand, where Phil points out a majestic 100-year-old maple and a huge pair of twin oaks that he marked to save, the slash piles aren't so disturbing, scattered as they are between standing trees.

"They had a legal right to do it," he continued, speaking of the lumber company. "But it's a matter of integrity — not leaving a big mess for people thereafter. We're all humans. We all have a touch of greed in us. But it isn't probably the right thing to do."

Fair deals don't grow on trees

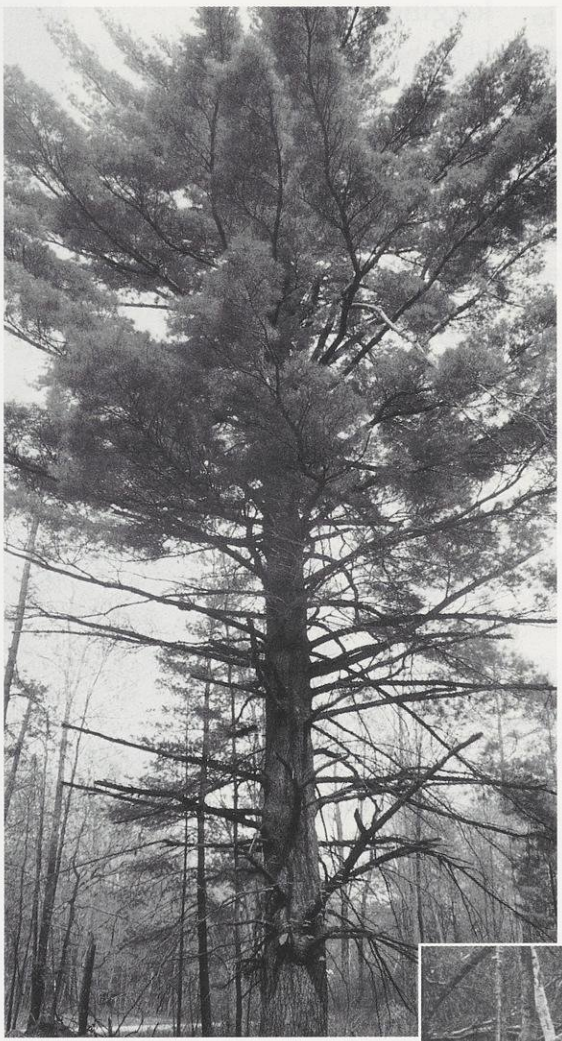
Ask a forester if he or she has ever heard of landowners dissatisfied with the jobs done on their woods, and you'll receive a knowing nod. Ask the landowners themselves, and they'll ask you to pull up a chair, and later send you off with the names and numbers of five more. You'd think that Wisconsin would run out of people to hoodwink or forests to loot, but as long as there's money to be made, the problem won't disappear.

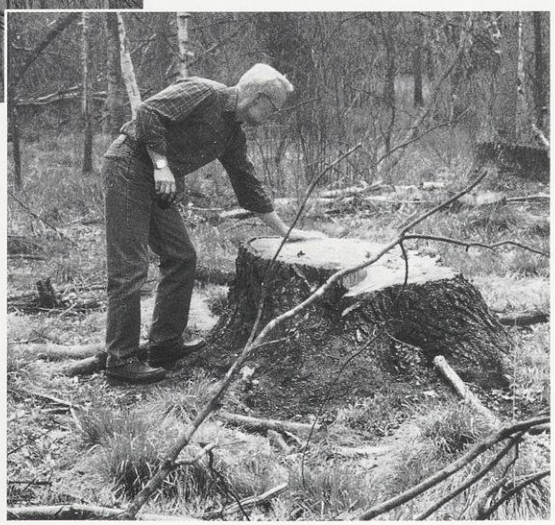
Logging is a $19 billion industry in Wisconsin, and those who labor through sweltering summers and icy cold winters to bring timber to sawmills to be turned into magazine stock or sleek new kitchen cabinets, certainly deserve a good wage.

There's no rule saying that timber owners must be assured of the highest price. But someone selling a house, for instance, may take weeks to evaluate the proposals forwarded by interested buyers. The same strategies should apply to logging. Time and time again, however, when a man with a skidder and $10,000 in promises appears at the front door, a family decides right then and there to cash in their trees.

Ten thousand may sound good, but what if the wood was worth even more? Theodore Tofari, Sr., had more than once lost money on timber sales before he got smart. Ten years ago, he received a $30,000 bid for 40 acres of white and red oak, and he demurred. The logger raised his bid; Tofari said no again. Weeks later the anxious woodcutter finally offered $43,000 and Tofari accepted. "I kept hanging on 'til I thought it was fair," he said.

For some people, however, the money isn't even the biggest issue. It's the disappointment that comes after realizing their kitchen-table deal was worth less than the coffee they drank while writing it.





Before setting up a logging contract, have your woodlot professionally cruised and valued, then mark the trees that should be harvested. *(below)* Make the time to oversee the actual harvest. Even after trees were marked, one of the big trees Hoopman wanted to save was cut.

Log it right

Different tree species need different harvest methods to ensure the forest will naturally recover. Almost 60 percent of Wisconsin forests are privately-owned, but only 20 percent of these valuable lands are logged with professional advice.

After a logging contract on his famly's land went sadly awry, Gary Thalacker decided to learn more about the right way to have a forest logged.

"If a logger shows up on Friday night and leaves on Friday night with a signed contract, you're probably giving your wood away," he insists. "Have him quote you a price and call someone else."

Many of Gary's ideas are contained in a free pamphlet published by the DNR, the Wisconsin Woodland Owners Association (WWOA) and the University of Wisconsin-Extension. The pamphlet, "Working Together in Your Woodlot: Forester, Logger and Landowner" is available through the Wisconsin Woodland Owners Association, P. O. Box 285, Stevens Point, WI 54481. Some suggestions include:

— Consult a trained forester who will help you define goals for your woodlot. The DNR can provide limited free advice.

— Check a forester's years and type of experience; professional affiliations and training. Examine a logger's financial stability and records of timely payment; logging practices; care of the site, roads, and remaining trees; safety record; and how salable timber is used. Be sure the logger has liability and workers' compensation insurance.

— Draw up a contract with both forester and logger. The WWOA has samples of such contracts. Have an attorney review the contracts.

Curt Wilson, who recently was named the state's 1997 Forester of the Year, says a trained forester will look at five or six other criteria first before considering the diameter of the trees on a woodlot. The goal, Wilson says, is to leave a certain number of trees in each size category, allowing a steady progression of newer trees to grow into the next size class. "If someone knocks on the door and offers $10,000 for all trees over a certain diameter, that's the worst thing you can do to a northern hardwoods forest," Wilson says.

In Waushara County, DNR forester Marcia Vahradian keeps a list of landowners willing to talk about their experiences with particular loggers, including how clean they left the harvest site. "A good logger will cut slash down and run it over with a skidder, to get it as close to the ground as possible," she said. "The closer it is, the faster it is going to rot."

Seller beware!

It was just that sort of rude awakening for the Thalacker family of Montello. Ten years ago they learned that their logger, who'd walked the 120 acres of woods with them after signing a contract, violated that agreement by felling healthy, hundred-year-old white oaks the family told him not to cut — a blow both to the landscape and to the Thalacker's faith in humanity. Later, after realizing what a neighbor was paid for considerably less wood, the family surmised that they'd also lost a lot of money.

The original plan called for a DNR forester to help mark 120 acres of red oak that had been afflicted by oak wilt and needed thinning. Once the marking was accomplished, the logger selected and a contract written, Vernon Thalacker went to his job with the highway department and returned home to find his favorite stand of mature white oaks gone. Twenty acres, every one.

"He didn't believe it at first," said Vernon's son, Gary. "They basically stole trees from us." The experience left his father, who died in 1994, smarting and stumped for words.

The family received $12,000 for 140 acres of trees, Gary said, but a neighbor who'd had his 20 acres harvested was paid $24,000. "My father trusted the logger," Gary said. "He thought he [the logger] was giving him a good deal." The neighbor, meanwhile, stayed home during his forest's harvest and asked the sawmill for receipts.

The experience left Gary and his mother, Mary Jean, mistrusting anyone with a smile on his face and a skidder in the driveway. "We had to learn from our mistakes," he said, ruefully. "But we'll never have those trees again." □

Katherine Esposito is a staff writer based in Madison.

Coming to grips with growth

Swamped by a building boom, the shores of northern Wisconsin's lakes and rivers are losing habitat — and the very essence of The North itself.

Jim Bishop

Tucked away amid the gently rolling hills of oak and jack pine, 68-acre Sunfish Lake is hardly noticed by most people in Washburn County. But in the current rush for lakeshore property, this water body, like many in the north, was noticed by developers.

With all of the best sites on Sunfish already sprouting seasonal and permanent homes, developers went to work on the "marginal" lands — sites with steep slopes, adjacent to large bogs or wetlands, shallow weedy bays, poor access, or terrain that blocks a view or access to the water.

In one instance, a large cabin was built atop a hill 200 feet from shore. Nearly every tree was cut to give the owner a lake view. A mechanical weed cutter was used to cut back aquatic plants that blocked access to the property from the water. The cutter operator was later fined for scouring the lake bottom rather than just trimming a path through the plants that are so valuable and necessary to fish and wildlife.

The Sunfish story is repeated again and again on northern Wisconsin's 12,400 lakes. In a report examining the region's lakes and shorelines, the Department of Natural Resources found that since 1960 about two-thirds of undeveloped lakes 10 acres or larger have been developed. The average number of shoreland dwellings on all lakes has more than doubled in that time. The report estimates if this trend continues, all undeveloped lakes not in public ownership could be developed within the next 20 years.

DNR PHOTO

Overdevelopment on the shore and in the water threatens the appeal and the biology of Northwoods waters. *(above)* An aerial shot of Sunfish Lake. The weed cutter who scoured all vegetation from the bottom was fined. The damage to fish and other aquatic life will take a long time to recover.

Vilas and Oneida counties contain one of the highest concentrations of

ROBERT KORTH

lakes in the world, and they are part of this trend. In 1990, Vilas County issued 1,102 zoning permits. Five years later, 2,049 permits went through the zoning office, many of these approved for new building sites.

Home starts in Oneida County jumped from 328 in 1995 to 351 in 1996. Housing starts dipped slightly in 1997 to 338, but 184 of these were new homes on lake, pond, or river sites.

"We are currently looking at a new home start every day," said Steve Osterman, Oneida County zoning administrator, "and about 50 percent of these are for homes along lakes and rivers." Riverfront properties are becoming more popular, he added, as the good home sites on lakes are taken. The average lot size for an Oneida County lake home in 1997 was 3.3 acres, while on a river the lot size increased to 14.4 acres, still good-sized, but lots continue to get smaller over time.

80% of respondents think Sawyer County should develop additional policies which encourages future shoreline development to maintain a "northwoods" appearance and character.

Sawyer County Shoreland Survey, 1996

As more marginal properties are developed, buyers are seeking new ways of getting to the water. Vilas County requests for permits to construct boardwalks or elevated piers over wetlands have never been higher. Others want to open sloughs or widen channels from small ponds or lakes into larger nearby waterways. And more requests to fill and alter wetlands are now coming into the zoning administrator's office.

Since even marginal lands are selling at a premium, property values have skyrocketed. In 1994, according to the Wisconsin Taxpayers Alliance, seven of 10 counties with the largest rise in property taxes were in southern Wisconsin. Two years later, all top 10 counties with fastest rising rates were north of an east-west line through Green Bay.

A problem acknowledged

The rising tide of development has not gone unnoticed by local citizens and government officials. Concern over the loss of upland green areas, loss of scenic beauty, damage to shore habitat for fish and wildlife, and degradation of water quality have prompted action from the grassroots to state government.

In 1993, DNR Secretary George Meyer started a Northern Initiative project to examine how the department's work affected northern Wisconsin. He asked both residents and visitors to identify the region's top resource issues. Three primary concerns emerged: the quickening pace of change in the north, the impact of shoreline development, and the threat to the traditional lakes and forestry economy.

In addressing the shoreline issue, a special Northern Initiatives Team suggested four courses of action in its report, *Northern Wisconsin's Lakes and Shorelands*:

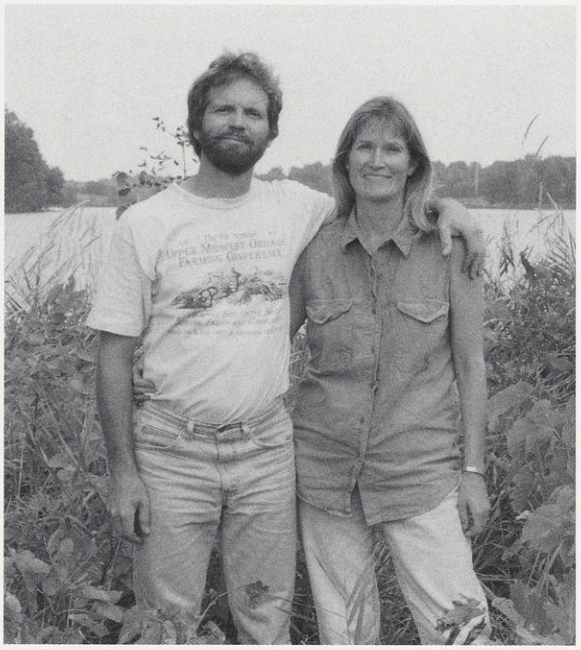
1. Expand public information and education efforts about the environmental, social and economic importance of lakes;
2. Target assistance to owners of ecologically-important undeveloped lakes and shorelands who are interested in voluntary conservation measures;
3. Provide technical and financial assistance to local municipalities, upon request, to develop and adopt enhanced shoreland zoning ordinances;
4. Assist local governments and private conservation organizations in acquiring ecologically-important lakes and shorelands.

The Department of Natural Resources also studied the need to acquire ecologically significant lakefronts for public use. This past year Stewardship funds were used to purchase the Willow Flowage in Oneida County. A total of 8,720 acres of land and water will now be held in public trust for all generations. The northern boundary of this wild area also contains the state's largest wolf pack.

Large purchases such as this are the exception rather than the rule. It's often up to private individuals or groups to secure sensitive lake lands from the bulldozer's bite.

Private protection, public benefit

Loss of upland wildlife habitat concerned the Clark family, owners of land adjacent to Alabama Lake in Polk County. The lake's fishery is considered "limited" due to the occasional freeze out, and until 1994 it had been largely overlooked by developers. But migrating birds, deer, coyotes and other wildlife used the lake and the surrounding shoreland, which contained eagle nests and heron rookeries. When



COURTESY OF CHRIS CLARK

On Alabama Lake, the Clarks worked with neighbors, land trusts and conservation groups to limit shoreline development. The lake is within commuting distance of Twin Cities workers.

Otter Point — a 12-acre finger of wild land on the west shore — was sold to a developer, the Clark family stepped in.

"Persistence paid off," said Chris Clark, who along with her husband and an anonymous donor, worked with a trust and bought land that prevented development on Otter Point. She said the Polk County Board was ready to give the go-ahead to the developers when a friend came up with the $40,000 to purchase the land.

Since that time the Clarks have worked with neighboring landowners to set aside land around the lake in conservation easements, with help from the Wisconsin Farmland Conservancy, Ducks Unlimited and Prairie Restoration.

If the lake is protected it will be one of the few remaining undeveloped waters in the area. Given that Minneapolis-St. Paul are so near, land on lakes in Polk and Burnett counties is a desirable commodity.

"Many people are purchasing seasonal homes, changing them into permanent dwellings and commuting from the Twin Cities," said Bruce Swanson, a northern basin unit supervisor who has been with the Northern Initiatives program since its start. "The natural beauty that drew people to the area is being gobbled up and residents are demanding some type of slowdown."

Disappearing in development's wake

Part of what attracts people to a lake or river is lost when native plants and animals founder after development. A recent study by the Sigurd Olson Institute and the Department of Natural Resources documents the loss.

During the summer of 1997, researchers surveyed several dozen undeveloped and developed lakes in Vilas, Oneida, and Forest counties, measuring the relative abundance and variety of frogs, birds, plants, trees and animals. Researchers discovered the fishery was the real loser in the end.

"We found that on developed lakes, people are clearing away shoreline plants and aquatic vegetation vital to sustaining the food chain for fish," said department wildlife toxicologist Mike Meyer, one of the study's authors.

Shrubs covered 64 percent of the shoreline on undeveloped lakes and only 16 percent on developed lakes. So too, trees with leafy canopies covered 35 percent of the shoreland on undeveloped lakes versus 22 percent on developed lakes. The loss of aquatic plants and woody debris means spawning fish, juvenile fish and fry have less food; less overhead protection from big fish, birds, and other predators; and fewer territories suitable for nesting.

When studying frogs, researchers found that undeveloped lakes averaged one frog for every 126 feet of lakeshore, compared to one for every 220 feet on developed lakes and one frog for every 470 feet on very densely developed lakes.

"It was unsettling to go from the din of a full chorus of frogs and toads on an undeveloped lake to a developed lake only two miles away that was absolutely silent," Meyer relates.

The research indicated the current Wisconsin Shoreland Zoning Program permits habitat to be altered intensely enough to change the bird communities associated with northern lakes. Grackles, blue jays, robins and catbirds are replacing warblers, creepers and thrushes along northern shores.

Zoning and other shoreland controls

Several steps could minimize shoreline damage. Better support for understaffed and underfunded county zoning offices would increase the enforcement of buffer zones. To better meet state goals to protect natural beauty, control erosion, reduce the flow of nutrients and sediments, and protect fish and aquatic life, the state could review the ambiguous language in regulations that allow vegetation cutting. New lake protection programs, like the Oneida County Lake Classification System, address these issues, and other counties are similarly examining their zoning controls.

In Iron County, development pressures prompted the county board to enact a six-month moratorium halting construction and subdivision of lakefront property. That step provided time to develop better regulations. A new ordinance, passed by the board in February, covers lakefront property of less than 60 acres, and condominium development.

Washburn County is rewriting its shoreland zoning rules to protect the public interest and the water resources.

According to zoning administrator Craig Conroy, all the lakes in Washburn County are being evaluated and placed in three classes of potential development — maximum, moderate and minimum — based on their need for protection and existing development patterns. The county has 968 lakes of which 209 are larger than 10 acres.

The classification system recognizes that all lakes are not created equal. About two-thirds of the county's lakes are round, while the remainder are long or spider-shaped. Lakes with more shoreline and a smaller volume of water may have more homes — and

more water quality problems.

The classification system also weighs the value of scenery and aesthetics to property owners. Their top four concerns? Habitat protection, water quality, shoreline development and fishing.

Under Washburn's new system, highly vulnerable lake resources are separated from those less vulnerable, or those with little to gain from changed land uses. The system takes into account a lake's surface area, type (whether seepage, spring or drainage), watershed area, shoreline development, and existing density of structures.

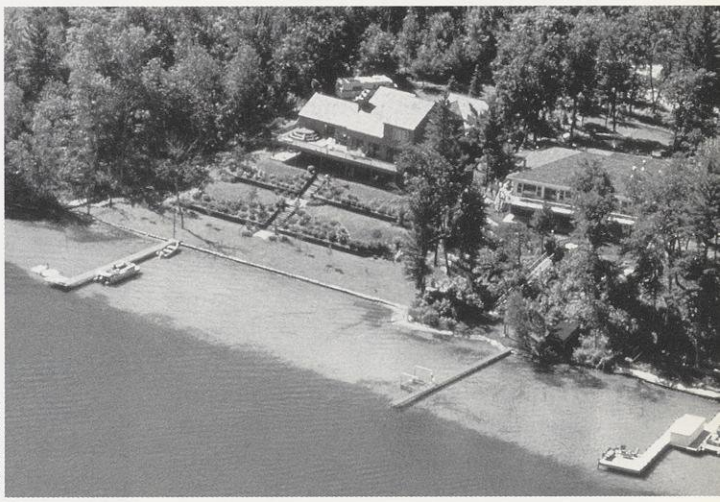
Currently most of the north's counties are in the process of reclassifying their lakes.

Oneida County is revamping its 25-year-old shoreline zoning ordinance. Since December 1996, a nine-person committee has met 50 times to discuss issues such as lot size, square footage, tree cutting, the ordinary high water mark, and inspections.

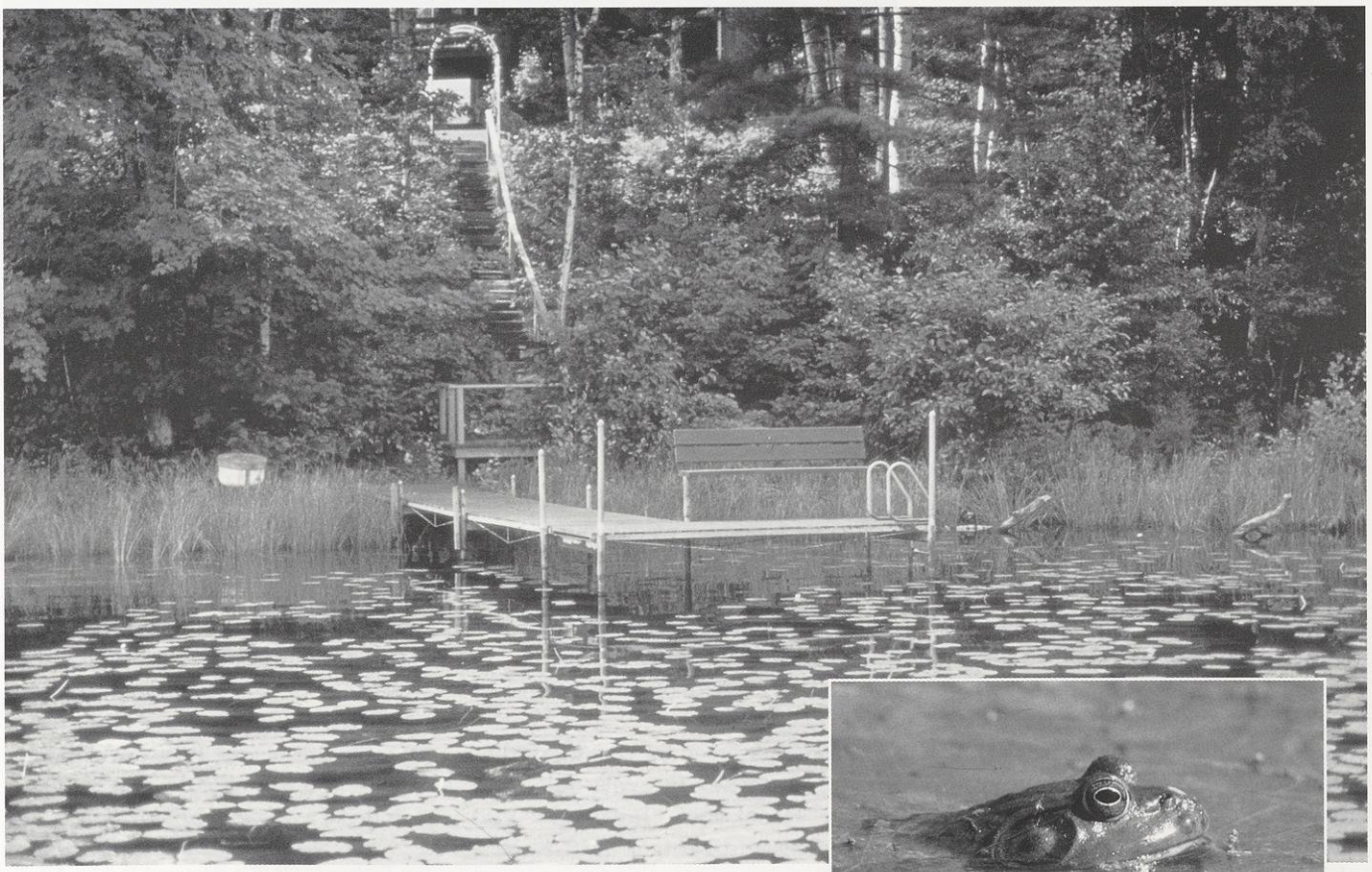
"Our emphasis is protecting the land," said Steve Osterman, county zoning administrator. "Our goal is to put rules in place to prevent shoreline degradation." But, as Oneida County discovered, some folks just don't know about local requirements to protect shorelines.

When Oneida County surveyed realtors and contractors, it discovered these people who manage property every day were unfamiliar with the county's Shoreland Protection Ordinance. Likewise, property owners correctly answered only 17 percent of the questions about local ordinances. More than 75 percent of these lake property owners had never previously owned lake frontage. The need for more education is clear.

In addressing shoreline tree cutting, Oneida County wanted to use guidelines in a DNR handbook on Best Management Practices for shorelands which recommends a no-cut zone 50 to 100 feet from the shore. That concept concerned the timber industry, though their



ROBERT KORTH



DNR PHOTO *(INSET)* CHARLES FONAAS

(upper right) Clearing the vegetation from lakeshore homes lets pollutants run off the land unimpeded. Excess nutrients feed excess plant growth in the water and smother habitat for fish, frogs and other animals.
(above) This cabin still maintains a view of the water. Maintaining screening vegetation is good for habitat and equally pleasing from the shore and the water.

organizations embrace the idea that good shoreland management is compatible with quality forest management.

"The Michigan-Wisconsin Timber Producers Association voiced concern because it would take timber out of production," Osterman said. He added the ordinance committee might have to work out a different system recognizing the needs of the timber interests.

Oneida County is also considering a mitigation program. If a structure cannot comply with the zoning code, the landowner would have to do some extra work to protect the shoreline. "This may mean no cutting of grass near the water's edge to provide near shore animals with habitat. Or on steep slopes diverting water runoff sideways rather than letting it run straight down," Osterman said.

Other counties are also considering adopting mitigation practices. Langlade County has a mitigation clause in its code while Burnett and Douglas counties are focusing on restoring buffer strips on overdeveloped lakes.

Responsibility lies at the shore

In the end, it comes down to the owners of lake or river property to determine the environmental health of the system. John Haack, a long-time water regulation and zoning specialist for the Department of Natural Resources in Spooner and now a University of Wisconsin-Extension Water Resources Educator, said that it is often difficult for shoreland owners to understand the significance of alterations they make along their 150 feet of shore.

"From a lake property owner's perspective, removing the shoreline vegetation and cleaning up the lake by removing logs often seems insignificant and desirable," Haack said. By taking a broader look, however, a person can't help but recognize that the cumulative changes are altering both physical and biological characteristics of our northern waterways.

Haack puts some of the blame on what he calls the "urban yard ethic." People who have lived most of their lives in cities or suburbs often try to reestablish park-like settings in wild areas. Lawns are planted and chemically treated to hinder weeds and insects, beaches are cleared of debris, and trees are cut for a better view — all of which have detrimental effects on the water and wildlife that attracted the urban dwellers to the lake or river in the first place.

"Nearshore areas are vital for the living communities in every lake and stream" Haack said. "If we agree that sustaining and protecting fisheries, wildlife, water quality, and the natural scenic beauty that lured us to these lakes are important, then we need to make wise choices about developing these resources today."

As officials and some private landowners have found, the choices are difficult. However, the benefits for present lake users and future generations are worth the effort. As Haack explains: "The price of restoring damaged lakes and watersheds far exceeds the cost of protecting resources. Wise development choices and responsible land stewardship make a difference." □

Jim Bishop is DNR's Regional Public Affairs Manager for northern Wisconsin.

ROBERT KORTH

DNR PHOTO

Congestion changes the flavor of the North on the water and the shoreline. *(top)* A crowded day of boating. *(above)* Homes and cabins continue to get bigger and boats more numerous as people remove old lakeshore cabins, expand on existing lots and build on marginal property.

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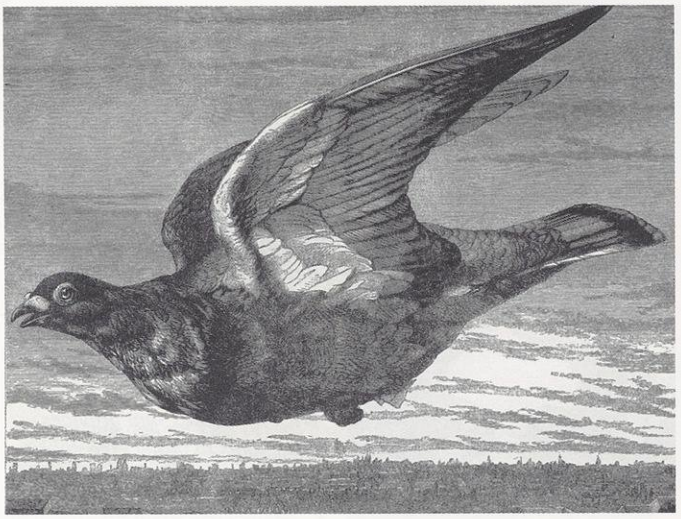
US089

continued from page 2

According to the unwritten, aristocratic code of nature-watching, a pigeon is a "noncontender" because it succeeds all too well in the human environment. Nature watchers by the thousands will hide beneath damp burlap sacks on a morning so ugly even the coffee is in a bad mood. Tens of thousands denied safe housing or their constitutional rights of free expression willingly hold postures likely to incur blood clots and rheumatism, all to watch the unregulated sexual antics of prairie chickens. Some even pay to do this. Yet not one of these fans of sublime nature would so much as lift an eye to a squad of pigeons flying faster than a Japanese motorcycle above the spires and rooftops of the city.



Pigeons don't capture our hearts or make our imaginations soar as a symbol worth following.

We do not put pigeons on our coins. The prairie tribes did not wear long headdresses of pigeon feathers. The Luftwaffe didn't bear the pigeon on its insignia. And when Americans went to the moon, the eagle landed, not the pigeon. This, despite the fact that a pigeon can out-fly, out-maneuver, out-navigate and out-survive any eagle, and has done so for millennia. It's as if people who have been watching nature and allocating bits and pieces of it to various symbols, mottoes, stamps and memorabilia really haven't been paying attention.

Why don't we venerate the creatures who are more like us? Have any clans but ones in the Bible considered the dove as their totem bird? Why not? Because it is numerous, a little too successful and has a waste disposal problem? I ask you, what better recommendation can a creature have? How much more identifiable with human ilk can it be? □

Justin Isherwood watches the turtles and the doves near his Plover home.

Readers Write

READY FOR GROUSE

I thought "A Practical Guide to Grouse Hunting" (October 1997) offered great advice for any level of grouse hunter. Grouse are an addiction, and like your writer, I have no cure nor want one.

I think his dad's advice about choosing a safe hunting partner was wise. I have a hunting partner who is both trusted and a good shot.

One secret! We've found that golden retrievers are great grouse dogs.

Jim Auchue
Webster

RECYCLING SKEPTIC

I rather doubt the figure in your June story, "Wisconsin's war on waste" that 97 percent of Wisconsin residents regularly recycle. From my vantage point at home, I can see trash from a public organization that does not use any of our city's red recycling tubs, yet has numerous bags of waste for the garbage truck. Surely, a household must have weekly paper egg cartons, milk cartons, glass, plastic and tin cans that are recyclable.

I just returned from walking 3½ blocks to pick up a morning paper and I always carry a plastic bag to pick up disposable refuse along the way. What did I find? Candy wrappers, gum wrappers, cigarette butts, disposable juice bottles and plastic pop bottles. (I can't believe that 97 percent of people recycle and three percent are that busy littering.)

We are long-term recyclers. My wife and I started a paper drop-off program decades ago for a civic organization and we used to give elderly friends a brick at Christmas to put in their water closet to reduce water use.

Recycling is the law, but everyone isn't a believer. How were people questioned to determine their actual habits, or did they just give the response they wanted you to hear?

Mike Olson
Wautoma

Starting in 1990, the Department of Natural Resources was given the challenge of working with communities to significantly reduce the amount of solid waste headed to landfills for disposal. A major task was making people more aware of how many items that are typically discarded could be reused or made into new usable products.

Between 1990 and 1995, DNR contracted with the University of Wisconsin Environmental Resources Center to measure changes in public attitudes and habits. Each October, the center conducted extensive phone interviews asking people about their recycling and waste disposal habits. By 1995, ninety-seven percent of respondents said they recycled at least some of their household waste. Other programs verified that recycling centers and drop-off programs were available to better than 95 percent of Wisconsin's communities. By 1995, people said they recycled (on average) at least five different kinds of items. The most frequently recycled item was aluminum cans; the least, cardboard. Perhaps it would be more accurate to state that by 1995, ninety-seven percent of Wisconsin residents interviewed said they participated in a recycling program. At any rate, it's a marvelous improvement in everyday habits.

BUGGED BY ANTS

My wife has found what looks like winged ants in our tub and bathroom wash basin where it is damp. What are they and how do we get rid of them?

Lawrence De Wulf
Chicago, Ill.

We sent your sample to the Insect Diagnostic Lab on the UW-Madison campus. You are being bugged by winged pavement ants and the solution is to spread protein baits which they will carry back to the nest where the poison will be stored and eaten.

In general, household ants

need three things to survive — water, food and shelter. The insects are only winged when they are reproducing, so a winged colony is a growing colony.

Most infestations will not solve themselves. You have to provide the right poison bait that will be carried to the nest, find and remove the nest yourself, or hire professional help to do so.

1. Locate the nest by noticing where the ants crawl after they've eaten. Sometimes they nest near wet wood and can enter your house through cracks in your bathroom tiles, a leaky sink, a leaky toilet, a leaky pipe or water seeping down an exhaust vent. Most ants live near bathrooms, kitchens, foundation cracks or leaky roof joints.

2. If you can find the nest, destroy it. If you can't find it, at least become keen observers of where the ants go and hire a pest control company. Once the nest has been found, it needs to be removed and the queen ant has to be killed. Reputable pest control service may use chemical or non-chemical means to remove the nest and treat your home over the course of a year to stop subsequent infestations. Most firms that remove ant nests recommend a series of follow-up visits in one package price.

3. Once the source of the problem is pinpointed, repair the leaky pipe, spongy wood, leaky roof or other material that is providing the perfect breeding grounds for the ants. Ant colonies can re-establish if the same conditions remain.

4. It's also a good idea to make your house less hospitable to ants. Remove any old wood piles or at least don't store wood in your house or near the house. Trim trees so branches don't touch the house or roof. Ants will frequently gain access to the house by crawling up old, rotting trees onto your roof. Check the foundation for holes too.

5. It's a good idea to follow-up after an infestation by treating the foundation of your home and cracks near the spot where you found a nest. Consider a benign treatment like sweeping diatomaceous earth and a natural insecticide like pyrethrum, into cracks and along the trails the ants followed. Diatomaceous earth is composed of sharp crystals that cut the ants' exoskeletons. The insects desiccate and die.

6. Contact the university extension service for brochures about ant control. The entomologist we contacted, UW-Madison specialist Dr. Phil Pelletteri, produced an inexpensive ant control brochure available through the University of Minnesota — "What to Do About Household Ants." It is bulletin number NCR 531 and contains close-up photos of common household ants.

FOREST FACTS

I commend Kathy Esposito for the finesse with which she wrapped up the "Wisconsin Forest Statistics 1996" report into a story of woodland efforts by Mr. C.R. Robinson and ourselves. ("Sustaining the changing forest," April 1998).

I was somewhat amazed and gratified at how many people read your magazine and quickly, too. We heard a lot of good comments about the article within just days of its receipt. So you are playing to a good audience.

Jack and Jane Edson
Stevens Point

CONCERN FOR SHORELINES

Please set the record straight. A few months ago you carried an article about declining undeveloped shorelands in Wisconsin. Now I see on one of the last undeveloped lakes in Douglas County an ugly scare worse than development—little Derosier Lake has been dredged, drained and pumped into a cranberry bog. The site makes me sick.

A piece in Audubon magazine last November/December titled "Whittling Dixie" talked about devouring vast tracts of southern forest lands. It could just as easily have been written about Wisconsin. With logging roads left open to freewheeling four-wheelers, there is simply no place left to hide.

David B. Donahue
Baldwin

John Haack, former DNR water management specialist in Spooner, responded: *You are correct that the Department of Natural Resources is assigned to protect public waters. Wisconsin has a rich body of common law, statutory law and constitutional law collectively called the "Public Trust Doctrine" that provides basic tools to protect the public interest from the adverse effects you describe. However, the Cranberry Laws of 1878 and 1883 provided broad exemptions to cranberry growers to divert and use waters from publicly-owned lakes and streams. Those special privileges were reaffirmed by the State Supreme Court as recently as 1980.*

In the case you cite, DNR testified before the Douglas County Zoning Committee asking that the parcel not be rezoned from a forest district to an agricultural district as this rezoning would remove county options to enforce conditional use controls. DNR did not have regulatory control over this matter and the grower convinced the county to rezone the property.

The marsh is being constructed on uplands rather than in the wetlands and, as proposed, would have 50 acres of beds upon completion. Constructing beds on uplands avoided detailed review that would have happened had the site been required to procure an Army Corps of Engineers permit, but development farther from the shore also reduced impacts on the wetlands. We have visited the site three times with the grower and the Corps to respond to erosion complaints and dredged channels. State controls are quite limited where water is legally diverted to form upland cranberry beds.

PWC UPDATE

Personal watercraft (Jet Ski-like devices) continue to dominate safety and aesthetic discussions on the waterfront. Since August 1st state law had required that personal watercraft must be operated at slow, no-wake speeds within 200 feet of swimmers, canoeists, other boats, piers and the shoreline. The law is intended to provide safer boating, reduce noise and protect both plants and habitat near shore.

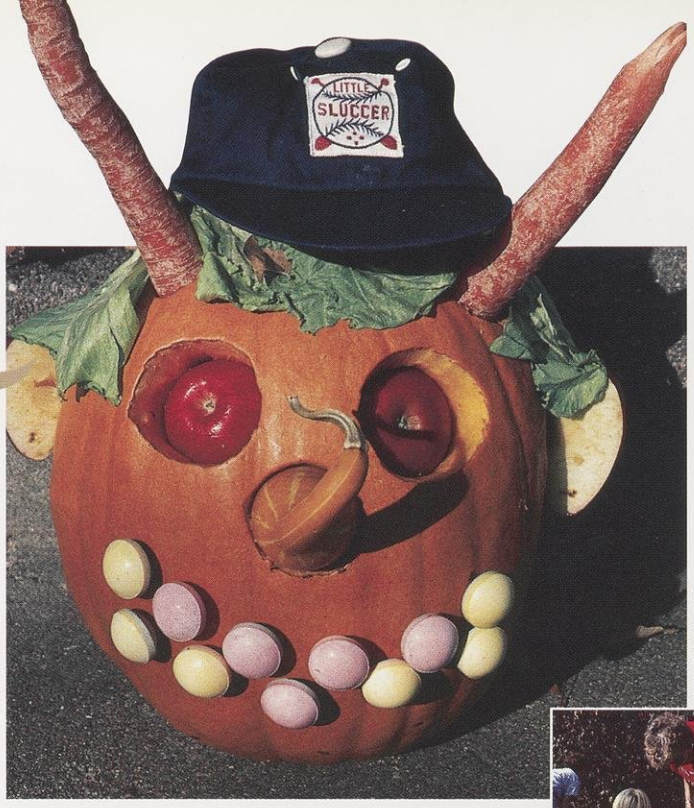
"The safety zone also responds to complaints from lakeshore property owners and other water enthusiasts about the noise from personal watercraft," said DNR boating law administrator Bill Engfer. He notes that registered personal watercraft increased in Wisconsin by more than 455 percent since 1990 — 5,425 craft in 1990 and 24,716 registered this year.

Other recent safety statistics show that accident rates for personal watercraft (PWC) in Wisconsin remain much higher than for boats, but the rate is improving. In 1995, the PWC accident rate was 9.4 times higher than boats. By 1997 the PWC accident rate was 5.8 times higher. The figures also raise concern for personal safety. Four out of 10 accidents on a PWC results in an injury.

Recent reports also question PWC pollution. A June 1998 report from the California Air Resources Board states the exhaust emissions from two hours of personal watercraft use are equivalent to emissions from a 1998 passenger car driven for 100,000 miles. In addition, reports The Milwaukee Journal Sentinel, two-stroke engines used in personal watercraft "discharge as much as 30 percent of their fuel into the water." Bill Engfer, Wisconsin' DNR's boating law administrator, said that PWC engines put about the same amount of pollutants into the air and water as other outboards of similar horsepower.

WISCONSIN TRAVELER

Spooks in parks!



TIMOTHY SWEET

TIMOTHY SWEET

Carve out a fall memory and take your pick from the patch at a state park program.

It's Halloween, and you are a responsible parent. Do you:

1. Send your Power Rangers door-to-door to collect the usual glucose booty and then feed them broccoli while you devour the Tootsie Rolls.

or

2. Park those little goblins on the back of a broom and fly on over to a Wisconsin State Park for an evening filled with the wonders and thrills of a Halloween set amid the trees and under the stars.

What could be spookier — or more fun — than a hike through the darkened woods, with ghosts ahowl on the wind, phantoms shifting behind each rustling branch, and the glowing eyes of unnamed beasts flickering in the candlelight? And after the hike, to huddle 'round a campfire, and listen to whispered tales of Halloween yore and gore, the crackle of bones and crunch of monstrous feet?

Many state parks offer special Halloween programs guaranteed to fright and delight kids of all ages. The programs vary from park to park, but most include night hikes and campfire ghost stories. Enjoy haunted hay rides, pumpkin carving, games, magic, music and more. Make a night of it — pack a scary picnic supper (TRAVELER always finds hot dogs rather frightening) and dine in the company of owls, bats and all that's unseen but heard after night falls. Lighted cooking grills will be available at some park pavilions.

The following parks have scheduled programs. Check with the park or forest of your choice for additional activities and special events. Most events are free of charge, though you will need a park admission sticker.

October 14 — **Havenwoods State Forest,** Milwaukee. Wisconsin bats, mystery and superstition, 7–8:30 p.m., (414) 527-0232.

October 23–24 — **Kettle Moraine State Forest — Northern Unit**, Campbellsport. Halloween Nature Hikes in groups of 15–20. Leaves every 10 minutes, 6:30–8:30 p.m., Zillmer Trailhead off Hwy SS near Hwy. G, (920) 533-8322.

October 24 — **Roche-A-Cri State Park,** Friendship. Haunted Hay Ride and Pumpkin Walk. Pumpkin judging, games, candlelight hike and refreshments for sale, 3–8 p.m., (608) 565-2789.

October 24 — **Bong State Recreation Area,** Kansasville. Eco-Halloween Hike by candlelight with a cast of characters. Skits, music and magic, too! Half-hour hikes from 6–8 p.m. leaving from Group Site E, (414) 878-5600.

October 24 — **Potawatomi State Park,** Sturgeon Bay. Dem Bones family program to take the spookiness out of animal skeletons. Picnic Area Shelter, Lot #2, 7–8 p.m., (920) 746-2890.

October 24 — **Interstate State Park,** St. Croix Falls. Halloween Fun in the Park. Guided hikes, stories, games and indoor activities. Ice Age Interpretive Center, 7–9 p.m., (715) 483-3747.

October 31 — **High Cliff State Park,** Sherwood. Pumpkin Hike on trail lit by luminaries and carved pumpkins. Pumpkin carving, hay rides and refreshments. Pavilion to Red Bird trailhead, 6–9 p.m., (920) 989-1106.

October 31 — **Harrington Beach State Park,** Belgium. Halloween Candlelight Hike. Choose ½- mile or 2½ mile candlelit trails. Prizes for best costumes and a pumpkin carving contest. Beach Parking Lot, 6–9 p.m. (414) 285-3015. □

Enjoy a fall fling any day at the parks.

WISCONSIN DEPARTMENT OF TOURISM

Wisconsin, naturally

Beulah Bog State Natural Area

Notable: This Walworth County site lies in a series of four kettle holes or ponds. A floating, quaking mat of sedges and sphagnum moss surrounds a small, hardwater pond containing white and yellow water lilies. Bullfrogs can often be heard calling from the water's edge. The pond and mat are ringed by a wet forest of bog shrubs and tamarack, a conifer which turns gold and drops its needles each autumn. Plants more typical of northern Wisconsin bogs are found here, including bog bean, Labrador tea, pitcher plant, and sundew.

How to get there: From the junction of County Trunk Highways J and E, about 3 miles northwest of East Troy, go east on J a half mile to Stringers Bridge Road, then south on Stringers Bridge Road 0.7 miles to a small parking area on the east side of the road. Walk east along the trail about 0.3 miles to the bog and a wooden boardwalk. Wisconsin Atlas and Gazetteer: p.30, grid B2. For a map or more information, write State Natural Areas Program, DNR, ER/4, Box 7921, Madison, WI 53707 or call (608) 266-0394.