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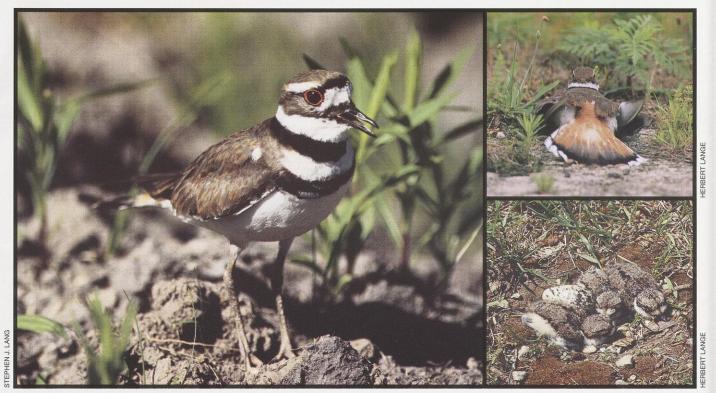
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NATURAL RESOURCES April 1997 \$3.00

Springtime Steelhead

New ideas for the Kickapoo Reserve

> field trips you can take



(clockwise from left) Killdeer like it here. They come earlier in the spring and linger longer in the fall than other migratory shorebirds. Males and females incubate eggs. Wide set eyes give the adults a panoramic preview of predators. Young hatch in 25 days. Both eggs and chicks are well camouflaged.

A call from above

The killdeer's loud cry and "busted wing" act makes a shoreline floor show.

Anita Carpenter

The thawing countryside welcomes many spring migrants. Great flocks of red-winged blackbirds and grackles gather and squawk out territorial claims. Robins join the mass movement. Song sparrows arrive under cover of darkness while small flocks of killdeer suddenly appear on park lawns. Killdeer are familiar birds, easily observed scurrying around searching for food or flying overhead calling out their killdeer name.

Killdeer belong to the shorebird family of plovers, the Charadridae (car-ah-DRY-ih-dee). Like all plovers, killdeer (Charadrius vociferus) have compact, chubby bodies, thick necks and large eyes on a dovelike head. Their short, thick bills are swollen at the tip.

Plover wings are short, rounded and, when folded at rest, are not much longer than the bird. The plovers have only three toes on each foot with little webbing between the toes. Killdeer are larger than other North American plovers and have two prominent black bands across their snowy white chests. Dark,

earthtone brown backs camouflage killdeer when they sit on their ground-level nests. Males and females are dressed alike.

Killdeer get serious about nesting from April into May. Typically, they nest far from the water, but often near human habitation. Suitable nest sites on an open scrape give the incubating adults an extensive view to search for predators. The site usually includes gravel, cinders or stones which camouflage the four speckled eggs. The male prepares several scrapes or shallow depressions in the ground. The female selects one to her liking. Both birds take turns incubating the buff-colored eggs for 25 days.

Killdeer nests are devilishly difficult to find, even though the adults are easy to see. Long before an intruder arrives, the incubating bird slips off the nest and runs, disappearing into the surrounding cover. The adult either waits for the intruder to pass and then scampers back to the nest, or it circles around and approaches the nest from behind.

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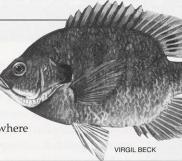
WISCONSIN NATURAL RESOURCES

April 1997

f 4 making the WEEDLINE WORK FOR YOUR LAKE

Karen Wilson and Steve Carpenter Bluegill and bass can thrive where

weeds are selectively cut.



Volume 21, Number 2

A SENSE OF SPACE

Dave Crehore

Visit this long, low wilderness in the midst of thick green forest.



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Wally Balcerzak Try this scene in Racine for hot spring angling.

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Good bets for good fishing throughout the year.

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Barb Barzen

43 ways to enjoy a day trip in the field with DNR staff.



23 awakening the kickapoo reserve

Harvey Black

The beauty, natural resources and cultural treasures of the Kickapoo River and valley are key to its future.



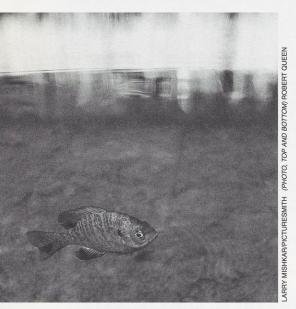
READERS WRITE

WISCONSIN TRAVELER

FRONT COVER: Male blue-winged teal (Anas discors). See them wing through on a field trip! GREGORY K. SCOTT, Withee, Wis.

BACK COVER: A favorite spring wildflower, the ephemeral roundlobed hepatica (Hepatica americana) SCOTT NIELSEN, Superior, Wis.

Making the weedline



Could selective weed cutting help bluegill grow faster?

When life gives you invasive weeds, make habitat.

Karen Wilson and Steve Carpenter

hroughout Wisconsin, lakes heavily infested with Eurasian water milfoil often contain stunted populations of bluegill and largemouth bass. We tend to manage these lakes by cutting the watery "weeds" without appreciating the connection between the plants and the fish. Could we achieve more by viewing and managing these plant and animal communities together? The Department of Natural Resources, the University of Wisconsin's Center for

Limnology and the Dane County Public Works Lakes Management program took on a joint project to find out. We spent three years investigating if the way aquatic plants are harvested can grow bigger fish more quickly.

Many nutrient-rich lakes in Wisconsin are dominated by Eurasian water milfoil, an invasive aquatic plant that can grow from the surface to as deep as 16 feet, forming dense beds of leafy canopies over strong, spaghetti-like stems. Milfoil most often reproduces by breaking into fragments, which are then spread around by wind and boats within a lake. The plant is commonly moved from lake to lake on boat trailers and in live wells.

Though it is often viewed as an invasive pest, milfoil infestations aren't always bad. In lakes where there is little native vegetation, Eurasian milfoil can provide refuge and spawning habitat for fish and invertebrates. Even in heavily infested lakes, milfoil typically lasts only about 20 years and there are management options until natural forces cause a decline. Eventually, milfoil usually dies down as weevils and other factors reduce its spread. Nevertheless, when swimmers get tangled and boats get mired in the dense weeds, milfoil becomes a problem.

Why fish (and people) need aquatic plants

Our project focused on milfoil-dominated lakes containing stunted populations of largemouth bass and bluegill—a predator-prey combination found in many Wisconsin lakes. The life his-

tories of bluegill and bass are interconnected. When newly hatched, bluegill and bass compete for the same food items, usually while hiding in aquatic plant beds. As bass grow, they begin to eat small bluegill, often by the end of the bass's first summer. In their formative years, bluegill tend to grow chunkier bodies without getting much longer. It typically takes bluegill until their 5th or 6th year to grow bodies that are high and wide enough that most bass can't swallow them. Once a bluegill is big enough to have "size refuge" from largemouth bass, it can move freely around the lake.

Largemouth bass, bluegill and many other fish depend on aquatic plants at some stage in their lives for refuge and as a source of invertebrate and fish prey. Humans, however, view water plants like milfoil as nuisances because they grow to the surface, reduce access to docks and landings, make swimming uncomfortable, block water skiing and make boating difficult or impossible.

When county and city employees, lake associations and private lakeshore owners must weigh options to deal with dense aquatic plant growth, mowing is frequently selected as the remedy. Typically, floating weed harvesters are used to mow the plants about four feet under the surface. This provides short-term relief for boaters and swimmers from milfoil infestations — the same temporary relief in the water that mowing the grass provides for your lawn: most of the plant remains, plenty of light still reaches the plants, and they rapidly grow back to the surface. As a result, aquatic plant

work for your lake

Nuisance versus native plants: what's the difference?



Milfoil grows thick and deep

Not all aquatic plants are a nuisance or undesirable. In fact, native plants are, and should be, a prominent and important part of a healthy lake. One goal of aquatic plant management is to replace nuisance plants (such as Eurasian water milfoil) with native plants such as pondweeds and wild celery.

All aquatic plants, whether introduced or native, reduce the flow of water and muffle wave action. Reduced water flow settles out sediments and prevents re-suspension of sediments in the water. Without plants to play this important role, lakes can become turbid and lose any remaining plants for lack of light. A diverse complement of aquatic plant species provides food for waterfowl and tremendously important near-shore habitat for many fishes. Plants provide habitat for the invertebrates fish feed on. Fish such as northern pike and yellow perch lay their eggs on aquatic plants. Plants provide small fishes with a place to hide from predators.

Even though a mix of native plants is most desirable, it is important to realize that non-native plants such as Eurasian milfoil still play an important role in lakes. Non-native plants can be better than no plants at all. If you are interested in clear water and good fishing, think twice before clear-cutting the plants in front of your cabin. Instead, spend your time working to protect the shoreline and reduce runoff in your community.

beds often must be cut several times each summer. Moreover, indiscriminate mowing can cut beneficial plants as well as nuisance species.

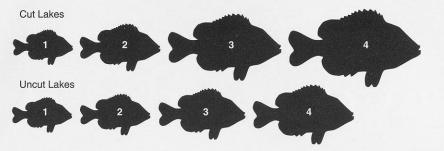
We were interested in testing if aquatic plants could be cut in such a way to improve fish growth while clearing areas that would remain open for a summer or longer.

We did our first experimental cuts by hand. Scuba divers cut the milfoil stems near the base, where they emerged from the lake bed sediments. This technique slowed the growth rate considerably. The channels hand-cut by divers in dense beds of milfoil were still visible from the air three years later.

We wanted to test if cutting the weed beds in different patterns or cutting narrower or wider channels might also affect fish growth. Fortunately for the divers, we conducted these tests

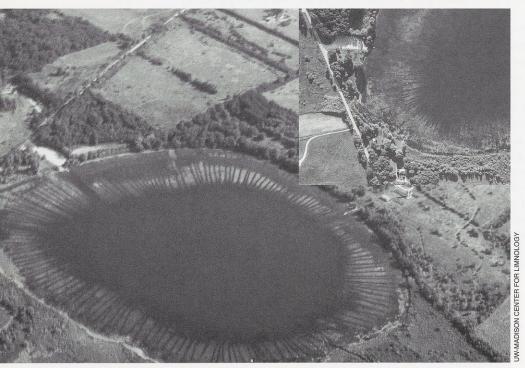
DNR biologist Dave Marshall was one of the divers who hand-clipped channels through dense beds of milfoil to test if cutting the deep plants near their base would slow subsequent growth.





MOONLIT INK

Where milfoil channels were cut, young bluegills found more food and cover, so they grew more quickly.



After milfoil was cut, aerial surveys and in-water sampling checked how long the channels remained open, whether deeper channels remained open longer and how the fish fared. (inset) After two to three years, some channels filled in, but deeper channels were still open in some test

Milfoil may not last forever

Past experience in Wisconsin has shown that milfoil tends to invade and dominate lakes quickly. In some lakes it persists, in others it subsides after about 10 to 20 years. The reasons for the plant's eventual decline are unknown. A build-up of organic matter around the roots may inhibit growth, or damage from a native water weevil may increase. Most beds of milfoil are clones (it reproduces when broken fragments take root), and it's possible the milfoil clone may simply lose vitality over the years. Interestingly, in Europe where Eurasian water milfoil is native, it is "just another" member of the plant community, and is not known to take over in dense beds. Elodea, a plant native to North America, is as aggressive in Europe as milfoil is in North America. The best defense is prevention. Protect native plants, shoreline and water clarity. Keep milfoil infestations out of new lakes by removing milfoil fragments from live wells, boat hulls and boat trailers. Once milfoil has arrived in a lake, the only lasting way to "control" it may be to allow time to take its course.

on computer, synthesizing the known information on fish behavior, food availability and many other factors that change fish growth. We found that the more open edges we created between the lake and the plants, the more we affected bluegill and bass growth. Straight channels radiating from the shore to the middle of a lake were chosen to maximize the amount of edge cut. These channels were relatively easy to cut and were popular with home owners and lake users alike because they provided access to docks, swimming areas, boat launches and favorite fishing spots, as well as increasing the amount of "weedline" a favorite structure for casting.

To test our theory, we chose 11 lakes with dense aquatic plant growth and stunted bluegill populations located throughout southeast and south-central Wisconsin. Many of the lakes were recommended by lake managers and lake associations as having a "weed problem" due to large beds of Eurasian milfoil. We selected lakes where both the lakeshore associations and area DNR lake managers wanted to work with the project team.

We cut channels in four of the 11 lakes, removing approximately 20 percent of the plants in each lake. A conventional weed harvester was outfitted with a "deep cutting" bar for the job. The bar, similar in design to a hedge trimmer, could be lowered as deep as 16 feet to cut the plants within a foot of the bottom. Channels ranged from six to 10 feet wide, and were cut from the lakeshore (six feet deep) out to the edge of the plant beds.

Aquatic plant communities were monitored throughout the experiment to be sure that plant communities remained similar between treatment and control lakes, and to track how long the open channels persisted in the cut lakes. After two years of regrowth, some lakes showed no visible evidence of channels, while over 60 percent of the channels in one lake with heavy milfoil growth remained at least partially visible from the air.

Fish growth from 1993 (a year before the channels were cut) and 1995 (a year after the cuts) was compared

A deep cut

Is a deep-bar weed harvester affordable for one community or lake district?

Maybe.

Purchasing a special weed harvester capable of cutting lake plants from six to 16 feet deep is pretty costly. Manufactured mechanical deep-cutters cost \$75,000 to \$100,000. Further, these machines typically only cut the weeds, and must be followed by a conventional harvester to collect the weeds as they float to the surface. State statutes require that cut weeds be picked up unless a majority of the property owners decide to take personal responsibility to remove the weeds that wash up on shore, or all owners agree to let the weeds float freely in the water.

Contracting a crew for deep cuts isn't cheap: Few contractors own the equipment, it's very costly to mobilize the big rigs, contractors have to return every two to three years, a conventional harvester must follow the deep-cutter to scoop up weeds, and the plants eventually grow back.

About the only economical approach is to follow the example of the Dane County Public Works Lakes Management Program. Joe Yaeger and his work crew developed a deep-cutter bar that could be attached to the county's existing fleet of lake plant harvesters. Construction was fairly straightforward: a 20-foot aluminum I-beam was fitted with a six-foot-wide agricultural sickle bar that could be used under water. The I-beam is bolted to the harvester and is hoisted up to the vertical position by a hydraulic ram. The bar is raised and lowered by a hydraulically-driven winch. To avoid damage to the harvester and cutter, the deep-cutting attachment is designed with a break-away feature that swings the assembly away from the ver-

tical position if the sickle bar hits an obstruction while the harvester is moving.

The cutter bar is designed as an attachment that can be removed when the harvester cuts weeds less than six feet down. Cost for design, materials and construction ran about \$10,000, so a deep-cutter attachment might be economical for a lake district, community or county that already maintains a fleet of harvesters. Given basic design specifications, local metal fabricating machine shops should be able to construct the assembly.

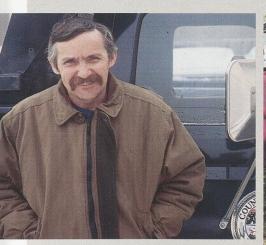
Operating a harvester with a deep-cutter attachment does involve other costs. Each harvester must have a minimum two-person crew — one to operate the harvester and a second person to watch the depth finder to keep the cut at the right height, and clear the bar. Unless a second harvester follows the first one, the operators will need to turn around and backtrack over the channel to pick up cut weeds.

Underwater obstructions like car bodies and cement anchor blocks can badly damage the sickle bar as the operator attempts to cut plants as close to the bottom as possible. Accurately measuring the depth to the bottom can be difficult as the harvester moves through dense weed beds. Like all harvesters, this one needs continual maintenance and repair.

Good cuts require a patient operator who goes slow, knows the lake contours and has a good feel for the equipment. Channels cut by experienced, patient operators last longer and do the intended job.

Communities should contact the Wisconsin Department of Natural Resources before adopting cutting practices.

— Paul Cunningham, DNR Fisheries Management



Joe Yaeger's crew developed a deep-cutting weedbar for about \$10,000. Communities considering such tools need to allow added time to load and unload the ungainly equipment. The harvester also needs a second crew member to clear the cutter and monitor the depth locator to avoid hangups, collisions with the lakebed, and obstructions.





Bluegill in the experimental lakes where weed channels were cut gained a lifelong advantage. They more quickly grew too big to be swallowed by largemouth bass (left)

between cut and uncut lakes for both bluegill and largemouth bass. In all lakes where milfoil was cut, bluegill showed slightly faster growth, which we attributed to the channels. In their third and fourth years of life, bluegill in the uncut lakes grow approximately one inch per year, but in the cut lakes, three and four-year-old bluegill grew about an inch and a half per year. Even this small increase makes the bluegill much chunkier and it grows too large for bass to swallow.

The increases in growth during the bluegill's youth accumulate, just as long-term investments accumulate more interest in a bank account. The result is more and larger bluegill in the cut lakes.

Largemouth bass, on the other hand, showed little or no response to the cut channels, although they did not appear to grow slower than normal as a result of the channels.

How a cutback leads to growth

There are many possible explanations why cutting channels may increase bluegill growth. Based on the work of many researchers, we believe that increasing the amount of edge gives small bluegills greater access to prey — the snails, insects and other invertebrates associated with the plants. Channels may also give largemouth bass greater access to the smaller bluegill hiding in the plants, which reduces the number of bluegill competing for food in the plant beds. Fewer bluegill leave more food for remaining bluegill and young-of-theyear largemouth bass.

The results of this multi-lake experiment show that cutting channels into dense aquatic plant beds appears to increase bluegill growth without harming largemouth bass growth. The technique of creating channels by cutting plants deep down near the base can provide a temporary solution to managing nuisance plants such as Eurasian milfoil until the infestation subsides. Still, the best way to return a lake to health is to slow nutrient runoff and protect the shoreline from the effects of development to give native aquatic plant communities a chance to recover.

Long, deep-cut channels can become one more tool in the lake manager's kit. Channels can help clear small lakes of the nuisance plants blocking access to docks, swimming beaches, and fishing areas. In lakes in which bluegill are stunted and there are dense beds of milfoil, we expect that channels will improve the growth of some age classes of bluegill, eventually resulting in larger fish. Coupled with size limits and protection of bluegill on their nesting grounds, channels can increase the average size of fish in the lake. But, don't expect quick or dramatic increases in fish growth.

Karen Wilson and Steve Carpenter are lakes researchers with the University of Wisconsin Center for Limnology in Madison, Wis.

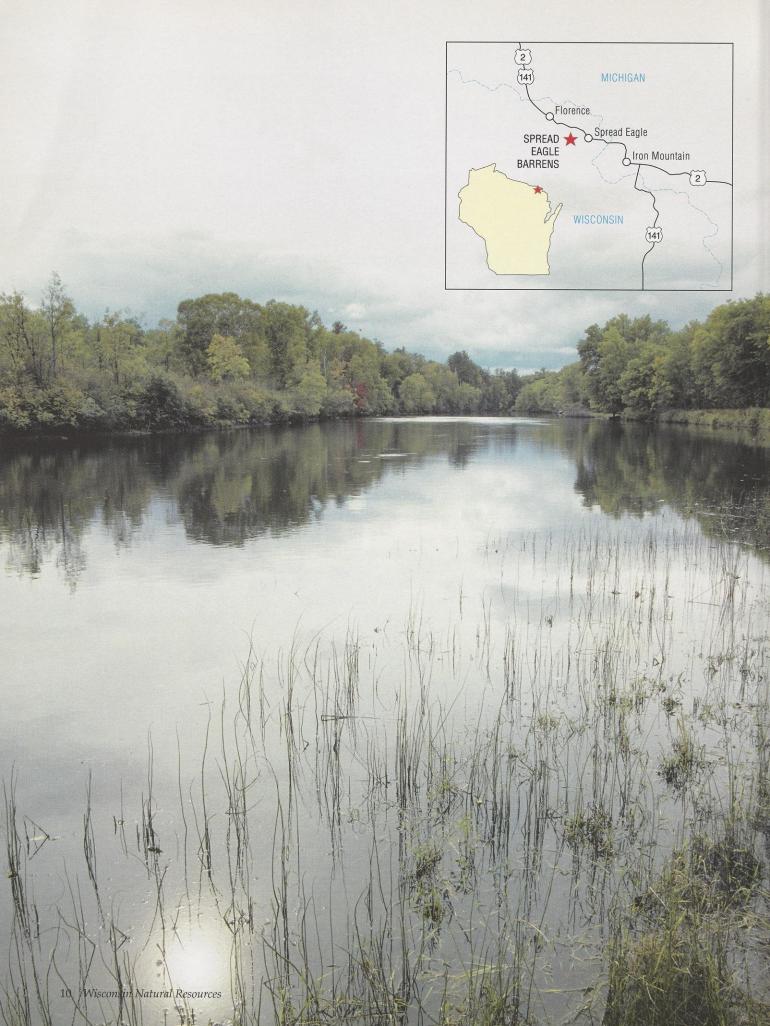
A sense of space

Spread Eagle Barrens preserves a place with a long view over rolling, open country.

Dave Crehore

A barrens is a rolling, foot-high wilderness of bracken fern, blueberries and sweetfern — a lonely landscape of horizons, hills and scattered islands of red pine, jack pine and scrub oak.

The silence of a barrens is heavy. The air seems thick. Walk a tote road through the Spread Eagle Barrens in Florence County on a summer day and you will hear only the sand under your shoes and the hiss of the wind in the ferns. When the breeze drops, you may hear scraps of sparrow song or the distant grating of a raven; nothing more.





Spread Eagle Barren's lakes and creeks hold trout. Also enjoy the long vistas, rare plants and the occasional glimpse of wildlife like the bobcat.

Creek has a self-sustaining population of brook trout; Sand Lake holds brook trout, too.

Of the extensive barrens that existed in Wisconsin's presettlement days, only one acre in a thousand is left, and according to the state's Natural Heritage Inventory, the Spread Eagle Barrens is the largest of only two bracken grassland barrens that remain in Wisconsin.

Coupled with the rarity of the plant community are uniquely beautiful vistas across the rolling Florence County terrain.

In February 1993, the Natural Resources Board approved the creation of the 8,500-acre Spread Eagle Barrens State Natural Area, located in far northeastern Florence County, not far from Iron Mountain, Michigan between the Wisconsin communities of Florence and Spread Eagle on Highways 2 and 141. In August 1995, the Board approved the first purchase of land for the new natural area: 3,900 acres from Florence County at a cost of \$1,400,000. Governor Thompson authorized the purchase in September 1995.

Acquiring property and agreeing on its uses was a real partnership. Florence County, the State of Wisconsin, Wisconsin Electric Power Company (WEPCO), and the Sand County Foundation, a private conservation organization, joined together to acquire the property and work out future goals. Five years of discussions and a year of negotiation led to a management plan signed by the Secretary of the Department of Natural Resources and the chairman of the Florence County Board.

The Department of Natural Resources continues work with WEPCO, still a major landowner within the project boundaries of the natural area, which intends to place a permanent easement on its 1,791 acres so the land will be maintained as part of the barrens community. Limited timber harvesting to restore additional native barrens plants followed by prescribed burning will maintain it. Funds to manage the barrens and other State Natural Areas come in part from purchases of Endangered Resources license plates and donations to the income tax checkoff fund.

Since the Spread Eagle Barrens is so much larger than most state natural areas, a variety of public uses can be accommodated on the land, including hunting, fishing, berry picking, and snowmobiling (on designated county trails). Car travel through the barrens is limited. Town roads provide public access. Hikers and cross-country skiers can use the less-traveled logging trails. The camping areas are primitive. Boat landings will receive some improvements. Plans are also underway to improve parking lots, build an observational platform and construct an interpretive trail on the barrens. Visitors are encouraged to stop at the Florence Natural Resources and Wild Rivers Interpretive Center five miles away in Florence to get maps and information about the Spread Eagle Barrens.

This peaceful opening in our northeastern forest is a significant addition to our natural legacy and a treasure that Wisconsin and its visitors will enjoy forever.

Dave Crehore is the public information officer for DNR's Northeast Region in Green Bay.

On a winter day when the overcast sky is steel-gray around the edges the silence is even more profound. You think of moors or tundra; the Hound of the Baskervilles or a musk ox wouldn't seem out of place. Barrens stimulate the human observer by moving the skyline of trees back to the limits of vision. The casual hiker, hunter or photographer is dwarfed by space.

These natural openings in northern Wisconsin's forest are essential for wildlife. Many animal species use the barrens including the loggerhead shrike, skillet clubfoot dragonfly, northern harrier, upland sandpiper, bobcat, white-tailed deer, black bear, badger and fisher. Spread Eagle's LePage

Root River STEELHEADS

The spring action for rainbow trout is hot in southeastern Wisconsin.

Story and photos by Wally Balcerzak

y wife, Rita, and I took our 12-year-old daughter, Laura, and our 10-year-old son, Luke, on a fishing trip that turned our Easter weekend into a real holiday back in 1994. We had terrific luck fishing for steelhead, the migratory rainbow trout that enter Great Lakes tributary streams each spring on their annual spawning run. On this outing, we fished the Root River in Racine, and we are definitely going back again.

I had heard stories about hooking 25 or more trout in a day from others who had fished the Root, but I assumed they were fish tales. My previous trips to fish in southeastern Wisconsin were enjoyable, but only modestly successful. This time we really hit it right.

I knew from previous experience on the Root that nice fish were taken from the deeper pools using wax worms or spawn, especially if the bait was suspended by a "strike indicator" — a fifty-cent term for a bobber or float. I rigged up spinning rods for Laura and Luke, and positioned them near deep, slow runs or deeper pools in the river. Rita and I fished the faster water using yarn flies, spawn bags, and yarn/spawn combinations.

Rita landed the first fish. "I picked some deep water, and after a few drifts I decided to add a little more weight to the line," she said. "I figured if the bait dropped a bit deeper, maybe I would get a big fish." Sure enough, she cast the line upstream and a fish hit right away.

"I pulled up fast, setting the hook, then I noticed a family just upstream was watching me take the action," she said. "I felt really nervous because so many people were watching and I probably overplayed the fish. Some other anglers fishing downstream offered to net my catch. After a hard fight, we got it in, a beautiful sixpound, 26-inch male rainbow. I was so excited I put the fish in my creel while it was still connected to my line."

If you have ever taken youngsters fishing, you know how discouraged kids can get when the fish don't bite. In two or three previous weekends of steelheading we had managed to catch only small trout, and the kids' enthusiasm was on the wane. Both children are experienced anglers who have fished walleye, smallmouth bass and panfish, but steelhead fishing was another matter. Each of them had hooked several steelhead and fought them briefly, but the fish either spit the hook or broke their line. Like Laura said: "The fish would hit so hard and so suddenly that I really didn't have time to think and the fish got off."

With practice, and a move to shallower pools, the disillusionment soon turned to excitement.

"We found some fish in the shallows that hit the yarn fly on Dad's rod," she said. "He hooked the fish and handed the rod to me. He showed me how to lean into the fish when it jumped, and to walk downstream with the fish to let it fight for awhile, and to keep just enough tension on the line so the fish couldn't get off, but not too tight or the trout would easily snap the line. It took about five to 10 minutes to let the fish go downstream, then upstream, jumping in the air. I had to move with the fish. I landed a 26-inch rainbow, about six or seven pounds. It was silvery and beautiful."

Luke landed a four- to five-pound, 23-inch male. "The fish were really coming on strong and we found some real good spots," he said. "It was lots of fun!"

I was having my own mix of fun and frustrations. I'd hooked eight or 10 fish that second evening, but I made a number of mistakes, either horsing the fish in the thrill of the moment, or trying to retrieve them upstream, which is almost always a bad idea. In most cases the fish broke water and spit the hook, occasionally breaking the line. Somehow, I managed to land a few and take pictures before releasing the fish.



The last morning we were at the Root, I probably hooked 20 fish in about a three-hour period. We had a ball! Sometimes the fish would strike at the yarn so hard and fast that by the time I set the hook, I had snagged the steelhead in the pectoral fin, the tail or

even the head. One fish I caught fought for 15 minutes. I could see that it had two yarn flies stuck to its back and my fly hooked in its mouth. This fish got away, but was caught and landed later in the day by another angler.

All but one of the fish we landed were males. The one female was ripe with spawn. We milked a few of her eggs for spawn sacs before releasing her.

All in all, it was a memorable occasion. We hooked about 30–40 fish that weekend and landed eight or 10. Our average wasn't the greatest, but we had a fantastic time.

Steelhead fishing has taught me

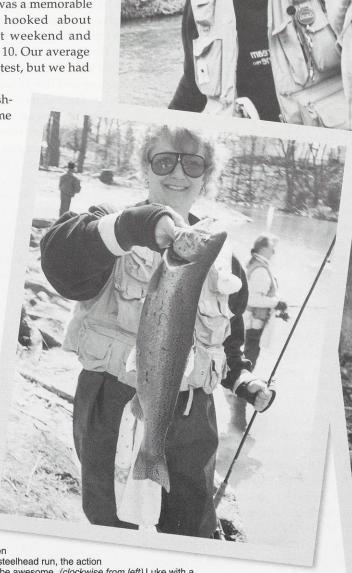
the value of persistence. You need to try the same river several times. I hear the Root River has a nice run of Skamania trout during the summer months. We'd like to try that too, though it is trickier fishing because the water temperature gets quite warm and you can't play fish very long if you

are going to successfully revive and release them in hot weather.

Select just a few fish to eat

I really enjoy eating fish, as does my family. We particularly like to smoke larger fish and fix the smaller fish in

> several ways. We also know enough not to overdo a good thing. We know the trout migrating in from the Great Lakes are exposed to pollutants, and we know rainbow trout are relatively fatty fish that accumulate these contaminants as they grow. So we follow the recommendations from the Department of Natural Resources and health officials. We don't eat more than a meal a month of the larger steelhead (bigger than 17 inches) caught from these tributary waters and we eat less



When the steelhead run, the action can be awesome. (clockwise from left) Luke with a four-pound male, Rita with a six-pound male, author Wally with a four-pound male and Laura with a six-pound male steelhead.

than a meal a week of the smaller fish.

If you do decide to eat these fish, follow the trimming, cooking and eating warnings in the booklet "Important Health Information for People Eating Wisconsin Fish," issued by the Department of Natural Resources and the Wisconsin Department of Health. You can get a copy by writing to: Fish Advisory, Wisconsin DNR, P.O. Box 7921, Madison, WI 53707; by visiting a DNR Regional Office; or by retrieving it from the DNR's web site http://www.dnr.state.wi.us

Whether you eat the fish or not, the Root River offers fantastic spring steelhead fishing. While the fishing pressure can be considerable, the migratory rainbow trout using the Root are abundant and the resource seems to stand up quite well to heavy fishing. There are quiet moments too, especially if you can avoid the weekend crowds. That last morning we fished the Root, we pretty much had the entire stretch to ourselves, despite the fact that we were hooking fish, squealing, whooping and carrying on throughout the morning. You can bet we'll be back, and those of you who are even closer to the action than we are should consider a trip, too.

Gearing up for spring steelheads

Many anglers successfully fish the Root River's deep runs and pools with spinning gear and float rigs. Choose a longer, stiffer spinning rod to play and manage these strong, large fish. I recommend an eight- to 10-foot spinning rod with a 4 or 5 to 1 ratio spinning reel, spooled up with six- to 10-pound test of a stout abrasion-resistant monofilament line.

Terminal tackle should include a sensitive float, split shot and a size 4–8 steelhead hook tied without a leader directly to the fishing line. You can tie or purchase bags of spawn or use wax worms. Both are available at local bait shops. Also ask the bait shop owner to show you some tube jigs — soft plastic bodies of various colors that slip over small lead-headed jigs. Tube jigs work well when tipped with wax worms.



You'll get your exercise carefully working steelhead on the Root River. These strong fish run downstream, leap and charge upstream when caught.

Fly-fishing for steelhead

Most steelheaders use fly rods to pursue rainbows in medium or fast water. Load the fly reel with 100 yards of fly line backing (20–30 pound test dacron line) then 100–200 yards of six- to 10-pound monofilament line. Fly line is rarely used because you are typically casting only 10 to 20 feet of line upstream and drifting through runs and rapids. Rainbows prefer to lie in current breaks near fast water.

The fly rods we see anglers using for steelheading are nine- to 10-feet long and usually seven, eight or nine weight. Remember, fishing the Root might yield a 20-pound trophy fish and the odds of landing such a huge fish are greatly increased if you have a stout rod. Also consider a fly reel with a disk drag and multiple retrieve. These reels can be pricey. An affordable favorite I've seen on many rigs of experienced steelheaders is the Martin, Model 72R. The disk drag will allow you to play a large fish with one hand while freeing up the other to help you keep your balance and wade downstream.

For tackle, try yarn, egg imitation flies, spawn and various streamers, nymphs and wet flies.

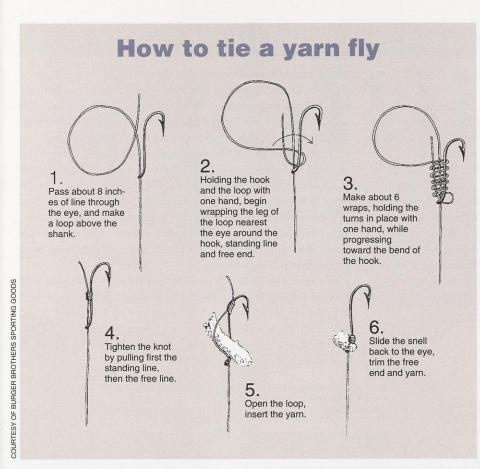
We like to drift a homemade yarn fly, a piece of colored yarn tied to a size 4 or 6 steelhead hook. Varying amounts of split shot are added to make sure the yarn fly drifts through the run near the bottom, in the zone where the steelhead lie.

As a general rule, fish yarn early in the season and when sight-fishing for trout near their spawning beds. I prefer brightly colored yarn unless the water is very clear, which is rare for the Root. Productive colors included chartreuse, orange and hot pink. You can combine one of these bright colors with a softer color in infinite combinations. I pre-cut one-inch pieces of several yarn colors and compose new flies as I go. Some folks use a vise and pretie the yarn on the hook shank. I use a snell knot and slip the yarn through the loop as I fish to find combinations that produce strikes.

Popular flies for steelhead include Woolie Buggers, stone fly patterns, mudler minnows and Woolie Worms among others. Local patterns vary, but I've learned that darker patterns work well on the Root. Fish nymphs, streamers and wet flies later in the spawning run, in deeper pools and especially after the suckers enter the river. Suckers will dominate your catch when fishing yarn once they move into the river.

Whatever your methods, you're bound to have action if you can find fish in the river and you are persistent. The Root River and other Lake Michigan tributaries offer wonderful opportunities to teach kids the thrill and satisfaction of hooking, playing and landing a silvery, magnificent steelhead.

Wally and Rita Balcerzak are psychologists in private practice in St. Paul, Minnesota. Their love of fishing takes them to many parts of the Midwest, but especially to northwest and southeast Wisconsin to fish for trout and salmon.



(left) This rig makes it easy to change colors and determine what color yarn the trout are hitting. (below) Rita takes a salmon on a yarn fly. (bottom) During peak runs, the Great Lakes tributary streams can get crowded, but there is plenty of angling action.





Eye-to-eye with trout and salmon

hroughout much of the year you can stand toe to fin with big trout and salmon on the Root River, even if you never wet a line. At the Root River Steelhead Facility, northeast of Racine in Lincoln Park, two 5x6 foot viewing windows thrill visitors who watch fish migrate upstream on their spawning runs.

Steelhead are not native to Wisconsin. These rainbow trout were imported from the Pacific Coast and planted in tributary streams of the Great Lakes. They migrate into the Great Lakes and lead a nomadic life in search of food. As the rainbow trout mature, their skin turns a lustrous silver color and earns the name steelhead. The fish migrate back to tributary streams like the Root River, but fertilized eggs would not survive the natural conditions in the tributary streams.

At facilities like the one on the Root River, spawning fish

are blocked from upstream migration by a dam. The urge to migrate forces them up a fish ladder and then into a holding pond. Eggs and sperm (milt) are collected. Fertilized eggs are taken to the Kettle Moraine Springs Hatchery for incubation, hatching and rearing until they reach stocking size.

Each strain of steelhead migrates at a different time of the

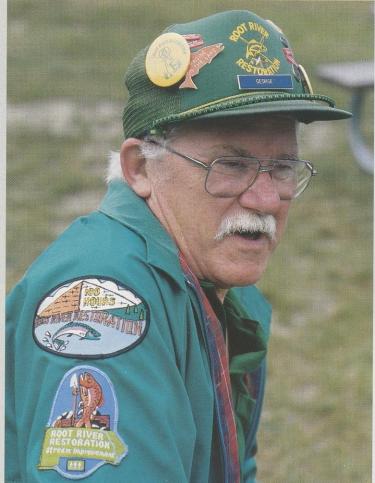
Each strain of steelhead migrates at a different time of the year, so there are several peak times for viewing fish at the Root River Facility. You'll see the Ganaraska strain of steelhead in March and April; the Skamania strain in July, August and September; chinook salmon in September and October; coho salmon in October; brown trout from October through December; and the Chambers Creek strain of steelhead from November through March.

To visit the Root River Steelhead Facility, follow I-94 toward Racine. Take the Highway 20 exit eastbound to Highway 31. Travel north on Highway 31 to Highway C (also called Spring Street). Turn right on Spring Street to Dominick Drive. Turn left on Dominick Drive. Follow the signs to Lincoln Park and the steelhead facility.

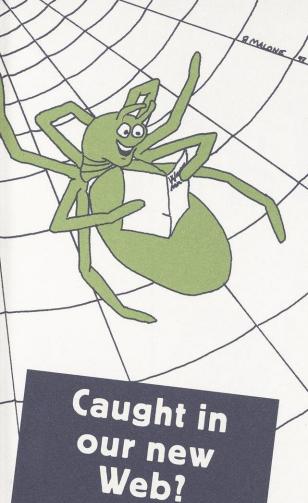
The steelhead facility in Racine's Lincoln Park is a great place to view migrating salmon and trout during their three peak runs. (below) The facility and the hatchery programs are supported by fishing license buyers, volunteers and local sports clubs.







DBERT QUEE



few months ago Wisconsin Natural Resources launched its first World Wide Web site. Did we catch you the first time around?

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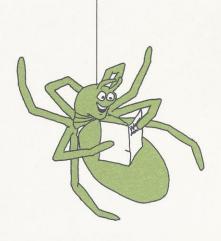
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Forecasting

fishingHoll

A loose guide to

places worth

wetting a line

throughout the

fishing year.





Like weather predictions, fishing advice is SO much better in hindsight than in forecast. First, you have to consider the source. The only anglers truly willing to talk about fishing hot spots are those who are still spooling up with new line, checking their waders for holes, or searching for chits with their soon-to-be in-laws.

Before the season, before every outing, fishing is all anticipation and opportunity. Only time will tell if you correctly matched where the fish might be to where you intend to cast a line.

It's a rare occasion when the cosmos shines and anglers get the ideal weather, great structure, the right bait, the right light and the perfect position to consistently catch fish. When it happens, it humbles the fishers, and worse than that, it makes them speechless, not so much out of a sense of awe as the full knowledge that these conditions are fleeting. The anglers who have found a true honey hole where the walleye are stacked like cordwood, the bass bite every crawler on the drop and the perch hit your ice fishing jigs as fast as the line pays out, get remarkably mum. They savor the moment...and they hope to God no one saw them so they can come back and savor it again tomorrow. Even then, conditions are rarely the same the next day.

So how can we compile reasonable fishing advice? The same way meteorologists make their forecasts: we look at the variables, gauge past performance and take an educated guess. Just remember, you get what you pay for, and this is free!

Here we share general advice for throughout the fishing year, but you will be much better served by an accurate account of recent fishing conditions. If you are traveling a distance to go fishing, call ahead. Talk to the resort owner or a fishing buddy close to the area to learn what's biting and where. Take the time to find a few local bait shops and find out what anglers have been catching. Bait dealers hear a lot as anglers and guides load up on grubs, crawlers, minnows and hell-grammites. The bait shop manager knows very quickly when the perch prefer waxies, the walleyes have switched from minnows to leeches and the salmon are hitting black-and-pearl colored plugs. They also have a pretty good idea which lakes and streams are pro-

ducing fish and when you are better off picking blackberries than casting for crappies.

The Department of Natural Resources also compiles a weekly summary of outdoor conditions reported during the previous week. It is updated every Wednesday and available 24 hours a day. You can hear a three-minute recording at (608) 266-2277. An expanded sum-

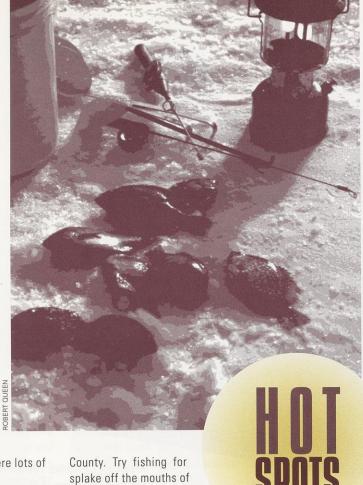
mary is also updated weekly at the DNR's Web site, http://www.dnr.state.wi.us. Click on the item titled "News, Notices and Events." The next screen will offer the listing titled "Outdoor Report."

Also make sure you are ready for the outing. Late fall and early spring fishing can be fabulous in Wisconsin, but you have to dress for the weather, your boat has to be safe and stable in the conditions you will face, your waders need to be patched and your gear has to work smoothly to enjoy the experience.

If you are going to fish new territory, by all means buy a good hydrologic map ahead of time that shows the lakes or rivers you intend to fish. It's an invaluable time saver to plan your fishing strategies, pick your launch sites and plot out different waters you want to try. A few of the map companies in Wisconsin produce annotated maps suggesting areas worth fishing at different times of the year. These suggestions lay an excellent foundation to plan your trip.

If your vacation/fishing schedule is more flexible, you can plan your trip around natural fishing peaks. For instance, the three strains of rainbow trout (steelhead) that move from the Great Lakes back to the streams where they were stocked will migrate in predictable seasons. Likewise each fish species spawns at a predictable time of the year and some of their behaviors and feeding patterns are predictable. Read about their natural life cycles, talk to other anglers and gauge your trips accordingly. If you can only fish a few times a year, fish these peaks to increase your confidence and your chances of catching fish. Hiring a guide can also be an excellent way to learn a new body of water, pick up some tips and learn some new strategies for enjoying fishing experiences.

With all that as an opener, pull up a chair and let's talk fishin.' Here's advice from the last three years of weekly reports phoned in by DNR staff.



Early to mid-January

Assuming it's been a normal year and we can all safely walk on water, start your January ice fishing for panfish during daylight hours. Take along a depth finder and a map so you can locate rocky structures, bars and points that rise from surrounding deeper waters. Fish from the shallower points out toward deeper waters to locate fish. Ice anglers tend to cluster when they find fish. If you are fishing a new body of water, try your luck where you see clusters of shanties or places where lots of

holes have been drilled in the ice.

Bluegill and crappie often prefer shallow bays, channels and places with modest currents if you are lake fishing. Try sloughs and backwaters if you are working a river.

Perch are more scattered in winter and lake anglers often have to move every 15 minutes or so until they locate a feeding school.

Later in the afternoon, move into shallower water (less than 10 feet) and set up a line of tip-ups running toward the shore where walleye and northern may cruise by the shallows in places that provide access to deeper water.

Some hot spots during these weeks in the last few years included Mason Lake in Adams County, Lake Koshkonong in Rock County and the Gile Flowage near Ironwood, Michigan.

Late January to early February

The most consistent action was reported on shallower points, bays, stump fields and backwaters of river flowages. Consider setting some tip-ups for northern and panfishing on the Gile Flowage in Iron County, the Holcombe Flowage in Chippewa County, the Chippewa Flowage in Sawyer County, the Turtle-Flambeau Flowage in Iron County, the Willow Flowage in Oneida County, Lake Koshkonong in Jefferson County, Lake Wisconsin in Sauk and Columbia counties, and the Eau Pleine Reservoir in Marathon

County. Try fishing for splake off the mouths of the Onion and Sioux rivers in Bayfield County. Or take on a walleye hunt on the Mississippi River below Lynxville.

Mid-February

This is a great time to fish northern on river sloughs and the shallow weedlines of smaller lakes. Fish smelt or shiners on tip-ups set in three to six feet of water. Don't overlook the backwaters and bottomlands on the Mississippi River from La Crosse clear down to the state line. For an unusual experience, consider the annual ice season for lake sturgeon on Lake Winnebago which runs only for a few weeks during February. If you are heading to northwest Wisconsin, set tip-ups on Shell, Long and Spooner lakes for northern. If travels take you to Vilas County, try the Eagle River chain of lakes. Near Madison, try the points and bars of Lake Mendota for perch.

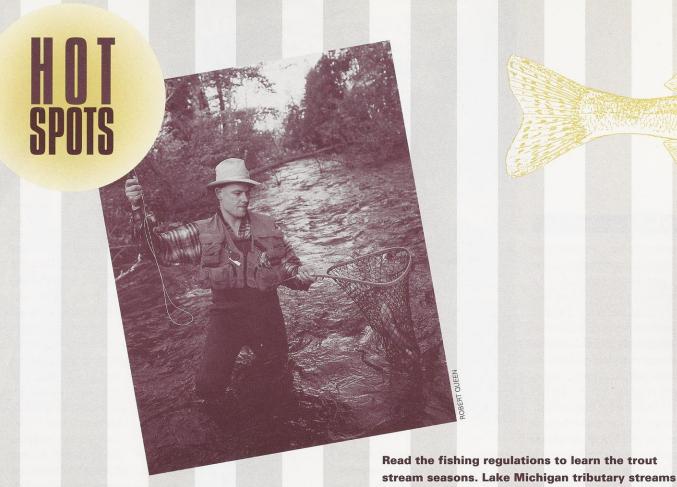
Late February to early March

Some of the best ice fishing of the season occurs as the ice starts to thin out. Remember that the game fish season closes on most inland waters from March 1 through the first Saturday in May.

In late February, set tip-ups in shallow weeds for northerns and walleves. Lake Mason in Adams County, lakes throughout the Eagle River and Woodruff-Minocqua area, and westward across the northern counties are all good bets for late season northerns before the end of February. Fish these same waters for panfish into early March. Lac Vieux Desert in Vilas County often produces slab crappies at this time of year. Also consider trying your luck walleye fishing on rivers just below

dams. BE CAREFUL. Don't take chances on these waters once the spring melt waters start to flow.





Late March to mid-April

As the ice gives way, smelt spawn at night along the shoreline of Lake Superior and Lake Michigan. Seiners and dipnetters who hit it right can haul in buckets of these tasty little fish. Try smelting near the harbors of Superior, Ashland, Bayfield, and the Lake Michigan ports from Door County south to the state line at Kenosha.

During the next month, before the general season opens in May, try your luck fishing from the harbors, piers and tributary streams of the Great Lakes for steelhead. Fish with spawn sacs, colorful spinners or yarn flies for some great fishing action. Also try trolling for brown trout along the Lake Michigan and Green Bay shoreline using stick baits.

Early May

As the ice recedes, the waters warm and many fish spawn. Use your thermometer to determine where to start the fishing season. You want to fish where shallower waters will warm up first —- smaller to medium-sized lakes, backwaters or sloughs warm up before the main channels. Fish will spawn first in the tributaries

to wetlands and to larger bodies of water.

Walleyes will spawn on shallow rocks in low

light conditions. Once the spawning run is over, they feed voraciously. Panfish action will also pick up dramatically. Bluegills and crappies will clear off spawning beds in the weeds of shallow bays. From mid-May through early June, cruise the bays and backwaters looking for dished-out clear spots where fish are defending their spawning beds. Northern will also move into the shallow grass and marshes to spawn in April and May. Northerns start to feed aggressively when bait fish start to spawn in late spring. They are sight feeders who cruise the shallow weeds, sedges and reeds looking for bait fish.

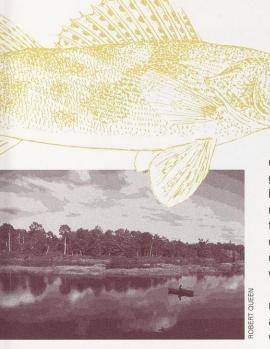
Shallow lakes and shallow areas of flowages are best bets in the early season. The action will pick up in larger lakes and deeper rivers later in May and into early June in typical years. All lakes containing decent populations of panfish and game fish will go through this same spawning/warming cycle and all will have a flurry of fishing activity in May and into early June. On calmer days, try your luck on

are open year round. Most of the Lake Superior trout streams open the last Saturday in March. Most inland streams are open for catch-and-release trout fishing from March 1 until the opening of the general fishing season on the first Saturday in May.

shallower flowages and shallow systems like the Lake Winnebago chain. On river systems, start the season in the shallower bays and tributary waters. Move into the main channel by the end of the month. The action just below dams in the early fishing season can be dynamite.

Late in the month, the lower Wisconsin Riverway will start producing smallmouth bass, walleye and catfish action.

May is also a superb time to fish trout. Spring snow melt brings a flush of food to trout waters. Consider some of the excellent trout streams throughout southwestern Wisconsin in Dane, Iowa, Richland, Sauk, Grant, Crawford and Monroe counties. Mid-state, try the many trout waters in Adams, Portage, Langlade, Waushara, Waupaca and Shawano counties. To the northwest, fish the myriad trout streams off Lake Superior from the City of Superior to Ashland.



Musky action starts to pick up statewide. In the

last two years, excellent action was reported

on the Tiger Cat Flowage, Callahan Lake and

Lac Courte Oreilles in Sawyer County. Also try

the Chippewa Flowage in Sawyer County, Lake

Wissota in Chippewa County, the Turtle-Flam-

beau Flowage in Iron County. Bass action should

start picking up in Southern Wisconsin by

month's end. Just like walleye, the bass will

spawn earlier in small lakes and shallower river

marshes where the water warms up first. Plan

your strategy accordingly by fishing smaller

lakes, backwaters, inlets and shallow bays

Late May

before you move on to bigger open waters.

Walleyes are moving from their post
spawn period into summer feeding patterns. They
spend a lot of time learning and ori-

enting themselves to the weed beds that are greening up for the season. Try slip bobbers baited with minnows and leeches suspended near the weedline tops and breaks. Walleye fishing will remain best at low light conditions of dawn and dusk. Work along the inside edges of weedbeds that give fish access to deeper water.

Walleye action should be equally good on river sloughs where the water is shallow, warm and the weeds green up first. Poke around the weedy edges for panfish in the morning and northern in the midday sun. Most of the river systems really turn on in late May and early June. Try your luck on the Wisconsin River in Lake Dubay and Lake Wisconsin. The Black River near Black River Falls also produces nice catches of walleye, smallmouth bass and panfish this time of year.

Panfish are likely still spawning on larger bodies of water (lakes bigger than 500 acres). Look for beds near the shoreline and in shallow bays. On flowages, look for downed timber, brush and rock piles that provide refuge in 6–15 feet of water.

On the Great Lakes, brown trout and coho are cruising for bait fish. Typically you can take

fish in the warmer top 25–30 feet of water fishing in 30–80 foot depths. Shore fishing is also productive from piers and breakwalls as the trout follow bait fish into warmer nearshore waters.

Trout streams are just warming up for the season. Scattered hatches of caddis flies and mayflies can provide hot action. Plan a trip to western Wisconsin and give the Rush River, Elk Creek and the Kinnickinnic River near Eau Claire a try.

Early to mid-June

Bass anglers should set their sites for southern Wisconsin lakes and rivers as the bass season doesn't open in northern Wisconsin until the third Saturday in June. Check your fishing regs for dates and bag limits. Larger lakes in northern Wisconsin are just getting going for the season. Fish walleye in the pre-dawn light, switch over to bass fishing about 10 a.m. Expect to catch northern in the shallow waters and panfish at rock piles and humps at midday. At early evening until dark, the walleye action should pick up again.

Try fishing some of Wisconsin's great chains of lakes to link up with plenty of fishing opportunities — the Eagle River/Three Lakes chain in Vilas and Oneida counties, the Minocqua chain in Oneida County, the Chetek chain in Barron County, or the Pike/Round Lake chain in Price County.



Late June to early July

This is a wonderful time of the season to pick a few "bugs" and head for the waters for perch action. Perch love hellgrammites and this is the season when large schools of perch will hit 'em heavy. Also take along some worms or small minnows just in case the crappies are hitting. Try Madison's Lake Mendota, Lake Nagawicka in Waukesha County, the Castle

flowages of the Wisconsin River, both Butternut
Lakes (Forest County and the
Price/Ashland county line), Pelican Lake in
Oneida County or Shawano Lake in Shawano
County.

Rock and Petenwell

Mid to late July

It's the right time of year to try bass fishing with plastic worms and shallow-running crank baits. Make a visit to the Mink River Estuary and Rowley's Bay near the tip of Door County. Crappie action is hot in western Wisconsin rivers like the Yellow and Paint Creek. Catfish action is good on the Wisconsin River using stink baits and cut baits. Try bass fishing on the

Mississippi River backwaters of pools 9, 10 and 11. Troll walleye on Lake Winnebago or the Rock River. In southeastern Wisconsin, trout and salmon are typically in nearshore areas in the early morning hours, then quickly move offshore to cooler waters. In recent years, this has been the peak time to fish chinook salmon all along the Lake Michigan shoreline.

Early August

and

It's the dog days of summer, and you have to be creative to do well. You might try smallmouth bass fishing on the Flambeau and Chippewa rivers. Vilas County waters have reported decent bass action in this time period. On the Mississippi River, cast for crappies and bluegills in pools 10 and 11 near Cassville. Farther north, try walleye fishing on the St. Croix casting nightcrawlers in the late afternoon and evening. River flowages can produce decent bass action and the salmon fishing from Lake Michigan shores

piers is pretty good when the wind blows from the west.

Lake trout fishing from the Door Peninsula

Mid-August

south to Algoma gets fruitful. Smallmouth bass fishing is also good at the stone quarry and Rowley's Bay in Door County. Trolling the Lake Michigan harbors near Kewaunee and Manitowoc ports produces mixed bags of brown trout, coho salmon and lake trout. Walleye are hitting well on the Menominee River below the Hattie Street Dam. Bass fishing is productive on Lake Holcombe in Chippewa County. Bluegill and perch action is picking up on Dunn County's Lake Menomin. Fish the wingdams along the Mississippi River for walleye, the brush piles and snags for bluegills.

Late August

Muskies are starting their late summer—early fall patterns. It's time to warm up your casting arm and pitch small bucktails and crank baits that can be worked along the top of the water near the edges of well-defined weed beds.



HOT SPOTS

Bass are hitting crank baits, spinners and leeches floated on slip bobbers at the inside edge of the weedline. Shawano Lake and the Wolf River seem consistent proime of year, as is Okauchee Lake

ducers at this time of year, as is Okauchee Lake in Waukesha County and the Chippewa and Flambeau flowages. Try the cranberry flowages for largemouth bass. Crappie and bass fishing is good on lowa County lakes.

Trout and salmon anglers: Be sure to check with bait shops before you travel. This time of year, the fish remain in cooler waters. When the wind blows off-shore, the pier fishing can be excellent. Check it out at Sturgeon Bay, Kewaunee, Algoma, Manitowoc, Point Beach, Two Rivers and Sheboygan. Otherwise, take your boats into 175–200 feet of water for some deep trolling.

Early September

Perch anglers should try the weed beds at the Sturgeon Bay Ship Canal and the backwaters and stumps on major river systems — the Lower Wisconsin, the Black River, and wingdams along the Mississippi. Panfish and bass are hitting on Lake Holcombe near Eau Claire.

Smallmouth anglers do well on the middle stretches of the Wisconsin River. Near Marinette, the Menominee River produces bass between the railroad bridge and the Hattie Street Dam.

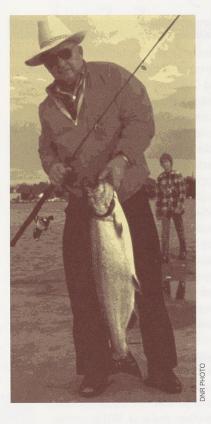
Mid-September

Fall fishing is just starting. Salmon begin moving from deep waters to the points, islands and river mouths in Lake Superior. Try Houghton Point to Ashland and the mouths of the Sioux and Onion rivers in Bayfield County. In Washburn County, bass fishing is still holding strong on smaller lakes. Cooler night temperatures trigger fall feeding and musky action on the Chippewa Flowage in Sawyer County, the Flambeau Flowage in Iron County, and Vilas County waters. Woodruff area waters still report excellent bass fishing and evening walleye action. The Lower Wisconsin River and Black River systems are still producing bass and walleye. Panfish action is good in shallow waters of waterfowl production areas, but be mindful of hunters.

Early October

As lakes cool down and start to turn over, it's time to slow down your fishing techniques and start fishing the deeper water by mid-month. Darker, shallower lakes will turn over first followed by deeper, clearer waters. Trout and salmon are just starting their move into Great Lakes tributary streams. Now's the time to start fishing the near shore area, the harbors, river mouths and pier areas.

Fishing is good on the Manitowoc River from the Rapids Road Bridge to Manitou Park. Try any of the major Lake Michigan tributary streams with decent autumn flows. The Sheboygan and Kewaunee rivers will hold coho and chinook salmon, too. Fishing on Racine



County's Root River is picking up as trout and salmon migrate upstream.

On the Mississippi River, crappies and bluegills are moving into the shallow backwaters. Fish them during the day and switch over to walleye fishing in the late afternoon, particularly below Lock and Dam #9.

Northerns are biting on Lake Waubesa south of Madison. Fish the inlets of larger lakes to find northerns as the water cools down. On the Rock River, nice catches of smallmouth bass are reported at Turtle Creek.

Walleye fishing continues strong on Lake Wisconsin using large minnows. Try the Whalen's Grade and Okee areas.

HOT SPOTS



Late October

Bundle up and try fall walleye outings on Minocqua-Woodruff area lakes. The Flambeau and Chippewa rivers in Rusk County are producing walleyes as is the Rock River at Lake Koshkonong.

As storm fronts approach, the musky action picks up as well. Eagle River anglers are taking muskies on suckers, jerk baits and deep-running crank baits.

Streams and harbor areas along the Lake Michigan coast are producing brown trout. Stiff winds can keep you off the water, but its worth a try from shore on the piers and breakwaters, Spoons as well as common baits like canned corn and spawn sacs are all producing fish. Chinook salmon are hitting dark flies on the Sheboygan Pike and Root rivers as well as Oak Creek.

Early November

Musky action remains steady in the Ladysmith area. Fish big suckers slowly at dawn and dusk. Walleye action is still good on Lake Wisconsin at Whalen's Grade and Okee. Oconto and Florence County waters are producing panfish, northerns and walleye. Near Marinette, steelhead, brown trout and splake are hitting on the Menominee River.

In southern Lake Michigan, the coho and chinook runs in Racine County are good above the Highway 38 bridge. Fish the downstream area for brown trout and steelhead. Throughout the month, try the piers and tributary streams from Milwaukee harbor south to the state line. Fish the Milwaukee River at Estabrook Park, in the harbor area, at Veterans Park and McKinley Park for brown trout.

On the Rock River, fish late afternoons for sauger, walleye and crappie. On the Mississippi, walleyes may

still be hitting below the dam at Dubuque. Fish shallower backwaters for late-season bluegills.

As the first ice forms on northern Wisconsin waters, the early evening walleye bite on tipups can be spectacular along shallow shores, but be extremely cautious on this thin ice.

Mid-November

Keep trying the coastal shore and tributaries from Milwaukee and points south for brown trut

If you can stand the cold and are prepared for tough weather, consider river fishing for walleye near the Hatfield Dam at Black River.

Early to mid-December

If ice conditions are safe in northwestern Wisconsin, try panfish action on Big McKenzie Lake near Cumberland, walleye and crappie fishing on Lake Arbutus, or panfish and northern fish-

ing near the Trempealeau area. Hardy trout fishers can continue to catch steelhead on the Root River and pier fishing near Lake Michigan harbors, as mild weather allows.

Big bluegills will take waxies and minnows. Try the Holcombe Flowage (Rusk County); Lake Noquebay, High Falls and Cauldron Falls flowages (Marinette County) and smaller lakes throughout Florence and Oconto counties for good bluegill bites as well.

If you still haven't had your fill, the open water near the locks and dams on the Mississippi River still produces decent catches of walleye.

Panfish photo above and cover photos from DNR files.
Written by David L. Sperling
Design by Moonlit Ink
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Wisconsin Department of Natural Resources
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Mapping out our natural future

The Natural Resources Foundation of Wisconsin funds and promotes a variety of grassroots conservation projects. Members stay in touch via the foundation's semi-annual newsletter, speakers bureau and field trips.

All members receive the newsletter and early notification of special events. Donors of \$25 or more receive a one-year subscription or renewal to Wisconsin Natural Resources magazine and those who contribute \$100 or more also receive an Resources annual state parks admission sticker.



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North, south, east and westward ho!

Barb Barzen

uppose you have a couple of free days between, say, April and October. Suppose you'd like to spend those days doing something a tad more fulfilling than, say, scraping old paint off the soffit or re-seeding that bare patch in the backyard lawn. You'd take those days and maybe learn something new. Perhaps you might step back to consider a problem in a different light, or ponder a question with knowledgeable companions who share your interest and concern. Then again, you might choose to simply revel in nature's beauty and marvel at the wonders of life unfolding all around you.

You can do any or all of these things on one or several of the 43 field trips offered by the Natural Resources Foundation this year. The foundation's goal is to bring you closer to the waters, wildlife and lands under the stewardship of the Department of Natural Resources and to introduce you to the people who manage, protect and preserve those resources.

If you're an early riser, consider joining a pre-dawn viewing of booming prairie chickens at Buena Vista Marsh. Curious about lake ecology? Take a pontoon tour of the Lake Mendota Priority Watershed Project, or a beach walk on the Lake Michigan shore to discuss fluctuating lake levels. Catch the prickly pear cactus in bloom in the dry heat of the Blue River Sand Barrens, or dip your paddle in the cool waters of the Flambeau on a guided river tour. Get tail-to-scale angling tips from someone who's really in the know — a fisheries biologist. Sample wild edibles, return to the site of the 1832 Black Hawk battle, look into the economics of mining and reclamation in Ladysmith...whatever your interest, there's sure to be a field trip to suit you.

Each trip is hosted by DNR staff who work in the field. Our naturalists, biologists, researchers and technicians look forward to sharing the natural world they know so well with you. Bring your questions and ideas - tour leaders will discuss problems, successes, and issues of future concern regarding their areas of expertise. There's a limit on the number of people who can attend each trip to ensure that all participants will have time to talk at length with staff. You'll also meet citizens actively involved in natural resources stewardship, like the Thompsons of Stevens Point, owners of the 1996 Wisconsin Tree Farm of the Year and the Jordans of Dodgeville, 1996 National Tree Farmers of the Year.

You can sign up for as many trips as you like, but all trips will be filled on a first-come, first-served basis, so please register early. Just fill out the registration form attached in the magazine. For each trip you're interested in taking, we'll need to know the trip number, the date, the number of people in your party, and a contact person with whom we can confirm reservations or forward directions.

If there is a fee listed for a trip, assume that it is a per-person cost. Trip fees can be paid by check, made out to the Natural Resources Foundation. Checks, donations, and reservations for trips with fees, should be mailed to: Field Trips, Wisconsin Natural Resources Foundation, P.O. Box 129, Madison, WI 53701. Should you have any questions about the trips, contact Barb Barzen, field trip coordinator, from 8 a.m. to 4 p.m. Monday through Friday at (608) 266-1430.



Natural

Resources

Foundation

1997 Field Trip Schedule

1 Prairie Chicken Booming at Buena Vista Marsh

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

- April 25, 7:00 p.m.–April 26, 11:00 a.m.
- Central Wisconsin Environmental Station, Amherst Junction
- Todd Knepfel, leader
- limit 20
- cost \$45

2 Sharptails, Pine Barrens, and Wetland Mitigation near Lake Superior — Any or All of the Above

(a) Watch the pre-dawn dance of the sharptail grouse; (b) tour barrens areas in Douglas and Bayfield counties and discuss uses of state, county, and

industrial forests; and/or (c) visit recently created/mitigated wetlands on red clay soils along Lake Superior.

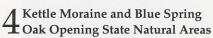
- May 3, (a) 4:15–7:00 a.m., (b) 8:00 a.m.–1:00 p.m., & (c) 5:30–8:30 p.m.
- Minong to Brule, Washburn & Douglas Co.
- Greg Kessler, Rick Weide, leaders
- limit 20
- cost \$10 for a and b; \$5 for c

Tour of the National Tree Farm of the Year

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

- May 10, 9:30 a.m.–12:30 p.m.
- Dodgeville, Iowa Co.
- Rachel & Donald Jordan, Jim Widder, leaders
- limit 30

(top left) Watch pussy willows bloom on a spring trip. (left) Trip #40. Phil Fauble tours Baraboo Hills geology.



Visit the largest oak opening restoration in Wisconsin, which contains statethreatened plants and scattered prairie remnants. Learn about oak opening ecology and restoration techniques.

- May 17, 9:30 a.m.-1:00 p.m.
- Palmyra, Jefferson Co.
- Kristin Scheele, Mark Verhagen, leaders
- limit 25

5 Partners for Wildlife Program — Wetland and Grassland Restoration on Private Lands

Bus tour of several farms where owners have restored wetlands and grasslands and seen a marked increase in waterfowl use of these areas. See restorations at various stages.

- May 17, 1:00–5:00 p.m.
- Luck, Polk Co.
- Mike Johnson, leader
- limit 40
- cost \$5

6 Tour of the Tommy Thompson State Fish Hatchery

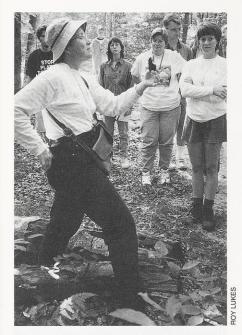
See the world's largest musky rearing facility at the height of its most productive time. Tour the egg incubation area and rearing ponds. Discuss general management of northern Wisconsin fisheries.

- May 17, 10:00 a.m.-noon
- Spooner, Washburn Co.
- Jon Peterson, leader
- limit 30

Trip #23 Catch the prickly pear cactus in bloom!







Charlotte Lukes shows mushroomers the proper strut when picking is good.

Spring Wildflowers at Newport State Park

Walk a two-mile trail to see wildflowers in rare inland and shoreland habitats.

- May 31, 10:00 a.m.-12:30 p.m.
- Newport State Park, Door Co.
- · Tom Smith, leader
- limit 25

O Tour the Poynette Game Farm & MacKenzie Environmental Center

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

- May 31, 9:00 a.m.-1:00 p.m.
- Poynette, Columbia Co.
- Don Bates, Derek Duane, leaders
- limit 20

Fishing Tips and Habitat Management at Castle Rock

Let a fisheries biologist show you how it is done. Learn how to improve your chances for success while fishing. General fish ecology and management plans for the Castle Rock Flowage will also be discussed.

- June 7, 10:00-11:30 a.m.
- Buckhorn State Park, Juneau Co.
- Scot Ironsides, leader
- limit 25

Tour of Chiwaukee Prairie State Natural Area

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

- June 7, 9:30 a.m.-1:00 p.m.
- · Coral Beach, Kenosha Co.
- · Brian Glenzinski, Mark Roycraft, leaders
- limit 25

1 Canoe the Mink River Estuary

Paddle through the Mink River Estuary, a rare, pristine, and fragile habitat which serves as a spawning ground for fish and a stopping point for hundreds of migratory birds. Note: Participants must provide their own canoe.

- June 7, 11:00 a.m.-3:00 p.m.
- Ellison Bay, Door Co.
- Tom Smith, leader
- limit 25

Oak Savanna & Woodland Restorations of Governor **Nelson State Park**

Learn how to identify savannas versus woodlands. See various stages of the restoration process via slides and a walking tour. Receive information you can use for managing your own land.

- June 8, 11:00 a.m.-1:00 p.m.
- · Governor Nelson State Park, Dane Co.
- Dan Weidert, leader
- limit 30

Learn the shocking truth about stream ecology.



Recreation Management on O the Brule River State Forest

Visit several popular recreation sites on the Brule River, the State Forest, and Lake Superior to discuss current recreation issues - aesthetics, carrying capacity, resource protection, etc. Visit with forestry, wildlife, and fisheries specialists.

- June 14, 9:30 a.m.–3:30 p.m.
- Brule, Douglas Co.
- Chuck Zosel, Jay Gallagher, leaders
- limit 20
- cost \$7.50



Trip #8 shares history and progress in managing and stocking ring-necked pheasants.

Geology & Fossil Hunt Hike at Newport State Park

Take a fun tour back in time to search for fragments from the "Silurian Sea," an ancient ocean where coral reefs thrived. Collect material to add to the park's interpretive display.

- June 14, 11:00 a.m.-2:00 p.m.
- Newport State Park, Door Co.
- Tom Smith, leader
- limit 30

Stream Ecology Workshop: 13 Assessing the Health of a **Trout Stream**

Learn about stream health, monitoring and sampling techniques. Visit a Dane County trout stream and use sampling gear to assess water quality, habitat conditions, and aquatic insects and fish populations.

- June 14, 9:00 a.m.-4:00 p.m.
- Madison
- Mike Miller, leader
- limit 20
- cost \$4





(top) Trip #17 Read human signs at Roche-a-Cri's petroglyphs.

(below) Trip #33 Join botanists and biologists for a natural tour of the lower Wisconsin River.

$16^{\rm Mississippi\ Bluff\ Prairie\ and}_{\rm Oak\ Savanna/Woodland}$ Restoration at Rush Creek State Natural Area

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

- June 21, 9:30 a.m.-1:00 p.m.
- Ferryville, Crawford Co.
- Jim Buchholz, Ron Lichtie, leaders
- limit 5

17 Pictographs, Petroglyphs, and Archaeology at Roche-A-Cri State Park

Learn the history of the pictographs and petroglyphs at the park, the archaeology of the area, and steps taken to prevent vandalism at significant sites throughout the state.

- June 21, 10:00–11:30 a.m.
- Roche-A-Cri State Park, Adams Co.
- Bob Birmingham, leader
- limit 25

18 Canoe the Flambeau River — Oxbo to State Forest

Headquarters

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

- June 21, 10:00 a.m.-4:00 p.m.
- Oxbo, Sawyer Co.
- Dave Olson, leader
- limit 30
- cost \$9 canoe rental + \$6 lunch

19 From Planted to Pristine — Forest and Fish Management at Whitefish Dunes

Hike with a forester and fisheries biologist through a red pine plantation and along a woodland stream to discuss the management needs of each resource. Learn the history of each area and plans for their future.

- June 21, 9:30 a.m.-noon
- Whitefish Dunes State Park, Door Co.
- Bill Ruff, Mike Toneys, leaders
- limit 30

$20^{\rm Alien\ Invasion\,-\,Workshop}_{\rm on\ Controlling\ Non-natives}$

Loss of habitat and the encroachment of non-native species are serious problems throughout our natural environment. Learn to identify and control invasive plant and animal species in this hands-on workshop.

- June 28, 9:00–1:00 a.m.
- Bong Recreation Area
- Beth Goeppinger, leader
- limit 30

21 Shoreland Development on Northern Wisconsin Lakes

Development along our northern lakes is taking place at an alarming rate. Look at the effects this trend is having on natural resources and scenic beauty of the area. Learn what landowners do that have negative and positive impacts on shorelines. Tour from land and boat.

- June 28, 10:30 a.m.–3:00 p.m.
- Hayward, Sawyer Co.
- Bruce Swanson, John Gozdzialski, leaders
- limit 25
- cost \$4

22^A Primer on Lake Limnology Lake Mendota

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

- June 28, (a) 9:00–noon or (b) 1:00–4:00 p.m.
- Madison
- Jim Leverance, leader
- limit 12 per session
- cost \$2.50

23 Wisconsin's Desert — Blue River Sand Barrens

See the large, showy blossoms of the prickly pear cactus at their peak, along with a host of unusual plants that thrive on the dry, moving sandy soil of this prairie. Learn about the ecology of sand blows, their unusual inhabitants, and steps taken to protect them. Lunch on the Wisconsin River.

- June 29, 10:00 a.m.-1:00 p.m.
- Muscoda, Grant Co.
- David Kopitzke, leader
- limit 20



You might come cheek to beak with migrating pelicans on a Mississippi River trip.

24 Wild Edibles at Havenwoods State Forest

After an introduction to the unique history of this urban state forest, join the staff for a tasting party with a menu of some of the best wild foods nature has to offer. Best for ages 12 and over.

- July 9, 6:30-8:30 p.m.
- Havenwoods State Forest, Milwaukee
- Jackie Scharfenberg, leader
- limit 40

$25^{ m Wisconsin's}$ 1996 Tree Farm of the Year

See spruce, red and white pine plantations ranging from one to 47 years of age. Owners will discuss regeneration, disease control, pruning, land and water conservation, recreation, and wildlife uses of a well-managed tree farm.

- July 12, 10:00 a.m.-12:30 p.m.
- Stevens Point
- Dick & Charlotte Thompson, Paul Lochner, leaders
- limit 30



Last year, we explored the joys of birding next to a municipal landfill!

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

Explore the St. Louis River Streambank Protection Area, a new 5,000-acre project managed to protect against erosion and sedimentation in the last high quality riverside wetlands of the river/estuary. Sea kayaks and instruction will be provided by an outfitter (beginners welcome). Through a 10–12 mile paddle, participants will explore steep wooded shores, unique wetlands, and meandering tributary bays in this remote wilderness area. Two tandems available on request, otherwise single kayaks.

- (a) July 19 or (b) August 16, 9:00 a.m.–4:00 p.m.
- Duluth-Superior
- Frank Koshere, leader
- limit 15 per session
- cost \$50 if renting kayak, \$35 if providing own kayak and gear.

27 Rehabilitation Spring Ponds for Trout — Elton Springs

Learn how spring ponds, which are unique glacial remnants, are rehabilitated to increase native brook trout populations. Get an overview on the importance of spring ponds as headwaters of trout streams, then visit the Elton Springs site.

- July 19, 10:00 a.m.-3:00 p.m.
- Antigo
- Pete Segerson, Jeff Reismann, leaders
- limit 20
- cost \$5

28 Exploring Mississippi River Natural Resources

Spend Thursday evening getting briefed on Mississippi River management issues, then head out Friday for a fascinating day boating on the river. Topics of discussion and exploration will include river history, fish, birds, mussels, plants, and habitats.

- July 24, 7:00 p.m.-July 25, 4:00 p.m.
- Merrick State Park, Buffalo County
- Brian Brecka, leader
- limit 20

29 Prairie and Oak Savanna Restoration at Greenwood Wildlife Area

Tour this 500-acre prairie and oak savanna restoration in central Wisconsin, which is a federal Karner Blue Butterfly recovery site. See several undisturbed original prairie remnants, in addition to plantings.

- July 25, 10:00 a.m.-2:00 p.m.
- Hancock, Waushara Co.
- Dave Neu, leader
- limit 25

30 Tour of Wisconsin Heights Battle Site

Take a walking tour throughout the historic battle site, an oak savanna restoration, a pre-historic mound site, and the hilltop where Black Hawk directed the 1832 battle.

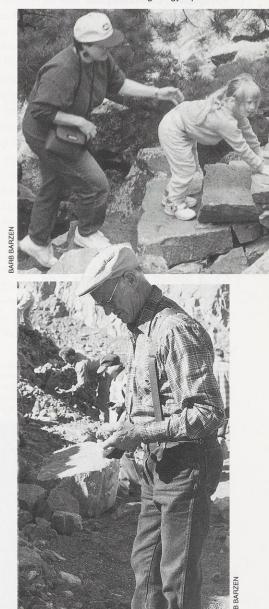
- July 26, (a) 9:00 a.m.–noon or (b) 1:00–4:00 p.m.
- Mazomanie, Dane Co.
- Wayne Schutte, leader
- limit 22

31 Wisconsin's Glacial Habitat Restoration Area

Following a brief introduction to the Glacial Habitat Restoration Area, the use of Geographic Information Systems (GIS) for site selection, and restoration procedures, visit restored grasslands and wetlands at sites in Fond du Lac County.

- July 26, 1:00-5:00 p.m.
- · Horicon, Dodge Co.
- Ellen Barth, leader
- limit 30

Rock hounds of all ages get a kick out of looking for minerals and fossils on our geology trips.





On woodland hikes look for flowers, nests, tree types and fall color, in season.

32 Tour of Flambeau Mine in Ladysmith: Reclamation, Regulation, and Economics

Hear an overview on the mine and reclamation process, then tour the mine to see reclamation in progress. Learn about the permitting process, the area's geologic history, wastewater treatment, and local economic impacts related to the mine.

- August 9, 1:00–4:00 p.m.
- Ladysmith, Rusk Co.
- Ken Markart, Jana Murphy, leaders
- limit 40
- cost \$3

$33^{ m Canoe}$ the Lower Wisconsin State Riverway

Learn about the management and history of the Lower Wisconsin State Riverway while canoeing the stretch from Mazomanie to Arena.

- August 9, 10:00 a.m.-3:00 p.m.
- Mazomanie, Dane Co.
- · Wayne Schutte, leader
- limit 30
- cost \$10/person, if renting canoe

34 Spread Eagle Barrens State Natural Area

Visit the largest barrens in northeast Wisconsin to learn about barrens ecology, management, and restoration. Inspect a recently burned area.

- August 16, 9:30 a.m.-1:00 p.m.
- Florence, Florence Co.
- Stu Boren, leader
- limit 25

$35^{\,\mathrm{Caves}}_{\,\mathrm{Park}}$ of Potawatomi State

Enjoy a rare opportunity to hike the steep, rocky hillsides near Sawyer Bay to inspect crevices and inlets in the rock formations. The hike will begin with an overview of the geology of the area.

- August 16, 1:00-3:30 p.m.
- Potawatomi State Park, Door Co.
- Wendy Wagner-Kroft, leader
- limit 15

36 Tour of Muir Park and Observatory Hill State Natural Area

Hike through two of John Muir's boyhood haunts. See a wetland, prairie, savanna, lake, and lunch at a hilltop cedar glade. Natural Areas management will be discussed.

- August 23, 9:30 a.m.-1:00 p.m.
- Montello, Marquette Co.
- Mark Martin, leader
- limit 25

37 Lake Michigan Beach Walk: Great Lake Water Levels

Enjoy a walk along the beach with a naturalist and learn why water levels on the Great Lakes vary greatly and what can be done about it.

- August 23, 9:30–11:30 a.m.
- Whitefish Dunes State Park, Door Co.
- Ginny Haen, leader
- limit 25

38 Wastewater Treatment Technologies for Small Communities

After a brief presentation on wastewater treatment, visits will be made to four small towns to see different techniques being used to treat wastewater.

- September 6, 9:00 a.m.-3:00 p.m.
- Dodgeville, Iowa Co.
- Jack Saltes, leader
- limit 20

$39^{ m Acid\ Rain\ \&\ Mercury\ Studies}$ at Little Rock Lake

Learn about the ongoing research being conducted on acid rain and mercury levels at the UW Trout Lake Station. Visit a study site at Little Rock Lake.

- September 13, 1:00-3:00 p.m.
- Boulder Junction, Vilas Co.
- · Carl Watras, leader
- limit 30

$40^{\text{Geology of the Baraboo Hills}}_{-\text{Off the Beaten Path}}$

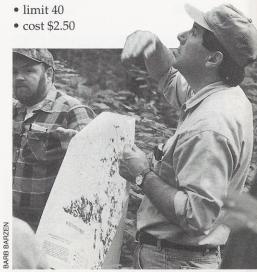
After a brief lecture on the geologic history of the Baraboo Hills, hike the east bluff of Devil's Lake, then enjoy a van tour to Natural Bridge State Park, Hemlock Draw, the La Rue quarry, and the Illinois iron mine site.

- September 20, 9:00 a.m.-4:00 p.m.
- Devil's Lake State Park, Sauk Co.
- Philip Fauble, leader
- limit 30

41 140 Years of Applied Forestry on the Menominee Indian Reservation

See how reservation forests have been managed for diversity in species and size since the 1850s. Tour the reservation by bus to learn how the area's history and forestry practices set it apart from other northern forests.

- September 27, 10:00 a.m.-4:00 p.m.
- Keshena, Menominee Co.
- Marshall Pecore, Randy Williams, leaders



Trip #41 will examine the big timber under tribal management for 140 years.

42 Lake Michigan Salmon Fisheries

See the peak spawning run of Lake Michigan salmon and get a behind the scenes look at how eggs are collected for distribution to hatcheries.

- October 6, 10:00 a.m.-noon
- Kewaunee
- Paul Peeters, leader
- limit 30

$43^{ m \, Ice \, Age \, Landforms \, of \, the}_{ m \, Southern \, Kettle \, Moraine}$

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

- October 11, 9:00 a.m.-noon
- Eagle, Waukesha Co.
- Ron Kurowski, leader
- limit 40
- cost \$4

Awakening the Kickapoo Reserve

After 30 years in legal limbo, the Kickapoo Valley is ready to rise and shine.

Harvey Black

Clinging to a tiny ledge in the middle of a sheer sandstone cliff deep in the Kickapoo Valley is one of Wisconsin's treasures. It's a clump of lapland rosebay, a relative of rhododendrons and an endangered plant species in the state. The only other known example of this plant, which is but a few inches high, in Wisconsin is in the Dells. It is typically found in the Arctic regions.

The plant grows about 40 feet above another treasure, the Kickapoo River. A popular canoeing river and trout fishing stream, the river courses through the valley offering recreation and relaxation.

Both the river and the plant are part of the 8,500-acre Kickapoo Valley Reserve created by the legislature in 1994.

Had things played out as planned 30 years ago, much of the reserve would be underwater today. The property was slated to become a reservoir for the La Farge Dam, a federally-funded flood control and recreation project. The dam was almost completed in 1975, when Congress cut off the flow of money in response to then-Governor Patrick Lucey's concerns about the effect of a dam on canoeing and water quality in the 1,400-acre lake that would be created.

Since then, with the federal government holding title to the land, nothing could be done with it...until last September, when Washington returned title to the land to Wisconsin in the Water Resources Development Act of 1996.

Anticipating the land's return, local community planners worked with two area legislators. Senator Brian Rude (R-Coon Valley) and Representative DuWayne Johnsrud (R-Eastman), authored

(left) The Kickapoo River north of La Farge near where the dam would have been built.

(inset) The region has stunning valleys and vistas. (below) Shaded cliffs make a cool microclimate for plants like the Arctic primrose (Primula mistassinica).



BERT H. REAL

KICKAPOO RESERVE

legislation setting up a nine-member management board to decide how best to use the land. The blueprint for establishing the reserve was developed by Robert Horwich, a community conservation specialist who has lived in the area for 20 years, and a number of other area residents including Eric Epstein, an ecologist with the Department of Natural Resources, and Ron and Donna Johnson. Ron Johnson now chairs the board that will oversee the reserve.

"It was a great springboard, a great place to start," says Alan Anderson, of the plan which seeks to preserve the natural beauty of the area while allowing tourists to enjoy it. Anderson, a UW Extension Community Development specialist in the Kickapoo Valley, has been working with the board and local residents to set up meetings to discuss use of the land.

Called a "unique natural gem" by Craig Thompson, DNR Water Leader for the LaCrosse and Bad Axe Watershed, and the state's liaison with the board, the Kickapoo Reserve varies from lush rolling terrain to steep, rocky ravines. It has rocky outcrops and creeks. Hiking through it can be a challenge.

The reserve is one of the few public areas of the driftless region, the part of the southwestern Wisconsin landscape that escaped the great glacial sculpting of the state some 10,000–15,000 years ago.

Because the glacier left the area untouched, it still has high bluffs and sandstone cliffs with evergreens like eastern hemlock, indicative of northern climates. "That's something you find in very few other places in Wisconsin," says Epstein.



The cool microclimate created by the evergreens, deep valleys, and the steady drip of water down the face of the sandstone cliff has allowed the Arctic-living rosebay, a relic of the glacial climate of 10,000 years ago, to flourish today. "It appears that as the glaciers around the driftless region receded and the climate changed, the rosebay only found suitable growing conditions in a few cold and constantly moist areas," says Epstein.

For similar reasons the northern monkshood also flourishes in the Kickapoo Reserve. The reserve has one of

the largest populations in the state of this nationally rare plant, says Thompson. Clumps of the plant, which has palm-shaped leaves and can grow as high as three feet, can be found near streams underneath rocky outcrops at the bottom of steep ravines.

The presence of such "cool spots" is remarkable in southwestern Wisconsin, typically one of the hotter and drier parts of the state except on its cooler, moister northeastern slopes. Consequently there's a little bit of northern Wisconsin in the reserve. Not only are there trees such as the hemlock and yel-

> low birch, but there are birds more likely to be found in the north such as the winter wren, the black-throated green warbler, and the red breasted nuthatch.

> Preserving this part of the Kickapoo Valley means migratory songbirds will retain their nesting grounds. The reserve contains hundreds of acres of hardwoods like sugar maple, red oak and basswood adjacent to the 3,500acre Wildcat Mountain State Park. This area provides enough unbroken forest that many threatened songbirds, such as the Kentucky warbler and the Acadian flycatcher, which breed here, will have a habitat of the size they need to thrive.

"These birds require large contiguous chunks of forest," says Thompson. "The fragmentation of forests in southern Wisconsin along with habitat changes in tropical wintering grounds, has led to declining populations of many birds of the forest interior that need large, unbroken tracts of forestland for breeding habitat."





(left) The region offers visitors wooded ravines and pastoral valleys. Here's the view looking south from an overlook in Wildcat Mountain State Park. The proposed dam just north of La Farge would have impounded the Kickapoo northwards towards Rockton. (top and above) Two of the region's rare

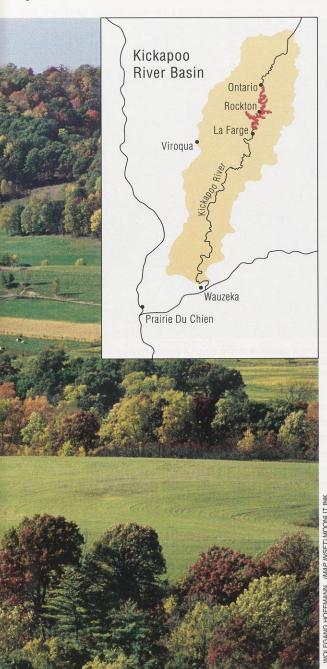
denizens, the northern monkshood (Aconitum noveboracense) and the Acadian flycatcher (Empidonax virescens).

All told, the reserve contains a dozen threatened or endangered plants and animals.

Uses old and new

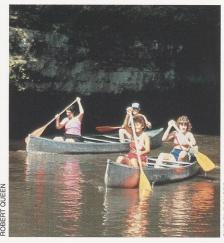
The reserve also offers a treasure trove for archaeologists: It is the largest historic and archaeological district in the United States, with 454 identified archaeological sites, says Bob Birmingham, Wisconsin state archaeologist.

Ironically, the survey that located the sites was conducted with the shadow of the impending dam looming over the researchers. The cultural sur-









vey was done to discover what was valuable and could be removed from the to-be-flooded land.

Now of course, archaeologists can go back and study those sites at their leisure, since the dam won't be built.

The discovered sites, dating from about 8000 B.C. to 1000 A.D., are believed to be temporary encampments underneath outcroppings of rock or in caves, not permanent villages. "The driftless area was always very good for hunting," Birmingham says. "For thousands of years people would go to the little sheltered valleys in the area to hunt. There were also fish in the Kickapoo River, lots of turkeys, but deer was the principal game."

The occupiers, Birmingham says, were primarily small groups of hunters or families. The artifacts they left behind include knives, spear points, awls, and scrapers for hides.

"It's one of the best samples of archaeological sites that we've identified, a wonderful laboratory to study the prehistory of southwestern Wisconsin," he says. "Usually we're looking at one or two sites. Rarely do we get a chance to look at human occupation in a regional sense, and that's what we have here: a very large area that's been virtually completely surveyed in one part of the state."

Birmingham hopes the sites will be preserved, allowing scientists to study how the culture in the area changed over the thousands of years the valley was occupied.

But the reserve is not just a place for scientists and wildlife. Far from it.



Local residents are considering a future to capitalize on the region's diverse recreational opportunities and it's natural features. Hiking, horseback riding, canoeing and nature study are already popular. The Kickapoo is also rich in prehistorical archaeological sites.

"It's a great place to hike," says Epstein. "We'd like to see a bike trail stretch from the reserve and link to the Elroy-Sparta trail to encourage people to come and bird-watch, pick berries, and enjoy the natural beauty."

"Here, there's a really great opportunity to develop a management plan with the help of local folks — that's going to be critical to the success of this thing. This is something they own, this is theirs and this is something worth doing."

The success can mean a great deal to the economy of the region. According to the Department of Revenue, per capita income in the area is about \$13,000 — half of the state average. And, notes Alan Anderson, there are striking disparities within that figure: "In Viroqua, the per capita income is around \$10,000; out in some of the rural townships, the per capita income might be \$4500."

The region is also home to more elderly than the state as a whole. Census figures indicate that 18 percent of the population is over 65, compared to 12 percent statewide. But in some communities like Soldiers Grove, about one-third of the people are over 65.

"One of the dilemmas for the future will be to find the economic engine of the region," Anderson says. "With so



The abandoned dam site north of La Farge. Federal funds would only cover environmental restoration. Plans envision a more ambitious mix of trails, boat accesses, a nature center and cultural tourism.

many people at retirement age, that's going to be a challenge."

That force may be found in the tourism envisaged by board chair Ron Johnson of La Farge, who dreams of photography tours and classes of artists coming to the reserve.

He envisions hiking trails with foot bridges spanning the Kickapoo to encourage people to walk through the reserve and experience what it has to offer first-hand. He and other board members also would like to construct an environmental education center at the reserve to tell its natural and human history.

"I see the reserve as a catalyst for the whole region," says Donald Field, a board member and director of the UW-Madison's School of Natural Resources. "It has the potential for linking a lot of the [Kickapoo] valley into a common theme of resource management and development."

The interest is clearly there. Anderson says a 1993 UW-Madison study found that canoeists spent an estimated \$700,000 locally. He estimates in 1994 and 1995, canoeists spent about \$1 million each year. To put that in context, consider the community of Ontario, population 450. "The net income of that community is about \$2.5 million," says Anderson. "Tourists spent \$1 million, if not in Ontario proper, then in the surrounding area. If we develop better boat landings that are dispersed on the river, we can bring in twice the number of canoeists and not

have a negative impact on the quality of experience. That will bring in a lot more money into the communities."

While Anderson hastens to add that his prediction is not a certainty, he notes that the reserve now is "underutilized and under-managed."

Johnson would like to build up the area's tourism infrastructure. He wants to see more businesses, such as restaurants and B&Bs, that will cater to tourists.

But even low-impact tourism creates concerns. Field is worried about soil erosion and water quality problems left behind by visitors. As part of the management strategy he sees a compelling need to make sure the various "user groups" cooperate in maintaining the reserve.

One challenge facing the board is the use of ATVs — all-terrain vehicles. The erosion ATVs cause on hillsides and other features of the reserve worries board members like David Kluesner of Madison. "We're going to have to sit down with the motorized vehicle people and discuss their use of the area," he says. "As soon as we have authority to do so that's going to be the first issue we'll have to deal with."

George Nettum of Viroqua, another board member, also mentioned the erosion problems already caused by ATVs in the reserve. A 40-year resident of the region, he speaks of the need to manage the recreational demands on the reserve, noting that there is "more demand than there is land for" and

that not every recreational interest can be satisfied. "We want to go slow and develop something that is unique," he says. "But we might have to do some selection."

The board will have to deal with accommodating existing farming in the reserve. About 1,000 acres are under cultivation for corn and alfalfa.

The board will also be faced with the concerns of the Ho-Chunk Nation. The reserve contains several important cultural sites such as burial mounds and land used for religious purposes. The Ho-Chunk want to have title to those sites to make sure they are treated respectfully and do not become tourist attractions.

While getting back the land is important to the area, getting money to help manage the reserve is another important issue. Kluesner says the board has authority from Washington, but not an appropriation of a promised \$17 million to improve the Kickapoo Reserve. When they do arrive, the federal funds will come with strings attached: The money will be restricted to reconstructing roads, conducting environmental cleanups like capping old wells, removing underground storage tanks, and installing safety features around portions of the dam that were constructed before the project halted. The federal money can't be used for campgrounds, trails, the environmental center or other types of recreational and interpretive developments envisioned in the region.

The federal money, Kluesner says, is not pork, but what he feels is the valley's due for the three decades the federal government "handcuffed and hamstrung" the area by holding the land and preventing it from being developed.

Whether getting that money is realistic in today's fiscal climate, is, of course, uncertain. It's possible that the board and its new Executive Director, Marcy West, will have to add fundraising to the to-do list.

Harvey Black is a freelance writer from Madison, Wis.



As soon as killdeer chicks hatch and dry, they are up and running.

Continued from page 2

When hatching time nears, the adult is more reluctant to leave the nest, but will do so when danger is imminent. To protect the nest, the adult will feign injury by performing a broken wing act. It drags one wing on the ground and spreads its tail to reveal a rusty red rump to distract would-be predators. Crying plaintively, the "crippled" bird lures the predator farther and farther from the vulnerable nest. Once danger is past, the adult snaps to attention and runs off or flies away, leaving

the befuddled intruder behind. The adult killdeer returns to its nest when the intruder is gone.

Awake and wet upon hatching, the down-covered youngsters are up and running as soon as they dry, following their parents and learning the ways of killdeer life. The doting parents are ever-watchful for predators and will utter one or two short call notes if danger nears. The young instinctively hunker down and freeze or run in the opposite direction from their parents.

When the threat has passed, the adult calls softly and the youngsters come running, often to huddle under the parents' wings.

As the young birds grow, their fluffy down is replaced by feathers. The young killdeer have just one black chest band. By their second spring, the young have the smooth feathers and two black bands of adult birds.

Killdeer are the first shorebirds to return in the spring and the last to depart in the fall. After raising two broods in the spring and summer, killdeer gather in small groups and leave starting in August into September. Some hardy individuals linger until the nastier fall or winter weather forces them south.

Killdeer are so common that we tend to overlook them, but when the unmistakable shrill "killdeer" cry echoes from the sky, we stop and take note. The birds are arriving now. Keep your ears tuned to the sky.

Anita Carpenter watches the killdeer perform in and around Oshkosh, Wis.

Readers Write

CATS AS PREDATORS

"On the prowl" (December 1996) identified rural, roaming cats as contributors to songbird decline. I am not minimizing that cats may be significantly preying on songbirds, however we also need to focus attention on the cowbird (Molothrus ater).

On a recent public TV documentary on songbird decline I was shocked to learn cowbirds may be responsible for more than 70 percent of the reproductive losses of songbirds. Development and clearing of deep forest habitat has opened up more songbirds to cowbirds and other predators that nest along the forest edge. These brood parasites lay their own eggs in the songbirds' nests, often ejecting the

native eggs. Songbird chicks hatched in such nests regularly die since the cowbird chicks are larger and more aggressive. The songbird parents are left to raise these intruders as their own.

Christopher Sauer West Bend, Wis.

My immediate reaction when seeing the topic of your piece was "Oh no! Another cat-hater writes an anti-cat article." However, after reading it, my opinion changed. I am relieved and grateful for an unbiased well-written informative piece that states facts as accurately as possible and provides suggestions for pet owners to be more responsible.

We have 12 friendly felines

on our farm, most of which were strays that wandered in or were dumped out of passing cars. A newcomer cat is given about two weeks to become tame enough to catch and handle or it is shot or euthanized. Fortunately, we haven't had to destroy any cats for several years.

Those cats choosing to stay are immediately vaccinated and wormed. I keep a supply of 4-way cat vaccine and Strongid wormer in my refrigerator. Then an appointment is made with the vet clinic for rabies vaccines and spaying or neutering.

Probably due to the neutering, our cats stick pretty close to home. They are seldom out of calling range. We don't have a problem with them killing birds because there are ample mice, Norway rats, shrews and moles. Though we are entertained by songbirds in our trees, we choose not to put up feeding stations because of the cats.

I also agree that declawing is not effective in curbing predatory behavior. I think only strictly in-house cats should be declawed as necessary. One of our tomcats, who lost a front paw, is just as deadly on the rodent population as the four-legged cats.

Healthy, vaccinated, neutered cats that are well-socialized to people are definitely a different breed from uncontrolled feral cats.

My thanks to Mr. Coleman and Professor Temple for a piece

which will I hope educate and have a positive response from cat lovers and cat haters alike. Pauli McGwin Montello, Wis.

Keeping cats confined helps protect both cats and wild things. In my childhood, our cats were locked in the old hen house every night.

We also enjoyed the badger photo. My wife and I were familiar with a Michigan badger that lived comfortably in a farm kitchen just outside of Ann Arbor in the 1930s. He eventually died of old age. I guess those Wolverines know how to handle the badgers!

Karl E. Goellner Hayward, Wis.

We were disturbed by your "On the prowl" story, which singles out the common house cat as the number one predator of songbirds and small animals in the United States. We feel it is irresponsible to attach astronomical "kill" figures ranging in the millions based on a limited study of 60 radio-collared cats by two people.

The article flies in the face of a report from the June 1996 issue of Tufts University of Veterinary Medicine's CATNIP newsletter. It was based on numerous surveys and field studies across the United States. It states clearly "Most studies show that as a general rule cats do not pose a threat to population numbers of their prey." This is true because prey animals have adapted to predation over millions of years. It also states that birds rank far behind small animals as prey because they are more difficult to catch.

The only exception appears to be when cats are introduced to ocean islands where the birds have not evolved strategies to protect themselves. One study even shows that cats alone could not rid a barn infested with rats and mice. The rats were quite capable of defending themselves.

I suggest your writers broaden their studies before writing

such a misinformed, sensational article.

Bill and Helen Carson Barron, Wis.

The UW researchers did not base their work on one study, nor did they state that cats are the number one songbird predator, nor did they state that birds make up the largest percentage of the free-ranging cat's diet. They were careful to state that small mammals constitute at least 70 percent of the rural cat's diet. They also carefully explained possible variables and provided a range of figures in estimating bird predation by feral cats. No one has determined that cats are the sole cause of declining bird populations, but they are certainly a factor along with habitat destruction, chemical usage, development, and parasitism.

We take a different attitude. We love our songbirds at the feeders and feed the wild cats in our area with lead. Goshawks take enough of the birds without someone's cats creeping around our property. As for mice, our black lab does a fine job cleaning them up.

Ann and Mike Zelinski Maribel, Wis.

Thanks for the excellent article on depredation of songbirds by free-roaming cats. We can only reiterate your suggestions that cats be kept indoors whenever possible for the safety of both cats and neighboring wildlife. We also support spaying and neutering.

We disagree, however, with the suggestion to declaw cats as that surgery amputates the last joint of each toe, not just the nail. Cats use their claws for self-defense, climbing and balance. There were better and more humane suggestions listed in your article, in our opinion. Mike Markarian The Fund For Animals New York, NY

Free-ranging, feral cats also take a toll on small game. I've

observed cats chasing young rabbits and squirrels in the park across from home. I think it's time to consider if feral cats should be considered predators that could be legally removed from the ecosystem to limit the damage to game and nongame species alike.

Ron Stresing South Milwaukee, Wis.

LIKE MOTHS TO A **FLAME**

I saw a recent clip in the newspaper stating that a university researcher who experimented with gypsy moth sex pheromones 20 years ago still attracts male gypsy moths when he travels outdoors during their mating season. Perhaps we can rub this scent on birds and bats that eat gypsy moths and the moths will be attracted to the predators that eat them. Wouldn't that be an interesting solution to the gypsy moth problem? R.G. Kortsch

Milwaukee, Wis.

TREE TENACITY

We sure enjoyed your stories of trees in the city (February 1996). For the past few years, we have ridden past this tree on our family bike rides. I'm surprised it has not blown over. As you can see, it has no "insides," just bark, yet every year it has leaves. How or where do the leaves get nutrition to grow? Laura Lichtfuss Oshkosh, Wis.

What a fine example! As we explained, trees do their growing in a single layer of cells between the bark and wood called the cambium. This layer produces both wood cells to the inside and bark cells to the outside. Nutrients and water flow throughout the tree in this thin, delicate layer.

ECOSYSTEM MANAGEMENT

Your magazine promises the impossible by defining ecosystem management as "a means to pursue human convenience without causing major (ecosystem) disruption elsewhere." Using the term "human convenience" perpetuates the belief that nature is ours to use and control. Modern human activity is exotic in natural ecosystems. The problem is not how to maintain current levels of resource exploitation while maintaining ecosystem integrity, the problem is how to control human population growth and constrain resource consumption.

What assumptions must be met to make ecosystem management work? Are they realistic? In referring to degradation of water quality in Fox Lake, you state that "if the disturbances are caused by human actions, the community must adjust its working relationship to the lake..." The reality is, we've known for decades what the problems were at Fox Lake and how to treat them. For years management agencies, including the Wisconsin Department of Natural Resources, have treated the



symptoms for lack of the political might to challenge the agricultural industry.

Given the historical inability of social and political mechanisms to protect ecosystems, why should we expect anything different by introducing a new "buzz word?" Humanity must begin to view itself as part of nature rather than master of nature.

John M. Woodcock Pardeeville, Wis.

SILVER, NOT SUGAR MAPLE

I grew up in Kewaunee and several HUGE silver maples (Acer saccharinum) grew on our neighbor's property across the road from our home. Every fall most of their leaves landed on our front lawn where my brother and I had to rake them. How well I recognized your nice photo of a silver maple in fall color!

It's not the sugar maple (Acer saccharum), our state tree. We have hundreds of them where we live now in central Door County
— now I know THEM well!

Roy Lukes Egg Harbor, Wis.

I've been an avid reader of your publication for at least 25 years. The contents and pictures are informative to all readers, particularly young people who see the magazine in schools. Since the magazine is a learning tool to many, I want to point out that the "sugar maple" pictured on p.15 is actually a photo of a silver maple. Most of the time the sugar maple's fall colors are red or orange, not yellow. The most identifying characteristic is the leaf's shape which is far more pointed than the sugar maple shape shown on the Canadian flag.

One mistake in 25 years is a better record than I have.

Doug Laundrie, Jr.

Green Bay, Wis.

Five things tell me the maple you pictured was a silver maple, not a sugar maple: 1. Sugar maples never turn a uniform color; 2. Their leaves don't have sharp fingers; 3. Their leaves don't curl up on the ground; 4. The pale, yellow leaf color is not as bright or brilliant as the sugar maple produces; and 5. The branch structure is weak-limbed, not like the sturdier sugar maple.

By the by, I do enjoy the magazine and send it on to the unfortunates who live in other places.

Jerry Gallagher Green Bay, Wis.

Thanks also to John Winkowski, Bessemer, Mich.; Josh Sulman, Madison; Gary R. Fox, Delavan; Charles A. Carpenter, Madison; and Dr. James E. Youker, Milwaukee, for commenting on this mistake.

LOTS 'O NEST BOXES

Thanks for publicizing nest boxes offered by the Beaver Dam Senior Citizen Center. We now offer cavity-nesting houses for bluebirds, tree swallows, purple martins, wrens, wood ducks, owls, kestrels, squirrels, robins and house finches. We also make rabbit and sparrow traps and allcedar butterfly houses. Now we are branching out into PVC plastic bluebird houses which seem to thwart English sparrows and raccoons. Contact us at the center, 114 E. Third Street, Beaver Dam, WI 53916.

Don Kopff Beaver Dam, Wis.

BLUEBIRD BLUES

I have several bluebird houses, but the birds have little luck fledging their young. The birds that hatch die when they are about three-quarters grown. Then I notice brown ants about the bottom of the nest. I had heard of using detergent to repel ants, so I wiped a small amount of antibacterial soap on the inside bottom of the box and eliminated the ant problem. Thereafter the birds fledged their young.

Could this explain population declines in other birds, especially ground nesters?

Lewis A. Gade Reedsburg, Wis. We asked UW-Extension Wildlife Ecologist Scott Craven your question. He said the ants were more likely just the clean-up crew after the birds had died. Craven recommends asking a community librarian to help you find literature from Bluebird Restoration of Wisconsin, Inc., which studied whether insects damage nesting bluebirds.

BIRD FEEDING TIP

I have a bird feeder with a plastic container which holds the seeds. I find that the plastic weathers and loses its clarity. Treating the surface with polish like Armor All® protects the plastic and renews its clarity. I treat the plastic every time I clean and fill the feeder. It works great and does not seem to harm the birds.

Joan C. Hoffman Neenah, Wis.

WHERE'S THE BOOK?

I sure want to get a copy of the book you mentioned in the December Wisconsin Traveler column, "A Seasonal Guide to the Natural Year for Wisconsin, Michigan and Minnesota," by John Bates. Where can I locate it?

Diane Christianson Elko, Minn.

The publisher, Fulcrum Publishing in Boulder, Colorado, delayed publication until April 1997. It should be available soon at local bookstores.

WEATHER WONDERER REALLY!

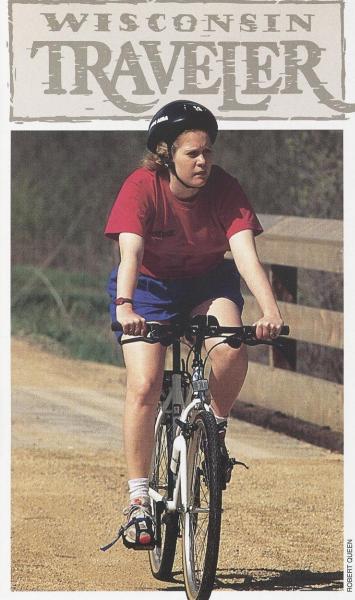
How can you state matter-offactly that during past Ice Age the world mean temperatures were only ten degrees colder than they are now? Were thermometers invented that long ago? Who kept records? Can one be that exact?

Wausau, Wis. Reader

Author Dick Kalnicky responds: As a worldwide average, it was about ten degrees colder than now. However the temperature variance was not uniform — it was much smaller at the tropics. At about 45 degrees latitude, where Wisconsin is, it was likely more than 10 degrees colder as this area was mostly covered with glaciers. However, remember our present average temperature is 43-44 degrees Fahrenheit, so even a cooling of 15 degrees would have put our average below freezing. The largest cooling during the ice ages occurred in higher-latitude continents; northern North America, Europe and northern Asia.

We can make some pretty good guesses because there is a distinct link between climate and vegetation zones. Each type of vegetation, such as boreal forest, grasslands, oak hickory forest, and so forth, grows in a specific climatic range. Through radiocarbon dating and pollen analysis of ice cores and other samples geologists and climatologists have reconstructed vegetation and climatic zones that occurred during the ice ages. These types of studies have been ongoing for at least 40 years. There is a lot of scientific evidence that appears undisputed by climate experts such as those at the University of Wisconsin-Madison Meteorology Department.



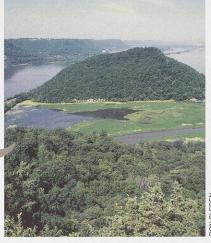


River ride

ide on two wheels in the springtime warmth of southwestern Wisconsin and the memories of January's drifts, February's icicles, and the raw breath of March simply melt away. Green before you, green behind, all tied up with the shimmering blue ribbon called the Mississippi River.

Practice saying this: "Ahhh-hh!"

As far as tonics go, a spring bike trip along the **Great River Road** is right up there with Auntie Fiona's special gooseberryand-horehound pick-me-up (the one Uncle Fergus swears by, and sometimes at, depending on how much he's had.) The distance of your tour is of no consequence. You could do a short ride of only a few miles or take on the full 89-mile bike route. Any ground you cover will offer restorative benefits: striking bluff scenery, majestic river views, historic architecture, quiet life in sleepy river towns, and the occasional surprise visited only upon those who travel with an open mind and a flexible schedule.



Great views for bikers from the highs — Trempealeau Mountain overlook at Perrot State Park ...

Generally, the Great River Road is relatively flat and easy to cycle. Still, there are portions of the route that will test your muscles and mettle. Just remember: After every hill, there's a downhill.

Pick up the 44-mile northern portion of the bike tour at the trailhead in **Hager City**. As you head south you'll skirt the calm shores of Lake Pepin. (Be prepared for the two-and-a-half mile long hill between Maiden Rock and Stockholm.) Work your way toward **Alma**, home to Lock and Dam No. 4 in the center of town, and Buena Vista Park, which offers outstanding views from a bluff 500 feet above the river.

The 45-mile southern portion of the cycle tour begins in Alma. The route will take you past Cochrane and the **Prairie Moon Sculpture Garden** — scores of life-sized figures fashioned from rocks and concrete by retired farmer and artist Herman Rusch. (The garden is open year-round; a museum

year-round; a museum on the site is open only on Sunday afternoons from May to September.)

If your leg muscles are as solid as some of the nearby bluffs, you'll want to take on the Mississippi Bluffs loop, with trailheads at Merrick State Park and Fountain City. For your effort you'll be rewarded with valley views of incomparable beauty.

(There's a long loop of 24 miles and a shorter segment of 10.5 miles.) Fountain City's most unique attraction is the Rock in the House - a 55-ton bluff boulder that found its way into the owner's living room. The Monarch Tavern, a 100-year-oldplus establishment featuring a carved wooden mural of life on the Mississippi, is a good place to refuel for the final leg of the tour to

Perrot State Park and Trempealeau.

You'll need a good map to plan your journey. Call the Wisconsin Division of Tourism at 1-800-432-8747 and ask for a copy of the *Wisconsin Biking Guide*, which contains full-color maps of the north and south tours. The maps are marked with icons indicating what services are available to cyclists along the road — repair shops, grocers, camping and lodging, water, toilets and more.

For information on specific cities or areas along the Great River Road, call the following during business hours: Pepin Economic Development Committee, (715) 442-2441/2461; Pierce County Welcome & Heritage Center, 1-800-4-PIERCE; Trempealeau Chamber of Commerce at (608) 534-6780; Alma City Clerk's Office, (608) 685-3330; Merrick State Park, (608) 687-4936; Perrot State Park, (608) 534-6409.

and along the trail, like this backwater of the Trempealeau River.



