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### **March-April 1983**

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# Wisconsin

## NATURAL RESOURCES

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ROBERT L. JEANNE, *Entomologist, UW-Madison*

This jug-shaped container or cell, is the work of the "potter wasp" (*Eumenes* sp.), a member of the family Vespidae. The female uses her jaws to fashion the pot out of mud and saliva. This material then hardens into a tough "cement" that resists rain. As she builds the walls, the outer surface is left lumpy and irregular, but she smooths the inner surface with the front of her head. The opening of the cell is narrowed to just a small hole, which is then provided with a delicate, trumpet-shaped funnel (*bottom inset*).

The wasp's next act is to reach inside with the tip of her abdomen and lay a single egg, suspending it by a slender thread. This done, she goes hunting for caterpillars to provision the nest. When she discovers one of the right species, she paralyzes it by stinging it several times along the underside of the thorax and abdomen. Then, seizing one end of the immobilized prey in her jaws, she supports the length of its body with her three pairs of legs, flies back to her mud cell and stuffs it inside. When the cell is supplied with several paralyzed cater-

pillars, the nest is sealed with a final bit of mud. Having thus provided her offspring with food and shelter for its entire development, she leaves, never to return.

When the egg hatches, the hungry larva feeds on the live but helpless caterpillars locked inside the cell with it. After completing its growth, the larva spins a silken cocoon inside the cell, pupates and begins metamorphosis to the adult stage. In the picture shown here, the cell has been broken open to show the pupa, whose compound eyes have already begun to take on the dark color of the adult. Between the silk cocoon and the mud wall at the lower left is the mass of undigested caterpillar excreted by the larva.

After the adult wasp chews its way out of the cell, one of its first acts is to find food which is typically nectar from a flower (*top inset*). Then it seeks a mate, and, if it's a female, constructs and provisions its own mud pots to renew the cycle.

Potter wasps do a great deal to keep destructive insects in check. Each female may collect dozens of crop-destroying caterpillars in her brief lifetime, and the population of potter wasps in an acre may destroy thousands. ☐

Photos by John Baker



## Potter Wasp

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Photo by Al Stenstrup

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Courtesy of the Wildwoods Collection, 808 LaSalle Avenue, Minneapolis, MN 55402. Story page 32.

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A northside Four-H group builds a woodbark trail. Volunteers have done most of the development work so far on the 237-acre site. ▶

Volunteers helped with a prairie restoration project. ◀



Cross country skiers are already using the three miles of trail. Motorized recreational vehicles are not allowed. ◀



Fox kits rest in one of the meadows. ▲ Havenwoods supports everything from meadow mice to an occasional deer. There are squirrels, chipmunks, raccoon, opossum, rabbits, woodchuck, muskrats, badgers, skunks and 34 different kinds of birds.

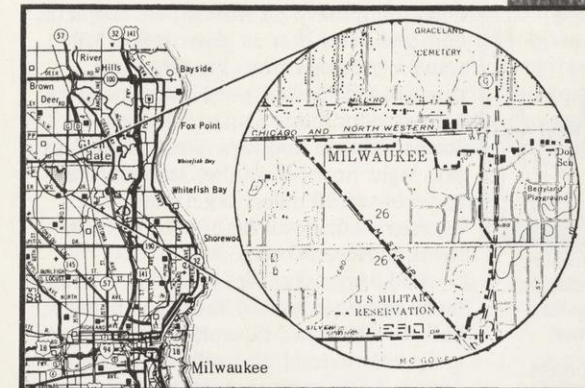


Youngsters from the Silver Spring Youth Center planted trees. ▲



Wild rose. There's also wild strawberry and bergamot, plus rocket, millet, goldenrod and a healthy crop of Canada thistle. In all, about 80 plant species grow at Havenwoods including apple, beech, hickory, oak, ash and pine trees.

Photos by Al Stenstrup



Cari Backes at Havenwoods.

# Havenwoods:

## State forest in Milwaukee

J. Wolfred Taylor, Editor, Wisconsin Natural Resources



**This is a spot that has survived because it's a piece of land and can't be erased. Thanks to neighborhood concern, now it will blossom.**

You can hear the jailhouse blues turn happy at Havenwoods and the sound of swords being beaten into plowshares. It's not a prison anymore or a Nike missile base, not a dump or a hotrod racetrack. It's now the Havenwoods Forest Preserve and Nature Center. And if all goes well, this 237 acre pumpkin near Silver Spring Drive and Sherman Boulevard will turn into a beautiful carriage and stay that way.

It was a long-term piece of magic and it took some doing. The fairy godmother is a 60ish grandmother of eight named Cari Backes. Mrs. Backes, who had lived near the former missile base for more than 30 years rallied the neighborhood.

"We don't have to have development that isn't compatible with this community," she said and formed the "Friends of Havenwoods."

With open space as their objective for what was Milwaukee's most expansive and coveted vacant lot, the 50 to 60 members went political.

"We clamored and clamored for a meeting so that people in the community would know what was planned. I thought grass roots participation was very important."

The group took on the army, city, state and various developers — and won. They successfully fought off proposals to make the site an industrial park, incinerator, heavy equipment training ground, post office, recycling plant and home/office complex.

Said Mrs. Backes, "I could hardly believe it when a Chicago consultant came up with a development plan that called for seven bridges across Lincoln Creek."

When the smoke cleared, open space was secure. It was just a matter of what to do with it. Phil Lewis at the Institute for Environmental Studies at UW-Madison was hired by the city to develop a plan. The property was consolidated (part had been owned by the Milwaukee Area Technical College) and deeded to the state. Governor Tony Earl, who was then head of DNR, appointed a special committee with representation from nearly every local interest group to come up with a concept for use of the area. From their ideas sprang the Master Plan for Havenwoods Forest Preserve and Nature Center.

Said Mrs. Backes, "I'm a little disappointed in the delay. (It took 13 years.) But I'm real happy about it."

She gives a major portion of the credit for Havenwoods to former Milwaukee Alderman Ted Stude.

"He guided it through. Without him, there would have been no Havenwoods."

Havenwoods has an 80 year history of varied uses and abuses. Milwaukee County bought the land from truck farmers in 1904 and built a prison that included housing for guards and a self-sufficient farm operation. During World War II the US Army commandeered the prison to use as a disciplinary barracks. About 1,000 inmates were kept there. Afterwards, in 1950, a Nike missile base was built. It included three underground launchers.

Retired General Hugh Simonson, who commanded the missile base, said at one time about 500 officers and men were stationed there. When it was abandoned by the army, squatters moved into the empty buildings and caused problems. This prompted the military to raze both the barracks and officers' quarters. Today, only the launching pads remain.

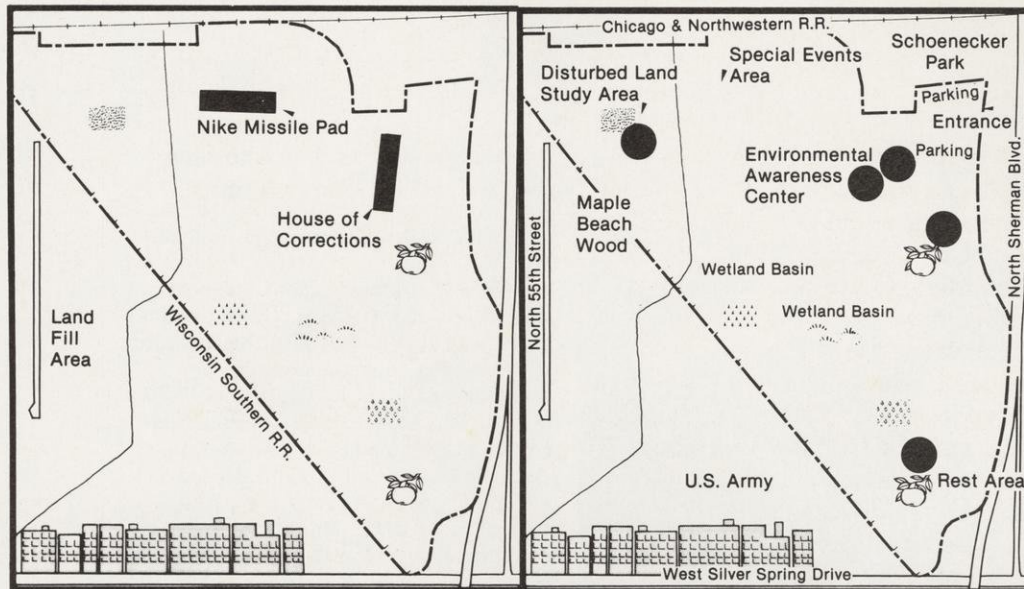
From 1958 to 1970, 50 acres of the site were used as a landfill by the county.

For 10 years the whole place was unattended. Havenwoods Manager Al Stenstrup, who will oversee development for DNR, said, "People complained that although they liked to wander around the old site, they never could be sure what they'd see over the next hill. There used to be beer parties, motorcycle races, trash dumping and who knows what going on in there."

But the change in status from empty lot to DNR forest preserve has eliminated most rowdism. As development proceeds, the uses Havenwoods is designed to accommodate will take over.

While a casual observer would say





The 237 acres at Havenwoods endured many uses en route to becoming Wisconsin's first urban state forest. Milwaukee built a House of Corrections on the site which was taken over by the Army for a disciplinary barracks during World War II. Later, Nike missile units were stationed there. It was used as a dump and an off-road vehicle rallying point.

Proposed development will feature demonstration forests, recreation and educational trails, wetlands, a children's playground, special events areas and ultimately an Environmental Awareness Center.

- ▲ Early Forest Succession
- ☼ Wet Forest
- ☼ Late Field (meadow)
- 🍏 Apple Orchard
- 🗑️ Landfill Area (disturbed)

that today concrete and Canada thistle are the area's most prominent features, a closer look turns up some surprises. There is Lincoln Creek and another small intermittent stream that catches runoff. Vegetation includes plants like brome, bluegrass, goldenrod, milkweed and prairie flora. The disturbed areas are full of ragweed, foxtail, chicory and sweet clover. There are a lot of trees — Norway and silver maple, ash, beech, oak and others. And the wildlife includes pheasants, Hungarian partridge, rabbits, squirrels, thrushes, finches, warblers and even an occasional deer. The site also attracts migrants like red-tail and sparrow hawks, ducks and wading birds.

Construction of the Havenwoods Environmental Awareness Center building is budgeted for 1983-'85. Its design will show how to conserve energy through use of passive solar technology, wind generated electricity and other innovations. Plans will be selected in an open competition design contest to be held this spring. The building will provide facilities for both school children and adults with both day and evening programs envisioned.

Other development will include a three-mile trail system for nature study, hiking and cross country skiing. There will be a hikers' rest area, children's playground and two lunch areas. Also included will be a place to study disturbed land. The old Nike missile pad will be converted into a special events site for various outdoor activities. Events might range all the way from an art show to a demonstration of environmental protection technology.

Initial cost will be about \$1.9-million.

Source of money for Havenwoods is the forest mill tax, the same fund that pays for operation of the Bong Recreation Area, Point Beach State Forest and the Kettle Moraine State Forest. The tax is a very small statewide levy against real estate. Spending a healthy portion of the receipts in southeast Wisconsin is mandated by state law because that part of Wisconsin contributes the lion's share of the fund. In addition, developments like Havenwoods, close to population centers, are a policy of the Natural Resources Board.

Robert Fuller of the Milwaukee River Restoration Council was chairman of the special committee that came up with concepts for the Havenwoods plan.

Fuller said representation on the committee included labor, business management, the Milwaukee County Zoo, schools and parks system, several naturalists, the Sierra Club, the Clean Air Coalition, neighborhood groups and various churches.

Said Fuller, "Bringing all the different interests together and consolidating their goals and views was pretty doggone difficult, but I'm very satisfied with the plan. I like it."

The man who developed the Master Plan, DNR Planner Jody Les estimates that about 150,000 persons per year will use Havenwoods.

A good deal of activity is already underway. Volunteers have started some preliminary limited development including habitat restoration and environmental research. Nature study has begun. Last summer Manager Stenstrup worked several days with 120 children

from the Silver Spring Youth Center in an awareness and sensitivity program. A Four-H group has worked at trail development, tree and prairie planting and cleanup. This summer there will be urban issues forums for high school students.

Michael Magulski works for the Milwaukee school system as Assistant Superintendent of Municipal Recreation and Community Education. He estimates conservatively that at least 10,000 Milwaukee students from kindergarten through college will use Havenwoods on a year-round basis as part of their formal educational experience. Magulski says right now Milwaukee students have to be bused 30 miles to get the kind of experience that will be offered right in town at Havenwoods.

Said Magulski, "It is absolutely fantastic that this type of facility is being built by DNR in Milwaukee. It's unique and badly needed and will add a new dimension to environmental learning here."

Commenting on Cari Backes, who started it all, Magulski said, "She doesn't give up. She had one thought — to develop some type of environmental center here. Her dream is coming true."

Manager Stenstrup, meanwhile, is counting on Mrs. Backes and the Friends of Havenwoods. "We're here because of them and we need them to continue our survival," he said. "We expect Mrs. Backes and the Friends to be of enormous value to the future of the program."

Well, no sooner said than done!

Next door to Havenwoods, cut off only by a railroad track, is a 40-acre tract of maple-beech forest owned by the army. It also contains red oak. The Master Plan says this woods probably represents original vegetation, contains many wildflowers and is "worthy of some form of protection."

Recently the army received a directive to sell off all land it is not actually using. Mrs. Backes and the Friends of Havenwoods are fearful the 40 will get into the hands of developers. She has documents to show that in 1973 the army promised that the woods would never be developed. Letter writing and personal contact is underway to save the maple-beech forest.

"We don't want it on the market," she said. "This time around we've got a lot of government officials willing to help and I feel a little better about it."

But Mrs. Backes thinks the Friends of Havenwoods shouldn't have to fight the same old battles over again.

"It never ends," she said. "I know Havenwoods is safe today because DNR owns it. Next, we're going to get that other 40 in safe hands, one way or another."

Does anybody doubt it? ☺



# Spring Sing: Caw-Caphony

CAL ERICKSON, Editor, The  
Florence Mining News

Spring came the other day. Never mind that the sky is spitting snow this evening. It came in the form of a concert from my back woodlot on the shores of Keyes Lake. It came on a Wednesday, February 19, to be precise. It came while this reporter was cutting some dead, white birch trees along the shoreline, victims of what professional foresters call "birch leaf miner."

The concert players were clad in shiny black formal wear, which in actuality, is all the clothes they have, being so-dressed that way year-round. But only on a few days do they put on a concert.

The first concert comes in February in a good year. This has been a good year. And that was a good day, washed by a balmy breeze blowing out of the south and sprinkled with flashes of a sun that poked through thin clouds that held no insulation.

To the untrained ear, the concert may have lacked melody and

harmony and there was nothing resembling a cadenza. It may even have seemed like a cacophony of discord. But to the trained ear, which listens to the sounds of the season, the "caw, caw, caw" of the crow in February signals the end of winter in northern Wisconsin and there are few sounds that fall sweeter on my ear.

They even had a conductor in a blue bib, the bluejay who screamed "me, me, me" whenever the chorus dwindled diminuendo.

And once in a while, filling in a pause, would come the plaintive call of the chickadee.

I cut my trees and sawed them up, and the concert continued until the woods rang with music as sweet to me as Brahms' Lullaby played by the New York Philharmonic and conducted by Toscanini.

And that night, I dreamed of open rivers and jumping trout and was lulled to sleep by memories of the music of crows calling in the spring and sounding a requiem for winter.



Sketch by artist Bob Frankowiak, 4972 S. 20th St., Milwaukee, WI 53221



# The Portage County Cairns: Wisconsin's Rockhenge

THOMAS J. MURN, Editor,  
*Sugar Beat*

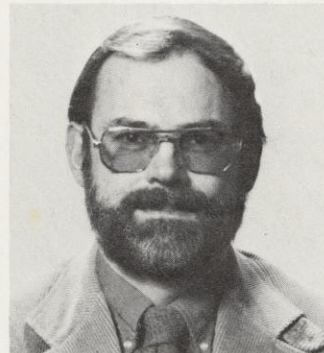
An ancient culture built a calendar site in central Wisconsin to foretell the summer solstice and other seasonal events. This is how it was discovered.



This aerial photo of the marsh shows some of the features that jumped out at interpreters.  
Department of Transportation Photo

The paths of the long-dead first natives of Wisconsin are all but lost to us now. Thousands of years ago, mound-builders and long-distance traders lived here; people of few personal possessions, and of a cultural tradition which altered the land, if at all, in subtle forms.

Despite our plows and bulldozers, some traces of these ancient cultures remain. Discoveries are made which add to our sparse knowledge. By careful surveys and digs, careful analysis and dating, we can extrapolate some bits of their life-patterns from a few pottery sherds and stone axes. To trace the history of their cultures, their original coming and eventual decline, is a task of a different nature. In 1852, explorer Charles Whittlesy put it this way:



Professor James Scherz' specialty is interpreting aerial photos and satellite imagery. He has had a long-standing interest in the prehistoric residents of Wisconsin and Michigan.

"In affairs of such remote antiquity, we must of necessity deal in speculations and deductions, or we must abandon the subject entirely."

In November of 1981, James Scherz of Madison, Wisconsin, spoke to the Early Sites Society in Massachusetts. Scherz announced the discovery of a central Wisconsin "calendar-site"—a construct of stone cairns aligned to significant spots in the sky. Scherz' discovery was the result of long hours spent in painstaking work, both in the field and analyzing rough data. Yet the surprising ingredient in Scherz' discovery was a dose of speculation and deduction. Whittlesy's words, first spoken in reference to the muster of the ancient copper miners of Lake Superior, were prophetic.

In a large, green-tiled room on the University of Wisconsin campus, researchers bend over a large table while spindly mechanical arms trace a design. The people here are civil engineers, surveyors and expeditors who build our roads and schools and design pollution control structures. It is an exacting, painstaking — and sometimes wearisome — science.

For the two people working on the stereo plotter, a photogrammetry machine, however, this science is anything but commonplace. James Scherz and Khaleel Jassemm are using the tools of their specialized trade to seek out the trail of the prehistoric copper miners. The machine compiles shadings from aerial photographs to trace out actual terrain variance.

Professor James Scherz' specialty is "remote sensing" — collecting, transcribing and interpreting data from aerial photography and satellite imagery. It is a new field, coming directly out of improvement in aerial reconnaissance during World War II, and later from NASA satellites which could provide detailed earth imagery from space. "Remote sensing" is revolutionizing not only map-making, but also agriculture, urban planning, pollution control and every field where accurate data from the earth's surface can replace the approximations on maps.

Scherz sharpened his abilities to work with and interpret aerial maps with the US Army Corps of Engineers in postwar Germany. Yet, while Scherz watched Europe from the air, his thoughts kept returning to his native Wisconsin.

Scherz grew up near Chetek in northwestern Wisconsin. He remembers walking the newly-plowed fields of his grandfather's farm, finding pieces of worked, chipped rock—loud evidence that the white pioneers were not the first to walk the land. He heard stories of the pipestone quarries nearby, pipestone which was mined at Chetek and in Minnesota by a progression of Native American cultures and traded far and wide.

Yet the historical record was far from complete. The origins of the peoples who mined the pipestone long ago was obscure; archaeology could assign names to "periods" when pottery or arrowheads or dwelling-shapes maintained some continuity; but greater questions remained unanswered.

After his stint of European service, Scherz became a professor at the University of Wisconsin-Madison's Department of Civil and Environmental Engineering. He continued to work with the now-rapidly growing field of remote sensing, and continued to wonder about the strange society that once roamed over the planted fields of Chetek.

Working in the Upper Peninsula of Michigan, Scherz became intrigued by a





Research Assistant Khaleel Jassem helps Scherz survey the rockpiles (cairns) to determine precise locations.

Following photos by author

These rocks were moved onto the site recently by farmers clearing fields. Scherz and his team had to distinguish between the prehistoric cairns and rockpiles built by farmers. ▼

seeming anomaly in the historical record. He had talked to local people who reported the existence of large, flat-topped mounds in the region. This is the country of the ancient copper miners — people who worked the copper deposits of Isle Royale and Keweenaw Peninsula for hundreds and perhaps thousands of years. The copper from Lake Superior found its way to the Atlantic coast and to the deserts of the American southwest; the pliant, malleable metal was made into fish-hooks and fish-gaffs, into arrowheads and spear-points, into beads and bracelets. Despite the huge amounts of copper removed by the ancient miners — one historian estimated 500,000,000 pounds of copper removed before modern mining activities were started — the people who removed the copper and carried it long distances left few traces. The miners worked in summer, and apparently moved south for the winter. It is possible that they took their dead with them. No burial sites have been found near the pits and holes which were prehistoric mines.

Stranger still, the local Ojibwa and Algonquin tribes found in the area by the first white explorers had no legends or tales of the ancient mining activity. They would go to Isle Royale in good weather to find an occasional nugget of native copper washed on the beach; but the people that the white man found on Lake Superior's shores did not dig deep or trade extensively in the metal.

Radiocarbon dating tells us that the copper miners worked on Isle Royale around 900 A.D., and also a period from 2000 to 1000 B.C. The former period corresponds to the time of the "mound builders" in Wisconsin, and also to the rise of the Mississippian culture to the south. But were the two related in any



way to the copper miners? Archaeologists can only guess.

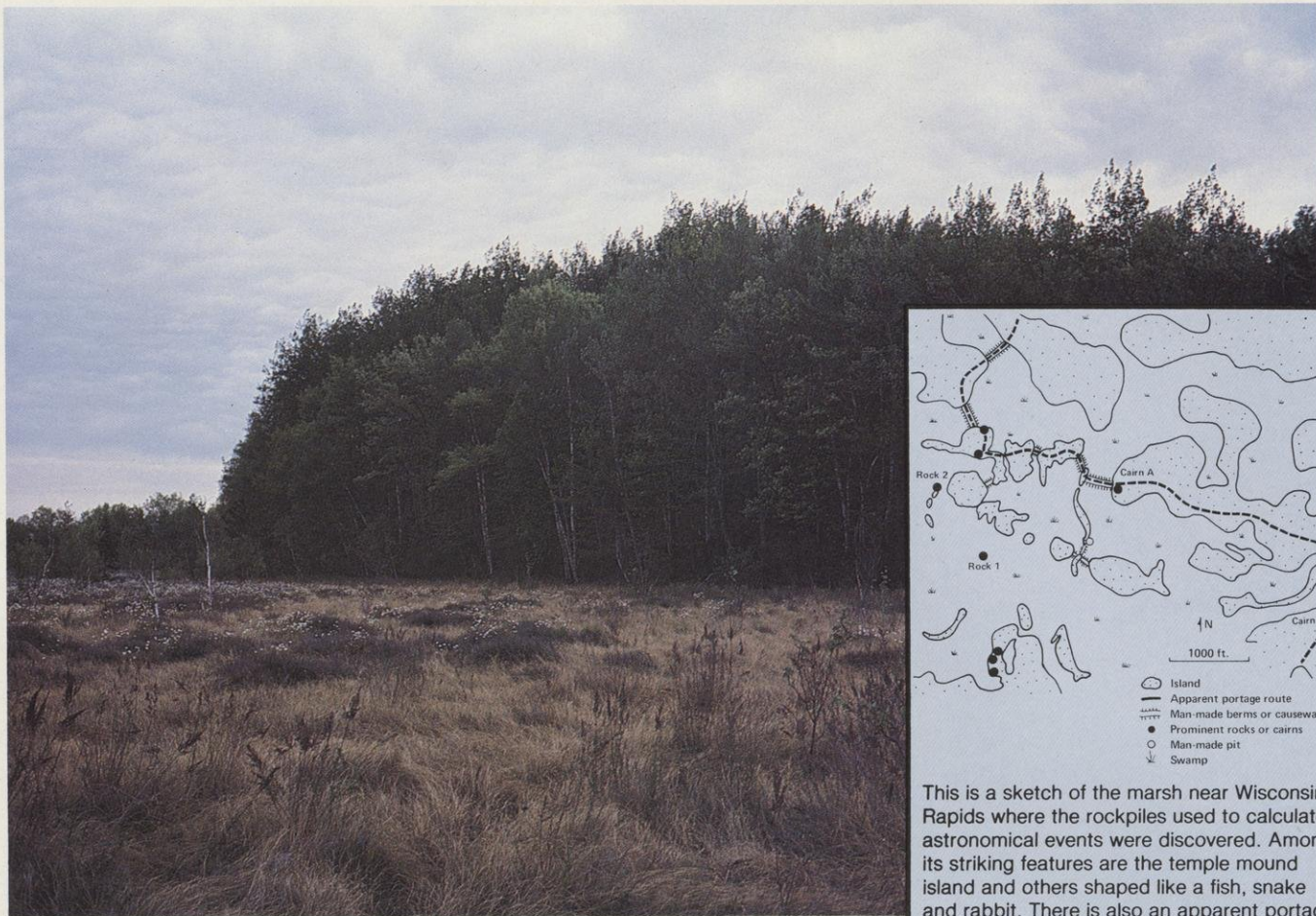
Speculations about the mound builders started with the 19th-century pioneers who came upon the great earthworks in Ohio, Illinois, Wisconsin, Iowa and elsewhere. It was generally accepted that the large hills, apparently man-made, were evidences of an ancient race not related to the Indians found in the land during early white settlement; an ancient race which learned its building skills in Babylonia, perhaps, or Egypt, or some other exotic and advanced place. "The mound builders were the 19th-century equivalent of our extraterrestrial visitors and UFO sightings," says Princeton Professor Robert Cornell.

"Treasure hunts" destroyed many of the mounds and many more were simply destroyed to level fields, construct roads

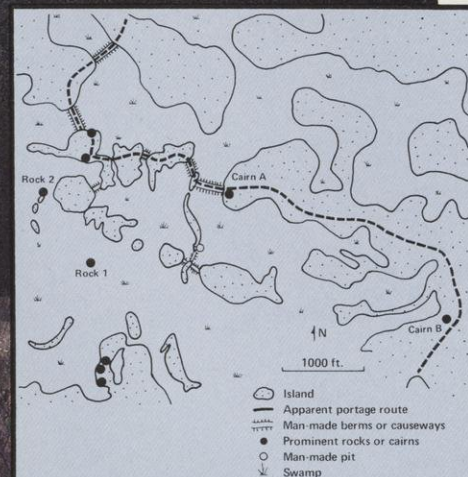
or fill in wetlands. Numerous large mounds were mapped by surveyor-archaeologists before their destruction; and of the few that remain, the Cahokia complex in Illinois is still providing surprises. In 1977, Warren Wittry announced that he had discovered a "Woodhenge" at Cahokia — a series of post holes at one of the large mounds which once contained markers pointing towards equinox lines and other important astronomical points.

Cahokia, which at its height about 1200 A.D. housed perhaps 30,000 people, is an outpost of the culture called Mississippian. Mississippian peoples, it is believed also migrated north to an outpost on the Crawfish River north of Jefferson. It was named "Aztalan" by an early archaeologist because of the similarity of its temple mounds to Aztec mounds in Mexico.





Prehistoric people may have modified this marsh island to make the sides steeper. Scherz believes they fashioned it into a temple mound similar to those at Aztalan or Cahokia. The spot may have been a way-station en route to copper deposits in the Upper Peninsula.



This is a sketch of the marsh near Wisconsin Rapids where the rockpiles used to calculate astronomical events were discovered. Among its striking features are the temple mound island and others shaped like a fish, snake and rabbit. There is also an apparent portage route between the Fox and Wisconsin rivers and a series of berms or causeways connecting the islands.

According to Cornell, the unit of currency at Cahokia was obsidian — a black rock mined then at quarries near Yellowstone Park, some 1,000 miles away. Cahokia was a trade center not only for obsidian, but also carved figurines, shells from the Atlantic and Gulf coasts and Lake Superior copper.

Perhaps the Mississippians could not go much further north than Aztalan, since they were an agricultural people, and southern Wisconsin would have been close to the northern limit of their food crop, maize. (They also grew beans, squash and other semi-domesticated crops.) Yet move north they did, perhaps further than Aztalan.

The copper from Lake Superior shores found its way by trading, east to the Atlantic seaboard and west beyond the Plains. Clearly, a highly organized and disciplined culture had carried out the huge task of mining and moving the copper.

Questions danced around James Scherz as he tuned his abilities at remote sensing toward finding traces of the copper miners and their trade routes south from Lake Superior. After identifying some of the likely routes that the

copper may have followed, along rivers and easy portages, Scherz made fly-bys of the routes with a private plane specially adapted to aerial photography. (Adapted by a large round hole cut in the bottom of the plane's fuselage, a camera with a special lens hung from a bracket, and the operator poised perilously over the hole.) From these aerial photos Scherz located some unlikely-looking land forms.

Now began the hard field work. With a graduate student from Iraq, Khaleel Jassem, Scherz visited several of the Upper Peninsula sites. He began to suspect that some of the land forms were temple mounds — the constructions of an agricultural people, here beyond the northern limits of food crops, in a land of hunters and gatherers.

The sites in the Upper Peninsula were carefully plotted and surveyed, despite the plague of mosquitos and the long walks through wilderness. Scherz speaks of archaeology as "an inherently destructive process," and views his work as not only collecting a data base from which more detailed work can begin, but also as a speculator, a deducer. What were these mounds and calendar sites

doing up here in the northland? Was there a trade network down through Wisconsin connecting the copper mines with centers of Mississippian civilization? No one could say.

Looking south from the Upper Peninsula, Scherz surveyed parts of central and northern Wisconsin from the air. At this time, the Wisconsin Department of Natural Resources had begun a wetlands mapping program as ordered by the Legislature in 1979. The program uses aerial maps to plot all wetlands larger than five acres. Scherz asked Gordon Maclean, a former analyst in DNR wetland mapping to "keep his eyes open" when processing aerial photography from central Wisconsin.

Strange "islands" of higher land within a bog caught Maclean's eye. He notified Scherz, who quickly packed for a field check. "The islands in the swamp really jump out from the aerial maps," Scherz said later. "Several of the islands were unusually steep, round or four-sided."

Near one of the large, round islands, Scherz related, "A number of rock piles caught my eye. Who would pile up rocks on these islands, which you can get to



only after wading through a deep swamp, far from farmed land?" Scherz contacted the landowner and began plans for a thorough ground survey.

Archaeoastronomy is a new field, newer than remote sensing. The science of tracing astronomical knowledge of prehistoric peoples started with Princeton skygazer Gerald Hawkins. Hawkins used an IBM computer in the late 1950s to prove that the English stone circle at Stonehenge was an astronomical observatory. His work showed that arches, doorways and post holes at Stonehenge were aligned to important points in the sky. The "calendar" which Stonehenge provided, and which Hawkins showed to be quite accurately aligned, could even predict lunar eclipse cycles. Such knowledge would have been very useful to priests and chieftains who had to explain such events to a frightened populace; it could also be used to celebrate ceremonial days, and as a way of predicting the best times to plant and to harvest crops. It would have been some insurance to allow warm-climate crops to be planted in a northern clime, with less fear of losing the crops to an early or late freeze.

After Hawkins' pioneering work at Stonehenge, archaeologists the world over began to realize that many ancient cultures had the ability to watch the skies and the cycles of the sun, moon and stars, and to interpret and use this knowledge for their own benefit. Reports of sky alignments came in from an archaeological site at Zimbabwe in Africa, where a culture flourished in 600 A.D.; and from many sites in Central America, where Mayan and other cultures had evolved an accurate calendar system from centuries of sky-watching. Mexico's vast, dead city of Teotihuacan is laid out with boulevards corresponding to "the place where the Pleiades (a bright star-cluster) would have set during the epoch in which the city was designed," according to Anthony Aveni, Professor of Astronomy at Colgate University.

In the US, several stone circles found on the eastern slope of the Rocky Mountains were explored by Alice Kehoe of Marquette University and other scientists, and were found to align to important solstice lines and bright stars. The Indians of the Great Plains were found to have oriented their dwellings' doorways to the east, where on a summer solstice sunrise, light would spill in with full brightness. A recent find at Chaco Canyon in New Mexico was demonstrated to send a dagger of sunlight through a stone circle sequence at the summer and winter solstices.

Illinois, Nebraska, Saskatchewan, Wyoming — at each site Native Americans had left subtle but unmistakable



Red ribbons helped surveyors spot possible prehistoric cairns. Most have deteriorated and are hidden by vegetation.

signs that they had watched the cycles of the objects in the sky and knew how to interpret and use the information.

Months of exhausting work lay ahead for Scherz and Jassem in central Wisconsin. Access to the swampland was granted by the owners, who along with Scherz agreed that location of the site

should remain secret to avoid any molestation of the rock cairns. Whenever their schedules would permit, Scherz and Jassem loaded up a VW van with their delicate but heavy and bulky surveying equipment and headed to the islands in the center of the bog.

The positions of the rock cairns were



plotted, as were the size and shape of the islands. Mosquitos and ticks deviled the work. Hip-waders, soaked by the walk through the wet bog added to the difficulties. The data came back with them to the machines in the Engineering Building in Madison, to be plotted and double-checked.

Scherz relates that "Almost as an afterthought, I mapped every seemingly random rock pile on one island . . . however, once on the map, rocks that appeared random on the ground seemed to be arranged by man and to have geometrical significance."

The lichen-covered rock piles on one side of the island were arranged in an arc. Scherz looked for a line of convergence, and found what he describes as a "sighting rock" on another small point of higher land within the bog. Other rock piles seemed to point east and north.

Scherz thought of the Cahokia discovery, and of a Pawnee skin he had seen at a midwestern museum, which had traced on it the locations of many stars and star-clusters. He went again with Jassem to duplicate and double-check their field work, to make certain that the rock piles were accurately located and plotted. The results were the same. He told the Early Sites Society that "The geometry in the rock piles is very sophisticated...it's a calculator in the rocks."

The local farmers, when asked if anyone ever farmed out there or piled rocks, said "Are you crazy? We can't even get to the place . . ."

News of Scherz' discovery spread after his disclosure in Massachusetts, and provoked some strong reactions. One archaeologist told a central Wisconsin newspaper that he was "trying to keep an open mind, but I'm pretty dubious."

UW-Stevens Point Professor Dr. John Moore said, "I am skeptical but I'm supposed to be. That's what grad schools train you to be." Moore's own work in central Wisconsin has posed more unanswered questions. Moore found artifacts of Oneota tradition, thought by some to be related to Cahokia, at mounds in Jordan Park, northeast of Stevens Point. " (The artifacts) don't fit into the traditional views," Moore admits.

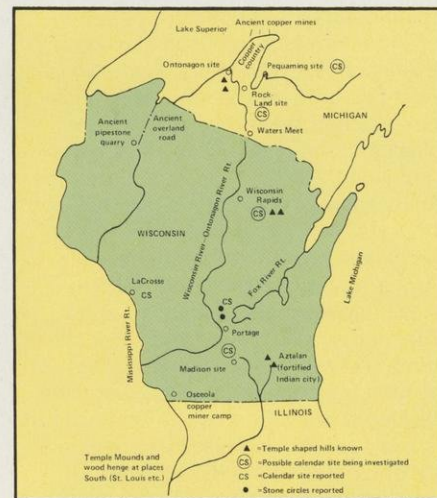
Scherz is almost finished with his mapping at the central Wisconsin bog and in the UP. His work will form the base for inquiries to follow: Who constructed the calendar site? How old is it? Do the strange islands in the bog represent a connection between Cahokia far to the south and the ancient mining pits of Isle Royale far to the north? Currently, plans are being made by Scherz' small work party to begin further investigations at the calendar site this spring.



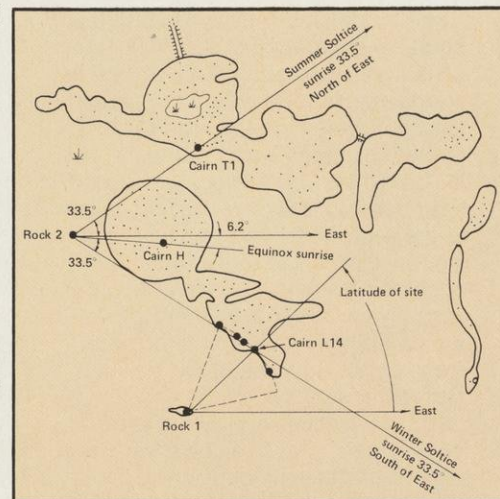
A closeup of one of the rockpiles. When sighting the sun from the appropriate spot across these cairns, ancient Wisconsin residents could have predicted the summer and winter solstices and other astronomical events.

In the meantime, Scherz continues his role — a discoverer, an adventurer perhaps, a man who is sensitive enough to be able to find the subtle traces of a culture long-lost and little-known to us. He has developed special photogrammetric techniques and mathematical models which can be used at other possible archaeological sites. He continues to act the speculator, to try and deduce the truth from the thin threads of ancient legend. He likes to speak of other, mysteries of our Midwest past. "The Viking colonies in Greenland were trading with Europe...they have records of black bear hides and elk hides being received from Greenland. Are there any elk in Greenland? Did (the Greenland Vikings) go to Norway to get them? Interesting question!" And with the excitement of discovery, Scherz finds a more reflective angle; as we come to understand the knowledge and sophistication of ancient cultures, perhaps we will become a little more modest. After all, we were not the first to walk this land. ☺

The rockpiles created an intricate calculator. For example, sighting from Rock Two, ancient astronomers could pinpoint summer and winter solstices or spring and fall equinoxes. From Rock One, they could determine latitude. In addition to lines that point due east and west, Professor Scherz has found a north-south line 1,500 feet long, the distance the earth rotates in one second. Other cairns set off a 23½ degree angle, the arc on the earth's surface between the Equator and the Tropics of Cancer and Capricorn. Other features include two boulders apparently used as sun dials.



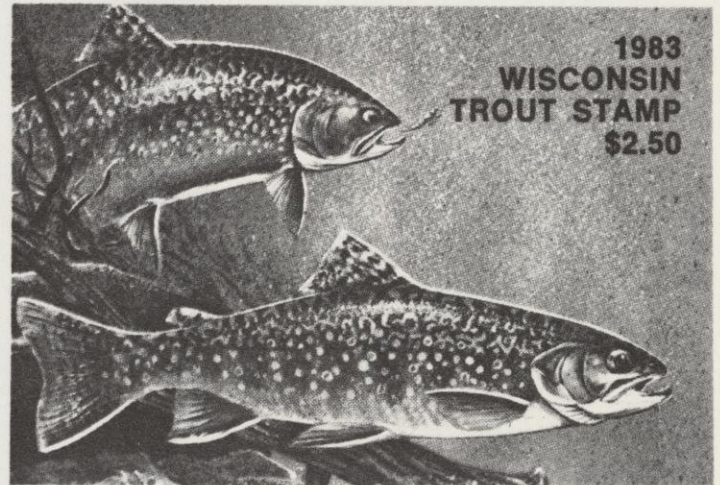
The ancient water routes that connected the copper mines of Lake Superior with the Mississippi River.





Trout Unlimited was instrumental in establishing the Wisconsin Trout Stamp. Money from sales is used for stream improvement. This 1983 stamp was designed by Artist Scott Zoellick, 341 N. Milwaukee St., Milwaukee, WI 53202.

# Trout Unlimited in Wisconsin



*JAMES W. LUKENS,  
Public Relations,  
Southern Wisconsin Chapter,  
Trout Unlimited*

An organization of anglers who want clean, cold water and good laws. They get their feet wet.

Small ripples quivered in the sunlight and slowly flattened out across the surface of a deep, slow pool. Assorted hardwood and cedar trees on either side of the stream left just enough room for thick canary grass which hung over the banks and all but concealed oak logs at the waterline. Here and there, from beneath the half-hidden timbers, native brook trout finned into the current and grabbed some passing morsel as it tumbled along over the clean gravel bottom. The fish wore all the colors of autumn on their sides.

Here was pristine beauty and the unmistakable evidence of enduring life. The casual observer might assume the scene had remained unchanged since time began.

In this case, however, the casual observer would be wrong. Less than two years ago, this same stream had been almost invisible, nearly buried in brush, and relatively devoid of life. A heavy growth of alders, their tops intertwining above, had blocked sunlight from the water, retarding the growth of small aquatic organisms which serve as food for fish. The lowermost branches of these alders, dying and falling into the water had

caught and held suspended particles of sand and salt which had gradually covered the gravel, raised the streambed and widened the stream, leaving it saucer-bottomed, slow, straight and shallow. The trout, with no food to eat, no bank cover to protect them from predators and no gravel to lay their eggs in, had all but disappeared.

Who or what, then, had transformed this brushy little ditch into a beautiful woodland trout stream — all in the miraculously short space of two years? The answer, in this case at least, is the members of a nearby chapter of Trout Unlimited (TU).

Founded in 1959 by a small group of Michigan anglers concerned about the deterioration of trout fishing in their state, Trout Unlimited has become a nationwide, nonprofit organization. It is dedicated to protecting, preserving and enhancing the coldwater fisheries of North America. National, state and local affiliates work both with government agencies and on their own to protect, improve and, where necessary, to restore trout and salmon streams.

In the early years of its existence, Trout Unlimited had a reputation as a kind of elitist "fly fishing only" organization. While this tag may once have been partly deserved, it clearly no longer applies. Nationally, Trout Unlimited has had a 35% increase in membership over the last few years.



"Prairie River Solitude" by Artist Tim Johnson, 107 E. Monico St., Rhinelander. Johnson donated this painting to Trout Unlimited. Color prints, for sale at \$35 each, will help raise money for statewide TU projects. Inquiries can be sent to Tom Mertens, 1368 Biemeret St., Green Bay, WI 54304.



Fencing and cattle crossings prevent livestock from crumbling streambanks and silting trout streams.

There are now 30,000 members in 265 chapters spread across 39 states, with affiliates in Canada and New Zealand. In Wisconsin, membership has doubled in less than 3 years, from only 800 in 1979 to more than 1,600 in 1982; and the number of local chapters in the state has increased from 13 to 19. Still, only 1% of Wisconsin trout anglers are members.

Those who join exchange fishing information and have access to free fly-tying and rod-building classes. They receive a subscription to *Trout* magazine, which contains fishing tips, profiles of trout streams and in-depth reports on threatened waters and ways to save them. They also have the satisfaction of working together with others to preserve Wisconsin's cold-water fishery.

Trout Unlimited takes the view that what's good for trout is good for the whole environment. Because trout require clean, cold water and inhabit the upper reaches of watersheds, they serve as a kind of barometer, an early warning system against the possibility of serious environmental harm. By monitoring trout populations, pollution problems can be detected before they worsen to make downstream waters unfit for fishing, swimming or boating.

TU's broad-based approach to the environment has won it many friends.

"I joined Trout Unlimited shortly after it was organized," says DNR Board Chairman John Lawton. "Since that time, I have been impressed by its emphasis on a scientific trout management program, by its recognition of the need to protect the whole environment as well as immediate trout habitat and by the amazing dedication of its members in working on various stream improvement projects around the state. I'm proud to be a member of this fine organization."

Trout Unlimited was a major force in establishing the Wisconsin Trout Stamp Program. Funds from the stamp are earmarked to protect, preserve and improve habitat in state trout streams.

In its role as champion of the resource, TU tries to avoid costly and unnecessary confrontations in favor of reaching solutions which benefit all parties concerned. The Madison chapter, for example, worked with local landowners and county, state and federal agencies to expose the disadvantages of constructing a dam on the Blue River in the southwestern part of the state. More recently, representatives of the Green Bay chapter



avoided a lengthy legal battle when they hammered out an agreement between the Michigan DNR and the Hanna Mining Company, whose mines were draining acid water into the Brule River in Florence County and eliminating trout in downstream waters. Under the agreement, Michigan held off court action, and the mining company, with some financial help from TU, began a voluntary clean-up last fall.

TU's desire to solve problems, however, does not mean that it will compromise on matters crucial to the resource. Volunteers from local chapters monitor water quality on selected streams throughout the state and report suspicious changes to DNR.

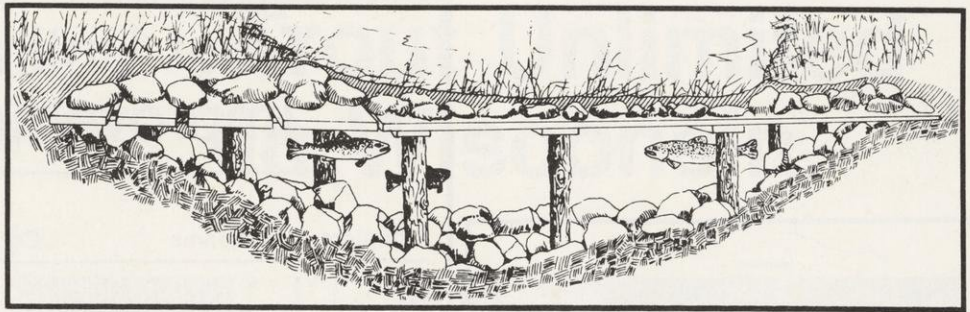
TU has several important contemporary concerns. In the state's rocky northern regions, acid rain threatens to leave many of our best trout waters lifeless and sterile. In the agricultural southern half of Wisconsin, inadequate fencing along pasture streams and poor soil conservation practices increase siltation which destroys trout habitat at an alarming rate. Small-scale hydropower projects, if not carefully planned, might damage prime trout waters. And increasing numbers of beaver dams now block trout migration, cover spawning gravel with silt and create unsuitable water temperatures.

Working on the beaver problem over the last few years, the Antigo and Rhinelander chapters made a study to find out what heavy populations do to trout streams. Following this, the State Council produced a film that explains exactly what happens when beavers invade northern Wisconsin trout streams.

Trout Unlimited deals with many other problems and is not adverse to questioning the fish management policies of DNR itself. Many members feel, for example, that the agency is too slow in switching emphasis away from numerical measures such as total angler days, and toward providing a quality fishing experience. TU would also like DNR to put more emphasis on management to establish self-sustaining populations of native fish in streams that now hold only stocked trout. This would mean making stream improvement a priority.

Stream improvement projects carried out by local chapters are the heart of the Trout Unlimited effort. Several weekends a year, members roll up their sleeves and go to work.

In rehabilitating the woodland stream described earlier, for example, volunteers cut down the overhanging alders to allow life-giving sunlight to reach the water. They used the bundled brush to bend and narrow the stream and increase its rate of flow.



Protection from predators and a good feeding position.

Half-logs provide simple, inexpensive and easy-to-install hiding and living spaces for trout.



Then, after the water had found its new course and scoured silt from the bottom, the crew installed half-logs to provide cover, seeded reed canary grass to stabilize the banks and raked in several tons of washed gravel to provide supplementary spawning beds.

Local TU chapters have carried out similar rehabilitation projects on streams all around the state. For instance, the Eau Claire chapter, working on Elk Creek in Dunn and Eau Claire counties, has spent over 6,000 work-hours removing brush, riprapping banks and placing half-logs on 4,800 feet of stream. Over a period of six years, the Southern Wisconsin chapter invested 10,000 work-hours transforming Crystal Creek near Beaver Dam from a fishless ditch into 2.5 miles of productive trout water. The Hudson chapter assisted DNR with standard stream improvement work in a jointly sponsored Race-Willow River project. Hudson also negotiated with local landowners, scattered-planted trout fingerlings, took fish population surveys and committed \$12,000 to pay for four years of creel census on these two streams. And at Wautoma the TU chapter leased land on the west branch of the White River that had been closed to public fishing, spent 1,000 work-hours removing brush from the stream, then opened it to the public.

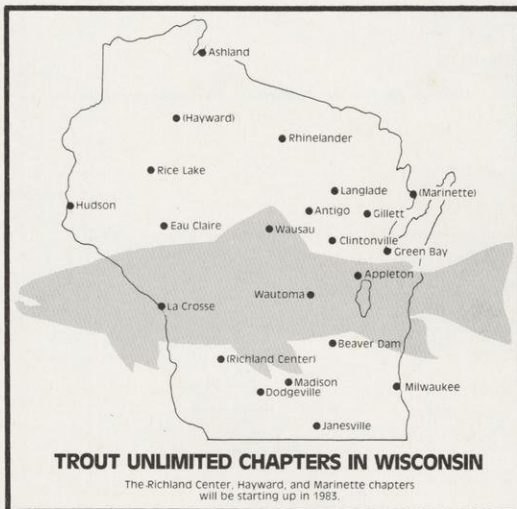
TU volunteer labor stretches trout stamp funds and gets into places not otherwise handled. The projects give people the opportunity to make a real difference in their own local areas. The angler who joins TU and works on its projects preserves the future of the sport and gives something back to the resource.

Contribution by anglers is especially important in these days of dwindling dollars. Tom Fleisch is Wisconsin TU State Council Chairman. He puts it this way: "In light of recent cutbacks in our state and federal budgets, Trout Unlimited simply must expand its efforts to protect and enhance coldwater fisheries. If anglers won't, who will?"

Trout Unlimited members visit shopping centers, sports shows and local schools where they give talks, present slide shows and show films dramatizing the problems and pleasures of trout fishing. TU spends a great deal of time with youth groups like the Scouts and 4-H Clubs. The Fox River Valley chapter in Appleton holds an annual fishing outing for handicapped children and the Beaver Dam group has a similar event for inner city children from Milwaukee. Some chapters offer free casting and fishing clinics, and others teach fly-tying and rod-building, often at no charge to the public.



# Trout Unlimited Stream Improvement Projects



To pay for its many public service projects, Trout Unlimited sponsors a variety of fund-raising activities. Most local chapters hold annual banquets accompanied by raffles, auctions and drawings for door prizes. Regular monthly meetings are often enlivened by "swap nites" and raffles of rods, reels or other fishing tackle. And a few chapters even market special items like brass bookends and handmade wooden landing nets. To raise money for communication, education and stream projects, the State Council recently began selling numbered prints of "Prairie River Solitude," an oil painting donated to the organization by Rhinelander artist Tim Johnson. All money raised by state and local chapters stays in Wisconsin, and most is put to work improving local trout streams.

"Ideally," says Tom Mertens, TU National Director from Green Bay, "I'd like to see a TU chapter on every major watershed in the state. We need members to be effective watchdogs."

For more information on Wisconsin Trout Unlimited call or write Tom Flesch, Route 2, Box 1010, Poynette, WI 53955. Phone (608) 635-2552. ☺

Trout Unlimited photos after the Catch-all section on page 21.

Chapters	Streams	Counties	Projects	Work-Hours
<b>Ojibseau (Eau Claire)</b>	Duncan, McCann and Elk Creeks; Spring Brook	Chippewa, Dunn, Eau Claire	Erosion control Habitat Improvement Bank Improvement Stream Improvement Brushing Research	9,480
<b>Green Bay</b>	Oconto and Wolf Rivers; Eagle and LaMontagne Creeks	Oconto, Langlade, Marinette, Florence	Habitat Improvement Bank Improvement Fencing Stocking	1,431
<b>Green Bay/Shaw-Paca</b>	Embarrass River	Shawano	Stream Improvement Bank Improvement	105
<b>Antigo</b>	Hunting, Eau Claire, Prairie Langlade and Wolf Rivers		Habitat Improvement Stocking	553
<b>Harry Norr (Dodgeville)</b>	Love/Strutt, Harker, Otter and Napps Creeks	Iowa, Richland	Fencing Stream Improvement Bank Improvement Habitat Improvement Erosion Control	1,350
<b>Southeastern (Milwaukee)</b>	Allenton, Rosenow and Bluff Creeks; Paradise Springs	Washington, Waukesha, Walworth	Brushing Fencing Stocking	320
<b>Southern (Madison)</b>	Black Earth, Crystal, Lodi, Spring, Bohn, Tipperary, Allen, Rowan and Jennings Creeks; Rocky Run	Dane, Rock, Columbia, Dodge	Clean-up Stream Improvement Brushing Stocking Habitat Improvement Remove Beaver dams Monitoring Fencing Research	15,015
<b>Fox Valley (Appleton)</b>	Emmons, Nace, Lunch and Davis Creeks; Embarrass River; Lake Winnebago Waterways	Winnebago, Waupaca, Shawano, Waushara	Habitat Improvement Brushing Clean-up	365
<b>Central Wisconsin (Wautoma)</b>	Lunch and Emmons Creeks; White and Pine Rivers; Cedar Springs	Waushara, Waupaca	Brushing Clean-up Land leasing Erosion control Stream Improvement	9,800
<b>North Woods (Rhinelander)</b>	Deerskin and Prairie Rivers; Noisy Creek	Vilas, Langlade, Oneida	Habitat Improvement Remove beaver dams Remove beaver Clean-up	1,132
<b>Kiap-Tu-Wish (Hudson)</b>	Kinnikinnic, Rush and Willow Rivers; Trout Brook	St. Croix, Pierce	Brushing Bank restoration Stocking Research Erosion control Habitat Improvement	4,506



# Catch-all

## New groundwater legislation proposed

Kris Visser, Rural Issues Coordinator

**Madison** — A special committee composed of both legislators and citizens is working on three bills to protect groundwater. The Legislative Council Study Committee on Groundwater Management expects to have final recommendations for legislation by April. Currently the committee is considering three proposed bills.

One would set groundwater standards. Under this proposal, DNR would set two levels at which contamination of groundwater would trigger government action. **If contamination is discovered at the lower of the two levels, called the "preventive action limit,"**

**the appropriate government agencies would move immediately to prevent further groundwater pollution. At some higher level known to effect human health, the water would be declared undrinkable.** The goal is to keep concentrations of dangerous substances below the level at which they threaten human life.

**Standards will be based on information supplied by the federal government and by the state Department of Health and Social Services.**

After DNR sets a standard, the state agency regulating that substance must adopt rules regulating its use. If the pollutant is a pesticide, for example, the

Department of Agriculture, Trade and Consumer Protection must adopt regulations to keep it out of the groundwater.

**A second proposal would compensate people whose wells become contaminated by abandoned landfills, chemical spills or other outside sources.** There are several proposed bills before the committee. Each would establish a fund (with the source of money differing among proposals) from which a person with a contaminated well would be reimbursed. None of these proposals would require pinpointing the guilty party in order to receive compensation. The committee must also decide how to find who is

responsible for the contamination and the extent of that party's liability.

A third bill under consideration would establish an interagency groundwater coordinating council to increase communication between state agencies on monitoring public information, research projects and other groundwater issues.

The committee meets next on March 25. When it agrees on proposed legislation, the bills will be forwarded to the Legislative Council, a bipartisan legislative committee. If the council approves, the bills will then go to the Legislature for action.

## Budget contains groundwater \$\$

**Madison** — Governor Earl's proposed budget manages to squeeze in increased personnel for groundwater protection without costing the state more money. The budget assigns nine DNR employees to groundwater protection work — six are reassignments of existing staff, the other three are new positions paid for by increasing license fees for well drillers and pump installers and by reallocating money from other programs.

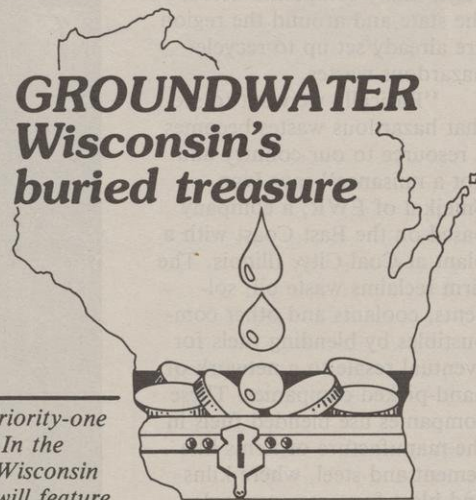
**This groundwater team will decide groundwater policy, determine management strategy, conduct research, set groundwater quality standards and analyze how sewage plants and landfills affect groundwater.**

The staff will also work with other agencies that have groundwater-related authority, such as the Department of Agriculture, Trade and Consumer Protection, which regulates pesticide use, and the Department of Industry, Labor and Human Relations, which regulates septic tanks. **The Governor's budget reallocates money to expand groundwater monitoring to track groundwater quality changes and to locate potential problem areas.**

The budget also reshuffles existing funds to train DNR staff in toxic spill cleanup and prevention.

The Legislature will spend several months working on the budget, with final passage expected in mid-summer.

### GROUNDWATER Wisconsin's buried treasure



*Groundwater is a priority-one issue in Wisconsin. In the July-August issue, Wisconsin Natural Resources will feature a special supplement on "Wisconsin's Buried Treasure." Watch for it!*



# Hazardous waste landfills in Wisconsin close

## Industry finds alternatives

**Madison** — Within the last six months, all four of Wisconsin's hazardous waste landfills have shut down or stopped accepting toxic materials in the face of strict new federal regulations. The 1,100 companies that generate most of Wisconsin's hazardous waste have remained calm about the shutdowns for several reasons.

**Illinois has several approved landfills just across the border. Several are operated by Waste Management, Incorporated, the same company that handled over 90% of the waste in Wisconsin, until they decided to shut down a few months ago.** The company still holds contracts to dispose of waste produced here in Wisconsin. It will cost both Waste Management and the producers more to truck wastes to Illinois, but the additional expense is comparatively minimal. Today it costs anywhere from \$60 to \$220 per ton to landfill hazardous wastes. An extra \$12 per ton in shipping expenses added to that for a few months is not enough to create panic. **In addition, Wisconsin may be left without a place to put toxic wastes for only a few months. A temporary disposal site is expected to open in Franklin, near Milwaukee, next fall.**

And unlike municipal garbage, many companies across the state and around the region are already set up to recycle hazardous wastes.

"Basically we want to see that hazardous wastes becomes a resource to our country and not a nuisance" says Ivan Smejkal of EWR, a company based on the East Coast with a plant at Coal City, Illinois. The firm reclaims waste oil, solvents, coolants and other combustibles by blending fuels for eventual resale to a network of hand-picked companies. These companies use blended fuels in the manufacture of items like cement and steel, where kilns and blast furnaces ensure destruction of hazardous chemicals in the fuel blend. It also provides a computerized service to bring together those who

produce hazardous wastes with those who can use such products as raw materials.

The company's recycling facilities, Smejkal says, can handle solvents highly contaminated with heavy metals, chlorine and other substances.

Since many industries use solvents, millions of tons that are contaminated must be disposed of annually. These are often hazardous. But solvents usually are petroleum-based and their value has increased enormously in recent years — as much as 1,000% — which encourages recycling.

**The task in reclaiming solvents says Charles Clarke, Hydrite Chemical Company, Milwaukee, is "to dispose of the contaminated materials while keeping the solvents."** Used solvents can be picked up, cleaned and returned to the original user or resold to a third party.

**Burning hazardous wastes in a brand new Chicago incinerator is another option for midwest generators, according to Linda S. Wray of SCA Chemical Services.**

Her Boston-based company specializes in a high tech

treatment and disposal of chemical wastes. It recently built a \$20-million incinerator on Chicago's south side. It has temporary EPA approval, and recently started a seven-day a week operating schedule. It can handle 40,000 gallons of waste daily and burn solids, liquids and sludges, she says.

**Solvents, organics, pesticides, herbicides, laboratory wastes, halogenated hydrocarbons and ultimately, PCBs will all be burned at the facility. The incinerator is capable of 99.99% destruction, she says.**

Big businesses that produce large amounts of wastes often treat it themselves. Small companies that can't afford this can send wastes to commercial facilities, like Chem-Clear in Chicago. Tanker trucks deliver liquid wastes from a variety of industries; steel plants, food processing concerns, printing companies, paper and pulp mills, pharmaceutical manufactures, lagoon and tank cleaners and acid producers. Like other such facilities, Chem-Clear relies heavily on its laboratory to decide how substances must be treated. Its final products are sludges that go to local landfills, and effluents suitable for the local sanitary sewer system.

Treating hazardous waste is neither cheap nor simple. **The cheapest alternative is still reducing the amount of waste at the source.** All alternative treatment methods produce some residues which must be landfilled. In the future, landfills that accept these residues and the rest of Wisconsin's hazardous wastes will have to be safer, better-engineered and better-regulated than ever before.

When Waste Management opens its new landfill in Franklin sometime next year, new Federal regulations and existing state laws will require that the facility contain state-of-the-art safety engineering. For example, the landfill will be constructed with three separate liners — two of packed clay, one of heavy plastic — each with a separate drainfield to collect leachate. That kind

of engineering isn't cheap. The extra cost associated with building such an operation will likely make disposing of industrial hazardous waste even more expensive than it is now. But it will also make recycling and reducing the amount of hazardous waste generated look like a much more appealing proposition. Most important, it will do all that can be done to keep hazardous waste out of the environment.

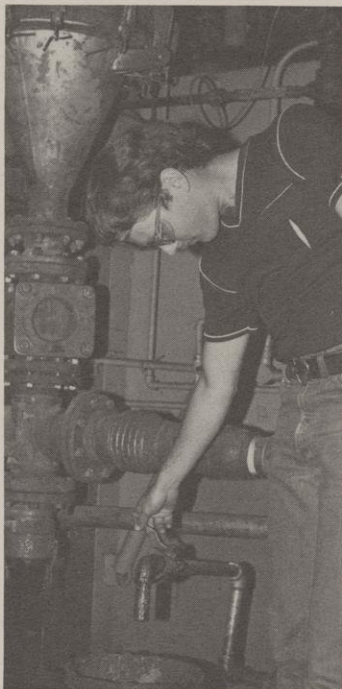
## Spring conservation rules hearings

**Madison** — Your chance to express an opinion on hunting and fishing rule changes and on proposals affecting management of Wisconsin's environment and natural resources will come on April 25th. That's the date of the annual conservation rules hearings to be held in each county of the state. The meetings will begin at 7:30 p.m. Check your local newspaper for location in your area.

Persons attending will elect members to represent them on the Wisconsin Conservation Congress during the coming year. Three delegates and two alternates will be chosen from each county.

The Conservation Congress is a statutorily designated citizens group which acts in an advisory capacity to the Natural Resources Board. The Congress meets once a year to consider and vote on hunting and fishing regulations and on other policy matters affecting environmental and natural resources management. Throughout the year, Congress members meet in study committees to discuss and consider specific resource management subjects and make recommendations to the Congress. Both the county hearings in April and study committee recommendations are considered by the Congress in arriving at decisions. The annual Congress meeting will be June 2 through 4 at Wausau.

Hydrite engineer checks overflow on a thin-film evaporator. Photo by Anne Sidbury





# Catch-all

## Governor's position on environmental issues

Jeanne Sollen, Public Information, Milwaukee

**Milwaukee** — Wisconsin should not be a repository for high-level nonstate radioactive wastes, Governor Anthony Earl told an environmentalists' meeting here earlier this year. On the other hand, Wisconsin should take responsibility for disposing of wastes generated by its own nuclear power industry.

The long-discussed federal proposal to bury military and industrial nuclear wastes in Wisconsin makes no health or environmental sense, Earl told a question period sponsored by Wisconsin Environmental Network at Marquette University. About 75 persons attended the program.

No national consensus exists on how to dispose of these high-level wastes, Earl said. "So the way we choose to get rid of them will be a political rather than a scientific judgment."

**Other states get the industries that create the high-level waste, the Governor observed; Wisconsin gets "the leavings."**

On nuclear power wastes generated within the state, he asserted: "I think we do have a responsibility to find a way to get rid of those wastes, the products of which have benefited us." One proposal is to cooperate with other states in the region to find a site for low-level wastes acceptable on health and environmental grounds.

In a far-ranging question period, Earl answered queries from environmentalists on groundwater, phosphates, wetlands, agricultural protection,

workers' right to know, transportation, mining, inland lake rehabilitation and recycling.

**On groundwater quality, he said: "I don't subscribe to the notion that a given level of degradation is acceptable."** While degradation cannot be eliminated entirely, Earl said he wanted "to start from there and see how close we can get to it." He favored an overall groundwater standard for the state rather than area-by-area standards based on local practices.

**The Governor said he continued to support a comprehensive wetlands bill in Wisconsin to protect wetlands not adjacent to surface waters. Such a bill failed to pass the last legislature. He warned, however, that the existing bill places enforcement authority in county governments.**

"Our enforcement ability is directly proportional to our ability to convince county government to do the job," Earl said. He urged environmental groups to help in this task of persuasion.

On farmland preservation, the governor said he supported the state farmland preservation act, but said he wished its administration was simpler. He advocated a public education program to reassure citizens the act is not un-American.

Asked about budgetary cuts for two state programs, inland lake rehabilitation and the solid waste recycling authority, Earl said the lake rehabilitation program was "very dear to me," but the program "has generated very little broad public good" and can not be

## Environmental programs for youth

**Stevens Point** — Several programs designed to increase participants' awareness and knowledge of the environment are being offered this summer by the College of Natural Resources and the Central Wisconsin Environmental Station at UW-Stevens Point.

The Youth in College Program provides specialized instruction and opportunities for students entering grade six and above to interact with their environment through a variety of learning experiences.

Dates for the sessions are June 26 through July 9 and July 31 through August 18.

The Nature Adventure Camp will combine recreational

activities for boys and girls age 9 through 12 with an educational component that focuses on ecological concepts. Teaching emphasizes "hands-on" exploration of many of central Wisconsin's natural communities, including lakes, prairies, rivers and forests.

Three identical sessions will be held at the Environmental Station. They are June 19-24, July 10-15 and July 24-29.

More information is available by writing the Central Wisconsin Environmental Station, 7290 County MM, Amherst Junction, WI 54407, or by calling (715)346-2028.

## Lake sturgeon must be tagged



**Madison** — Anglers who take lake sturgeon by hook and line this year are required to tag and register their catch. The season opens on April 30 on Wisconsin-Minnesota boundary waters and on September 3 on inland Wisconsin waters.

defended in competition with other essential programs at a time of tight budgets. He maintained that the Solid Waste Recycling Authority system was not working, saying, "eight years is long enough when an authority hasn't recycled one can."

Special tags will be available at DNR stations before the opener. There will be two different tags, one for inland waters and one for boundary waters. The season bag limit is one fish per person on the boundary waters and one fish per person on inland waters, with a minimum length of 45 inches.

Registration stations will be set up at numerous locations to accommodate anglers. The tagging and registration, at no cost to the angler, will give DNR information on the harvest of lake sturgeon and will provide information needed to manage the species.



## Natural mercury in 13 fish

**Madison** — Thirteen large game fish samples from five moderately acidic lakes in northern Wisconsin had mercury concentrations above federal health guidelines, DNR reported recently. However, the condition cannot be attributed to acid rain, a DNR researcher noted.

"We have known for years that mercury uptake by fish is enhanced in lakes that are acidic," said Thomas Sheffy, acid deposition research coordinator for the DNR. "This condition has been found in remote, naturally acidic Canadian lakes far removed from pollution and acid rain."

The potential health risk is extremely low for people who eat fish from these lakes, said Dr. Henry Anderson at the state Division of Health. As a precaution, however, Dr. Anderson advises against eating more than one meal of fish a week from the five lakes, and recommends that people who do eat fish from these lakes daily limit consumption to walleyes and largemouth and smallmouth bass weighing less than 1½ pounds. Pregnant women and women who intend to bear children should be especially aware of the advice, Dr. Anderson said.

The five lakes are Currie, Sugar Camp and McGrath in Oneida County; Jag in Vilas County and Summit in Langlade County.

Mercury, a heavy metal, is found in rocks, sediment and

dust. Micro-organisms in sediment convert it into more-soluble methyl mercury which fish can absorb from the water or from organisms they eat. Because mercury is excreted very slowly from tissues, older fish at the top of a lake's food chain accumulate more of it.

Last year DNR acid rain researchers sampled 109 fish from 20 northern lakes. Thirteen of these fish contained more than one part per million (ppm) mercury, which the US Food and Drug Administration has established as the maximum amount of mercury commercially sold fish fillets may contain.

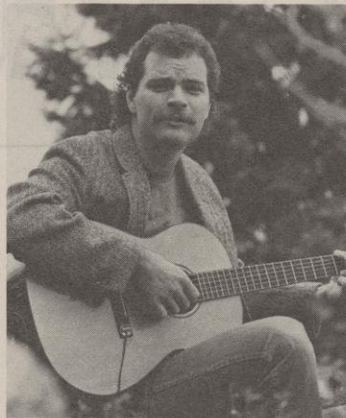
In the 20 lakes tested overall, mercury levels in musky, yellow perch and northern pike were well under the federal mercury standards.

The 20 lakes ranged in pH from 4.8 to 8.1, with most fish containing elevated mercury levels confined to lakes having a pH of less than 6.0. Most good fishing lakes have a neutral pH of about 7.0.

Sheffy said the DNR would test fish in more lakes this spring.

*For more on Wisconsin fish, don't miss the special supplement coming up in the next issue. It's packed with useful and entertaining information.*

## With a song



Ken Lonnquist, minstrel to the environment Photo by David Sandell.

**Madison** — A singing minstrel is helping kindle environmental interest in students from fifth grade through high school in Wisconsin this year. He is Ken Lonnquist, a singer/songwriter who provides intimate,

entertaining and thought-provoking programs under sponsorship of Wisconsin's Environmental Decade Fund, Inc. A grant from the Joyce Foundation and the Ruth Mott Fund helps pay expenses.

A Madison resident, Lonnquist has appeared in clubs throughout the country performing original songs in folk-music style. He has toured the Midwest with K.I.D.S. Participation Theater and has worked extensively with Children's Theater of Madison. There is a nominal charge for his appearance which includes environmental materials to go with the performance. For further information, contact Wisconsin's Environmental Decade Fund, Inc., 114 North Carroll Street, Suite 208, Madison, Wisconsin 53703. Phone (608)251-7020.

## Havenwoods Center design competition

**Milwaukee** — DNR is sponsoring a competition for design of the Havenwoods Forest Preserve Environmental Awareness Center Building to be constructed here near Silver Spring Drive and Sherman Boulevard.

The contest is open to all Wisconsin architects, and others who qualify. The first place winner will be given the

contract to design the center building. The award for second place is \$4,000 and for third, \$3,000.

Information on entering the contest will be available after April 1 from Robert G. Wirth, the competition professional advisor, at 10721 West Capitol Drive, Wauwatosa, Wisconsin 53222. (See story about Havenwoods on page 4.)

## Bow hunter conference

**La Crosse** — A midwest conference on bowhunters and bowhunting will be conducted here June 9 through 12.

Aim is to discuss problems related to bowhunting and improve communications among diverse groups interested in the sport, according to Robert Jackson, UW-La Crosse.

Further information on the conference is available from Jackson at UW-La Crosse, 227 Main Hall, La Crosse, WI 54601.

## Beth runs on air

**Madison** — Reedsburg Fisherman John Beth, author of this issue's "Castle Rock Creek: Fish for fun," will appear on Channel 15 Saturday, March 26th, at 11:30 a.m. Beth will discuss fly fishing for trout and salmon. A similar half-hour program will air live on WTSO radio Thursday, March 24th at 7 p.m.

Beth is also the author of "Spot and Plot for Trophy Fish" (March-April, 1982).

## National Wildlife Week

**Washington, D.C.** — "THIS IS YOUR LAND . . . Public Lands Belong To All Of Us," is the theme of this year's 46th annual observance of National Wildlife Week. Sponsored by the National Wildlife Federation and its state affiliates, the week is designed to focus national attention on needs of wildlife and the protection of habitat.

This year's theme directs attention to the economic, rec-

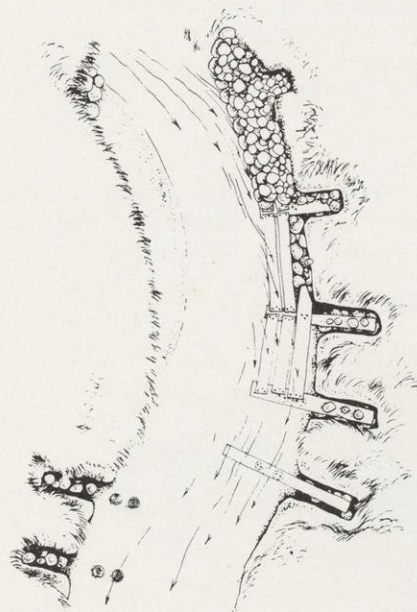
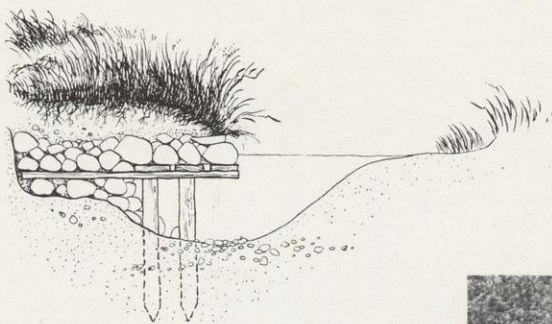
reational and biological importance of public lands to the people and wildlife of our country, and reminds that each one of us, as American citizens, is part owner of the 740 million acres of federal land in the US.



**PUBLIC LANDS BELONG TO ALL OF US.**



# Trout Unlimited in Wisconsin



Poles are driven into the streambottom, then anchored to the bank with planks. Boards, then boulders and sod are placed on top. The result is an inconspicuous, natural-looking structure under which trout can hide and wait for morsels of stream-swept food.



A Trout Unlimited member gets his feet wet.



Riprap installed along Bohn Creek, a Trout Unlimited stream project in Iowa County.



Club members remove a makeshift dam along Bohn Creek.

Photos by L. Gennrich



Some say it's good practice.  
Some say it's abominable. The  
gospel is that cutting down all  
the trees makes sense  
sometimes. Listen!

The continuing controversy over  
clear-cutting trees surfaced again last  
winter on the Burnett County Forest.  
Critics of the practice, it seems, are  
everywhere, coast to coast.

Clear-cutting is the logging practice  
in which 75% or more of the timber is  
cut down or removed in any one forest  
stand. The clear-cut area may be large  
or small. Some western clear-cuts have  
covered thousands of acres. Some  
may be only 10 acres or less. Most in  
Wisconsin seldom cover more than 40  
acres.

Generally speaking, there are two  
ways to cut timber. One is clear-cutting  
and the other is selective cutting. Both  
are good forestry practices providing  
they are carried out in the proper tim-  
ber stands. Selectively cutting a stand  
that should be clear-cut is as bad a  
practice as clear-cutting a stand that  
should be selectively cut.

As a rule of thumb, we selectively  
cut forest stands that are "all-age" —  
stands where there are small, medium  
and large trees. A typical one would  
contain mixed hardwoods or maple,  
basswood, oak, ash and yellow birch.  
Such a forest is cut by going back  
every 10 to 20 years and removing the  
mature trees.

This is a nice, comfortable way to  
manage a forest. Only 10 to 15% of  
the trees probably are taken at any one  
time and the area usually does not  
even look like it was logged. Unfor-  
tunately, not too many forests allow  
this type of cutting — only the "all-  
aged" forests.

# A Clear-Cut Explanation \*

*JIM BISHOP, Columnist,  
Eau Claire Leader-Telegram*

This series of pictures shows what happened to an aspen stand that was ready for clear-cutting, but left unharvested. On the left are the mature trees. Six years later (center) they are decaying stubs. After 12 years, instead of regrowth to aspen, cover has changed to alder, hazel and other brush. The woods has all but vanished.





Most forests in Wisconsin are what is called "even-age." The trees all began growing about the same time. Such forests are common after clear-cut logging or forest fires or even heavy windstorms. Usually such trees are aspen, birch or jack pine. They grow rapidly only in full sunlight, reach maturity at around 60 years and begin to die shortly after that. Such stands are the ones that are clear-cut — the "even-aged" forest stands.

Many of Wisconsin's forests, especially those in the north and central parts of the state, grew back after forest fires were contained during the 1920's and 1930's. These stands now are reaching maturity and are ready to cut. Most are "even-aged."

Let's take a typical aspen stand, for example, since more of our timber is aspen than any other species. It started growing about 1925. It is now 57 years old and all the trees are mature. They are all about the same size and the same age. They will not live much longer. We clear-cut, taking all the aspen and we even cut down the few scattered hardwoods too, to provide full sunlight.

Aspen sprouts from the roots. For every aspen cut, probably 10, 20 or maybe even 100 new trees will start the next year. In some cases there are so many small trees, it is difficult to walk through the forest. In another 50 to 60 years a mature crop of aspen can be harvested again.

The reason we cut down the few scattered hardwoods is to insure that the new crop of aspen gets full sunlight. If it does, it grows well. If it is shaded, it grows poorly or not at all.

Even-aged stands like aspen cannot be selectively cut like mixed hardwoods. To do so is to go against nature. Full sunlight is required. Have you ever wondered why there are no young aspen, white birch or jack pine growing under these mature forests?

Mature forests provide poor food and cover for wildlife. In fact they are often called biological deserts. When we cut the mature aspen we also make excellent habitat for wildlife such as rabbits, grouse and deer.

Forest management is management by species. We try to help nature regenerate the best possible timber stand on the cut-over land. In this area, we have a lot of oak stands. We manage them like the aspen. We clear-cut everything, get a new crop of oak from stump sprouts that do well if they have full sunlight. If there is not full sunlight, we promote less desirable trees such as elm, hickory and soft maple.

There are several disadvantages to clear-cutting. One is that if care is not taken, erosion may follow. Some of the criticism of the western clear-cuts is centered on this problem, and rightfully so.

The main disadvantage is one of aesthetics. For the first few years, it looks like a World War I battlefield. Until the slash rots and the new growth appears, it looks tough. It is because of this that most people object to clear-cutting.

In the past, foresters have paid too little attention to ways to mitigate the bad looks and bad effects of clear-cutting. They have clear-cut steep slopes that have eroded. They have clear-cut too large an area at one time and have ignored the needs of wildlife. I believe all this now is changing rapidly for the better.

Care now is taken to insure that erosion does not occur. Clear-cut



A selectively cut forest usually contains trees of many different ages. Photo by Dean Tvedt



Left:  
In selective cutting, foresters mark individual trees for harvest.



Right:  
Removing large, mature trees creates openings to speed growth of younger ones.



Clearcutting removes all trees, large and small, but paves the way for new, sunlight-loving seedlings.

Illustrations courtesy of the US Forest Service



A few years after clearcutting, a close look reveals a dense growth of infant trees making full use of abundant sunlight.





areas are smaller, often taking one-third of an area every other year. Attention is paid to the aesthetics of the clear-cut, especially as it may be viewed from a road or trail. Consultations with wildlife managers lead to small areas left untouched in desirable species such as oak with its acorns.

I believe it is important for the outdoor enthusiast to have some basic understanding of what professionals are trying to do. They will be willing to take a tough-looking area for a couple of years, knowing that it will benefit wildlife as well as provide wood fiber for lumber newsprint and a thousand other items we use every day.

The forest can have multiple use. There can be wilderness where nothing is cut. There can be areas where we selectively cut every decade or two to perpetuate fine hardwood. There also can be other areas where we clear-cut and hunt deer and grouse and raise short-term crops of timber for different uses. There is room for everything if we learn to be tolerant and listen to each other. The forester must listen to the hunter and the hiker, but also the hunter and the hiker must listen to the forester. ☐

\*Reprinted from the Eau Claire Leader-Telegram

Aspen after a clear-cut. At this stage the heavy growth provides bountiful food for wildlife. In a few years it will be forest again.

Smouldering stumps glow in the night following a fire near Brule. Photo by Diemer

Red Flag Alert is Wisconsin's new program to catch devastating forest fires before they start. The new early warning system is aimed at preventing fires like the one at Oak Lake, near Minong, in 1980 which burned 11,418 acres, or the 200-acre fire near Eau Claire last year in which DNR firefighter Donald L. Eisberner was burned to death.

The program begins this spring in areas around Brule, Cumberland, Black River Falls, Wisconsin Rapids and Marinette. These are places with high potential for disastrous fires if conditions are right.

When fire danger soars, Red Flag Alert will rally utility companies, sheriffs, police, businesses, forestry personnel, ham radio operators, DNR, the public, radio, TV and newspapers. No unauthorized fires will be allowed until the alert has passed. Public awareness is the key. The program will concentrate on preventing forest fires before they start, or putting them out while they're still only a spark in the woods.

When fire conditions are critical in any one of the five areas, "Red Flag Patrol Cars" will appear displaying the special red warning banners. Flag poles will fly them and local businesses put out displays. Radio and TV will broadcast warnings and cooperators will show the Red Flag. Everybody will be on the lookout for fire with the idea

that early warning will prevent disaster. Both equipment and fire-fighters will be ready to move at a moment's notice.

Forest fire danger is generally extreme when winds are more than 15 miles per hour and humidity 25% or below. Most forest fires in Wisconsin occur in April and May and most are caused by debris-burning that gets out of hand. Children playing with fire are the second most-serious cause. Railroads are third and arson fourth.

Last year approximately 2,200 forest fires in Wisconsin burned about 5,000 acres.

# Red Flag Alert





# Castle Rock Creek:

## Fish for Fun

A never-ending cycle where the fish get bigger and bigger and smarter and smarter, and are always there.

JOHN BETH, Trout Fisherman,  
Reedsburg



"Trout stream!" The words conjure clean cold water meandering through lush green meadows among willows and undercut slopes. They bring misty spring, lazy summer, leaves floating in a golden autumn, or a silent, white and waiting winter. The trout are beautiful and cunning. Mayflies, stoneflies, caddisflies and minnows abound.

The soft whistle of a fly rod carries an offering but only occasionally will a fish accept. The rod is a baton for the music of meadowlarks, frogs and crickets. Water pulses around your legs. Here you re-create a little of what life, day to day, drains from you. A trout stream is flutes and violins, not traffic jams and crowds.

Wisconsin has some 1,500 trout streams and rivers. They run the spectrum from a swift, intimidating Brule or Wolf to the tiny unnamed trickles that humbly support a handful of brookies. Among them all, one in particular is special to me. It is Castle Rock Creek in Grant County. When you leave there you take home the memories, the moments and the renewed senses. But everything

Stretches of Castle Rock Creek run through privately owned pasture where DNR holds easements that guarantee public access for fishing. Photos by author unless otherwise indicated

else stays, including the fish!

In the mid-1970s, DNR established approximately two miles of this fertile limestone stream as a "fish for fun" stretch. Angling there is restricted to flies and artificial lures only. Catch and release, no kill! Trout rarely swallow artificials like they often do with natural baits where deep hooking causes injury or death. Artificials make catch and release possible.

The season coincides with the January 1st to September 30th, Grant County season. Signs are posted at the most common access points to remind you of the special regulations. A gravel parking area on county trunk "Q" offers a convenient mid-point location to fish either up or downstream. Look for the "Fish for Fun" signs.

Reactions to catch and release are varied and predictable:

"You mean you can't keep them?"

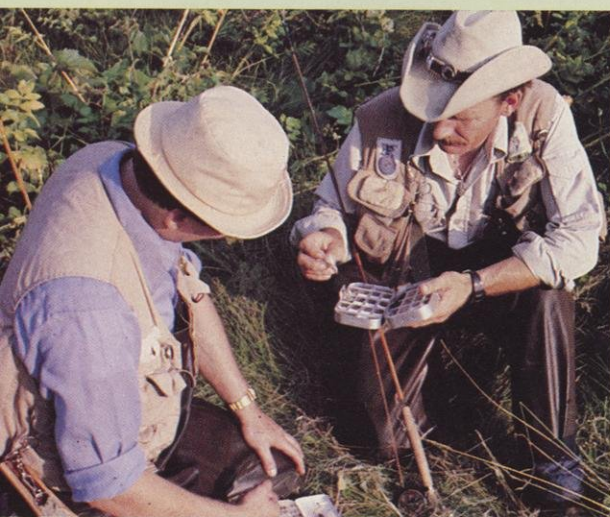
"Why bother to fish there at all?"

In my view, within ourselves, we all have personal feelings about killing game for recreation and sport. We too





A brown trout rests in the headwaters spring that pours out 3,000 gallons of water per minute. Some of the fish are 24 inches long.



Pat Hager looks through his box of flies to match the day's hatch. "Doc" Dan Zavatsky looks on. One day on Castle Rock Creek Hager caught and released six trout bigger than 16 inches (one 23-incher), all on a Royal Coachman bucktail.



Black Nosed Dace



White Muddler



Grey Ghost

often "attack" our recreation with all the haste and anxiety we just promised ourselves we would try to escape. To some people "fishing" success translates to how big, how many, how fast and how often they kill fish.

Castle Rock Creek is one of only a few places where the trout are all returned alive. I love fresh fish—but Castle Rock Creek is for one who seeks a total experience, beyond the frying pan or freezer. This jewel of a stream keeps you coming back, even if it skunks you!

The avenues of pleasure in fishing (fly tying, net building, rod making, research into stream insects, the study of fish) all heighten anticipation. Preparing to go and then "being there" become the essence of the sport. To catch and then release is the final satisfaction when you have already fooled Mother Nature with a fur and feather imitation.

And then there is the anticipation. The 16-inch beauty you catch is more fun and more challenging than the splashy seven-incher, but remember it grew from the seven-incher! A moment of thanks to the people who released it along the way to allow you the thrill. And know too that the eventual 20-inch lunker that will come your way in future seasons is in part your own doing! Surveys show that the "average" fish in Castle Rock Creek is caught four times a season. With no reproduction here, and without catch and release it doesn't take a mathematician to see how soon the stream would be empty. But thanks to management and angler cooperation, we have ongoing success for all. And bigger and smarter fish every year! This spells more fun and more experiences. The challenge and the lure that returns you to see how big that fish by the willow is this season is what it's all about.

Regional DNR Fish Management Specialist Gene Van Dyck explains, "With no natural reproduction and a catch and release program, we are able to have excellent control over the stream population and can modify stocking accordingly. We are also able to establish excellent statistics over the years on the progress of the project. Approximately 3,000 brown trout and 1,000 brook trout have gone in every year now for several seasons. Our surveys on this stream give us numbers of anglers and numbers of fish caught and released. Our before-and-after shockings show growth or loss of fish populations. We know there is some natural mortality, some predation, some taking of fish from the stream and some fish that just swim to a new area that is not fish for fun.

"We have some 200 fish that are 16 to 18 inches long, hundreds more at 10 to 14 inches and many planters. There are even 10 or so 24-inch giants, all in approximately two miles of stream. That should make it the best large fish stream for its size in the state.

"About 95% of the anglers surveyed rated the quality of their experience on Castle Rock Creek as very good to excellent! Surveys further show 80% use flies and 20% other artificials.

"It's a great success. We hope this stream can be an example for research into developing this type of fishing in other areas of the state. It's very popular and very challenging. We're all very proud of it."

I fished Castle Rock Creek every month last season beginning in May. I learned immediately from some avid fly fishermen that I had already missed the early hatches of small mayflies commonly called the "blue-winged olive" family. Most of these tiny flies are an average hook size of 18 to 24. So, needless to say, even the dry fly fishing starts early in the season.

Friend Pat Hager is a first-rate fly fisherman and fine gentleman. I fished with him occasionally last season. He dearly loves Castle Rock Creek and has fished it since early development. "I've lived in Michigan and fished many areas of the country. I've even made a number of trips out west to the classic trout waters. Castle Rock Creek, in my opinion, is one of the finest streams anywhere!," says Pat.

He recalls an incredible day there: "I caught and released six fish over 16 inches in length, the largest 23 inches, on the same day on the same fly!"

That fly pattern was and still is one of Pat's favorites, a Royal Coachman bucktail. "It was an incredible experience. It's a tremendous stream and a fine concept."

Many others agree. Trout Unlimited members have not only enjoyed the stream but bring beginners there to help





The author casts into the riffles on a wide bend. Photo by "Doc" Dan Zavadsky

develop skills. This creek offers nearly every challenge in the sport. It is often fast and narrow yet will widen and slow just around the corner. There are rocky riffles and slow, deep undercut banks. You can nearly jump it in places, yet in others it will swamp the tallest waders. Castle Rock Creek has personality.

"Doc" Zavadsky has accompanied me on many fishing trips over the years. About Castle Rock Creek he reflects: "It's beautiful just to be able to be there and enjoy the quiet of the pasture valley. It's the kind of feeling you want to return to. When you're able to catch fish, it's great; when you can't, it's still a great day spent. It's particularly nice to be able to fly-cast without the usual snarls and brush on most trout streams. For me, the relaxation in this type of sport is the primary objective. Besides, even on days when we can't catch the fish, we know they're there. Castle Rock Creek is moody, but that makes it interesting."

The stream is temperamental when it rains. Located at the base of the valley, it is quick to rise with rain and slow to clear. But don't let damp weather scare you away. Doc and I once left a planned rendezvous with Pat Hager because of several hours of rainfall prior to meeting time. Pat arrived and caught a number of fish up to 18 inches even while the rain continued. I kicked myself later for giving up too soon, but learned a lesson. However, there is a point when the water becomes very muddy from rain and the visibility and flow make fishing difficult and unproductive.



Stream landscape on a misty fall morning.

It is a misconception that fishing this type of stream is akin to fishing in a barrel. One day this past summer, Pat, Doc and I fished for an entire afternoon and evening with a collective total catch of one small fish. No further comment. We tried everything we had. I guess the fish decided a total restoration of humility was in order for us. But that's why we and you will keep going back.

Hip boots allow you to cross in many places, but chest waders are necessary if you want more flexibility. Some places you would easily go over chest waders, so use caution. If you don't mind fishing entirely from the bank, without crossing, you could fish without either waders or hip boots. Rod length is a matter of personal preference. Very little will hamper your casting. Generally, the small dry flies will dictate light and long leaders and tippets. In late season, with low, clear water, leaders of 12 feet or more



Mickey Finn



Matuka



Grasshopper



may be necessary to convince the spooky fish. Sharp hooks give the surest chance to bring the fish in. Barbless hooks, or regular hooks with the barbs squeezed down, make releasing easier and faster. These barbless hooks will not affect your ability to hook fish as much as you might think. Sharp hooks, here as everywhere, are important. Release of the fish should be quick and careful to prevent injury.

Although I didn't spinfish or cast artificial lures myself, I did talk to two people who did. Their best results came from small size zero or one, silver and gold ultralight spinners. These are commonly the Mepps or similar type. Certainly there is much more room to experiment with other artificial type lures.

Castle Rock Creek has everything one would look for in ideal fly fishing: Many healthy fish, good insect and bait-fish life, quiet, solitude and "fishability." The catch and release requirement means the only part of the total experience you leave behind is the fish. A good camera or a good memory will keep those with you as well.

The life-support system of this stream is Castle Rock Springs near the upper end of the catch and release section. It pours an amazing 3,000 gallons per minute of cold 50 to 55-degree water into Castle Rock Creek, year-round. This spring water is clear as glass. Watercress and brook trout fill the tiny feeder stream that a short distance later flows into Castle Rock Creek.

People in the community seem friendly and supportive of both anglers and DNR on this project. I have never noticed anything resembling a "crowd" on the stream. Weekdays are particularly slow. I have met some fine anglers on these banks, all sharing in the enjoyment and success of catch and release. If you have just dabbled in fly fishing a little or have done it all your life, here you can develop new skills or sharpen old ones. If you're just starting, Castle Rock Creek can teach you a lot. It's the kind of place you've always been going to try — quality, no-kill sport fishing. Next season spend a day on Castle Rock Creek. A few hours there can last a very long time. ☺

## How to Release



Support the fish gently at the midsection and base of the tail. Release it in slow water or make an eddy with your boots. Photo by Dick Loftus

Trout are hardly ever hooked deeply with artificials. They recognize an imitation and discharge it quickly. This calls for a quick set of the hook. The advantage to catch and release is that, no matter how good the fishing is, the angler can extend the fishing day as long as time allows. Most would agree that fishing and enjoying a full day on the stream while releasing each fish has an equal set of pleasures to "limiting out" and heading home...or elsewhere!

Things to do when releasing a fish:

1. For small ones, slide your hand down the line and slip the hook from the lip or jaw while the fish is in the water. (Barbless hooks make it even easier.)

2. Bring the fish in quickly without intentionally "beating" it down. Wearing it to complete exhaustion is poor practice if it is to be released unharmed. This may mean using a slightly stronger line than usual.

3. Often, holding a fish upside-down makes release easier. If it's tired to the point of "showing its sides," hold it **gently** under the stomach (two hands lessen the chance of internal organ damage) with its fins down, in slow water. If you are in fast current, make a small eddy by standing or bending. Hold the trout on the downstream side of your boots or waders. Also, avoid dirty water.

When a fish has regained stability, it usually swims away under its own power. Don't hurry it. This procedure is more important than the same amount of time spent trying to catch the next one! Remember...release it...don't "throw it back!"

4. In the event you land a "picture" fish, have your photographer ready to "shoot" the moment you raise it from the water. Avoid touching the body as much as possible. The "slime" that covers the trout is a critical part of its defense against bacteria. Dry hands can remove this thin layer and may cause harm in the future. Use one hand to carefully lift your fish under the mid-section (never touch the red gill tissue) and use the other at the base of the tail to help support its weight and take strain off the abdomen.

The best way to photograph a large fish is to bend down close to the water and lift it horizontally, just barely above the surface. Get a grip under water. If the fish is very long, you may prefer to hold it in the middle. Open the palm (don't squeeze) enough to cradle it just above the surface...look at the camera...say "cheese" and let it go. If alone, lay your catch on soft wet grass, photograph quickly and return to the water.

Happy Fishing!



# The Readers Write...

Being landowners who have to hide in the basement during deer season, we really like what the Natural Resources Board is doing in regard to hunters vs. landowners.

When someone in blaze orange walks down our road carrying our new "No Hunting" signs and telling us to get back inside our house, it's really hard to keep from putting that blaze orange coat in the cross-hairs.

When you can't keep people off your property with signs and are still liable for their health and welfare, it's a lousy situation. Sure hope W.J. Horvath's group has the courage of its convictions and can get us some help with this problem.

**BOB GLASHAGEL, Manitowish Waters**

The sequel to the story on the "Christmas tree ship," (November-December) is that it was discovered near Two Rivers shortly before Thanksgiving, 1971 by diver G. Kent Bellrichard.

My personal memories of the *Rouse Simmons* go back to 1911. My father had a small grocery store in Chicago and just previous to Christmas that year he took me to the Clark Street bridge to see the ship and order trees to sell at Christmas.

I remember, after 71 years, the old ship with its rigging and the trees all over the deck. My father greeted Captain Schunemann in German. The daughters were making Christmas decorations to sell.

After my father placed his order, the captain invited our family and another German family by the name of Luehers for a Christmas dinner.

I remember this dinner event — lots of conversation in German and the main course was venison and bear roast.

When loss of the ship became known in 1912 it was a sad day for the families who had known the Schunemanns. Our family went to see Mrs. Schunemann and the daughters at their home on Clark Street to offer condolences.

The *Rouse Simmons* was built in 1868 in Milwaukee for two Kenosha businessmen, Rouse Simmons and Royal Towsley. A Captain Ackerman was the first to sail the ship.

I thought these few notes and material would be of interest for your files.

**PHIL SANDER, Kenosha**

Your readers should realize that the "Christmas tree ship" story was more fictional than factual. It is unfortunate that the incorrect date (1913) which appeared in two textbooks is still perpetrated. The loss of *Rouse Simmons* occurred in 1912, a date confirmed by the *Chicago Daily Tribune*, December 5 and December 7, 1912, at which time the tragedy was reported.

It is also obvious that what was said and what occurred on board the sinking ship, from which no one survived, are pure fabrications.

It is too bad that such inaccuracies continue, despite the work of historians to seek the true facts. My research on the Christmas tree ship took me not only to microfilmed newspapers, but to the Chicago Historical Society museum. My article on the subject appeared in *American History Illustrated* this month.

**MARY ELLEN POURCHOT, DeKalb, Illinois**

For the third consecutive year my wife, who is an avid deer hunter, has been unsuccessful in getting a hunter's choice permit. I have only been successful once in those three years. Yet during that time we have provided a hunting facility for at least two dozen deer hunters and unknown lunches and snacks for a high number of deer.

We own 150 acres of land in northeastern Wisconsin and an additional 80 acres in Rusk County. Both acreages have excellent deer cover and abundant cultivated and natural food. In effect *your* deer are doing very well on *our* land.

We think it would be completely reasonable and justifiable for you to thank people like us for the service we provide by giving us first choice at the hunter's choice permits. After all, without private landowners, a very large percentage of hunters you sell a license to have no place to hunt and a large number of the deer you manage have no homes.

**WILL MATHES, Kiel**

Am writing to say what I think of the new subscription I tried. We love to travel and explore the state, but we find none of it in the Wisconsin magazine which is mostly for hunters, fishermen and flower and weed enthusiasts. Whenever we plan a one day or more day's trip, we write ahead to the closest county seat for travel info and am surprised at the nil advice given. We wrote once to Fond du Lac County and received a map showing points of interest in and around the Kettle Moraine. This was fine, but the roads had no names or numbers on them. We got lost and saw few points of interest. Your magazine could be invaluable showing off our state points of interest and how and where to find them.

**MR. & MRS. JERRY NIENHAUS, Seymour**

*For information on what to do and see for just about anyplace in Wisconsin, write:*

*Wisconsin Division of Tourism*

*Box 7606*

*Madison, WI 53707*

*Ask for the "Wisconsin Great Escape" kit. It tells all.*

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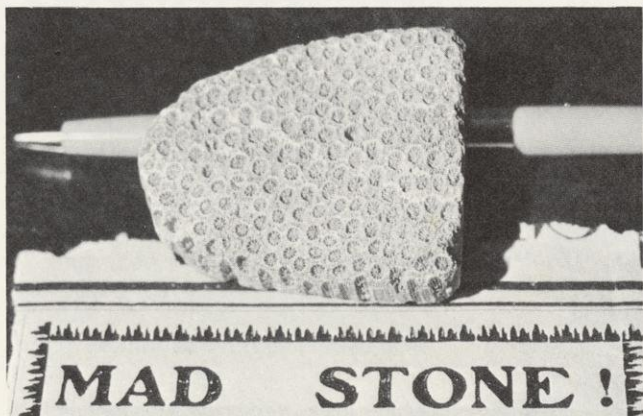
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# The Readers Write...

## MADSCAM



"Full fathom five thy father lies.  
Of his bones are coral made....."  
*The Tempest, William Shakespeare*

Wisconsin Natural Resources readers have full-fathomed the magazine. Turns out we've been the victim of a kind of coral caper nearly as intriguing as the entire hokuspokus of the ancient bezoar. Just about everyone but us can tell a fake madstone from a hairball!

With gentle witticisms and great guffaws, readers from everywhere have pointed out that our "calcareous Kentucky madstone" (November/December) is really a piece of coral. All in mad fun! Our picture of it was borrowed from Kentucky's official publication, *Happy Hunting Ground* which also ran a madstone story and was likewise bamboozled. A chuckle from the grave haunts us both. Some long-forgotten snakeoil salesman not only flim-flammed the country bumpkins, he did it to us too.

Well, live and learn! Klaus Westphal, director of the UW-Madison Geology Museum says the calcareous madstone is a piece of "scleractinian" coral, some species of which are found in the Caribbean. Dr. Westphal let us photograph several look-alike specimens from the museum. They have good names — *star*, *moon* and *leather* coral. Seems that pieces almost identical to the Kentucky madstone can be picked up all over the map, including Wisconsin. Anyplace that was once covered by a warm, ancient ocean has some. Dr. Westphal has promised us a story about Wisconsin coral next summer.

Meantime, one reader, noting that an Illinois man had turned down \$4,000 for a madstone, said he'd sell his for a lot less. Another had inherited a piece from his grandfather who told him it was "petrified honeycomb." Probably for mad beekeepers who've been stung. Or for editors!

**J. WOLFRED TAYLOR**

When I was a kid growing up in Milwaukee I found an object like you describe in your article. I used it for a school project and after that I threw it in a junk drawer. When I read your article on madstones, I dug around in my drawer and found it. Its been in there for 15 years. I was wondering if anybody could identify it as a madstone. I live in Green Lake County just outside of Berlin. I'm sending a picture.

**JOHN W. DOWEN, Berlin**

*Like the rest, yours is a piece of coral too.*

## Troll Bites

The large madstone in the photo has been handed down through countless generations of Blegens. My grandfather Christopher Blegen brought it over with him on the boat from Norway.

It was originally taken from the fourth stomach of a slain woolly mammoth by Og Blegen. This successful hunt took place near what is now Mo-Im-Raanen, Helgeland, Norway, just above the Arctic Circle. In Og's day, however, this region was called "The Land of the Big-Nosed Beasts." Or so my grandma told me. We Blegens still talk about the great hunt that resulted in Og's magical stone when we get together at Christmas to eat lutefisk and honor our heritage.

It was never called a madstone, though. It was just called "the stone," or sometimes "the crone stone." Probably after Og's wife Oofda, who was awful hard to take in her later years. The stone was used to cure boils and troll bites in Og's day. Later, after the trolls were wiped out (by tricking them into eating lutefisk), they still found uses for the stone. Held to the affected area, it was said to relieve headaches, cabin fever, and severe hangovers.

You guys have my permission to use this quaint piece of family history in your magazine. Or, if you'd rather, you could work it into a longer piece and submit it to the Kentucky DNR magazine. One good turn deserves another.

**DON BLEGEN, Spring Valley**



The Blegen woolly mammoth crone stone for troll bites.

Recently, I received my November/December issue of your magazine. I enjoy your articles very much, especially those on fishing. In this issue you had an article called "Wisconsin's Magic Madstones" which I found very interesting. I am presently chairman of the Mineralogy group of ESCONI (Earth Science Club of Northern Illinois). I read highlights of the story to my group at our last meeting.

I can believe that these "madstones" are very rare, but on page 33 and 35 you show a "Kentucky" madstone stating that they might be kidney or gallstones. I have specimens that are the same as the pictures and they are actually coral.

I found them on a beach in Florida!

**CARL E. ROSBOROUGH, LaGrange, Illinois**



# The Readers Write...

I read with great interest the article by Gayle Steiner about "Madstones." There's a section in *Huckleberry Finn* involving madstones, Jim, and a hairball that was supposed to have magical properties. But the stone illustrated on the bottom of pages 33 and 35 is totally different. That's a piece of coral, perhaps very old, perhaps not. I have several chunks exactly like it, but much larger, sent to me by a former student while he was stationed in the Caribbean.

Enclosed are some black-and-white prints of three pieces. They are the same as the spurious madstone in the article. All are "star coral," a common, shallow-water species that thrives in warm, unpolluted water from Cape Code south to the Caribbean.

It occurs to me that pieces of coral might have been rare in 19th century Kentucky. There was not a lot of movement from Florida, where this species is common, to mid-continent. The average person would not recognize coral for what it really was. That fact, plus the intriguing appearance of this species, with its geometric, star-like formations, might lend it considerable charisma. It *looks* special, like it ought to be good for something — just what a good con artist or quack would need. This is speculation, but it's certainly not a real madstone, not from the rumen of any hoofed mammal in Kentucky or anywhere else.

So we have an irony within an irony here. Not only are madstones incapable of living up to their billing, but we have a madstone that didn't come from the rumen of a deer, white or otherwise, or from any ruminant for that matter, and is therefore not really a madstone.

**DON BLEGEN, Spring Valley**

Mr. Blegen has also provided some "authentic" family folklore. See "Troll Bites."

I enjoyed your November/December issue very much. One thing bothers me though. On page 33 and again on page 35 there are photos of what was said to be a "calcareous, Kentucky madstone." The caption also said that it was possibly a kidney or gallstone.

Well, maybe I've just got rocks in my head, but it looks strangely like a fossil, "scleractinian" coral. If it is not, then what caused the strange formations?

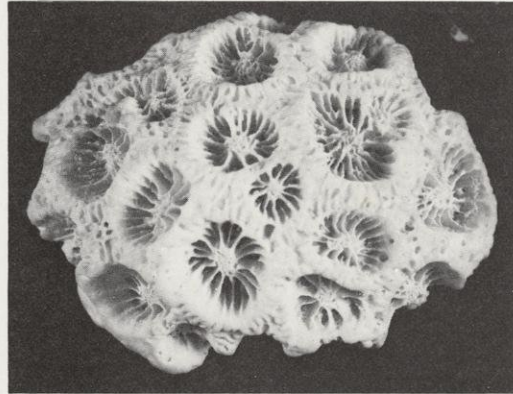
**CHARLES R. FONAAS, Milwaukee**

Your recent article on the "Magic Madstones" was very interesting but NO WAY are the white stones pictured on page 33 "calcareous madstones." They are fossil corals. If they were supposed to come from animal stomachs their finders/owners were madder than normal or just plain liars. The others I can believe. They really are bezoars, but not the two coral stones.

**CHUCK AND PAT ARMSTRONG, Baraboo**

Gayle Steiner's interesting article on madstones in the November/December 1982 issue shows a picture of a "calcareous Kentucky madstone," identified as perhaps a kidney or gallstone. I believe that picture on page 33 and the one on page 35 are pieces of coral (the same piece, in fact). A fellow at work has a piece of coral on his desk which looks just like these.

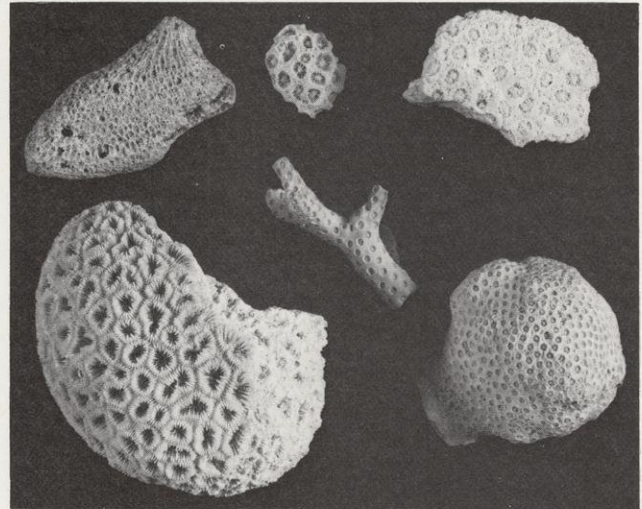
**PAUL J. LAMBECK, Columbia, Illinois**



Enclosed is your very own fake madstone. Please keep it with my compliments and try its therapeutic powers.

This is a very common coral. You will note that the skeleton has a very characteristic pattern like the pictures on pages 33 and 35 of Vol. 6, #6 *Wisconsin Natural Resources*. It can be picked up in quantity and in various sizes on Pacific island beaches.

**R. H. BURRIS, Professor of Biochemistry, UW-Madison**



Various kinds of coral from the UW-Madison Geology Museum that resemble the fake "calcareous Kentucky madstone."

I find it an amazing coincidence that this "calcareous Madstone" resembles very closely a species of coral that is a member of the star coral family. I really must wonder if this "calcareous Madstone" was a product of the kidney or gall bladder, or whether this madstone actually developed as a colonial coral organism in prehistoric oceans which covered that region. It is reasonable to assume that a large ruminant could swallow this piece of coral, thus accounting for its presence in the rumen. However, I can't think of any justification for finding a piece of coral in the kidney or gall bladder.

I suggest you research this possibility, lest you become a product of the folklore and superstition that surrounds the mystical madstone.

**DEWEY SCHWALENBERG, Eagle River**





Now, after a hundred years, the turkey population has been reestablished in Wisconsin. The hunt this spring will be small, but memorable.

**DAVID ANDREW BENTLY,**  
*Milwaukee Area Free-lance Writer*

It's gonna getcha!

It's gonna grab you around the chest and squeeze you until you can't breathe and your heart explodes from the nervous anticipation of it all.

It may not happen all at once. It may not happen when you get an answering gobble from a roosting bird to your owl call on that first evening.

It may not happen the next morning when he answers again and you go loping silently off through the predawn darkness toward his tree, trying to get as close as possible before you find your own tree to anchor against — crouched and ready, with your heart pumping blood through your throbbing temples.

It may not even happen until sometime after you've called in one of those big, bronze symbols of Thanksgiving, until you've seen him display his feathers for you in a mating strut, until you line up his blueish-red wattle along the sighting plane down the barrel of your 12-gauge and squeezed off a round of number-4 mags.

But it will happen. Guaranteed!

Wild turkey hunting is as gripping an outdoor adventure as you are ever likely to encounter in North America. It's buck fever without the antlers; it's musky mania without the fins. It will take you to the absolute heights of anticipation, at one of the most beautiful and gentle times of year — when the oak ridges are shedding their bronze winter drabness in favor of a fresh green cloak.

It will teach you patience, it will require perseverance. It will be demanding of you as no other hunting is because you will be required to locate your quarry on his turf.

You will do it:

- By scouting. And to that end you will have to first, know where to look and second, how to read sign. You will not be able to sit in a likely looking spot and hope for a turkey to appear, unless you are the luckiest hunter ever to pull on a camouflage cape.

- By judging accurately when and how to stalk the quarry, since there is no other animal on the continent that is as wary, as smart or as elusive as the wild turkey.

- By knowing how and when to "owl." This will locate the roost and prompt old Tom to answer, not only when he is going to bed, but the next morning as well when you return to plot his location more accurately.



# Gobble, Yelp and Cackle Again

A wild turkey scrambles for cover after its release in a coulee country valley. Photo by Charles Burke

- By knowing, especially, how and when to use your turkey call, whether it be a mouth or hand call and by knowing how to make it realistic (which is going to take hours of practice and perhaps a great deal of patience from your wife and friends), and by knowing when to stop using it.

- And lastly, by knowing just how still, how absolutely still you must sit, how well camouflaged (head, face, hands, gun and body) you must be in order to attract that magnificent bird.

Wild turkey hunting is almost certain to create a need in you, if the need is not already there. To learn more about the bird's biology, about his habits and habitat and about the best and most ethical way to attract him within range.

It will do even more for you because the expertise required will show you where you are deficient in pursuit of other game — whether you need to work a little more on the mallard feeding chuckle, or need to take a little more care when setting the decoy pattern, or even that planning and careful advanced scouting will add immeasurably to "being in the right place at the right time for your deer hunt."

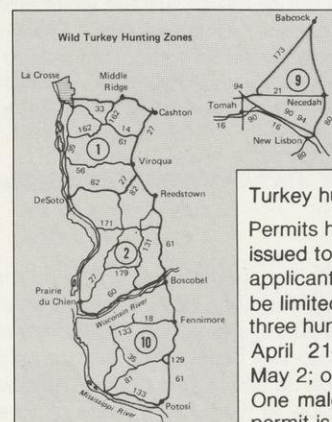
So that this spring, after you've received your permit (only 1,200 will be issued this year), after you've attended the voluntary training course, after you have driven everyone around you nuts with practice calls, after you've asked for and received permission from the farmer

on whose land you will hunt, and after you've intelligently picked the perfect spot and settled in — after all of that — you'll get that big gobble out there to come in.

And when you do, when that Tom goes for your perfectly-timed and executed yelp and cackle, when everything you've done has been right and you take that bird, then you will have joined a select group.

Because by then it will have happened. It will have grabbed you by the chest and squeezed until your breath is short and your heart is ready to explode. Gotcha!

Guaranteed! 🦃



## Turkey hunting zones.

Permits have been issued to 1,200 lucky applicants. Each will be limited to one of three hunting periods: April 21-25; April 28-May 2; or May 5-May 9. One male turkey per permit is allowed and

hunting hours end at noon each day. Not more than 200 hunters are expected to bag a gobble.





The gobbler in spring. Beard, wattles and "dew bill" are his main characteristics. The dew bill, also called a "snood" is the verticle projection above the bill.

Photo courtesy of the National Wild Turkey Federation

## 6,000 Birds & Growing



The wild turkey, wariest of North America's upland game birds, has returned in substantial numbers to Wisconsin after more than a century's absence.

John Keener, chief of the DNR's Wildlife Bureau, called the turkey restoration "one of the most exciting chapters in the wildlife management story in this state."

Ron Nicklaus, DNR wildlife manager from La Crosse who has most closely guided the program since the first wild Missouri birds were stocked in Vernon County in 1976, said the 1983 season presented the state "with a golden opportunity to establish forever a Wisconsin tradition."

Not since 1881, when the last wild turkey was sighted near Darlington in Lafayette County, have the majestic birds enjoyed as healthy and widespread a population as they now do in southwestern Wisconsin. Listen to Nicklaus:

"We had about 3,000 birds going into last spring's breeding season. Going into this past winter we had between 5,000 and 6,000 birds. Last fall there was a reasonably good mast (acorn and other tree nuts) crop and a fair amount of standing corn. So the food situation was good.

"But the weather, as always, is a question mark. Turkeys can handle pretty severe weather but like most wildlife, sustained bad weather will create problems.

"Two or three weeks of extreme cold or snow in excess of a foot, and fluffy so the birds can't walk on it to the feeding areas, would be bad news."

But good news or bad, Nicklaus had particular praise for Department personnel. Ever since the first 45 birds from Missouri were released (in exchange for Wisconsin ruffed grouse), various individuals have made significant contributions to Wisconsin's wild turkey program.

Nicklaus singled out for special attention his current staff of natural resources technicians, John Nelson and Charles Burke, both from the La Crosse office, and Ken Jonas, a technician from Horicon who helps with winter trapping and transplanting.

He also mentioned Roger Anderson of La Crosse and cited two of the prime movers of the project from the earliest days of trapping grouse for the exchange program: Ed Frank, farm wildlife specialist, and Carl Batha, Southern District staff specialist, both at Madison.

Nicklaus also pointed to Paul Brandt, wildlife manager at Boscobel, and Tom Meier, manager at Spring Green, as offering valuable assistance.

"We have the opportunity with this hunt," Nicklaus said, "to establish a tradition of excellence rather than a history of bad behavior. We can establish goals and ideals that will be the standard for future Wisconsin turkey hunters.

"We want the turkey hunter in Wisconsin to be a breed apart and our program points us in that direction. I think it will be the most challenging hunt ever faced by Wisconsin hunters."

Nicklaus' enthusiasm for the first wild turkey season in Wisconsin in 15 years, however, stands quietly beside the pride for the program felt by bureau chief Keener.

"It is not often in our business," Keener said, "that everything goes right from the beginning to what we believe will be a very successful and continuing episode. The reason, of course, is a very carefully laid out plan, drafted and implemented under highly qualified leadership, beginning in the La Crosse area and spreading into the Dodgeville area.

"Landowners and sportsmen have been very supportive and cooperative from the beginning and this partnership will assure success in years to come. It is not hard to visualize that eventually we will see at least 20% of the state's land area supporting huntable turkey numbers." ☐



# Organized to Talk Turkey

It began in July, 1981, when about 40 people gathered in a restaurant west of Milwaukee. Last fall the group numbered about 250 and the goal, by this spring, will be 500.

Like the spring that feeds the creek that feeds the river that meets the ocean, the Wisconsin chapter of the National Wild Turkey Federation is one of 36 US chapters lending its strength to the growing national organization that was founded just 10 years ago in Fredericksburg, VA, and later moved to its present headquarters in Edgefield, SC.

Robert Putney, president of the Wisconsin chapter during its first two years of life and a driving force behind its initial success, was unequivocal in his approach to the state chapter's responsibility:

"Our position," he said, "will always be directed first, toward the conservation and restoration of the wild turkey in Wisconsin. And secondly, it will be to provide Wisconsin sportsmen with an opportunity to harvest the excess birds within their range."

But Putney does not stop there. His ultimate goal, he said, is to bring the Wisconsin turkey hunter to the realization that he has an exceptional responsibility, one that will make him "a keener sportsman, a better outdoorsman with higher standards and ideals."

To that end, Putney and the Wisconsin chapter of the federation strongly supported attendance at the turkey hunter education clinics, which were held earlier this year. Additional clinics are being planned.

These clinics, which have been conducted throughout the state by chapter members and DNR personnel, are at the very base of hunter education in Wisconsin.

The purpose of the sessions, according to Charles Burke of Genoa, secretary of the state chapter, has been to:

- Discuss turkey management in Wisconsin and on the national level.
- Outline hunter-landowner problems and solutions.
- Stress hunter safety.
- Talk about the "how-to" of turkey hunting with strong emphasis on hunter responsibility, safety and success.

It is hunter-landowner relations especially that interests Putney most.

"As president of the state chapter," he said, "my feeling is that the landowner has had a gross injustice perpetrated on him by unrelenting pressure from those with little or no appreciation for his problems."

Putney said that trespassing was among the most serious problems between the hunter and the landowner and one that turkey hunters — because virtually all of the present turkey range in Wisconsin is on private property — would have to address. He said a landowner appreciation night planned by the Wisconsin chapter for June would, in a small way, tell the landowner that Wisconsin turkey hunters "truly appreciate being able to participate in the hunt."

Putney said at the same time that the state chapter is seeking new members who feel the same way and believe also that they have something to contribute toward the bird's continued place in Wisconsin.

"The wild turkey originally was native to 36 states," Putney said. "Now he is found in every state but Alaska and the reason is largely due to efforts of the various state conservation agencies and support from local turkey chapters."

Putney strongly urged that sportsmen with a desire to help the turkey attend the chapter's annual meeting scheduled for the last Saturday in March. ☐

For more information about the Wisconsin Chapter of the National Wild Turkey Federation write Turkey Federation, Charles Burke, Route 1, Box 109, Genoa, WI 54632.

Membership is \$15.00, tax deductible, and includes a subscription to the magazine "Turkey Call," plus a membership decal.



"Watchful Trio — Wild Turkeys." By Artist Gary Moss.



Artist Don Cliff.

## Advance Scouting



The vast majority of land within turkey hunting zones is privately owned. Wisconsin landowners have been very considerate of sportsmen who ask permission to hunt. Entering private lands without permission is unlawful and destroys important landowner-sportsmen trust. All hunters are encouraged to scout their hunting territory well in advance of the season and obtain permission to hunt. ☐

## Safety



The wild turkey's reputation among hunters is legendary. It's a smart and wily bird requiring stealth by the hunter, which often includes full camouflage. Using a turkey call when camouflaged presents a shooting safety concern when other hunters are using the same area. Blaze orange camouflage clothing, streamers placed in trees near the hunter and even caution signs can be helpful for insuring a safe hunt. Make sure the gobbler that you're stalking is not another hunter. ☐



Turkey calls are a mixed bag that can help hunter imitate gobbles, yelps, clucks and various other sounds. Often used are: a- the shaker, b-peg and slate, c-diaphragm mouth call, d-turpin call and e-box call. Turkeys make about two dozen different sounds. Hunters ought to be able to imitate at least seven.

For a chance at success, everything, including the gun, must be camouflaged. Turkey eyesight is 10 times better than any hunter's. Photo by Dave Weitz ▶

The turkey strut. During display the wattles and caruncles (fatty growths on the neck and throat) turn bright red. Males have spurs used for defense and to establish harems. Mating is in late April. ▼

Photo courtesy of the National Wild Turkey Federation





