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SPECIAL REPORT: Winter Recreation

WISCONSIN NATURAL RESOURCES

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Volume 9, Number 6

Early deer season in the northwest?

Car-deer collisions

Classrooms go WILD

DNR's first lady retires

Opossum

Kathryn Kahler,
DNR Bureau of Information and Education

The opossum *(Didelphis virginiana)* is sometimes called a "living fossil" because its evolution stalled a million years ago. It is also slandered as a stupid varmint. Actually, the opossum is a refreshing quirk of nature with odd habits and strange but ancient characteristics.

Its most illustrious habit, playing 'possum, which it does if surprised or overtaken in a chase has become part of the vernacular. The response is an involuntary defense mechanism leaving the animal in a state similar to a coma. It lies on its side, body limp, tongue lolling and eyes glazed, appearing dead to its pursuer. While in this coma, the opossum can be poked with a stick, rolled around and even kicked without responding.

Opossums, strangely enough, are relatives of Australia's kangaroos and wallabies. It is the only marsupial found in North America. The ancestry is not evident from the opossum's plodding gait or by its size, but its young are nourished in an abdominal pouch, the marsupial trademark. Its scientific name, *Didelphis* means "double womb."

The pouch is a handy accoutrement for rearing young. A mere two weeks after breeding, a litter of about nine young opossums is born, each the size of a small navy bean. The babies climb, hand over hand, a distance of about three inches into their mother's pouch. After safely making the trip, they must find one of her nipples and attach themselves, where they will stay for two months.

When about the size of small mice young opossums are able to leave the pouch occasionally. Although weaned in 75 to 85 days, they stay with the mother for another three or four months, spending much of the time clinging to her back.

Opossums are nocturnal and seldom seen in daylight. They spend most of the day denned up in hollow trees, ground burrows or brush piles. Nights they forage for food which consists of just about anything they can find—carrion, fruits, vegetables, grains, insects, birds, eggs, snakes and small rodents. They even cannibalize their own kind.

Opossum are adept at climbing trees. The job is made easier because each hind foot has one toe opposite the other four, much like a human thumb. Once up there, it can completely suspend itself by its tail—a characteristic shared by no other North American mammal. In Wisconsin opossums are often seen with short tails because part was frozen off in subzero weather.

The usefulness of the opossum is a matter of debate. Sometimes the animal is regarded as a destructive pest by poultry farmers or a general nuisance by city dwellers with garbage cans. On the other hand, Southerners consider baked opossum a delicacy and many Wisconsin residents praise the opossum for its role in mouse and insect control.

Regardless of the varying opinions, the opossum deserves respect for its million-year survival adaptations and for its odd habits and peculiar characteristics. We are fortunate to have them in Wisconsin.

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Front Cover: *Shadow Boxing.* Painting by Artist Don Kloetzke, courtesy of Northwoods Craftsman, 4144 Ridge Lane, Colgate, WI 53017

RUTH LOUISE HINE:
TEAM PLAYER EXTRAORDINARY

FRANCES HAMERSTROM

DNR'S FIRST LADY WILDLIFE PRO RETIRES

Back in 1949 the Wisconsin Conservation Department (WCD) was a macho outfit. In DNR's predecessor agency no women worked at the professional level. WCD was dominated by an array of tough, competent, often colorful wardens, firefighters, foresters and fish hatchery people doing a "man's job." It was in this setting that Ruth Hine, who is now retiring, began a career in the new field of wildlife management and research. She was followed shortly by Fran Hamerstrom, researcher and author who wrote one of these remembrances. Together they paved the way for the more than 160 women environmental professionals who now work for DNR.

Ruth Hine: the first time I ever saw her she was playing baseball at a picnic. One tomboy is quick to size up another: I could run as fast as Ruth, and slide bases as well, but she had me beaten as a pitcher. She could throw a swift ball in an offhand way with that easy shoulder action common to a Milwaukee Brewer or a Chicago Cub.

INTEREST IN NATURE AT AN EARLY AGE.

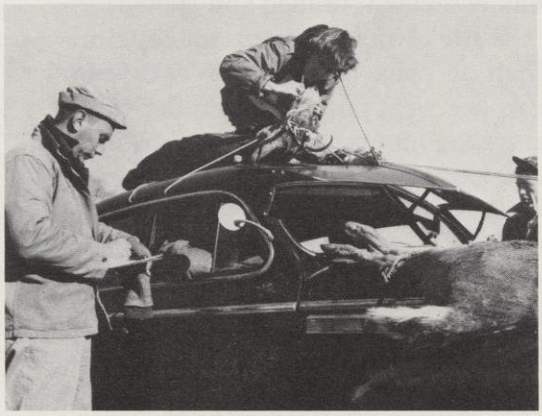
RUTH WAS HEAD OF THE MOUSE PROJECT.

It is with that same sort of naturalness that she has influenced wildlife research and conservation in Wisconsin for over 35 years. Cy Kabat, former Chief of Research, had the gumption and perspicacity to hire Ruth as a conservation aide long before women were accepted in the wildlife profession.

What every state needs is someone who combines the qualities of Saint Francis, girl Friday and a leader of men and women. The leadership is the tricky one: Ruth is so modest that most people don't realize they are being led. This is teamwork of an exceptionally high order. She has worked with—and on—about 200 people getting out research reports—other people's reports—and each time she needed first hand experience, so: Dr. Hine has been Project Leader of the Mouse Project and of the Pathology Project. She has sought rattlesnake dens and worked (sometimes under

beastly conditions) on deer checks, waterfowl checks, prairie chicken bag checks, frog counts, coo counts (mourning doves coo), pheasant crowing counts, bobwhite whistling counts. And over and over again—especially in the early years—hunters and the general public watching her have chortled, "So they've got lady wardens now!"

Think of brushing off the lady warden remark and working with 200 researchers and learning each project well enough to be able to say, "That doesn't quite seem to tie in with what you did last spring. Shall we be more precise here?"



AGING DEER WITH DNR SECRETARY C. D. "BUZZ" BESADNY WHEN THE SECRETARY WAS PART OF THE RESEARCH STAFF.

Just gentle questions. Ruth's brilliance and modesty as an editor conceal her hard work, generosity and hour upon hour of preparation. Great editors get little credit in this world. Their gift is drawing others out to coerce them to produce the best that is in them—resulting in a top-notch publication. Ruth coaxes, teases, flatters, implores and nudges. Wisconsin biologists, a whole generation of them, have fallen under her spell.

There are really two kinds of editors: those that find every little nitty-picky mistake you've made and those who give wings—who make you grow and learn. Sometimes you'll smart over mistakes, but falling into the hands of a great editor is a fantastic lesson in writing. Ruth loves to make an author grow and get out of him what he didn't know was there. (She worked mostly with men.)

Other organizations cast envious eyes on Wisconsin and tried to lure Ruth away. For example the Illinois Natural History Survey, the National Audubon Society and the State of Michigan tried. They failed, so Wisconsin is richer.

Dick Thiel, well known wolf reseacher, said, "DNR will be badly off without Ruth." In fact, a lot of people are frantically trying to get research done and manuscripts in before she leaves. Ruth just says, "If everybody did everything exactly right I wouldn't have had a job." There's more to it than that. Ruth orchestrates a concept, like the endangered species program, or an originally untidy manuscript to its publication with infinite care and tact—always striving for excellence. And besides, as Dick Vogt, author of "Natural History of Amphibians and Reptiles of Wisconsin" put it, "Ruth L. Hine took my rough drafts and scribbles and, with the patience of a snake trying to climb a glass wall, edited and re-edited until I was finally able to produce a readable text."

DR. HINE AND WOLF.

This patience and persistence has paid off. Her work is internationally known and she has won many awards. As Governor Anthony Earl said, while presenting Dr. Hine with the

prestigious Virginia Hart Award, "Her satisfaction has come from being a member of a team that is nationally recognized for its scientific achievements."

Susi Nehls is a DNR research information and publications specialist and has worked with Dr. Hine for sixteen years.

Thirty-Six Years

Susi Nehls

When Ruth Hine began work with the Department in 1949, she was one of few women in the country who were professional conservationists with graduate degrees in natural science. (Fran Hamerstrom was another.)

During Ruth's editing/writing career of three plus decades, she must have edited over 400 reports, journal articles and bulletins. In the 1960s, most Department publications were about specific creatures and their management. Ruth saw a need for a broader perspective. So, she helped create *Wildlife, People, and the Land.* Unique then as well as 25 years later, this publication describes Wisconsin's total natural community and its interrelationships.

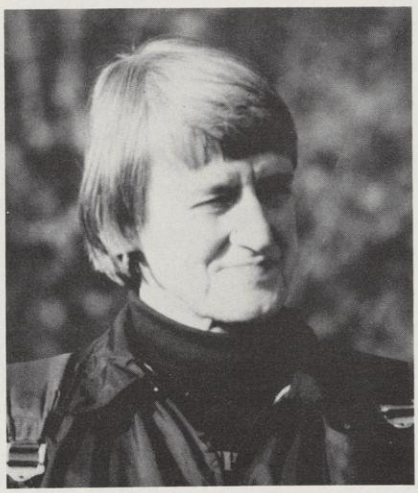
Of the many technical reports Ruth has edited, the number one best seller has been *Guidelines for Trout Stream Management*. Since its original publication in 1967, this report has been reprinted three times and has been published in German.

In addition to the far-flung reputation she has earned as a science editor, one of Ruth's biggest accomplishments was building the foundation for the Department's endangered resources program. In the early 1970s she volunteered to head a small group of co-workers concerned about Wisconsin animals which seemed to be disappearing. Several years later she was named chair of a formal committee which came up with the first list of species endangered in Wisconsin.

Ruth then sent out a call for sightings of certain animals and set up a way to keep these records. The Legislature had required the Department to protect endangered species, but gave no funds to do this. Ruth rose to the challenge, and found students who shared her enthusiasm and worked for little or nothing. This led to surveys on reptiles, amphibians, gulls, terns, mussels and wolves. Ruth's dedicated and special interest kept endangered species in the limelight until a separate Department program—now the Bureau of Endangered Resources—was finally created, funded and staffed.

Ruth always wanted to be more than an office biologist. So two years ago she went half-time in order to be traveling naturalist for Lutheran summer camps in Wisconsin. To this new work she has brought her usual energy and enthusiasm. She has shared with many her belief that outdoor awareness can lead to a love of the land that will touch our hearts, minds and actions.

Some think Ruth is retiring in January. She isn't. She won't be working for the Department any longer, but, as Fran Hamerstrom would say, "She'll be in there pitching." Ruth never retreats from life.



Dr. Hine today. When she leaves DNR she'll become traveling naturalist for Lutheran summer camps.

WISCONSIN CLASSROOMS GO WILD

Sherry Wise
DNR Environmental Education Intern

A fun way to integrate environmental principles into the curriculum by focusing on wildlife is catching hold in Wisconsin. Both teachers and pupils are enthusiastic.

Photos by
Bob Wallen

Session at DNR's MacKenzie Environmental Education Center at Poynette where teachers learn to bring Project WILD into the classroom. In the center teachers play "Oh, deer" and make the signs for cold and shelter. On the right they learn that a tree can teach lessons not yet thought of.

It was March. There were seven deer and they were hungry. They put their hands on their stomachs and ran for the browse. Others were cold. They clasped their hands over their heads and captured some trees. Still others had their hands over their mouths. These were thirsty and scrambled for the water. It kept on for the equivalent of 15 years—teachers running like deer, back and forth across the lines. Some years deer died because there wasn't enough food, water or shelter. Other years they multiplied because there was plenty. It was an exciting game that taught an ecological lesson. This was Project WILD in action.

The project is a fun way for both teachers and students to gain a better understanding of the value and diversity of wildlife in the environment. WILD is an acronym for Wildlife in Learning Design, an interdisciplinary approach to teaching basic wildlife concepts while also teaching traditional subjects like reading, writing and arithmetic. The idea is that a student's fascination with wildlife can spark new interest in other subject areas. And at the same time, both students and teachers will better understand how each of us relates to our environment.

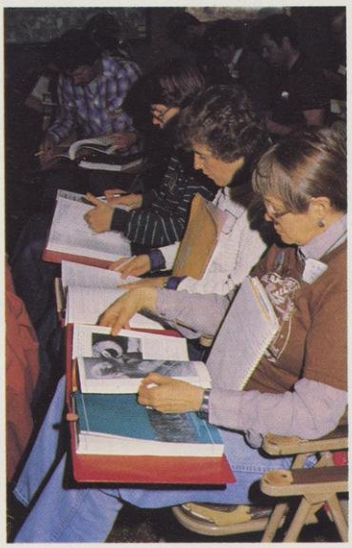
Because education hours are already filled with traditional subjects, Project WILD doesn't intrude. It is supplementary. Teachers are trained and provided with study materials that integrate environmental concepts into existing lesson plans. Learning is enriched without adding to already busy classroom schedules. Written by teachers, nature educators, resource agency personnel and representatives of youth and conservation groups, the materials are designed for all stages of study from kindergarten through high school.

Project WILD strives to "assist learners at any age in developing awareness, knowledge, skills and commitment which will result in informed decisions, responsible behavior and constructive actions concerning wildlife and the environment upon which all life depends." It takes a neutral stand on various wildlife management practices and concepts. Students are encouraged to form their own opinions and learn "how to think, not what to think" about environmental issues.

Basic objectives were written during initial planning in 1980. In the years following, materials were extensively field tested, monitored and reevaluated. Project WILD grew out of the

One person plays reporter, while the other "interviews a spider," or some other animal in a role-playing game.

Educators choose teaching materials from the Project WILD collection.



Workshop participants page through the activity guide for Project WILD.

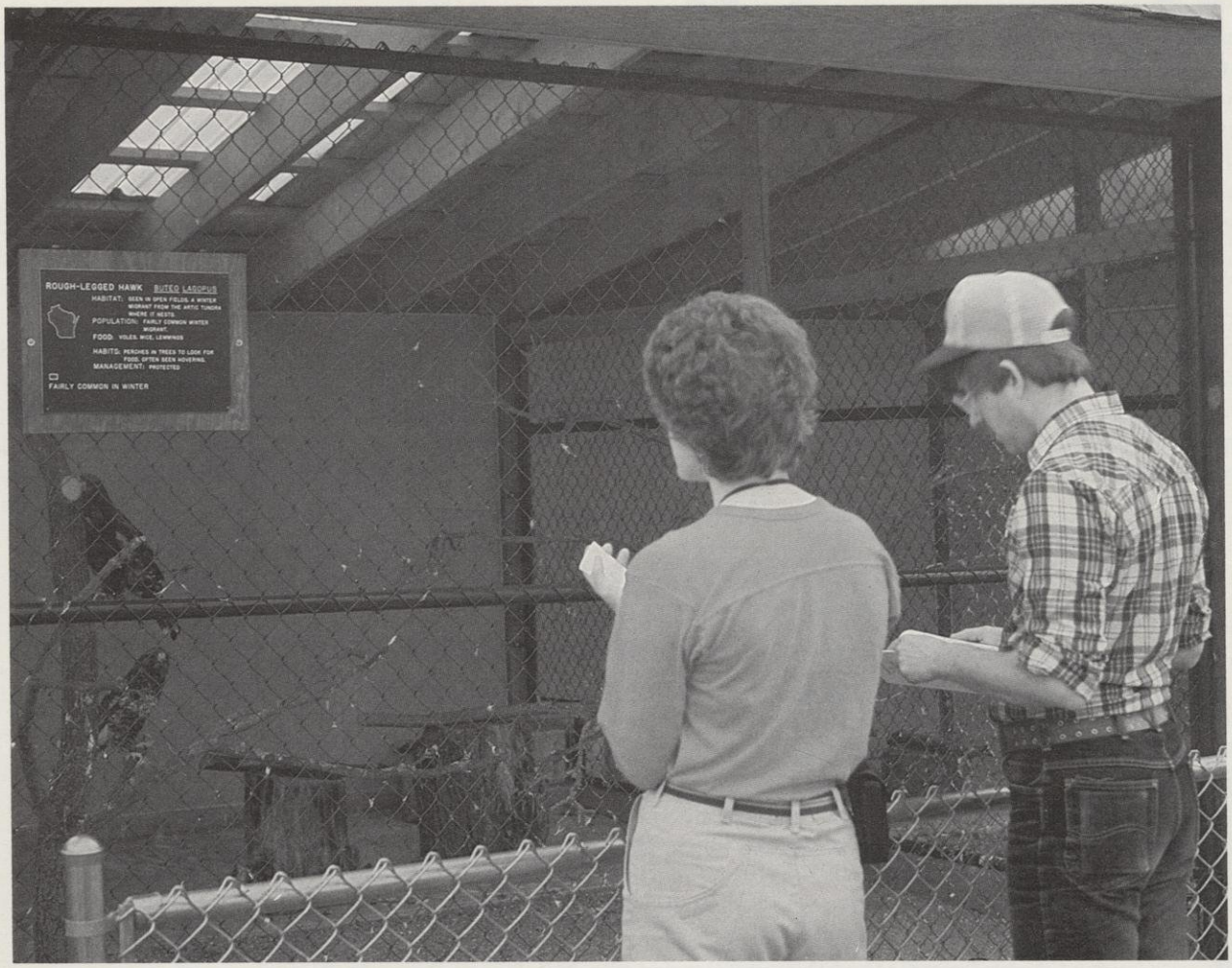
heralded Project Learning Tree program created by the American Forest Institute and the Western Regional Environmental Education Council (WREEC) which consists of educators and resource agency personnel in 13 Rocky Mountain and Pacific states. Learning Tree tells the forestry story and its success spawned Project WILD, a joint effort of WREEC and the Western Association of Fish and Wildlife Agencies. Currently, 35 states plus the National and Canadian Wildlife Federations, American Humane Society, Defenders of Wildlife, The Wildlife Society, and the US Fish and Wildlife Service sponsor Project WILD.

Two activity guides are at the core of the curriculum. Each details about 80 different activities, with one guide designed for use through grade six and the other for grades seven through 12. Included are background information on necessary skills, materials, vocabulary and evaluation techniques to help teachers infuse the activities into their lesson plans. Educators are supplied with these activity guides free of charge only after attending special Project WILD workshops. These workshops train teachers in use of the materials and motivate them to start the project in class.

Last April, Wisconsin's first Project WILD workshop was held at DNR's MacKenzie Environmental Education Center at Poynette. Teachers, nature center personnel, wildlife managers and members of conservation groups and humane organizations attended the 15-hour session and were trained to be Project WILD "facilitators." Now, they in turn, will lead their own workshops and train local educators to bring Project WILD into local classrooms.

One phase of facilitator training gives participants hands on experience with the materials and actually requires that they play through some of the activities.

In "Interview a Spider," teachers become reporters, interviewing animals such as barred owls, timber wolves and turkey vultures. By asking these animals questions like "What are your favorite foods?" and "How do you get along with people?" teachers realize, just as their students will, that wildlife is surprisingly diverse. In "Oh, Deer!" they search for food, water and shelter to learn the basics of life cycles and importance of habitat.



Collecting background material on the hawk they'll impersonate in the role-playing interview game.

Other activities like "Habitat Lap Sit," "Visual Vocabulary" and "What's Wild?" also convey important environmental concepts.

How did educators react to the workshops? One elementary teacher, Joy Ludtke from Verona, termed them "a very rewarding experience—I learned so much!" Julianne Beste from Wausau, said, "I didn't realize that the project could be integrated into so many areas. . . The workshop was a tremendous opportunity. It made me far more aware of wildlife—now I can go home and incorporate wildlife into my curriculum."

Many other comments like "Great!" and "Fantastic!" signalled the enthusiasm with which teachers responded. As Richard Gerrits, a fourth grade science teacher from Appleton, put it: "I've always incorporated wildlife into my teaching, and now it's good to feel support from the state and other people to teach environmentally." Windsor's Joann Loresch adds that "the importance of nature and preserving habitat. . . definitely belongs in the classroom. . . Project WILD can create an interest in nature that hadn't been there before."

Although many educators have praised the project, some others have reacted less than positively. A few organizations and individuals have questioned Project WILD's neutrality on issues like hunting and trapping, saying that materials have a pro-hunting bias. They contend that nonconsumptive uses of wildlife are not equally represented. A consortium of animal humane organizations has recently submitted a list of suggested revisions in project materials to the national Project WILD steering committee. The committee is currently evaluating these proposed changes for possible use when activity guides are revised.

So far, almost 800 Wisconsin educators have been trained to use project materials and 140 are certified facilitators. Eventually, state officials hope to train about 5,000. DNR has committed $50,000 to the project. The Wisconsin Wildlife Federation and other conservation organizations are providing additional financial support. Already $6,000 have been donated and more contributions are anticipated.

DNR's Bureau of Wildlife Management Director Steve Miller is "very excited" about the program because "for the first time in Wisconsin we have a well organized, well planned curriculum for wildlife ecology." He values Project WILD because "it continually updates itself, is national in scope, but can be applied in our own backyards. Also, teachers can blend wildlife management into a whole broad range of topics." Says Miller, "It will be extremely helpful to our children to have a wildlife program like this available to them in our schools."

Project WILD teaches us about the consequences of our actions to people, wildlife and the environment. The learning is a long, slow process but nothing is more vital to know about than the natural systems that drive our planet. Yours, mine and all life depends on ecosystem integrity, and Project WILD awakens awareness of how important it is to keep nature fit.

Educators interested in becoming WILD facilitators or attending WILD workshops should write Project WILD Wisconsin, DNR, Box 7921, Madison, WI 53707. By phone, call Dennis Yockers or Dolly Zosel at (608) 266-0870 or 267-2463. Those who want to donate money to the program can contribute through the Project WILD gift fund.

New public-private partnership will preserve rare properties

A. Waller Hastings for the Wisconsin Nature Conservancy

Dollars from industry matched by DNR plus help from private organizations and individuals may save 30,000 acres of disappearing natural areas in Wisconsin.

For two spectacular miles north of Prairie du Chien, massive limestone bluffs look out over the Mississippi. These are the Rush Creek bluffs, the finest example of dry hillside or "goat" prairie in Wisconsin and one of the very few such prairies remaining anywhere along the upper Mississippi. These steep, dry prairies cannot be cultivated and so have remained in a relatively natural state. They shelter a variety of characteristic plant species usually not seen elsewhere including Indian paint brush, side oats gramma and compass plant plus a large assortment of wildlife.

A few years ago, DNR inventoried the Mississippi River bluffs from Prairie du Chien to La Crosse to identify and protect the few remaining goat prairies. After the inventory was completed but before any action was taken, a block of land along the river that had been assembled for development, including the Rush Creek bluffs, unexpectedly came on the market. With no approved purchase plan, it was impossible for the state to acquire the land before it was sold, perhaps to another developer. The chance for preservation would be lost. To prevent this, a private conservation group, The Nature Conservancy, purchased the land and within the year resold it to DNR at cost.

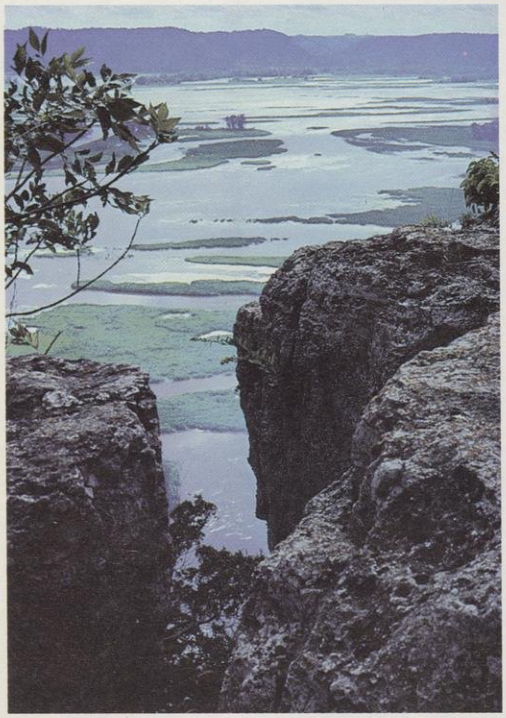
On the other side of the state, a 260-acre range of wet and dry prairie land, the Chiwaukee Prairie, has persisted for more than 10,000 years. Its unique complex of low ridges (swells) and shallow depressions (swales) shelter a full range of prairie plants. Chiwaukee, precariously placed in the industrial corridor along Lake Michigan between Chicago and Milwaukee, is home to about one-fifth of all native Wisconsin plant species. Its significance as a repository of the state's natural bounty has been recognized since the 1920s, but no action was taken to preserve it until the mid-1960s, when it was threatened with development. Because of a complex mix of landowners and high land costs, acquisition by state action alone seemed impossible. Once again, The Nature Conservancy along with state and national agencies and local citizens has begun to protect the prairie, now jointly owned by the Conservancy and the University of Wisconsin.

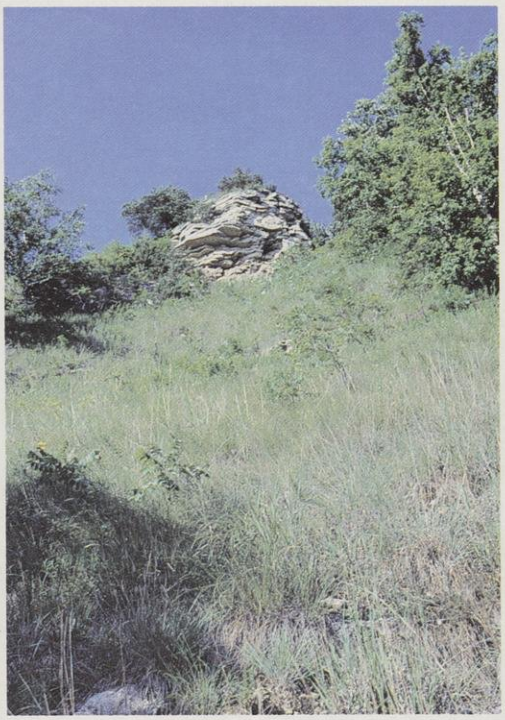
Rare ecological communities like Rush Creek bluffs and Chiwaukee are disappearing from Wisconsin and the world at a prodigious rate—for instance, about 10% of Wisconsin's wetlands are lost every decade. If serious conservation does not happen in the next 15 years, it will be too late. Yet the cost of preserving Wisconsin's remaining natural areas has been estimated to be as high as $30-million—an enormous potential drain on DNR's limited financing, which must also support parks, recreational areas and other programs.

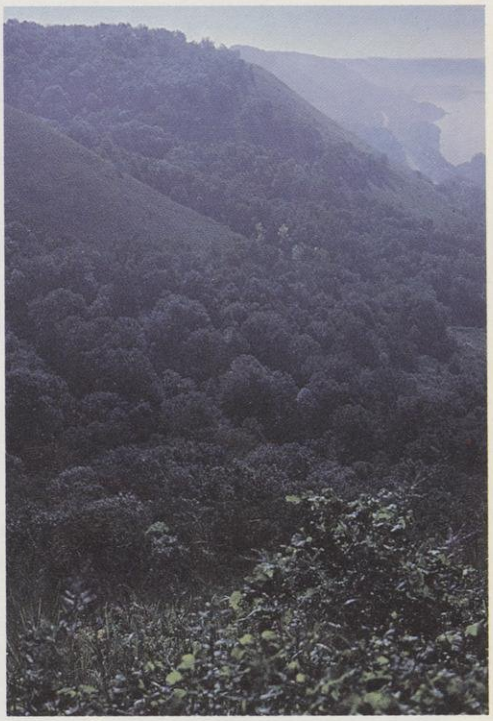
Although it may seem that DNR's interest in natural preservation often conflicts with private interests, examples of cooperation between the state and the

private sector are common. According to Ron Nicotera, director of the Bureau of Endangered Resources, "There's no way we could do an effective job without groups of private citizens."

From the very beginning, DNR's conservation efforts have relied on individuals and organizations through various advisory councils made up of citizen volunteers and university experts. When it was first chartered to identify and protect scientifically important areas on public lands, the Scientific Areas Council had no money or authority to acquire land that was worth preserving but that remained in private hands. In the early 1960s, DNR looked to the private sector and in particular to the newly organized Nature Conservancy to assist in preserving these areas.







The Rush Creek bluffs with their Mississippi River view, goat prairie and many native plants will remain open to the public, thanks to cooperation between DNR and the Nature Conservancy.
Photos by Russell Van Herik

By the time authority for purchase of scientific areas by DNR was granted in 1973, the department had established a good working relationship with several private groups and that cooperation has continued. Many times, private organizations can act more rapidly and with greater flexibility than the state. DNR must obtain approval of its board and the governor before purchasing lands, and it customarily offers no more than fair market value. Groups like The Nature Conservancy or the Audubon Society can sometimes obtain land by donation or negotiate a purchase price which may be more or less than the fair market price.

The pristine Jung Hemlock Woods near Shawano, which presented problems both of time and cost, is an example of how this works. After years of private ownership by a family that had preserved the land in its natural state, this 80-acre forest suddenly came on the market. DNR had only 10 days to appraise the property and get purchase approval, an impossible task. The department sent a letter affirming its interest in the property to The Nature Conservancy, which bought the land at auction, bidding against a major lumber company. The selling price was a few thousand dollars over the appraised value, which would have prevented the state from buying it. A few months later, DNR purchased the land at its appraised value, while private donations to the The Nature Conservancy absorbed the difference between the appraised value and actual cost. Today, Jung Hemlock Woods remains a valuable preserve of old-growth hemlock and beech forest, a prime example of a now-rare presettlement forest type.

Perhaps 30,000 acres worth of high quality natural communities are not currently protected in Wisconsin. At an average value of about $1,000 per acre, the cost would be $30-million just for acquisition. Even with the best efforts, private groups are unable to raise that kind of money, and it would represent an enormous public investment.

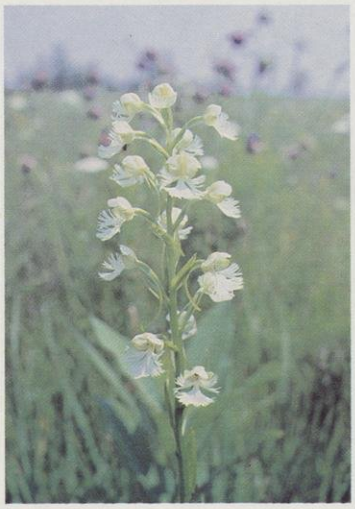
"These rare lands can only be preserved through public/private cooperation, such as is already done for museums, zoos, the arts, health care, libraries

and even the state's new industrial marketing program. Nobody can do it alone," said Clifford F. Messinger, a former chairman of the DNR board and now a director of both the national and Wisconsin Nature Conservancy. The goal of cooperative land preservation fits into the whole public/private conservation mission, he said.

State and private cooperation in preservation does not consist only of land acquisition, however. By making information about its needs available to conservation groups, DNR is often able to accomplish preservation goals without acquiring land. Private organizations can approach landowners to make them aware of the environmental concerns about their land, so they may grant conservation easements or other permanent limitations on development that effectively protect the land's natural values without a transfer of ownership. This approach has been taken to protect private lands along the Brule River in Douglas County, a pristine river that is one of the nation's most important trout streams.

Conservation groups sometimes retain valuable lands in their own hands under agreements with the state for management of the property, as in the case of the Audubon Society Goose Pond north of Madison. The state has a memorandum of understanding with Madison Audubon that details a conservation plan for Goose Pond, stipulating management practices and prohibited uses and defining responsibilities of DNR and the property owners. Similar plans established with other private owners help safeguard Wisconsin's natural heritage at little cost to the state.

These are among the more than 400 native plant species identified at Chiwaukee Prairie.



White-fringed prairie orchid.
Photo by Brent Haglund

Shooting star.
Photo by Edward Prins

Canada wild rye.
Photo by Richard Barloga

Violet prairie phlox.
Photo by Edward Prins

Public/private cooperation in preservation also takes the form of volunteer labor on state lands to maintain and develop scientific or natural interest. For instance, the Sierra Club has helped develop the Ice Age Trail, a 1000-mile long footpath winding through Wisconsin, mainly along the line of farthest advance of the last glacier. Each local Sierra Club chapter in Wisconsin annually adopts a portion of the trail to work on. "We don't have the money, but we have the people," says Caryl Terrell, a spokesperson for the Wisconsin Sierra Club. "We can't give DNR the money to build a trail, but we can bring the bodies."

Volunteer labor has also been contributed at the Rocky Run Fishery Area north of Madison as well as on many other streams by many groups statewide. Rocky Run contains a prairie which needed preservation work, so Madison Audubon contributed volunteer labor last winter to cut down red cedar that threatened to take over. This dry prairie is habitat for the ornate box turtle and the glass lizard, both endangered species.

"A lot of our members like the opportunity to get out and do some work on projects where you can show some physical effect," said Mark Martin, the Audubon's volunteer resident manager for the Goose Pond property.

DNR and Audubon also cooperate on the annual breeding bird census, which began about 15 years ago. This survey aids DNR monitoring, since any disturbances in the area are likely to have an impact on birds. Including private lands in the census helps establish priorities for acquisition.

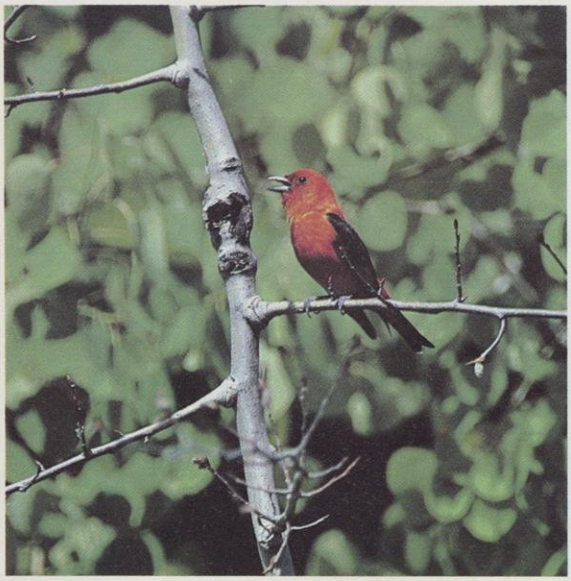
"There is an enormous potential for volunteer efforts—it's just a matter of channeling energies," says Nicotera, whose bureau plans a more extensive volunteer program to tap this potential. Volunteers could help in a number of areas, including a stewardship program in which private citizens would be responsible for

monitoring a piece of public land. Land stewards, often retirees with a deep interest in preservation, would see that no harm is done to the property.

Volunteers could be involved in observation, providing information on ospreys, eagles, timber wolves and other endangered or threatened species. DNR assists private individuals who wish to establish habitats for species of concern, such as osprey platforms, by offering plans and site recommendations. Volunteers are needed to aid in placement of tern platforms, artificial nesting places constructed of styrofoam and reeds that must be put in the water and taken out each year. DNR's extensive volunteer program involves parks, wildlife surveys, stream improvement and many other areas of environmental interest to citizens.

A new law passed this year should also increase state and private cooperation by encouraging private donations of land and money to the state scientific areas program. The law, which was included as part of Governor Earl's budget, consists of four main points:

1. A Natural Heritage Inventory to identify and monitor whatever is worth preserving. This expands the state's existing inventory of natural areas and integrates information on endangered species together with that on scientifically valuable natural sites. The inventory could help eliminate some of the perceived friction between DNR and industry. At present, industry buys land, and may in the process of preparing an environmental impact statement discover an endangered habitat that prevents development. They are then stuck with land they cannot use and which others will not buy since it cannot be developed. With the inventory, industry can be informed of problems before buying.



Scarlet tanager. Continued cooperation between state and private organizations can help maintain habitats for such species. © Photo by Stephen J. Lange

Volunteers can help with controlled burns needed to maintain a healthy prairie. Photo by Brent Haglund

2. Dedication of both government and private land for state nature preserves, guaranteeing that conservation will receive the highest priority in land use. Although under such an arrangement the landowner retains title, natural attributes of the property are permanently protected. Dedicated lands cannot be removed from the protected list without approval of the legislature and governor and then only if the species or natural community being protected no longer exists or if there is an overriding public necessity.

3. A matching grant program, under which money or qualified land donated to the state for natural area purposes would trigger release of state funds up to $500,000 per year. Thus, the state would spend additional money on natural areas only when the private sector had demonstrated its support.

4. Stewardship money to provide for continuing oversight and limited management—for example, to pay for prescribed burning of prairies or other management activities that sustain endangered species and natural communities.

In a day when it is becoming increasingly obvious that government agencies in Madison or Washington can no longer simply write a check to solve a problem, coordinated efforts by public agencies and concerned private citizens are crucial. The history of Wisconsin's conservation effort is full of such cooperation and this new joint effort is expected to be even more fruitful than those of the past.

34 years of natural area preservation

Cliff Germain,
DNR Natural Areas Coordinator

Gifts of easements like this along the Brule River in northwest Wisconsin are priceless.
Photo by Russell Van Herik

Wisconsin has long been a leader in the preservation of natural areas. Legislative action in 1951 formally established a scientific areas preservation program, the first in the country. Later legislation set up the Scientific Area Preservation Council within DNR, provided an operating budget, and earmarked some of the Outdoor Recreation Acquisition Program funds for purchase of natural areas. Over the 34-year program history, DNR and the 11-member Advisory Council have established 199 scientific areas encompassing 31,000 acres of high quality natural lands. More than half of the scientific areas are in DNR state parks, state forests, and fish and wildlife areas. Other scientific areas have been established on federal, county, local, university and private preservation group lands through nonbinding, cooperative agreements. Direct purchase has been required at 30 locations to protect some natural area types or endangered species habitats not otherwise available by cooperative agreement.

County by county inventories, initiated in the early 1970s have now located and ranked more than 2,400 natural areas and critical species habitats. Some 600 are of statewide significance and potential scientific areas. About half of these are in private ownership and many are threatened. Resurveys of some southern Wisconsin counties indicate that natural area losses are now reaching 10 to 20% per decade.

New legislation and funding provided in the most recent state budget is timely to meet the need for better identification, protection and understanding of the state's natural heritage. The legislation builds on the well-established, but short-funded scientific and natural areas program. It provides better biological information management capability, opportunity for more timely acquisition of sites with both public and private funding, and long term protection of sites through legal dedication commitments and stewardship funds.

The Scientific Areas Preservation Council has been renamed the Natural Areas Preservation Council and the state scientific areas system is now called the natural areas system. The program continues to have as its goals the protection of native biotic communities and threatened or endangered species for their intrinsic value and scientific/educational use by present and future generations.

Readers Write...

Last year's deer issue cover was the most repulsive trash you could have published. With all the real natural beauty in our state to pick from, this picture was a disgrace. Whoever chose it needs a new job, I'd suggest trash collecting. What foreigner picked this? It couldn't be anyone from Wisconsin.
VINEE CULLEN, Granton

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Good for you!

I read with great pleasure your article "Deer and the #!&%# DNR," which described in detail how your agency is caught in the middle on almost every decision regarding deer management. As a schoolteacher, I appreciate your position in the public's eye. We both receive grief for outcomes we have little control over. Continue to make decisions your training and talent deem appropriate.

I want to congratulate and thank you for last year's outstanding gun deer season. It has been a source of great joy to walk out the door of our cottage in Area 54 B near Oxford, over the hill onto the 40 acres, and spend a few hours hunting a well managed deer herd. Wife Pat and I gratefully received and filled our Hunter's Choice permits.

A final word of thanks for helping train our daughter Vicki through your Hunter Education Program. She received excellent hunter safety training at the Power's Lake Sportsmen's Club. During her first deer hunt, she handled herself very well and was thrilled, albeit a bit startled, when a herd of nine does almost ran her over.

I'm one of the state's 4.7-million citizens whose opinion of DNR is very high.
CHUCK GOHS, Powers Lake

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White men have beaten up Indians, killed them and stolen their land. I think anything we do now could never make up for what we did back then. Why is everyone making such a big deal of Indians getting a couple hundred deer a year when we're getting a couple hundred thousand?
KARI UTTER, Elkhorn

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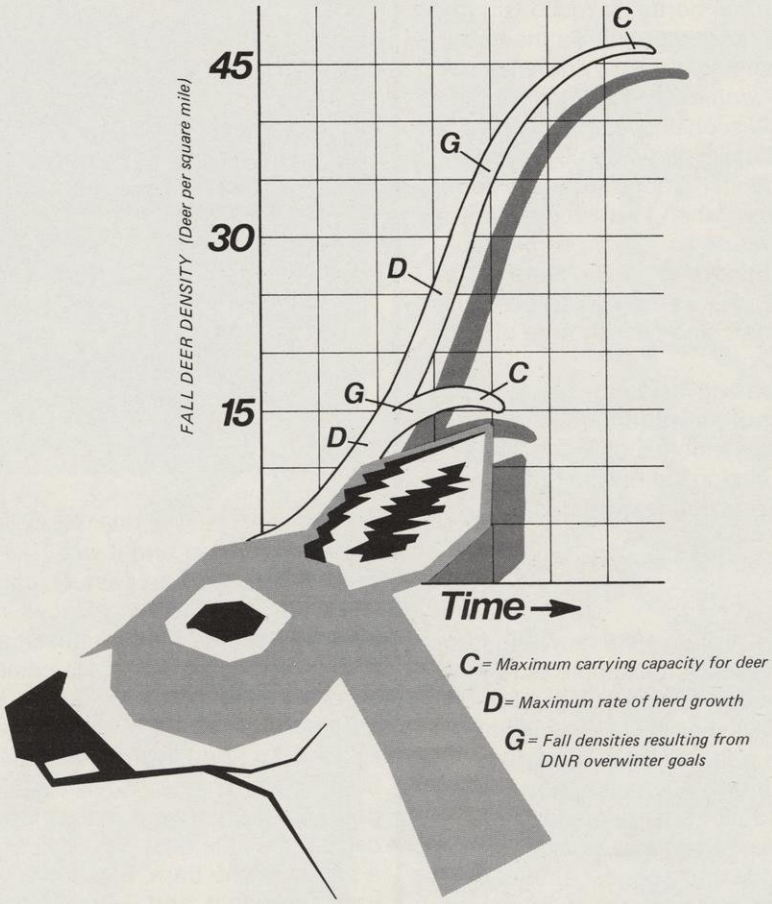

In last year's November-December issue, I was pleased to see the article by Keith McCaffery entitled "Fat deer laugh at winter." Mr. McCaffery is one of the top white-tailed deer researchers in the country, and I always enjoy reading about his work. This article, or portions of it, however, were very confusing.

I realize that *Wisconsin Natural Resources* is not a technical journal for professionals but an informative magazine for the general public. However, the concepts of overwinter goals, fall density and harvestable surplus must be well understood before one can understand and consequently accept appropriate deer management practices. I believe that corrections should be made.
JONATHAN GILBERT, wildlife biologist
Great Lakes Indian Fish & Wildlife Commission

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In the graph that accompanied "Fat deer laugh at winter," two symbols in the legend were printed with labels reversed. The corrected version appears above.

Also, under the overwinter goals section, the second paragraph sentence that described fall densities should have read: "...Resulting fall densities are about midway between the maximum rate of herd growth and maximum carrying capacity..."

We're sorry for any inconvenience these misprints may have caused.

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I would like to comment on the snowmobile grant program that helps counties acquire, develop and maintain snowmobile trails.

Snowmobile program monies come from the registration of snowmobiles and the gas tax, but many non-snowmobilers believe their tax dollars are used for the snowmobile trail system. We are self funded, and no tax dollars are used to develop or maintain the snowmobile trail system.

Wisconsin has 150,000 to 160,000 registered snowmobilers. There are 600 snowmobile clubs in Wisconsin, and each one is responsible for their area of trails. We are very proud of what we have accomplished for the betterment of snowmobiling.
ROSEMARY WAGNER, Whitewater

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I am writing to thank you for "Opening day dreams" which appeared in last spring's fish issue. Though no longer a Wisconsin resident, I carry fond memories of Trout Creek, and the article brought them alive for me.

I grew up in northern Wisconsin and cut my trout fishing teeth on the freestone streams of Oneida and Vilas Counties—somehow the bank fishing of southern Wisconsin waters never made up for the ability to wade out in the stream and flail around with a fly rod. Nevertheless, when I was in graduate school in Madison, I spent some time poking around and finally found a spot on Trout Creek where I could usually count on catching two or three plump rainbows.

I, too, was devastated when a fertilizer spill shut the stream down. At any rate, I have memories of Trout Creek which no ecological disaster can mar, and the magazine rejuvenated them for me.

DAVID L. CLAYTON, Ann Arbor, Michigan

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The July-August 1985 recycling issue is another excellent example of research, writing, editing and publishing which always makes your magazine an interesting publication to read. Although the articles don't suggest you have found all the answers to waste management, they do discuss many of the problems and suggest at least some remedies to the seemingly ever-increasing volume of disposable products from our society.

I am a member of the Solid Waste Technical Advisory Committee for the Northeastern Illinois Planning Commission, and I don't recall ever seeing any such thorough presentation of many of the waste disposal problems as in your magazine. I am also frequently involved in discussions of waste disposal with the Environmental Concerns Committee of the DuPage County Mayors and Managers Conference. These discussions readily admit the need for alternatives to landfills as a management scheme, but never seem to get around to any real long-range plan.

ROBERT T. SASMAN, hydrologist
Illinois Department of Energy and Natural Resources, Water Survey Division

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One spring in the late '40s after the snow had melted and it was time for the cows to be let out to pasture, John Luoma Jr. was mending fences in the back forty of the family homestead in the wilderness at Saxon. He came across a little fawn, picked it up and carried it home.

John Sr. and Lily Luoma, immigrants from Finland, owned a few cows and operated a dairy farm. They made a bed for the little deer on a pile of hay in a corner of the barn. Fresh milk was used to wean it, and it was named Lopsey.

Lopsey became a part of the family, and made rounds at milking time to the farms in the area. It poked its nose into milk strainers for a drink. Even during hunting season, no one shot Lopsey who was marked with a red banner and a bell around the neck. Lopsey had a good life and lived for many years.

Those were the good old days not so long ago. This picture of me with Lopsey was taken in 1949 with a box camera at Saxon, Iron County.

ROLAND HUHTALA, Saxon

Many people have the false perception that any newborn wildlife found alone are abandoned and need to be saved. Despite good intentions and the benefits humans may gain from this type of adoption, it's bad for the animal and should not be done. It's also illegal.

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Excellent recycling issue. Very informative on the whole solid waste subject.

I intend to use the information to stimulate better solid waste management in my community.

BILL THREINEN, Middleton

••• •••

The picture on the cover of the recycling issue of the magazine has bothered me for the past several weeks and I feel I must register my concern.

Personally, I find that cover to be insensitive and in the worst possible taste. Were this an artistic statement, I might be able to accept it and even delve into the true meaning. However, as the cover of a state publication, I find it unacceptable and indifferent to the public's feelings.

I am not referring to the use of trash; that is perfectly acceptable and appropriate since the theme of the magazine is recycling. My problem is with the eyes in the corner of the picture, which appear to be those of a young child covered by the trash. In lieu of today's newspaper headlines dealing with the disappearance of children and child abuse, this cover is offensive and insensitive.

I sincerely hope that you will show more discretion in the future.

GEORGE FISHER, Winter

You have read something into the recycling cover that was not really there. The cover was meant to show we are in danger of being buried under our own trash and the eyes do, indeed, add a haunting presence to that idea. A great deal of time was spent carefully arranging each piece of garbage before the picture was snapped. We used a check list to make sure every sort of trash was represented The eyes are not those of a child, but came from a hair coloring box. The cover has nothing to do with missing children. It is a piece of artistic symbolism about the trash problem. The fact that it can be interpreted in many ways is a measure of its success. Sorry you were upset.

Fun in the snow

Winter in Wisconsin can be the best time of year for those who enjoy the outdoors. Snowtime recreation runs the gamut from cross country skiing, snowshoeing, snowmobiling and camping to hunting, trapping, eagle watching and ice fishing. They're all part of the lifestyle here from November to March. This special report is a brief sampler. After you've read it, take a look at the Wisconsin Division of Tourism's new Winter Escape book, a publication that gives details on Wisconsin's seven tourism regions and tells when and where to go for just about every outdoor activity. This year's book also features a rundown on what to do in town—the urban escape. For a copy write: The Wisconsin Division of Tourism, Box 7606, Madison, WI 53707.

Race Fever

Gary Mueller, Editorial Intern

When you think of cross county skiing, visions of long, wooded trails, frozen lakes and peaceful solitude come to mind. Cross country skiing offers a chance to put yourself back into the rhythm of the outdoors, to participate in nature's tranquility and be in tune with the slow pulse of the land.

But there is another side to cross country skiing. Something about getting on a pair of skis seems to spur on the competitive spirit. As soon as people are able to push themselves along over the snow without falling, they begin to wonder whether they can do it faster than anyone else. It's called "race fever," and the understated fact of the matter is that nordic racing is the hottest new trend to arrive on Wisconsin's cross country scene in a long time.

In just five short years, nordic racing has grown from a handful of state citizen races in 1980 to over 50 such races in 1985. Distances range anywhere from 5 to 55 kilometers, and it is no longer uncommon to see a field of over 300 line up for an average weekend race. One race held every year at Cable, Wisconsin, the American Birkebeiner, draws 8,000 participants, 4,000 of whom are from Wisconsin.

Former Kettle Moraine Nordic Race Chairman Ron Novak, who's also former superintendent of the Southern Unit of the Kettle Moraine State Forest, has been following the trend and thinks the reason for "racing fever" is promotion.

"When Bill Koch took second place in the Olympics, the whole race trend started. And with a lot of nordic clubs heavily promoting cross country ski racing, the sport has grown considerably," said Novak.

Combine that with the fitness craze of the '80s and the exposure received by the American Birkebeiner, and you have a bonafide "fever" on your hands.

Although most races are held on private trails, the growth of races in state parks and forests has increased immensely. In fact, two of the Midwest's biggest, the Ice Age Classic and the Esker Odyssey, are run in Devil's Lake State Park and the Kettle Moraine State Forest. Not coincidentally, these state trails represent two of the finest trail systems in the Midwest.

Whether "race fever" continues to run high in Wisconsin remains to be seen, but one thing is for sure: as long as it continues to snow in winter and people can continue to put on cross country skis, the urge to compete against others will never die.

Photo by John Ernst

Recreational skiers don't fret

If racing isn't your ball of wax, don't pack away the knickers just yet. Not all cross country skiers wish to be challenged by races certain to exhaust them. Many in fact, want nothing more than to tour in a measure that's equal to jogging at a mild pace. If that's the case, then you're in luck. Wisconsin is blessed with one of the finest state trail systems in the country. Whether your're touring the scenic wilderness of the Willow River or the gently rolling terrain of Hartman Creek, Wisconsin's state trails offer a quiet pace that allows a family to tour within sight of each other and enjoy the special beauty which is only Wisconsin.

SKIING IN WISCONSIN STATE PARKS & FORESTS

Wisconsin's state parks or forests offer many miles of cross-country ski trails as well as downhill skiing at Rib Mountain and Potawatomi State Parks.

Trail grooming on some properties is limited and some trails may close if snow conditions are poor, so call ahead first.

Here is a list showing miles of trail in the various state parks and forests:

Miles of Trail

State Parks
Big Foot Beach — 3.0
Blue Mound — 9.0
Brunet Island — 4.0
Buckhorn — 2.0
Copper Falls — 6.2
Council Grounds — 3.9
Devil's Lake — 15.5
Governor Dodge — 17.3
Hartman Creek — 9.5
High Cliff — 4.2
Interstate — 9.0
Kinnickinnic — 2.0
Kohler Andrae — 1.5
Lake Kegonsa — 7.0
Lake Wissota — 11.5
Mirror Lake — 12.5
Newport — 23.0
Pattison — 5.0
Peninsula — 19.5
Perrot — 7.0
Pike Lake — 8.1
Potawatomi — 13.2
Whitefish Dunes — 11.3
Wildcat Mountain — 7.0
Willow River — 7.5
Wyalusing — 3.0
Yellowstone Lake — 2.5

State Recreation Areas
Bong — 13.5
Hoffman Hills — 8.0

State Trails
Red Cedar — 14.5
Black River — 25.0
Brule River — 6.7
Flambeau River — 8.0
Governor Knowles — 7.0
Havenswood — 3.0
Kettle Moraine — South — 40.0
Kettle Moraine — North — 27.5
Northern Highland-American Legion — 50.0
Point Beach — 10.0

Winter camping lets you enjoy the beautiful Wisconsin outdoors without crowds or mosquitoes. Photo by Dennis Leith.

Winter Camping

Brian Kamnetz, DNR Parks Information, Madison

Wisconsin's winter wonderland is sparkling and beautiful. With proper equipment and preparation, you can enjoy comfortable camping in an outdoor world where there are few people, no bugs, and breathtaking landscapes and skies.

But follow two important rules for a comfortable, enjoyable winter camping expedition: regulate your activity and clothing to prevent becoming too warm or too cold—and stay dry. If you camp in the summertime and cross country ski in winter, chances are you already own much of the necessary equipment.

Winter campers in Wisconsin can choose from 15 state parks. Each has toilets and water available, and most have electricity for those who require or desire it. Popular activities, besides cross country skiing, include snowmobiling and ice fishing.

Winter campers tend to use either tents or self-contained camper units. Trailers are rare, probably because people are reluctant to tow them in winter.

Dress in several thin layers for winter activities. Starting from the inside out, the best underwear is polypropylene or wool. Both wick water away from the skin, an important characteristic for winter clothing because wet equals cold. Wet clothing allows heat to escape from the body as much as 24 times faster than dry clothing. For the same reason, stay away from cotton undergarments. They keep moisture close to the skin and bring the big chill.

By the same token, wool socks are superior in warmth to cotton. Several thin pair are better than one thick pair.

Be sure to wear a hat, since body heat escapes rapidly. When the temperature is five degrees Fahrenheit, an unprotected head can result in loss of as much as three-fourths of all body heat produced. Many people use a light hat during exertion and a heavy one for relaxing.

Mittens are warmer than gloves. In the same way they change hats, many people use a light pair during exertion and thick ones at less active times. A thin pair of wool or silk glove liners is a good idea. When you must remove the heavier, clumsier protection for precise tasks, they will prevent frostbite from bare skin touching cold metal.

A sweater and vest are a good start toward comfortable layers on the upper body. Wool shirts or windbreakers are also helpful in keeping wind and snow from robbing body warmth. But be especially wary of overheating. The cardinal rule of winter safety is stay warm, but don't sweat.

In camp after skiing, parkas and wool pants are ideal for lounging around before retiring for the night. Felt-lined boots will keep your feet toasty, and a pair of insulated booties will keep them warm while you're sleeping.

A plastic groundcloth under the tent will help keep you dry by preventing melted snow from seeping through the floor. Two full-length sleeping pads will prevent cold in the ground from creeping through the sleeping bag and into you.

Until you gain experience, it's far better to err by bringing too many clothes than not enough. You can't put on things you didn't bring, and a complete change into dry clothing may be crucial to comfort and even safety.

Go camping the first couple of times in moderate winter weather.

Follow this advice and refine it as the occasion requires, and you'll enjoy a different experience—a state park virtually to yourself and a totally quiet, totally peaceful Wisconsin winter outdoors.

State Parks & Forests Open to Winter Camping

Devil's Lake
Governor Dodge
Hartman Creek
Lake Wissota
Newport
Peninsula
Potawatomi
Kohler-Andrae
Willow River
Wyalusing
Yellowstone
Black River
No. Kettle Moraine (Mauthe Lake)
So. Kettle Moraine (Ottawa)
Point Beach
Bong Recreation Area

Photo by Dean Tvedt

This eagle photo will be featured in an advertisement developed by Hoffman York and Compton to encourage gifts to Wisconsin's endangered species fund. (inset) Eagle watchers at one of the several spots in Wisconsin where the birds concentrate. Inset photo by Robert Hillestad.

Eagle watching

Holly Kuusinen, DNR Public Information, Madison

Winter is a wonderful time to view the majestic bald eagle, and Wisconsin is fortunate to have two rare eagle viewing sights. As many as 213 eagles spend the winter congregated along the Mississippi and Wisconsin rivers and near the Prairie du Sac and Sauk City areas. A good place to see them is below the dam on highway 21 east of Necedah. Open water assures a plentiful supply of fish, their principal food source.

Bald eagles nest in tall living white or red pine trees near open water. They have a wing span of between 6.5 and 8 feet, and weigh between 10 and 14 pounds. The eyesight of an eagle is six times sharper than that of a human. Eagles can attain a flight speed of over 100 miles per hour in a dive. Their scientific name, *Haliaeetus leucocephalus*, means "white-headed sea eagle," and they don't attain their famous white (bald) heads until they are five or six years old.

Eagles can live to be 50 and mate for life. The mated pair builds a nest that is five to seven feet deep and six to eight feet in diameter. One record eagle nest weighed two tons. Eagles lay from one to three eggs that hatch in early summer.

DNR biologists last summer banded young bald eagles before they left the nest. Such activities and others like erecting nesting platforms and researching causes of death among bald eagles are made possible through contributions made to the Endangered Resources Fund on the state income tax form.

The "Adopt an Eagle Nest Program" started this year by the Bureau of Endangered Resources has been very successful. For a $100 donation, individuals or organizations were invited to "adopt" a nest to help pay for its management and protection. For their donation, contributors received information on the status of the nest and any young raised in it. They also received a photograph of young eagles in the nest, an "adoption" certificate and a copy of *Birds of Prey of Wisconsin*. One hundred and three bald eagle nests were adopted in the first year.

For the 1986 nesting season, the first 100 contributors will also receive a free print of bald eagles donated by wildlife artist Rich Van Order.

Bald eagles were also chosen as the species to represent this year's Endangered Resources Fund campaign. Hoffman York and Compton, a nationally recognized advertising and public relations firm located in Milwaukee, generously donated their professional time and talent in the development of the Fund poster. They also created a television public service announcement (PSA), a radio PSA, a newspaper and magazine advertisement and the artwork that will make up the billboards to be seen throughout the state during the tax season.

The goal for the 1985-86 Endangered Resources Fund campaign is $600,000. Two critical areas can be expanded if the $600,000 are raised. Educational programs for adults and children and additional publications can be produced. Species management activities can be expanded through the development of precise recovery strategies.

Last year over $470,300 were donated to the Endangered Resources Fund. The average contribution was $6.27 and only 70,000 of Wisconsin's three-million taxpayers contributed. Increased awareness is the key to greater participation in the campaign. DNR will be sending new posters, brochures and informational packages throughout the state to encourage taxpayers to support Wisconsin's endangered resources.

Contact DNR for map of areas of sightings.

Snowmobiles in Wisconsin

Wisconsin's official snowmobile trail system covers more than 10,000 miles statewide, and an estimated 8,000 additional miles have been established by local snowmobile clubs. According to Larry Freidig, recreation specialist in DNR's Bureau of Aid Programs, this trail system means that Wisconsin's 154,000 registered snowmobilers can travel to just about any destination they choose and enjoy a well groomed, well marked, safe trail along the way.

"People don't just drive circle loops any more," says Freidig. "They take trips that cover 100 miles or more and think nothing of it. It's an impressive trail system."

Freidig attributes a lot of the system's success to Wisconsin snowmobile clubs that do much of the signing, maintenance and grooming of trails. Keith R. Vreeland, Wisconsin's unofficial "Ambassador of Snowmobiling" says most of the club trails cross private land and routes are chosen "with due respect to the environment." Vreeland says they are secured, paid for and maintained by the various clubs.

Most of the official 10,000-mile system is county run, but paid for out of snowmobile license fees and the gasoline tax. The registration fee is $12 per biennium.

Only 530 miles are located on state property and operated by DNR.

Vreeland calls snowmobiling a family sport and says it's a good way to throw aside your hibernation and enjoy Wisconsin's magnificent outdoors in the winter. He calls it "warm, safe and challenging" and invites everyone to give it a try.

Wisconsin snowmobile trails lead just about everywhere. DNR photo

Wisconsin has more than 18,000 miles of snowmobile trails statewide.

Ice fishing

Tom Hollatz, Boulder Junction

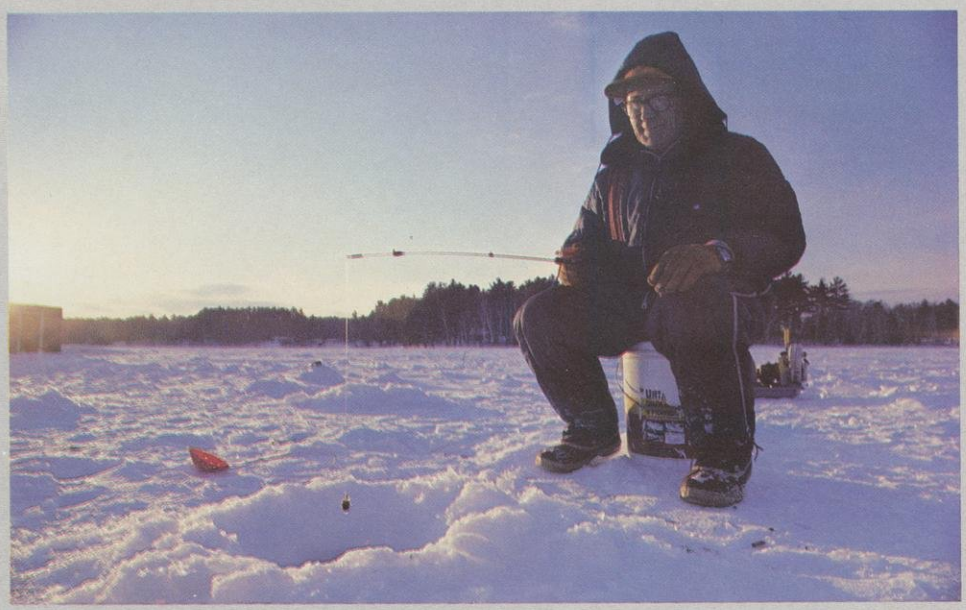
I'm a recent convert to the wonders of the tip-up and the thrill of the popped-up flag. I also love those delicious winter dinners of northern pike and fresh fried perch. They ease the long wait until opening day.

Ice fishing is something you do alone or with the whole family.

Some anglers use shelters. If so, the name and address of the owner must be permanently affixed to the outside in legible lettering a minimum of one-inch square. And the door must open readily from the outside.

Enclosed permanent shelters must be removed from the ice on or before March 1 on Minnesota boundary waters; March 5 south of highway 64 and March 15 north of highway 64. These rules don't apply to portable shelters, which must be removed daily.

It's unlawful to use a hole larger than 12 inches in diameter, except in dipnetting, skin diving, minnow trapping, sturgeon spearing or spearing northerns on Lake Superior. You can open three holes and use three separate lines with one hook on each line.



When weather is right, ice fishing offers relaxing way to enjoy the Wisconsin outdoors. Wisconsin Division of Tourism photo.

As for hours, you can do it round the clock anywhere there's ice.

It's great sport. It's fun, and it makes these rugged northwoods winters easier.

Catch-all

Prepared by Wendy Weisensel, DNR Public Information, Madison

DNR's 1985-87 budget

Groundwater, toxics, land acquisition, wildlife damage, ATVs featured

Joel Davidson

Madison — DNR's new budget for 1985-87 funnels more money into two major programs: groundwater protection and toxic materials management.

DNR has already begun using the money to launch an expanded program to search for, monitor and control toxic substances in Wisconsin's air, water, fish and wildlife. **The program is designed to prevent environmental contamination and protect public health. The Legislature approved $1.55-million in funding for the work.**

Another $1.4-million for a basic groundwater monitoring program will enable DNR to establish groundwater protection standards for 200 monitored landfill sites and create an early warning system for detecting groundwater contamination. The system will keep tabs on a large network of wells all across the state.

Other significant dollar amounts approved and the programs affected are:

Land acquisition and development — $9.3-million will go for development over the next two years with work scheduled at several state parks. It will include a sewage treatment facility for Peninsula State Park.

About $18.3-million for land purchases, including a $1-million in bonding from the Outdoor Recreation Area Program (ORAP). The ORAP portion will match private donations of land and money and is designed to increase protection of critical natural communities and rare or endangered plant and animal habitats.

Wildlife damage and abatement — a one-dollar surcharge added to a number of resident and nonresident hunting licenses is expected to raise about $2-million. The income will be used for various abatement practices and to help compensate farmers and growers whose crops and orchards are damaged by deer and other wildlife.

Well compensation — this program was reinstated by the Legislature for 1985-86 with $1,345,000 for payments to well owners plus salaries for 4.5 employees. Governor Anthony Earl vetoed $900,000 lawmakers had budgeted for 1986-87.

Lakes management — motorboat fuel tax money will be set aside by the Department of Transportation to fund a modest but comprehensive lakes management program for monitoring and technical assistance to lake communities.

Septage and sludge — $300,000 will go to begin a sludge management program related to control of toxic pollutants and groundwater protection. Funds will also be provided to help DNR regulate servicing of septic tanks including audits of septic hauler records and licensing of certain disposal sites.

Recycling and foundry sands — $635,000 and several state positions will go for technical assistance to communities in developing recycling programs. The program will fund grants to communities for demonstration recycling projects. About $80,000 of the money will be used to implement a deregulation program for foundry sand and other high-volume wastes. Overall goal is to reduce the amount of material disposed of in sanitary landfills.

Emergency spills and cleanup — $2.3 million for the Environmental Repair and Spills funds will provide quicker governmental response to emergency spills and aid remedial planning, site clean-up and restoration.

All terrain vehicle registration and aids — $321,000 in state transportation money was appropriated to create an all-terrain vehicle registration, enforcement and trail aids program, effective next July. Trails aids will sunset on July 1, 1989.

New legislation requires all-terrain vehicle (ATV) owners to pay a $12 two-year registration fee starting next July to operate on public lands. For ATVs used only on private lands, there will be a one-time $6 fee.

DNR orders shoreland and wetland zoning in Door County

Dave Crehore

Green Bay — At the request of DNR, the state Justice Department is seeking a court order compelling Door County to enact and enforce a shoreland and wetland zoning ordinance similar to those adopted by 42 counties in the state.

According to DNR, the request follows a dispute this summer in which Door County declined to adopt an ordinance meeting state standards. **State statutes require counties to enact ordinances to protect shorelands,**

(Continued on next page)

Wisconsin game animals free of chemical contaminants

Larry Sperling

Antigo — Most species of game animals tested in a preliminary Wisconsin monitoring program show no signs of PCBs, pesticides or heavy metals.

DNR wildlife disease specialist Terry Amundson told a recent Natural Resources Board meeting here that **edible meat portions sampled from white-tailed deer, ring-necked pheasant, redhead ducks and prairie chickens (not considered a game bird in Wisconsin) were free of chemicals that commonly indicate environmental pollution.**

"We're very pleased with these results," Amundson said. "They indicate that, generally, game species people hunt are not accumulating chemical contaminants."

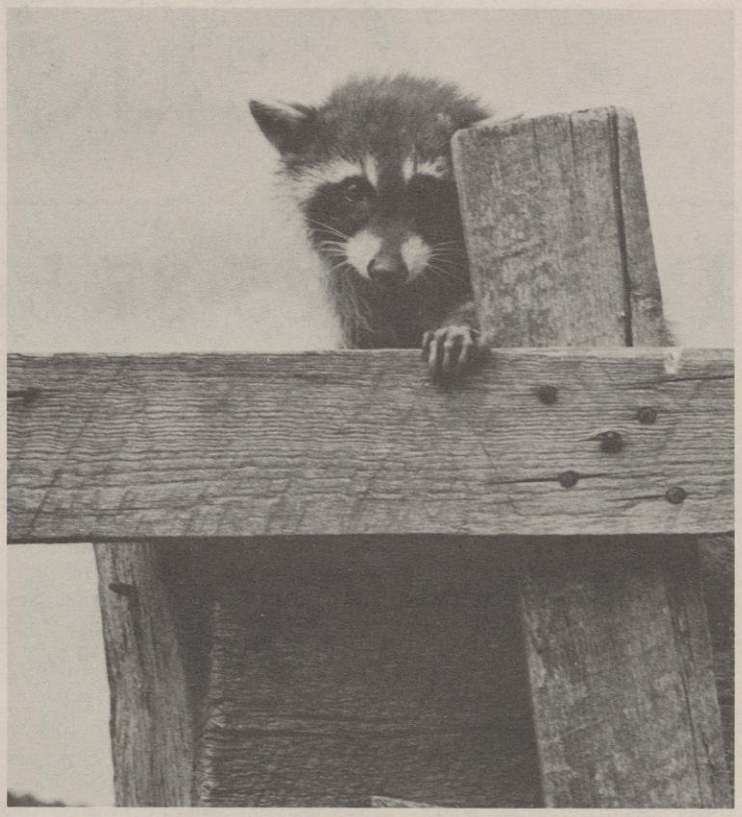
According to Amundson, small traces of PCBs, pesticides and metals were found only in animals living near industrial areas or feeding on fish from known contaminated waters. Low levels of mercury were detected in several species, indicating that traces of this heavy metal may be widespread geographically.

This general survey of contaminants in wildlife will prompt DNR to focus additional monitoring on animals living in known problem areas. These would include areas near industrial waste sites, spill sites and places where fish monitoring information indicates long-term environmental contamination has taken place or where products like banned pesticides were historically used.

During summer and fall last year, 265 animals representing 10 wild game species were collected statewide and analyzed for signs of environmental contaminants. Game species included 81 mallard ducks from 15 counties; 22 Canada geese from five counties; eight ring-necked ducks from three counties; three redhead ducks from one county; four mergansers from three counties; 32 woodcock from seven counties; 26 ring-necked pheasants from 10 counties; five prairie chickens from one county; 56 white-tailed deer from 18 counties and 28 raccoons from 16 counties. Animal specimens used were taken from road kills or volunteered by hunters wherever possible.

Only edible portions of deer and wild birds were analyzed. Most game birds were analyzed with and without skin, since hunters commonly prepare them both ways. Both fat and liver samples from raccoon were analyzed.

"We sampled raccoon because they live in many habitats and eat foods from both land and water," Amundson explained. "Since many chemicals are stored in body fat and the liver is the body's natural chemical filter, we believed that raccoon fat and liver samples would provide the best warning sign or indication of chemical contaminants in wildlife species."



Raccoons proved to be useful indicators of possible environmental contamination when the state tested wildlife tissue samples this year for signs of pesticide and other chemical residues.

Although there are no guidelines for safe levels of environmental contaminants in wild game, samples were not collected to set health advisories for hunters, Amundson explained. None of the contaminant levels DNR found in edible portions of deer or wild birds exceed Food and Drug Administration (FDA) guidelines set for fish or domestic beef and poultry.

He cautioned, however, that it may be unfair to compare these wildlife testing results to FDA food standards because FDA samples beef and poultry fat rather than edible portions. Many chemical contaminants more readily accumulate in fat than meat, Amundson noted, so it would be unlikely to find that edible meat portions exceed these federal guidelines except in cases where an animal was extremely contaminated.

Factors influencing environmental contaminants in wildlife

1. Food habits	Contaminants are highest in species that eat other animals as opposed to species that eat vegetation or insects.
2. Habitat	Animals living or feeding in water have higher levels of contaminants than those that live only on land.
3. Longevity	Animals that live longer have more time to build up contaminants than short-lived animals.
4. Physiology	Fattier animals accumulate more contaminants than lean animals with higher metabolisms.
5. Collection site	Animals taken from areas with known environmental contamination problems carry more pollutants than animals from other areas.

(Zoning *continued*)

and if a county refuses, DNR has the authority to adopt such ordinance for the county.

In late August, the Door County Board ordered the county resource planning committee, planning department and county clerk "not to publish, administer or enforce the shoreland wetland zoning ordinance enacted by the Department of Natural Resources."

According to DNR, however, a shoreland zoning ordinance that meets state standards is now in force in Door County following its publication by the agency in the *Door County Advocate* in September. DNR will enforce the ordinance until Door County enacts an ordinance of its own.

In a letter dated September 16 to Harvey Malzahn, chairman of the Door County board of supervisors, DNR enforcement director George Meyer said the agency will "seek restoration of any sites altered in violation of the terms of the shoreland zoning ordinance adopted for Door County."

Meyer said this makes it particularly important for landowners to contact DNR before starting work in the shoreland zone. Persons planning such work should contact Richard Koch at the DNR Lake Michigan District Office in Green Bay, 414-497-4029.

Catch-all

Giant Mississippi River sandpile moved

First step in managing the river for both recreation and shipping

Dave Weitz

Reads Landing, MN — Not so long ago the view of Wisconsin from this Mississippi River hamlet was of a massive "bathtub" of sand piled higher than treetops.

The sand, more than a million cubic yards, was the result of decades of dredging by the US Army Corps of Engineers as it maintained a nine-foot navigation channel on the Mississippi near the sand-depositing mouth of the Chippewa River.

The placement of the sand in a Wisconsin wetland helped spark state protests that led to formation of a massive study by the Great River Environmental Action Team (GREAT I) of how agencies deal with the Mississippi River. The team linked the Corps of Engineers, US Fish and Wildlife Service and the states of Wisconsin, Minnesota and Iowa in a joint effort to coordinate management of the Mississippi as a biological system serving both commercial and recreational needs.

After years of work, the GREAT I report was published. The report and its appendices, fills most of a file drawer. But the agencies and the team members, are sure now it isn't just another dusty bureaucratic exercise. **For the last two years, the Corps of Engineers has spent more than $3.3 million on removal of most of that mountain of sand in Wisconsin wetlands near here.** Actually, to implement this and other GREAT I recommendations, the corps has spent $12 million since 1980.

Since May, 1984 a commercial dredge has hydraulically piped the water-sand slurry from the site through a pipe underneath the riverbed and into a massive gravel pit near Wabasha, Minnesota. The material is available now for use by contractors or highway crews that need clean sand.

Dan Krumholz, Corps of Engineers river resources coordinator in St. Paul, says 1.2 million yards of sand was removed from the historic site. That leaves the resulting bermed shell open for temporary storage in the future. An added 470,000 cubic yards was removed from the mouth of the Chippewa River to form a sediment trap that will catch sand spilling from the river that otherwise would plug the nearby Mississippi River channel. Another 125,000 yards taken during main channel maintenance has also been routed to the Wabasha disposal area.

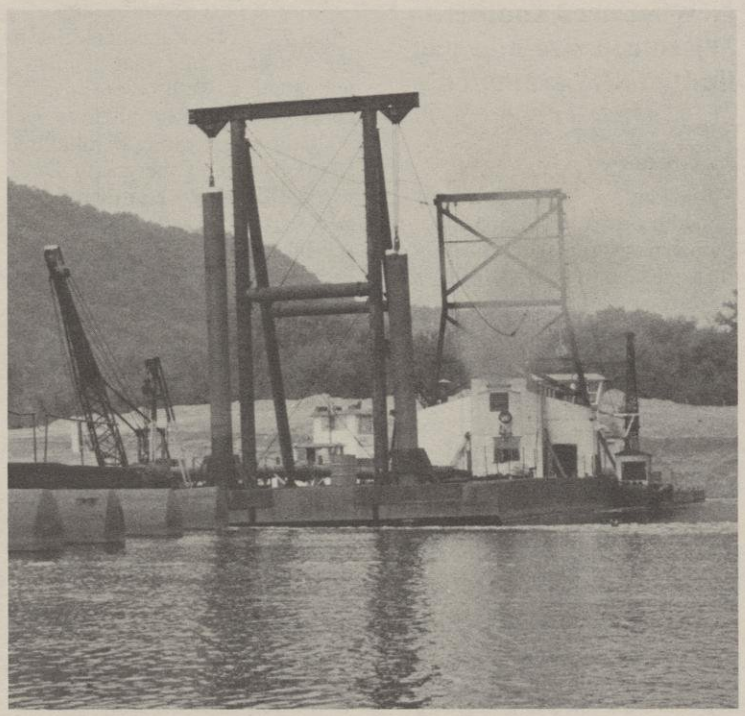
David Kennedy, La Crosse, DNR liaison to the GREAT I team, said the effort may not only help preserve wetlands near Reads Landing but because it's being carefully studied could provide a prescription for action elsewhere.

New trend in wastewater management

Madison — A new concept in wastewater treatment regulations in Wisconsin known as "compliance maintenance" is expected to be in place in the state by early 1987. It is now being developed in a joint venture between DNR and Wisconsin municipal officials and wastewater treatment plant operators. **The new regulations will be designed to maintain or improve water quality achievements made in Wisconsin over the past decade. They will anticipate growth in population and industry and make sure that sewage treatment facilities are able to handle the increased loads. They will also make sure that proper maintainance takes place so that wear and tear won't make plants unable to perform the treatment process adequately.**

Before drafting the new code, DNR gathered information from municipal officials and treatment plant operators at 22 workshops held throughout Wisconsin last August. During the workshops, participants responded to questions regarding funding, planning and construction schedules and methods of maintaining operations at sewage facilities. Attendees were also asked how their ideas could be reflected in the compliance maintenance code. DNR staff will use meeting results in dracting the regulations.

The proposed code is expected to go to the Natural Resources Board in the next few months and if approved will be taken to public hearing in the spring. After final revision, it will go to the Legislature for approval. It's hoped that compliance maintenance rules will be in effect by early 1987.



Dredge removes sand.

$470,000 in taxpayer gifts help endangered species

More than 30 projects financed

Madison — If you were one of the more than 70,000 persons who gave last year to Wisconsin's Endangered Resources fund through the income tax checkoff, rest assured DNR is putting your donation to good use.

Contributions amounted to more than $470,000, an increase of nearly $180,000 over donations in the first year of the program.

"We are extremely pleased with the 1985 totals," said Ron Nicotera, director of the Bureau of Endangered Resources. "With the additional funds, we will be able to begin new projects."

Nicotera attributed the rise in contributions to increased public awareness about the program and to better economic conditions. He said he was hopeful the rise would continue next year so that more work can be done.

All gift money from the income tax checkoff is dedicated to preserving Wisconsin's endangered species and natural areas. **More than 30 individual projects are currently underway and more are in the planning process. Among new ones are a recovery plan for peregrine falcons and a pine marten restocking program. In addition, the University of Wisconsin and DNR will work together to begin recovering and managing the endangered ornate box turtle, a colorful resident of Wisconsin's rapidly disappearing dry prairies. The state's effort to manage timber wolves will also continue.**

A number of existing projects are being expanded, Nicotera said. One is the construction of nesting platforms and protection of nesting habitat for Forsters' and Common terns. In addition, DNR's current reintroduction program for barn owls will be expanded. Several young owls will be equipped with radio transmitters so that more can be learned about the birds' habits.

DNR will also undertake a comprehensive census of disappearing grassland birds such as bobolinks, meadowlarks and upland sandpipers. Agency staff and volunteers will try to determine what factors may be contributing to the birds' continued decline.

Preliminary work will begin to reintroduce trumpeter swans, and some funds will be used to support Project WILD, an education program being incorporated into the curricula of Wisconsin public schools this fall.

Finally, the fund will be used to establish a Small Grants Research Program, which will provide money for the study of plant and animal populations, distribution and habitat management techniques.

"We are committed to much more work than we alone can handle, so it is through the efforts of many volunteers and DNR wildlife specialists that our endangered and nongame species work continues," Nicotera said. "Volunteers not only help us with our field work, but they have been instrumental in helping promote the Endangered Resources Fund."

In terms of total donations, Wisconsin taxpayers rank third in the Midwest behind Ohio and Minnesota residents, who contributed over $500,000 and $650,000 to their respective funds this year. Thirty-three states now have wildlife check-offs.

"WILDLIFE IS ON THE LINE" AGAIN IN 1986 . . .

If you want to donate to Wisconsin's Endangered Resources Fund during the upcoming 1986 tax season, look for line 21 on the short tax form and line 53 on the long form to indicate your contribution.

Endangered Resources Fund

Donate on your Wisconsin Income Tax Form.

Trout Unlimited helps finance research

New reduced southern Wisconsin size and bag limits to be evaluated

Wendy Weisensel

Madison — A $7,500 contribition from Wisconsin chapters of Trout Unlimited (TU) will help the DNR assess major new trout fishing regulations that go into effect January 1st on certain southern Wisconsin streams.

The money was used to conduct angler and fish population surveys during the past year on five creeks in Grant and Columbia counties.

Results will give fish managers a good idea of the number, size, type, age and overall condition of trout in these streams before stricter regulations go into effect in 1986. How much fishing was done and the species and size of trout anglers caught and kept were both recorded.

"In the next several years, when we go back to check fish in these streams and what people are catching, we'll be able to confirm whether the changes we made in trout fishing regulations to improve the fishery actually worked the way we anticipated," said Larry Claggett, inland trout specialist with DNR's Bureau of Fish management. "Without the donations from TU, we would have had to divert funds from other important projects to do this sort of detailed work in a short time."

The new trout regulations will will apply to southern Wisconsin waters only. In general, the bag limit will be three, and the size limit nine inches. Major exception will be in the eight southern counties that feature the early season which starts January 1st. Here, the bag limit will be two trout from January 1st to May 3rd. On May 3rd, when regular statewide trout fishing opens, the bag limit on these early streams will switch from two to three. The size limit, however, will be nine inches throughout the south beginning January 1st. **These changes represent a reduction from the former bag limit of five or 10 trout per day and an increase in the size limit from six inches.**

The regulations are designed to improve sport fishing by giving both wild and stocked trout more time to grow and to increase the number of trout that survive beyond the spring stocking period.

Trout Unlimited is a national conservation organization dedicated to the preservation and wise use of coldwater fisheries and other natural resources. TU members support scientific research to evaluate the success of management techniques aimed at improving trout fishing.

1986 Wisconsin Trout Stamp Artist Christopher Jacobson, 2905 Cerri Ct., Plover 54467

Wisconsin furbearers keep you warm

Wendy Weisensel, DNR Public Information, Madison

When November winds come howling, you don't waste any time protecting yourself—out comes the cozy raccoon coat, the fur-lined gloves or the hooded parka trimmed with fox.

It's no coincidence that the onset of icy weather which prompts you to don extra layers triggers an instinctive response to do the same in Wisconsin's furbearing wildlife. In fact, you end up wearing furs taken from animals that began putting on their warmest winter coats when leaves started falling from trees.

"The drop in daily hours of sunlight that occurs in autumn prompts a shift in the hormonal flow of furbearers," says Chuck Pils, furbearer specialist in DNR's Bureau of Wildlife Management. "The shift affects the animals' physiology, so their fur becomes longer and thicker to help the animals withstand cold."

Fur length, thickness and luster are collective attributes referred to as pelt "primeness"—the quality Wisconsin's 17,000 trappers look for in the furbearing animals they seek during their seasonal forays into the state's woods, marshes, fields and streams.

Wisconsin's annual trapping seasons begin in mid-October and run through March for some species.

Trapping is a 350-year-old business in Wisconsin.

"Even after several centuries, trapping contributed $8.2-million to Wisconsin's economy last season," said Pils. "Another surprising fact is that few, if any, dollars are spent by the state to manage habitat for furbearers. It's nice to know that Wisconsin's environment can still support healthy populations despite our modern times."

More than 95% of the fur harvested in Wisconsin is sold within the state, though the furs themselves may be transported back and forth from Europe and Asia to the US during processing into everything from fashionable coats to fishing lures.

Here's a look at the status of some of Wisconsin's furbearers during this year's trapping season:

MUSKRAT is the "number one, bread-and-butter animal for Wisconsin trappers." Last season, 913,000 muskrat pelts worth $3-million were harvested. Populations statewide are steady this year.

RACCOON are next in terms of total harvest and value. Last year 210,000 were taken by hunters and trappers. They brought in $3.4-million. Numbers are steady this year, but especially high in the rolling hills and woods of southwestern Wisconsin.

BEAVER, the backbone of Wisconsin's early fur trade, are currently spilling out at the state's seams—a condition wildlife managers have observed in all northern Great Lakes states the past several years. Numbers are so high that dams damage trout streams, and pelt prices are so low ($12 each) that trappers stay home. This has resulted in a DNR subsidy to encourage beaver trapping. About 28,000 were taken last year.

Trapping is a 350-year-old wintertime business in Wisconsin and even today brings in $8-million per year. DNR photo

COYOTE are among the most underharvested furbearers in Wisconsin. This is partly because coyote pelts from the upper Midwest are somewhat lower in quality than the more luxuriant pelts from western states. Coyote are found in every Wisconsin county, including Milwaukee, but are particularly abundant in the north. Trappers and hunters took 2,900 last season.

MINK populations are good throughout the state, but especially in east central Wisconsin where wetlands they favor are more abundant. About 34,000 were trapped last season. The wild harvest supplements Wisconsin ranch-raised mink, which outnumber every other state.

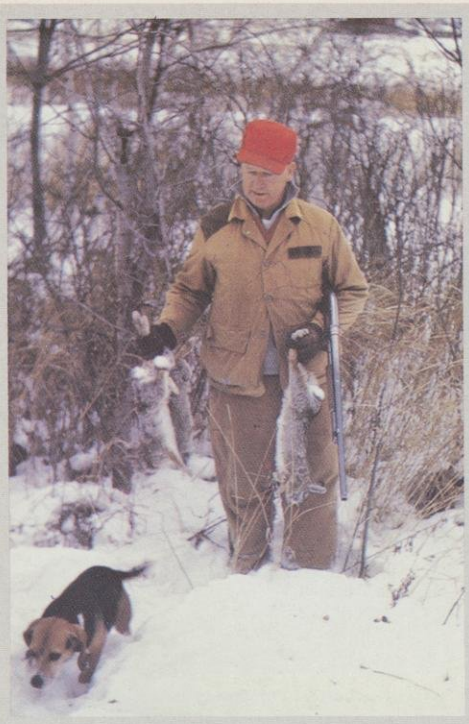
RED AND GRAY FOX numbers are holding steady in Wisconsin. Red fox are much more abundant than grays and are found throughout the state. About 24,000 were hunted and trapped last season at an average pelt price of $26. Gray fox are most common in southwestern Wisconsin along the Mississippi River. About 4,000 were taken last year.

Still plenty of opportunities afield

Dave Kunelius, DNR Public Information, Madison

After the last shots of the 1985 gun deer season have echoed off the pines and hardwoods, some Wisconsin hunters traditionally pack-it-in for the year. But many don't—and most shouldn't—because there are still a couple months of fine opportunities ahead.

Coyote are hunted all year in Wisconsin while the red and gray fox season remains open through January. DNR and Herb Lange photos



In winter, beagles and bunnies go together. DNR photo

Picture a morning afield with the temperature around 20 degrees when you arrive at your chosen hunting territory.

You pull to a stop. It's decision time. Habitat dictates the kind of game you'll hunt, but there's plenty of overlap.

If it's before December 11, pheasant, bobwhite quail and Hungarian partridge seasons will still be open. Populations are much the same as last year, with the east central side of the state best for Huns while the southeast holds the highest pheasant numbers. The southwestern part of the state, north of the Wisconsin River, offers quail shooting.

Daybreak feeding hours are often the best time to continue the squirrel hunt, and the season remains open statewide through January 31. DNR wildlife managers rate populations as very good statewide and best in oak hardwoods in the southern two-thirds of Wisconsin. Bag limits allow five squirrels per day.

A tree stand helps conceal a bow hunter. Photo by Glenn Helgeland

Overlapping often occurs in the early morning along woodlot edges, especially those bordered by unharvested corn. If there's brushy understory reaching out toward the corn, habitat will be great for ruffed grouse as well as squirrels. Grouse too will feed at daybreak. Concentrate on the squirrels first. If the grouse are there, you'll find them too.

Ruffed grouse season remains open north of Highways 64, 45 and 10 through the end of December while south of these highways the season is open through the end of January.

DNR Farm Wildlife Specialist Ed Frank says that during the late part of the season ruffed grouse tend to group up. "You might hunt the first two or three hours and find only a couple groups of birds, but these groups might contain six to eight birds each," Frank says.

A south slope with the snow burned off by the sun and some acorns on the ground makes excellent afternoon cover in which to find ruffed grouse feeding or loafing. If there's snow, snow-roosting grouse make even more of a "thunder run" than usual when they burst from cover.

Grouse populations are about two years out of their low point, according to Frank, with the best numbers in western Wisconsin.

Another overlap to help with that mixed bag is the cottontail rabbit. They can be found most everywhere.

For the rifle hunter, red and gray fox seasons remain open through the end of January. The patient hunter can set up a camouflaged blind and call coyotes all year. Coyotes are found in every county in Wisconsin.

Late season hunting in Wisconsin abounds. It's only the decision of what species to pursue that's tough.

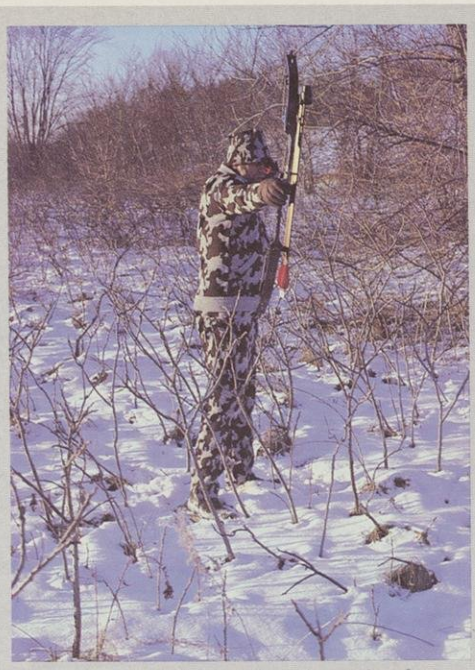
Squirrel and rabbit hunting seasons extend into winter. Photos by Herb Lange and Greg Scott

Late season bow deer hunting

Jeff Welsch, DNR Public Information, Madison

December in Wisconsin can be cruel. Winter sends its first round of bone chilling winds, blowing snow and sub-zero temperatures—an initial show of force that succeeds in chasing many of us indoors where it holds us captive for several weeks. But if you're a bow hunter, December's arrival brings smiles.

Wisconsin's late season for bow deer hunting begins December 7 and runs through the end of the month. If you can withstand the cold, the opportunities for success are good, according to DNR's big game specialist Frank Haberland. Approximately 10% of all deer killed by bow hunters are taken during the late season. In 1984, Wisconsin archers killed more than 3,800 deer in December.



Archers took 3,800 deer in Wisconsin's late bow hunt last season. Photo by Glenn Helgeland

Late season offers some advantages you don't have going for you during October and November.

Deer start herding up when late season begins.

Deer in northern Wisconsin congregate in traditional yarding areas year after year. You can count on deer going toward those locations even when the weather isn't severe. Further south in the state, look for deer in wooded valleys near unpicked corn fields.

Snow can help you locate deer. Tracks show where they bed and feed, aiding you in selection of a stand. And a blood trail is easier to follow on snow.

Late season's only disadvantage is the cold. However, if you're a dedicated bow hunter like Gordon Bentley of Madison, it'll take more than chilly temperatures to keep you from enjoying the quiet serenity of a winter hunt in the woods.

"I remember sitting out on my stand one year when it was 15 degrees below zero," recalls Bentley. "The solitude and beauty of that time of year makes it the premier time for bow hunting. You can really be alone."

Bentley suggests waiting until the middle of December if you're planning to bow hunt during late season. From experience, he finds that deer are still "spooky" the first week after gun season. Once the gun hunting pressure tapers off and it gets later in the month, he says you'll find bedding areas getting closer to feeding areas. He likes to place his tree stand between the two areas whenever possible.

This December string your bow and take advantage of Wisconsin's late deer season. "The big plus," says Bentley, "is that it's pretty easy to find deer." But—don't forget to wear your longjohns.

Planning the hunt

Mitzi Satran, Editorial Intern

The golden rule of hunting is best stated as—plan your hunt and hunt your plan. This rule, though simple, is the key to both rewarding and safe hunting trips.

Perhaps the most basic planning stage is studying the habits of wildlife. This includes food preferences, evasion and hiding tactics and characteristic markings. Knowledge of wildlife makes hunting an easier and more enjoyable experience.

More than 80% of huntable land in Wisconsin is privately owned, so it is necessary for hunters to ask permission to enter these lands.

Topographical maps are excellent planning tools. Terrain can be studied, and the best potential hunting areas pinpointed.

A practice hunt prior to the season is a good way to study wildlife and its habitat, travel routes and possible escape routes. By carrying a camera, the hunter can really get the best "shot" on a practice outing.

One of the most frustrating experiences is missing an easy shot at a trophy animal. To avoid this, hunters should sight in and practice with their rifle. A variety of shooting positions should be used. To test a shotgun's accuracy, hunters should "pattern" it by shooting a 30-inch circle drawn on paper or cardboard from a distance of 40 yards. About 65% of the shot should be within the circle. Shooting at clay birds on a trap or skeet range is excellent for shotgun practice.

Supervised shooting at a range is part of Wisconsin's hunter education program. Training is now mandatory for those born on or after Janauary 1, 1973. Photo by Harland Steinhorst

To expect a limit of game on every hunt is obviously unrealistic, so hunters should never set goals they can't attain.

As the old saying goes, "Ignorance of the law is no excuse." So when planning the hunt, hunters should read, study and most importantly understand the hunting regulations. It's important to know the laws before you set foot in the woods and obey them while hunting.

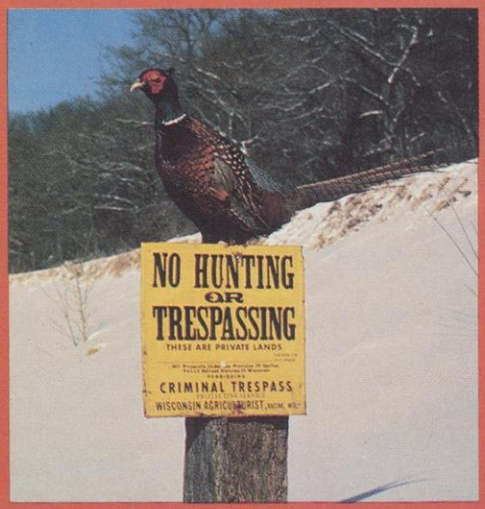
After all the careful planning, make sure everyone understands their role and hunts the plan. Each hunter should know the route to be followed and use teamwork to assure success as well as safety. Even though you have a plan, don't depend absolutely on every hunting partner following the designated route. Be aware that someone may take a different route and for this reason make sure of your target before you shoot.

As an added precaution, establish a safe zone of fire—trees, hills or other landmarks and stay within those boundaries no matter where game runs or flies.

If each of these planning and preparation steps are taken, every hunting trip can be a safe, satisfying and enjoyable experience.

More than 80% of huntable land in Wisconsin is privately owned. Good hunters always ask permission. Photo by Doug Haskins

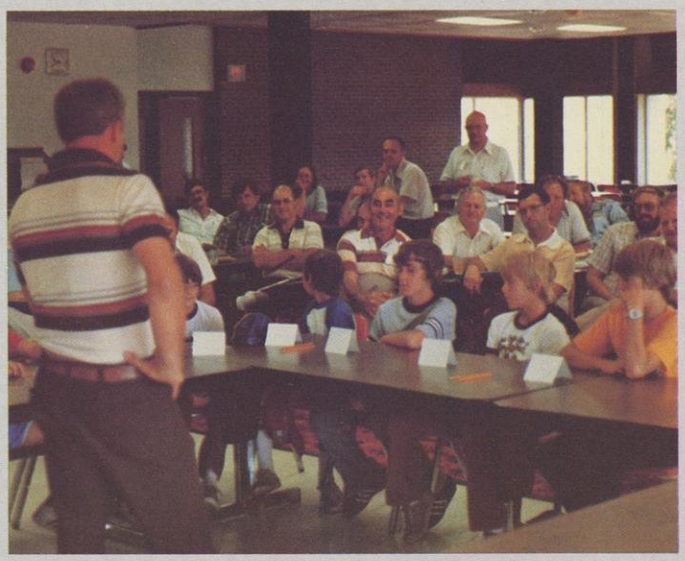
Hunting tips



Most game in Wisconsin lives on private land, and most landowners don't hunt. Photo by Herb Lange

Firearm accidents are not the only kind of hunting mishap. Follow these tips and have a better time:

1. **Tell someone where you are going and go there. If something happens to you, others will be able to find you.**
2. **Travel slowly while hunting. You will see more wildlife, bag more game and avoid accidents caused by slipping and falling.**
3. **Use your compass. Set a course and be aware if you change direction. Check often for landmarks to use in finding your way back.**
4. **Avoid streams that are deep and have steep slippery banks. Stay off thin ice.**
5. **Respect all wildlife and do not disturb non-game species. Take time to appreciate and learn about animals by observing their behavior.**
6. **Make sure any animal you down is dead before handling it. If in doubt, poke it gently with a stick to be sure.**
7. **Carry a compact survival kit to treat illness and injuries, start a fire and provide nourishment.**
8. **Use binoculars to observe wildlife. Do not miss the chance to study wildlife close-up.**
9. **Hunt with a "buddy" system. Stay in touch with, watch for and share responsibilities, duties and successes with a partner.**
10. **Do not tolerate unsafe practices by hunters in your party. Caution any hunter who is careless in handling a firearm.**



Wisconsin's hunter education programs for both youngsters and adults go into detail about safety, wildlife management, hunter landowner relations and other complicated issues. DNR photo

Advanced hunter training for adults

Mitzi Satran, Editorial Intern

Wisconsin puts about 800,000 hunters in the field each year—more than 17% of the state's population. Of these, only three out of 10 have participated in any kind of formal hunter education program. To help train the half million who have not, DNR is now devising an Advanced Hunter Education Program (AHEP) for adults. Since early 1979, volunteer instructors have tested various curricula and techniques for teaching adults. So far, 1311 hunters have been certified in AHEP courses.

Because 80% of huntable land is privately owned, but only 20% of the owners hunt, an important part of the course covers hunter-landowner relationships.

"Our sport's survival rests with the non-hunting public," said Homer Moe, Wisconsin Hunter Education Administrator. "We must work to reverse the trend toward more and more restrictive land posting."

The problem of trespassing and disrespect toward landowners was addressed in a recent survey of landowners and sportsmen in Sheboygan County. Conducted by DNR and the Izaak Walton League in the townships of Lima and Herman, the survey indicated that most landowners would open their property to hunting provided they could control who and how many people would be allowed access. Eighty-one percent of the landowners said they would be more likely to allow a graduate of an advanced hunter education course on their property. This finding suggests that it is not hunting to which the landowners object, but hunter conduct.

The new adult hunter education program should be ready by spring 1987. The current hunter education program is mandatory for persons born on or after January 1, 1973. Wisconsin is one of 36 states with mandatory hunter education. The goal is to eventually make sure that everyone has received training before venturing afield.

Thanks to restocking, Wisconsin's fisher population, nearly wiped out shortly after the turn of the century, has now made a remarkable comeback.
Drawing by artist Bob Frankowiak, 4972 S. 20th St., Milwaukee, WI 53221.

Thirty years of fishers

Thanks to restocking and careful management, the "black cat" of Wisconsin's northern forests has returned. Limited trapping will begin this year.

Bob Willging
Mt. Prospect, IL

It was a dark form slipping quickly through the alders of the river bank. In a canoe 50 yards upstream I couldn't identify the animal. "Otter or mink," I thought as I motioned to my canoeing partner, US Forest Service technician Penny Nelson. We stopped paddling and let the cold waters of a late fall Chippewa River silently float us closer. Our eyes scanned the approaching land. As we came upon the dried sedge of the shore, a brown animal darted into the tangle of brush. Suddenly I spotted a second one frozen in its tracks and watching us not more than five yards away. There was time for only a few seconds of observation, then it too disappeared.

This dark creature whose eyes had met mine on the riverbank had the characteristics of a mink: small eyes peered from a broad, flattened head; and it bounded with a hunched gait. But it was larger and had a bushy tail about half as long as its body. "Definitely not an otter!" It finally occurred to me that the mysterious animal was none other than *Martes pennanti*, the fisher.

Not long ago in Wisconsin this riverside glimpse of one of the most interesting members of the Mustelidae family would have been extremely rare and cause for storytelling. Due to a combination of factors, the fisher was extirpated from the state shortly after the turn of the century. But today the sighting of a fisher will hardly raise an eyebrow in northern Wisconsin. The story behind the species remarkable comeback from statewide extinction began with reintroduction efforts initiated 30 years ago.

According to the late A.W. Schorger this relative of the mink, weasel and marten was either extremely rare or completely gone from Wisconsin by 1920. Although never very abundant, the fisher was once a common furbearer throughout the forested regions of the state. In 1842 fisher were reported to be numerous along the timbered Mississippi River bottomlands near the present site of La Crosse. "There are definite statements of the occurrence of the fisher from as far south as Milwaukee and Jefferson Counties as late as 1852," wrote Schorger. As man encroached upon the fisher's domain the species declined not only in Wisconsin but throughout much of its eastern range including Minnesota, Michigan and New York.

Sometimes referred to as black cat or Tha-cho, the Chippewa Indian name meaning big marten, the fisher possesses a luxurious fur. Thick and glossy-brown to black, and silver-tipped on head and shoulder, prime fisher fur is almost unrivaled. Pelt prices as high as $150.00 during the early 1900s were a powerful incentive for trappers to doggedly pursue this increasingly uncommon furbearer. Unregulated trapping took a heavy toll in Wisconsin.

Perhaps more devastating than overtrapping was habitat destruction. The fisher is a creature of the northern forests. An agile tree climber, it preys upon a large variety of small animals. Small rodents and birds, snowshoe hare and an occasional porcupine, along with insects and wild fruit make up the diet of Wisconsin fishers. Hollow trees or logs serve as dens, and brush piles and rock crevices provide resting sites. Prime habitat consists of extensive mature hardwood and conifer forests with scattered conifer swamps. As Wisconsin forests were logged and subsequently burned during the 1800s, fisher habitat disappeared. Unable to cope with both habitat loss and trapping pressure, Wisconsin fisher also disappeared.

But not forever! More than 25 years after its extirpation, plans were made to bring the fisher back. Bernie Bradle, one of the first game managers in the old Wisconsin Conservation Department (WCD), DNR's predecessor, remembers the early efforts to reestablish fisher. "It was decided in the early 1950s that northern Wisconsin could once again support fisher," said Bradle. "The habitat was there." Cut and get out policies of the early logging days were a thing of the past by then. The land had reforested and was relatively unpopulated. WCD thought reintroduction was a good idea and in cooperation with the US Forest Service, the process began.

Between 1956 and 1958, WCD obtained 18 fisher from the New York Conservation Department in exchange for bobwhite quail. These animals were eartagged and released in the Nicolet National Forest in northeastern Wisconsin. "The fisher were trapped in the Adirondacks and flown straight from New York to Rhinelander," said Bradle. "On some occasions we released the animals within 24 hours of their capture in New York." After a long absence, fisher once again inhabited the north.

During the next few years, fisher livetrapped in the Superior National Forest in northern Minnesota were the stock animals used for reintroduction. During the entire project, which lasted from 1956 to 1963, a total of 60 fisher were released in the Nicolet with the hope that they would "go forth and multiply."

To help the fisher become established, certain precautions were taken. Although fisher were fully protected in Wisconsin in 1921 (too late to save them from extinction), it was feared that trappers pursuing other furbearers might accidentally trap the new arrivals. To prevent this, a 120,000 acre permanent fisher management zone was established in the Nicolet. Within this area, which encompasses the fisher release sites, dry land trapping is prohibited. A trapper is restricted to wet sets such as those for beaver, muskrat, mink and otter; sets not likely to catch a fisher.

Immediate results of the reintroduction were encouraging. Observations began to increase, and untagged animals were being found outside the management area. "In May of 1962 a male fisher kit was found stranded in a mud puddle," said Bradle. "So we knew they were reproducing."

Three years after the last fisher release in the Nicolet, another reintroduction got underway in the Chequamegon National Forest in northwestern Wisconsin. "Our main concern was to reestablish an interesting and valuable furbearer," recalled Chequamegon Forest Biologist Howard Sheldon. "Porcupine control was also a reason, since fisher are one of the few animals that will try to kill a porcupine, but that was only secondary to our primary goal."

Once again the Forest Service and WCD cooperated, and once again stock animals came from the Superior National Forest. "We contracted private trappers to live-trap fishers for $50. an animal," said Sheldon. "Then Forest Service and WCD personnel would travel to Minnesota to pick them up." The animals were released at various sites throughout a 220,000-acre fisher management area in the Chequamegon. Like the Nicolet, it too was closed to all dry land trapping. Thirty-one were released in 1966 and 29 a year later to complete the project.

Sheldon recalls that the return of the fisher to the Chequamegon caused some excitement. "Somehow a fisher escaped in the small building where we tagged them while a news team from Duluth was doing a story on the reintroduction," remembers Sheldon. "The cameraman became so excited he dropped his equipment and bolted for the nearest window." That event ended without altercation, although Sheldon vividly remembers another run-in he had with a different animal. While ear tagging a lively fisher, he lost his grip on its head and the animal managed to clamp down on his finger. "There was quite a bit of blood," said Sheldon. "Fishers are strong and quick and you learn to respect them."

From the two initial release sites in the Nicolet and Chequamegon, fisher steadily increased and expanded to new locations. It became apparent they were back to stay. Much of the northern third of the state proved to be good range. Today it coincides with the state's heavily forested land north of a line that runs roughly from southern Polk County east to southern Marinette County. The heaviest populations remain close to the fisher management areas.

"They are still expanding their range today and are filling in the empty corners," says Bruce Kohn, biologist with DNR's Forest Wildlife Research Group at Rhinelander.

DNR research on fisher is designed to monitor population levels and gain insight into movements and home range

size. One technique consists of track count surveys. Road transects of about 21 miles each have been set up at the Monico and Enterprise study areas near Rhinelander. On mornings following a measurable snowfall the routes are driven and all track crossings recorded and later plotted on maps. The number of tracks counted provides an index of upward or downward trends in the population. If more and more tracks are found over the years it can be assumed that the population is increasing. This was exactly the case with the fisher track counts. The results showed a steady increase in the abundance of fisher from 1976 to 1984.

Bill Creed, leader of the Forest Wildlife Research Group, used the data to estimate the present statewide fisher population. "I took the density of fisher from the Monico study area and related this to the tracks per mile from our track count runs," said Creed. "Then I was able to use data from 10-mile track count runs made each year by northern district wildlife managers to determine a population estimate." Creed concluded that Wisconsin's fisher population now stands at about 3,000 animals.

"The fisher population is secure," said Creed. "We're seeing fisher everywhere in the Nicolet closed area now when just five or 10 years ago we didn't."

DNR feels the population is large and established enough to withstand a harvest, thus, beginning in December, 1985 a restricted trapping season will open. Although Minnesota, which has a large fisher population, has found that 30% of the animals can be harvested without harm to the population, Wisconsin's first season will be limited to 300 animals, just 10% of the total population. "We're being very cautious," says Kohn. "Many states that have opened a fisher season have had to close because of overharvest."

In addition to a restricted harvest, the Nicolet and Chequamegon management areas will remain closed. "We'll always have this secure nucleus of animals," says Kohn.

The mechanics of the new season will involve three fisher harvest zones with each zone allotted a set quota. The zones encompass from four to seven deer management units each spread across northern Wisconsin. The 300 fisher permits will be distributed to trappers by lottery. A trapper will be limited to one permit and must apply for a specific zone. Harvested fisher will be tagged and carcasses turned in to DNR.

The season will utilize a valuable fur resource and provide researchers with a great deal of information. "After we get four or five years of trapping data we'll have a much better idea of how many fisher are out there," says Creed. "We'll also get a better idea of the age and sex structure of the population."

Many generations of fishers have come and gone in the last 30 years but the distant relatives of those original 60 animals still inhabit the dark forests of Wisconsin's north. The changing story of the fisher in Wisconsin is one that reflects our own changing attitudes. The progression from statewide extinction to reintroduction and a stable, harvestable population was accompanied by changing human values regarding the use of natural resources. The fisher is back and intelligent management will make sure it stays.

The fisher's luxurious and expensive fur was a powerful incentive to the trapping which led to statewide extinction in the early 1900s.
Photo by Roger A. Powell

DNR's new wildlife chief sizes up the job

Steven W. Miller
Director, Bureau of Wildlife Management

Steven W. Miller.
Photo by Bob Queen

Deer though flourishing, are actually too plentiful in several areas of the state.
Painting by Artist Virgil Beck, Box 66, Stevens Point, WI 54481

Wild animals have broad popular appeal in Wisconsin among both hunters and non-hunters. The new director of DNR's Bureau of Wildlife Management thinks it's time to parlay this support into a program that will serve everybody.

Who is not moved by the call of a sandhill crane echoing through a foggy marsh at dawn? Thrilled by an eagle boldly soaring the sky? At deer gracefully bounding across a meadow to disappear among trees? At ruffed grouse exploding from the edge of a quiet, wooded trail? What is it about wildlife that attracts us so? Why do an estimated 3.6-million Wisconsinites seek some form of wildlife related encounter each year, be it hunting or non-hunting? And what does DNR do and think to make sure abundant, diverse wildlife populations will always be here for you to enjoy?

As new director of the Bureau of Wildlife Management, I'd like to share my personal feelings and views about this with you. I'd also like to let you know where I think our challenges and opportunities lie.

To begin, let's look at what wildlife management is. Essentially it is an ecological science. Its foundation lies in scientific study and understanding of the relationships between organisms and the landscape—the soil, vegetation, water and atmosphere in which we all live.

Wildlife management took form as a profession in the US when Aldo Leopold set up shop at UW-Madison in the 1930s and began serious investigations on how to produce game for hunting. In 1932 he wrote, "game management is the art of making land produce sustained annual crops of wild game for recreational use." It's important to note two things in this early definition.

First, wildlife management is deeply rooted in "game management." The conservation movement of the early and mid-1900s happened mostly because sportsmen saw game supplies dwindling due to habitat loss, insufficient regulation, lack of planned land management and deliberate destruction of wildlife habitat. Newly formed game management bureaus and sportsmen joined in the 1940s to turn things around and many of today's successful wildlife programs are a result of these early beginnings.

Second, Leopold uses the word "art" not science in his definition. Why so? Partly because during his time the first scientific wildlife studies were just getting started. Many facts we have today were unknown then. Cause and effect relationships were unclear and applying such imprecise knowledge to managing land for wildlife was truly an art. Since the dictionary says art is "a human effort to imitate, supplement, alter or counteract the work of nature," this word is highly appropriate when applied to wildlife management.

Geese are one of the bright spots in Wisconsin's wildlife management picture.
Painting by Artist Virgil Beck, Box 66, Stevens Point, WI 54481

Leopold's use of the word art also referred to people. Working with wildlife and landscapes involves people, and people's views can differ markedly. It is a real art to blend differing viewpoints into an acceptable product that's good for wildlife and good for people too. Wildlife managers today are as well aware of this fact as Leopold was.

Leopold's phrase "game management" has now been replaced with "wildlife management"— a change that accurately expresses what is really occurring. Wildlife managers long recognized that land use and planned management affect and benefit a lot more than just game animals. The many non-hunted species have problems of their own deserving scientific study and management. Today we often use the terms "holistic" or "ecosystem" to describe our approach to wildlife problems. There's no question that hunted species and hunting do and will continue to play a major role in wildlife management. However, non-hunted species and non-hunting wildlife recreation are equally important.

Thus, a modern-day definition might read like this: wildlife management is the science and art of managing the characteristics and interactions of habitats, wild animal populations and people to achieve specific human goals by means of the wildlife resource. While the principles of wildlife management are real science, they are also true art when applied in concert with other land management technologies and with human behavior.

A personal philosophy

To share my philosopy with you about this "science-art" definition is one of the purposes of this article. The concepts that guide my thinking and allow me to place the role of wildlife management in as broad a perspective as possible are these:

One. I believe wildlife management should be people-focused and should supply benefits to people. We can all derive direct physical, mental and emotional benefits from appreciating and enjoying wildlife in various ways. Wildlife management should focus on those benefits that are most dependent on wildlife and wild places and not readily available from other forms of recreation. And since it is people who place value on wildlife, they should actually be able to see what they get for their support of management programs.

Two. Our programs should promote the learning of outdoor values and skills, or what I call woodcraft. Wildlife enthusiasts should not only learn how to find what they're after, they also need to feel comfortable in the outdoors, be perceptive of their surroundings and understand why various species exist where they do. All outdoor users should learn to appreciate the sensitive natural systems which support wildlife abundance. Ethical behavior towards wildlife and its habitat is another essential that applies to all and is part of the skill of woodcraft.

To give Wisconsin citizens continued good hunting will be the central focus in the Bureau of Wildlife Management.
Painting by Artist Nick Pitl, W235 N8711, Woodside Rd., Sussex, WI 53089

Three. A natural application of wildlife management is to enhance or protect the natural beauty of landscapes and habitats. We work in wetlands, forests, fields, lakes and streams. How we design and carry out habitat management programs can greatly aid in protecting beautiful landscape scenes that also produce wildlife. Wildlife is a product of the land and most often a by-product of other land uses, so the kinds and numbers of wildlife we have relate directly to the health and diversity of our landscapes. While we go about using the land we should also protect and enhance its beauty.

Four. Wildlife management needs to blend and provide for both game and non-game, hunting and non-hunting wildlife recreation. I feel the two are compatible and not mutually exclusive. They can go hand-in-hand in any habitat or landscape. Working together, they can protect the diversity of our environment. I see no need at all to de-emphasize hunting programs, but I do see a great need to bring non-hunting programs up to a similar level of intensity.

Five. Making a place for wildlife in Wisconsin is part of the cultural and artistic expression of our society. It is, I feel, a fundamental expression of what we value as a civilization. We are placing increasingly complex and severe demands on our natural resources. If wildlife is to coexist with us, we must assume its stewardship and make a place for it. Increasingly we will find that the wildlife abundance which does exist in our state is not just an accident, but the result of conscious decisions. This principle will not change.

Wisconsin's wildlife heritage

To preside over Wisconsin wildlife management in light of the above concepts is a great feeling. In our state, wildlife is a valued cultural heritage. Our traditions and achievements in fish and game management, endangered species, environmental protection and public involvement all illustrate this. Wisconsin's wildlife professionals have earned national respect. They have helped the profession grow and mature. Public support and interest remain strong, and I'm confident we're ready to move ahead to new achievements and greater social benefits.

I'm confident because we are entering a new era, one anticipated and theorized about ever since the profession took root. Key elements are finally converging to at last create a truly comprehensive wildlife management effort. These are the pro-wildlife forces now at work in Wisconsin:

- Increased concern for the quality of life.
- Continued strong interest in game management and hunting.
- A budding non-game/endangered species program with its own, albeit limited, funding source.
- A private lands wildlife management mandate via a citizens steering council plus increased awareness about managing private lands for other conservation purposes.
- Better integration of land management programs within DNR.
- Increased emphasis on management for biological diversity and protecting what we have.
- More attention to public involvement and the human dimensions of natural resource management.
- Heightened business and public awareness of the fact that Wisconsin's vital tourism and outdoor recreation economy is directly linked to a diverse, high quality environment.

This historically unique position plus a more environmentally aware society permit us to place a greater value than ever before on all uses of wildlife—hunting, study, observation, trapping, photography and preservation. In my view a good program is poised to become great.

Future directions

In 1979 the Bureau of Wildlife Management completed its first attempt at a strategic long range look at the needs of wildlife in the state. The results were published in this magazine in the May-June issue of 1980. The plan laid out then had many objectives, and over the past six years DNR's wildlife managers have been busy achieving them. Now we're ready to update our long range thinking, and we'll be doing that in the coming year. Once completed, results will again be reported in this magazine.

I see many major concerns for the future, and they all interrelate like parts of an ecosystem. To do our wildlife management job right, we'll have to be successful with every one.

The habitat base on public and private lands is always foremost in the minds of wildlife managers. Unless there is adequate and good quality food, water, shelter and living space, all in the proper arrangement, wildlife will not thrive. As before, we will maintain existing management on state wildlife areas, state and county forests and other public lands and waters, but do much more to integrate non-game habitat needs into our traditional techniques. For example, we'll address the needs of cavity nesting birds and wildlife by incorporating snag management guidelines into forest management. We'll be more involved in planning for diversity of age and tree species in forests and continue to actively assist foresters in managing key timber types such as aspen and oak for wildlife. We'll continue to establish forest openings, use prescribed burning, plant dense nesting cover and create flowages—all tested ways of improving quality and quantity of habitat. We'll also work more intensively with existing flowages and shallow lakes to prevent or correct habitat loss resulting from eutrophication, sedimentation or natural aging.

A new thrust will stress wildlife management on private lands. The program will include both game and non-game and be integrated with forestry, agriculture, and urban and suburban development. Since about 30 of Wisconsin's 36-million acres are privately owned and an estimated 75% of our wildlife lives on those private acres, it is important that DNR actively assist the owners in providing for wildlife. We took a first step this year in the 1985-87 budget which authorized two positions for this work. As wildlifers, we're excited about the potential in both rural and urban areas.

A second major focus will be on education and public understanding and involvement in wildlife programs. We need to improve wildlife educational opportunities at both the basic and advanced levels. I believe enjoying wildlife is a lifelong pursuit. An individual's knowledge and experience in the outdoors should never cease, but should become richer and more meaningful with time.

Acting on this idea in 1985, we introduced Project WILD to Wisconsin's primary and secondary school wildlife education curriculum. This cooperative venture between DNR's Wildlife Management and Information and Education bureaus with the Department of Public Instruction has trained more than 100 teachers in just a few months. Response by educators has been tremendous—as if Project WILD were feeding a long unsatisfied hunger. Our children will receive great benefit from this type of organized effort.

However, Project WILD isn't enough. Most adults will never participate in it and besides, teaching grown-ups is different. Still, they need opportunities to continue learning about wildlife. Leopold thought promoting the hobby of wildlife learning and study was the most important challenge confronting the profession of wildlife management. He called the challenge a "sport" that knows no bag limit and no closed season. "The most fun," he said, "lies in seeing and studying the unknown." I wholly agree.

The benefits of a public better informed about wildlife and the problems of survival are obvious. The Wildlife Bureau wants and welcomes greater involvement by all groups interested in protecting Wisconsin's wildlife heritage.

Providing top quality hunting and trapping opportunities remains high on the bureau's agenda. This is a significant aspect of our work that involves a major form of outdoor recreation in the state. Future hunting opportunities will largely depend upon how successful we are in protecting and

improving habitats for game. Overall I'm a bit uncertain if we can increase hunting and trapping opportunities much above current levels.

Our wild turkey restoration program is a notable exception, and the Canada goose harvest is expected to rise in a few years. Otherwise populations of ruffed grouse, squirrels, rabbits and woodcock will remain at levels similar to what we have now. The black bear, bobcat, otter and sharp-tailed grouse populations all need harvest controls either now or in the future. The deer herd is doing well and is actually too high in some places, and we'll try to lower it where necessary to bring it into balance with agriculture.

Ducks and pheasants are real question marks. Pheasants are in big trouble due to loss of habitat from intensifying agriculture. Our new private lands wildlife program may help us find ways to work cooperatively on this with farmers. If we're not successful, then the outlook for wild pheasants in Wisconsin is poor.

Wetland protection laws greatly benefit waterfowl, and our major in-state breeding species—mallards, blue-winged teal and wood ducks—will continue to do fairly well. However, continuing habitat loss and periodic droughts in prairie Canada will make duck management uncertain. Future regulations will probably be more restrictive. Many of our state wildlife areas were bought and developed for waterfowl production, and this will continue to be a high acquisition and management priority for us.

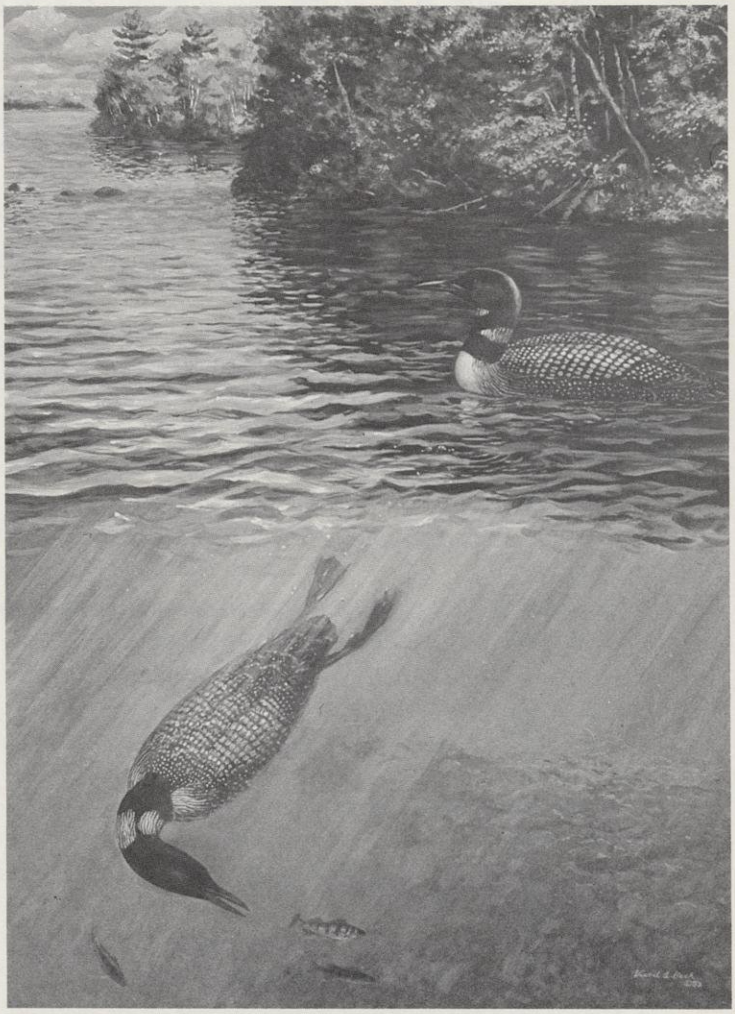
I'd like to see an increase in hunter education efforts. It's already well organized and mandatory for all those born after January 1, 1973. However, it shouldn't end with teenagers. Adults need to sharpen skills and increase knowledge as well. The hunter is increasingly criticized, and often unfairly, for unethical behavior. Continuing education could substantially reduce this criticism and make the sport more acceptable to non-hunters.

Hunting, however, is not the only way to enjoy wildlife. Public lands offer a tremendous opportunity for everyone year-round. Encouraging wildlife watching will be an important part of our future program. Observation areas and blinds, walking trails and in some cases self-guided auto tours already exist in a few places. We think more people can experience wildlife and the outdoors without adverse effects to the environment. Wildlife watching is usually a dispersed type of recreation which means you do it alone or in small groups. Quiet and stealth in walking and keen powers of observation are needed. Often, just sitting quietly in the woods for an hour or two will provide memorable experiences as well as time to reflect and enjoy the peace and serenity of the surroundings.

Financing is the final major area of concern and directly affects everything I've already discussed. Eighty-nine percent of our current $10-million annual budget comes from hunters and trappers. They have been very generous in paying for wildlife programs in Wisconsin, and they'll be asked to pay even more in the future as the costs of needed management rise. They will also be asked to volunteer more, especially on management projects in local areas. I know hunters will continue to be generous and show strong support.

However, a broader funding base than just hunting and trapping license revenues is needed. The endangered species tax check-off is a big help but insufficient to implement the large land management and educational efforts I've outlined. In other states, new ways to fund wildlife programs have been tried. Missouri was successful in getting a one-eighth of one percent sales tax increase devoted entirely to fish, wildlife and forest management. Minnesota has discovered that sales tax revenue generated by fish and wildlife recreation amounts to almost $60-million a year. Their DNR wants to redirect some of this money back into the resources that sustain the recreation-tourism industry. In Wisconsin it will probably take a united effort by wildlife, fisheries, forestry and parks to develop support for any large increase in funding.

Well, that's how I see things shaping up. The general direction seems clear enough but there are a lot of details to work out. I hope you view the future with the same excitement we do and agree that Wisconsin wildlife offers something for everyone. I encourage you to continue to enjoy and learn about the outdoors as a means to personal enrichment. You can be sure those of us in the Bureau of Wildlife Management will strive hard to keep Wisconsin's wildlife diverse, abundant and forever wild.



Non-game values will become a higher priority for the bureau.
Painting by Artist Virgil Beck, Box 66, Stevens Point, WI 54481

Northwest dilemma:

In the north only 25 to 45% of the bucks are legally harvested each fall, a far cry from the 70 to 80% taken in central and southern parts of the state.
DNR photo

Blaze orange early? Blaze orange late?

Dave Weitz
DNR Public Information Officer
Eau Claire

There are plenty of trophy deer in Northwest Wisconsin. An early season would let more orange clad hunters encounter them, but there's need for crowd control to maintain quality.

I've been watching DNR's deer watchers, and they may be onto something. That something is the concept of an early season in Northwest Wisconsin. The deer watchers think it will result in a better quality hunt because hunters will see and take more older bucks up there. Committee meetings, public information sessions, surveys and lots of talk about it have gone on for a long time, and there's more to come before any decisions are made. Nothing will happen until it's certain the outcome will be good for the deer, good for the north country and good for the hunters.

Data about all three have been piling up ever since March of 1983 when DNR Secretary C.D. "Buzz" Besadny appointed a committee of wildlife managers, researchers and conservation wardens to take a look at the idea. Bob Becker, former DNR district director at Spooner, was named chairman. I sat in on the meetings as information officer

Since the Northwest is lightly hunted, in many cases, hunters must rely on natural deer movements or join in deer drives to hunt effectively.
DNR photo

An earlier hunt in the Northwest can reduce the chance that hunters will encounter bitter cold and heavy snow.
Photo by John Olsen

The north produces more four-year-old and older bucks than the rest of the state, the kind people often label "trophy bucks." Photo by John Beth.

and, although I've hunted that part of the state for years, found out I still have a lot to learn—about the North and about deer biology too. Now all those notes I scribbled at the meetings, jammed into cream colored file folders and bound with rubber bands, are piled eight inches thick atop my desk—two years deep of words about deer.

And they all lead up to a simple idea—hunting earlier in the Northwest. Hunting earlier in the year when deer are more active would mean hunters would see more deer and take more—in other words, a better quality hunt. The gist of comments at public meetings and of survey results was that most Northwest hunters are dissatisfied with the way quality is now, and they judge quality by the number of deer seen and bagged.

Keep in mind that herd levels have sharply declined in some of the far northwest units due to the impact of three consecutive severe winters. Also, the poorer, less productive units where hunters typically don't see many deer have not changed either. So, it's easy to understand that there's some dissatisfaction, but the situation can be improved with a change in regulations.

Charts, graphs, maps and terms like annual buck mortality, average opening day hunting pressure, additive and compensatory mortality and gun recovery rates were tossed back and forth at the meetings as biologists and the public tried to come up with a better idea for managing the Northwest's deer. But there are no quick fixes. Habitat and winter severity limit what can be done.

Keith McCaffery, DNR deer researcher at Rhinelander, sketched details to sharpen the picture. He said the north produces more four-year-old and older bucks than the rest of the state, the kind people often label "trophy bucks." Trophy-aged bucks are rare south of Highway 29, he told his colleagues. In Northwest Wisconsin buck harvests range from less than 25% in some units to slightly more than 40% in others with an average of about 30% of the bucks taken annually throughout the area. By comparison, in Central and Southern Wisconsin more than 60% of the adult bucks are taken during the gun season.

McCaffery also said that under existing season frameworks the number of bucks taken in the north depends largely on how many hunters are after the deer. Hunting pressure there ranges from less than 10 hunters per square mile to more than 20. It's below 10 in the midpart of the region north of highway 64. All in all, about seven out of every 10 Wisconsin hunters pursue their deer south of the northern forest.

The north country, McCaffery said, now offers high quality trophy hunting—a better than average supply of older bucks and not many hunters stalking them. But it's also an area where more deer should probably be harvested. He emphasized how vital it is to be sure any change to increase the quantity of deer taken not detract from the quality of the hunt.

Cliff Wiita is area wildlife manager at Park Falls. He's watched the herd in Wisconsin's middle north for years and says he's concerned. The harvest in 1981 was the best in the Northwest District since 1964, and still only 10% of the deer were taken. That could be doubled, Wiita said. He listed five major reasons why hunters take home fewer of the available deer in the Northwest than elsewhere:

- Bad weather.
- The hunt takes place after the time deer are most active during the pre-breeding rut period.
- Light to moderate hunting pressure moves few animals and cuts down on sightings while at the same time most management units continue to lose hunters.
- Poor visibility in the heavily wooded mature forests that have a large conifer base and in the regenerated growth after aspen clearcuts.
- Public demand for low quotas because the buck harvest is low.

One way to take more deer in the Northwest, according to Wiita, is to open the season there sooner. Deer are more active early in November during the pre-breeding rut than during the traditional Thanksgiving week season. An earlier opening would give hunters a better chance to see and bag deer.

Bruce Moss, DNR's district wildlife staff specialist at Spooner, also thinks the hunt should start sooner. "We open the season the same day along the Illinois border that we open along the shore of Lake Superior. These uniform dates totally ignore the differences in weather and hunting conditions," Moss said.

It appeared to the deer watchers that an earlier season in Northwest Wisconsin would meet biological needs. More deer could be taken, they agreed and more trophy bucks too without exceeding the "trophy management" level of approximately 60% buck mortality.

Still a question remained. Do hunters really want the change? To help find out, 800 of them were surveyed by UW-Madison Rural Sociology Professor Tom Heberlein, and last spring DNR held 35 public meetings. In addition, about 450 letters were received on the subject.

Altogether, the public identified 71 separate concerns and proposed 122 solutions. Gist of it all was mostly worry that an early Northwest season would bring crowds. Hunters insisted that if one is held, the number of participants be limited in some way. As one man said about overcrowding, "You don't see many deer, but you also don't see many hunters. You don't see any strangers in the woods, and I enjoy that."

Hunting earlier in the year when deer are more active would mean hunters would see more deer and take more—in other words, a better quality hunt.

Archers wanted plenty of time for early bowhunting and proposed that it be allowed right up to the gun deer opening, not closed the week before as it is now. Conversely, there was concern among gun hunters about the current high level of harvest by bow hunters. Most everyone thought Thanksgiving week should be included in any season and many proposed an early opening the week before. This would probably be late enough for good tracking snow and good visibility. And finally, hunters wanted assurances there would be no overharvest, particularly of trophy bucks, and suggested reduced antlerless quotas or a buck-only season.

Next step will be to develop a set of alternatives that respond to the various concerns and then go back to the public with them. That'll probably happen next spring. A special citizens' advisory committee is helping develop the alternatives. And legislation is expected to be introduced that will allow DNR to limit the number of hunters.

Meantime, the deer watchers are mulling over records from the meetings and the surveys to make sure, as Heberlein put it, that any shift in the season is one hunters want.

Heberlein's survey data revealed that for certain people, the concern about possible overcrowding is probably justified. About 25% of the non-Northwest hunters said they would likely hunt the Northwest in an early season. This would double or triple hunting pressure

there. And Northwest hunters said this would make them feel crowded and reduce the quality of their hunt. They didn't think it would help them see or bag deer either.

But other studies show that heavier hunter density actually does increase the chance to see and bag deer, and this in turn gives more satisfaction and a high quality rating in evaluations. Which means the opposite is also true. As one Northwest hunter put it, "The quality hunt stops when you reach Baraboo and start seeing deer on other cars but not on yours."

The survey showed that non-Northwest hunters place more emphasis on seeing and bagging deer when choosing a hunting location than do Northwest hunters. But Northwest hunters, who don't see so many, report lower quality and less satisfaction. More than 60% of them don't like the size of the herd or the number of deer they see, and they spend more time hunting but hang fewer on the pole.

While the study data was still jelling, DNR's Committee Chairman Bob Becker, briefed the top echelon of the Conservation Congress on the early season idea. Becker said the situation is simple. In the north, especially in the Northwest, the specter of extremely bad winters is always present.

Overall, Becker said, the Northwest is more than 75% forested, and in such a situation deer management interrelates with timber management. The region is lightly populated and receives relatively little hunting pressure except in a few units bordering Minnesota. For years, he said, managers have talked about problems with maturing timber and how creating openings is vital. But it's also costly, and now few of the area's deer are being bagged. "We need some flexibility to manage the herd," he stressed, but added, "I'm not sure what that flexibility is."

Keith McCaffery once more put the problem in statistical terms. In some parts of the north less than 10% of the deer are being bagged, and the hunter success rate in those places is only 17% compared to statewide success of 28%. It means, he said, that of the bucks that die yearly, less than half are taken by hunters.

Congress Chairman Bill Murphy said it's essential to find out if people feel there is any problem and whether hunters want to see the situation change. Other Congress members thought an early season when deer are more active might be controversial. However, biologists pointed out that it shouldn't be because any early harvest would take mostly adult deer, and the antlerless kill would be controlled by permit so that overshooting should not be a problem.

The deer committee's goal is "to implement an earlier gun deer season in Northwest Wisconsin that will improve the recreational quality of the hunt and allow better utilization of the deer herd without reducing population levels."

The deer watchers have now finished most of the preliminary work. Hunters, local and statewide, have been consulted, listened to and surveyed. Their ideas have been meshed with the biological management data. Now these ideas will be distilled into a series of workable alternatives people can choose from. In the near future, the public will be asked to make a choice. Enough groundwork has been laid so that whatever they choose should be both biologically sound and represent a consensus among hunters. The result will be one the deer watchers can be proud of.

The north produces more four-year-old and older bucks than the rest of the state, the kind people often label "trophy bucks."

Opening the season earlier in November, when deer are naturally more active, means more trophy animals will be seen and taken.
Scratchboard by Artist Myra Nye, Rt. 3, Box 340, Antigo, WI 54409

CAR-DEER COLLISIONS

The numbers are going up, and so far no good way of reducing the danger has been found.

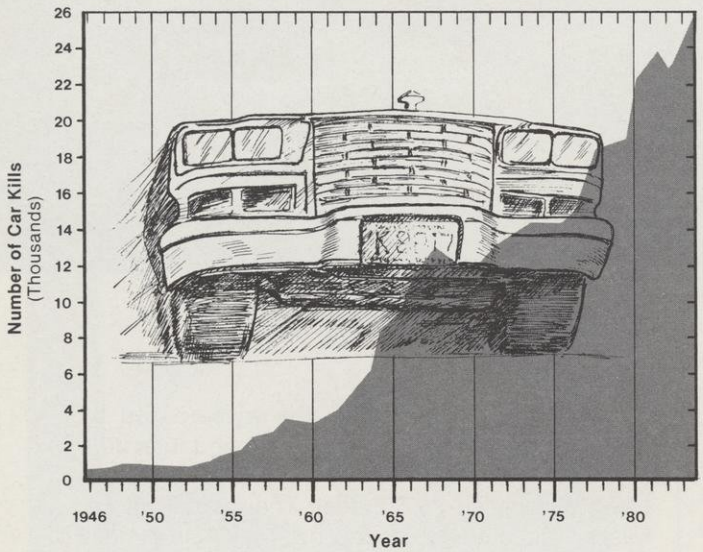
James T. Chizek,
DNR Law Enforcement Staff Assistant

Wisconsin's rural areas are crisscrossed by 92,300 miles of town, county, state and interstate highways, and during fiscal year 1983-84 motorists using them killed 25,722 deer. The number of car kills will almost certainly go up in '84-85 because people are driving more miles and deer populations are increasing. Deer are also expanding southward where roads are more heavily traveled. In addition, more highways have been built, and the number of cars on the road is up.

The state's deer population began to increase in 1951, and each year's increase seemed to magnify the next.

More than a dozen Wisconsin organizations — including the Clark County Sheriff's Department, Wisconsin Bell in Green Bay, Appleton and Milwaukee, and Tombstone Pizza in Medford (Taylor County) — are using recently developed SAV-A-LIFE animal warning devices that attach to cars and produce high intensity sounds audible to deer but not to humans. Photo courtesy of Sav-A-Life Inc.

Car Killed Deer in Wisconsin
From 1946 through 1983-84 Fiscal Year



More than 25,000 deer were killed by Wisconsin motorists in 1983-84, a number that has been steadily rising for 40 years.

Through the years, Wisconsin, as well as many other states, has experimented with ways to reduce the road kill. So far, most methods have turned out to be either too expensive or not effective enough to make a significant difference.

Here are a few things that have been tried:

1. Reduction of deer numbers through hunting.
2. Use of repellents along roadways.
3. Improvement of deer crossing signs.
4. Fencing and right-of-way brushing.
5. Establishment of highway salt licks.
6. Use of Dutch deer reflectors.
7. Maintenance and development of openings.
8. Studies on all of the above.

Recent research on a new gadget offers hope. Two bullet-shaped ultrasonic devices about two inches long are attached to an automobile. Supposedly the high intensity sound produced by wind going through them, although not heard by humans, is audible up to one-quarter mile by deer and will stop them in their tracks. Developed in Austria, the devices have been extensively tested there and in Finland and are claimed to be 80% effective. They were introduced to the United States in 1981.

Reducing the deer population by hunting is an effective way of cutting car kills, but it has to be a substantial reduction. Wisconsin has tried several innovative seasons the last couple of years, and there has been some reduction, but not enough. It is felt that the road kill will increase again this year even though another herd reduction season is planned for this fall.

Several ideas to ease cost and reduce the time conservation wardens spend picking up road kills have been instituted. In 1975, a program initiated by the Bureau of Law Enforcement was authorized by the Legislature. This statutory order allows persons who hit deer with their vehicles to keep the deer. The carcass must be tagged by a warden or other law enforcement agent. The law has since been broadened to allow persons other than the one who hit the deer to gain possession of it. In 1976-77 there were 5,394 deer picked up. This number has continually risen as road kills increased and people have become aware of the law. During 1983-84 there were 16,658 picked up and utilized.

DNR also allocates about $133,000 per year for private contractors to pick up deer on the highways. In the last two years (1982-83 and 1983-84), they picked up 15,630 deer. The statewide average cost is about one-third less than if picked up by wardens, plus a substantial time saving.

Unless the herd is reduced, the problem will continue. It's better to let hunters take the deer than to waste animals on the highway, especially in light of damage done to automobiles and injuries to people.

THE ROAD KILL

Chad McGrath
Wausau

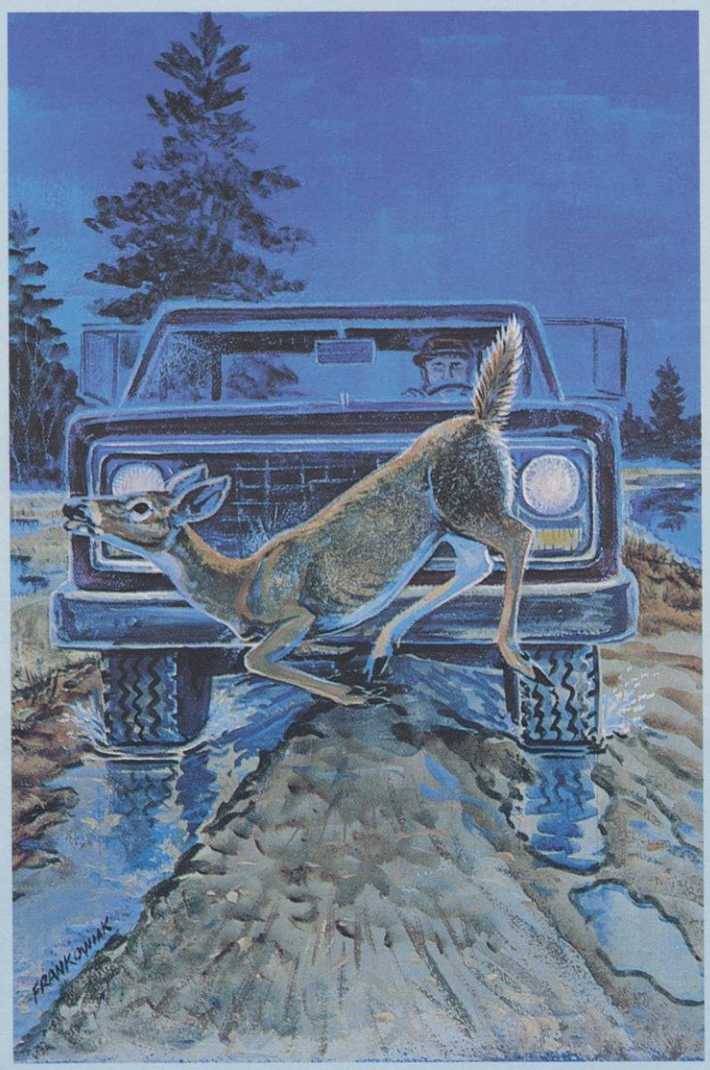
It was a long day, starting with the sunrise over 14 hours ago outside my cabin window. The trip home from our excursion to the Upper Peninsula town of Garden and its Door County-like qualities seemed miles longer but it never failed to stimulate the senses. There was the usual 50 miles of lake pictures glimpsed between the trees from Escanaba to Menomonie, then the playful detour through the big pines near Neopit. And of course, the brief stop to repatriate the mattock and planting bag Tim had borrowed. There had been more white spruce seedlings than either of us ever could have planted.

After that it was work. An early evening meeting at the courthouse 25 miles beyond my home, and 25 miles back.

Mercifully, the meeting was quickly concluded, and I jumped in my old truck for a twilight ride home. My mind wandered. It recaptured moments of the weekend past, the fish, friends and food. It plotted to bring a rock group heard in tiny Manistique, Michigan to Marshfield and as usual thought about what trees this slave of a body would plant tomorrow.

Around a gentle curve on a familiar road, two ducks jumped off a slough in the defining contrast of water, rushes and horizon. Lovely thoughts of ponds and fall hunts came to me.

Then—though impossible—my memory says I heard the deer first. A rustle of grasses and its hooves pounding the road! My eyes saw it next to my truck, running along, headlong, over, into. There was a thud! The hood flew up and I couldn't see! Brakes squealed! The truck fishtailed a bit and we stopped.



"My eyes saw it next to my truck, running alone, headlong, over, into." Painting by artist Bob Frankowiak, 4972 S. 20th Street, Milwaukee, WI 53221.

Outside, a check of the truck revealed damage, water and steam but no deer. And then an awful sound. Deep and guttural, almost evil, full of pain and anguish; a bellow and a growl. A glance under the truck found the deer, broken, scalded but alive. Its head flailed the air, and it screamed, perhaps at me, perhaps the truck or perhaps simply because of its agony.

I cursed myself. Shaking, I restarted the truck adding new screeches to the air and pulled off to the shoulder. When I moved, the deer rolled under the truck and out behind it. I glanced back, saw him crawling off the shoulder toward the slough. I slammed the truck in reverse, hoping, yet not, to catch him under the rear tire and end his misery, but I was too slow. He got halfway down the embankment between the road and the water and lay there.

The deer breathed and its head moved. My first thought persisted. I wanted to end his suffering so I grabbed the truck jack and walked toward him. Most bow hunters have read and been told not to follow a wounded animal until a half-hour has passed. So had I. I forgot, though, and got a graphic illustration of the wisdom of such advice. As I approached, the deer lurched forward, down the slope and into the water. Somehow he swam, head barely above water, about 30 yards, where he stopped against the far shore. I cursed myself again. I considered driving the truck into the water and walking the 15 or so miles home. Instead, I went to the nearest farmhouse, called the sheriff and a friend, and waited.

The deputy shot the deer and we dragged it to the road, filled out the inevitable paperwork and loaded the deer into my friend's car.

As I dressed out that deer, I wondered about sport and killing—about why killing as I had just done felt so awful but with a bow bordered on a religious experience. The answer has something to do with intent, with means and with location. My highway and truck intruded on that deer. We were in his way, blocking it with things foreign and beyond his speed and cunning. And perhaps worst of all for rational creatures, I didn't mean to hurt him.

Back Cover: Trophy deer from northwest Wisconsin.

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