Wisconsin natural resources. Vol. 33, No. 1 February 2009

[Madison, Wisconsin]: Wisconsin Department of Natural Resources, February 2009

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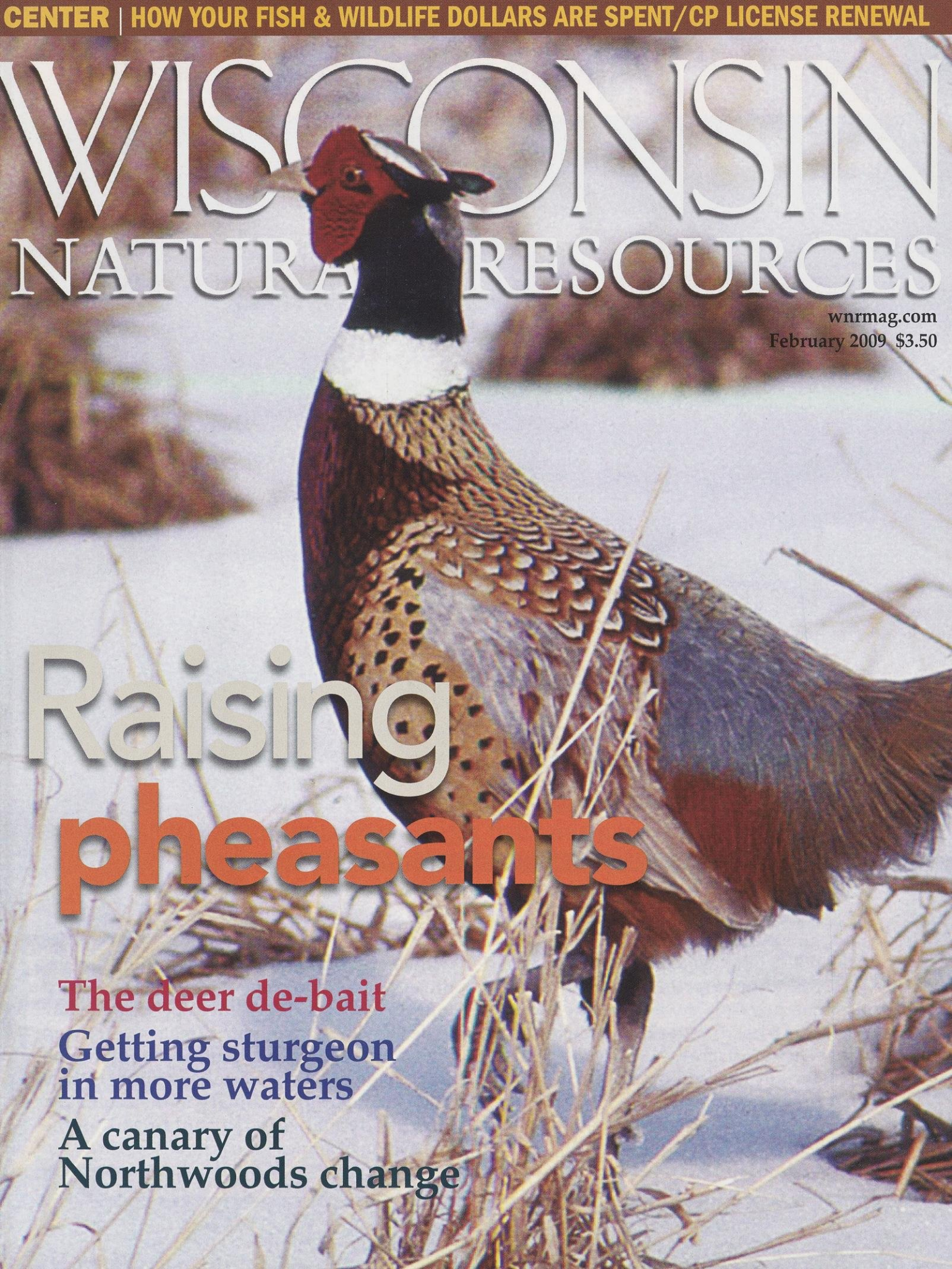

Raising pheasants

The deer de-bait

Getting sturgeon in more waters

A canary of Northwoods change

A canary of Northwoods change

Spruce grouse inhabit northern conifer forests and range as far south as the northern-most Wisconsin counties. Scattered, small groups of these woodland birds forage on the ground or in trees in winter.

KARL MARTIN

Spruce grouse may send a sensitive signal from our northernmost counties.

David L. Sperling

Armed with a digital recorder and small noose-like loops at the end of metal poles, DNR wildlife technicians aim to round up information about a forest grouse that may indicate how subtle changes in northern forest climate affect woodland wildlife. The spruce grouse, *Falcipennis canadensis*, is a state-threatened bird of the northern forest that only ranges across the northern tier of Wisconsin counties concentrated in the Chequamegon-Nicolet National Forest.

"Wisconsin's spruce grouse population is fairly small, sparsely distributed and inhabits conifer species such as jack pine, black spruce, white spruce and red pine," says Karl Martin, project leader and chief of DNR's wildlife and forestry research. "These tree species are likely to decline under moderate climate change, and that makes our spruce grouse population an ideal candidate to provide early signs of climate change similar to the canary in the coal mine. Even moderate warming could result in the extirpation of spruce grouse in Wisconsin."

continued on page 29

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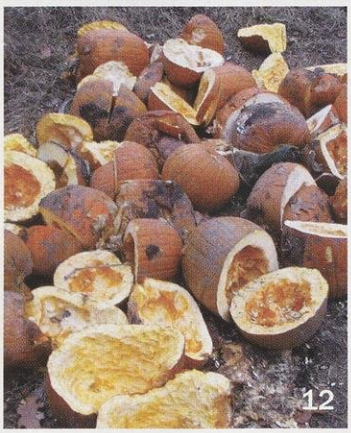
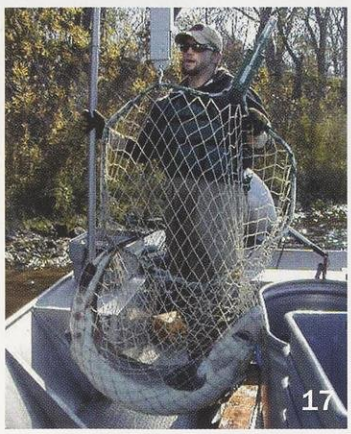
ALLISON HALKEY



DNR LAW ENFORCEMENT



TIM R. LARSON

FRONT COVER: Wild ring-necked pheasants need a combination of overwinter habitat, spring nesting cover and year-round food supplies to survive and reproduce. Stocking programs bolster adult birds available to hunters. See our story on page 4.

AL CORNELL, Muscoda, Wis.

BACK COVER: Brady's Bluff Prairie State Natural Area in Trempealeau County. (*Inset*) Wing snaggletooth snail (*Gastrocopta procera*). For more information, or to order a guidebook to State Natural Areas, contact the State Natural Areas Program, Bureau of Endangered Resources, DNR, P.O. Box 7921, Madison, WI 53707 or visit dnr.wi.gov/org/land/er/sna.

© THOMAS A. MEYER, WDNR Inset: © LARRY E. WATROUS

Editor David L. Sperling
Creative Products Manager Natasha Kassulke
Circulation Manager Karen Ecklund
Art Direction Thomas J. Senatori
Printing Schumann Printers

PUBL CE-012
ISSN-0736-2277

Wisconsin Natural Resources magazine (USPS #34625000) is published bimonthly in February, April, June, August, October and December by the Wisconsin Department of Natural Resources, 101 S. Webster St., Madison, WI 53702. The magazine is sustained through paid subscriptions. No tax money or license fees are used. Preferred Periodicals postage paid at Madison, WI. POSTMASTER and readers: subscription questions and address changes should be sent to Wisconsin Natural Resources magazine, P.O. Box 7191, Madison, WI 53707. **Subscription rates are: $8.97 for one year, $15.97 for two years, $21.97 for three years. Toll-free subscription inquiries will be answered at 1-800-678-9472.**

A ringneck rooster wings for cover in the Kettle Moraine State Forest near Eagle. DNR wildlife staff – like upland game technician Heidi Swan – annually release over 50,000 adult birds on 70 public hunting grounds and provide day-old chicks that conservation clubs also raise and release to supplement wild bird populations.

Kathryn A. Kahler

Raising ringnecks and outdoor opportunities

Partners team up to set aside and improve grassland habitat, stock pheasants and bolster hunting opportunity.

Life has its ups and downs. Some years are good, others bad. So it goes with pheasants. Some years, Mother Nature shows her nasty side. Others, it's the foibles of human nature that take charge. When nature threw a one-two punch last winter and into the spring, a human event also dealt a deciding blow. When spring surveys were tallied, Wisconsin's pheasant population showed a 30 percent decline.

Hunters need not worry, though. Despite the decline, wildlife managers believe Wisconsin's wild pheasant population is healthy and will rally over time. License fees and pheasant stamp dollars, stretched by contributions from partners, will improve thousands of acres of pheasant habitat. Coupled with stable funding for a time-honored and well-respected stocking program, pheasant hunters can look forward to continued years of hunting opportunities on public and private land.

Mother Nature and human nature

Pheasants need a combination of overwinter habitat, spring nesting cover and adequate year-round food supplies to survive. These needs are met in much of the southeastern third of the state and in a five-county area in west central Wisconsin, on both public and private land. But it was there that man and nature teamed up to wreak havoc, according to Scott Hull, DNR's game bird coordinator.

FRANK SCHEMBERGER

"We all predicted it would occur," said Hull, "we just didn't know how bad it would be, and a 30 percent decline is what we saw. Pheasants are fairly hardy game birds, but not when we have 100 inches of snow. We knew the overwinter survival would be lower. Then came spring flooding during nesting season, which hampered production to some degree."

The human factor was the loss of about 200,000 acres of bird habitat on private land formerly kept in grasslands that will change by 2010. Landowners are planting more row crops and have chosen not to renew or extend their contracts with the U.S. Department of Agriculture for the Conservation Reserve Program (CRP).

"That's going to affect upland bird productivity," Hull concluded. "There will be fewer places for pheasants to nest and raise broods."

CRP is a federal land conservation program created by the 1985 Farm Bill that pays landowners to keep marginal farmland out of production. As the price of commodities such as wheat and corn fluctuate, farmers may decide it's not worth it to plant. Instead, some sign 10- to 15-year contracts for CRP payments to let acreage revert to grasses. Over the years CRP has created over 30 million acres of grassland habitat in the U.S. — as much as 700,000 acres in Wisconsin at its peak in the mid-1990s. Now higher corn prices and the lure of biofuels production have some reverting that land to cropland.

"The name of the game for wild pheasants is habitat and we know what works," said Hull. "Grassland habitat is the answer and getting it on the landscape in the right locations and in the right amounts is key. That's why the CRP program has been the biggest boon for grassland birds. Wisconsin has never [had as many acres enrolled] as some of the states in the Great Plains region where they have three or four million acres, but we've had our fair share and it has produced birds."

Hull stresses that the success of pheasants and pheasant habitat really depends on what happens with the U.S. Farm Bill.

RON TOEL

Partners like Pheasants Forever, Wings Over Wisconsin and the U.S. Fish and Wildlife Service work with private landowners to provide adequate grassland habitat for pheasants. The Conservation Reserve Program has provided key incentives to keep thousands of acres of marginal cropland in Wisconsin out of production.

"To that end, Pheasants Forever is a key ally in working with Congress to get strong, solid conservation programs into the Farm Bill," said Hull. "Pheasants pretty much live or die by what happens with the Farm Bill and what happens with private lands."

That sentiment is echoed by Jeff Gaska, Pheasant Forever's regional biologist stationed in Columbia County. Gaska works full-time for the organization and does some farming on the side. He believes his avocation helps him see things from the farmer's perspective as well as what's best for pheasants.

"We always try to work with the farmers to come up with good programs that are a win-win for everybody," says Gaska. "If farmers don't buy into programs like CRP, we don't have pheasants, period."

Gaska and members of Wisconsin's 31 local chapters of Pheasants Forever work with landowners to increase pheasant nesting success by providing buffers, or "travel links," along edges of fields and streams, advising them on the best times to mow to assure minimal nest disturbance, and suggesting what kinds of grasses and forbs provide the best cover and food.

Hull isn't predicting doomsday for the pheasant population however, and in fact, he says that in the long term it will be fine. He predicts the commodity climate will change. Corn prices that saw a high of $7 a bushel and helped fuel the CRP bailout will fall again, and people will want to get back into CRP. Meantime, the Department of Natural Resources and its partners are adding grassland to the landscape to offset the loss.

"Ultimately, the wild pheasant population in the state is fine," said Hull. "There are always ups and downs and sometimes they are weather-related. These just came together all at once last year."

Stocking program

In years when the wild pheasant population declines, Wisconsin hunters can be thankful for DNR's put-and-take stocking program that provides additional hunting opportunity. For many years, the wildlife community believed supplementing wild bird populations with game farm birds would permanently bolster the wild population. The state experimented with a variety of strains, most recently in the 1990s with wild birds from Iowa and the Jilin province of China. Hull says such efforts just don't work.

"You see a local population boost temporarily, but then it just goes right back down and eventually dies out," he said. "You boost the wild pheasant population by improving habitat. That's the bottom line. In Wisconsin,

our constituents have repeatedly told us that what they want from the game farm is the additional hunting opportunity that stocking provides, so that's what we're doing."

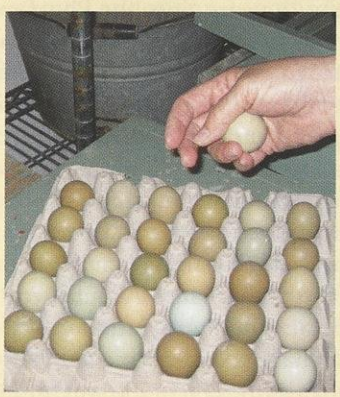
The workhorse of the state's pheasant stocking program is the State Game Farm in Poynette. Built in 1934 by the Civilian Conservation Corps, it is the source of an average of 150,000 stocked birds each year. In 2008, about 53,000 adult birds were raised at the farm and stocked on 70 public hunting grounds in 28 counties; 6,000 day-old chicks went to correctional facilities for rearing and stocking; 46,000 day-old chicks were delivered to 44 conservation clubs for rearing and stocking; and about 31,000 hens were sold to private cooperators.

Game farm operations have streamlined and modernized over the years responding to budget cuts and shifting policies. In early years, the facility propagated not only upland birds — like pheasant, partridge, ruffed grouse, quail, turkeys and prairie chickens — but geese, ducks and mammals, including mink, otter, raccoons, foxes, pine marten and rabbits. Currently, only ring-necked pheasants are raised. When production levels peaked at 270,000 birds in 1957, full-time staff numbered around 40; today, a trimmed-down crew of seven operates the facility, with the help of part-timers and volunteers.

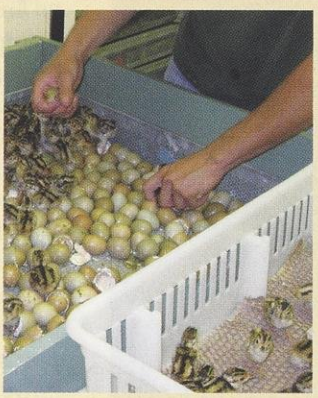
Pheasants raised at the farm come from breeding stocks that have been raised in captivity for generations. They aren't likely to survive harsh winters and don't have the instincts to avoid predators that wild birds have.

"They do provide additional hunting opportunities during years of poor wild pheasant production, like this year," says Bob Nack, game farm director.

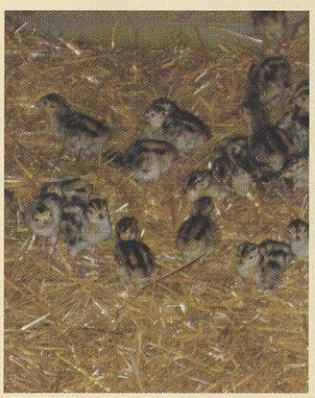
From hatch to release



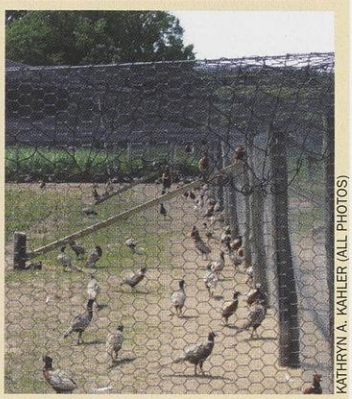
Workers collect, wash and candle eggs, then move them to incubators.



After 25 days, newly hatched chicks are scooped from incubator trays and their sex is determined to raise the roosters and hens separately.



Indoor brooder houses provide optimal growing conditions for the chicks' first six weeks.



Outdoor flight pens provide cover and predator protection until mid-October when birds are released on public hunting grounds.

KATHRYN A. KAHLER (ALL PHOTOS)

Just as any other farmer will tell you, raising pheasants is a year-round, labor intensive pursuit. State Game Farm operations begin in earnest in February when breeding is induced at indoor breeding barns, and work continues through pheasant round-up and shipping in early December. On average, the indoor breeding flock is composed of 3,000 hens and 200 roosters. An outdoor breeding flock of 4,400 hens and 500 roosters begins breeding about the same time.

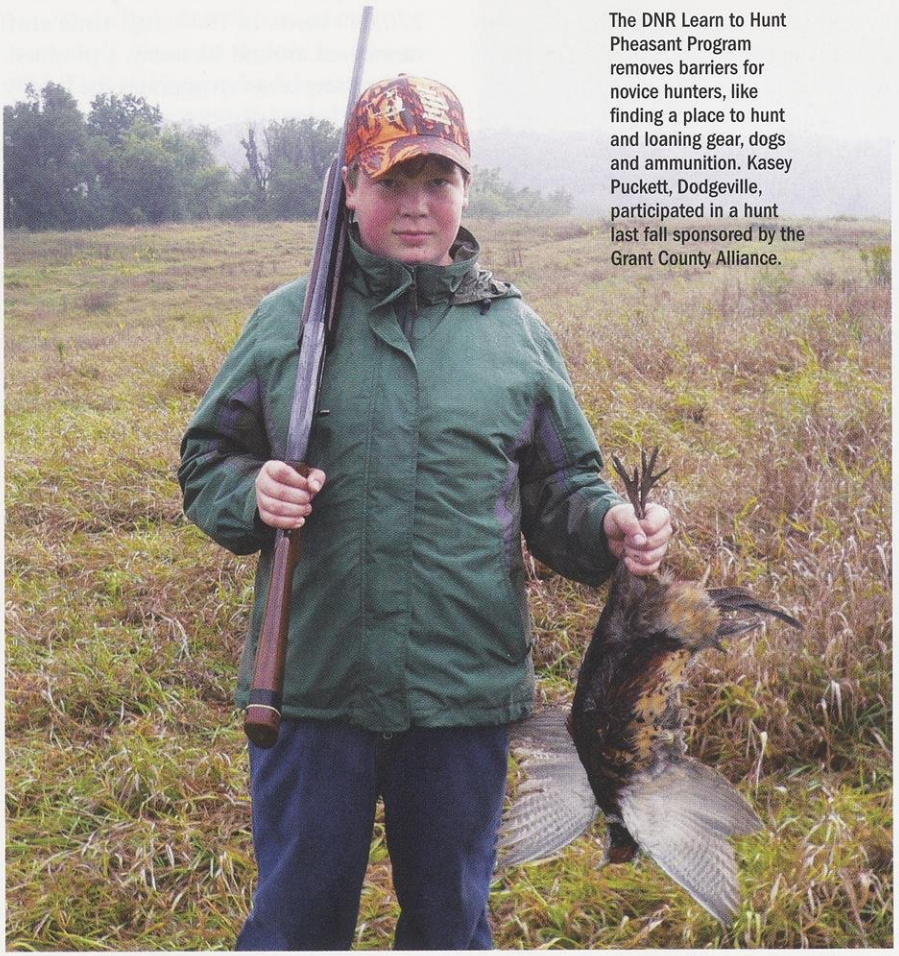
Daily egg collection continues for about 10 to 12 weeks, resulting in a total of about 350,000. Eggs are washed, candled to check for imperfections, placed on trays of 228 and moved to the incubators. The farm has 45 incubators, each of which can accommodate 14 trays, or a total of 3,192 eggs per incubator. After 25 days, the eggs hatch and workers scoop the fluffy chicks into trays where they wait to be sexed. Game farm employees and volunteers determine the sex of day-old chicks by inspecting the area between the beak and the eye. Males (cocks) have a tiny, crescent shaped flap of skin that will become the wattle when it matures; females don't.

Once the sex is determined, males and females are divided and raised separately. They are first moved to indoor brooder houses where temperature, food, water and light are carefully controlled to assure maximum survival and growth rates. Great care is taken to keep the rooms clean and disease-free. Employees and visitors must wash the bottoms of their shoes before entering. In between hatches, the rooms are cleared, power washed and disinfected.

At six weeks, birds are moved to outdoor flight pens where corn has been planted to provide cover. Netting covering the tops of the pens keeps out avian predators like hawks and owls, but staff keep careful watch for predators like foxes, raccoons and mink that can chew through the netting. Birds remain in the outdoor pens until mid-October when they are rounded up, placed in crates and trucked to public hunting grounds for release. Round-ups and releases continue daily through much of the pheasant season, ending around the first week of December.

In addition to the stocking programs, the Game Farm provides nearly 1,000 pheasants to the DNR Learn to Hunt Pheasant Program. The program removes common barriers for novice pheasant hunters, such as finding a place to hunt, borrowing a dog, loaning gear, and supplying guns and ammunition.

"DNR recognizes the importance of getting young people involved with pheasant hunting at an early age, and this program gives them that opportunity," says Nack. "We also have a strong relationship with the Wisconsin Association of Field Trial Clubs and each year provide nearly 1,000 hens to clubs for use during field trials and hunt tests."



The DNR Learn to Hunt Pheasant Program removes barriers for novice hunters, like finding a place to hunt and loaning gear, dogs and ammunition. Kasey Puckett, Dodgeville, participated in a hunt last fall sponsored by the Grant County Alliance.

CARL BATHA

"And they increase hunting opportunity on public hunting grounds where wild birds are difficult to find following the opening weekend of hunting season. Since we stock farm-raised birds throughout the season, that's a plus for most hunters," he says, especially since access to private lands is a major barrier for most hunters.

Nack says stocking programs also provide a chance for novice and young hunters to learn the sport. If young or new hunters go pheasant hunting but don't find birds after repeated attempts, it's likely they won't stick with it. Stocking increases their chances of finding birds and retaining an interest in pheasant hunting.

Do hunters note a difference between wild and farm-raised pheasants? Not often. A 2007 survey of Illinois pheasant hunters found that hunters perceived captive-raised birds to be more similar to wild birds than not. Hunters were asked to compare physical characteristics, flushing performance and flight of wild and captive-raised birds, ranking them on a one-to-five scale, with one being very different and five being no different. Overall average responses were in the 3.5 to 3.7 range. Similarly, hunters were asked to rank their hunting experience with captive-raised pheasants compared to wild birds. Again, the average response was about 3.5.

DNR has no plans for similar surveys, but Hull says he's well aware that hunters who hunt properties where game farm birds are released want the experience to be as close as possible to a wild hunt.

"They want the birds to look and act wild," he said. "That's why Bob Nack and his game farm crew operate the farm the way they do — to produce fewer high-quality birds. He could produce a lot more birds and that would make a segment of the hunting population happy, but the quality of birds would suffer."

Partners provide additional opportunities

Wild pheasant populations and stocking programs both benefit from the help of partners and Pheasant Stamp funds. Today, anyone who hunts pheasants statewide must purchase a $10 stamp in addition to a small game license.

Groups like Pheasants Forever and Wings Over Wisconsin, and agencies like the U.S. Fish and Wildlife Service supplement DNR's efforts by working with private landowners to improve nesting, brood-rearing and winter cover on their properties.

In the 16 years since the Pheasant Stamp was first sold in 1992, DNR has been able to pump over $5 million into projects to improve and maintain habitat on public and private land; conduct population surveys, do outreach and research; purchase equipment; pay field biologists, interns and part-time help; and stock game farm birds on public and private land. About 50 to 75 percent of the stamp funds go into pheasant habitat improvements.

A change in 2006 in the way funds are split now dictates that 60 percent of stamp funds help operate the game farm, which covers about half their overall budget. The remainder of the approximately $375,000 annual stamp revenue supports projects proposed by DNR staff and non-DNR partners.

"We strongly encourage cost-sharing and many partners do match our funding, but it's not an absolute requirement," said Sharon Fandel, a DNR wildlife biologist who oversees the program. "In terms of cost-sharing, the estimated partner contribution for the current 2008-09 biennium is $1.1 million."

Fandel says current projects include establishing prairie on public and private lands; managing invasive species; controlling predators on pheasant properties; and purchasing ATVs, mowers, and equipment used in prescribed burning, to name a few. They total about $450,000, stretched by about $525,000 in partner funding. Non-DNR projects include restoring and improving grassland habitat on private lands, and funding five new Farm Bill

biologist positions statewide. Partner organizations were allotted about $300,000 for these projects and will kick in an additional $634,000 of their own funds.

Pheasants Forever's Jeff Gaska talked about one such partnership. The Dodge County Pheasants Forever chapter partnered with the DNR Pheasant Stamp and the USFWS Partners for Wildlife program to share costs in establishing 10 acres of native grasses and wildflowers on a Dodge County farm. This planting will provide nesting cover, brood rearing cover and winter cover for pheasants, turkeys, and many songbirds. The landowner has agreed to protect this field for 10 years. By partnering with local, state and federal programs, the chapter was able to stretch the Pheasant Stamp dollars by providing a 3:1 match for stamp dollars.

Game farm operations get help from 44 conservation clubs who get day-old chicks from the state, raise them to adulthood, and then either release them on state-owned land or on private land open to public hunting. If some of the cooperating clubs choose to release the pheasants on private lands closed to public hunting, they must return a percentage of the birds they raised back to the Department of Natural Resources for public stocking.

"Clubs that release birds on private land open to public hunting are required to notify their local DNR wildlife biologist three days prior to the release, where and when the release will happen," said Fandel. "If hunters want that information, they can call the wildlife biologist." To find that contact information, hunters should go to the game farm's website (dnr.wi.gov/org/land/wildlife/gamefarm/), click on the link to the Day-old Chick Program, then the link to the "44 Conservation Clubs."

Despite setbacks like winter snow, spring rains of disastrous proportions, and economic problems that caused a massive CRP bailout, Hull remains optimistic about the future of Wisconsin's pheasant population.

"We can't compete with multi-billion-dollar Farm Bill conservation programs like CRP with pheasant stamp monies," Hull concludes. "But we are doing really good pheasant habitat and research work with our funding, and improving our properties and private lands for these birds. It's just one of many small things we can do for pheasants."

Kathryn A. Kahler writes from Madison.

PHEASANTS FOREVER

Pheasant Fest 2009

You don't have to be a pheasant hunter to find something of interest at this year's Pheasant Fest, February 6-8 at Madison's Alliant Energy Center. This national trade show sponsored by Pheasants Forever is a family event that offers a wide variety of exhibits, seminars, dog training workshops and youth attractions. More than 25,000 people are expected to attend. Check out www.nationalpheasantfest.org for more information.

One of the scheduled forums will focus on "Bioenergy and Wildlife Habitat," sponsored by Pheasants Forever and Alliant Energy. Participants will discuss how alternative and renewable energy sources could affect wildlife habitat.

"Wisconsin has made it a priority to develop sustainable energy resources," said DNR Secretary Matt Frank. "We view bioenergy as an excellent opportunity to help us reach our sustainable goals."

Scott Hull, DNR's upland gamebird specialist, agrees it will be beneficial to get all the players together in the same room to study the topic. "There's a lot of momentum from a variety of positions and new information coming out almost daily," said Hull.

One example of the complexity of the issues is switchgrass – a native grass that has been touted as beneficial for both grassland bird habitat and as a biofuel. "It does have that potential," said Hull, "but it depends on how it's grown and on how it's used. A switchgrass monoculture – which is what some proponents of cellulosic ethanol desire – is not good for wildlife. It's too tall and dense and many grassland birds don't use it. On the other hand, when switchgrass is planted with a diverse mix of grasses and forbs, it's great for wildlife and it could still be used as biofuel."

Hull hopes that the chance for conservationists, energy providers, landowners and elected officials to sit at the same table and sort out answers to these questions will be a win-win for all involved.

Raptors hunting down a meal at landfills risk a hot, painful surprise.

ALLISON HALKEY

BURNED while getting dinner

Dianne Moller

A six-month-old red-tailed hawk soars on a breezy, warm, fall afternoon over cars, homes and people. It spies a large open area with rats and mice. Jackpot! A rodent smorgasbord. With no trees to perch on for a lookout, the hawk spots something familiar that looks like a pole. It immediately alights and keeps a watchful eye to the ground for what could be its last meal for days. Suddenly, a hot flame ignites from underneath with a raging force. Instinctively, the hawk spreads its wings to fly away, but instead, tumbles to the ground. Every feather on its body is scorched and singed away. Its feet are blistered. Its eyes sting from the heat. It can't get back in the air and doesn't understand what just happened.

Young raptors are trained to hunt from the air, and a redtail that cannot fly is a raptor that will not survive. Several burned raptors admitted to our rehabilitation center during the past decade were found by concerned citizens in their backyards very near the City of Janesville landfill. Most of these birds were young red-tailed hawks or owls. After years of investigation, we've concluded these unfortunate raptors are getting flash burns from perching on or flying over landfill stacks where methane gases are automatically flared off.

Why is this happening? Solid wastes, particularly food wastes, contain organic matter that attract rodents and other small mammals that are an excellent food source for raptors. Since landfills are used year-round, active landfills provide a particularly important hunting ground for raptors from late fall through the winter when other food sources are harder to find. Since landscaping near the working area of a landfill is virtually treeless, the burners that are erected to vent methane gas from decomposing wastes make attractive perches for raptors hunting rodents and other prey.

DIANNE MOLLER

Raptors perching on or soaring over methane burners at landfills suffer burns and singed feathers when the gas flares ignite. Welding spiked tops on the burners discourages perching, but there's more work to be done to prevent injuries.

At larger landfills, the methane gas is collected from much shorter pipes and is purified and piped to supply energy. At slightly smaller landfills, the burner stacks can extend high in the air to dissipate gases. At the Janesville site, burner pipes about 30 inches in diameter at the north and south ends extend nearly 30 feet up. They make wonderful perches that give the raptor a commanding bird's-eye view.

When methane builds up in the collection system, each burner has an automatic igniter that flares off the escaping flammable gas. Methane burns hot and clean. It emits a nearly invisible flame, which can quickly burn or kill anything perched on top, flying overhead or seeking shelter inside the pipes. Some landfill burners rise as high as 60 feet.

Many landfills are located away from homes and businesses in low traffic areas, so it's likely that a relatively small percentage of raptors injured following methane flaring would be noticed, recovered or rescued. Without their protective feathers for insulation and flight, these birds likely die from exposure, starvation or predation. The average red-tailed hawk only weighs two to three pounds, and likely succumbs within two weeks.

In Janesville, the landfill is located within city limits in a high-traffic area, and that's likely why some of the birds have been found and brought in for treatment. The recovery period for a burned raptor can be 11 months or longer depending upon the severity of the injury and time of year when the accident occurred. The birds' feathers molt on a natural cycle beginning in spring and a new set of feathers grows in by fall. Sometimes if the feather follicles are damaged extensively, the raptor may have to complete a second molt before it has all of its

flight feathers. Also if its feet are badly burned, it can develop secondary infections or a condition called bumblefoot that complicates its recovery.

A convalescing bird can spend an entire year or more in a cage, flightless. During that time its muscles atrophy, just as a person confined to a nursing facility when recovering from a serious auto accident loses muscle tone and needs to keep exercising. Once the bird molts in a new set of feathers, it must be conditioned to rebuild muscle, energy and confidence prior to release. Hunting can be difficult for a healthy bird in top physical form, let alone a bird in poor condition. Even healthy birds have to beat long odds. An estimated 70 percent of all raptors die in their first year due to starvation, harsh winters, vehicle collisions, illegal shootings or electrocution.

The first time a burned hawk was brought to my facility, I questioned if it had been electrocuted. Typically, electrocuted birds die instantly, suffer deep tissue burns, but often have little feather damage aside from the point of entry and point of exit wounds. As a licensed falconer, I have experience flying and training hawks and falcons. Three years ago, my peregrine falcon was electrocuted and the only visible external injuries were two black spots on her feet and internal injuries. These birds were decidedly different — no feathers left and extensive burns.

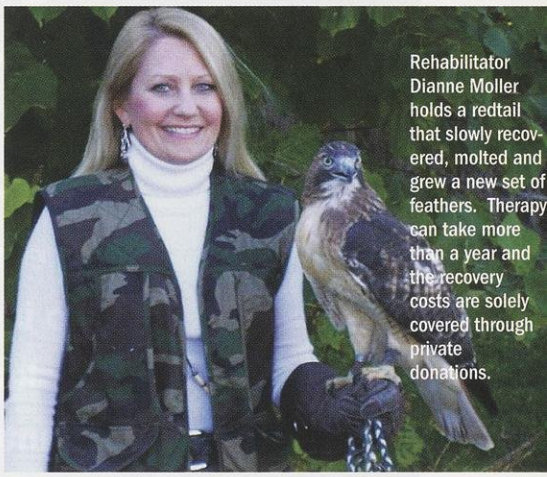
I asked a former long-time rehabber from the Janesville area what he thought might have happened. He recalled admitting a few hawks and owls found burned on or near the landfill grounds and suspected the birds had been perching on the methane burners. That was more than 10 years ago. Another rehabilitator suggested I check with others to see if they were finding birds in similar conditions near landfill sites. I kept records, began networking and posted photos for comparison with other rehabilitation centers nationally. The raptors burned at landfills all had the same appearance.

As evidence mounted, I approached the local landfill operator and contacted the Wisconsin Department of Natural Resources about alternatives like erecting a pole higher than the top of the methane burner to encourage the birds to perch at a safe distance. We also discussed the notion of installing a tripod-like cover over the methane burner with a point over the top of the flare to discourage birds from landing. At the time, DNR permits had restrictions prohibiting obstructions or covers that might interfere with the flow of methane or the flame. But last October, I admitted two immature hawks that had been burned within two weeks of each other. Immediately after picking up the second hawk, I drove to the Janesville landfill. Just as I was pulling in, so was the landfill operation's manager, John Whitcomb. He was quite concerned about the bird and wanted to correct the problem. From there I drove to the DNR office in Janesville and met with Brian Barbieur, our local air quality engineer, to show him the hawk. Barbieur agreed something needed to be done to prevent or lessen the occurrences of these burn injuries. He and other DNR staff would work with the landfill manager.

Whitcomb contacted an engineer and came up with a means to weld a crown of steel spikes on top of the pipes that would not interfere with the methane flaring but would discourage the hawks from perching. Protections for birds flying over the pipes as gases are flared off still need to be developed. The city has also discussed installing a large utility pole higher than the burner that would make a more attractive perch for raptors. That's a bit more complicated as the city needs to avoid utility lines buried underground and doesn't want to puncture the landfill liner. Ideally, other landfills might take a first step and install motion cameras near their gas flares that could provide early warning by documenting if this same problem is occurring. Such cameras are inexpensive these days and are commonly used by hunters who want to see if animals are using a path.

Red-tailed hawks and other raptor species are extremely beneficial to the environment. One redtail can consume an average of 1,800 rodents a year. Wisconsin averages 100 rodents per acre of land. In some areas, those numbers are much higher. In three years, two mice can theoretically multiply to 350 million, if the population is left unchecked. So hawks and owls are quite beneficial to the landfill and landowners who live nearby. Turkey vultures also frequent landfills, attracted by smell, and feed mostly on carrion and garbage.

Raptor burns from landfills where trapped gases are automatically flared may be more common than is realized or reported. There are no national statistics on the issue, but several prominent rehabilitation centers I contacted also have admitted similarly burned raptors that staff believe were caused by unprotected landfill methane burners. It's unknown if the problem is greater in certain geographical areas or if it is restricted to a certain type of methane flares. Trapping and recovering methane gas for energy use could eliminate this hazard where such collection is practical.



DIANNE MOLLER

Rehabilitator Dianne Moller holds a redtail that slowly recovered, molted and grew a new set of feathers. Therapy can take more than a year and the recovery costs are solely covered through private donations.

While raptors are state and federally protected under the Migratory Bird Treaty Act, costs for rehabilitating injured birds are typically borne by the wildlife rehabilitator. My thanks to the City of Janesville landfill users who made a contribution towards the care and feeding of these hawks.

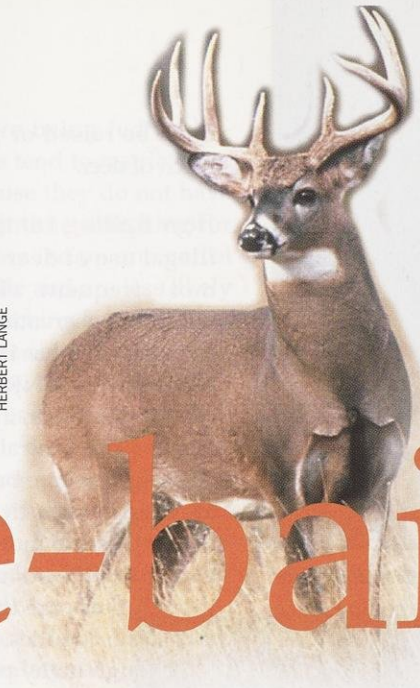
We hope our local problem has now been resolved, but I want to make other communities aware of this issue and alert to the signs that can indicate when hawks, owls and falcons in their area are getting burned on their daily hunts.

Dianne Moller is a licensed rehabilitator, educator and falconer of birds of prey. She owns and operates Hoo's Woods located near Milton, Wis. and conducts raptor education programs. She also serves as the Great Lakes Regional Director for the North American Falconer's Association. Contact her at falco5@ticon.net

The great

Baiting and feeding draw deer closer, but the practices continue to increase disease risks and change hunters' habits, while complicating deer management and driving wedges between hunters, state agriculture and the nonhunting public.

Bait piles change both deer and hunter behavior. Deer may meet their nutritional needs feeding more heavily for shorter period in the evening. Note the hunting blind on the edge of the trees near the cleared area. This is an illegal bait pile far exceeding legal limits where baiting is permitted.



HERBERT LANGE

de-bait

Jason Fleener

A young hunter finds a promising hunting spot on public land within the Chequamegon National Forest and sets up. Along comes an older hunter who orders the youngster to leave the area because he is too close to the older hunter's bait pile. The older hunter has paid somebody else to bait the site before he arrived. The older hunter tells the younger hunter to compensate him for the money spent to bait the site if he does not leave. The younger hunter contacts his own hunting party who are all upset. They tell the older hunter his actions are wrong. In the older hunter's presence, they contact the local conservation warden via cell phone. The older hunter decides to leave before the warden arrives. The incident causes ill feelings and a negative hunting experience for all, according to the warden who documented this case during the 2006 season.

Baiting and feeding deer has drawn a lot of attention in recent years from the hunting public and resource managers alike. Both practices have the same aim: to attract wildlife to a specific area. Although many people enjoy drawing wildlife closer, the practice has several negative consequences for deer, people and the environment.

Both deer feeding and deer baiting were once legal statewide. Feeding deer was a strong tradition near many of the mom-and-pop Northwoods resorts and restaurants to delight customers who could watch deer out the windows as both patrons and whitetails dined. Baiting for deer hunting started to pick up in the mid to late 1980s to draw deer near established stands.

After the discovery of chronic wasting disease (CWD) in Wisconsin in late February 2002, the DNR implemented a statewide ban on baiting and feeding deer. Months later in 2003, the State Legislature redefined the Department of Natural Resources' authority to regulate baiting and feeding. Lawmakers lifted the baiting ban in much of the state, but required that feeding and baiting bans continue in counties where a positive case of CWD or bovine tuberculosis (TB) was found in a wild or captive animal, plus adjacent counties within a 10-mile radius of a confirmed positive case. Currently, deer feeding and baiting is banned in 26 counties. In 2004-2005, a law that had limited deer baiting to 10 gallons per site was lowered to a two-gallon limit in counties where baiting and feeding was still allowed. Thereafter, a complex series of detailed rules and laws distinguished "baiting" for hunting purposes from recreational "feeding" by those who just want to watch deer.

States across the nation take different stances on baiting for hunting deer. The practice is currently banned in 25 states; 12 states, including Wisconsin, have partial restrictions; and 13 states have no restrictions. Our neighboring states of Minnesota, Iowa and Illinois all have statewide bans on baiting deer for hunting, and Michigan has a more restrictive position banning both baiting and feeding deer throughout the Lower Peninsula after recently discovering CWD in a captive deer farm.

National attitudes and restrictions on wildlife feeding for nonhunting purposes are more lax.

Not all forms of artificial feeding are restricted. Hunting over food plots or unharvested portions of agricultural fields are not legally defined as baiting or feeding. Some argue this is no different than hunting over bait, but there is one big difference: baiting and feeding concentrate deer on a food source within a much smaller area, while planted plots and farm fields spread the food source over a larger landscape.

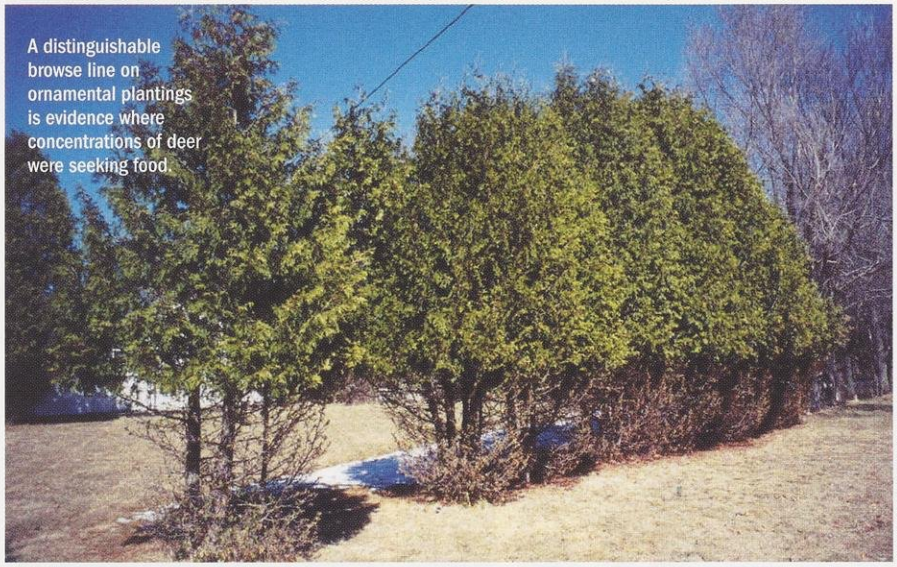
ROBERT QUEEN

Baiting deer with shelled corn is more typical, but apples, pumpkins, potatoes and other baits are also sold as a seasonal business where allowed.

The concerns are that food piles cause deer to artificially concentrate within a small area where they are much more likely to salivate on the food or come into contact with feces, urine or other bodily fluids as deer feed. Several scientific studies have shown clear evidence that such exchanges increase the risk of transmitting diseases such as CWD or TB.

In nature, wild deer occasionally

DNR LAW ENFORCEMENT



A distinguishable browse line on ornamental plantings is evidence where concentrations of deer were seeking food.

DNR WILDLIFE MANAGEMENT

make direct and indirect contacts with fluids from other deer within their family groups. However, the frequency of these contacts among unrelated deer is much greater at bait or feed piles, which is why deer baiting and feeding is banned in counties where CWD or TB have been detected in wild and captive deer and elk herds. The bans typically extend to adjacent counties in an effort to reduce the potential of spreading these contagious diseases. TB has been detected in Michigan and Minnesota. Pockets of CWD infections in wild deer have been found in several states including northern Illinois and wider areas of southern Wisconsin.

The risk of further spread led DNR Secretary Matt Frank to ask deer hunters and recreational deer feeders to refrain from baiting and feeding deer in 2008. "While [these practices are] currently legal in areas outside of the CWD zone, we asked all hunters and citizens last year to refrain from baiting and feeding deer. It's a cost-effective way to substantially reduce the risks of spreading disease in Wisconsin's deer herd."

Sixteen groups including the Conservation Congress, Wisconsin Wildlife Federation (WWF), the Department of Agriculture, the Wisconsin Cattlemen's Association, the Wisconsin Farm Bureau and the Wisconsin County Forest Association also support a statewide moratorium on the practice during the fall and winter hunting seasons.

"We've been mainly focusing on animal health issues," says George Meyer, Executive Director of the Wisconsin Wildlife Federation, in explaining his organization's call for statewide bans on deer baiting and feeding since April 2007.

"This is serious business and has cost Michigan, Minnesota and their farmers millions of dollars," Meyer says. "When some hunters' preferences for baiting cause potential financial damage to their neighbors, the whole equation changes," Meyer says.

"Baiting and feeding of deer threatens not only the health of our deer population, but our dairy and forestry industries as well, increasing the risk of TB being transferred from deer to dairy cows," adds Secretary Frank. "And an artificially high deer population threatens natural regeneration of our forests with potential [consequences] for our forest and wood products economy," Frank says.

Baiting bears and feeding birds

Wisconsin also allows baiting of black bears for hunting purposes, provided baiters and hunters adhere to conditions in regulations and permits. Bear baits must be concealed in hollow logs or holes with covers that prevent access by deer or other wildlife. To date, no one is aware of disease transmission between bears at such sites. The practice of baiting for bear hunting is considered effective and necessary.

Other wildlife species also are fed. Thousands of people put up feeders in hopes of attracting songbirds and small mammals, like squirrels, within viewing distance of their windows. However, if a food source such as a bird feeder is being visited by deer in a county where feeding is banned, the feeder must be raised or placed out of the reach of deer.

How baiting tempts trouble

Illegal use of deer bait has been the most frequent violation of state wildlife conservation laws for the last five years and has increased each year, according to DNR law enforcement reports. However, in 17 of the 19 counties of south central and southeastern Wisconsin where baiting and feeding are illegal, such citations are significantly less common — fewer than 11 percent of the statewide total, even though these are the most populous Wisconsin counties.

Though many people believe that more deer will be harvested when baited, Wisconsin surveys from the 1990s show that overall hunting harvest rates are very similar between baiters and non-baiters during the gun season. Deer hunting harvest rates are only slightly greater for archers who bait compared to those who don't. But baiting and feeding clearly change deer habits and behavior. Hunters who don't bait often report seeing fewer deer once their neighbors begin to bait. It's a vicious cycle that spreads discontent. According to warden reports, many hunters who are cited for illegal use of bait claim they only started the practice to compete for animals when neighboring properties started baiting.

Marlin Laidlaw, who serves on the Wisconsin Conservation Congress' Big Game Study Committee, recalls speaking with some hunters who had baited heavily on lands they owned in Buffalo County.

"When the moratorium on baiting and feeding was passed in 2002, they were very unhappy," Laidlaw says. "After that season I saw them again and this was their response: 'We will never bait again. We saw twice as many deer and bigger bucks as when we baited.' They continue to keep that promise and haven't baited since," Laidlaw says. They clearly suggest that deer movements increased between properties during hunting hours because of the baiting ban.

When deer are being fed by humans, the animals tend to restrict their home range because they do not have to spend as much time searching for food. Deer that are fed on one parcel become less mobile and are less likely to travel while searching for food.

Baiting and feeding also promote nocturnal activity by deer. Deer that do not have to spend as much time and energy searching for food will often restrict their movements to nighttime. This is why many hunters find signs that deer ate from their baited sites overnight and are less frequently seen during shooting hours. Wade Jeske, hunter educator and archery safety instructor from Oconto Falls agrees. "It's a matter of numbers," he says. "Why would a deer spend 18 hours a day browsing when in 18 minutes under cover of darkness it can eat as many calories from a corn pile? You've just got less time to interact with that animal during legal hunting hours," Jeske adds.

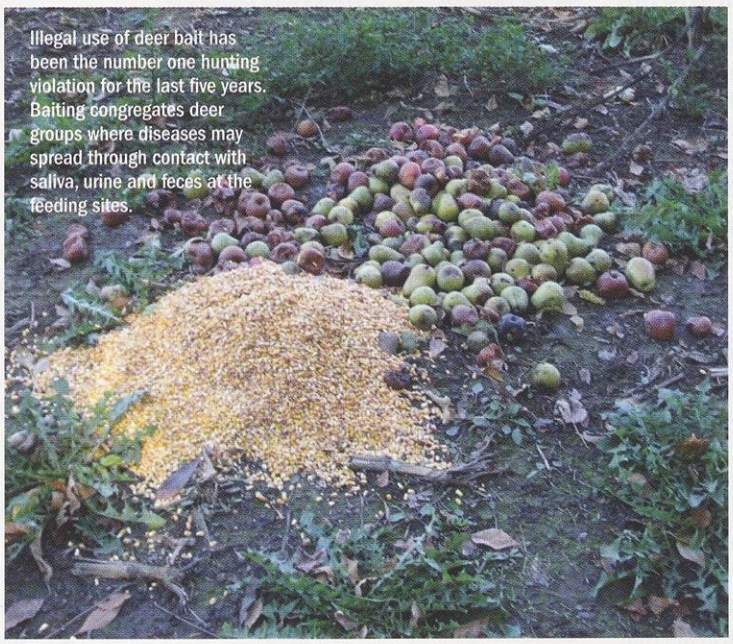
Some people have been caught violating hunting laws in several ways — shining deer at night from their cabins, using feeding stations as a bait pile, and firing shots from the dwelling after hunting hours.

More and more hunters believe baiting violates the fair chase ethic and detracts from the traditional values of deer hunting. Others say they bait because they have less time to scout for deer sign walking around their woods.

Peter Mancl has hunted Buffalo County for about 30 years. He does not bait, but has noticed this increasing trend in Buffalo County. "Bottom line... scouting hunting land for deer sign and stand locations is as much fun as the hunting part, especially if your decision on where to place your stand proves fruitful. To me, that determines the skill of a hunter," he says.

Jim Richardson of Merrill has noted many changes in hunting rules and traditions over the years; both good and bad. "I'm sure that many will argue about the amount of time spent learning the deer's patterns is unchanged, but when you throw out a bucket of feed, your intent is to change the habits of wildlife to your advantage," Richardson says. "What appears to be happening, however, is a change that affects more than just you. It affects those people hunting around you as well, and that creates another issue altogether."

Active hunters are ahead of their elected representatives in advocating that it's time to reinstate state bans of baiting and feeding. Last spring when the Conservation Congress advisory hearings asked, "Do you favor action of the Wisconsin State Legislature to ban deer feeding and baiting statewide?" a majority of attendees voted in favor of a ban. On a county basis, 43 counties supported a ban, 25 counties were not in favor, and four counties were neutral.



Illegal use of deer bait has been the number one hunting violation for the last five years. Baiting congregates deer groups where diseases may spread through contact with saliva, urine and feces at the feeding sites.

DNR WILDLIFE MANAGEMENT

Trends from the field

Conservation wardens note hunters tell them they have started baiting only because their neighbors are doing it. This has led to a competition for who can attract the most deer, which often results in baiting violations due to a gross excess of the two-gallon limits. In some cases, wardens have found locations where deer bait was dumped by the truckload to attract deer. Wardens have also discovered instances where landowners fed deer to hold them on their property where hunters would not have access to them.

Some hunters, like the one in the incident that opened this story, believe baiting can give them an edge when hunting public lands, but they get frustrated when other hunters want access to that same area. Baiting sparks friction and competition between hunting groups. Warden Matt Meade of Peshtigo recalls a heated conversation two years ago with a hunter whom he was citing for hunting over too much bait. The hunter said he was being picked on. He said he was baiting more heavily on public hunting grounds because he firmly believed he had to draw deer from adjoining private lands that he believed were not as regularly checked. He was convinced people on adjoining private lands were placing both more bait piles and larger bait piles. Meade sees baiting as a tension area and a barrier between those hunting on public lands and those on private property.

Growing deer populations rise faster due to baiting and feeding

The unnatural addition of nutrients encourages higher deer numbers, even though deer are already significantly above population goals throughout most of the state. Feeding deer throughout the winter can increase survival rates and well-fed does are more likely to bear more fawns in the spring. An overabundance of deer on the landscape above the population goals brings increased agricultural damage, ecological damage and a greater need for herd control tools that are unpopular with many hunters.

Deer have evolved and survived long before human settlement in North America. The species has prevailed without the aid of agriculture, bait or feed, even through the harshest of winters.

Baiting puts a bigger economy at risk

Over the years, many grain operations have found opportunity in packaging and selling their products to deer hunters and feeders. Each fall, stacks of "deer corn," apples, carrots, pumpkins and spuds line the roadsides and sidewalks at convenience stores to draw in the people who would feed deer. We know that the risks of disease transmission make the profits from these short-term sales seem paltry. A stable footprint of the Wisconsin economy includes its $34 billion livestock industry. If TB were found in Wisconsin's wild deer herd, it would trigger an estimated $1.87 million in annual testing costs alone for farmers to continue exporting cattle. Larger deer populations pumped up by supplemental food also lead to larger herds that can cause crop damage every year. In 2007, Wisconsin paid more than $1.6 million in appraised crop damage losses to those enrolled in the Wildlife Damage and Abatement Claims program.

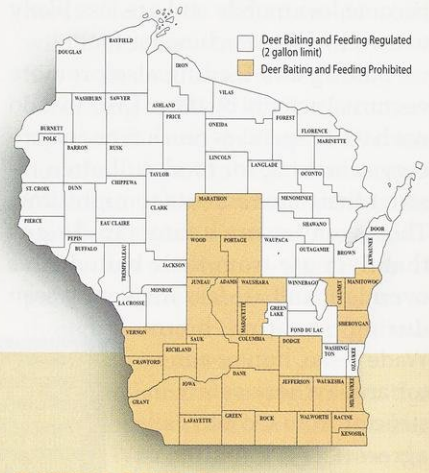
Baiting and feeding also jeopardize Wisconsin's forests and the $22 billion forest products industry. Deer overpopulation nips back natural tree regeneration and decreases the native undergrowth in our forests and fields. This creates a trickle-down effect within our forest ecosystems that changes the makeup of native plants and forests that support native flora, forest composition, and losses of the birds and mammals that depend on certain plant species.

Deer overpopulation and habit changes brought on by baiting and feeding can increase the likelihood of deer-vehicle collisions. Every year, deer-vehicle collisions result in hundreds of injuries and, tragically, some deaths to motorists. Deer-vehicle collisions cause millions of dollars in personal property damages. As deer habituate in residential areas near feed piles, they are more likely to cross roads and get hit by vehicles in unexpected places near urban areas as well as in the countryside.

A 2007 law requires people to cease baiting and feeding activities for at least 30 days if bear or elk are known to be visiting the food sites. Since that time, there has been a noticeable decline in the frequency of elk-vehicle collisions in the Clam Lake area.

The science is clear that for herd health, economic health and disease control, restoring a statewide ban on deer feeding and baiting is warranted. Baiting and feeding are not necessary for herd survival, do not increase the overall harvest and come with some very real, very large risks.

Jason Fleener is the Assistant Deer and Elk Ecologist with DNR's Bureau of Wildlife Management.



CURRENT BAITING AND FEEDING LAWS:

In counties where baiting and feeding is not allowed (shaded counties on map)

- **No bait or feed may be used. However, deer decoys, scents of two ounces or less, water, food plots, or vegetation solely deposited as the result of normal agricultural practices are allowed to attract deer.**
- **Feed left out for small mammals and birds is allowed but must be placed out of reach if deer are known to use the feed site.**

FEEDING DEER FOR NONHUNTING PURPOSES:

In counties where feeding and baiting is allowed (non-shaded counties on map)

- **No more than two gallons of feed per site.**
- **Only one feeding site per owner-occupied home or business.**
- **Feeding site must be located within 50 yards of a home or business.**
- **Feeding site may not be within 100 yards of a road that has a posted speed limit of 45 mph or more.**
- **Feed may not contain any animal parts or by-products.**
- **Feed may not be placed in a feeder that is designed to deposit or replenish feed automatically, whether mechanically or by gravity.**
- **Feed may not be placed for at least 30 days after bear or elk are known to have visited the site.**

BAITING DEER FOR HUNTING PURPOSES:

In counties where feeding and baiting is allowed (non-shaded counties on map)

- **No more than two gallons of bait may be placed per person, per 40 acres or less of contiguous property.**
- **Bait site may not be placed within 100 yards of another bait site on the same contiguous property.**
- **No person may hunt within 100 yards of two bait sites at the same time. (Place bait piles at least 200 yards apart to avoid this scenario.)**
- **Bait may not be placed within 50 yards of any trail, road or campsite used by the public or within 100 yards of a roadway, having a posted speed limit of 45 miles per hour or more.**
- **Baiting may not begin until 24 hours before the deer season opens.**
- **Bait may not contain any animal parts or by-products.**
- **Bait may not be placed in a feeder that is designed to deposit or replenish feed automatically, whether mechanically or by gravity.**
- **Bait may not contain or be contained within metal, paper, plastic, glass, wood or other similar processed materials. This does not apply to bait or feed placed within hollow logs and stumps or to scent materials.**

For more baiting and feeding information, visit the DNR website at: dnr.wi.gov/org/land/wildlife/bait.htm

DNR WILDLIFE MANAGEMENT

For Our Patrons

NEWS FOR CONSERVATION PATRON LICENSE HOLDERS AND POTENTIAL PATRONS

Thanks for your interest in renewing or buying a hunting, fishing or Conservation Patron license. Your current license expires on March 31, 2009.

Mark your calendar: 2009 licenses go on sale March 4.

Thanks for your support. Hunters' and anglers' long-time commitment to conservation has allowed Wisconsin to offer some of North America's best hunting and fishing. Wisconsin can continue maintaining the hunting and fishing opportunities you enjoy and assure you that they're there for your children and grandchildren.

We know that our patrons are avid outdoors enthusiasts. The patron license covers a variety of hunting and fishing activities with the purchase of just one license for a reasonable price.

What's Included:

- Annual Fishing License
- Great Lakes Trout & Salmon Stamp
- Inland Trout Stamp
- Sturgeon Hook & Line Inland
- Sturgeon Hook & Line WI-MI
- Small Game License
- Pheasant Stamp
- Gun Deer Hunting License
- Archery License
- Trapping License
- Otter Application
- Fisher Application
- Spring Turkey Application
- Spring Turkey License (permit required)
- Turkey Stamp
- Fall Turkey Application
- Fall Turkey License (permit required)
- Early Goose Permit (upon request)
- Exterior Zone Goose Permit (upon request)
- Regular Season Goose Application
- State Waterfowl Stamp
- Resident Annual State Park Sticker (not included with the Jr Patron License)
- Annual State Parks Trail Pass (not included with the Jr Patron License)
- Admission to Heritage Hill State Park (not included with the Jr Patron License)
- Subscription to *Wisconsin Natural Resources* magazine (not included with the Jr Patron License)

Purchasing a license is fast and easy:

The Wisconsin Department of Natural Resources offers three convenient ways to quickly buy recreational licenses. Choose an option:

BUY ONLINE – Visit **dnr.wi.gov** on the Internet to purchase recreational licenses. From the main page, choose the "Hunting and Fishing Licenses and Permits" option in the Online Services area to start your shopping.

Online orders may be billed to either MasterCard or Visa credit cards for a handling fee. Make sure your computer is hooked up to a printer before purchasing your licenses so you can print your receipt or license.

CALL US – Purchasing a license by phone is a snap. Call toll-free 1-877-WI LICENSE (1-877-945-4236). Phone orders can be billed to either Visa or MasterCard for a $3 handling fee. At the end of your transaction, you will receive an authorization number that provides immediate license privileges during open seasons, except those that require a carcass tag.

VISIT US – Recreational licenses can be purchased at more than 1,300 sporting goods stores, merchants and resorts as well as at DNR offices. Don't know where the nearest DNR Service Center is located? The location and phone number of each center are listed on the back page of this publication. You can also find a listing online at dnr.wi.gov under the Program Search area. Enter the words "License Sales Agents," which will provide you the link to license sales locations. You can search by county or city for DNR offices and businesses that sell recreational licenses.

FEES:	Resident Patron	$165
	Resident Junior Patron	$75
	Nonresident Patron	$600
	Nonresident Junior Patron	$77

Other hunting, fishing and license fees are available at dnr.wi.gov/org/caer/cs/

Reserve a backtag number?

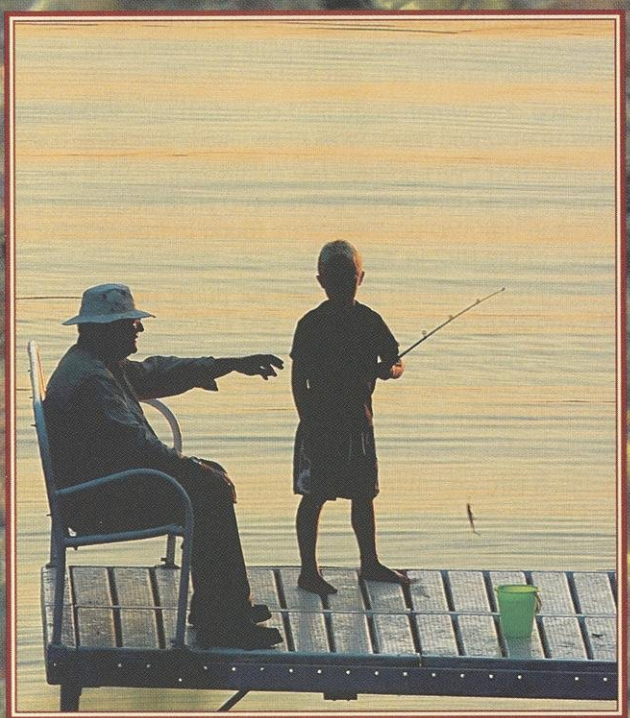
Conservation Patron and Sports License holders have the option of reserving a four-digit backtag number for a $5 annual fee on a first-come, first-served basis. Reserve your backtag number before buying or renewing a license. That backtag number will continue to be reserved for your use until you request otherwise or do not purchase a Conservation Patron or Sports License for two consecutive years. To reserve or relinquish your backtag number, call the Patron/Sports License Coordinator at (608) 266-7030 or send an email to sue.meyer@wisconsin.gov

WISCONSIN DEPT. OF NATURAL RESOURCES

dnr.wi.gov
Patron Coordinator: (608) 266-7030


WE'RE HERE FOR YOU.
"¿Cómo puedo ayudarle?"
"How may I help you?"
"Kuv pab koj tau licas?"
Wisconsin Natural Resources
CALL CENTER STAFF available 7 days a week, 7am–10pm
Toll-free 1-888-WDNRINFo (1-888-936-7463)
ONLINE CHAT at dnr.wi.gov/contact/
Customer Service
WISCONSIN DEPARTMENT OF NATURAL RESOURCES
WISCONSIN DEPT OF NATURAL RESOURCES
PUB-CS-024-07

THANKS
for your continued support!



Your Investment in Wisconsin's Fish and Wildlife 2007-2008

WISCONSIN
DEPT. OF NATURAL RESOURCES

A Message from the Secretary

Whether economic times are good, or challenging as they have been in the last year, we want you to know that we are investing your license dollars carefully. This brochure outlines those investments. Revenues from sales of hunting and fishing licenses and stamps are key to Wisconsin's conservation efforts. This money combined with other funds, such as federal excise taxes from consumer purchases of hunting and fishing equipment, makes up the Fish and Wildlife Account.

The Fish and Wildlife Account is the chief source of funding for the fish and wildlife conservation programs in Wisconsin. The account pays for the programs important to you and all who live, work and visit Wisconsin: habitat protection, fish and wildlife species management and research, land and facilities management and conservation law enforcement.

Hunting and fishing are great traditions that create lasting bonds, friendships and strengthen families. The future of our natural resources and outdoor heritage rests with our ability to pass on our values and passion for the outdoors to the next generation. Please consider helping a child experience first-hand the thrill of time spent afield to learn to hunt, fish, camp and hike under the tutorage of a caring adult mentor.

Thank you for your interest in the Fish and Wildlife Account and your continued wise investment in the future of Wisconsin's natural resources.

Sincerely,

Matthew J. Frank, Secretary

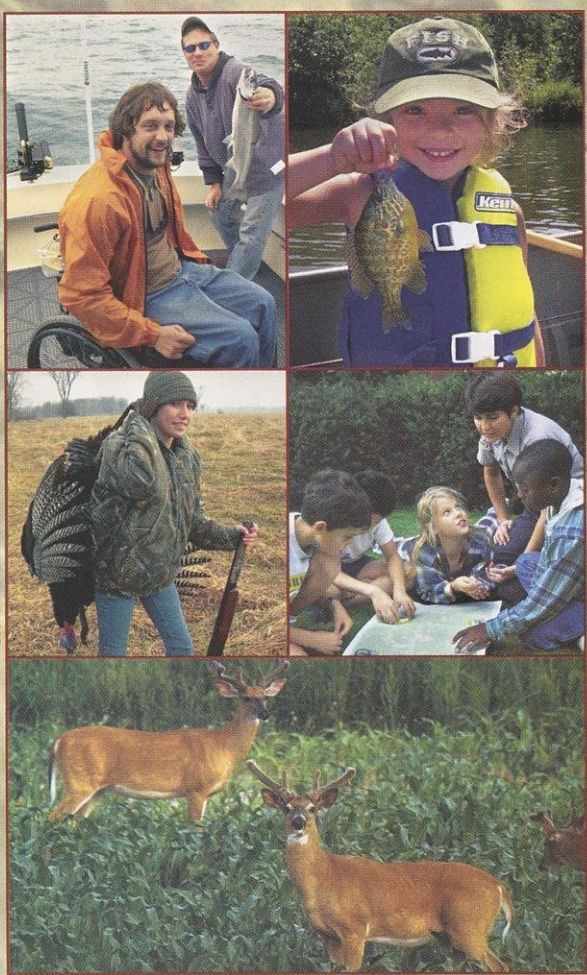
FISCAL YEAR 2007-2008

Total DNR spending: $565 million
Fish & Wildlife Account funds:
$104.8 million (18.5%)

The $104.8* million Fish & Wildlife Account comes from the following sources:

Sources of Revenue	Percent (%)
Fishing and hunting licenses and stamps	73.4
Misc. grants, donations, other sources	7.1
Sport Fish Restoration federal aid	9.6
Pittman Robertson federal wildlife aid	7.3
Wildlife damage surcharge	2.6
Total	**100%**

* Revenues are actual cash received during the fiscal year. Due to timing differences for bills, receipts and federal grants, actual revenue may fluctuate from year to year.



ROBERT QUEEN

ROBERT QUEEN

WISCONSIN WATERFOWL ASSOCIATION

ROBERT QUEEN

JACK BARTHOLMAI

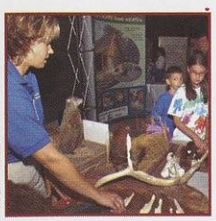
YOUR DOLLARS AT WORK FOR YOU


JOANNA GRIFFIN

FISHERIES

32.1¢ of each Fish & Wildlife dollar
$33.6 million total
254 staff
33% of Fish & Wildlife-funded positions

- Monitored for VHS and completed a national VHS science review
- Sampled 2,000 streams, lakes and rivers to assess water quality, habitat and fish health
- Raised and stocked 7,720,740 fish
- Restored/maintained habitat on 43 trout streams
- Taught fishing and aquatic skills to 18,332 youth and served 5,600 young anglers at tackle loaner sites
- Completed Lake Superior and Lake Michigan studies on the fate of stocked fish and naturally-reproducing fish health
- Completed coldwater production facilities construction at Wild Rose Fish Hatchery and began trout and salmon production
- Began a study to understand changing climate effects on coldwater stream fisheries
- Compared the success of stocking small versus large walleye fingerlings
- Researched how to maximize fishery potential for muskellunge and inland and coaster brook trout
- Provided technical support for science-based management of several fish species statewide
- Assessed long-term trends in mercury contamination in walleyes


ROBERT QUEEN

REGIONAL MANAGEMENT

0.8¢ of each Fish & Wildlife dollar
$900,000 total
8 staff
1% of Fish & Wildlife-funded positions

- Assisted and supported local government and conservation groups in fish and wildlife issues
- Interacted with several thousand customers through exhibits at major outdoors events
- Provided urban recreation and amenities including boat docks and improved fishing access at the Lakeshore State Park


LAINE STOWELL

WILDLIFE

26.3¢ of each Fish & Wildlife dollar
$27.6 million total
184 staff
24% of Fish & Wildlife-funded positions

- Provided wildlife watching opportunities at Crex Meadows, Horicon, Mead and many other wildlife areas
- Assisted 37,000 interpretative program participants
- Provided spring and fall turkey hunting opportunities in every county
- Continued greater prairie-chicken genetic restoration with 27 adult hens arriving from Minnesota
- Completed surveys of bear, waterfowl, mourning doves, woodcock, beaver, otters, owls, whip-poor-wills and marsh birds
- Increased deer lymph node field collection for CWD testing rather than whole heads, which decreased sampling costs
- Reported that CWD-positive test results remained at less than two percent of deer tested in the CWD Herd Reduction Zone (HRZ) and no CWD positives were found in free ranging deer outside of the HRZ in Wisconsin
- Released over 106,000 pheasants for public hunting by the DNR and sport clubs raising Day Old Chicks
- Managed Wisconsin's reintroduced elk herd with the wild elk herd near Clam Lake growing 13 percent to 145 elk
- Initiated research to evaluate the potential impact of climate change on Wisconsin wildlife habitat and population levels
- Compiled bird and mammal harvest and age data, waterfowl band returns and license surveys to assist in season frameworks and harvest quota development
- Assessed the effectiveness of shoreline restoration techniques for wildlife and fisheries
- Surveyed landowners about hunting pressure on private land and landowners' desired deer population goals
- Surveyed waterfowl hunters on hunting characteristics, practices and feelings about regulations
- Surveyed Kettle Moraine State Forest visitors during the October gun-deer hunt to evaluate user conflicts and safety


DON BLEGEN

ND WISCONSIN'S FISH AND WILDLIFE


JOHN OLSON

FACILITIES AND LANDS

8.6¢ of each Fish & Wildlife dollar
$9.0 million total
45 staff
6% of Fish & Wildlife-funded positions

- Managed DNR lands for hunting and fishing
- Purchased 15,690 acres of which 90 percent is open to hunting and fishing
- Managed land on 152 fishery areas, several flowages and rivers and hundreds of public boat access sites
- Completed three fishing pier/shore fishing projects and started six fishing pier/shore fishing access projects scheduled for 2009 completion
- Provided over $2,715,000 for statewide motorboat access development and maintenance to communities
- Maintained the DNR Managed Lands Website at **dnr.wi.gov/org/land/facilities/dnr_lands_mapping.html**
- Maintained the DNR Boat Access Website at **dnr.wi.gov/org/land/facilities/boataccess/**


DAVID L. SPERLING

LICENSES

6.5¢ of each Fish & Wildlife dollar
$6.8 million total
60 staff
8% of Fish & Wildlife-funded positions

- Implemented an easy-to-use automated licensing system with touch-screen technology
- Expanded Call Center services to include Internet chats
- Provided multilingual communications with Spanish and Hmong speaking Customer Service staff
- Distributed millions of regulation pamphlets/brochures
- Informed, educated and assisted the public with hunting and fishing questions, preference records and permit applications
- Managed computer systems and vendor network supporting the sales of millions of Wisconsin fishing, hunting and trapping licenses
- Streamlined the application process for most special permits so customers can apply on-site when purchasing licenses
- Surveyed conservation patron license holders to understand which licensed activities they participated in


RANDY STARK

LAW ENFORCEMENT

18.5¢ of each Fish & Wildlife dollar
$19.4 million total
142 staff
18% of Fish & Wildlife-funded positions

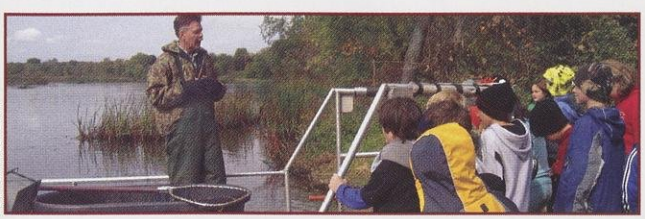
- Conducted Hmong/hunting club networking sessions as part of the Harmony in the Woods initiative
- Responded to over 6,400 hunting and fishing violations
- Taught more than 1,000 hunter education courses
- Provided recreational safety training and enforcement
- Assisted in education and enforcement of rules to stop the spread of CWD and VHS
- Inspected wild bait harvesters, commercial fishing licensees and deer farm fences


ROBERT QUEEN

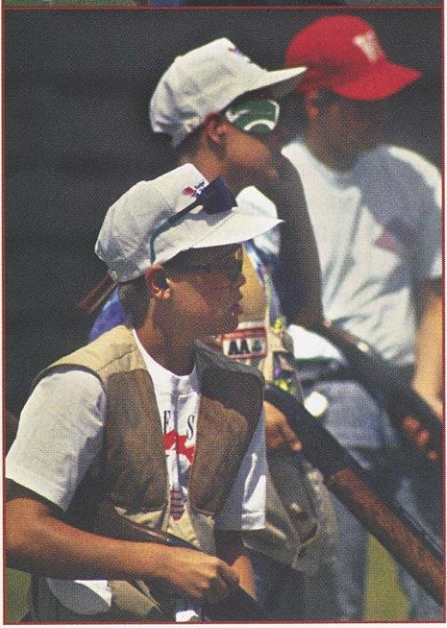
ADMINISTRATION AND SUPPORT

7.2¢ of each Fish & Wildlife dollar
$7.5 million total
79 staff
10% of Fish & Wildlife-funded positions

- Managed and distributed 58 County Conservation Aids grants totaling $192,749 and seven Urban Wildlife Damage Abatement and Control grants totaling $24,999
- Provided Sport Fish Restoration Funding for boat access facilities totaling $1,226,334
- Provided online information for access points to public hunting on state lands
- Managed DNR Website
- Assured the future of hunting, fishing and trapping through educational programs
- Organized forums for fishing and hunting groups, government agencies, legislators and the public to participate in hunting and fishing policy making
- Supported DNR programs with legal, financial and communications assistance


ALISA SANTIESTEBAN

SCOTT ROUSH



DNR FILE PHOTO

Wisconsin Department of Natural Resources
PO Box 7921
Madison, WI 53707-7921

dnr.wi.gov

PUB-CE-472 2009

Designed by Michelle Voss, DNR Science Services
Cover Photo by Steve Apps
Background Cover Photo by Robert Queen

2009 Wisconsin Hunting & Trapping Seasons

Get your regulations faster!
Visit *dnr.wi.gov* to view and print regulations up to one month before they are available in print.

Some seasons may be subject to change. Consult the hunting regulations pamphlet(s) before going hunting or check DNR's website at *dnr.wi.gov*.

WISCONSIN DEPT. OF NATURAL RESOURCES

PUB-WM-153-2009

Ruffed Grouse

Zone A	Sept. 12 - Jan. 31, 2010
Zone B	Oct. 17 - Dec. 8

Hungarian Partridge

Statewide* Oct. 17 (noon) - Dec. 31
* Closed in Clark, Marathon, and Taylor counties

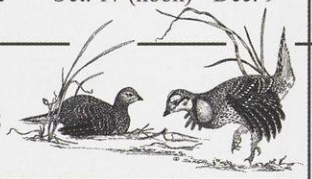
Bobwhite Quail

Statewide Oct. 17 (noon) - Dec. 9

Crow

Jan. 25 - March 20
and Sept. 12 - Nov. 19

Sharp-tailed Grouse

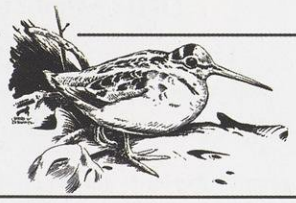


Oct. 17 - Nov. 8

Pheasant

Statewide Oct. 17 (noon) - Dec. 31

Woodcock



Sept. 19 - Nov. 2

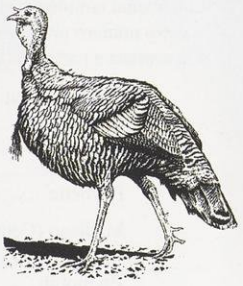
White-tailed Deer (non-CWD units**)

Due to pending rules, these deer seasons may be modified.

Bow	Sept. 12 - Nov. 19 and Nov. 30 - Jan. 3, 2010
Gun	Nov. 21 - Nov. 29
Muzzleloader	Nov. 30 - Dec. 9
Youth Deer Hunt	Oct. 10 - 11
Statewide Antlerless Only	Dec. 10 - Dec. 13

**See the *2009 Deer Hunting Regulations* for possible October gun hunts as well as for CWD hunt dates.

Wild Turkey



Youth Turkey Hunt April 11 - 12

Open Zones

Spring	Period A	Apr. 15 - 19
	Period B	Apr. 22 - 26
	Period C	Apr. 29 - May 3
	Period D	May 6 - 10
	Period E	May 13 - 17
	Period F	May 20 - 24

Fall Sept. 12 - Nov. 19
(Fall season may be extended in 2009)

Cottontail Rabbit

Northern Zone	Sept. 12 - Feb. 28, 2010
Southern Zone	Oct. 17 (noon) - Feb. 28, 2010

Squirrel, Gray and Fox

Statewide Sept. 12 - Jan. 31, 2010

Raccoon

Resident Gun/Trapping	Oct. 17 - Feb. 15, 2010
Non-Resident Furbearer Hunting and Trapping	Oct. 31 - Feb. 15, 2010

Mourning Dove

Statewide Sept. 1 – Oct. 30

(Season length is subject to annual federal rule-making and may be extended by 10 days in 2009.)

Black Bear

Zone C where dogs **are not** permitted:

Sept. 9 - Oct. 13

All other zones where dogs **are** permitted:

Sept. 9 - Sept. 15
- with aid of dogs only

Sept. 16 - Oct. 6
- with aid of dogs
- with aid of bait
- with all other methods

Oct. 7 - Oct. 13
- with aid of bait
- with other methods **not** using dogs

Waterfowl

Season dates for waterfowl vary annually. Duck and regular season goose regulations will not be available until August.

Canada Goose

Early Goose Season Sept. 1 - 15

Pick up litter, including spent shotgun shells, and keep your hunting grounds healthy and looking natural!

Coyote

Hunting

Continuous open season except closed in the northern Wisconsin wolf management zone during the regular gun deer, December antlerless only, and muzzleloader seasons.

Trapping

Northern Zone	Oct. 17 - Feb. 15, 2010
Southern Zone	Oct. 31 - Feb. 15, 2010

Fox (all species)

Northern Zone	Oct. 17 - Feb. 15, 2010
Southern Zone	Oct. 31 - Feb. 15, 2010

Beaver

Trapping only

Zone A (Northwest)	Nov. 7 - Apr. 30, 2010
Zone B (Northeast)	Nov. 7 - Apr. 30, 2010
Zone C (South)	Nov. 7 - Mar. 31, 2010

Zone D (Mississippi River) Day after duck season closes to March 15, 2010.

Mink

North Zone	Oct. 17 - Feb. 28, 2010
South Zone	Oct. 31 - Feb. 28, 2010
Winnebago	Oct. 31 - March 15, 2010
Mississippi River	Begins the day after duck season closes or the second Monday in November, whichever occurs first, and ends on February 28, 2010.

Muskrat

North Zone	Oct. 17 - Feb. 28, 2010
South Zone	Oct. 31 - Feb. 28, 2010
Winnebago	Oct. 31 - March 15, 2010
Mississippi River	Begins the day after duck season closes or the second Monday in November, whichever occurs first, and ends February 28, 2010.

Bobcat, Otter and Fisher

Permits required

Bobcat	Hunting/Trapping	North of Hwy 64	Oct. 17 - Dec. 31
Fisher	Trapping only	Various Zones	Oct. 17 - Dec. 31
Otter	Trapping only	North Zone	Nov. 7 - April 30, 2010
		Central Zone	Nov. 7 - Mar. 31, 2010
		South Zone	Nov. 7 - Mar. 31, 2010

Opossum, Skunk, Weasel and Showshoe Hare

No season limits, bag limits, size limits or possession limits.

Protected Species

Hunting protected species such as badger, woodchuck, wolf, elk, jackrabbit and flying squirrel is prohibited. See *2009 Small Game Regulations* for more details.

Permit Application Deadlines

Horicon & Collins Zones Goose Seasons	August 1
Fall Turkey	August 1
Sharp-tailed Grouse	August 1
Bobcat	August 1
Otter	August 1
Fisher	August 1
Spring Turkey	December 10
Bear	December 10

Drawing Dates

Horicon & Collins Zones Goose Season	Late August
Fall Turkey	Late August
Sharp-tailed Grouse	Mid-September
Bobcat	Mid-September
Otter	Mid-September
Fisher	Mid-September
Spring Turkey	Late January
Bear	Early February

To check your drawing status go to:
dnr.wi.gov

Designed by Thomas J. Senatori

DNR Service Centers

Office hours vary by location.

You may also call the DNR Call Center toll-free at:
1-888-WDNR INFo (1-888-936-7463) • local 608-266-2621

Staff are available 7 days a week from 7:00 a.m. until 10:00 p.m.

Txhais lus Hmoob thoj hu tus xovtooj 1-888-936-7463. Muaj txhais lus Hmoob txhua hnub, Monday txog Sunday, 7:00 sawv ntxov 10:00 tsaus ntuj.

El personal también está disponible para asistir a clientes de habla hispana en nuestro número gratuito. El personal que habla español está disponible 7 días a la semana a partir de la 7:00 de mañana hasta 10:00 p.m.

South Central Region (Fitchburg)	608-275-3266
Dodgeville	608-935-3368
Horicon	920-387-7860
Janesville	608-743-4800
Poynette	608-635-8110
Madison (Central Office)	608-266-2621
Southeast Region (Milwaukee)	414-263-8500
Plymouth	920-892-8756
Sturtevant	262-884-2300
Waukesha	262-574-2100
Northeast Region (Green Bay)	920-662-5100
Oshkosh	920-424-3050
Peshtigo	715-582-5000
Sturgeon Bay	920-746-2860
Wautoma	920-787-4686
West Central Region (Eau Claire)	715-839-3700
Baldwin	715-684-2914
Black River Falls	715-284-1400
La Crosse	608-785-9000
Wausau	715-359-4522
Wisconsin Rapids	715-421-7800
Northern Region (Spooner)	715-635-2101
Antigo	715-627-4317
Ashland	715-685-2900
Cumberland	715-822-3590
Hayward	715-634-2688
Ladysmith	715-532-3911
Park Falls	715-762-3204
Rhinelander	715-365-8900
Superior	715-392-7988
Woodruff	715-356-5211

DNR fisheries biologists

A strong base for broad recovery

Lake sturgeon biologists, enthusiasts and anglers are helping restore these mammoth, long-lived fish to their traditional waters. Here are updates on six sturgeon projects statewide.

MIKE DONOFRIO

An ultrasonic transmitter that can send a signal for almost three years is implanted in a large, adult sturgeon to track movements and spawning activities of these fish in stream and river tributaries to Green Bay and Lake Michigan.

Dedicated funding, more protective regulations and robust research are helping restore lake sturgeon to more of their native range in Wisconsin. That work increases the prospects that more fish watchers and anglers will get a chance to see or land one of the state's largest, longest-lived fish.

"We've got the foundation in place to keep building this fantastic natural resource," says Karl Scheidegger, the DNR fish biologist who led efforts to set goals and strategies in the *Wisconsin's Lake Sturgeon Management Plan* that will be revised in the next year or so.

"We want to provide sturgeon harvest on waters that can handle the demand while restoring populations of these awesome fish to their original range in other areas of the state," he says.

Historically, lake sturgeon were found throughout the Great Lakes and Mississippi River basin. They flourished in Wisconsin's boundary waters including the Mississippi, Wisconsin, and Menomonee rivers, Lake Superior, Lake Michigan and Green Bay.

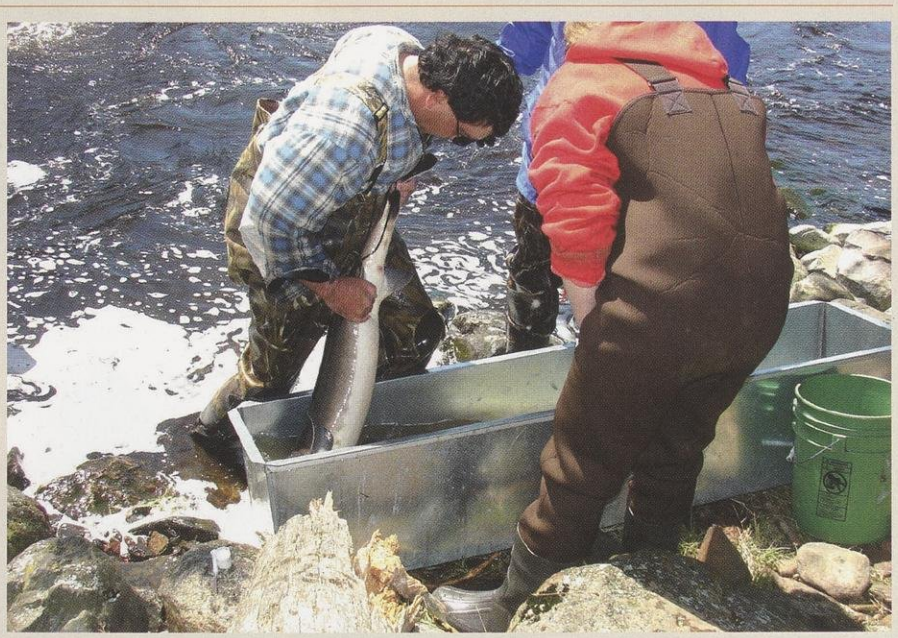
Dams, pollution, habitat degradation and overharvest dramatically reduced lake sturgeon populations in some Wisconsin waters over the past 100 years, and eliminated them entirely from other stretches of water. Because female fish don't reproduce until they are 20 to 25, and then spawn only once every three to five years, lake sturgeon populations are very vulnerable to overexploitation.

New regulations in effect in fall 2008 protect vulnerable females by requiring a minimum 60-inch length limit on those waters with hook-and-line seasons. The Lake Winnebago system spearing season has been separated into two zones — upriver lakes and Lake Winnebago, with a lottery limiting the number of spearers on the upriver water to 500, where harvest rates are traditionally higher. The total sturgeon spearing harvest is capped at pre-set limits.

Dedicated funding from license and harvest tag sales for the Lake Winnebago system, and for the sturgeon hook-and-line season in the rest of the state supports research to effectively restore, reintroduce and manage this species. Here are updates from six of those research projects.

Turtle-Flambeau Flowage/ Manitowish River Study, Iron County

In 1990, a fish survey of the Manitowish River system showed a diverse fish population that included a small, remnant lake sturgeon population. All sturgeon captured during that survey were extremely large, old fish, likely born before the Turtle-Flambeau Flowage was created in 1926. Time shows that the major sturgeon spawning site at the confluence of the Turtle and Flambeau rivers was destroyed by constructing the power dam on the Flambeau that created the flowage. Though sturgeon are still present in the flowage, survey results concluded this prolific fishery offered no natural sturgeon reproduction and no young fish



JEFF ROTH

Crews sexing sturgeon taken in the Turtle-Flambeau system assess how stocked fish are thriving in the flowage.

to rebuild the population. Consequently, the hook-and-line season was closed here while sturgeon were studied.

A telemetry project with radio-tracking determined sturgeon still spawn in two places on the vast waters and steps could improve natural reproduction. Results of that work identified two sites where adult sturgeon were found spawning, but interim measures were warranted to maintain the population. On a near annual schedule from 1993 through 2008, crews from the DNR, Fish and Wildlife Service, U.S. Forest Service and hatchery staff from DNR and the Lac du Flambeau tribe captured adult fish to spawn and propagate sturgeon. Crews obtained eggs and milt on four occasions which resulted in a total 56,946 fingerlings and 152,578 fry that were restocked into the Flambeau Flowage system.

JEFF ROTH

Sturgeon are weighed and spawned to provide eggs and milt to rebuild populations on the Manitowish River and on the Turtle-Flambeau. The research also shows where spawning habitat can be enhanced to encourage these slow-growing fish populations to rebound.

Annual sampling has shown that these stocked fish are surviving and growing. Continued work is enhancing known spawning habitat so that we might someday have a stable, self-sustaining lake sturgeon population in sufficient numbers to again allow hook-and-line harvest season on the Turtle-Flambeau Flowage.

Jeff Roth, fisheries biologist, Ashland and Iron counties

Yellow Lake, Burnett County

In 1979, a 79-inch lake sturgeon weighing 170 lbs. 10 oz. was caught and released on Yellow Lake; it set the state hook-and-line record. Fish biologists didn't know if this isolated fish population on a 2,287-acre lake could survive the extra fishing pressure that such a catch would surely bring. A study to measure fish populations as well as angler success rates was conducted from 1981 through 1986. We found the sturgeon population was similar to the per-acre rates on Lake Winnebago in terms of numbers, growth rates and natural reproduction. Based on those surveys, we estimated only 15 or fewer sturgeon per year could be harvested from this water. Creel surveys in the 1980s showed that catch-and-release fishing would be crucial to preserving this fishery. Anglers were catching twice as many legal fish as the safe harvest goal. Fortunately, most were being released.

Since mandatory registration began on this water in 1983, the harvest has averaged only 9.8 sturgeon annually. However the situation was still very uncertain. If even a small percentage of anglers kept fish without registering them, or if fish died after being released, this population could get into trouble fast.

Recent surveys show this population has really benefited from catch-and-release fishing. The population of adult sturgeon greater than 45 inches in length has grown fourfold since the mid-1980s while sturgeon fishing on Yellow Lake has become even more popular and successful. Anglers are spending twice as much time fishing for sturgeon during a four-week season and are catching two to three times as many fish as they did 20 years ago. Lots of small sturgeon are now part of the catch. Incredibly, 44 sturgeon longer than 60 inches were caught last year and all were released. That's partly due to sportsmanship, and partly to the fact that the sturgeon on Yellow Lake taste terrible no matter how you try to prepare them. In fact, the bigger the fish, the worse they taste. So the "fish for fun" ethic came naturally.

Larry Damman, fisheries biologist, Washburn County

Raising sturgeon, stocking them in the central Wisconsin River, and follow-up sampling have tracked fish movement and growth since restoration started on this river segment in 1991.

TOM MERONEK

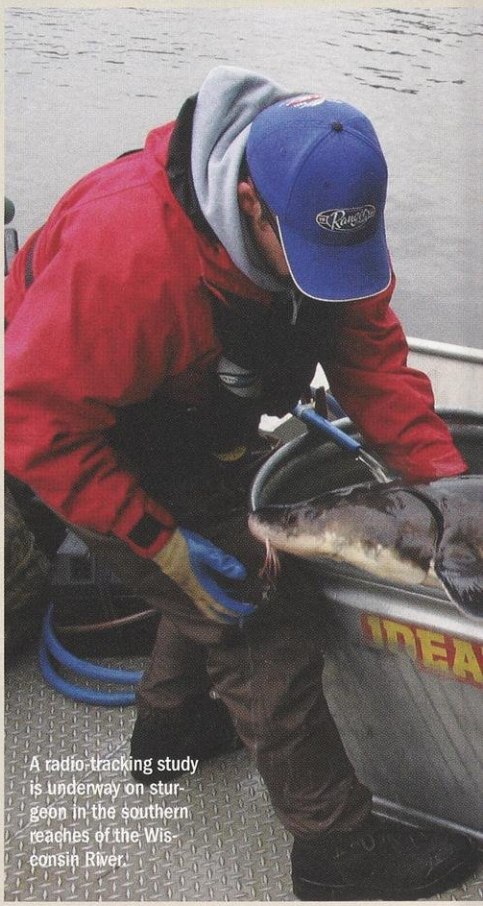
Central portions of the Wisconsin River

Restoration work started on sections of the Wisconsin River near Stevens Point in 1991 when DNR fisheries staff transplanted some adult lake sturgeon from Lake Wisconsin. These fish had a habit of returning downstream, so in 1997, we started collecting eggs from lake sturgeon below the Kilbourn Dam in Wisconsin Dells. More than 200,000 of the young sturgeon we grew have been stocked in the river at Stevens Point and areas farther north, mostly as fall fingerlings. This project has been very successful and we've had strong assistance and cooperation from Alliant Energy that provides both facilities and help from their staff at the dam.

In addition to the fingerlings, the department started stocking lake sturgeon yearlings at Stevens Point in 2003. DNR biologists radio-tagged 20 yearlings released in August 2005 and tracked their habits for three weeks. This revealed their preferred habitat areas and the extent of their migration downstream. The lake sturgeon moved an average of six miles from their stocking site and did not show any tendency to migrate downstream. They moved upstream near the base of Dubay Dam, or downstream near Lakeside Bay, of the Stevens Point Flowage in about equal numbers. This work helped prove the value of stocking yearling fish. These larger fish were also implanted with tags, which help biologists track individual fish histories when they are recaptured.

We've also sampled the Wisconsin River lake sturgeon population annually by gillnetting since 2006, catching between 40-100 fish each year that range from 20-44 inches. Spine samples for aging prove that lake sturgeon from the very first fall fingerling stockings in 1997 still inhabit the Wisconsin River. This has encouraged biologists who are looking forward to the day when lake sturgeon in the Upper Wisconsin River will spawn and reproduce on their own.

Tom Meronek, fisheries biologist, Wausau



A radio-tracking study is underway on sturgeon in the southern reaches of the Wisconsin River.

TIM R.LARSON

Southern reaches of the Wisconsin River

Current sturgeon management studies focus on two populations: one above the Sauk dam at Prairie du Sac on the Wisconsin River and 35 miles upstream to Wisconsin Dells, and the second, below the dam on the 93-mile Lower Wisconsin River flowing to Pool 10 of the Mississippi River.

We've made population estimates of mature sturgeon (bigger than 50 inches) below the dam each year since 2005. Some 598 sturgeon above the dam also have been tagged. The 2005 harvest rate below the dam was too high to preserve these slow growing, late maturing fish. Increasing the minimum size limit from 50" to 60" in 2007 temporarily reduced the excessive harvest and kept the population stable.

A radio-tracking study began in fall 2007 on 16 mature fish below the Sauk dam. That winter, all the tracked fish remained in the vicinity of the dam. In springtime, most had moved from the Wisconsin River into the Mississippi River. By mid-October, six of the tagged fish had returned to below the Sauk dam. The six-year life on the batteries in the tracking units will allow long term information on the movements of these Lower Wisconsin River fish.

Tim Larson, fisheries biologist and basin team supervisor, Columbia County

Evaluating stocking on the St. Louis River

Lake sturgeon originally inhabited the St. Louis River in western Lake Superior, but the population disappeared during the early 1900s due to overharvest, water pollution and habitat alteration. After water quality was improved in 1979, the Wisconsin and Minnesota DNRs started a stocking program in 1983 to reestablish a spawning sturgeon population. The river forms the border between the two states. From 1983 through 2000, some 762,000 fry, 143,000 fingerling and 500 yearling lake sturgeon were released into the St. Louis River.

STEVE SCHRAM

St. Louis River stocking efforts in western Lake Superior will be considered successful if mature lake sturgeon can naturally reproduce at historical spawning locations.

Their dispersal was monitored by capture and tagging studies, and routine fish surveys on the river and Lake Superior. Lake sturgeon were sampled most frequently near river channels, and studies show they stay in the estuary up to five years before entering Lake Superior. Follow-up studies in the lake captured and released 1,219 sturgeon an average of 16 miles from the mouth of the St. Louis River. Net surveys and tracking of tagged fish show that sturgeon released in the St. Louis River generally remain in the extreme western arm of Lake Superior.

If these fish follow typical maturation rates we've seen elsewhere in the Great Lakes, we assume the lake sturgeon stocked in the mid 1980s are mature and have started to reproduce in the last few years. Large lake sturgeon have been observed on historical spawning grounds in the St. Louis River, and we will consider the project successful if mature lake sturgeon can naturally reproduce at historical spawning locations.

Steve Schram, fisheries biologist and team supervisor, Bayfield

West shore of Green Bay

Large tributaries (Menominee, Peshtigo, and Oconto rivers) along Green Bay's west shore harbor remnant adult populations of lake sturgeon. These populations mainly use the lower rivers for spawning activities, though sturgeon reside in the Menominee River year-round. The Lake Michigan management agencies believe these sturgeon populations and their movements can answer important management questions.

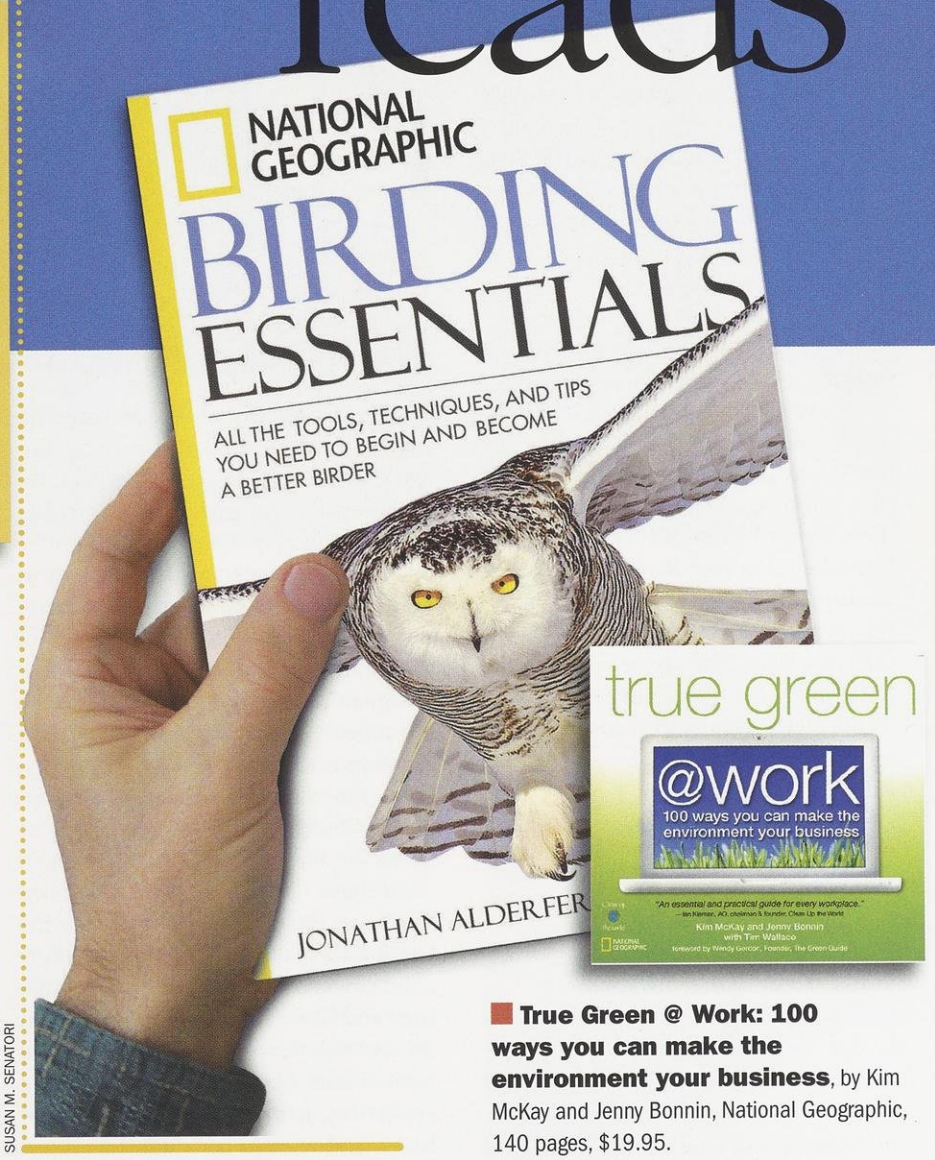
In 2006, the Peshtigo office secured a $50,000 grant from the DNR's Office of Great Lakes to assess how frequently adult lake sturgeon use streams where they were not born. Staff surgically implanted relatively long-lived (1,000 day) ultrasonic transmitters into 67 sturgeon captured in or near the mouth of these three rivers. Two stationary receivers in each river continue to monitor the spawning and nonspawning movements of these adult sturgeon that range in size from 49 to 76 inches. To date, signals have been received and we are tracking the journeys of most fish in the study group. In most cases, there is a high degree of fidelity, and the fish stay in one river; but we have noted some straying to adjacent rivers. The details will be summarized in 2010 and reported to the scientific community.

Mike Donofrio, fisheries biologist and team supervisor, Peshtigo

Thumbs up to ten good reads

Kathryn A. Kahler

Check one more item off your list of New Year's resolutions and pick up a good book – or two! Birders, history buffs, hunters and outdoor enthusiasts are sure to find something to their liking from this year's list of titles. So make your way from the nearest book store to your favorite Barcalounger, kick your feet up and enjoy!



SUSAN M. SENATORI

National Geographic Birding Essentials: All the tools, techniques, and tips you need to begin and become a better birder, by Jonathan Alderfer and Jon L. Dunn, National Geographic, Washington D.C., 217 pages, $15.95.

Birding can be a great way to connect with nature. It doesn't require extreme physical skills or a huge monetary commitment, and it can be done as near as your back yard. So if you're looking for a hobby to share with both your children and your parents, check out this guide.

Beginning with the basics like choosing a field guide and pair of binoculars, the book offers advice to learn when and where to expect birds throughout the year; keeping a journal; knowing body features bird watchers cite to identify bird species; identifying birds by their size, structure, plumage and behavior; knowing what kinds of variations – sexual, age, seasonal and geographic – to expect in birds; and distinguishing birds that are challenging to tell apart.

The "Fieldcraft" chapter is the most appealing and will help you hone your skills. It will help you develop field skills that put you in position to see more birds. The chapter includes sections on attracting birds by *pishing*, and using calls and recordings; knowing where and when to look for birds by habitat, time of day, and spring or fall migration patterns; and keeping track of the birds you've seen. For those who want to volunteer their time and newly developed birding skills, the guide lists opportunities to get involved with citizen scientist programs like Christmas Bird Counts, Breeding Bird Surveys or atlases.

True Green @ Work: 100 ways you can make the environment your business, by Kim McKay and Jenny Bonnin, National Geographic, 140 pages, $19.95.

Authors McKay and Bonnin make a compelling case for companies large and small to reduce carbon emissions and introduce sustainable practices into their way of doing business. Even average Joes who think they have no say in how green their workplace can be can benefit from this read.

Many of the 100 suggestions are simple, common sense practices, like using coffee mugs instead of disposable cups, recycling

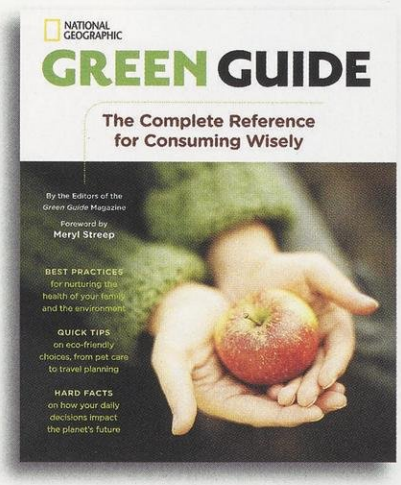
office paper, or turning off lights and office machines at the end of the day. Others have loftier goals like avoiding air travel that isn't absolutely necessary, conducting virtual meetings and calculating your carbon footprint to help decide how to become more carbon neutral. Still others are aimed at design and construction of new facilities. Here is a sampling of the ideas offered:

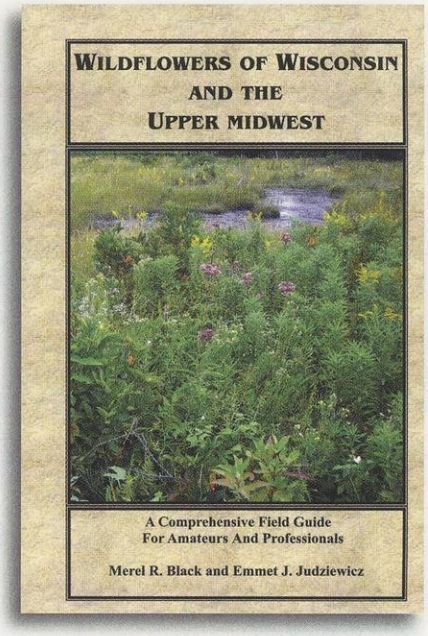
- Despite warnings to the contrary (designed to protect manufacturer's profits), ink and toner cartridges can safely be refilled and reused up to four times. Find a refiller who will guarantee against equipment damage.
- Indoor air pollution can be worse than outdoors. Use natural ventilation, like operable windows, skylights and ceiling fans to minimize the need for artificial cooling.
- Business attire with its long-sleeved shirts, ties and jackets requires cranking up air conditioning to keep employees comfortable. Consider dress policies that allow more climate-appropriate clothing like short-sleeved, open-necked shirts.
- Think about how you can turn waste from your business processes into useable byproducts, like turning used cooking oil into biodiesel fuel, or harnessing heat from machinery to meet water heating needs.
- Food scraps from employees' lunches can be a disposal problem, and when they end up in landfills, contribute to methane production. Consider stylish worm farms that can convert food scraps into compost for office plants.
- Adopt conservation policies that feed resources back into the production cycle in the most efficient manner.

"Replace your linear production processes with nature-inspired closed loops for a healthier bottom line."

National Geographic also publishes a companion book encouraging individual green-living – **Green Guide: The Complete Reference for Consuming Wisely**, by the editors of Green Guide Magazine, 403 pages, $21.95.

It's a guide for anyone intent on adopting a more eco-friendly lifestyle, with chapters on eating green, natural personal care, green house cleaning and improvement, healthy kids and babies and natural pet care.





Wildflowers of Wisconsin and the Upper Midwest, by Merel R. Black and Emmet J. Judziewicz, Cornerstone Press, 252 pages, $35.

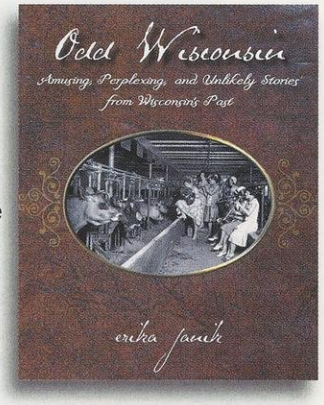
Anyone who has thrown up his hands in frustration trying to follow a dichotomous key will appreciate this comprehensive guide designed to help amateur wildflower enthusiasts. The authors provide "quasi-keys" in a less formal framework than other guides. They require the user to identify the number of flower parts (such as sepals, petals, bracts or upper leaves), then make a quick determination based on descriptions of flower size or arrangement, leaf shape or arrangement, and other features. Once that's done, the user goes directly to a family page containing photos, descriptions and distribution maps for each species. The narrative for each species includes the status, such as threatened, native, introduced or potentially invasive; a physical description of the plant, flower, fruit and leaf; and the habitat in which it is found.

The guide describes 1,087 species and contains 2,100 photographs covering wildflowers from all of Wisconsin and parts of Minnesota, Michigan, Illinois, Indiana, Iowa and Ontario. A handy glossary and illustrations will help novice wildflower lovers distinguish between spikes and racemes, umbels and cymes, and rhizomes and stolons.

Odd Wisconsin: Amusing, Perplexing, and Unlikely Stories from Wisconsin's Past, by Erika Janik, Wisconsin Historical Society Press, 183 pages, $16.95.

You can't help but pick up a book that features a cover picture of "The Ingenues," an all-girl vaudeville band serenading the cow-eyed Jerseys at the UW-Madison dairy barn to coax a little more milk out of them. Once you start reading the entertaining stories inside, it's tough to put it down.

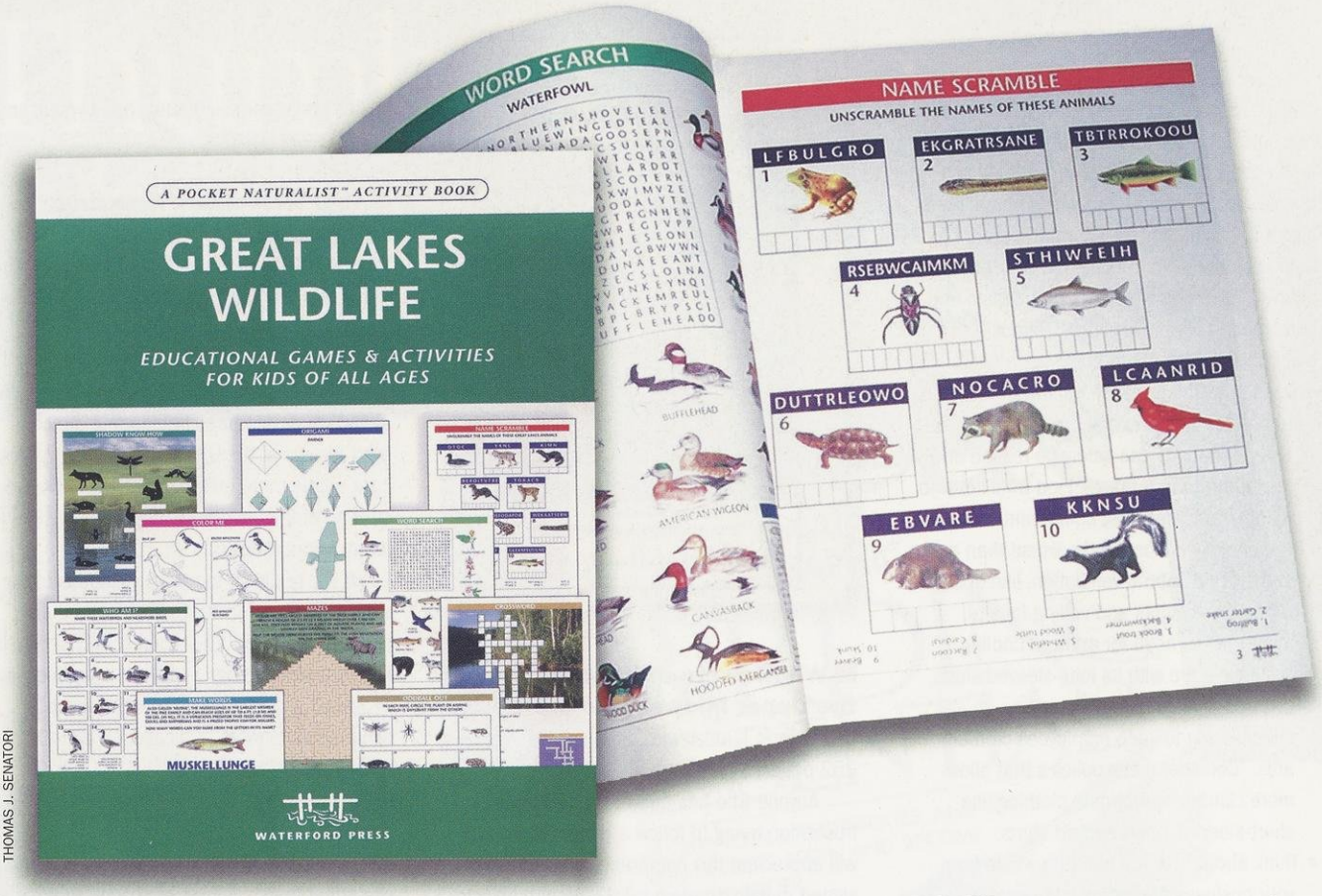
If you're drawn to the news stories of the slightly absurd and "truth is stranger than fiction" variety, this little book is for you. You'll find that some things – politics and lifestyles – haven't changed much since Wisconsin achieved statehood. "Chicago, Wisconsin?" reveals the political maneuvering that made Chicago Illinois' largest city, rather than Wisconsin's.



"A 'Gibraltar of the Wets'" describes the Prohibition years in Madison when bootlegging was rampant and "the queen of bootleggers, an attractive young Italian girl catered exclusively to a fraternity-house clientele." Even back in the 1800s, some considered Madison a place of beauty, while others described it as "not fit for any civilized nation of people to inhabit."

There's a section on ghostly and spiritual encounters, like the story of the Ridgeway ghost documented in the *New York Times*, and a section on curiosities, like the Shawano gardener who nurtured, trained and grafted 32 box elder seedlings into the country's "only natural grown chair." Other sections resurrect stories of "Odd Lives & Strange Deaths," "Animal Antics," and "Palatable Peculiarities."

Author Erika Janik is a gifted historical writer whose stories have appeared in this magazine, as well as the *Wisconsin Magazine of History*. She credits "past librarians and archivists at the Wisconsin Historical Society who had the foresight to think that even oddity was worthy of collection alongside more scholarly and notable tomes on state history."



THOMAS J. SENATORI

Pocket Naturalist Guide Series, Waterford Press, Phoenix, AZ, laminated and folded pocket guides, $5.95.

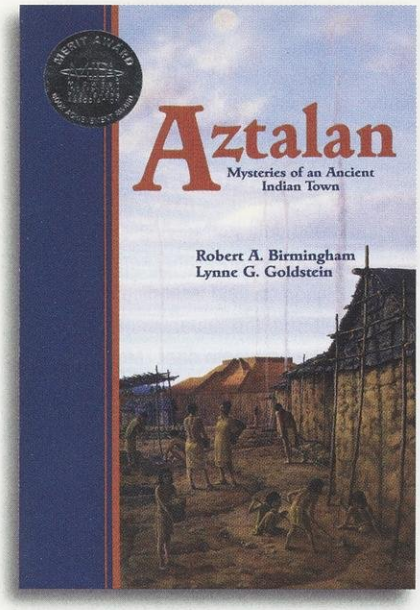
More than 250 different handy, durable field guides are available to introduce novices to nature; and each guide can easily be slipped into a back pocket, purse or backpack. You won't find tips for determining the intricate differences between species or explanations of range or habitat, but they're great visual aids for family vacations or nature hikes with your youngsters. There are bird guides for every state; regional guides for butterflies and moths, trees and wildflowers, seashore life and wildlife; and guides to freshwater fishes, animal tracks and duck identification.

If you're planning a business trip and don't have room to pack bulky field guides, consider ordering a couple to tuck into a pocket of your carry-on bag or briefcase. Each guide is printed on laminated stock and folds down to fit into a standard business envelope. There are also specialized guides for emergency first aid, tying knots, reading the night sky and identifying dangerous animals or plants, to name just a few.

Looking for activities to keep the youngsters quiet in the back seat? The publisher also carries a series of nature activity books with puzzles, word games and activities for children ages 7-12. Pair up the **Great Lakes Wildlife** field guide and activity book for your next camping trip or field trip.

Of special interest to Wisconsinites are **Great Lakes Butterflies & Moths, Wisconsin Birds, Great Lakes Trees & Wildflowers,** and **Great Lakes Wildlife**. Check for them at bookstores or online at waterfordpress.com.

THOMAS J. SENATORI



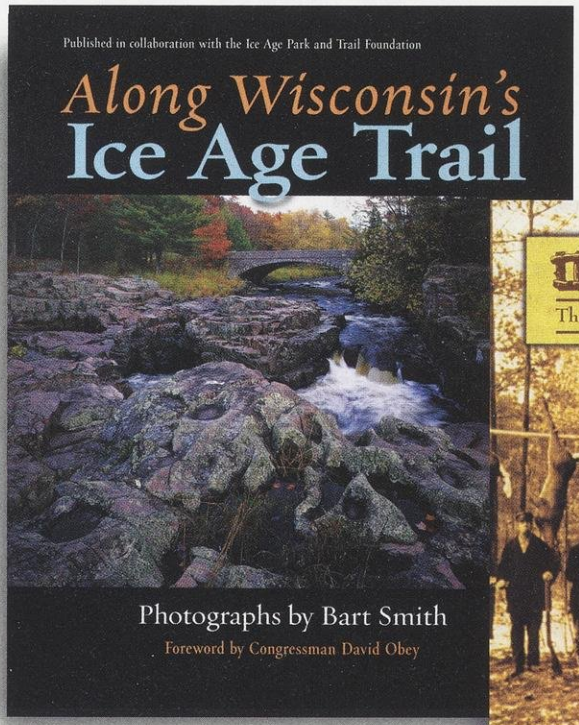
Aztalan: Mysteries of an Ancient Indian Town, by Robert A. Birmingham and Lynne G. Goldstein, Wisconsin Historical Society Press, 107 pages, $14.95.

While countless mysteries remain of the ancient Mississippian community that once flourished at the site of Aztalan State Park in present-day Jefferson County, this award-winning book answers many of the questions that have arisen since its discovery in 1836. Archaeologists now believe that the 300 to 500 people who lived in the fortified village on the banks of the Crawfish River came from the much larger settlement of Cahokia near present-day St. Louis, and after about 150 years, abandoned the village as the Mississippian population moved to the southeastern U.S. Historians are still speculating reasons for the relatively sudden abandonment. Was it climate change, disease, or were they driven out by competing Native Americans?

We know a great deal about how the walls of their village and homes were constructed, what kind of pottery they made, how they dressed, what they ate and how they buried their dead. Modern archaeological techniques have determined that the inhabitants imported certain rocks and shells from areas hundreds of miles away to use for hoe blades and arrow points, and that they played a sport called "chunkey" using spears and flattened, disc-shaped stones. Yet we can only speculate why. Did the sandstone imported from west central Wisconsin give "the warrior supernatural aid in life and death situations?" Was chunkey part of their highly developed ceremonial life?

Authors Birmingham – who served for many years as Wisconsin State Archaeologist – and Goldstein – an anthropology professor at Michigan State University – write a meticulous yet fascinating compilation of the many studies conducted at Aztalan over the years. Considered Wisconsin's most important archaeological site, the studies began with maps hand-drawn by Nathaniel Hyer in 1836 and Increase Lapham in the 1850s, and continue with modern techniques like electromagnetic conductivity technology that allows scientists to map underground structures without disturbing the land.

It's obvious the fascination that drew Hyer and Lapham still attracts the hundreds of archaeologists who have since studied the site. Perhaps future technological breakthroughs will help tomorrow's students answer the mysteries of Aztalan that remain today.

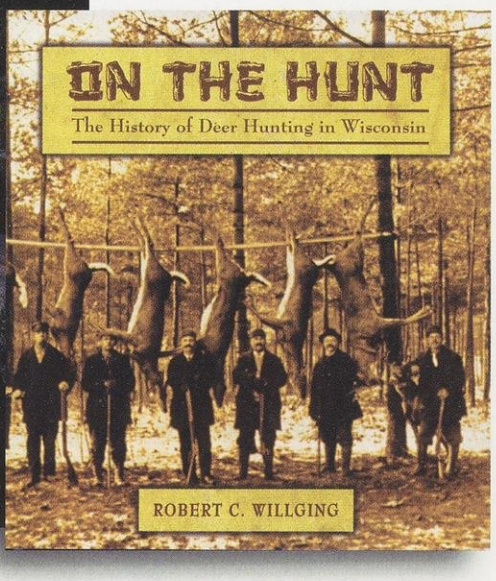


Along Wisconsin's Ice Age Trail, edited by Eric Sherman and Andrew Hanson III, photographs by Bart Smith, University of Wisconsin Press, 104 pages, $24.95.

A mix of history, geology and nature are woven with cross-threads of poetry and incredible photography, taking readers on a virtual trip into Wisconsin's past along the thousand-mile Ice Age National Scenic Trail.

Bart Smith's breathtaking photos represent the landscape, flora and fauna one can find along the trail in all four seasons. Essays by biologists Mike Dombeck, Robert Freckmann and DNR's Randy Hoffman, retired journalist Paul G. Hayes, poet laureate Ellen Kort, geologist David Mickelson, and environmental historian Sarah Mittlefehldt help paint the picture of how and why the trail came to be. John Morgan explains how the trail "was born from the dream of Raymond T. Zillmer, a Milwaukee attorney and avid outdoor adventurer who saw in the moraine a way to bring national park-like status and regard to Wisconsin's own geological and natural history." Construction of the trail spans generations, as well as the 250 miles of its length and the 350 municipalities through which it passes.

This pictorial essay is a wonderful way to spend a Sunday afternoon, but even better, it's an impetus to lace up your hiking boots – or strap on your skis – and experience Wisconsin's awesome beauty on your own.



On the Hunt: The History of Deer Hunting in Wisconsin, by Robert C. Willging, Wisconsin Historical Society Press, 224 pages, $26.95.

Willging weaves a fascinating story of the interrelationships of the white-tailed deer and the people who have hunted it, from the Paleo-Indians who first inhabited the southwestern coulee region about 11,500 years ago, to modern sports hunters embracing the Wisconsin deer hunting tradition.

The author's meticulous research helps

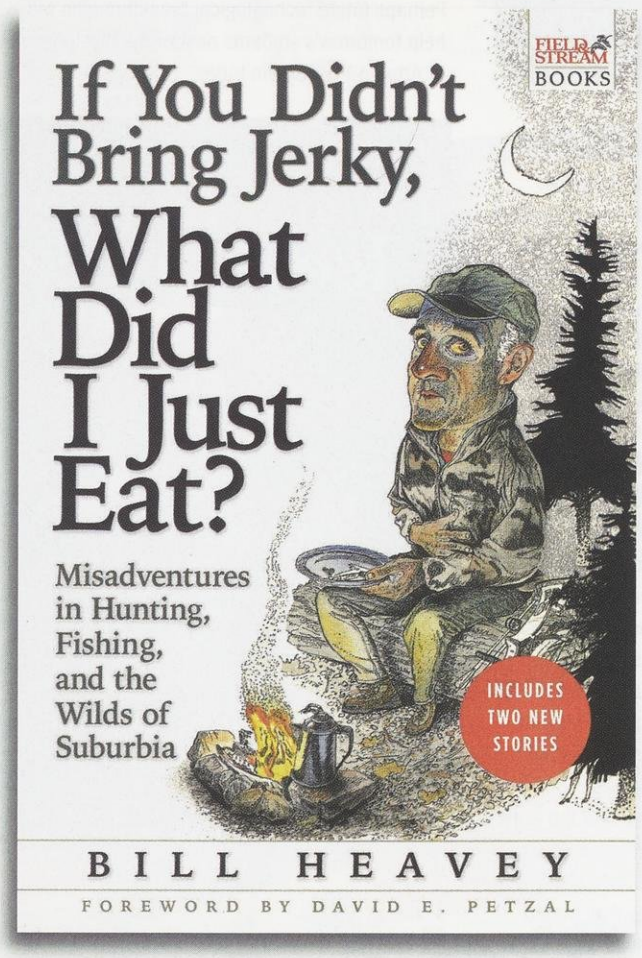
carry readers back in time to when the *atlatl* – a simple carved piece of wood that allowed Paleo-Indian hunters to hurl a dart great distances – gave rise to the bow and arrow some 1,500 years ago. Bowhunting transformed the Indians' pursuit of their favorite prey. "The Indian deer hunter...always having to match his intellect, skill and weaponry against an animal that had been designed by nature over the course of millions of years to thwart the hunt at every opportunity, took to the bow and arrow immediately and made it very nearly a part of his being."

The 18th and 19th centuries were years of incredible change in Wisconsin. An era of subsistence hunting gave way to market hunting around the time Wisconsin was being settled by Europeans. The persistent hunting of deer for hides reduced the deer population by about half. Then, as Indians were forced onto reservations and farms sprang up on the landscape, agriculture created new edge habitat and deer populations recovered. The rise of a new type of hunter – the pioneer farmer – sparked a renewed era of market hunting that exploited every piece of the deer – from hide, to venison, to bone and antler. That hunting pressure once again significantly reduced the deer population by the time of the Civil War when the first hunting regulations were enacted.

In the chapter "The Rise of the Sportsman," Willging details how deer scarcity in some parts of the state brought "a new phenomenon: an increase in hunters from somewhere besides northern Wisconsin...who traveled north for the opportunity to hunt deer... .These hunters represented a new and growing segment of the American hunting population: the sportsman. Rather than hunting out of necessity to feed a family or for profit, the sportsman placed primary value on the experience of the hunt. This new breed of hunter was willing to travel, sometimes a great distance, simply for a fulfilling recreational hunting experience."

The remaining chapters detail the effects on deer hunting of such historical events as the end of the great logging era, the Great Depression, and cultural changes like the effects that the sight of "deer stacked in great heaps at the railway stations" had on the "influx of summer tourists who liked nothing better than to observe the wild animals of the north." Willging devotes sections to "Women and Deer Hunting," "Earn-a-Buck," "The Great Bait Debate," and an entire chapter to how chronic wasting disease has changed Wisconsin's hunting traditions.

The book abounds with wonderful old photos of early hunters proudly displaying their quarry on poles at their hunting shacks or tied to the front fenders of their cars, illustrating how traditions have changed over the years. The theme that persists from the first chapter to the last is a lasting reverence and respect for the whitetail held in the hearts of generations who have pursued it, making "the hunt" one of Wisconsin's greatest traditions.



If You Didn't Bring Jerky, What Did I Just Eat?" by Bill Heavey, Grove Press, New York, 304 pages, $14.

You'll want to be sure to read this book in private. Otherwise you risk having to explain tears of laughter or heartbreaking sadness to strangers around you.

Heavey is the well-known columnist from *Field and Stream* whose collection of outdoor stories is now available in paperback. It's an anthology of entertaining, poignant and utterly hilarious tales of fishing, hunting and outdoor life. Don't keep it on your bedstand – unless you need something to keep you awake and in a good mood until your teenager gets home. If you need more convincing, here's a snippet from a section on field lessons and advice Heavey felt were too valuable not to pass on:

Shut the bathroom door. *Much of my rifle practice occurs with a pellet gun in the basement when nobody else is home. After a session this fall, I was sure my earplugs had migrated almost to my brain. Rushing upstairs to the bathroom mirror, I was probing deep in my auditory canal with a Leatherman Wave when at the door I saw the mother of a child with whom my daughter had evidently missed a playdate. She had entered the house when no one answered. Her face was pretty much the mask of horror you would expect to see upon discovering a man committing suicide via earhole. Her hands were clamped protectively over the eyes of her child, whom she dragged bodily backward through the living room, her mouth moving soundlessly. I watched – but did not hear – the door slam as she fled. I knew it was only a matter of minutes before my wife got word and returned home to deal with the large order of trouble with anchovies and extra cheese I had whipped up. The only question was how to spend the brief interval of peace remaining. I returned to the basement and shot a few more targets. Looking back, it was the smartest thing I did all year.*

Kathryn A. Kahler writes from Madison. She formerly managed the circulation and promotions programs for this magazine.

Readers Write

COMMENT ON A STORY?

Send your letters to: Readers Write, WNR Magazine, P.O. Box 7921, Madison, WI 53707 or e-mail letters to david.sperling@wisconsin.gov. All letters must contain the writer's name and address. Only your name and community will be printed. Letters must address issues raised in the magazine and may be edited for length.

CRAWFISH TRAPS

I enjoyed your story about the rusty crayfish ("Living with the rusty red menace," October 2008). Where can I secure a crawfish trap?

Robert Wanasek
Burlington

Crayfish traps are readily available for $10 to $30 at sporting goods stores or online. Be sure to read Wisconsin's regulations for trapping crayfish (Guide to Wisconsin Spearing, Netting and Bait Harvest Regulations), *available at DNR service centers or online at dnr.wi.gov/fish/regulations/2008/documents/0809spearnet_pages.pdf. You will need a fishing or small game license. Also, check DNR's website (dnr.wi.gov/fish/vhs/) for regulations to avoid spreading diseases like VHS.*

WHERE'S THE LIFE JACKET?

As an avid boater and U.S. Sailing Instructor, I was pleased to see "Don't wing it," (October 2008) in which you note "too many hunters still fail to wear Coast Guard-approved life jackets while traveling to and from their hunting blinds. In fact, 90 percent of sportsmen who died in boating accidents between 1995 and 2000 were not wearing a life jacket." But I was puzzled to see, on the very next page, a picture of a hunter in his boat, apparently in the middle of a waterway on a chilly day, sans PFD. To my mind, the picture caption should read, "This hunter is taking needless risks by not wearing a Coast Guard-approved life jacket."

Chris Neuwirth
Pittsburgh, Penn.

MARTEN – UP CLOSE AND PERSONAL

I was so glad to read Jim Bishop's marten article ("A weasel with a secret") in the October issue. It brought back the memory of my own close encounter with this truly beautiful creature. One October day in the late 1990s while bowhunting in the Nicolet Forest just east of Eagle River, I was standing with my back against a tree, using a dead fall in front of me as a simple blind. I caught a glimpse of a bushy tail about 50 yards away and immediately thought "fox." As it drew nearer I recognized it as a pine marten. I remained motionless and watched as it hopped and zigzagged through the forest, coming ever closer and closer. To my amazement it eventually came right to me and actually rose up and placed both forepaws on my left knee! We stared at each other for about 10 or 15 seconds and then it gave me a toothy grin, at which point I decided to spook it away by twitching my leg. It simply backed off about three feet, then came back, sniffed my boots, looked up at me once more, and then went on its way. I didn't get a deer that year, but that encounter made it one of the best hunting trips I've been on.

Charles Staley
Sussex

PUBLIC HUNTING LAND

We have been trying to locate a website or a source that will provide maps and information on public hunting lands for pheasant and ducks in the St. Croix and Pierce County area and have not been successful. Local information is nonexistent as far as we can tell. If you can be of help in this area it would be appreciated.

J.J. Willie

Take a look at the story from our August 2008 issue ("Make it public"), online at wnmag.com/stories/2008/aug08/public.htm. You'll not only find links and maps to all the DNR properties in the state, but federal land, county forests and private property enrolled in programs that

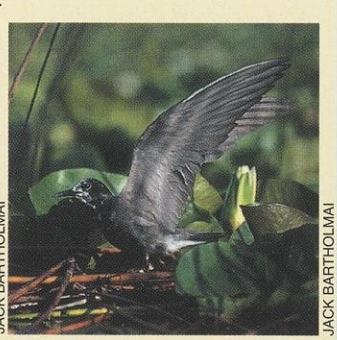
Continued →

CORRECTION

ONE RARE TERN DESERVES ANOTHER

A photo on page 14 of our December story (*Gifts that keep on giving*) showed a Forster's tern (*Sterna forsteri*) rather than the black tern (*Chlidonias niger*) described in the story. We apologize for that error. The Forster's tern is endangered in Wisconsin; the black tern is considered a species of special concern; it's uncommon, but not as rare as a threatened or endangered species. Here are two images of black terns.


JACK BARTHOLMAI


JACK BARTHOLMAI

Continued from page 27

require participants to open their land to hunting. Local sources of public hunting information include tourist information centers, chambers of commerce, county extension agents and county park and forest departments. Check the county government listings in your phonebook for locations. To find contact information for local DNR offices, visit the DNR's website at dnr.wi.gov/ and click "Contact Us" in the top menu tabs.

WWOA IS MAJOR PLAYER

I am writing to register my disappointment with several aspects of "Tending to tomorrow's woodland owners" in the October issue.

First, you neglected to mention the largest most active nongovernmental organization that helps landowners with wooded acres — the Wisconsin Woodland Owners Association! Many DNR foresters work closely with us at field days and conferences each year, and we truly appreciate their commitment.

Second, the Managed Forest Law program is described as very important in helping keep land in private ownership. I think that is a very strong misstatement! The Legislature and the Governor together made a major, retroactive change to what is for landowners a contract. It's obvious to me that the MFL agreement is not worth the paper I've signed! I entered some land in 2007 with what I thought was clear understanding of my responsibility and what I thought was the state's role.

Unmentioned in the article is how woodlands associated with agricultural lands are treated compared to other woodland owners. If I farm, I get major tax breaks on my woodland without requirements tied to the MFL program. Also, I can lease my land for recreation, hunting and many other uses and collect the dollars.

Also in the October issue, a glowing report on Stewardship talks of millions of taxpayer dollars spent to provide opportunities for individuals to recreate. Woodland owners also provide recreation opportunities that boost the state's economy! We aren't costing the state anything — no employees, space, vehicles, etc. Why not recognize some of the benefits that come to the state from private woodland owners?

Marv Meier
Wausau

Kathryn Nelson, DNR's Forest Tax Section Chief responds:

The Managed Forest Law (MFL) program is the largest incentive program offered to landowners to encourage sound forestry on private lands. Almost three million acres of private land is entered into MFL, including small family and industrial lands. Landowners agree to follow sound forestry practices on a minimum of 10 acres of land on which a minimum of 80 percent of the land produces commercial forest products. The landowner receives an immediate benefit through reduced property taxes. The public gets long-term and immediate ecological and social benefits, including clean air and water, carbon sequestration, timber products, wildlife habitat and access for recreation.

MFL evolves as societal changes and perceptions change. Since MFL is a state law, the State Legislature can amend it to address public concerns. The past five years brought several changes. Most of the new requirements affect new MFL participants, some apply retroactively or are new conditions that apply when lands are re-enrolled in the program. Last year, the Legislature prohibited woodland owners from leasing recreational rights to lands enrolled in MFL because it provided less public access to lands than statutes allowed for properties that were receiving tax benefits. The Legislature felt the changes were needed to eliminate the incentive to subdivide and lease recreational access to the property.

The MFL program provides an excellent avenue for landowners to keep their woodlands as working forests. It helps landowners to make good management decisions while allowing the landowner to receive income when harvesting is needed. The MFL program is envied by other states and recognized as meeting worldwide standards of sustainability through Tree Farm and other certification programs. Wisconsin's private woodlands are in better condition because of Managed Forest Law.

I read with interest the article about the next generation of woodland owners "Tending to tomorrow's woodland owners," October 2008). I am among the generation that needs to plan for the future of their woodlands. It's discouraging that the Wisconsin Woodland Owners Association was inadvertently left out of the list of resources for woodland owners. My father and mother joined WWOA at its inception in 1979 and I was a family member on their coattails. WWOA has provided extraordinary information and education for woodland owners through chapter activities, field days and educational meetings providing opportunities to share ideas about their properties. WWOA approaches its 30th anniversary in 2009. We are excited to have been of help to so many woodland owners.

Nancy Livingston
Hancock

INDIAN ARTIFACTS

Are there any areas today that someone can go to find Indian arrowheads or other artifacts?

David A. Brynildson
Jacksonville, Fla.

As much as people enjoy finding arrowheads and other artifacts, collecting such antiquities on public property is against the law because many historical encampments and burial sites were disturbed, ransacked or desecrated in the past. In brief, collecting Native American artifacts on public land is prohibited under state law. Federal and tribal lands are similarly protected. Collecting artifacts on private property is legal if you have landowner permission, though it is not recommended or encouraged.

SHARE MORE TIPS OF HOMEMADE KITS AND CUSTOMIZED GEAR

A few of our readers forwarded photos and descriptions of homemade kits and gear they put together to enjoy the outdoors. We will print those, but we didn't get enough of your tips to fill out a story. (See our August 2008 challenge *What do you pack in for the outdoors*?) Please forward your tips over the next month and we'll share them with other readers. We don't need long stories, just a few sentences about a tip you take, a gizmo you made, or something special you pack in your gear when you go hunting, fishing, hiking, camping or biking that makes the experience that much better. If you can send a photo or digital image of the gear in use, all the better. Send your ideas to: *Wisconsin Natural Resources* magazine, P.O. Box 7921, Madison, WI 53707.

For instance, here's a simple tip we saw that we liked. Trying to remove a tick but you don't have a tweezers handy? Take a piece of fine fishing line, tie it in a simple overhand knot. Gently tighten the loop around the head of the tick by pulling the ends of the line and you will slowly tighten the knot and pull out the tick.

Continued from page 2

A canary of Northwoods change

Mapping spruce grouse range and movement is part of a cooperative research project with the U.S. Forest Service.

The chunky, compact, black and white speckled bird, struts and plods along the wooded edge during mating season in late spring as the last snows are melting, stopping to quickly fan out its tail feathers and displaying for a potential mate. The male's fanned black tail feathers with whitish spots form a pointy curve and look a bit like a miniature sage grouse when viewed from the rear.

Monitoring started in Wisconsin in April 2006, and radio-tracking/telemetry studies started in May 2007. Wildlife researchers attract both sexes of spruce grouse by playing recordings of the female's mating call, a series of grunt and hoot-like sounds called a *cantus*. The male responds with a flutter flight that sounds a bit like distant thunder, says DNR Wildlife Research Technician Mike Worland. The male grouse are drawn out in the hopes of attracting compliant females. The hens are curious about other females in the area. One male will mate with several females. Following breeding in late April through early June, the females lay 5-7 eggs in a ground nest under dense cover. The females provide all the parental care for the young chicks.

Spruce grouse are so confident that their cryptic feather pattern provides good camouflage in the brushy forest edge that they do not run away from people. That confidence leads to their nickname of "fool's hen." Researchers can get very close, within 10 feet, and trap or noose the birds.

"It's still quite a challenge to gently get a noose around their neck," Worland says. Delicate radio transmitters about the size of a quarter are then attached to the grouse like a wire necklace and will send a signal for up to a year that can be detected up to a half-mile away, depending on the terrain and whether the birds are on the ground or in the top of a tree. Researchers are using the information to track the grouses' range, movements and habits.

"We've collared a total of 25 spruce grouse near Clam Lake; we currently have 12 on the air and plan to collar several more this spring," Worland says.

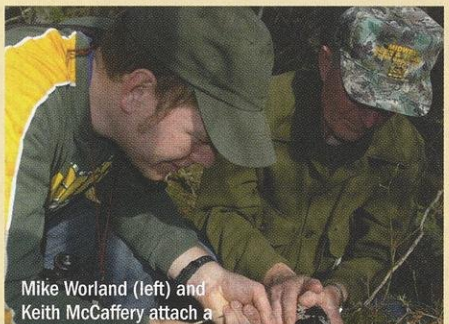
In winter, spruce grouse hang out in trees feeding on spruce needles and buds. In the evenings they roost in snow banks. During warmer weather, their young pick at ferns, insects, snails, fungi and berries on the forest floor.

Most spruce grouse don't migrate far. They often will walk a mile to a few miles between summer and winter range.

Wildlife biologists also are investigating other factors that might explain what management steps might bolster spruce grouse populations here. It's possible that these grouse are subject to more predation at the boreal forest fringe by owls, goshawks, marten, fisher and foxes.

"Spruce grouse are at the extreme southern edge of their range here," Worland explains. "We don't know how predation-caused mortality here compares to other regions, but this is a boreal bird, and habitat is certainly less available in Wisconsin compared to the bulk of their range. We usually find them in large stands of coniferous forest, particularly black spruce swamps. A smaller stand of conifers surrounded by deciduous forest probably won't support these grouse," Worland says.

They clearly prefer lowland conifers like spruce, pine, fir, larch and tamarack. One parcel of ideal habitat a few miles northeast of Conover is called Spruce Grouse Swamp State Natural Area. The mix of sedge meadow, muskeg and swamp surrounded by a dry, sandy boreal forest of jack pine, red pine and spruce is favored by this grouse, as well as gray jays, boreal chickadees, black-backed woodpeckers and Connecticut warblers.



Mike Worland (left) and Keith McCaffery attach a lightweight transmitter to a spruce grouse to track its activities and range.

KARL MARTIN

Where spruce grouse have been observed in Wisconsin in recent years.

DNR WILDLIFE RESEARCH

David L. Sperling edits Wisconsin Natural Resources *magazine.*

UPDATE

CALL CENTER

The DNR's Call Center that fields questions from early morning through the evening seven days a week (see our February 2008 story *License to thrill*) has handled more than 239,000 customer contacts in the last year, a third of the calls coming at nights and on weekends. The highly trained staff respond to a wide variety of DNR issues, from clarifying regulations on hunting and fishing to restrictions on firewood transportation.

"Our customers don't have to wait for traditional daytime, weekday business hours to get help. If you have a question about tagging your deer, the slot size for your fish, or want to enroll in a safety class, we're here for you seven days a week from 7 a.m. to 10 p.m.," says Diane Brookbank, Customer Service and Licensing Director for DNR. The center offers a toll-free number, an online, live chat room, and customer service specialists speaking Hmong and Spanish as well as English.

The most common phone-in questions ask for clarifications of deer season rules, registrations for safety classes, and requirements for registering a boat, snowmobile or ATV. The operators also field tips about suspected fish and game violations and possible land or water toxic spills. Operators have gotten calls from lost hunters and have helped guide rescue teams to them, and have gotten offbeat questions like, "I'm walleye fishing, can you tell me what one looks like?"

DNR created the Customer Service Call Center by changing its workload internally – the enhanced public service came at no additional cost to license buyers or taxpayers.

"We're pretty proud of what we've done here. People recreate throughout the day and on weekends. We need to serve them on their schedule, not ours. We've got great service specialists who love their work. Call us," says Brookbank. The call center is staffed seven days a week, 7 a.m. to 10 p.m., at 1-888-WDNR INFo (1-888-936-7463). To report spills call 1-800-943-0003 or to report suspected fish and game violations call 1-800-TIP-WDNR (1-800-847-9367.)

CREATURE Comforts

Kathryn A. Kahler

Give me shelter

CATHERINE KHALAR

It may be too late in the season to start thinking about providing winter shelter for your furred and feathered friends, but it's a perfect time to get a head start on planning for next winter. For do-it-yourselfers, there's no shortage of plans online for shelters and houses. So dig out those safety glasses and fire up the table saw — your heart will be warmed by the experience.

COURTESY OF DUNCRAFT.COM

SHARE THE WARMTH

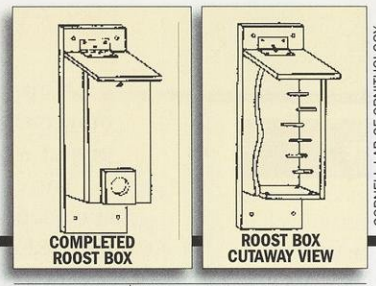
Birds that overwinter in our climate zone are specially adapted to fight the cold. They fluff up multiple layers of feathers to insulate their tiny bodies, have circulatory systems that cut heat loss in their legs and feet, and shiver to maintain body temperature. Small birds like chickadees, nuthatches, juncos and woodpeckers crowd together to share and conserve body heat, especially at night. In natural settings, they seek out hollow tree cavities or dense evergreens during winter storms, but those can be few and far between in many urban and suburban neighborhoods.

You can help by erecting roost boxes on your property. If you're a member of a neighborhood association, why not suggest this as a joint winter project?

Several websites offer free plans and advice. Check out birds.cornell.edu/AllAboutBirds/attracting/other_attract/roost_boxes, or birds.suite101.com/article.cfm/how_to_make_a_winter_roosting_box.

If you're an old hand at birdhouse construction, here are some things you'll want to consider in designing your own roost box:

- Put the entrance hole near the bottom (so body heat is trapped near the top) and make it small enough for only small birds to enter — about 1 ½ inches in diameter.
- Hinge the top or one side to allow easy cleaning.
- Insert ¼" to 3/8" dowels staggered at varying levels throughout the box where birds can perch, but leave head room and space to maneuver.
- Small drainage holes in the bottom are fine, but otherwise it should be as airtight as possible.



COMPLETED ROOST BOX

ROOST BOX CUTAWAY VIEW

CORNELL LAB OF ORNITHOLOGY

- Size doesn't matter — the bigger the box, the more birds it can accommodate.
- Cut grooves in the inside front and rear walls, or cover them with hardware cloth so woodpeckers can cling to them.
- Mount the box in a sheltered, south-facing spot, on a metal pole, wooden post or tree, or attached to a building.
- Coat the exterior with linseed oil to make it last longer, or dark paint to attract and trap heat from the sun.
- Never paint or oil the inside — birds won't use it!

BACK TO NATURE – IN YOUR OWN BACKYARD

Now that you've found a way to help your feathered friends through the winter, why stop there? Lots of small critters would benefit year-round from wildlife brush shelters you can easily construct in a corner of your yard, or scatter throughout your rural property.

Chipmunks, rabbits, turtles, lizards, toads, juncos and sparrows are but a few of the species you can attract with a few basic materials. Find a place in your yard that's at least partially sunny so wildlife can bask. If your property is large enough, try to position it between two kinds of habitat to attract the most wildlife. Plan on a shelter about 10 feet across and five feet high if you can spare the room.

Start with a base of large logs several feet long, stacked and crisscrossed, and interspersed with a few old pipes or downspout sections. Small mammals, toads and snakes will use them as tunnels. Pile stones and scatter rocks around the perimeter for animals to bask in the sun.

Next, add several layers of branches of gradually smaller diameter and plant native vines to intertwine and provide flowers and fruits. Songbirds and butterflies will flutter and perch among them. Top it off with evergreen branches to provide added shelter from winter snow and ice.

Of course, not everyone may be as thrilled with visiting wildlife as you are, so check community and neighborhood regulations before getting started. You may also want to be sure your neighbors don't mind.

For more complete instructions, check out dnr.wi.gov/org/land/wildlife/publ/rabitat.pdf.

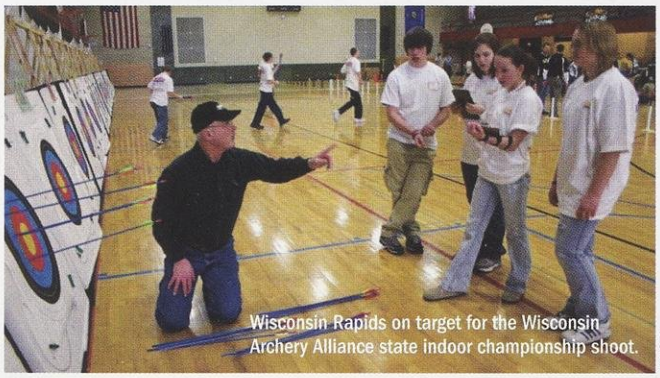
MARY KAY SALVEY

SHANE RUCKER

Strap on snowshoes to see signs of porkies.

Indoors and outdoors

On decent days, as the sunshine starts to warm your hide and sparkle up the snow, it's a toss-up whether to find your pleasures inside or stretch your legs on an outdoor adventure. Truth is, you can have it both ways.



Wisconsin Rapids on target for the Wisconsin Archery Alliance state indoor championship shoot.

NASP

Take Valentine's Day, for instance. If you want to test your skills as a CIT (Cupid In Training), you might just head over to Wisconsin Rapids for the **Wisconsin Archery Alliance State Indoor Championship**. On Saturday, February 14, starting at 8 a.m. until about 5 p.m. and Sunday, February 15 from about 7 a.m. until 2 p.m. more than 300 archers and their fans will set their sights at East Junior High School, 311 Lincoln Street in Wisconsin Rapids for the right to make their mark at national competition. There are no fees for spectators. Contact Jean Smith, (608) 526-9065.

Would you rather put your heart to the test on a romantic romp? Can do! Several state parks and forests are sponsoring **candlelight skis and hikes** on February 14. Try your luck at Kohler-Andrae State Park in Sheboygan from 6-9 p.m., (920) 451-4080 for details; Lake Kegonsa State Park in Stoughton, 6-9 p.m., call (608) 873-9695; Newport State Park, Ellison Bay, near the Fern/Europe Bay Trail from 5:30-8:30 p.m., (920) 854-2500 and the Peshtigo River State Forest near Crivitz, (715) 757-3965. Events at state parks, trails and forests are updated regularly at dnr.wi. gov/org/caer/ce/news/events.html.

RAY ANTONIEWICZ

Baa-ck to the basics with sheep shearing fun in Oregon.

On Saturday, February 21 you could go soft and cuddly learning at the **A-Z Sheep Shearing event**. Watch demonstrations as the lambs get fleeced and their coats move through cleaning, carding, spinning and weaving. Learn about wool care and colors at A-Z Farms, 1820 Schuster Road in Oregon, (608) 835-5553. Or you could take a more prickly outlook in a **Porcupine Ecology on Snowshoes** workshop. Come on up to the DNR's Sandhill Outdoor Skills Center, just west of Babcock at 1715 Highway X. We'll provide the snowshoes and hot drinks, you provide a bag lunch and the curiosity to search for signs of porkies, check live-traps and take part in on-going research. Sign up by February 13th as space is limited to the first 20 takers. Contact Dick Thiel at (715) 884-6333, or Britt Searles at (715) 884-6335. There's a $15 workshop fee. Register online at dnr.wi.gov/org/land/wildlife/reclands/sandhill/docs/registration.pdf

As winter winds into spring, your four-legged buddies may be itching to get outdoors, but kennel 'em up when you head to the **Wisconsin Kennel Club Dog Show** on Saturday, February 28 through Sunday, March 1 at the Wisconsin Exposition Center, 8200 W. Greenfield Avenue in West Allis. Get a good look at more than 1,200 dogs of more than 125 breeds that will be on parade and on their best behavior as they walk the line in search of fame and recognition.

Maybe you'd rather head outdoors for a lineup of a different long, little doggie? Point your compass north by northwest to Cable for the **World's Longest Weenie Roast and Snowmobile Races** on Lake Namekagon on March 6-7. They dig a 1,000-foot trench in the lake ice and grill up a wagonload of extra long red-hots as the racers roar down the stretch. It's fun for the whole family — and as long as they don't run out of those foot-long buns, you are in business. (715) 794-2561.

Want to hit the heights for yourself? Gear up for the **Timm's Hill Trudge**, a 3.5- or 7-mile race/walk up to Wisconsin's highest point on Saturday, March 7 in Ogema. Call (715) 767-5287 or e-mail: lyleB@centurytel.net.

Buns are optional at the world's longest weenie roast.

LAKEWOOD RESORT

Wisconsin, naturally

BRADY'S BLUFF PRAIRIE
STATE NATURAL AREA

Notable: A dry prairie on a steep Mississippi River sandstone bluff rising 460 feet above the valley. More than 100 species of native prairie plants are found here. They include prairie larkspur and plains muhly grass, plants of the Great Plains that reach the eastern limits of their ranges here. In summer, look for the rare olive hairstreak butterfly or perhaps the wing snaggletooth land snail — but bring a hand lens; this gastropod's shell is less than 3mm long!

How to get there: Within Perrot State Park. From the intersection of Highway 35 and Main St. in Trempealeau, go south on Main St. about two blocks, then west into Perrot State Park on South Park Rd. 2.6 miles to a parking lot west of the road. Access is via the Brady's Bluff hiking trail. A state park sticker is required for entry. See dnr.wi.gov/org/land/er/sna/sna9.htm for a map and more information.