



**LIBRARIES**  
UNIVERSITY OF WISCONSIN - MADISON

## **Wisconsin natural resources. Vol. 19, No. 5 October 1995**

Madison, Wisconsin: Wisconsin Department of Natural Resources,  
October 1995

<https://digital.library.wisc.edu/1711.dl/WDI475V4RNI5J9D>

<http://rightsstatements.org/vocab/InC/1.0>

The libraries provide public access to a wide range of material, including online exhibits, digitized collections, archival finding aids, our catalog, online articles, and a growing range of materials in many media.

When possible, we provide rights information in catalog records, finding aids, and other metadata that accompanies collections or items. However, it is always the user's obligation to evaluate copyright and rights issues in light of their own use.



# WISCONSIN

## NATURAL RESOURCES

October 1995 \$3.00



Arrowheads

A good stick

Native landscaping

Wildlife health detectives





ANITA CARPENTER

Robin's nest built with shredded paper.

# HIDEAWAY HOMES

*When the leaves fall, look up.*

Anita Carpenter

When gentle autumn breezes blow, colorful leaves will snap free from their bondage to float, twirl or play leaf tag as they drift to earth. As the leaf curtain slowly falls, a new scene emerges. Deserted bird nests appear, mute testimony to a summer busy with avian activity.

Now we see the teacup-sized American goldfinch nest wrapped around an upper branch in that sapling just outside the office. Bulky stick nests of the red-tailed hawk are clearly visible in large bur oak trees. You have to wonder how the bluejays raised a family in their flimsy stick nest high up in a sugar maple.

Take a good look around. You'll find the once-hidden nests of yellow warblers, gray catbirds, common grackles, northern orioles, ruby-throated hummingbirds, northern cardinals, great blue herons, cedar waxwings, warbling vireos and American robins, to name a few.

I am especially intrigued with robin nests. Perhaps that's because robins (*Turdus migratorius*) are eclectic

in their choice of nesting sites. Some prefer solid architecture, building on porch beams and railings, window ledges, garage and barn rafters, bends in drain pipes, in hanging flower pots or atop porch lights.

Others select more

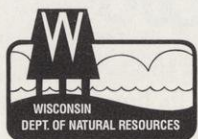
conventional sites such as horizontal tree branches, tree forks or limbs deep inside evergreens. Wherever robins nest, they invariably choose a site with a solid base support that is well protected from wind and rain.

Each robin's nest is a work of art. Most are constructed of the usual grass woven and plastered with mud to form a solid nest bowl. But these birds don't always stick to the basics. Since robins are scavengers, the industrious builders are just as likely to incorporate bits of colorful yarn, paper, cloth, six-pack rings, monofilament fishing line (a real danger if birds get caught) or almost anything stringy into the bowl. The nest is the focus of family life for only five weeks.

Then the day arrives when the young depart, never to return. That doesn't mean the nest will remain

*Continued on page 29*





Editor  
David L. Sperling

Associate Editor  
Maureen Mecozzi

Circulation & Production  
Kathryn A. Kahler

Promotions Manager  
Pam Hujanen

Business Manager  
Laurel Fisher Steffes

Art Direction  
Nancy Warnecke,  
Moonlit Ink

*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 53707. The magazine is sustained through paid subscriptions. No tax money or license fees are used. **Subscription rates** are: \$7.97 for one year, \$13.97 for two years, \$18.97 for three years, plus \$1 a year for postage. Second class postage paid at Madison, WI. POSTMASTER and readers: send **subscription questions and address changes** to *Wisconsin Natural Resources*, P.O. Box 7191, Madison, WI 53707, or call toll free 1-800-678-9472. Subscription information you provide may become part of a mailing list rented to reputable companies to help support the continued production of the magazine.

© Copyright 1995, *Wisconsin Natural Resources* magazine, Wisconsin Department of Natural Resources, P.O. Box 7921, Madison, WI 53707.

Contributions are welcome, but the Wisconsin Department of Natural Resources assumes no responsibility for loss or damage to unsolicited manuscripts or illustrative material. Viewpoints of authors do not necessarily represent the opinion or policies of the Natural Resources Board or the Department of Natural Resources.

#### NATURAL RESOURCES BOARD

Herbert F. Behnke, Shawano  
Chair  
Trygve A. Solberg, Rhinelander  
Vice-Chair  
Betty Jo Nelsen, Shorewood  
Mary Jane Nelson, Holmen  
Neal W. Schneider, Janesville  
James E. Tiefenthaler, Jr., Brookfield  
Stephen D. Willett, Phillips

#### WISCONSIN DEPARTMENT OF NATURAL RESOURCES

George E. Meyer — Secretary  
Ronald L. Semmann — Deputy Secretary  
Maryann Sumi — Executive Assistant



Printed on recycled paper using soy-based inks in the interest of our readers and our philosophy to foster stronger recycling markets in Wisconsin

# WISCONSIN NATURAL RESOURCES

October 1995

Volume 19, Number 5

## 4 SHAMUS IN A LAB COAT

*Kerry Beheler-Amass and  
Kathy Patnode*  
In solving wildlife whodunits,  
dead critters tell tales.



DNR BUREAU OF WILDLIFE MANAGEMENT



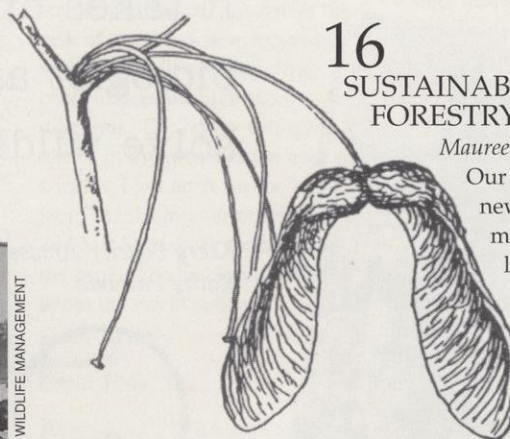
COURTESY OF STATE HISTORICAL SOCIETY OF WISCONSIN

## 10 THE STICK

*Justin Isherwood*  
In praise of simple pleasures.

## 12 GROWING NATIVE

*Donna Thomas*  
Consider the advantages of  
native trees and shrubs in your  
landscaping plans.

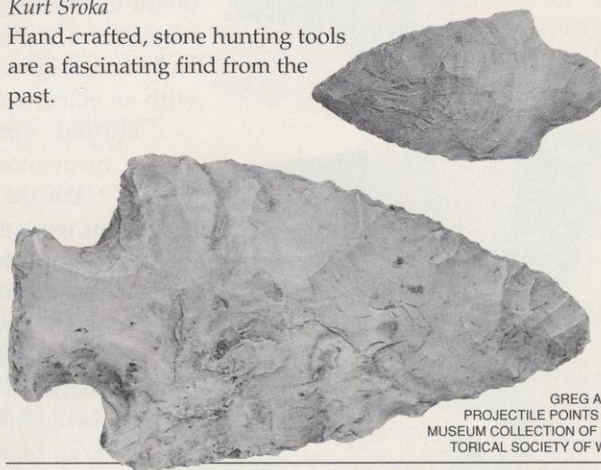


## 16 SUSTAINABLE FORESTRY

*Maureen Mecozzi*  
Our poster shares a  
new vision for  
managing forested  
lands.

## 17 A POINTED SEARCH

*Kurt Sroka*  
Hand-crafted, stone hunting tools  
are a fascinating find from the  
past.



GREG ANDERSON,  
PROJECTILE POINTS FROM THE  
MUSEUM COLLECTION OF STATE HISTORICAL SOCIETY OF WISCONSIN

## 22 A MARSH REBORN

*Alan Crossley*  
A restored wetland brought back more than water.

## 29 READERS WRITE

## 31 WISCONSIN TRAVELER

FRONT COVER: A fall walk at the  
Eau Claire Dalles.

NEIL HINTERBERG, Columbus, Wis.

BACK COVER: Fall colors, Eau  
Claire Dalles.


NEIL HINTERBERG, Columbus, Wis.



# Shamus in a lab coat

It takes one part doctor, one part biologist and one part detective to solve wildlife disease cases.

*Kerry Beheler-Amass and  
Kathy Patnode*




Our offices look like all the others: partitions separating desks, piles of references, phones and computers. By rights, they ought to look more like the combined libraries of Sam Spade, Sherlock Holmes and John J. Audubon — filled with an eclectic collection of books, stuffed specimens and odd mementos from solved cases.

We are not secretive about our work, it's just that monitoring wildlife health, diagnosing diseases, containing outbreaks, and unraveling some of the mysterious ailments that sicken or kill wildlife population is more of a behind-the-scenes job.

Sarah Shapiro Hurley, DVM, leads the DNR's Wildlife Health Team. She's a veterinarian with extensive experience and academic credentials in wildlife ecology, wildlife diseases and epidemiology. Kerry Beheler-Amass' background is in wildlife management, biology, natural resources management and immunology. Kathy Patnode is a wildlife toxicologist who has worked

for federal, state and private employers in five states tracking wildlife contaminants, studying pesticide and PCB effects on wild animals. Barb Bodenstein is a field biologist who helps with our field collections, monitoring and lab work.

We tap a wide range of expertise. There's a unique network of like-minded, skilled professionals who work in Wisconsin to track how well wildlife can survive in the diminishing lands we leave them. The National Wildlife Health Laboratory, located in Madison, is sort of a Centers for Disease Control for wild animals. Its staff tracks animal epidemics (called epizootics) and disease outbreaks nationwide. The state Animal Health Lab is a strong partner to determine what has killed wild animals. Wildlife management programs at the University of Wisconsin-Stevens Point and Madison campuses attract national experts and train wildlife managers and researchers. The Veterinary School at UW-Madison similarly trains people with an interest in wild animal health. We also work with a growing network of wildlife rehabilitators like the Raptor Center in nearby Minneapolis. And only seven other states in the nation employ wildlife health specialists in their fish and game departments. We join with DNR wildlife managers,



(above) Kerry Beheler-Amass prepares a lab sample.

(below) Kathy Patnode examines a dead eagle with help from Barb Bodenstein.



wildlife technicians and nongame biologists to provide healthy populations of wild animals, maintain healthy animals at the state game farm and monitor migratory wildlife.

We use a variety of tools and skills to track wild animals and the human activities that affect wild populations. Our team is well-versed in lab sciences, techniques, and a lot of the "ologies" — parasitology, serology (serum analysis), virology (study of viruses), histopathology (tissue diseases) and bacteriology. We also do necropsies (animal autopsies), lots of them, for a lot of reasons. During those unusual episodes of animal die-offs, we want to learn what has killed a creature, and we want to share that information with wildlife managers and the public as quickly as possible to avoid more deaths. We investigate and try to solve deaths or sickness (mortality or morbidity) in free-flying or free-roaming Wisconsin wildlife.

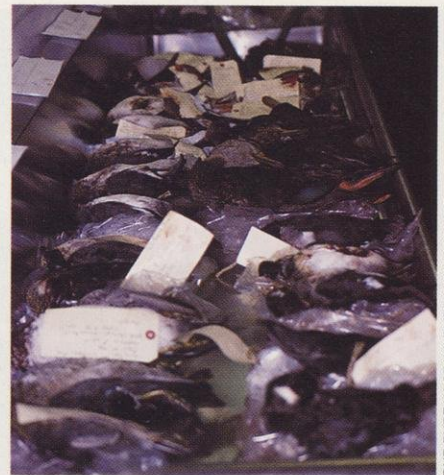
We necropsy an assortment of birds

ranging from hummingbirds to turkey vultures and every avian family in between. We don't want to seem ghoulish, but we've opened the innards of every species of Wisconsin mammal from mouse to moose, opossum to black bear and, of course, white-tailed deer. Many times we assist with law enforcement investigations and provide diagnostic services for wildlife research projects.

### Tracking how contaminants move

Since wildlife eat, drink and breathe the products of our home-grown environment, monitoring animals helps track how manmade contaminants move through and accumulate in natural food chains. We examine wild animals to check that they remain a healthy food source and to keep an eye on the food web that feeds them. We also monitor wildlife after contaminated properties like Superfund sites have

How do society's contaminants get tangled in nature's food webs? Mallard ducks are providing part of the answer. Researchers monitored how readily migratory waterfowl may absorb chemicals and heavy metals that are discharged by industries or run off city streets.



DNR BUREAU OF WILDLIFE MANAGEMENT

Duck flocks were released and re-captured on the Mississippi River and near Milwaukee harbor. Their flesh and organs were analyzed for signs of pesticides and metals.

been cleaned up; it is one more measure of how successfully the land is recovering.

We've gained some real insights with our monitoring research.

*The Sentinel Ducks* — In summer 1990, the Wildlife Health Program joined forces with Minnesota Pollution Control Agency (MPCA) and DNR's Bureau of Water Resources Management to determine if toxic chemicals and heavy metals flowing in the Mississippi River, and near industrialized Milwaukee, affected wildlife.

We deployed clean, mallard ducks from a game farm to determine how long it would take these sentinel birds to concentrate specific contaminants we knew were in these rivers. The research had real practical applications. For instance it could tell us how long migratory waterfowl could stay and feed in these river stretches without accumulating chemicals.

Forty birds were released onto Lake Pepin and 20 birds each at three test sites near Milwaukee. We maintained a control flock too. Each of the ducks (all drakes) was wing-clipped and marked with a nasal saddle. The birds were observed at least twice a week. The flocks tended to stay and feed together. We sampled them periodically and retrieved the birds in October. Studies showed that this technique of placing sentinel birds in a wild environment is a worthwhile, practical way to monitor the health of waterways



DON BLEGEN





GREGORY K. SCOTT

How do water contaminants find their way to the land? Researchers are investigating if streamside contaminants are passed up food chains in the soil and foods that chipmunks and mice eat.

and the food supplies near them. The study also showed it takes 60 to 80 days for birds to pick up contaminants. The Milwaukee ducks accumulated PCBs and DDT by-products. Heavy metals including mercury and cadmium were no higher in ducks from contaminated or unpolluted sites.

*How river contaminants grow feet —* For several years we have known that aquatic insects, fish, and turtles living in the Sheboygan River have been exposed to PCBs lodged in river sediments. PCBs are not easily broken down, and they accumulate in animal fat. When PCBs reach critical concentrations in highly sensitive species, they can affect reproduction, offspring survival and the animal's ability to withstand diseases. We have monitored PCBs in the Sheboygan River since the late 1970s and we have provided fish consumption advisories to anglers to minimize their ingestion of PCBs.

Just when we thought we understood the pollution problem in the Sheboygan River, we discovered a new wrinkle. Mice, voles and chipmunks living in fields and woodlands along the river's edge also have low levels of PCBs in their bodies. These animals are not part of the aquatic food chain. We thought they were not exposed to the contaminated sediments since voles eat plant seeds, roots, fruits, leaves, and stems; mice and chipmunks eat both plants and insects.

We began investigating. The fields where the animals lived had soil that contained significant concentrations of PCBs. There were no reported PCB spills in these areas, so we suspected river sediments settled on shore during floods. We are currently checking flood records and examining if the soils match the chemical fingerprint of the sediments. But that's only one piece of the puzzle. How did PCBs get

from the soil into the small mammals? Could they eat enough soil clinging to plants and seeds? Or can PCBs be stored in the fatty plant seeds these small mammals favor? Time will tell. We will also investigate if PCBs are moving further up the food chain to predators such as weasels, mink, and red-tailed hawks. This discovery in Sheboygan has led us to broaden our scope as we investigate other cases of birds, mammals, reptiles, amphibians, and insects that live along contaminated waterways.

## Mysteries on ice in the morgue

It is not glamorous work, but one of our most effective tools for tracking animal health and contaminant exposure comes from examining carcasses of animals submitted by fur trappers. More than 400 mink and otters carcasses were collected by trappers last winter. Tissues from the carcasses are analyzed for contaminants. Each mink is aged to determine the population structure. Bone measurements and organ weights give important clues that animal health may be affected by toxins.

Since 1991, we've similarly been examining bobcat and fisher carcasses collected by trappers. Researcher Jim Ashbrenner in Rhinelander stockpiles the bobcats and fishers in a climate-controlled snowbank until we make a three-day trip north each January. We collect samples to quantify internal parasites and infectious diseases these woodland critters carry. You can only imagine how much we look forward to that annual tradition!

## Some of our neat cases

Enough of the hard science. Let's take off the lab coat, slip on the deer-stalker, pull out a meerschaum pipe and re-live some of the great wildlife mysteries solved and unsolved.

One fascinating aspect of this job is the opportunity to blend a knowledge of lab sciences, wildlife habits and field observations to do a little detective work. Many of you are aware of recent cases investigating eagle die-offs, so



we thought we'd highlight some of the cases that got less attention.

## The Case of the Wacky Bandits

Raccoons adapt mighty well as housing development expands. Coons are as comfortable in storm sewers, back alley trash cans and gardens as they ever were in hollow trees and woodlands. But nature either gets you now or gets you later. The city is a refuge from trappers and natural predators. As raccoon populations explode unchecked, they become susceptible to diseases where animals concentrate. We've investigated many cases of sick raccoons that seem fearless of people. Suspicions were that the masked bandits had rabies or Canine Parvovirus (CPV). Our investigations over the years show that raccoons are even more likely to contract Canine Distemper Virus (CDV). Common clinical signs of CDV include respiratory distress, coughing, sneezing, watery or pus-like eye and nasal discharge or diarrhea. Infected animals may have neurologic problems including lethar-

gy, aimless wandering, sporadic convulsions, tremors, chewing fits and showing no fear of humans.

CDV-infected animals often don't recover and there is no cure for the virus. Moreover, treatment does little good when clinical signs are observed. An infected animal may begin to show disease signs after seven days, but prolonged infection can last for several weeks. CDV is transmitted when healthy animals contact secretions or excretions from an infected animal's nose, eyes, or urine. CDV is transmitted to dogs, so keep the vaccinations for your pet up to date!

## The Mystery of the Chinese Coughers

In early August 1993 a distressing telephone call reached Wildlife Health from Poynette Game Farm. The caller said that several pheasants from eggs we had imported from the Jilin Province in China had died. Bringing those birds here had taken years of negotiations, and the new strain was intended to beef up the genetic strength of our current flock in hopes of raising

pheasants that could survive better over winter and reproduce in the wild.

The dead birds were submitted to the Wisconsin Central Animal Health Lab for necropsy and affected breeding pens were "field quarantined." All the dead hens tested positive for Avian Tuberculosis. Avian TB is a disease of real concern in poultry flocks. It is highly contagious, spreads slowly through infected birds' bodies and causes a chronic, debilitating disease. Avian TB is caused by a bacterium that's found everywhere in nature. It can infect all bird species, but particularly attacks pheasants. When Avian TB is diagnosed in domestic poultry flocks, the entire flock must be destroyed!

Game Farm Manager Don Bates and Kerry reached the same conclusion: To ensure the safety of the Game Farm flocks, all the Jilin breeders had to be destroyed. We consulted poultry disease experts from the National Wildlife Health Research Center, Wisconsin Central Animal Health Lab, UW Poultry Science Department, DNR Upland Gamebird Specialist Bill VanderZouwen, and Southern District Wildlife Supervisor Carl Batha. All agreed to this course of action.

Necropsies showed that raccoons, like this kit, are more likely to contract distemper than parvovirus or rabies. Keep your dogs and cats vaccinated to protect them and wild animals.

Genetic manipulations bring strengths and weaknesses. Chinese pheasants were brought in to make the game birds we stock harder, but the imports proved susceptible to local strains of avian tuberculosis.



(LEFT) ROBERT QUEEN (RIGHT) DNR BUREAU OF WILDLIFE MANAGEMENT





On a *hot* August day, a dedicated crew of fully clothed, booted, masked and gloved staff from the game farm with volunteers from the wildlife health lab and the UW-Vet School worked quickly and efficiently to humanely destroy approximately 500 three-year-old breeding hens and roosters. Blood collected from 235 hens and 121 roosters before euthanasia will help develop future diagnostic tests. Necropsies on 140 roosters and hens statistically determined the prevalence of infection in the flock: hens showed a 54 percent infection rate; roosters, three percent.

We may never know why these Jilin pheasants were affected so seriously by Avian TB. It appears a number of environmental and physiologic factors combined to make these birds more susceptible to infection: The birds may not have acquired any natural resistance to this strain; the brooding hens were relatively older and they were tired after producing a lot of eggs; the birds had endured a cold, wet spring and summer; the flock had recently being treated for gapeworm infection; and birds were just completing their molt when the hot weather hit.

## Lead poisoning and the big chill

As the sun rose early on the morning of December 6, 1989, wildlife manager Gary Jolin from Oshkosh was surveying area marshes when he found a dead duck. It was only the beginning of what would be remembered as a brutal cold snap and a major waterfowl die-off.

The weather was unseasonably cold with low temperatures regularly dipping below zero and wind chills plummeting to -50°F and below. Rush Lake was still holding approximately 3,100 ducks, more than 33,000 geese and 200 swans. The extreme weather stressed the birds and hastened the freeze up of the lake. As the ice closed in, remaining waterfowl concentrated around the pockets of open water.

Jolin and his crew continued to find dead and dying birds for the next 10



Maintaining healthy wildlife is a partnership among those with medical skills, field staff who improve wildlife habitat, pollution prevention, and an observant public.

DNR PHOTO

days until Rush Lake froze over. The death toll ended at 1,166 mallards, 41 black ducks, one blue-winged teal, 63 Canada geese, and one tundra swan.

Necropsies showed the waterfowl died of lead poisoning. Normally, birds suffering from lead poisoning show a slow decline, their muscles atrophy, they get anemic and emaciated. We have been speculating since that time whether some factor other than the sudden brutal weather doomed so many birds. Perhaps birds were forced to feed in shallow waters where lead shot had concentrated or where old lead pellets were oxidizing. Today, such occurrences seem less likely. Lead shot has been banned since 1987 statewide. Unless it persists for many years in mud and sediments, incidence of lead poisoning should become less frequent over time.

## They Flicked When They Should Have Flapped (or Who's Sora Now)

Ah, the hazards of holiday travel. On Easter morning 1992, 14 common flickers and two sora rails washed ashore in Whitefish Bay along Lake Michigan. By the next morning, more than 100 flickers were found dead on a Lake Michigan beach outside Two Rivers. The weather had been warm, humid,

rainy, foggy and windy. We necropsied eight flickers and could not determine an exact cause of death. The birds seemed healthy enough — good body condition with plenty of fat and muscle. Their brain cholinesterase levels were normal, so they had not been exposed to certain pesticides. Some had food in their stomachs.

We theorized that the flickers were migrating and using the lake shoreline as a landmark. They either got caught in storms or became disoriented due to storms and fog. They fell into the lake and drowned, evidenced by water in some of their lungs. Some had nasty bruises and likely died from trauma related to impact, possibly from hitting the shoreline.

## Who Killed the Little Brown Bat?

Every year we get calls from nearly every part of the state during the hot, humid days of late summer of little brown bats just dropping dead. Homeowners are convinced that bat rabies or plague are claiming these nighttime bug eaters. The tiny bat carcasses collected and submitted to the Wildlife Health program during the last four years all tested negative for rabies. Most of the bats had congested lungs, but we couldn't pinpoint a cause...until last year. Barb collected some sick bats in response to a call from the Madison area. Three bacteria that are commonly found were isolated from these bats' lungs. Any one of these bacteria alone would cause a minor respiratory problem, but all three together caused a tremendous pathogenic infection that resulted in pneumonia and death.

Examining bat lungs is no minor feat. An adult bat has lung tissue the size of two thumbnails.

Bacteria and fungi flourish and multiply in dark, dusty lofts, attics, or garages that are preferred by suburban bats during hot, humid weather. If bats don't leave when the air gets humid, they inhale the pathogens and succumb to lung infections. Bat houses that can be cleaned may be a solution





STEPHEN J. LANG

(top) Animals have accidents too. Migrating northern flickers got lost in an Easter storm and crashed on the coast of Lake Michigan.

(bottom) Barb Bodenstein and toxicologist Mike Meyer draw a blood sample from an immature eagle as part of routine screening for pesticides and other stresses human encroachment can bring.



BUREAU OF WILDLIFE MANAGEMENT

for both homeowners and bats!

As we continue the search for causes of wildlife diseases, we need to keep one eye in the microscope and one in the mirror. Most people want healthy, reproducing animals that sustain wild populations. However, fewer people recognize that habitats to maintain healthy populations are limited. Many of the sicknesses and deaths that our Wildlife Health Team investigates are caused or linked to the changes and pressures humans place on available wildlife habitat. As the human population continues to increase and development expands, wild populations will become increasingly stressed. There's no mystery to that. □

*Kerry Beheler-Amass coordinates diagnostic services and Kathy Patnode coordinates contaminant monitoring for DNR's Wildlife Health Team in the Bureau of Wildlife Management.*



# THE STICK

*Justin Isherwood*

I started with sticks when I was a kid on the farm. It was my duty to steer animals many times larger than my own self and who, for personal reasons, were adverse to the chosen path. At the time I was of small measure even for a farm kid and a stick made up the difference. Everybody knows you can herd cows better with a stick than without, especially if your bulk isn't implicitly authoritative. Being a kid, mine wasn't.

Soon enough I understood the range of accomplishment and prowess a stick provided. My voice wasn't exactly commanding, especially if I wanted it to carry any distance, but I didn't have to yell at the cows with a length of elm in hand. I discovered another thing, the stick gave me leverage on the world; it was like having a third leg. I could bound obstacles like puddles and cow pies using the stick as a springboard. Same with a barbed-wire fence I wouldn't ordinarily try. Using the stick I could take it.

After a while, the stick became part of my body, sure enough it added to my backbone. Before the stick, I always had to get my brother to go camping with me because I was afraid to go tenting on my own. With the stick I didn't need my stupid brother who'd sleep anyway, sleep during the worst part of the night when monsters are the thickest. Myself, I always have been sort of wakeful and the stick helped. I'd sleep awhile, then keep watch while the stick slept.

A real good stick had eyes. I learned this when poking into badger holes and peering into squirrel dens. Don't know exactly how it worked, but I could see in a squirrel den as if there was an eyeball attached to the stick. Darndest thing it was.

Some sticks are plain, others have notches in them. There's a stick used many years in the tater shed. Instead of poking my finger at a motor or conveyor that ought to be moving, I'd poke my stick at it. That I still have all my branches and twigs is due to the stick getting bit off, not my own self. Which leads me to think every farmer and mechanic ought to keep a stick to venture where flesh must not when the power is on.







COURTESY OF STATE HISTORICAL SOCIETY OF WISCONSIN  
FROM "JOHN OF THE MOUNTAINS," BY LINNIE MARSH WOLFE,  
HOUGHTON MIFFLIN CO., 1938

John Muir, one of many visionary wanderers whose primary staff was his stick.

After a couple seasons the stick resembles a war veteran and deserves a pension. By that time I've got my feel so integrated with that stick I can look around corners and underneath things.

Some are not convinced a stick is useful. Which is OK with me because there isn't that much "musclewood" around anyway. Still, going at the world without a stick is dangerous. Remember Moses crossing the desert? What's he got in his hand? Or how about King Solomon all furry and wise, next to him on the couch is his stick. Every king and queen and lost wanderer had a stick, from Methuselah to Muir, St. Thomas to Thoreau. Makes me think the Oval Office would be wise to import a case of musclewood from Wisconsin and pass out sticks at the next Cabinet meeting. □

---

*Justin Isherwood farms and crafts essays from his Plover, Wis. home.*





# Growing native

Homeowners have a choice:  
Give native plant species their  
due, or don't grow at all.

*Donna Thomas*

When a business or club offers an Earth Day or Arbor Day plant giveaway, it's a reminder that individuals can take action to protect the environment. The planting of a tree or shrub is a tangible contribution, a gift to future generations that will grow, beautify the site, and help cleanse the air. Often the species provided is touted as a source of shelter and food for wildlife.

In promoting this simple, well-meaning act, we've unwittingly adopted an open-arms approach that can be harmful to the environment. By assuming that because something is green and growing it is automatically good and right for any locale, we've hastened the spread of green invaders — plants capable of overtaking entire landscapes simply because they're growing where they don't belong.

## Growing against nature

To understand how a tree, shrub or flower can be an upstanding citizen of the natural community in one place and an undesirable element in another, it helps to make a distinction between native and non-native plants.

Native plants have evolved in a specific region over many hundreds, even thousands of years. They have done so in combination with specific animals and the soil, land forms and climate of that region. The result is a complex ecological community containing hundreds of interrelated species of plants and animals.

Across the U.S. there are many native plant communities, each distinctly different from the next: the redwood forests and saguaro cactus deserts of the West, the cypress swamps of the Southeast, the alpine meadows of the high mountains, the tallgrass prairies of the Midwest. These are the landscapes that give each region its own unique sense of place.

Distinct plant communities thrive side-by-side within a larger region. In a given area of southwestern Wisconsin in the early nineteenth century, for example, it would have been possible to find oak savanna, dry shortgrass prairie, tallgrass prairie, maple-basswood forest, cattail marsh, and sedge meadow, all in close proximity. The plant species alone numbered in the thousands.

VIRGINIA KLINE



European settlement altered the unique natural landscapes of North America. Besides physically changing the landscape by clearing forests, damming streams, draining wetlands and creating farmland and pastures, the immigrants further transformed the continent by bringing along plants native to their homelands that were not found in this country. Some plants were brought for cultivation or aesthetic purposes. Queen Anne's lace has an edible root and its leaves and seeds have medicinal qualities, so it became part of the colonists' herb gardens. Red clover was used for medicinal teas and country wines. Chicory leaves were eaten in salads, the taproot was roasted and ground as a coffee substitute. Seeds of others like cocklebur, burdock and foxtail, hitched rides in the hulls of ships or on the fur of animals and were transported here unknowingly.

Many of the plants that arrived here from other parts of the world, or even other parts of North America, were freed of the natural checks and balances of their places of origin. A plant like purple loosestrife may have been unobtrusive in its original setting, but when removed from that setting, it began spreading rapidly, crowding out native species.

"Exports" from North America likewise have caused concern elsewhere. Our native black cherry is reportedly taking over some of the planted pine forests in Germany.

As a result of the physical and biological disruption caused by human settlement, some individual native plants and the animals that relied on them for food and shelter, have disappeared. For instance the endangered Karner blue butterfly requires certain species of lupine to survive. Entire ecosystems like the dry sand prairies and the oak savanna have largely vanished and with them we have lost a rich variety of species.

## Shrubble trouble

We've grown so accustomed to non-native plants that we seldom recognize them as dangerous threats to the

environment. In Wisconsin, two particularly troublesome interlopers are honeysuckle (*Lonicera canadensis*) from Asia and common buckthorn (*Rhamnus cathartica*) from Europe. Promoted by the nursery trade for their hardiness, effectiveness as screens, food source for birds, and, in the case of honeysuckle, attractive spring blossoms, the shrubs are popular landscaping choices for homeowners.

The fact that someone enjoys the look, smell, or appearance of a species, or the fact that the plant can be used for wildlife, must be weighed against its potential to do ecological damage. In Wisconsin, honeysuckle and buckthorn overtake native species and can quickly fill a woods; in severe infestations, native shrubs and wildflowers are almost completely eliminated. Managers of wooded areas near cities must spend thousands of hours and dollars clearing these non-native species to maintain even a small area in its natural, diverse state.

The problems caused by non-native species are strikingly evident at the University of Wisconsin-Madison Arboretum, a sanctuary of more than 1,000 acres containing several of the native biological communities of Wisconsin. The Arboretum's prairies, savannas, forests, and wetlands have been created largely through ecologi-

cal restoration — the process of attempting to reassemble or rehabilitate an ecosystem so it more closely resembles the native landscape. The Arboretum is an international center for the study of ecological restoration and receives several hundred thousand visitors each year.

The Arboretum field staff and many volunteers annually spend more than 3,000 hours combating honeysuckle, buckthorn and several other non-native species that disrupt the native biological communities. Wingra Fen, a rare wetland community that contains such significant plants as the white ladyslipper orchid, has recently experienced a severe buckthorn invasion.

Prior to the introduction of buckthorn and honeysuckle, birds like catbirds, cardinals, and cedar waxwings found shelter and a rich array of food among the native plants in the area. For example, eight to 10 species of

Catbirds will find food and shelter in native vegetation if exotic species are kept out.



STEPHEN J. LANG

Some exotic species green up before native species and stay green longer in the fall. Here's buckthorn in the fall in the UW-Madison Arboretum's Wingra Woods.



UW-MADISON ARBORETUM STAFF



shrubs are normally present in natural Wisconsin oak woods. Most of these native species have berries and one, hazelnut, produces nuts. Honeysuckle and buckthorn have replaced this much more plentiful offering and limited the variety and the supply of food available to native animals.

Honeysuckle and buckthorn are touted as good screens and dividers for home landscaping, but there are native species that could function just as effectively. Depending on a site's soil, moisture, and light levels, a homeowner can choose from hazelnut, nannyberry, witch hazel, ninebark, amelanchier, rose, several dogwoods, New Jersey tea, gooseberry, hemlock and native yew, to name just a few. These plants have attractive spring blossoms, branching patterns and fall leaf color. By planting a mixed border of these shrubs, it's possible to offer a variety of food for wildlife and extend the time that food is available.

## The invasion continues

A reader of the gardening column in the Arboretum's monthly newsletter *NewsLeaf* recently wrote, "In my yard, the truly invasive plant is a maple tree that holds its bright yellow leaves late into fall. Every one of its many seeds takes root and every seedling grows up to the light, shading out beautiful old oaks and even killing one. How can you say that natives are beneficial when they behave this way?"

The tree the reader described was a Norway maple — a popular city shade tree. Unlike the sugar maple, the Norway maple is *not* native. This invasive tree, under which nothing grows due to the deep shade it casts, has ruined many forests in the eastern United States and is beginning to invade oak woods in southern Wisconsin. Despite the nuisance it causes, the Norway maple continues to be used as a landscaping tree in urban areas.

Even as we recognize the folly of earlier non-native plant introductions — from the rampant kudzu vine in the South to the persistent multiflora rose here in the North — the introduction

## Help with going native

The following groups and organizations offer advice on native plantings suitable for various Wisconsin locations. Local nurseries and landscapers may be able to help you as well.

UW-Madison Arboretum  
1207 Seminole Highway  
Madison, WI 53711  
(608) 263-7888

Wehr Nature Center  
9107 West College Avenue  
Franklin, WI 53132  
(414) 425-8550

The Prairie Enthusiasts  
(four chapters in Wisconsin)  
c/o Gary Eldred  
4192 Sleepy Hollow Trail  
Boscobel, WI 53805

Schlitz-Audubon Nature Center  
1111 East Brown Deer Road  
Milwaukee, WI 53217  
(414) 352-2880

Riveredge Nature Center  
P.O. Box 26  
Newburg, WI 53060  
(414) 675-6888

Wild Ones — Natural Landscapers  
(six chapters in Midwest region)  
P.O. Box 23576  
Milwaukee, WI 53223

of non-native plants continues. Non-native trees, shrubs and flowers keep gaining ground, promoted by some nurseries, conservation agencies and conservation groups as wildlife food sources, attractive landscaping plants, windbreaks and erosion controls. Plant introductions often are based on a few short years of research, while bad behavior may not be recognized until more time has elapsed.

The attitude supporting indiscriminate, wholesale introductions of non-native plants is that all plants are native to the world, therefore any plant is acceptable anywhere. This belief is blind to the intricate set of balances in native ecosystems; it conveniently ignores the complex links that can be disrupted or destroyed by invading species.

A related attitude was expressed by another reader who wrote, "I think there's room for every type of plant, native and non-native, just as our country has welcomed immigrants from all over." Arboretum ecologist Virginia Kline noted that introducing non-natives without natural checks and balances could be compared with "allowing the immigration of people who have weapons and don't obey our laws."

## No yard is an island

It may be concealed from the neighbors by a tall wooden fence or a row of boxwood or juniper, but from a biological standpoint no yard is an isolated entity. Seeds from landscape plants can be carried miles away by birds, or washed into wetlands via storm sewers. The spread of former garden favorite purple loosestrife (*Lythrum salicaria*) via the latter manner shows how effectively a pest species can invade and destroy natural habitat.

In addition to causing harm to native communities, the use of plants that are not native ignores the rich natural heritage of the United States. By using the same species in every part of the country — whether marigolds or white pines — we blur the distinctions between regions and do to our particular locale what fast-food franchises have done to our downtowns: We gain convenience and a known quantity, but lose individual identity and a large measure of the differences that provide interest and fascinating variety.

Native species suffer from this benign neglect. The less they are recognized, the more difficult it becomes to convince people of their value, and the more species are lost because of a lack of understanding and knowledge of what needs protection and restoration.





BETTY HAMMES

(above) If you use non-native plants in your landscaping, choose those that don't spread. Avoid this purple loosestrife in all its forms. It's illegal to plant it in Wisconsin because even its supposedly sterile forms have been shown to spread and crowd out native species.

(below) Honeysuckle is one of the most aggressive spreaders. Arboretum staff and volunteers spend more than 1,300 hours annually manually grubbing out honeysuckle.



VIRGINIA KLINE

## Suggested reading

A concept that's gaining in popularity is the idea of extending habitat by linking native backyard plantings. Sara Stein's *Noah's Garden: Restoring the Ecology of Our Own Backyards* (Houghton Mifflin, 1993) examines this approach. For a detailed account of unfortunate non-native plant introductions in the U.S., see "Invasion of the Aliens" in the September-October 1994 issue of *Audubon* magazine.





VIRGINIA KLINE

Native trees and shrubs provide backyard color and variety.

The good news is that as people learn more about native plants, they are more willing to incorporate them into their yards and gardens. Home-owners can find information, encouragement and native Wisconsin species at a number of native plant nurseries around the state. Contact the Arboretum at 608-263-7888 for a list. Nature centers and institutions, like the UW Arboretum in Madison, and the Wehr Nature Center and Schlitz-Audubon Nature Center in Milwaukee County, offer programs about gardening with native plants, and tours to acquaint visitors with Wisconsin's natural heritage. And groups such as Wild Ones, with six chapters in the Upper Midwest, provide activities and educational programs on gardening with native plants for members. In short, there's no time like the present to grow native.



*Donna Thomas, assistant to the director at the University of Wisconsin-Madison Arboretum, writes a regular column on gardening with native plants for NewsLeaf, the monthly newsletter published by the Friends of the Arboretum. Virginia Kline, Arboretum ecologist, contributed to this article.*

The UW-Madison Arboretum offers free weekend tours to view restorations of Wisconsin prairies, forests, oak savannas and wetlands. Educational programs show adult and young gardeners how to capture a region's natural heritage in home landscapes, school yards and parks.

## Native landscaping

When planting native shrubs, consider the natural landscape in addition to traditional factors such as soil type, light requirements, moisture and height. Below we've listed just a sample of native shrubs that would be found in natural plant communities in Wisconsin. Discuss your landscaping plans with local greenhouse and nursery operators to discover which plants are commercially available, suitable for your location and mimic the natural plant communities near your property. Wildlife shrub packets for larger plantings are also available through the DNR nurseries.

A more complete listing of 84 suggested native tree and shrub species is available free-of-charge from our magazine office. Send a self-addressed, stamped envelope to Native Trees and Shrubs, WNR magazine, P.O. Box 7921, Madison, WI 53707. The listing discusses the soil and growing requirements of each species as well as species that provide cover and food for wildlife.

### Southern oak forests

shadbush  
alternate leaved  
dogwood  
gray dogwood  
round leaved  
dogwood  
American hazelnut  
choke cherry  
smooth sumac  
prickly gooseberry  
wild rose  
elderberry  
nannyberry  
arrow wood  
viburnum

### Southern lowland forests

buttonbush  
eastern wahoo  
red berried elder  
bladder-nut  
silky dogwood

### Northern pine forests

alternate leaved  
dogwood  
American hazelnut  
beaked hazelnut  
northern bush  
honeysuckle  
witchhazel  
sweet fern  
wild rose  
early blueberry  
maple leaf viburnum

### Northern sugar maple-hemlock forest

beaked hazelnut  
leatherwood  
red berried elder

### Northern lowland forests

speckled alder  
black chokeberry  
red osier dogwood  
mountain ash  
Canada yew  
early blueberry  
velvet leaved  
blueberry  
winterberry  
highbush cranberry

### Sphagnum bogs

leatherleaf  
bog rosemary  
bog laurel  
labrador tea

### Boreal forest

mountain maple  
speckled alder  
round leaved  
dogwood  
prickly gooseberry  
early blueberry  
velvet leaved  
blueberry  
pin cherry

### Bracken grassland

sweet fern  
early blueberry  
velvet leaved  
blueberry

### Pine barrens

American hazelnut  
wild rose  
pussy willow  
early blueberry

### Shrub carr (marshy grove)

red osier dogwood  
meadowsweet

### Oak savanna

leadplant  
New Jersey tea  
gray dogwood  
wild plum  
Canada plum  
staghorn sumac  
wild rose  
prairie willow

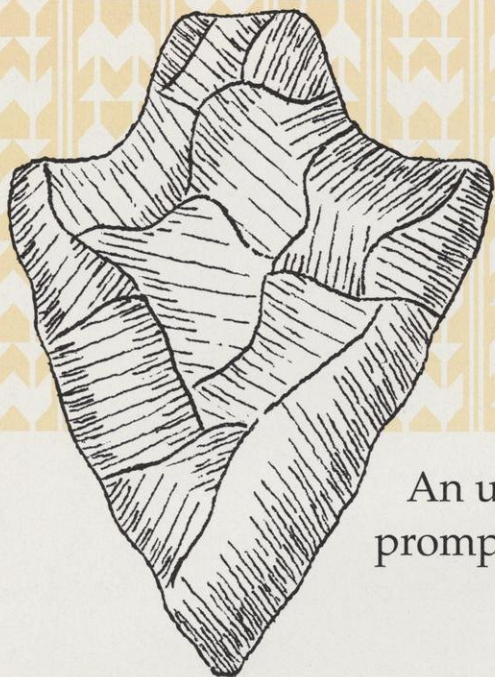
### Prairie

leadplant  
New Jersey tea  
prairie willow

### Sand barrens

fragrant sumac

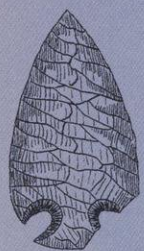




# A pointed search

An unexpected gift of ancient stone tools prompts a quiet inquiry into lives past.

Kurt Sroka



Before me on the desk are four stone arrowheads, given to me by my father-in-law. When this distinguished, civically active gentleman found time to go afield and search for stone projectile points on hands and knees, I couldn't imagine; he's much more at home in his favorite chair, reading a newsmagazine or watching congressional debates on CNN.

As it turns out, my father-in-law had once been a boy. His family lived near the Wisconsin River for a time. He and his brother explored the banks of Lake Wisconsin, doing all the things kids like to do when they are near water. This is where he found the four stone points.

I was surprised and honored when he presented them to me. They must have been important to him; why else keep the points safe, all of these years, in a cotton-lined box?

Every time I looked at those stone links to the past, they taunted me with silent questions. Finally, I decided to identify the chipped bits of chert. I wanted to know their ages and learn something of the people who had made and used them.

## The stories in the stones

Through some library reading I learned that the shaped stones represented a time span of about 8,700 years, which included seven major stages of cultural development in the region that is now Wisconsin. I also discovered that not one of my arrowheads is, in fact, an "arrowhead." The weapon of choice for many thousands of years on the North American continent was a stone point or dart, propelled by a throwing device. Known today by its Aztec name, *atl-atl*, this shaped stick about 18 inches long had a hook at the end that engaged the butt of the dart shaft. The added leverage provided by the *atl-atl* increased the distance and striking force of the dart as compared to throwing a spear by hand.

My oldest stone point, triangular in shape and nearly two inches long, best fits the description of a style called Fox River Valley Stemmed. (Many stone points derive their names from the places where they were first found; others are named for their distinctive shapes.) This type of point was produced by hunting and gathering cultures — dubbed "Archaic" by those who get to name such things — and used from about 7000 B.C. to 100 B.C.

Archaic peoples relied upon "mod-

ern" game like deer for sustenance; the mammoths, mastodons, and other Ice Age animals had long since faded into legend. The Archaic cultures flourished for a long period of time, and their projectile points are the ones most commonly found in Wisconsin. Although many of the Archaic points found here are similar in style to those from the eastern Midwest region, some distinctive types were developed here.

The second specimen in my collection is a Waubesa Contracting Stem, a style found throughout the Mississippi River basin. Lanceolate-shaped, concave at the shoulders, and somewhat asymmetrical in form, the Waubesa was in use from about 600 B.C. to A.D. 200, the era of the early Woodland culture. The "point" was likely used as a knife. Many points were used as darts, knives and scraping tools. The Woodland people lived in villages, made pottery, practiced plant-raising, and were mound-builders. Over time, the Woodland Culture developed different styles of points for ceremonial and day-to-day use.

The third point I have is the most skillfully rendered of the four. It is ovate in shape with deep corner notches; the stem has a convex base. Unlike the other points, the flaking of this stone displays a definite pattern known as "oblique transverse." The



Points in time

Arrowheads and projectile points are generic terms to describe a wide variety of stone tools that prehistoric cultures made for cutting, sawing, scraping and hunting. In the Midwest, many more stone points were used as knives, spearheads and dart tips than as arrowheads. The bow and arrow was introduced around A.D. 650; thousands of years after the region was settled.

These stone tools — chipped, flaked and formed from hard stone like chert, flint and quartzite — are valuable relics for historical researchers:

- ▲ They are durable artifacts that withstand weathering for a thousand or more years. Moreover, their shape and form remain as they were left by the maker.
- ▲ They can help distinguish among past cultures. Each group of people developed its own ideas of how points and knives should be crafted.
- ▲ They can serve as a marker pinpointing where past cultures lived and where they traveled and traded.

Each projectile point shared a few characteristics. It was crafted from light, durable material that withstood impact. The tip was sharpened and shaped to pierce animal hide and flesh. The sides were flattened and smoothed so they would offer little wind resistance when thrown or shot toward their target. The stem was shaped or notched so it could be bound to a spear, dart or arrow shaft.

Here's a sample of points and knives commonly used in Wisconsin.



**A** CLOVIS SPEAR POINT  
Paleo-Indian Period  
(10,000–8500 B.C.)

**B** SMALL SIDE-NOTCH SPEAR POINTS  
similar points used in the Late Archaic Period (3000–1000 B.C.) and the Late Woodland Period (A.D. 400–1100)

**C** TABLE ROCK STEMMED SPEAR POINT  
Late Archaic Period  
(3000–1000 B.C.)

**D** DURST STEMMED SPEAR POINTS  
Late Archaic Period  
(3000–1000 B.C.)

**J** TRIANGULAR ARROW POINTS  
Late Woodland/Mississippian Period (AD 800–historic period)

**E** STEMMED SPEAR POINT  
Late Archaic Period  
(3000–1000 B.C.)

**F** STEMMED SPEAR POINT  
Late Archaic Period  
(3000–1000 B.C.)

**G** PRESTON NOTCHED SPEAR POINT  
Late Archaic Period  
(3000–1000 B.C.)

**H** WAUBESA CONTRACTING STEM SPEAR POINT/KNIFE  
Late Archaic Period  
(3000–1000 B.C.)  
Early Woodland Period  
(1000–300 B.C.)

**I** DICKSON CONTRACTING STEM SPEAR POINT/KNIFE  
Early Woodland Period  
(1000–300 B.C.)

PHOTO BY GREG ANDERSON. ARTIFACTS FROM THE MUSEUM COLLECTIONS OF THE STATE HISTORICAL SOCIETY OF WISCONSIN. SPECIAL THANKS TO DENISE WIGGINS.



stone itself is waxy in appearance, whereas the others are lusterless. This projectile, known as a Snyders Point, has been found from Oklahoma to western New York. Wisconsin's Middle Woodland and Hopewell cultures used this type of point from about 500 B.C. to A.D. 500. Hopewell people, too, were mound-builders.

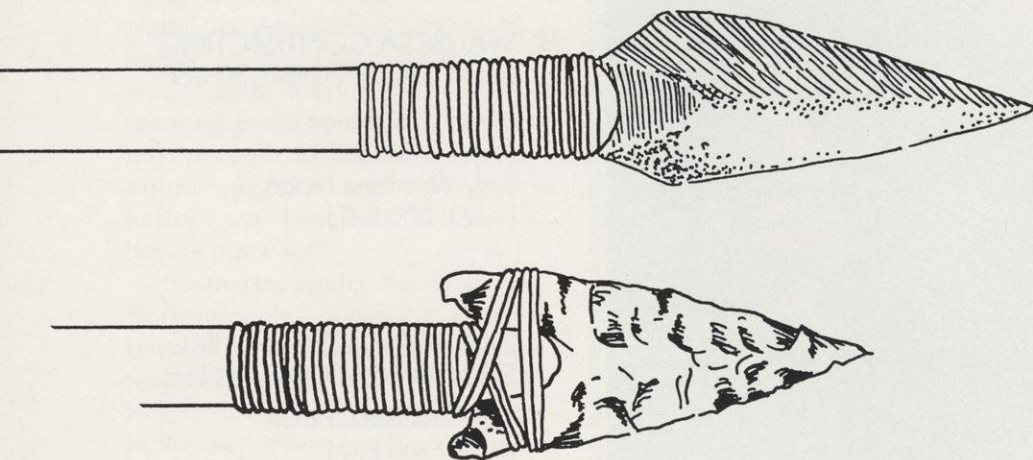
My last arrowhead defied identification. Smaller than the others, it has two side notches and a single notch in the center of the stem base. It was not included in the *Guide to Wisconsin Indian Projectile Points* that I had borrowed via interlibrary loan. But a dusty copy of Lar Hothem's *Arrowheads and Projectile Points* languishing on a shelf at a local bookstore held the probable

## Respect past cultures; don't pocket points

The excitement of finding an arrowhead or other ancient tool leads many people to take found artifacts. Resist the temptation. First, it is illegal to collect or remove artifacts from public lands in Wisconsin (including public parks) without a special permit. Second, artifacts are much more valuable to researchers if you can pinpoint the location where they were found. Third, leaving artifacts where they lie shows respect for ancient cultures. The location may be a graveyard, monument or have other cultural significance.

If you believe the finding is significant, mark the location and contact a local museum or property manager. The Office of the State Archaeologist is pleased to work with the public to identify artifacts. Contact archaeological staff through the State Historical Society of Wisconsin offices at 816 State Street, Madison, WI 53706.

A recommended reference book about midwestern spear, dart and arrow points is "Stone Age Spear and Arrow Points of the Mid-continental and Eastern United States," by Noel D. Justis, published by Indiana Press.



Stone points were bound or hafted to darts, spears and arrows with strips of leathery sinew.

answer: The arrowhead appears to be an Algonquin Triple Notched. This style, found primarily in Canada, was used from about A.D. 1000 to A.D. 1700. [It may also be a Cahokia Point from the middle Mississippian period.]

## Why points are more common than arrowheads

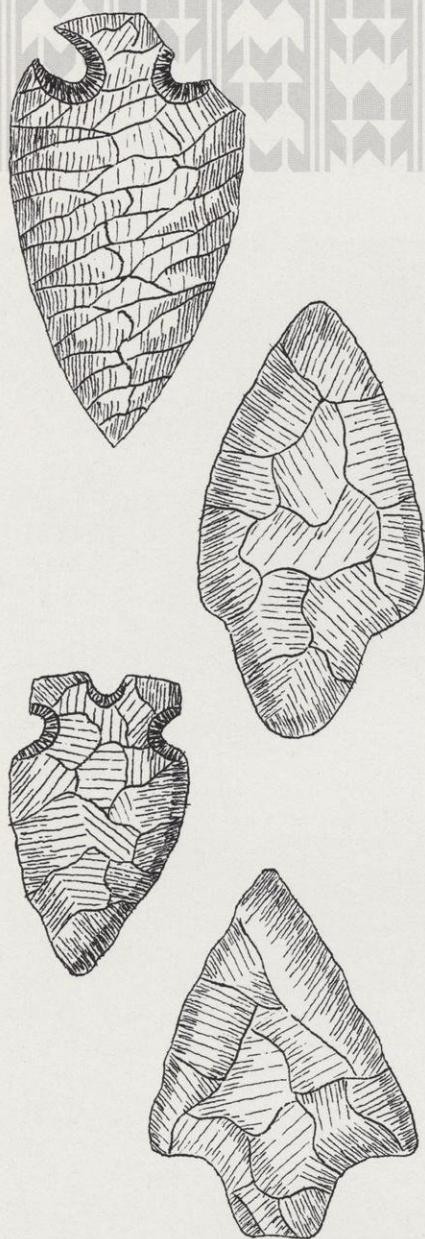
It is thought that the *atl-atl* was used in North America for at least 10–15,000 years. The bow and arrow appeared in the Wisconsin region about A.D. 650

but became more prevalent after A.D. 1000, when the people of the Mississippi Culture came from the south and established relatively sophisticated cities in Illinois and southern Wisconsin. Examples of their true arrowheads, Cahokia Notched, have been unearthed at Aztalan State Park in Jefferson County.

The native cultures that developed following the decline of the Mississippi peoples in the 1500s also used bows. Still, with the *atl-atl* in use about 10 times longer than the bow, it's not surprising that most of the stone points found here are not arrowheads.

No one can pinpoint the dates that the very first and last stone points were made. The "newest" point in my collection could have been chipped when the Europeans arrived here to explore, save souls, and trade for furs. Ultimately, it was the fur trade that rendered stone projectile points obsolete. Native Americans began making iron arrowheads from old kettles, barrel hoops and other iron items brought by





(top to bottom) The author's points: Snyder's Point, Waubesa Contracting Stem point, Algonquin Triple-Notched point (identification uncertain) and a Fox Valley Stemmed point.

Europeans. Later, iron "trade points" were manufactured by Europeans and used in exchange for furs. In time, the only stones used in weapons were the gun flints for muzzle-loading muskets — and most of those were imported from Europe, too. The skills needed to produce stone tools were soon lost and forgotten, and the North American "stone age" ended.

## A message in chert

Since the 1700s, farmers have been finding projectile points in plowed fields and keeping them as curiosities. Since the 1960s, though, collector interest in stone points has grown and market demand has inflated the value of all points. The four that I have are "common" and worth only a few dollars each, but a fluted-base, ceremonial-grade Clovis, for instance, might fetch as much as \$1,300 or more at a collector's meet.

The high value of some points has led to an increase in illegal activities. Private and public collections are stolen. Archeological sites are plundered and priceless cultural knowledge is lost forever. Phony points are produced, "aged," and sold as genuine; sometimes even the experts are unable to detect a skillfully made fake. It's unlikely that these activities will cease unless competition for projectile points ebbs and their monetary value plummets.

D.H. Lawrence wrote a poem about old objects entitled "Things Men Have Made" which nicely sums up my feelings about the four points:

*Things men have made with wakened hands and put soft life into are awake through time with*

The atlatl was commonly used in the Midwest for centuries before the bow and arrow arrived. A wooden holder was used to balance and then fling a dart of three to five feet in length. Skilled hunters at modern atlatl competitions can fling five ounce darts at nearly 100 miles per hour to distances exceeding 150 yards. The dart can deliver a larger wallop than arrows fired from 60-pound pull compound bows.

*transferred touch and go on glowing for long years. And for this reason, some old things are warm, still, with the life of forgotten men who made them.*

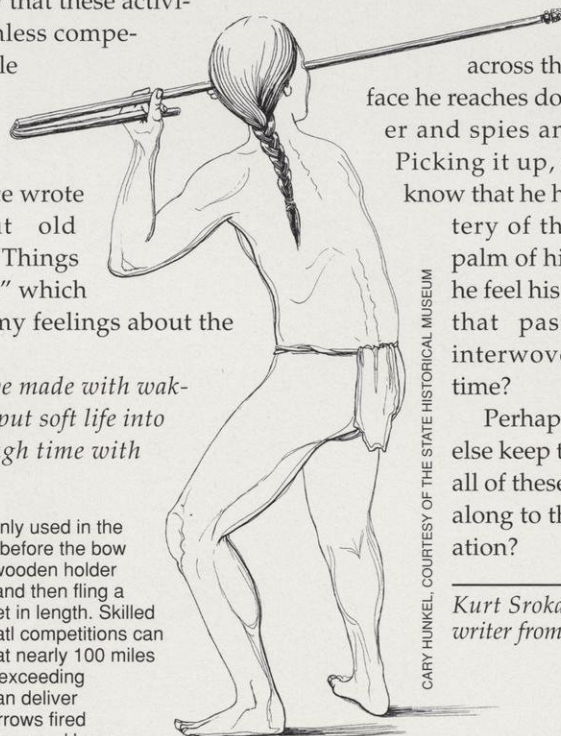
Sometimes, when I hold one of these points, I can imagine the man who crafted it. He sits, concentrating on his work, his strong, sure hands skillfully chipping flakes from a chert nodule, finding and removing the projectile points that lie hidden within the stone. Was this point successful in securing game for his family and community? When he threw this dart for the last time, did he have any inkling that he'd just launched a message of stone almost 9,000 years into the future?

Sometimes, too, when I look at the points, I see my father-in-law as a young boy, pants rolled to his knees, exploring the shores of Lake Wisconsin.

Skip ping stones across the water's surface he reaches down for another and spies an arrowhead. Picking it up, does the boy know that he holds the mystery of the past in the palm of his hand? Does he feel his connection to that past along the interwoven threads of time?

Perhaps he did. Why else keep the points safe all of these years to pass along to the next generation? □

Kurt Sroka is a free-lance writer from Somerset, Wis.



CARY HUNKEL, COURTESY OF THE STATE HISTORICAL MUSEUM



# A marsh reborn

The eyes, ears and words of generations past breathe life into a neglected wetland.

Alan Crossley



**E**ARLY SPRING, 1965: Taxes are on the rise, and two small farmers on the outskirts of Sun Prairie in northeastern Dane County feel the pinch. To cover their debts, they need more crop land. The farmers drain a 160-acre marsh

— likely created in the wake of the last glacier's retreat from southern Wisconsin 10,000 years ago — and turn the spongy black soil into a cornfield.

**LATE FALL, 1991:** Combines roll across the large, flat field, bringing in the last of a pretty good corn crop. When the harvest is over, only stubble, a few shattered cobs and scattered corn kernels remain.

**EARLY SPRING, 1992:** As the final snows of winter melt, the 160-acre cornfield fills with water — almost 100 acres of water by the end of March. Two to three feet deep at its deepest point, the new body of water supplied with waste grain attracts migratory waterfowl by the thousands. Virtually every species of duck that migrates through Wisconsin can be seen in the field by early April. Several hundred tundra swans settle in. Large exposed mud flats created by the advancing water tempt flocks of shorebirds with a smorgasbord of invertebrates.

Within the span of a few months, a centuries-old marsh hidden under rows of corn for 27 years was reborn.

Patrick Marsh became Wisconsin's first "wetland mitigation bank site," a means of offsetting damage as wetlands are developed elsewhere. To guide the restoration, biologists and volunteers turned to written accounts of the marsh made by surveyors, settlers and landowners. Their descriptions of the marsh landscape and wildlife serve as benchmarks for evaluating restoration efforts today.

## What they saw so long ago

Our first glimpse of the marsh and the surrounding countryside comes from surveyor Orson Lyon, who laid out the section lines in 1834. Lyon wrote of entering and leaving the "pond." He often had to mound earth for section corners because large, distinctive trees — the standard section markers — were few. What trees he did see were widely scattered bur oaks, a common species in the large prairie and oak savanna landscape of southern Wisconsin.

Effa Duscheck an area resident and local historian, gives us our next look at the marsh, known variously through the years as Patrick Lake, Brazee Lake, Brazee Swamp, Duscheck's Marsh, and

the Old Lake. Following are excerpts from remarks she made at a meeting of the Twentieth Century Club held in Sun Prairie on November 30, 1925.

*One who has seen the tufted crane wading in the Old Lake; heard the sandpipers call along its shore; followed the flight of the wild ducks that frequent its waters; or looked upon the colorful Indian arrow-heads or dull stone hammers turned up by farmer's plow in its bordering fields, has caught something of the spirit of the early history of this attractive little body of water, just over the hill, one and one half miles northeast of Sun Prairie.*

She described a bit of the human history of the marsh:

*In 1841, when Milwaukee was a village of 500 inhabitants and what is now Sun Prairie was "Bird's Corners," there came to settle on the west shore of this lake, a sturdy Scotchman, William W. Patrick, with his wife, also of Scotch descent, and their four children....Mr. Patrick took a patent from the government for 125 acres of land on the west shore of the lake, which he named "Patrick Lake."*

*When the Patrick family had lived four years beside the lake, David Brazee "took up" title from the government to*

NEIL HINTERBERG





1937 aerial when thousands of waterfowl used the marsh.



Patrick Marsh was drained, tilled and farmed in the mid 1960s. Disagreements over its draining formed an important test case in state law.

the land on the east side, across from the Patrick holdings. Ignoring the social right of the first settler to name the lake, Mr. Brazee wished it called by his name, "Brazee Lake." For years, controversy existed over the name of the lake. After the Patricks moved to Sun Prairie (1857), the name "Brazee Lake" gradually prevailed.

She also offered a hint of what the land looked like at the time of settlement:

*Grass, "during the first few years" of the Patrick family's occupancy of the land, "grew high as men's shoulders." So wrote the youngest daughter of Mr. and Mrs. Patrick, in a letter received last March (1925). The little knoll now excavated for gravel, just north of the house, was blue with pasque flowers in early spring. Other wild flowers bloomed luxuriantly on the banks and in the bordering woods; delicious wild berries and game were plentiful, but fish put into the lake did not survive the winters.*

The observation that fish did not survive the winter is our first clue that the "lake" was more of a shallow-water wetland. The natural fluctuations of this dynamic wetland did not escape her notice:

*Undoubtedly the reason for the lake's being commonly called "the old lake" in later years, is that, like a phantom lake, it has disappeared from time to time. Within the period since the*

*arrival of the first settler, the water has markedly receded, or disappeared five times. The water was at normal height from 1845 to 1855. Then the lake went dry, and remained so until 1866, when water again filled the basin. In 1870, the water began to recede again, until in 1872-3 there were only about five acres of water in the area of the lake, which consists of 160 acres. Two or three years later (1875), the whole area was drier than usual during dry periods of the lake. When ordinarily dry, it has been somewhat like a marsh, with growth of marsh grass, weeds, reeds, and cattails. In 1875, the lake bottom was dry enough to walk across.*

*In 1877, the water began to fill in again, and remained a lake until 1883. During the period 1890 to 1893, the lake reappeared after a dry period of seven years. Then it began to recede until in 1901 it was the driest it ever had been. That year some of the lake bottom was plowed and onions raised on its fertile soil. This period of dry area, lasting from 1893 to 1910, was the longest of any within memory. In 1910, the springs began to open, and the basin of the lake filled up surprisingly fast. The water reached the highest point on record in 1922. The present period of high water from 1910 is the longest that the area has remained a lake (circa...1925). ...There is no apparent inlet or outlet to the lake proper; but after a dry period, when the water*

*begins to re-appear, springs are visible in and around the lake area.*

The next bit of history we find is an aerial photograph of the marsh taken in 1937. It shows the marsh was relatively shallow, with open water and emergent aquatic plants. Clyde Terrell, an aquatic biologist with the Wisconsin Conservation Department recounted in January 1937 how waterfowl were attracted to this marsh. "When the lake was only one to two feet deep in the fall of 1935, thousands of shallow-water feeding ducks, chiefly mallards and blue-winged teal came here. They were attracted I believe principally because the shallow water made it easy for them to get food."

This marsh was so important to wildlife that it attracted the attention of Dr. Robert A. McCabe, a professor of Wildlife Ecology at the nearby University of Wisconsin in Madison. He studied the nesting ecology of marsh birds in a three-acre area along the west shore of the lake from 1947-1951. He published his findings, "The Loss of an Entire Wetland Habitat and its Wild Bird Populations" in the Wisconsin Academy of Sciences, Arts and Letters' *Transactions*, Vol. 71, Part 2, 1983:

*The emergent vegetation along the shoreline was sedge (Eleocharis, Scirpus, Carex, and Cyperus), cattail (Typha), and bulrush (Juncus). In the water area, arrowhead (Sagittaria), pondweeds (Potamogeton sp.), partic-*





DNR PHOTO

It became a test site again from 1991–93 as the Department of Transportation and Department of Natural Resources restored the full 160 acres for waterfowl use.

ularly sago pondweed (*P. pectinatus*), Bur reed (*Sparganium* sp.), and Duck weed (*Lemna minor*) were common.

One of the important ornithological aspects of Brazee Lake was the largest known colony of yellow-headed blackbirds in southern Wisconsin. These large handsome blackbirds were the primary species in a study of all the marsh birds which I began in 1947...the five-year nest total for yellow-headed blackbirds was 246. In all, 646 nests of 15 species were examined. This amounts to 127 nests per ha in the year with the largest bird population and 76 per ha in the year of the lowest density, averaging 96 per ha over the 5-year period.

Dr. McCabe's photos, taken sporadically from 1947 through the early 1980s further document that ever-changing marsh landscape. In some years emergent aquatic plants covered the entire surface; in other years, deeper water kept the marsh fairly open.

It's ironic that the widely fluctuating water of Patrick Marsh, led to its demise in 1965. Landowners adjacent to the marsh began draining it in the winter of 1964–65 in preparation for spring planting. The Public Service Commission sought an injunction to halt the drainage in March 1965. In *State of Wisconsin vs. Joseph N. Hanley and Julius Krebs*, the Dane County Circuit Court ruled in October, 1965, "That the State of Wisconsin may not prevent the defendants from working

the lands in question nor may the State of Wisconsin interfere with defendants' pumping of water from the lands concerned (i.e. Patrick Marsh)."

In its decision, the court cited an 1877 Wisconsin Supreme Court ruling concerning Patrick Marsh. In *Boorman vs. Sunnuchs*, the court ruled that since Patrick Marsh had virtually dried up in the mid-1870s the adjacent landowners owned the marsh bottom land.

Some classes from nearby Sun Prairie visit Patrick Marsh three times as grade school, middle school and high school science students.



ALAN CROSSLEY

Contrary to Orson Lyon's survey of 1834, the marsh was no longer considered a meandered, navigable lake.

## Gone for a time, but never forgotten

For nearly three decades the marsh ceased to exist. A tile and pump system kept the soil dry — no water, no aquatic bugs and plants, and as a consequence, no nesting birds. But the expansion of State Highway 151 from Sun Prairie to Columbus in the early 1990s set the stage for the cooperative restoration of the marsh as part of a wetland mitigation agreement between the Department of Transportation (DOT) and the Department of Natural Resources. State law required DOT to replace wetland acres lost as a result of the widening of the highway. As DOT and DNR looked for suitable wetlands to restore, Patrick Marsh came to mind. The problem was that the marsh was 160 acres in size, and DOT only needed to restore 26 acres. In a creative solution, Wisconsin's first wetland mitigation bank site was born.

"Banking" would give DOT "cred-



A photograph of a wooden sign for Patrick Marsh Wildlife Area. The sign is dark brown with white text and a blue wavy line. It features a small illustration of a marsh scene with a bird. The sign is mounted on two wooden posts. The background shows a marsh with tall grasses and a body of water.

# PATRICK MARSH WILDLIFE AREA

A WETLAND AND PRAIRIE AREA RESTORED AND PROTECTED BY:  
WISCONSIN DEPARTMENT OF TRANSPORTATION      WISCONSIN DEPARTMENT OF NATURAL RESOURCES





ALAN CROSSLEY

(above) Sun Prairie third graders sample the marsh waters to better understand the link between aquatic food sources and the birds that feed here.

(left) Two signs of cooperation. Yellow-headed blackbirds are coming as the marsh recovers.

it" for wetlands lost on other projects in southern Wisconsin. The banking protocol requires highway builders to, first, avoid wetlands whenever possible; second, minimize wetland disturbance if chosen road routes must cross a wetland; and, third, restore another wetland near the original site. Only after attempts to meet these first three conditions have been exhausted can the transportation and environmental agencies agree to consider "banked" sites as an alternative.

Banking does not give DOT carte blanche to route highways without regard for wetlands. It does provide the chance to consolidate fragmented wetland parcels from highway construction into larger blocks that can promote a more diverse mix of plants, animals and habitat than would be found in smaller parcels.

The plan in Sun Prairie was to turn back the calendar to 1841, the year William Patrick first saw a large, thriving marsh surrounded by uplands and tallgrass prairie.

The restoration project began in the winter of 1991, when DOT removed the drainage tile and pumping system that had been in use on the cornfield.

The marsh began to fill with water; by April 1992, about 100 acres of water covered the marsh, with an average depth of about 18 inches and a maximum depth of about three feet.

More than 5,000 ducks and 200 tundra swans were observed on the marsh during the 1992 spring migration. Survey results that year identified 13 species of breeding birds using the marsh itself, with an additional 26 species in the uplands. Twenty-eight different species of aquatic plants were found in the marsh just six months after it began to fill with water. A survey of frogs and toads found only the American Toad present in the marsh.

With abundant rainfall in the spring of 1993, the marsh filled to its normal level of about 160 acres of water, with an average depth of almost five feet and a maximum depth of nearly eight feet. Sixteen species of breeding birds were found using the marsh, with about the same number in the uplands. A graduate student working in the marsh found dozens of coot nests, as well as pied-billed grebe, sora rail, red-head, mallard, and blue-wing teal nests, to name a few. A few yellow-headed blackbirds returned to the

marsh in 1993, although none were known to have nested.

The variety and number of aquatic plants decreased slightly in 1993, probably as a result of the deepening water levels. But instead of hearing only the American Toad, biologists heard six additional species of frogs that year. How frogs and other slow-moving amphibians find their way to such intermittent waters would make another interesting story.

In 1994, water in the marsh stabilized at the maximum level established by natural land contours and an overflow tube. Although there seemed to be fewer bird nests, those nests that birds started were far more likely to successfully produce young than nests in previous years. At least two pairs of yellow-headed blackbirds likely nested on the marsh. Tiger salamanders were also caught there for the first time.

This spring, water levels were again high and individual numbers of each species seem to have declined, probably due to a lack of emergent aquatic plants. Approximately 40 black terns could be seen at the marsh most days. The eared grebe returned, as did a few yellow-headed blackbirds. Painted turtles were sighted here for the first time this spring, and minnows, bullheads and muskrats are thriving in the marsh.

On the uplands, state managers, local citizens and volunteers from the Madison Audubon Society restored a few acres of prairie using locally-collected seed. Weedy trees were also removed from the property to encourage the growth of oaks and native shrubs, including gray dogwood, red-osier dogwood and hawthorn.

## Alive with natural history

Today, Patrick Marsh thrives with wetland life. Although highway traffic bustles along just a few hundred yards away, people can still take quiet walks along the marsh shore or stop to observe the birds, just as William Patrick did in 1841.

Patrick Marsh has blossomed as a site for education, study and research where Sun Prairie students of all ages can better understand Patrick Marsh



## RESTORING A MARSH

as part of their local history and local landscape.

Thanks to a grant from the Wisconsin Environmental Education Board and matching funds from DOT and DNR, the marsh serves as an outdoor classroom for some enthusiastic teachers and students. Jill Zimmerman (third grade teacher at Bird Elementary), Nancy Schlimgen (middle school science teacher), and Delores Crowley (high school ecology teacher) lead trips that provide hands-on exposure to the restored marsh.

The project gives these Sun Prairie school children the opportunity to visit Patrick Marsh in three different years during their public school education. The grant provided funds to fully equip students with hip boots, binoculars, field guides, nets, spotting scopes and other equipment to make their visits more fun and educational. Students pull on boots and venture into the marsh to explore everything from tiny water fleas, leeches and dragonfly nymphs in the water, to toads and leopard frogs calling near the water's edge. Binoculars and spotting scopes help students identify birds in the wetland and uplands. Pupils also look for nests of red-winged blackbirds, robins, mallards and coots.

Students are encouraged to teach

what they've learned. On a recent trip to the marsh, several of Nancy Schlimgen's middle school students served as tour guides and leaders for Jill Zimmerman's third grade class. Senior high students are developing narratives that describe marsh ecology at each stop on the tour.

Third-grader Megan Wolfgram summed up her experience in a letter:

*Thank you for coming and teaching us all those wonderful things. The best part was your station. I liked it best*

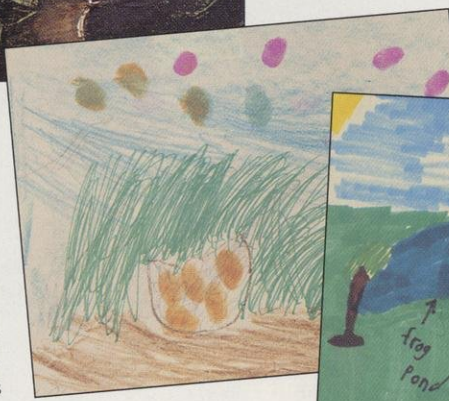
*because I caught lots of animals and I got to walk in the water. You did a very good job on teaching us, so did Miriam (middle school student leader). I'll be sure to come again this year to see everything and to pick up any litter that's hanging around. You did a great job. Thanks again.*

And Kristen Tyson had this to say about her experience:

*Thank you for letting us come to Patrick Marsh. It*



ALAN CROSSLEY



*was fun. You taught me a lot of stuff I did not know. On the trip, I learned that water can look low but it is really high. I never knew that so many animals depend on wetlands to give them food and shelter.*

What will the future hold for Patrick Marsh? In our lifetimes we should see much of what Effa Duscheck described: dry periods when we can almost walk across the marsh, and years in which the water levels are so high that we see few plants. As the water recedes and more vegetation grows, we will likely see healthy nesting colonies of yellow-headed blackbirds like those Dr. McCabe witnessed. And hopefully, we will kindle growing interest in the environment and the outdoors in the children who are touched by their experiences at Patrick Marsh. Such experiences can build a generation with the foresight and diligence to sustain wetlands and maintain a place in their lives for wild things and wild places. □

*Alan Crossley is a wildlife biologist for DNR's Southern District, based in Fitchburg.*

Through tours, hands-on observation and artwork, students find many ways to share what they remember about visits to Patrick Marsh.



ALAN CROSSLEY



empty. I remember a late summer evening when an adult house wren (*Troglodyte aedon*) repeatedly hopped in and out of a recently abandoned robin's nest. Apparently satisfied with her choice, the adult flew off and shortly returned with six rambunctious house wrens in tow. With incessant chatter, the adult lured all the youngsters into the nest and then left. The rebellious teen-agers decided it was too early for bed. One hopped onto the lip of the nest. Another followed. Within a minute, all the young birds were out of the nest and flitting about the crab tree. The adult returned, scolded them as only a house wren could, and soon the young birds were settled back in the nest for the night. The family was gone by dawn. Each night the adult led her young houseful to the safety of the robin's nest. Each night the youngsters resisted bedtime until darkness reached a certain level. Then all was quiet. In a week, the wrens too abandoned the robin's nest.

A deserted robin's nest in a hedgerow provides an ideal home for white-footed mice (*Peromyscus leucopus*). With the addition of a grass roof over the bowl, the nest makes a snug place to raise a litter or spend the winter. I discovered such a nest one crisp winter day. As I looked for the small circular entrance hole, six mice popped out and scurried in all directions. I don't know who was more startled!

You will be amazed how many robins' nests you can see for a short time after the leaves drop. Without this leafy protection, wind, rain and snow slowly erode the nests which crumble and fall to the ground, releasing the grasses and mud for possible reuse. Come spring, the choice nesting sites for secluded summer homes will again be available. □

*Anita Carpenter pokes through the branches and the underbrush for sign of wildlife near her Oshkosh, Wis. home.*

So view robins as the nest's first tenant.



## Readers Write

### POSTER "A" WINNER

My grandfather provided me with your recycling poster illustrated by Brian Strassburg. My Environmental Club at my school was recently assigned the task of starting a new recycling system as well as instructing other classes through reports and diagrams. The poster was quite useful in my presentation and, as a result, I got an A for the project. Thanks to your publication and Mr. Strassburg for helping me provide valuable information about the environment.

*Tracy Taylor  
Grade 6  
Great Mills, Md.*

### BROAD TRAINING

As a professional wildlife biologist working in the southwest, I would like to add one thing to Dale Katsma's June letter stating that wildlife biologists these days are widely trained in many natural resource disciplines.

Ditto!

*Jim Heffelfinger  
Tucson, Ariz.*

### MORE ON FISHING

Let me add a P.S. to Brad Pekoc's story, "Fishing familiar waters" (June 1995).

Small and frail Sid Gordon, referred to by Pekoc, was much more to Wisconsin than just the author of "Fishing From the Top to the Bottom." In almost any area of the state, especially in the mid-state region Pekoc fishes, there are numerous field stone speed traps, wing dams and remnants of split oak shelters and spawning boxes in many streams and lakes. These were all constructed by CCC crews under Sid's supervision during the 1930s, long before such activities started by our DNR.

*R.L. Talbot  
Oshkosh, Wis.*

The article on "Fishing familiar waters" was enjoyable, but it contained some factual errors

regarding the Inland Trout Stamp program.

First off, trout stamp funds are spent on trout habitat improvement work *only* on waters that are surrounded by public lands (state or federal owned). The funds are not spent directly on stopping soil erosion.

Second, the Inland Trout Stamp was approved by the Legislature in 1977, but was not implemented until 1978, which was the first year that those stamps were required of persons age 16-65 who fished trout in the state's inland waters.

Third, the Inland Trout Stamp program was initially pushed by former assemblyperson, now State Supreme Court Justice Jon Wilcox, but the "shepherding" of the bill was done by former State Senator Tom Harnisch (D-Neillsville), who attached his Trout Stamp bill to the 1977-78 State Budget Bill, and by former Natural Resources Board Chairman Dan Flaherty of La Crosse, who worked tirelessly to insure that the bill language stated trout stamp funds would be used only for trout habitat improvement.

*Mitchell G. Bent  
Shawano, Wis.*

### ON HOME-SAWN LUMBER

I enjoyed Dick Schneider's "Homegrown, Homemade Lumber" article in the June issue. He gave good advice, but, in my opinion, the text didn't go far enough in regard to the care of lumber.

Dick is correct in saying that a good foundation is important in preventing warped and twisted boards later. The base for piling should be high enough to keep the first course of lumber about 18 inches above the ground. This permits good air circulation under the pile, even where grass and weeds grow near the pile.

Stickers should be *dry*, preferably hardwood and preferably planed. They should be no



# Readers Write

more than 24 inches apart for softwood, closer for hardwood and placed *directly* over the one below. Stickers should be placed flush with the ends of the pile; this alone will help prevent end checking of drying lumber.

Lastly, the pile should be covered to keep rain and snow from falling on the finished lumber.

Poor piling practices can result in 20–30 percent loss of lumber. After one has gone to all the trouble of cutting, skidding and milling, a little more attention paid to proper piling practices can be well worth your while.

Gene McDonald  
Superior, Wis.

As an avid woodworker and owner of a portable sawmill service and kiln, I would take exception to one small comment in your article about home-sawn lumber — “Don’t bank on home-cut lumber as a money-making or even saving alternative.”

An owner of reasonable quality hardwood logs can expect to make or save money with a portable mill coming to his site. The reason is hardwood for the home woodworker can cost anywhere from \$2 to \$4 per board foot; having your own cut is more likely to cost 30 to 40 cents per board foot. Furthermore, most woodworking projects do not require eight-foot pieces of #1 wood, therefore hardwood logs of reasonable quality can be very practical.

Also, most woodworking projects will require some planning to get the lumber to standard dimension for the job at hand, so unplanned wood as a stock is not a problem. Mr. Schneider is correct if he is referring to lower cost lumber such as pine, spruce, fir or aspen.

Finally, as noted above, some

of us who are portable millers *do* have the ability to kiln dry small lots of lumber for the customer at very reasonable prices.

Rockne Koch  
Rosewood Specialty Woodworking  
Milwaukee, Wis.

I find the magazine very interesting and I had *six people* read the article about logging and cutting your own wood.

Theresa Pesmark  
Marinette, Wis.

*Editor’s note: We picked up this interesting definition of wood terms in looking over the latest newsletter from the Milwaukee Schooner project, the folks who are hand-building a replica of a Great Lakes schooner near the Maritime Center in Milwaukee.*

*“It’s a TREE in the ground, LOGS when cut down, TIMBER when roughly cut up, and LUMBER when it is cut to specific size...BOARDS are defined as less than two inches thick and more than four inches wide. TIMBER is lumber that is five feet or larger in its least dimension.*

## HOMESTEAD CABINS

Ron Kurowski’s story on the historic cabins in the Southern Unit of the Kettle Moraine State Forest got wider distribution. A shorter version was reprinted in Runespeak, the newsletter of Fosselyngen Lodge No. 82 of the Sons of Norway.

Our group is now looking for a new home, but with some 550 members, I don’t think the Olsson cabin will do!

Loren Osman  
Shorewood, Wis.

## PHOTO FLAW

*Three photos in our August supplement on nonpoint source pollution were incorrectly attributed to DNR photographer Robert Queen. Photos of forestry*

*practices on page 7, barnyard paving on page 12 and highway seeding on page 5 were drawn from general DNR photo files. We regret the error.*

## AN ANTLER TALE

Enclosed are some pictures of a half set of deer antlers naturally encased in a portion of an oak tree. I have a couple of theories: 1) The buck shed its antlers and the tree grew around them. 2) The buck was hung up in the wye of an oak tree to be field dressed. After skinning and removing the meat, perhaps the head and antlers were left and the tree grew around them. Any other theories? This was found in northern Wisconsin by my wife’s grandfather approximate-

ly 90 years ago.

Lester E. Stueber  
North Fond du Lac, Wis.

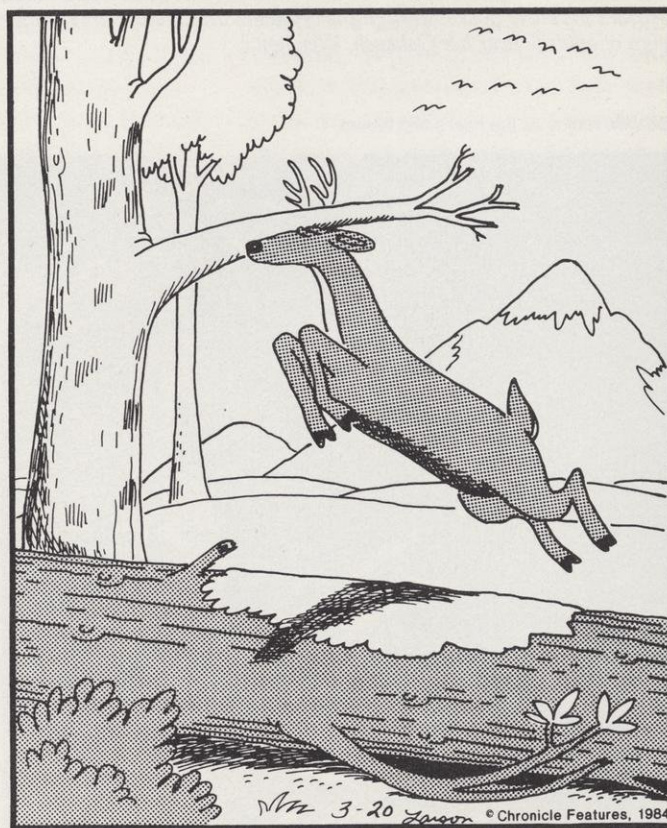
*Both your theories are possible. Perhaps the antler broke off during a rut. We’re also partial to*

*Mr. Gary Larson’s explanation.*



## THE FAR SIDE

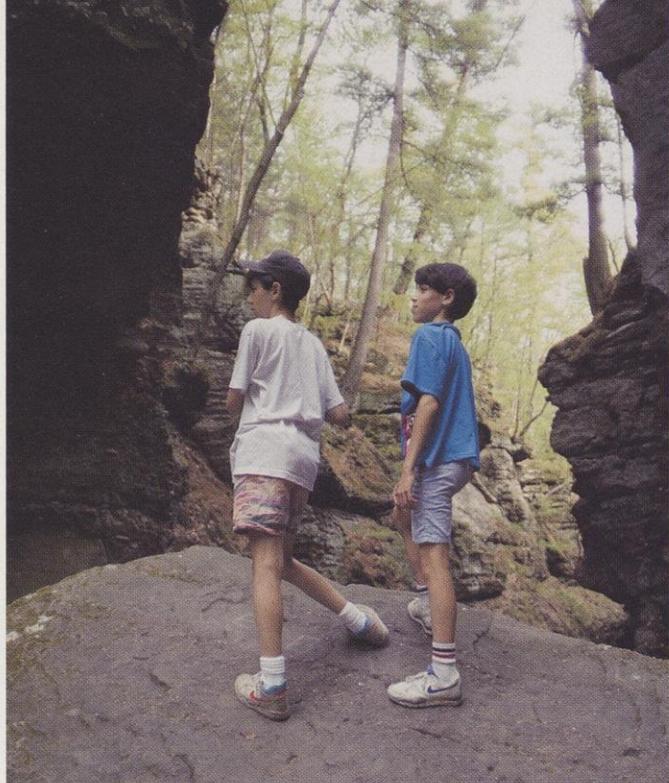
By GARY LARSON



Nature scenes we rarely see

THE FAR SIDE CARTOON BY GARY LARSON. REPRINTED BY PERMISSION OF CHRONICLE FEATURES, SAN FRANCISCO, CA. ALL RIGHTS RESERVED.





ROBERT QUEEN

Enjoy a cool stroll through Parfrey's Glen.

## Take a hike!

**N**ow that summer's beastly heat and humidity are a mere steamy memory, it's safe to turn off the air-conditioning and venture outdoors into fall's cool crispness. Slip on some comfortable shoes, point your feet south and start walking.

First stop: the book store to pick up a copy of Bob Crawford's *Walking Trails of Southern Wisconsin* (1994, University of Wisconsin Press), an instant source of inspiration to 60 hikes. Tie it in with a stop or two to harvest apples, punkins, late-season berries or a wine festival and you've got a dandy day.

Try the *Otsego Marsh Trail*, one of the Madison Audubon Society's choice birding sites in southern Columbia County off Highway 22. The right trail heads into the thick pine. Take the left trail that loops nearer the pond to glass some migrating ducks or shorebirds.

If tall timber is your fancy, trek the *White Oak Nature Trail* at Lake Kegonsa State Park just north of Stoughton.

It's an easy, relaxing stroll among 200-year-old oaks.

Looking for a little city-side culture? Consider a stroll through the *Evansville Historic District*. The gable-roofed architecture is so impressive that a 22-block area was placed on the National Register of Historic Places. Several businesses and the City Hall distribute a Historical and Architectural Walking Tour brochure which describes 48 homes and buildings you'll pass on the downtown sidewalks.

If you've really got a hankering to see what separated the hoity-toity from the hoi polloi, walk past some of the old family mansions around Lake Geneva in Walworth County. A 26-mile shoreline path follows the beaches and bays across the

# WISCONSIN TRAVELER

backyard getaways of some of Chicago's finest families. The Wrigleys, Swifts, Bordens, Dows, Maytags and Wackers all maintained summer homes and manors along Lake Geneva. The path is a bit uneven as each landowner chose to surface it differently. Crawford recommends starting at Flatiron Park in the town of Lake Geneva and walking clockwise, at least as far as Big Foot Beach State Park. Farther down the path, you can skirt Lake Geneva Country

apples near the cider mills in the apple orchards of Sauk and Richland counties. Then enjoy a picnic lunch on the shore of Devil's Lake State Park, near Baraboo and watch the rock climbers testing out some of the new routes described in the *Climber's Guide to Devil's Lake*, an update of the climber's classic by Sven Olle Swartling. A short drive behind the park on County DL is *Parfrey's Glen*, a state natural area. It's one of our favorite spots. A path takes you from a grassy field into a deep chasm surrounded by hardwood forest. Leave some extra socks and a dry pair of shoes in the car as the path crosses a creek several times as you work your way to the back of the sandstone glen.

Perhaps you fancy looking from the top of a hill downward, rather than up from the bottom of a chasm. Try *Blackhawk Ridge*, one of the DNR's newer properties which has a commanding view of the Lower Wisconsin River valley. The ridge was formerly a private campground laced with hiking and ski trails. The walk from the parking lot on Highway 78, just two miles south of the junction with Highway 12 is easy enough but quite steep. Eventually park trails will take visitors past beautiful vistas as the story of this historic Native American battle-field is recounted.

So grab your walking stick, (see page 10) lace up your waffle-stompers, pack up the back pack and enjoy a fall outing.



DAVID L. SPERLING

The gabled elegance of Evansville's historic homes.

Club, the oldest private links in the Midwest.

On the far side, along Highway 67 west of Williams Bay, hook up with a Saturday tour of the Yerkes Observatory, owned by the University of Chicago. Yerkes houses the world's largest refracting telescope. Fall tours are offered at 10 a.m. and at noon.

TRAVELER plans to pick a few pippin, cortland and macoun



