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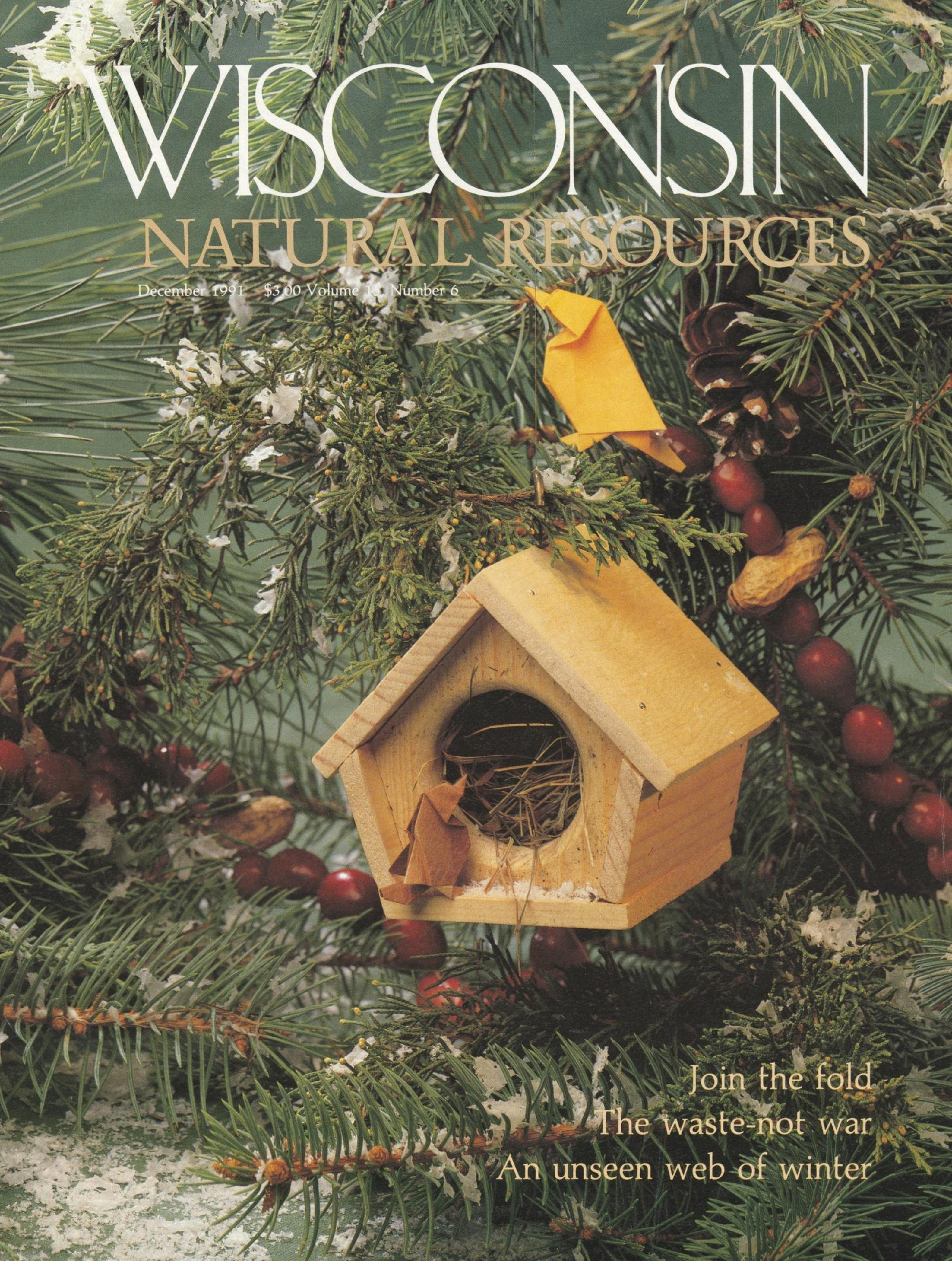
WISCONSIN
NATURAL RESOURCES
December 1991 $3.00 Volume 15, Number 6
Join the fold
The waste-not war
An unseen web of winter

Trumpeter Fanfare

Sumner Matteson and Bruce R. Bacon

Work continues to help trumpeter swans regain a webbed foothold in northwestern Wisconsin. Readers will remember our stories two years ago about hustling eggs from Alaskan birds back to Wisconsin hatcheries. We thought you'd enjoy an update on the artificial breeding program and the outlook for re-establishing a swan population.

We are still reintroducing young trumpeter swans to areas of southern Burnett and northern Polk counties that provide protected, natural habitat.

More than 100 trumpeters have been released as free-flying birds in Wisconsin. We continue our annual trips to

Continued on page 31

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ROBERT QUEEN

WISCONSIN NATURAL RESOURCES

December 1991 Volume 15, Number 6

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Fun figures of endangered animals are yours for the folding. Learn how you can in-crease support for wild animals and plants on page 16.

DAN ZENKER, SUTTER PHOTOGRAPHERS

The WASTE-NOT War

WWII scrap drive by Marie Carpenter's 23 pupils at the North Bright School, three miles outside of Owen, Wis. in Clark County. NAVISTAR ARCHIVES

World War II scrap drives suggest lessons for recyclers today.

Jori Lenon

Citizens sorting and separating trash. Posters, school contests and radio announcements promoting collection drives. Trucks picking up bags of tin cans and stacks of newspapers at the curbside.

Typical recycling efforts in Wisconsin? Yes.

In 1991? No. In 1941.

They may not have called it recycling fifty years ago, but yesterday's battle cries to "Get in the Scrap" captured public attention even more than today's pleas to save landfill space and protect the environment.

Recycling of some sort has typically accompanied wars. Shortages of paper, rubber, metals and other materials, coupled with patriotic messages to conserve scarce resources, spurred successful recycling drives during the two World Wars.

Modern recyclers are fueled more by high disposal costs, closing dump sites and public disdain for landfills. Recycling programs have gained steam since the '70s, but haven't matched the fervor we reached for a short time during World War II.

The fight at home

UNITED STATES WPB WAR PRODUCTION BOARD

Sept. 1, 1939. Hitler invaded Poland. France and Great Britain declared war on Germany two days later. Long before fiery explosions rocked Pearl Harbor in December 1941, Americans were at war.

We were fighting both real and perceived shortages of raw materials needed to make warplanes, tanks, shells and other weapons for national defense. War also forced us to accept shortages of gasoline, sugar and other staples to keep allied armies supplied. People recycled scrap metals, rationed supplies, bought war bonds and did anything else they could to be patriotic and just plain keep busy during trying times.

Early recycling efforts focused on paper. The war caught a slack U.S. paper industry with a sudden increase in demand, but abruptly cut off from European pulp and paper suppliers. The United States and Canada suddenly controlled the paper market for the entire non-axis world. Paper prices rose sharply. Government posters, pamphlets and newspaper ads egged churches, schools and Boy Scout troops to start paper drives. Their efforts were so vigorous that, by 1942, paper mills ran out of places to store the glut of wastepaper. Prices paid to paper dealers dropped steeply from $9 to $3 a ton.

Government shifted its publicity campaign to bolster declining metals, which were desperately needed for munitions.

Dubbed the nation's "number one fighting metal," copper was a key ingredient in anything that generated or transmitted electricity, as well as an important component in planes, tanks, searchlights and ammunition: Fifty warplanes could fire half a million copper cartridges in a single minute of aerial combat.

Tin-plated steel was also in short supply. The national War Production Board sent brochures to consumers instructing them to wash, flatten and store food cans and tin-plated tobacco containers. Tin was used for airplane motors, machine gun mounts, gas masks, and millions of food cans needed to feed our troops field rations.

Steel, iron, brass and lead were also needed. Images of what recycling could accomplish were made crystal clear and presented in concrete terms. Households were called "America's mines above the ground." War Production Board brochures stated that one old bucket would make three bayonets. One shovel would help make four hand grenades. An old car battery would supply the lead for three anti-aircraft guns.

National pleas for aluminum began with ambitious government plans to manufacture 3,000 planes a month by April 1942. Drives were organized by communities and civic groups. People donated aluminum foil, pots and pans, cans, toys and other household items to the war effort. The government said there would be no profit; proceeds would go toward national defense.

"Get in the Scrap" was the slogan of collection drives and parades. Radio announcements told people what to collect, how to separate donations, and when to expect pickup. Newspapers assigned special editors to the aluminum beat. The Office of Government Reports released a newsreel on aluminum to show at movie theatres.

Salvage bins stood like sentinels in front of city halls. Municipal trucks made curbside collections. Special pickups also gathered old coal stoves, radiators, bathtubs, rubber tires and other bulky things. The metals drive was so vigorous that automobile manufacturers were directed to cancel their new model years and convert operations to produce plane parts. Virtually no new cars were made for the public between 1942 and 1944.

Patriotic zeal and a sense of necessity seized the day. By the end of the war, some 21,000 salvage committees, staffed by over 400,000 volunteers, had been formed nationwide. These committees publicized neighborhood scrap collection days, and

COURTESY OF DNR BUREAU OF SOLID WASTE MANAGEMENT

It's one thing to collect recyclable materials, it's another to find a buyer. Here, bales of paper piled up in a Salvation Army depot. Paper drives in 1942 collected newspaper sooner and faster than papermakers could retool to process it. The sudden glut caused scrap paper prices to plummet from $9 to $3 per ton. Despite strong worldwide demand for paper goods, scrap buyers ran out of storage space before production caught up with the huge supply.

oversaw collection and shipment to processing plants. Community salvage programs organized into "working sections" of 20,000 dwellings, "zones" of 1,000 homes, "sectors" of 50 dwellings and finally, "wards" of 10 homes or five farms. Salvage "wardens" called on their 10 or so homes once every two weeks to make sure no precious scrap was left behind.

Aluminum drives first tested in Wisconsin

Dane County, Wisconsin, and Henrico County, Virginia, were selected to host the nation's first official scrap aluminum drives. Wisconsin had been selected earlier by the Office of Production Management as an "experimental state" where all idle factories would be converted for defense work. Towns pooled the talents of local machinists, sheet metal workers, electricians and wood workers to attract government contracts.

Articles in the morning newspapers on Friday, May 30, 1941 announced why Uncle Sam wanted aluminum. That Memorial Day weekend, Dane County residents mobilized to collect everything from aluminum cocktail shakers and hair curlers to golf clubs. The Girl Scouts of Dane County announced when teams of eight Boy Scouts, an American Legionnaire and a newspaper carrier would make rounds to pick up collected loot.

WISCONSIN STATE JOURNAL

Memorial Day weekend, 1941. The Sun Prairie American Legion post hauls a load of aluminum scrap in its 1908 red Buick. The nation's first aluminum drive was staged in Dane County on this patriotic holiday. To further dramatize and publicize the need for metal scrap, collected pots, pans and other aluminum goods were displayed at the Wisconsin Avenue entrance of the State Capitol in Madison.

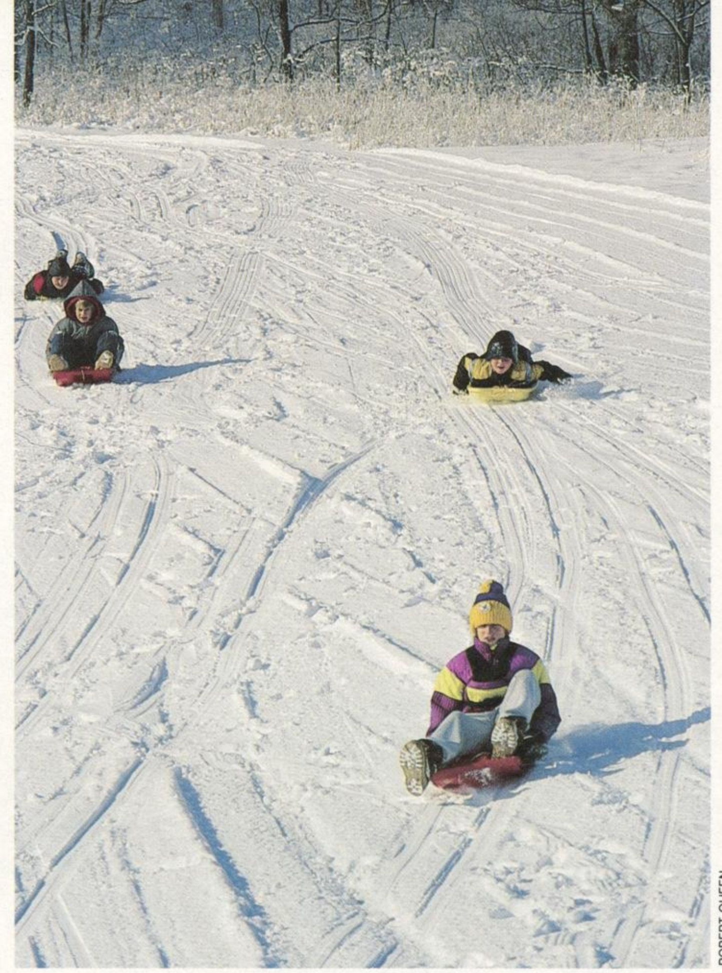
People heeded the call. One Sun Prairie woman brilliantly polished her cache of pots, pans and other household goods. "I didn't want any grit to get into the bombers they're going to make out of this," she explained to a newspaper reporter.

By Monday, volunteers had piled 50,000 pounds of aluminum — enough to make an Army bomber — on the State Capitol grounds. Countless other piles glittered in the sun in vacant lots, public parks and at gas stations, a Boy Scout or Legionnaire guarding each one. "If we can keep up this pace throughout the entire country, the success of this project is certain," reported Everett King, a con-

Continued on page 20

Repeated messages on radio, newspapers, brochures and posters reinforced the importance of recycling at home, office and industry. This 1943 brochure from the War Production Board provided step-by-step instructions for recycling tin-plated steel cans at home.

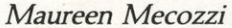
STATE HISTORICAL SOCIETY OF WISCONSIN



ROBERT QUEEN

More of us use the great outdoors for recreation than ever before. A comprehensive plan helps create rec room for all.

Happy trails to you... and yours... and theirs



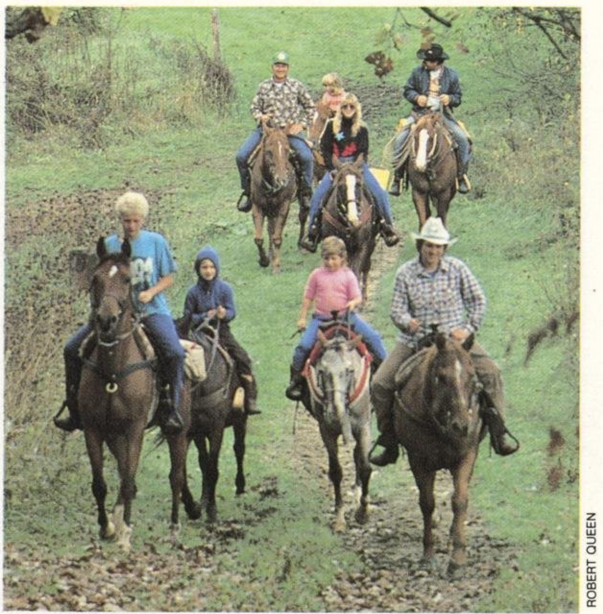
Maureen Mecozzi

Recreation is a form of re-creation: A way to assemble anew the pieces of body and soul scattered in life's daily squalls. Fresh air and open space undoubtedly hasten the process, because more than half of Wisconsin's adults choose outdoor activities to put themselves back together again.

Meeting the needs of a couple million outdoor enthusiasts whose interests range from Sunday driving to sea kayaking requires a plan. A big plan. A plan so all-encompassing it leaves no form of recreation yet devised unconsidered, not even unfocused horizontal waterfront relaxation (loafing on a beach).

King Kong, meet SCORP: The 1991-1996 Statewide Comprehensive Outdoor Recreation Plan — a whopping 325-page round-up of what we have, what we need and what we want to fully enjoy Wisconsin's natural resources.

ROBERT QUEEN



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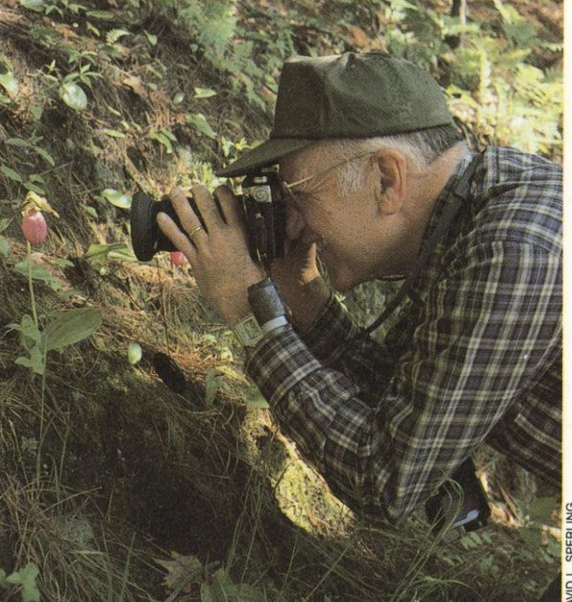


DAVID L. SPERLING

ROBERT QUEEN

A plan for the people, by the people

Nearly 4,000 Wisconsinites had a hand in the creation of SCORP. Some served on advisory committees, raising issues, making policy recommendations and sharing ideas. Others — 2,607 to be precise — wore pencils down to stubs answering a detailed survey on recreational preferences.

Candid comments made in the survey revealed the sometimes-contentious nature of recreation in an era of limited natural and financial resources. Regarding river use, one respondent said the Department of Natural Resources should actively promote canoeing and sailing over motorized boating. But another replied: "Canoes ruin other uses of a river. Try wading to fly-fish while being used as a live slalom pole by canoes and kayaks!"

Trails that have to be "ump-teen feet wide" to accommodate the cross-country skiing technique called skating stuck like a thorn in the sole of one hiker-respondent. Some survey participants recommended less parking and fewer roads in state parks; others felt there should be more parking and better auto access. And so on.

No matter what the issue or question at hand, no matter what side SCORP participants lined up on, one thing was clear: Resolving user conflicts requires a healthy dose of give-and-take and live-and-let-live from all who value outdoor recreation.

As greater numbers of people spend increasing amounts of leisure time outside, cooperation, planning and creative problem-solving become more important than ever before.

Consider trails, as did SCORP participants. Using a minimum of space, trails open up vast scenic areas and recreational opportunities to many people. But trails cross municipal and county lines, which makes planning and completion difficult, to say nothing of later maintenance.

With all the money and effort expended in acquisition and construction, it seems sensible that some trails should be managed for a variety of uses. Putting that concept into practice isn't so easy. Bicyclists, horse riders and hikers, for instance, expressed feelings that their safety is in jeopardy when sharing a trail. Should bicycling be allowed only on odd-number afternoons, horse riding on even, with walkers out only in the

Even noncompetitive recreation competes for space with other outdoor interests. Sharing trails or designating segments for specific uses calls for a healthy dose of give-and-take from all outdoor users.
(above) Cross-country ski trails in Blue Mounds State Park.
(top left) Horse trails at Governor Dodge State Park.
(middle left) Photographing orchids on a foot trail along Wisconsin Dells.
(bottom right) A little unfocused horizontal relaxation at a fall campsite.

ROBERT QUEEN

(top) People are clamoring for more recreational opportunities in and near cities, surveys show. Day-use parks like neighborhood playgrounds, skating ponds and ball fields draw lots of interest.

The most popular forms of outdoor activities take no equipment. Sightseeing, visits to zoos and attending outdoor events like ball games attract 47 per cent of the public. Nature and wildlife observation attract 46 percent of the adult audience — 1.8 million people.

ROBERT QUEEN

mornings? Can winter "silent sports" enthusiasts coexist with snowmobilers?

Today's satisfactory outdoor experience begins with a more knowledgeable, more tolerant user, SCORP concludes. Education for operators of boats, jet-skiers, snowmobiles, ATVs and other motorized craft is essential. The more people know about safe ways to recreate — whether hang-gliding, rock climbing, turkey hunting or windsurfing — the more likely they will be able to share trails, lakes, rivers, parks and public hunting grounds.

Pinpointing the issues

The information compiled in SCORP guides DNR staff in planning projects, acquiring land, and awarding recreation grants to local governments. But SCORP serves an additional purpose by identifying concerns and issues that must be addressed if quality outdoor recreation is to continue as a Wisconsin tradition.

There's an urgent need to have recreational opportunities close to growing urban centers, said many SCORP participants. City dwellers must venture farther and farther away to enjoy the outdoors as development swallows up available land, altering scenic beauty, eliminating wildlife habitat and closing off public access to lakes and rivers. Creating more parks and recreational lands in and around urban areas for day use would help; establishing a network of trails, parkways and corridors to link those new sites with existing parks, city centers and suburbs could provide recreation and reduce traffic congestion.

SCORP raises the difficult issue of whether it's possible to satisfy recreational demands and still protect the environment. When does recreation become wreckreation? For example: Soil erodes easily from trails and ski hills. Hikers trample delicate plants. Roads into parks bring in vehicles, polluting exhaust and noise. Picnickers and campers leave behind massive quantities of unsorted garbage, some recyclable, some not. The solutions — building better trails, banning or circumscribing motorized traffic in some areas, providing recycling bins at parks and recreation sites — will cost us, restrict us, require more of us. Are we ready?

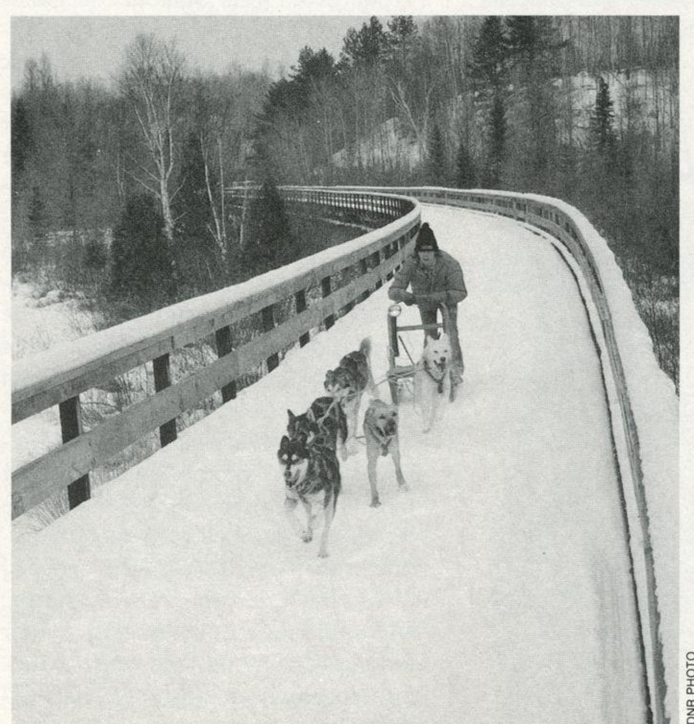
The Department of Natural Resources must find ways to reach people with special recreational needs, including immigrants for whom English is a second language; people with physical and mental disabilities; and people with limited incomes. It's time, say SCORP participants, to complete the Ice Age Trail ... get tough on drunken boaters ... revitalize riverfronts ... work with landowners that have property adjoining recreation areas to improve scenic views ... introduce urban kids to nature ... find additional funding for recreation, lottery money perhaps, maybe canoe registration or fees for senior citizens ... whew!

Anyone up for a little unfocused horizontal waterfront relaxation? □

Maureen Mecozzi is associate editor of Wisconsin Natural Resources.

Uses continue to grow after trails are completed. Who would have envisioned that dog sledders would stake an interest in the same public trails that carry bicyclists, skiers and snowmobiles?

(Right) More than 6,000 skiers will test the American Birkebeiner trail on Saturday, February 22nd. The 24-mile trail meanders county forests in Sawyer and Bayfield counties. Portions of the trail also host 2,500 mountain bikers for the Chequamegon Fat Tire Festival. Public forest lands are primarily managed to produce timber, but growing numbers of skiers, snowmobilers, ATV riders, hunters and anglers push for more access to these same wooded acres.



DNR PHOTO

AMERICAN BIRKEBEINER SKI FOUNDATION, INC.

Glen Bowman, Wisconsin tree farmer for 26 years.

A GROWING HABIT

Robert A. Walker
Photos by Jack Halbrehder

Tree farmers celebrate a golden anniversary.

The best time to plant a tree, so the saying goes, is 50 years ago.

The second best time is today. Tree farmers have been doing it both ways.

This year marks the 50th anniversary of the American Tree Farm System, created to encourage growing, harvesting and replanting trees on private lands. More than 3,000 of the nation's 70,000 certified tree farms are rooted in Wisconsin on nearly two million acres of forestland.

The organization's motto, "Growing trees and more than trees," reflects a tradition of viewing trees as a cash crop and cultivates the membership's interest in other forest benefits, such as improved wildlife habitat, erosion control, aesthetics and watershed protection.

Like tree planting itself, the groundwork gets done at the grassroots level. State tree farm committees coordinate a voluntary network of forestry professionals from the Department of Natural Resources, other public agencies, industries and private consulting foresters. The one-on-one free services these professionals provide landowners is a hallmark of the tree farm program. Manuals and administrative costs are funded by the forest products industry through its national association, the American Forest Council.

Private landowners are the lifeblood of tree farming and you don't have to manage a spread like the Ponderosa to qualify for help. Anyone who owns 10 or more acres of forestland can join free of charge. Members agree to manage their woodlands for multiple uses, including repeatedly growing and harvesting trees.

Getting your PhTree

The road to becoming a certified tree farmer begins with a visit from a professional forester who inspects the woodlot or field. The forester will fashion a management plan with you to meet your goals or will refer you to another professional forester who is more familiar with the kind of project you envision. Foresters re-inspect stands every five to 10 years to examine tree health and plan thinnings, harvests and replanting.

Why do people become tree farmers? Their reasons are as varied as the individuals themselves.

Harvey Huchthausen worked in a paper mill for 43 years. Now retired, he and his wife Vera keep busy tending a 47-acre tree farm near Wisconsin Rapids. "If we're going to use trees, we have to plant new ones," he said. The Huchthausens especially enjoy evenings at the tree farm watching the deer they feed.

Milwaukee businessman John Feith, Sr. sees his 200-acre tree farm near Saukville as a personal escape that also contributes to the public good. "It's sad to see the loss of forests and vegetation in urban areas," Feith said. "I feel I'm giving something back to society with my tree farm — fresh air and wildlife habitat. And I look forward to some financial reward through harvests as the trees mature."

Dr. Richard Peters, an oral surgeon at the Marshfield Clinic, backed into tree farming on his 150-acre forest in Vernon County. "I bought the land for hunting and fishing," he said. "But in the process of improving the land for those uses, I was bitten by the tree farm bug. For me, tree farming helps to relieve stress I face in my medical practice."

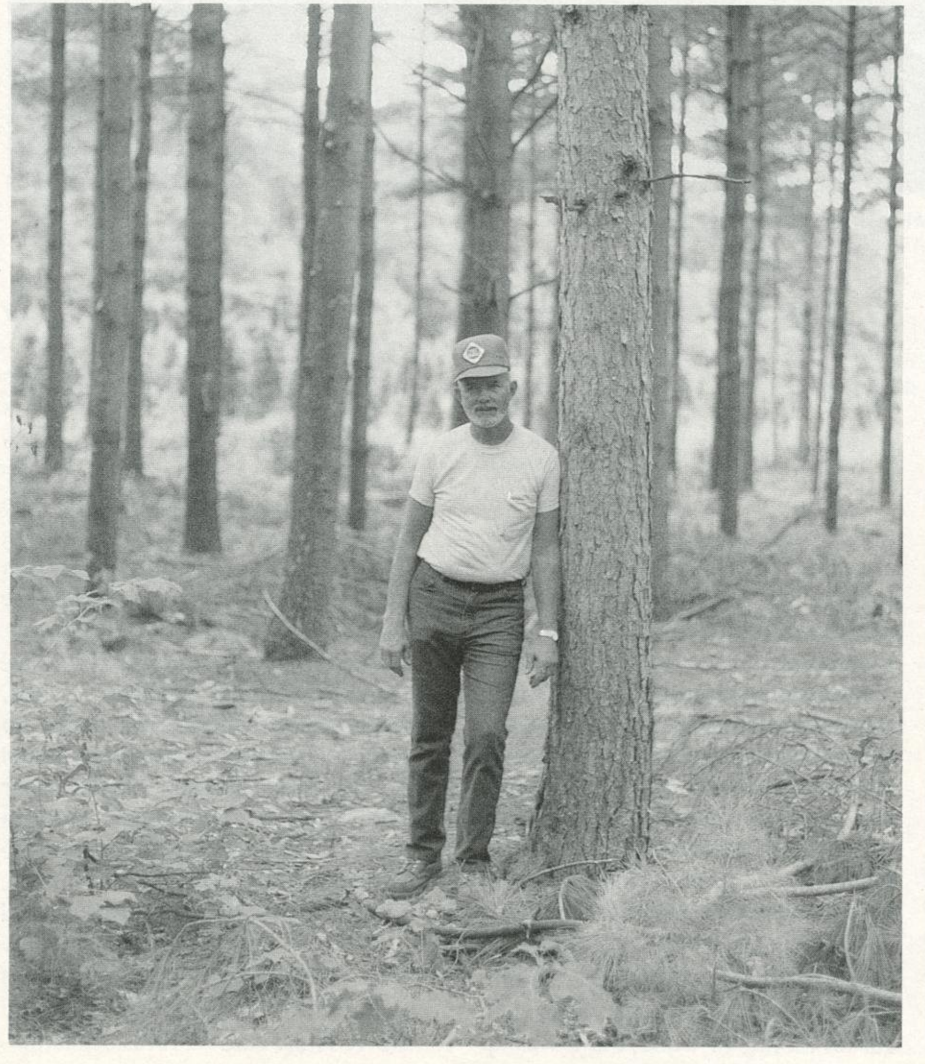
"I've enjoyed the woods all my life," said Barron County tree farmer Bernard Becker. He and his spouse, Loretta, were Wisconsin's Tree Farmers of the Year in 1986. Today, despite battling cancer, Becker continues to work his land. "It's slowed me down and I can't work as long, but I still enjoy doing whatever I'm able to do," he said.

Clyde Samsel of Hancock has made both a hobby and a career of raising trees on nearly 300 acres of forestland. He and his wife, Janet, run a sawmill operation and saw shop that serves full-time loggers and the general public. Samsel is a second-generation tree farmer; his father started planting trees in 1940 on what was then unproductive farmland.

Dick Hall, who owns 160 acres of forestland near Portage, counts "probably 100 reasons" why he enjoys tree farming. Hall, Wisconsin's Tree Farmer of the Year in 1988, has taught for many years in the natural resources department at Fox Valley Technical College. "The tree farm offers me recreation, wildlife, a source of income, and a great place to bring up the kids," said Hall. "I can't imagine life without it."

Most tree farmers are in it for intangible rewards, according to Dan Peterson, a Consolidated Papers, Inc. forester who encourages landowners to raise trees. "If money were the only reason, there would be a lot fewer tree farmers," Peterson said. "Most [of them sincerely] love the land, the outdoors, and forests, and they want to do what they can to improve it. Tree farming is a hobby that can last a lifetime, and beyond. What a tree farmer accomplishes during his or her lifetime becomes a living legacy to pass on to the next generation."

Bob Andersen leans on a red pine and in front of a stand of white pine he planted when in high school. Landowners who enroll as few as 10 acres can get free professional advice on managing their forest land.



Tree farmers gather at the Ray Fellend pine plantation near Melrose. Most tree farmers manage a wide variety of conifers or hardwoods on their land. Often, stands don't need to be replanted — valuable native trees are nurtured while less desireable trees are removed.

Healing cutover forests

The tree farming concept is a serious departure from historical attitudes about forests, according to Lester DeCoster, who oversees the national Tree Farm Program. For centuries, people were occasional visitors to the forest. They camped and hunted there, gathered food, cut wood for their own use and settled on the forest edge. The trees were left to nature to flourish or founder.

In the mid-1800s, lumber barons who looked at forests saw green — not renewable resources, but timberlands and money — ripe for the taking. An era of extensive and intensive forest exploitation spanned the 1870s through the turn of the century. The countryside was filled with loggers for 40-50 years before the first forester arrived. Cutover timberlands were wastelands of slash, sawdust and stumps that were abandoned or sold as marginal farmland.

The land recovered slowly. In 1927, Wisconsin's Forest Crop Law provided the first tax breaks to citizens who invested in forestlands. Soil conservation programs in concert with the state tree nursery program provided hundreds of thousands of trees in the early 1930s for windbreaks, erosion control and watershed protection.

Commercial forestlands were even slower to recover. In 1940, commercial forestland in the United States was at a record low of about 460 million acres. Net annual growth of trees was about 11 billion cubic feet. Wildfires burned 30-50 million acres of forest each year. Most private landowners allowed trees to grow on their land only when they couldn't find another use for it. The trees were cut for money or wood, but it was up to nature to plant and care for whatever grew back.

Some progressive forest products companies and government agencies could see what was happening. Since most forests were in the hands of private, nonindustrial landowners, the forest industry needed to spend more time working cooperatively with small land holders to reforest private lands with more valued tree species.

The Weyerhaeuser Timber Company took the lead. On June 12, 1941, the company invited the public to come see forestry practices in action on its 120,000-acre forest near Montesano, Washington. People came, looked around, kicked the ground, talked, planted a few trees, heard a few speeches, ate lunch and went home. But the seed of a new idea and a new term had been planted: tree farming. The company showed how cutover forests and mar-

Red oak 20 years after a planned cut.

John and Helen Swansboro personally oversee a contractor cutting pulpwood on their plantation near Cataract. Trees need to be carefully harvested to conserve peak value and retain the value of remaining trees.

STOPPING AN UNKIND CUT

A key benefit the American Tree Farm System provides is access to forestry experts who will help you avoid unscrupulous loggers.

Most loggers run honest businesses and they treat a landowner's forest with care, but a few don't. These "wood butchers" take advantage of landowners' naivety about wood by convincing owners to harvest trees before peak maturity and value. Owners can lose a lot of money. Moreover, forestlands can take generations to recover from a botched logging job.

You can't tell a good logger from a bad one by the way they look. But there are a few signs that can help you spot the kind of logger you don't want to have in your woods. Beware of:

Loggers who flash cash and pressure you for a quick agreement. These people know your stand is valuable — particularly stands of mature red oak — and they come to your door with a pocketful of cash and a hard-sell pitch for a quick timber sale agreement. Often, the price offered is much less than the actual value of the harvest. Another clue: These loggers don't want to sign a formal logging contract.

Loggers who won't provide references. They don't want you to see other jobs they've done or talk with past customers.

Loggers who don't want you to consult an expert. They don't want you to get the advice of a forester or a second opinion from someone else who knows the value of your woodlands. Reputable loggers can provide a management plan that suggests strategies to protect the forest's value.

Loggers who want a "diameter-limit" cut only. These loggers only want to harvest trees bigger than a certain diameter. There are some rare instances where a diameter-limit cut is an appropriate strategy, but that usually is not the case. Repeated, careful harvests of mature trees planned by a forester who represents your interests is a better means of raising cash and preserving your woodland's future value.

Want to know more? Contact the DNR county forester or the Wisconsin Tree Farm Committee, 803 Lincoln Street, Rhinelander, WI 54501.

Tree farming appeals to conservationists who put stock in the future for the long haul. This red pine pulpwood was harvested 25 years after planting; hardwood stands grow even more slowly.

ginal lands could be kept productive growing a renewable crop of trees.

The idea quickly took root. By the end of 1942, an American Tree Farm System was promoted nationwide. Wisconsin was one of five states to join early, in 1944. Tree farms steadily spread to every state in the nation, ending with Hawaii in 1975.

While the American Tree Farm System has steadfastly held to its original mission of encouraging timber production, tree farmers' goals have broadened significantly. Today, the program promotes environmental benefits such as better air and water quality, enhanced wildlife habitat and a wide range of recreational opportunities.

At the same time, program officials dispel the myth that tree farms should consist of row upon row of evenly-aged planted trees — like the pine plantations common throughout Wisconsin. Tree farmers can plan forests that contain a wide mix of tree species, sizes and ages. In practice, most tree farms are not seeded with exotic trees; rather, less desirable trees are removed and remaining species are nurtured under better growing conditions. Sites are seeded only where natural germination rates are low.

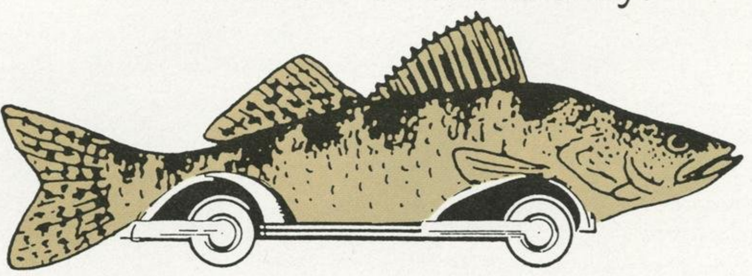
Though the tree farm program was developed to demonstrate that industrial forestlands could be managed with great care, the program has accomplished much more on its 50th anniversary. Today, a significant share of the nation's wood and paper needs are produced on small parcels of land. The tree farm sign is an international symbol of quality forestry — a visible declaration of environmental stewardship on private lands and a commitment to invest in trees as a renewable resource for our future. □

Robert A. Walker works in the public affairs department of Consolidated Papers, Inc. of Wisconsin Rapids. He edits a newsletter for the company's landowner assistance program. Information for this story was provided by the American Forest Council.

GREG MATTHEWS

The Walleye Wagon

What has four wheels and fry?



Greg Matthews

Nature has never been kind to newborn fish. Their eggs are tasty caviar to fish and people alike. They are easy prey during their formative months. Less than 15 percent of them live to see their first birthday; about one percent reach adulthood. Humans activities further tip the scales against survival. Runoff and shoreland development conspire to degrade their natural habitat, smother them with silt or weaken them with pollution.

One new tool to nurture fish nature came from an unlikely source — an aging van that was headed for the scrap heap. The van had logged years of tough service monitoring air quality near paper mills, power plants, congested city streets and remote forests. A band of ingenious tinkerers with DNR Southern District Operations crew stripped out the data recorders, the high-volume air samplers and replaced the high-tech electronics with a metal trough, pumps, yards of tubing and Plexiglas tubes. With the help of a $5,000 donation from the Madison Fishing Expo, the crew converted the van into a mobile fish hatchery.

The idea came from Bill Jaeger who coordinates the operations crew that provides most of the labor in the labor-intensive job of managing fisheries — rebuilding shorelines, running fyke nets, stripping eggs and milt for hatcheries, collecting fish for contaminant testing, stocking fish and the like. Jaeger's crew is working

closely with fisheries manager Scot Stewart; Brett Johnson, Madison lakes fisheries manager; and a university team on a plan to heavily stock walleye in Madison's Lake Mendota as part of a water quality experiment.

As with many urban lakes, the loss of wetlands and shoreline development has destroyed most of the natural habitat where fertilized walleye eggs could survive in Lake Mendota.

In cleaner lakes, walleyes spawn in shallow, flooded marsh grasses and on shallow rocky shorelines with gravel bottoms. Fertilized eggs adhere to grasses and rocks where waves wash them with cold, oxygen-rich waters.

The egg hatch is temperature dependent — 26 days if the water is 40°F, 21 days at 50-55°, and only seven days at 57°. Once hatched, the newborn fry have to find a food source within three to five days. The longer the eggs are exposed, the more vulnerable they are to predators and siltation.

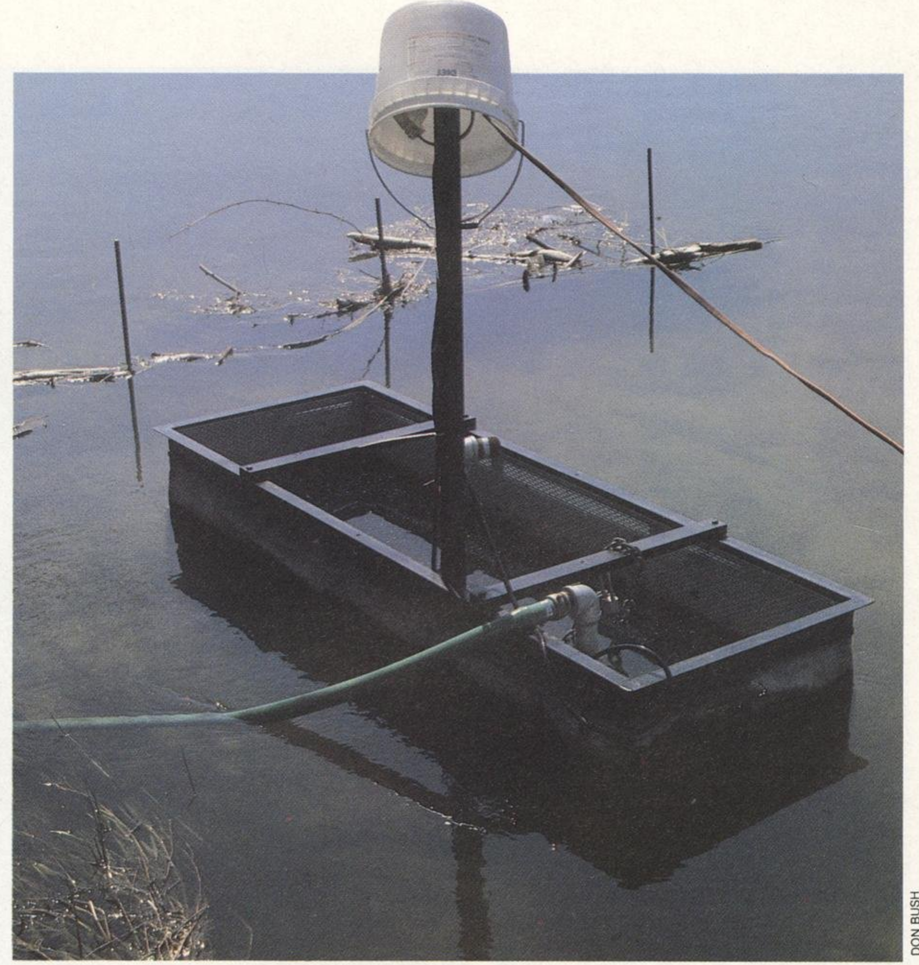
"We wanted a strong population of walleye fry in the lake to coincide with the peak blooms of the zooplankton these tiny fish eat," Johnson explained. "Since natural walleye production is poor in urban lakes like Mendota, we decided to stock walleye fry and older fingerlings," he continued.

"The challenge we face is getting fertilized eggs from the hatchery at just the right time to match the zooplankton peak. It's always a race against time," Stewart emphasized. "Moreover, we expect a certain percentage of the fry will die during the trip from the hatchery and subsequent release in a new body of water."

"The beauty of a mobile hatchery is that fish eggs can be gathered, hatched at lakeside and released into the parent waters quickly," says Gordie Priegel, Southern District operations chief. Also, the fry don't have to be moved, jostled or handled by people, Priegel added.

Here's how the mobile hatchery works:

The van is parked on a lakeshore



DON BUSH

By using mobile equipment, the water used to hatch fish fry can be drawn from the lakes and rivers where the fish will live. Pumps are installed in shallow water surrounded by a porous metal box. The box is surrounded with fabric that filters debris before clear water is circulated through the mobile hatchery.

(below) Eggs hatch in incubator jars in a week to four weeks, depending on the water temperature. Newborn fry rise to the top of the jars and gently flow through hoses into the lake or river.

DON BUSH

Red oak 20 years after a planned cut.

GREG MATTHEWS

(left to right) Doral Richardson, Stan Palmer and Ron Schwerdtfeger converted the air monitoring van into a mobile fish hatchery. The trough in the middle is used to hold newborn sauger and northerns for stocking.

or riverbank near areas where traditional spawning grounds have been degraded. A hose, covered with a filter fabric to keep out debris, is lowered into the water and a pump draws water into the van. Water is pumped into an elevated tank that looks like a cattle waterer. From the elevated tank, water is gravity-fed through the rest of the system. It is circulated through two parallel rows of Plexiglas incubators and drains through another pipe back into the lake or river.

As in stationary hatcheries, fertilized eggs incubate at the bottom of hatching jars. When eggs hatch, young fry can swim vertically but they can't swim forward or back until their paired fins develop. The walleye fry swim up the jar and gently drain through vinyl tubes into the water.

The tiny fry are nearly transparent. They grow rapidly, suspended in the open water, and feed voraciously until they are old enough to seek refuge among lake weeds. At two to three weeks of age, the fry start eating smaller fish and insects.

When the mobile hatchery is used to raise sauger or northern pike, the newborn fry are syphoned into troughs in the center of the van where they are held for stocking every day, sometimes twice a day.

The "Walleye Wagon," as nicknamed by its builders, "is designed for situations where fish hatches haven't been successful in recent years because spawning habitat was degraded by siltation or predation," explains Priegel. "I give all the credit for this design to Stan Palmer, Doral Richardson and Ron Schwerdtfeger," Priegel said. Palmer is a habitat foreman, Richardson operates heavy machinery and Schwerdtfeger is a fisheries technician with DNR's Madison Area office.

Jaeger's crew first tested the portable hatchery across the street from his home on the Yahara River located on Jaeger Road, just south of Lake Waubesa in McFarland.

"You don't want to screw-up when you're parked off a road named after your Dad," Jaeger quipped.

To date, according to Jaeger, the Walleye Wagon has hatched and stocked two million sauger fry in Lake Koshkonong, 100,000 northern pike fry for the Six Mile Creek rearing pond north of Madison, 120,000 northern pike fry at Lower Mud Lake in Dane County and a million walleye fry into the Yahara River.

"It has really helped us in Lake Koshkonong," says Fish Manager Don Bush. Commercial seiners remove the carp here, then we restock the waters with game fish. At 10-50¢ a piece, we can't afford to raise many fish to the fingerling stage, Bush said. Our costs to raise fry in the Walleye Wagon are lower. They are comparable to our costs in the hatcheries, but we save some money in transportation costs. He added, "We may find we have better survival rates with the mobile unit because the fish acclimate to the water where they will live."

"I view the Walleye Wagon as another relatively inexpensive method of adding fish to the anglers' creels." Bush concluded. □

Greg Matthews is DNR's Public Information specialist stationed at the Southern District headquarters in Fitchburg.

PAUL J. ALEXANDROFF COURTESY OF THE MILWAUKEE PUBLIC MUSEUM

Scrap collections became a source of civic pride and patriotic expression.
(above) Recovered metals were stockpiled in plain view outside government buildings and other public places. Milwaukee, 1940.
(below) Scrap from a locksmith's storefront display was inscribed for "the three rats" — Hitler, Mussolini and Hirohito.

THQ PHOTOS, NY COURTESY OF THE STATE HISTORICAL SOCIETY OF WISCONSIN

Continued from page 6

sultant from the Office of Production Management.

The aluminum was sorted and baled by Sinaiko Bros. Scrap Metal Co. The federal government designated 12 smelters to process the metal and send it to Manitowoc ship builders. Smelters paid the regular market price for the aluminum, and the proceeds were returned to Dane County to fund another defense project.

Dane County's success was repeated throughout the state. A sand and gravel company at Casco, Kewaunee County, ripped out and recycled 1,800 feet of old railroad spur track.

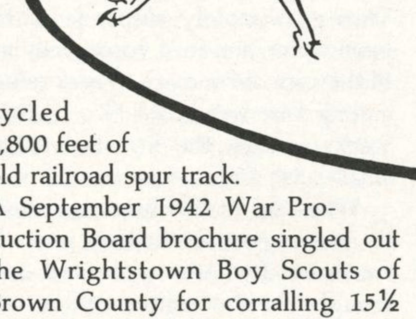
A September 1942 War Production Board brochure singled out the Wrightstown Boy Scouts of Brown County for corralling 15½ tons of scrap metal in a single week. The brochure called scrap drives "a patriotic cause [warranting] plenty of flags, martial music, and stirring patriotism to help the program."

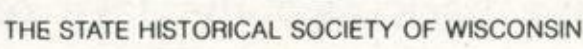
Despite local successes, War Production Board accounts gave a less-lustrous picture of the country's metal drives. In one case, former New York Mayor Fiorello LaGuardia, then Director of Office of Civilian Defense, was chastised for authorizing shipments of aluminum tea kettles, ice cube trays, window screens and picture frames directly to aluminum smelters. The shipments bypassed New York's well-established network of 2,000 scrap dealers. The smelters were ill-prepared to sort out materials scrap dealers could have handled for them.

Due to repeated gaffes like this, the nation only collected six million pounds of aluminum and 11 million pounds of other scrap when estimates predicted 15-20 million pounds of scrap were readily available.

Public enthusiasm for recycling started to cool. Citizens saw their relinquished possessions piling up in town squares. Inefficiencies in moving collected scrap to markets led the public to conclude material shortages were phony. By the end of 1941, only a third of the aluminum donated to the cause had been used. In fact, the scrap piles weren't cleaned up until March of 1943.

Ed Duszinski, retired Madison public works director and founder of





THE STATE HISTORICAL SOCIETY OF WISCONSIN

A War Production Board brochure encourages homemakers to score a hit on WWII Japanese foes by recycling pots and pans.

the city's first waste-to-energy recycling program, was a 28-year-old worker in the Milwaukee Public Works Division in 1941. He recalls some of the technological problems steel, aluminum and paper mills faced during the war years.

"Mountains of salvaged food cans piled up in steel yards because they couldn't be processed," Duszinski said. "Steel workers would charge their open hearth furnaces and solder would melt off the cans' seams. The lids would drop to the bottom, concentrate the heat, and burn a hole in the furnace," Duszinski explained.

"There wasn't much demand for aluminum at the beginning of the war," he continued. "The aluminum people were locked into long-term contracts to use only raw materials. These contracts had to expire before the companies could replace their ore with salvaged material."

The paper companies didn't react quickly either, Duszinski added. "Their machines were designed to handle virgin pulp, not scrap paper." He added that the fibers in used newspapers would dry out if stored for more than a month.

"Back then, we had the demand for recycled material, but we weren't prepared to meet it," Duszinski summed up. "Now, we have the reverse. We have the hue and cry for recycling, but we need to develop the markets."

A Midwest success

One Chicago firm did find a way to collect, transport and process a significant source of scrap metal during the war.

The International Harvester Company (since merged with J.I. Case in Racine) estimated that three million tons of scrap was lying about the nation's farms in 1942. The firm found a way to pour this rusting resource into scrap trade channels.

IHC sent postcards to its merchants asking for the locations of scrap dealers in or near their communities. The company found that most of its dealers had scrap buyers right in town, the rest had markets within 20 miles. The close bonds between the implement dealers and their farming customers were used to collect the tons of scrap rusting throughout the countryside.

Every IHC merchant received a press kit including window posters, press releases and an eight-page booklet explaining the company's contribution to the war effort. The merchants were asked to arrange scrap purchase with local dealers. When IHC trucks delivered new equipment to farmers, they made the return trip loaded with scrap. Neither IHC nor its dealers made a penny from the deal, but the drive was viewed as a good will gesture by both farmers and the scrap industry.

From metals to milkweed

Scrap metal received a lot of publicity, but it wasn't the only collectable during World War II. As the fighting dragged on, defense drives collected more paper; lard for explosives and pharmaceutical manufacturing; and rubber for new tires, life rafts, and paratroopers boots. A scrap rubber drive in Stevens Point netted eight tons of old tires in June 1942. Even milkweed pods were plucked from meadows and given to the cause: Milkweed fluff has excellent flotation properties and was used as life jacket insulation.

Historical artifacts were sacrificed in a flush of patriotic recycling. Old Civil War cannons were dismantled from Wisconsin parks and town squares to fight another day, their iron and bronze melted down for armaments. A wheel that had hung in a well house on a Waupaca County homestead since 1863 was recycled. UW fra-

INTERNATIONAL HARVESTER CORPORATE ARCHIVES COURTESY OF PUBLIC WORKS HISTORICAL SOCIETY

International Harvester made it easy for farmers. During service calls and sales calls, metals were collected on the farm and delivered to scrap dealers free of charge. *(below)* Landaal Bros. Co., an IH dealer in Waupun, unloads metals.

NAVISTAR ARCHIVES

ternity houses emptied their trophy cases. Citizens from Albany, Wis. dismantled a historic 1867 bridge.

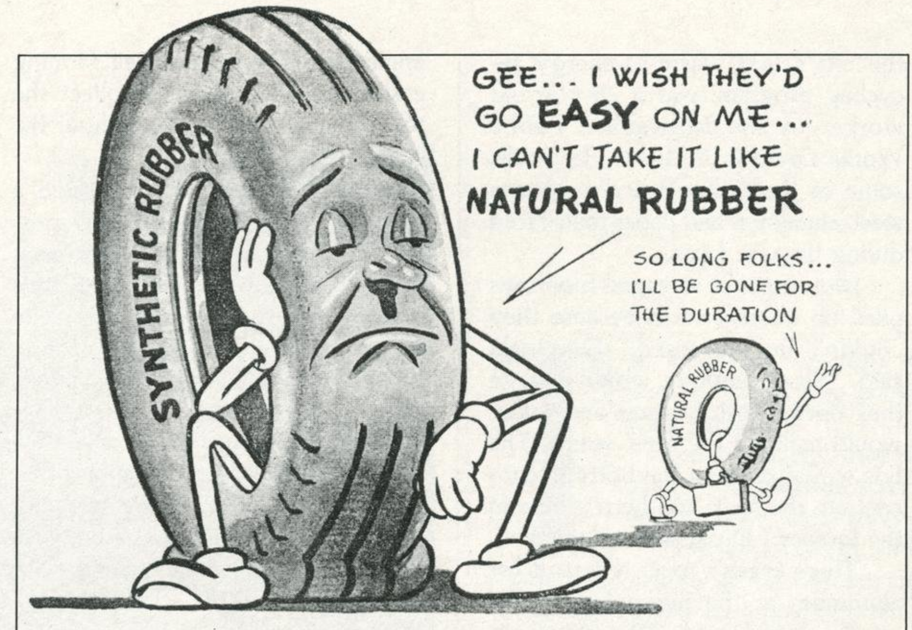
In La Crosse, the Civil Air Patrol scoured the landscape from the air, spotting abandoned cars and tractors in farm fields.

Retired Col. Ralph Olsen, a member of the Cedar Lake Property Owners Association recycling committee in Washington County, remembers his wartime work with the Boy Scouts of America.

"Every kid owned a wagon back then, and we went door-to-door picking up newspapers, old tires and anything else people could spare," the former Troop 29 scout said. "We all got medals from the Army and the Navy commending our efforts."

As the war dragged on, Olsen later volunteered as a "block captain" at North Division High School in Milwaukee. He was assigned a four-block territory and went from house to house once a month collecting scrap. Olsen was entering his senior year in August of '45 when nuclear clouds mushroomed over Hiroshima and Nagasaki.

Wartime recycling drives, spurred by wartime patriotism, died when the fighting ended. The munitions and plane plants closed. Rosie the Riveter went back to the kitchen.



THE STATE HISTORICAL SOCIETY OF WISCONSIN

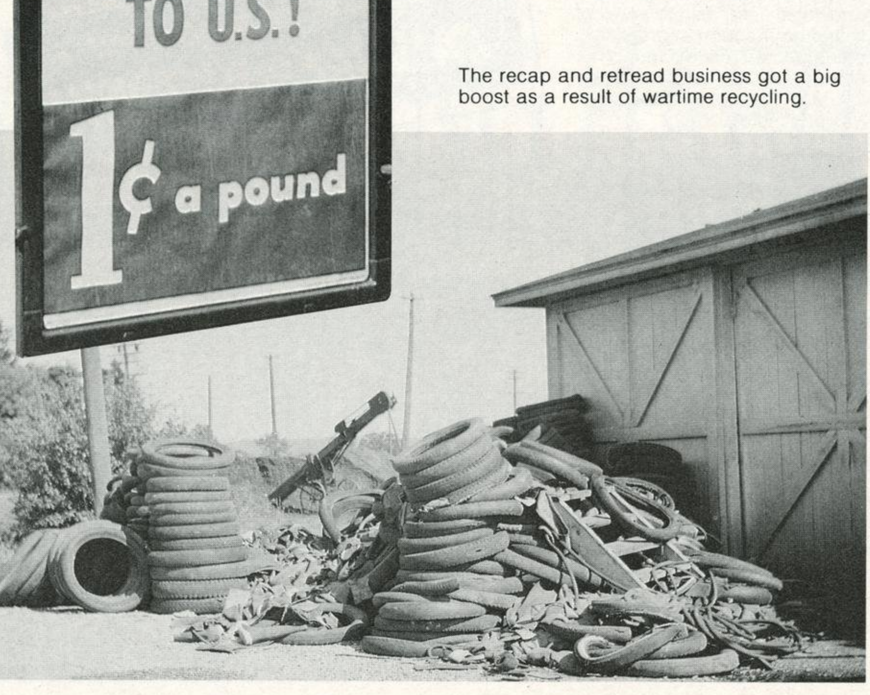
Recycling creates new challenges and opportunities. When natural rubber was diverted to the war effort, car owners had to make due with nascent synthetic rubber. The early synthetic substitutes were less durable. Today's synthetic tire composites are much more durable and elastic than natural rubber.

After the War, conspicuous consumption

By the 1950s, we had not only forgotten about recycling, we made matters worse. Improved canning technology and designs that produced disposable food containers for GIs overseas were applied to the civilian food packaging industry. An age of convenience was born; Americans plunged into throwaway lifestyles. Packaging and product consumption increased nearly five percent annually following the war; 63 percent per person between 1958 and 1976. The postwar baby boom aggravated this condition: More people created more trash, pushing us closer to today's garbage crisis.

Twenty-five years after World War II, Earth Day rekindled the virtues of frugal living and sparked grassroots recycling drives. In 1975, Wisconsin's short-lived Solid Waste Recycling Authority set out to acquire, construct and operate recycling facilities. When prices for recyclable goods dropped, enthusiasm wore off. Without strong incentives to create markets for recycled materials, the Authority could not sustain recycling ventures.

Interest in recycling slowly grew through the early '80s, prompted by



PAUL J. ALEXANDROFF COURTESY OF THE MILWAUKEE PUBLIC MUSEUM

The recap and retread business got a big boost as a result of wartime recycling.

anti-landfill sentiment, bottle bills and the energy crisis. By 1985, more than 500 recycling programs operated in Wisconsin. Since Wisconsin's first recycling law was enacted last year, recycling plans were launched in every municipality.

NAVISTAR ARCHIVES

Recycling habits were reinforced in many ways. Block Captain Dale Thomas pinned a MacArthur button on implement dealer Charles Landaal for recycling metal scrap from Waupun area farms.

Sort it out

What lessons do past recycling experiences teach that can guide better programs today? The war drives used national defense to convince the country that recycling was a daily necessity. Increasing waste volumes, environmental contamination, higher disposal costs and fewer landfill sites also threaten our stability today.

LESSON 1:
Use existing volunteer groups.

Wartime recyclers built community support and volunteers into their plans. The most effective recycling programs tapped into existing organizations like schools, houses of worship and civic groups rather than building separate recycling constituencies.

LESSON 2:
Support the entire recycling cycle.

Recycling failures during WW II clearly show that government programs should fortify all the links in the recycling chain — changing consumer habits, separating wastes, collecting wastes with existing equipment, working with the scrap business and fostering new markets.

LESSON 3:
Ease the flow of goods in the marketplace.

Wartime scrap drives showed that the federal government could have an important role in easing the movement of recyclable goods from the consumer back to the recycling marketplace. Providing low-cost curbside pickup, funding drop-off services, subsidizing transfer stations and underwriting long-distance hauling from communities to the marketplace can stimulate the recycling economy.

LESSON 4:
Regularly remind people that recycling is important.

People will recycle materials if the recycling process is convenient for them. Wartime recycling was bolstered by continual publicity linking participation with patriotism. Today's publicity efforts should search for similar, strong appeals. Whether the incentive is economic, a concern for future generations, a fear of environmental contamination or some other concern, recurring publicity should be based on real community concerns discovered through personal contacts.

LESSON 5:
Prepare the public for stockpiling.

Current recycling law in Wisconsin bans certain recyclable materials on a timetable. Lawmakers recognized that the plan would likely lead to stockpiles of these goods as recycling markets established. Wartime experiences show some danger in stockpiling materials in communities. Stockpiles can lead the public to falsely conclude that the need to recycle is phony. Publicity efforts should prepare the public for stockpiling. At the same time, lawmakers should consider whether storage facilities should be subsidized to bolster markets, as they are for food commodities.

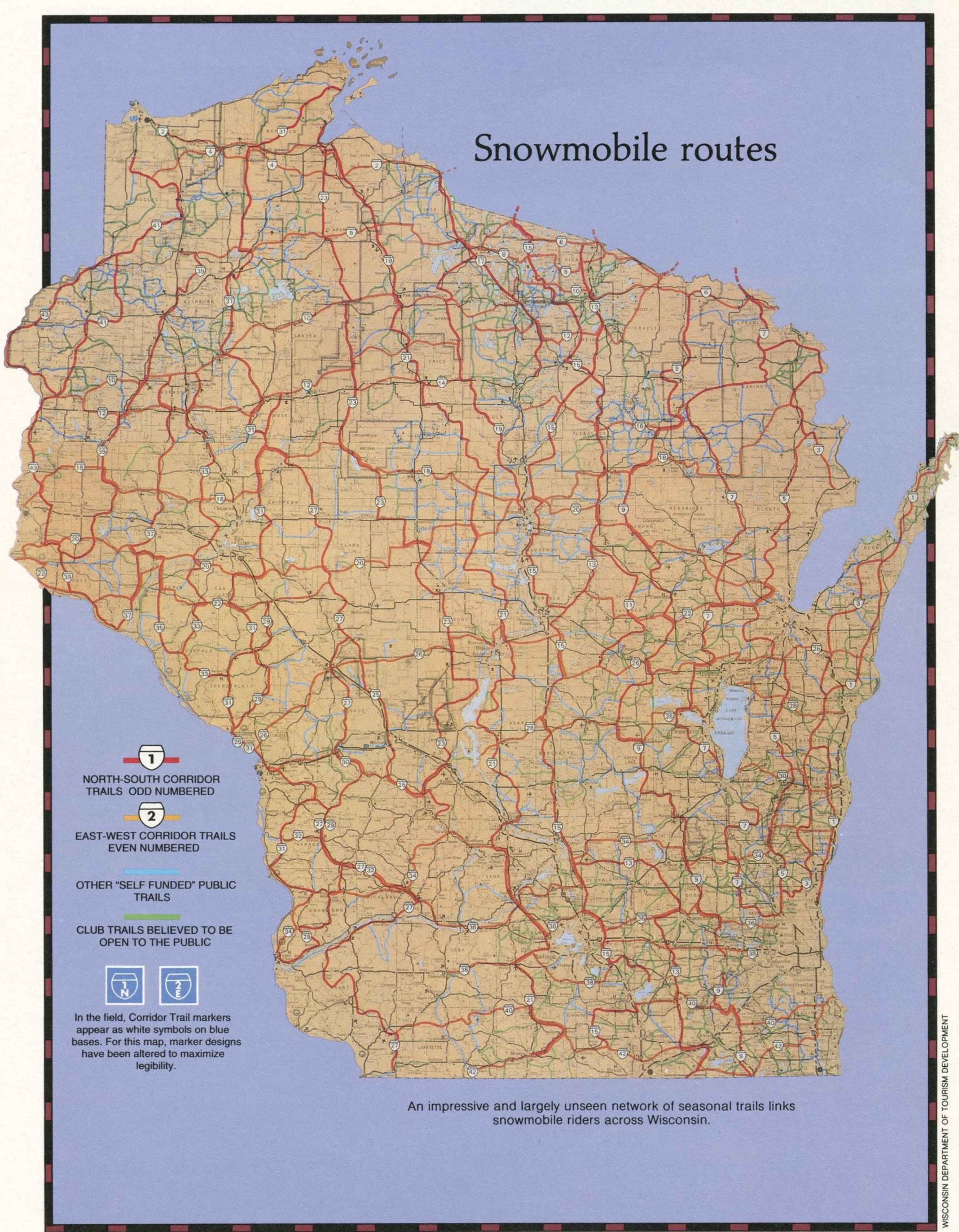
LESSON 6:
Work with manufacturers and business.

Manufacturers need to be included early in recycling plans so they can retool or revise processes to accept a greater percentage of recycled materials in their products. Economic incentives should keep the costs of recycled materials lower than the price of comparable virgin materials.

A big challenge remains to convince people that recycling and resource conservation is fundamental to sustaining our lifestyles. Worldwide pressures will not allow a weaker United States to continue consuming a disproportionately large share of global resources. Recycling means more than rinsing out milk jugs and squashing beer cans. It includes changing what we buy, and how much we buy. It's reducing the amount of products and packaging that enter our homes and go out as trash. It's trading a throwaway lifestyle for a waste-responsible one.

Fifty years ago, war drives proved that motivated citizens and organization will get the job done. If patriotism worked in 1941, concern for resources, economy, our land and how much garbage it can bear must work in 1991 and beyond. □

Writer and vocalist Jori Lenon researched and wrote this article for DNR's recycling information program.



An impressive and largely unseen network of seasonal trails links snowmobile riders across Wisconsin.

An unseen web of winter

They fight an image as noisy recreationists, but snowmobilers work quietly and steadily to link ribbons of flat, white trails.

Bruce Neeb and
David L. Sperling

Last November, Jerry Krisch and members of Stoughton's Viking Snowdrifters surveyed the landscape at a local country club. Thin snow cover from an early winter storm was melting. The dwindling snow revealed an unhappy surprise — divots on the fairways that were not caused by late season hackers; gouges on some greens that had the distinct look of snowmobiles.

BRUCE NEEB

Jerry Krisch.

"A few people simply didn't stay on the trail," Krisch recalls. "They were all over the golf course. They'd driven on the fairways, the driving range and, unfortunately, did some damage to the greens. It was just a mess. These were restricted areas. Trail markers were in place, the golf course managers had instructed visitors to stay on the trails."

The golf course owner just couldn't afford that kind of damage again. He made an unhappy decision. The 1½-mile section of snowmobile trail that crossed part of the country club for years would be closing.

Krisch thanked the manager for his past cooperation and offered the club's help to make amends.

Now Krisch would spend time poring over local plat maps, talking with his neighbors and phoning local property owners to find an alternate route. If he was successful, the Viking Snowdrifters might have to spend evenings and weekends brushing out a new trail, smoothing land, sinking signposts or installing new gates. If he failed, this would become one more dead end.

"You're stuck," Krisch lamented. "Your trail ends right there. We put up signs that say 'Trail Closed,' and people have to turn back." "[Careless riders are] breaking links in a chain that forms an entire trail system.

Krisch thought about the needless work joyriders had caused as he prepared his club for the bad publicity that was sure to follow.

"We don't get any good press on it, that's for sure," Krisch said. "Problems like this get to the front pages and get aired on television and radio.

"In this case, four individuals were responsible for the damage." Right away, people will associate this with snowmobiles and the reputation of all snowmobilers will suffer.

"It's difficult to overcome that. A lot of times you can't convince people that it's just a few people out there ruining it for everybody. Other counties have the same problem from just a handful of people," Krisch explained.

DNR PHOTO

A network of four-month byways

By contrast, thousands of snowmobilers put in time and energy building a network of off-road trails that are rarely seen by the public and are only used between December and March.

"It's pretty impressive," states Larry Freidig, who coordinates the grant program for motorized recreation in DNR's Bureau of Community Assistance. "Wisconsin's snowmobile trail network is probably the largest in the nation and the vast majority of it was built by volunteers."

Even those who don't snowmobile have to be impressed by the trails these volunteers have linked. The state snowmobile trail map colorfully displays the intricate network that links these off-road highways — red lines mark north-south

Better machines and warm, lightweight clothing make snowmobiling more comfortable and less tiring every year.

corridors, orange lines highlight east-west routes and green lines note scenic trails built by local snowmobile clubs for public use. The system links 13,300 miles of trails on public and private lands, and 640 miles of trails on state properties.

It wasn't always that way.

Just 20 years ago, the Department of Natural Resources started working with counties to provide snowmobile trails through county forestlands. The trails provided short, scenic loops. To gain trail access, snowmobilers either lived next to the trail or hauled a snow machine by trailer to the trail head.

If you look at a map of that early system, it looks like little strands of spaghetti spread randomly across the state — the trails didn't intersect and they were often circular loops, Freidig said.

In those days, a 20-mile loop was considered a long, full-day ride.

As snowmobiling became more popular, riders formed clubs in their communities. "Hard-working snowmobile clubs are still at the core of the trail system," Freidig said, "and the individual club member dedicated to his or her hobby is the workhorse of the network."

He explained how snowmobile clubs worked to extend the trail system across private property and commercial forests that could hook up to the county forest trails.

The groups were enthusiastic, but communities didn't realize how many other groups were also building trails for their members. Once the county and private trails started linking together, and trails from adjoining counties connected, the courses started to straighten out. The major north-south, east-west routes, called "corridors" act as longer distance roads providing public access a huge variety of routes. Many additional trails built by local snowmobile clubs are open for public use, offering riders the opportunity to take scenic loops and side trips.

Snowmobile clubs build routes and bridges using their own registration fees and fuel tax funds.

Registration fees fund trail work

Many of the snowmobile trails are funded by state grants drawn from snowmobile license fees and fuel taxes. "DNR doesn't formally sponsor most of the trails," Freidig explained. "That's the county's job. We give grants to the counties and they, in turn, contract a lot of the trail work through local clubs or associations of snowmobile clubs." Counties can receive up to $165 per trail mile per year for maintenance — removing brush from the trail, erecting signs, repairing bridges and grooming trails. DNR recreation specialists provide guidelines for consistent trail signs and markers, but "it's the counties and clubs that set up and maintain well-groomed, safe snowmobile trails," Freidig said. Counties can also receive 10¢ per rod (16½ feet) from registration funds and fuel tax funds to cover costs of seasonal easements when trails are expanded. This year, 400 miles of new trails will be added to the system.

Still, Freidig cautions, "It takes more than money to keep the trails open. Without the extra effort this year by snowmobile clubs and their county trail coordinators, riders would notice significant gaps this winter."

Trail work begins with a plan worked out with the county trail coordinator. "We lost a couple of segments in the Stoughton area this year," said Ken LePine, trail coordinator for the Dane County Parks Department.

Trail routes can change for a variety of reasons, he explained. Land may be planted in a fall crop like winter wheat or a year-round crop like trees that can't take snowmobile traffic. Property can be developed for homes, businesses or roads. New landowners may not want snowmobilers crossing their property, or a few bad actors may leave the trail and go where

Signs mark trails through fields, woods and along trails that parallel roads.

landowners don't want them.

The trail is again intact, LePine noted, but it took a lot of work by the local snowmobile clubs meeting with property owners, establishing relationships and making arrangements to get trail work done without interfering with the landowner's plans.

Krisch said his group met with landowners immediately after the incident to get permission for new trails and secure easements to use the property this year. Easements provide a means of reimbursing property owners and legally protecting them against liability claims for injuries the public may incur while using established trails.

"These are seasonal trails, and permission for public access to them is limited to the winter snow season," notes Freidig.

"You've got to have alternate routes in mind and anticipate problems," said Jerry Krisch.

"We're familiar with all the landowners who lived near the golf course," Krisch continued. We came up with some plans for re-routing the trail and called the property owners. Most of them, farmers in particular, aren't reluctant at all to give permission to let snowmobilers on their land, provided the snowmobilers stay on the trail. In this case, property owners realized the problem had been caused by just a few people, and they were willing to help us out."

"The golf course route was very scenic, and we hated to lose it," Krisch said. "There are some frozen ponds back there and a marsh. We don't have that anymore. The route we have now is basically a straight trail that crosses a couple of fields, but that doesn't mean we just laid trails where we felt like it."

There are other considerations.

"Number one, we want to make sure we're not crossing any sensitive agricultural areas," Krisch said. "If we're forced to, we'll stay along the perimeter of a field or use an access lane the farmer travels with a tractor. If we have to go alongside the road, we can do that. We want to stay away from houses, barns and buildings as much as possible and we don't want to run close to residential areas."

DON BRAGG

Trails need to be maintained and groomed throughout the four-month season. DNR staff groom a trail in the Northern Highland American Legion State Forest.

Most of the trail work is done in the fall after the leaves fall, field work is done, corn and other crops are harvested and most hunting seasons are over.

Freidig explained that brushing work starts after the growing season to stay out of the way of landowners and to cut at a time of year when branches, shrubs and grasses will not grow back before the start of the snowmobiling season. "If you do your repair work just before the snowmobiling season, it will stay put for the four months of snow cover," he said.

Repairs typically include removing fallen trees, inspecting and restoring signs, adding new signs, discing bumpy spots, inspecting bridges, checking gates and firming up fence jumpers.

During the snowmobiling season, trails are inspected and groomed at night when traffic is lower. The snow can be groomed, tracked and will set up before morning. The number of users and the temperature determine how often the snowy trails will need tending.

Hotdogging last winter

Normally, we don't run into bad situations like we had on the golf course," Krisch remarked. "It just happened last year because we had a sudden, early snowfall.

"Even though we had a foot of snow, a lot of the trails weren't officially open yet. In our county, the snowmobilers' association makes an official announcement once all clubs have completed brushing and put up all the trail markers.

"Even if there's a little snow, there are other reasons the trails may not be ready for traffic. A farmer may have unpicked corn or a sensitive hay crop." Krisch added.

We had some other damage to alfalfa fields last winter, and there too, the trails were marked, Krisch continued. When heavy snows regularly belted southern Wisconsin last year and lighter than normal snows fell up north, southern counties saw a dramatic increase in the number of out-of-state snowmobilers.

"These are folks who would normally go to the northern part of the state," Krisch observed. "Up there, a snowmobiler can run wide-open, real fast on some of the big fire lanes and town roads that are closed in the winter. These people are not used to the agricultural, metropolitan situations you find on a lot of trails in the south. They turned up, hit the trails early and created havoc. I guess you could call it over-exuberance," Krisch continued.

"I hate to say it, but I honestly believe the local Wisconsin residents may be more familiar with the effort it takes to work with local landowners along the trails," he reflected. "People here take snowmobile safety programs at an early age and, as a result, I think we have more respect for the trails and the property owners."

Appreciating landowners

Snowmobile clubs across the state have found innovative ways to thank landowners who open up parcels for trails. Some hold bake sales and use the proceeds to settle any damage claims. Many hold appreciation banquets.

ROBERT QUEEN

The Arlington Prairie Drifters host a pig roast to thank landowners along the trail. Clubs work with property owners to route trails and maintain them while respecting private property.

"Other clubs give out canned hams or gift certificates, but we think it's more fun to meet with the landowners," said Kim Johnson, President of the Arlington Prairie Drifters club. "We hold a pig roast and Las Vegas Night, where people can have fun gambling with play money." At the end of the evening, prizes donated by local businesses are auctioned.

Separating the machines from the image

Technical improvements have made both snowmobiles and the snowmobiling experience more enjoyable for people of all ages.

"The machines are quieter, more reliable and absorb bumps better than they did even 10 years ago," Freidig noted. "The combined changes in snow machines, winter clothing and linked trails have changed the nature of the snowmobiling experience. Riders can now comfortably tour from one area to another without seeing many signs of civilization.

"It's nothing to consider a 150-mile trail day, weekend tours and longer trips," Freidig added. "Better signs can guide visitors from the trail to amenities in nearby towns. Detailed trail maps produced by each county can guide riders from trails to scenic overlooks and amenities. Lightweight warm clothing adds to the enjoyment. These changes are making snowmobile vacationers an important clientele to tourism businesses that cater to winter visitors, Freidig added.

Safety instruction is recommended for sledders of all ages.

DNR PHOTO

Exclusive access to trails and behavior problems caused by a few snowmobilers have made all snowmobilers a source of contention in some communities. Cross-country skiers, snowshoers and winter hikers also vie for space on public trails.

Snowmobilers who use their machines for winter booze cruises led to calls for greater law enforcement on these off-road trails. Responsible sledders who enjoy snowmobiling as family outings feel especially threatened by the alcohol abuser. Families who share the trails with a few drunks become unwary victims in snowmobile accidents and injuries.

Snowmobilers increasingly self-police other riders to register their sleds. Each registered snowmobile brings $10 registration fee and $15 in gas tax money that could be used for trail maintenance, trail enforcement, supporting 4,000 volunteer safety instructors and other activities that enhance their sport.

Enthusiastic riders work to entice younger people to try this winter activity and enjoy social functions like holding meetings, sponsoring chicken dinners, planning group vacations and working together to maintain trails.

Clubs across the state are working to build incentives for safe behavior on trails, to respect private property and to introduce more people to the vistas and experiences that can be enjoyed on a snowmobile. By sharing their expertise, snowmobilers could help other winter enthusiasts, like silent sporters and hikers, mimic their enviable network of recreational trails. □

Bruce Neeb, public information specialist, explains a variety of environmental and recreational issues for DNR's Division of Enforcement. David L. Sperling edits Wisconsin Natural Resources *magazine.*

Readers Write

STURGEON SKETCHES

I recently came across the nifty sketch book from your April issue on the lake sturgeon while sorting through pamphlets at High Cliff State Park. As a summer employee for the DNR, I found the booklet most useful in describing the lake sturgeon to visitors.

I lived 12 years on Lake Winnebago, spent sub-zero winter afternoons ice fishing with my father for the aforementioned animal, yet had not a clue about the fascinating history of the mighty sturgeon.

Anyone can write a dossier on the lake sturgeon, but not just anyone can sketch them. Brian Strassburg's drawings are truly unique, and it is plain as day to see how these are worthy of awards as advertising art. His awards in the advertising field give this aspiring Marquette advertising student hope for a career in the competitive field.

Sarah K. Werblow
Milwaukee, Wis.

I really enjoy your state magazine and its valuable information.

Recently I shared with my class the Winnebago Lake Sturgeon Sketch Book by Brian Strassburg and the kids adored it. We have a vested interest in marine life and our environment — mentally, physically and socially.

Please let me know if I can purchase or have some of Brian's sketch books for my class.

Any resource information is appreciated.

Theresa Strojny
Our Lady of Fatima School
Lafayette, La.

Teachers may request individual copies from DNR's Aquatic Education Program, Box 7921, Madison, WI 53707.

Enclosed is a photo of a plant the likes of which I have never seen before. It's about two feet tall, and I found it growing among ferns and raspberry plants on land I own east of Hayward. I've looked in books and have found nothing even close to it in appearance! I saved the seeds that developed from the red, berry-like clusters and now have a couple dozen seedlings started.

What am I growing, anyway? Could you find someone who knows?

Greg Topp
Hayward, Wis.

We contacted June Dobberpuhl, a DNR botanist who works on the Natural Heritage Inventory, for a positive I.D. June says the plant is Chenopodium capitatum, *commonly known as Strawberry Blite. It's a member of the goosefoot family of plants. "I've seen this growing in northern Wisconsin along logged or burned areas," says June. "The plant communities establish in spots that have been artificially disturbed. It's apparently native to our area, but this species is also found in Eurasia."*

Now, regarding that gaggle of goosefeet growing in your greenhouse: Because Strawberry Blite grows fast, produces abundant seed and can take over an area, some people call it a weed. Keep an eye on your plants to prevent them from spreading.

TRAVELER FAN

Please bring back *Wisconsin Traveler*. We have no other source for information like this. We are retired and have visited a good share of the places highlighted in the past three years. We would be willing to pay more for a subscription. Thank you, Maureen Mecozzi, for a job well done.

John Welsh
Rockford, Ill.

We need financial support from our partners to re-start Traveler. Nevertheless, the letters we receive from Traveler fans help build support for this section.

DRAGONFLY HUNT

Your article on dragonflies in the June issue of *Wisconsin Natural Resources* magazine was most interesting and informative. I enjoyed slogging through the damp world with you in your quest for specimens.

I was interested to read that dragonflies are protected in Germany. I wonder how many years are "we" away from such management practices?

Wish I could join you on one of your forays and maybe earn a turtle sundae!

Edward H. Bacon

STICK-TIGHT SALAD

I enjoyed the well written article, "Of burs and beagles" in your August issue.

I'd like to contribute an additional tidbit, actually a fine morsel on the topic.

I have no knowledge if other people make use of the burdock as dinner fare, but I can tell you that as an Italian kid growing up in Chicago with southern Italian immigrant grandparents, more than dandelion salad found its way to the table, and did abound in the vast prairie that reached almost to our door.

Here is my wild veggie recipe I'd like to submit to you and my fellow readers:

*Gardunes**

Gather a couple of shopping bags of burdock stalks around mid-May. Discard the elephant ear-like leaves. Wash like any vegetable. Par boil until limp, let cool. Dip them in egg and saute. Use imagination in seasoning. Here are two of our favorites: Italian bread crumbs with grated parmesan cheese added, or add cajun seasonings to the breading. *Nota bene:* When you go out hunting these, beware of what herbicide/pesticide sprays may have been applied. You need not worry about the cockleburs, except some left over from last year. They will not have formed at harvest time. Now be sure to pick leaves early in the season as the late burdock and "second crop" tend to be very tough.

**Gardunes:* an Italian dialect word for burdock.

Vince Scorsone
Northbrook, Ill.

1991 WISCONSIN NATURAL RESOURCES INDEX

Starting with this issue, *Wisconsin Natural Resources* magazine will annually publish a subject index of our stories each December.

A subject/author index of our stories from 1977 through 1990 is available for $1.60 including tax and handling. Send checks payable to Wisconsin Department of Natural Resources to *WNR Magazine Index*, P.O. Box 7921, Madison, WI 53707.

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Alaska to collect eggs, incubate, hatch and prepare these birds for the wild. During the past three years 129 (93 percent) of 140 Alaskan swan eggs have successfully hatched at the Milwaukee County Zoo. An enthusiastic group of zoos, private businesses and game farm managers joined this project to restore trumpeter swans. This year's eggs came from Alaska, private game farms, and captive pairs in Milwaukee and Baraboo.

Training captive birds for life in the wild is exciting, challenging and time-consuming. The captive rearing program at General Electric's Medical Systems ponds in Waukesha is producing healthy birds. In northern Wisconsin, enthusiastic researchers still don swan costumes and act as surrogate parents, teaching young trumpeters skills they will need to feed and survive. Five broods of decoy-reared cygnets were raised this year at the Mead Wildlife Area near Milladore, northwest of Stevens Point.

We will expand the search for additional sites where cygnets can be raised using decoys. Eighteen of the trumpeters raised last year (now old enough to be called "subadults") returned to the same area of Crex Meadows where they were raised with decoys last year. Subadults from previous releases are competing with yearling cygnets for the same territory. It's obvious that we'll have to raise birds in other locations to encourage birds to populate a wider territory as they reach breeding age.

The real test for these trumpeters comes each fall when they migrate south for the winter. Though their instincts tell them to migrate to places that provide food and cover, these artificially-raised birds have no pre-determined wintering grounds and no adults to guide them. We had reports last winter that trumpeters raised in Wisconsin had migrated to southwestern Indiana, east central Illinois and southwestern Wisconsin; the previous winter, trumpeters migrated north of Dallas, Texas! Education programs throughout the midwestern flyway are needed to protect these rare birds and ensure that they are not mistaken for species that can be hunted.

There are other perils along the way: Wisconsin-raised birds may not be sufficiently wary of predators. Ingesting just a few pellets of spent lead shot can fatally poison trumpeter swans. The subadults may have to try several wintering grounds before they find safe haven with plentiful food and cover.

Of course, even if they reach breeding age, there are no guarantees that the swans will breed successfully. In addition to our rearing programs, we track the progress of young trumpeters that return to eastern Minnesota and western Wisconsin each year. This compressed history of a few birds demonstrates the challenges.

In 1985 or 1986, a male trumpeter swan wearing neck collar 80NA flew into St. Croix County from Minnesota, probably looking for a mate. To increase his luck, Minnesota biologists brought a wing-clipped female to Oakridge Lake in 1987. She proved to be an unfit mate. In 1988, 80NA returned to Oakridge Lake and was offered another wing-clipped female, Red 25 from Minnesota. They paired and built a "play nest" though the female was probably too young to bear young in 1988. The following winter, Red 25 died from lead poisoning. In 1989, a third female, 01NC was released on Oakridge Lake. She also paired with 80NA and built a "play nest."

TRACEY TEODECKI

These cygnets beat the odds and survived their first spring and summer. The true test comes when they migrate south for the winter and find food and cover without any adults to guide them.
Their red bills turn black during their first winter.

Also in spring 1989, another pair of Minnesota trumpeters, 14NC and 42NC, found a beaver pond in Polk County to their liking. They bred, nested and successfully raised two cygnets, 41KT and 10KT, to flight stage. These were the first wild trumpeter swan cygnets raised in Wisconsin in more than 100 years!

The spring of 1990 looked promising. Trumpeter 80NA and his mate 01NC returned as a pair to Oakridge Lake. They had six eggs — five hatched and only three reached flight stage. Another swan pair nested near the St. Croix River in western Polk County. We thought 14NC and 42NC would return to the beaver pond, but the female of the pair (42NC) never reappeared.

This spring, 14NC had paired with a female sporting Minnesota DNR's orange wing tag 128. They nested on a flowage west of Turtle Lake in Polk County and hatched two young.

You can appreciate how trumpeter swans will restore their population on their own timetable. It will take time and sustained commitment to repopulate Wisconsin with native birds. Thanks to you and others who donate to the Endangered Resources checkoff, we can continue our efforts to establish at least 20 breeding pairs of these magnificent birds by the turn of the century. □

Sumner Matteson leads the Bureau of Endangered Resources Trumpeter Swan Recovery project. Bruce R. Bacon researches endangered resources from DNR's Brule office.

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