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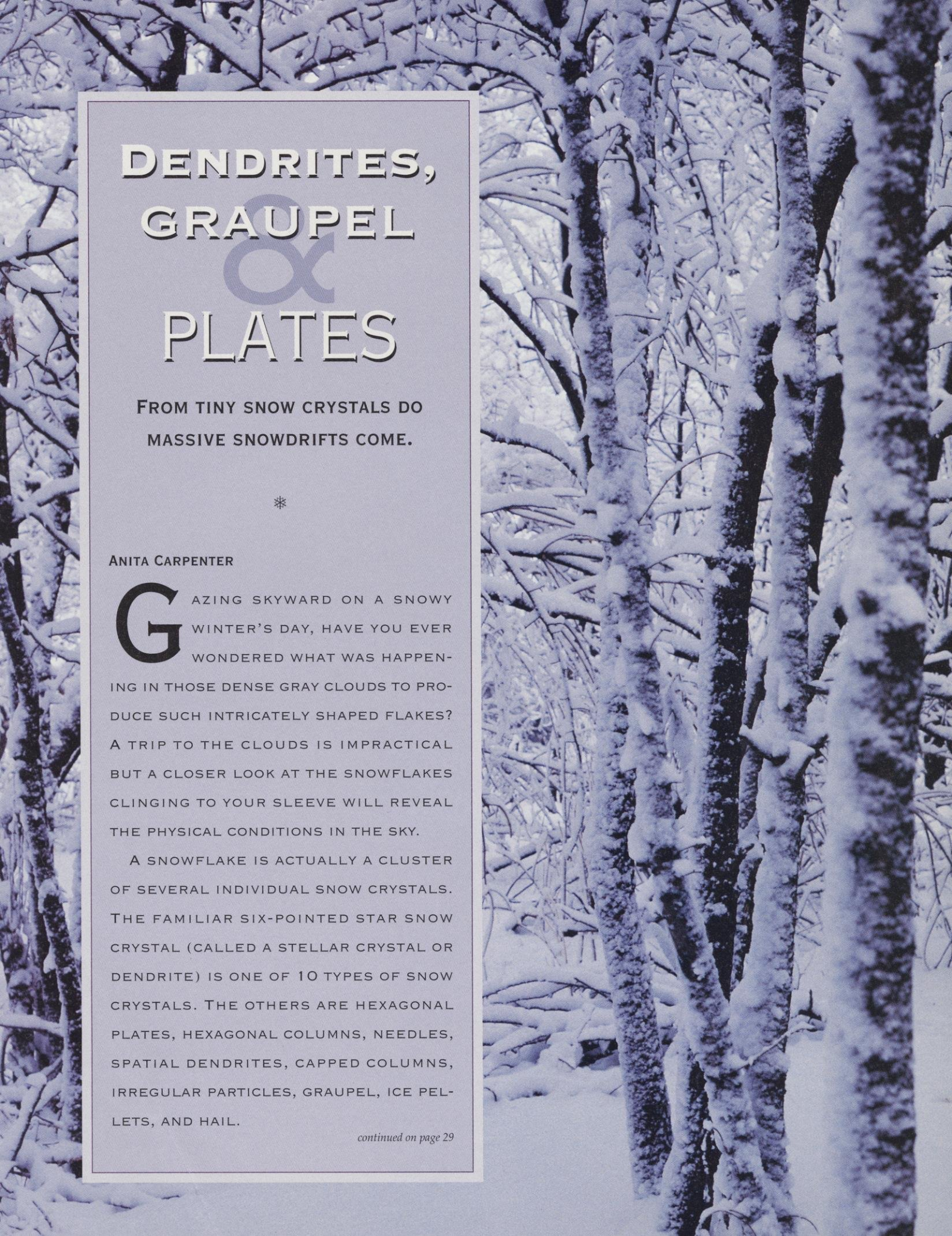
WISCONSIN NATURAL RESOURCES

February 1995 $3.00

Winter rabbit hunts

Make maple syrup at home

Wisconsin Traveler returns!



Dendrites, Graupel & Plates

From tiny snow crystals do massive snowdrifts come.

❄

Anita Carpenter

Gazing skyward on a snowy winter's day, have you ever wondered what was happening in those dense gray clouds to produce such intricately shaped flakes? A trip to the clouds is impractical but a closer look at the snowflakes clinging to your sleeve will reveal the physical conditions in the sky.

A snowflake is actually a cluster of several individual snow crystals. The familiar six-pointed star snow crystal (called a stellar crystal or dendrite) is one of 10 types of snow crystals. The others are hexagonal plates, hexagonal columns, needles, spatial dendrites, capped columns, irregular particles, graupel, ice pellets, and hail.

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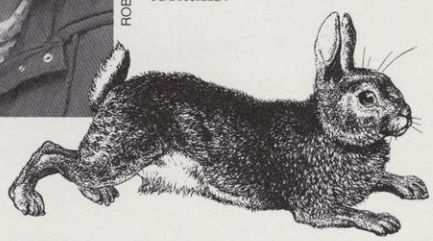
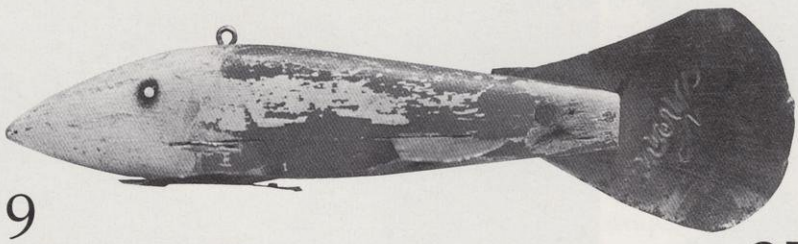
ROBERT QUEEN





ROBERT QUEEN

STEPHEN J. LANG

FRONT COVER: Cardinal *(Cardinalis cardinalis).*
GREGORY K. SCOTT, Nature Photos, Gilman, Wis.

BACK COVER: Canada geese *(Branta canadensis)* in a snowstorm at Bay Beach Wildlife Sanctuary, Green Bay.
DARRYL. R. BEERS, Green Bay, Wis.

The sugaring tradition

A family enjoys sweet memories while making maple syrup — and tells how you can start a sugaring tradition of your own.

Ruth Jannusch
Photos by Robert Queen

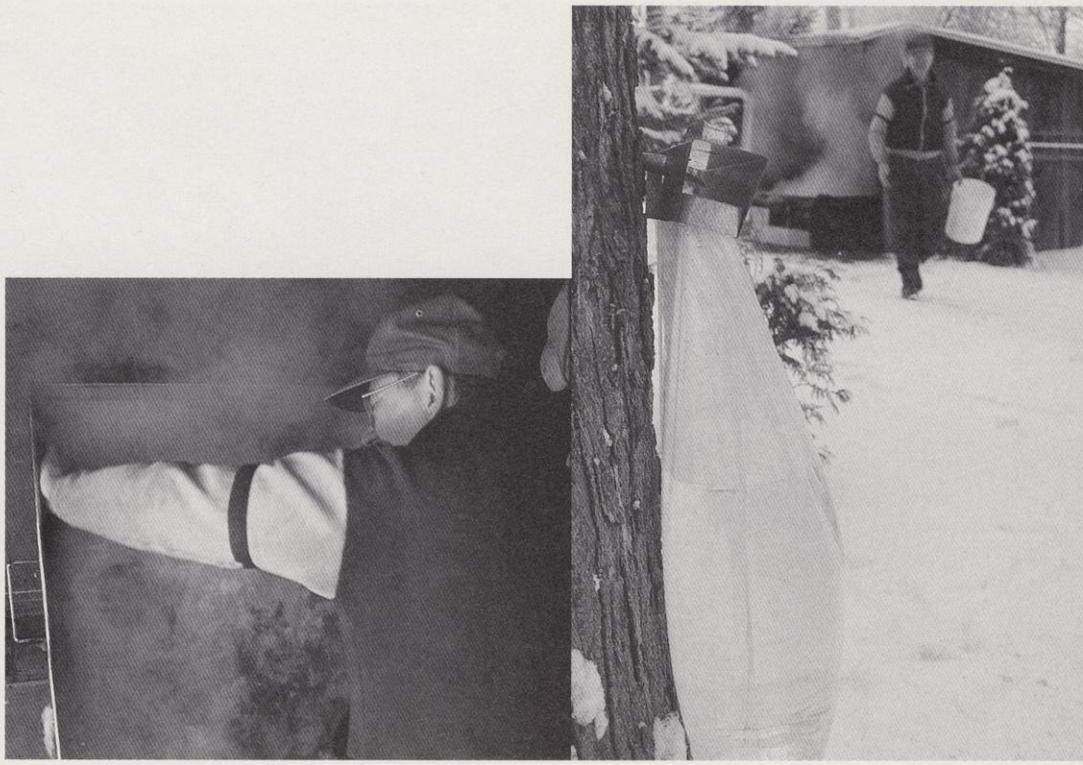
Follow Ruth Jannusch's step-by-step advice for award-winning syrup. Her's won the blue ribbon at the Brown County Fair four years in a row.

Early each spring, my husband Mert and I would drive past the commercial maple sugaring operations in northeast Wisconsin, wondering if it would be possible to make our own syrup from the trees growing around our house in Green Bay. Mert would recall boyhood memories of his dad sugaring out in the woods in the snow, and of the sweet smell in the kitchen as his mom boiled down the sap...and finally we knew we just had to try.

That was several years ago. Now that we're old hands at producing (and consuming!) this delectable Wisconsin product, we'd like to share our experience with you, and encourage anyone with a healthy stand of maples and some spare time to take part in a seasonal ritual hundreds of years old.

Rounding up the right tools

We assessed what equipment we would need by activating Mert's memories of 40 years previous and by obtaining some books on maple sugaring. Some things we had on hand could be adapted to sugaring, but there



Mert Jannusch handles the evaporator pan. He will cook 60 gallons at a time and may process 10–20 batches a season.

(right) Collecting sap. Home tappers can buy the same sealed plastic bags the pros use. Plastic bags keep the sap clean and keep out water and bacteria that can sour the sap.

were two main items we lacked: spiles (the spouts used to tap the trees) and evaporating pans.

We talked around and found a local friend with some old commercial metal spiles. The spiles were rusty from not having been used for a while, so we boiled them in vinegar to clean them.

Mert recalled that his dad had borrowed evaporating pans from a neighbor farmer and worked on halves with him. Both men were now dead, but Mert talked to the farmer's son and found he still had the pans and would lend them to us. These were two 2 feet by 4 feet rectangular pans of English tin, about 6 inches deep.

We used these pans for the first year, after which our friend wanted them back. We then decided to have a pan made for us locally. We couldn't find any English tin, so we settled on stainless steel even though it doesn't conduct heat as well as tin. Our new 4 by 6 pan had four handles welded on the sides to ease lifting it off the fire. We also incorporated a gate or spigot into one corner to drain off the syrup. The pan held 60 gallons of sap and it worked well for us.

We also needed containers to collect the sap. Our first year, we used whatever was on hand — ice cream buckets, five-gallon plastic pails, galvanized two-and-a-half gallon pails, one-gallon glass jugs, and plastic milk bottles. The milk bottles and ice cream buckets tended to blow off the spiles when empty. The containers without lids collected rain, snow, pieces of bark and other debris along with the sap. The next year we invested in the plastic bags used by commercial producers. The bags kept the sap clean and the water out. According to the experts, the sun shining through the plastic helps kill the bacteria that can sour the sap. The bags rarely blew off the spiles.

To store the sap until it was time to cook it, we bought plastic garbage cans with lids. They were light in weight, easy to lift and clean, and wouldn't rust.

The cook shack

Before we could begin our operation, we had to decide where we would cook the sap. Many folks cook outdoors without any shelter of any kind. We had recently built a small three-sided shed to house our daughter's Volkswagon "bug" and thought this shed would serve well. Our daughter was very willing to park her car in the driveway for a time in order to enjoy maple syrup on her pancakes!

Inside the little shed Mert built a "U" shaped fireplace on the gravelled ground by stacking cement block two blocks high, using no mortar. He then stacked an inner lining of brick, also not mortared.

The evaporator pan was set on top of the "U" and leveled. The remaining opening was covered by sheet metal attached to a smoke pipe. The smoke pipe was secured by a metal clamp to the overhang of the shed roof. The open end of the "U" shaped fireplace was closed off by two removable pieces of sheet metal, by which we controlled the draft on the fire. With this placement, we could direct the steam produced from cooking away from the cooks.

Tapping the trees

We were now ready to start our adventure on the two acres of maple trees surrounding our home. When

was the best time to begin tapping? The operators of a local large sugarbush told us that they started by the calendar — around the middle of March. In later years we tried starting earlier when the weather seemed to promise an early spring, but we found that the best flow really didn't start until after the middle of March, bearing out the wisdom of the professionals.

We set out for the trees carrying containers to catch the sap, a hand brace with a 3/8-inch bit, a hammer, and a bucket of spiles. We read that one should choose the spot for boring a hole by lining up under a large limb and over a good root. During the time that we tapped we did not notice a difference in yield using this guideline.

We did follow some guidelines in choosing the trees to tap. Trees less than 10 inches in diameter (measured at 4 1/2 feet from the ground) should not be tapped. A tree 12 to 14 inches in diameter can sustain one tap. A 15- to 19-inch tree can have two taps, a 20- to 24-inch tree three taps, a tree 25 inches in diameter or more, four taps. Overtapping may damage a tree.

The 3-inch-deep holes should be pitched slightly downward and bored two or three feet up from the ground until the dark heartwood is reached. New holes in subsequent years should be six to eight inches away from the previous year's hole.

After boring the holes, we tapped in the spiles so they were seated snugly to the bark and we hung up the buckets. Out came the sparkling clear, slightly sweet sap, dripping about a drop every one to two seconds.

We found that the trees that had the largest, broadest crowns (those that were the least crowded) produced the most sap.

Collecting the sap

During our first year of collecting sap we kept a detailed record of temperature (a.m., p.m. and overnight), wind, cloud cover, snow cover, sap yield and number of taps. Of all the variables, it seemed the only consistent factor matching the difference in sap flow was the temperature. When it was above freezing during the day and below freezing at night the sap ran well.

To collect the sap we walked from tap to tap, emptying the containers on the spiles into two five-gallon buckets. Back at the cook shack, we poured the sap into the storage cans through a filter made of an old T-shirt fitted over the garbage can. The T-shirt filter had to be rinsed well after each day's use.

When the sap was really flowing, we would check the trees at least once and sometimes several time a day. The clear plastic container bags were a great help. We could see at a glance how the sap was running and what trees needed attention first when the run was rapid.

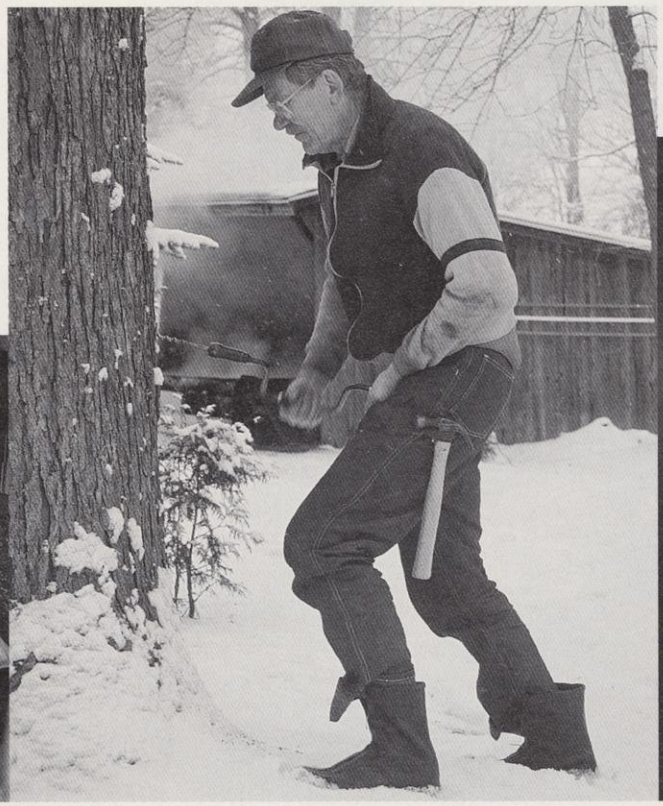
Walking about collecting the sap was pleasant. The daytime temperature ranged from about 20°F into the 40s — cool but comfortable. If the temperature remains crisp — not above 40°F — the sap will be fine stored outside. However, if things warm up for any length of time the sap may sour and turn yellowish, milky, or greenish. Keeping our sap in the shed out of the sun kept it cool.

The first year we tended 49 trees, 27 of them ours and 22 the township let us tap on land adjacent to ours. That

(left) The car shed turned cook shack for the sugaring season.

(below) Cement block, brick and sheet metal form a U-shaped firebed.

(right) Holes need to be bored at a set angle, height and depth to keep sap flowing without damaging the tree.



(below) Small batches heated in hot fires give maple syrup light color and a distinctive taste.

added up to 82 taps, from which we collected 770 gallons of sap in 37 days.

The neighbors watched our activities with interest. In following years, after the town property was sold, our new neighbors allowed us to tap their trees and we shared some of the syrup with them. The number of trees and taps remained about the same through the years, but we did experience variations in sap yield in different years — from 560 gallons one year to 1,170 gallons in another!

From sap to syrup

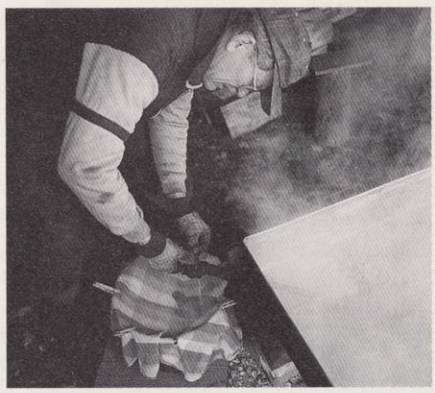
The object in cooking sap is to evaporate the water in the shortest possible time. The more rapidly syrup is produced, the lighter colored and more delicately flavored it will be. The distinctive flavor of maple syrup develops as it cooks; it is not in the sap as it comes from the tree. Here's our "recipe" for cooking sap:

1. Place evaporator pan on fireplace and fill with 55–60 gallons of sap. Measure depth of sap in the pan.
2. Build a fire under pan using small pieces of hardwood first to get it going hot.
3. Bring the sap to a boil.
4. Keep the sap at full boil, stoking the fire every 30–45 minutes. Open the damper tin only halfway to keep the heat in and the cold air out.
5. During the last hour of cooking, do not add any more wood to the fire! Watch carefully so the syrup does not burn or boil dry. We measured the depth of the syrup frequently to determine when it was ready. When it had boiled down to 1 inch, it was time to pour it off.

Mert would start cooking about 3 a.m. in order to be done around breakfast time. Occasionally friends joined him in the vigil over the steaming pan. They visited and talked together in a sweet-smelling, smoky atmosphere. One early morning he saw a fantastic display of rosy aurora borealis. But cooking sap isn't all sweetness and light: On another morning Mert came in to eat breakfast and just that fast the batch of syrup burned!

Next, we took the syrup off the fire:

1. Get a 12-quart canner or pot ready with a strainer. For a strainer we used a piece of an old flannel shirt held on the canner rim with spring-type clothespins.
2. Remove damper tin and place it directly on top of the fire and coals to cut down heat on bottom of pan.
3. Drain syrup through flannel into the canner to remove soot, ashes or any other foreign matter from syrup.
4. As soon as pan is empty, remove from fire, set on end, and wash out.



Syrup is strained outside after cooking to remove soot and ashes.

(below) As syrup is finished on the stove, it is filtered to remove solid bits of maple "sand."

(right) Hot water baths and home canning equipment can seal in syrup's sweetness indefinitely, but it probably won't be on the shelf long!

5. Take syrup into house for the final cook down.

The initial cooking was Mert's job; mine was the finishing. The 12-quart canner was almost full, holding about 2½ gallons of syrup. This would cook down by half in an hour or so. My routine was:

1. Filter the syrup again through a double layer of flannel clothespinned on the stand of a hand food mill.
2. Begin cooking. About halfway through, filter the syrup again, this time through a piece of felt pinned on the food mill stand.

   Filtering removes "maple sand" — a gritty substance that forms during the cooking process.
3. At first I used a candy thermometer to keep track of the syrup's temperature, which should be brought to seven degrees over the boiling point of water (about 219–220°F). I had a lot of trouble reading the thermometer through the steam. Right about that temperature, the syrup boils up. Mert told me to really watch it, because a pot can empty itself in no time, boiling over the side and making a sticky mess. (He recalled that it had happened to his mom.) I finally dispensed with the thermometer and settled on bringing the syrup just to the boiling-up point. Then, I turned off the heat.
4. We bottled the syrup immediately using regular canning jars, recycled juice bottles, and gallon jugs. We boiled the lids the same as canning lids before twisting them on.

Our whole family loved the sweet smell in the kitchen and those of us working with the syrup smelled sweet too. However, a kitchen is not the best place to finish the cooking. It would be better done outdoors, as the cupboards, counters and cooks get a bit sticky. I looked at it as an opportunity to start spring cleaning early.

We made 21 gallons of syrup and used one gallon more for making maple candy that first year. Over the years we averaged about 35 gallons of sap to produce one gallon of syrup.

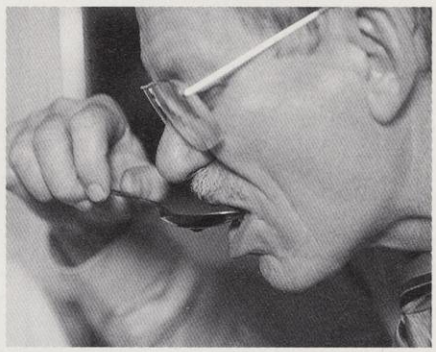
The season ends

When the maple trees start budding in April, the sap gets a disagreeable, bitter, "buddy" taste. Early prolonged warm weather can also produce an off-flavor even if the trees have not budded much. Watch out for this!

With the warmer weather, the maple sugaring season ends. We pulled the spiles and boiled them, washed up the collecting bags and containers, scrubbed up the evaporating pan, and stored everything. We dismantled the fireplace, storing the cement blocks, bricks and stovepipe. The cook shack became a garage again.

We entered our maple syrup in the Brown County Fair in four consecutive years and each year we were awarded the blue ribbon. What fun! Besides enjoying the syrup on pancakes and waffles, we ate it on ice cream and cereal; it was our special ingredient in homemade granola.

Sugaring was a great family experience. Our children helped tap spiles and collect sap — and the last time we tapped, our grandson tramped along through the snow behind grandpa as he made his rounds. Mert felt a deep sense of heritage, sugaring just as his dad did 50 years ago. We're hoping our children and their families will continue to observe this sweet family tradition in the springs to come. □



Sweet success.

Ruth Jannusch and family carry on the sugaring tradition from their home in Green Bay, Wis.

6-inch perch decoy by Pete Rozumniak, Dearborn, Mich. 1960's design.

THE LURE OF fish decoys

The working gear for an ancient kind of icefishing can now be found in museums as well as tackle boxes.

Raymond Hamel
Photos by Frank R. Baron

Oscar Peterson, a Michigan landscape gardener and part-time guide who died in 1951, sold the fish decoys he whittled out of wood and painted by hand for as little as 75 cents. In 1990, however, a Peterson trout brought $18,700 at Sotheby's, the New York auction house. The Peterson trout, a nine-incher painted black on brown, is not the average fish decoy. Still it illustrates the transformation fish decoys have recently undergone from inexpensive working gear to investment-grade folk art.

Fish decoys began to turn up at swap meets and flea markets in the 1980s, when duck decoy prices rose out of reach of amateur collectors. One collector who bought 250 Peterson decoys in the late 1980s says he was spurred to do so by the sale of a duck decoy for $319,000. He figured that where the ducks led, the fish would surely follow.

51/2 inch bluegill from Minnesota. 1930's design.

Fish decoys are still used for ice spearfishing, which is done by chopping a hole in the ice large enough to accommodate a spear, a decoy and an unwary fish. The decoy is suspended on a jigging stick or pole by means of one or more lines. To enable the fisherman to see into the dark water, light must be blocked out. When times were simpler and tougher, a fisherman would lie on a blanket on the ice with another blanket covering his head and the hole. These days most anglers erect a shanty over the hole complete with chairs, heaters and a radio to listen to a ball game as they gaze downward at the decoy suspended in the water.

Once the shanty is dark, looking into the hole is like looking into an aquarium with a kind of eery glow. Retired DNR fish manager Dan Folz describes it as the same color as

looking at the green glow of a TV tube tuned between stations. The decoy is then gently jigged or "worked" in a circular motion to lure fish within spearing range. A skilled angler can make a well-balanced decoy move just like a real fish.

Because ice spearfishing is both an effective and efficient way of catching fish, the practice is illegal in most states. Today Wisconsin, Michigan and Minnesota are the only states that allow decoy fishing, and then only for some species and in restricted areas. In Wisconsin, for example, sturgeon in Lake Winnebago can still be winter speared during a short February season.

Most of the decoys on the market today were carved during the Depression, the heyday of spearfishing. Decoy spearfishing, however, is an ancient art of obscure origin. Ivory decoys have been found in Alaska and the Canadian Arctic at sites dating from A.D. 1000 to A.D. 1400. In Wisconsin, decoys and gorges fashioned from clam shells date back 1,000 years.

The typical fish decoy is carved from a soft wood, such as pine, cedar or basswood. Molten lead is poured in a hole in the bottom to weigh down the buoyant wood. Metal is sometimes added to the fins to provide a sparkle that may attract fish. The tail is made of a flexible material, such as rubber, or of curved wood or metal, so the decoy will circle in the water.

Fish decoys do not have to resemble a particular species to be effective; there are reports of using bowling pins and old toilet seats to lure fish. As a result, decoy makers were free to exercise artistic license. Decoys were sometimes decorated with rhinestones and sequins. Beer cans and food tins were used for fins. Eyes were made of thumbtacks or screws. Peterson painted his fish with squiggly lines and dots. Other decoys were painted in bold red and white stripes or even in the stars and stripes.

A typical decoy is between three and ten inches long, although decoys longer than a yardstick have been created for sturgeon fishing in Lake Winnebago. The decoy's size depends on the habits of the fish it is designed to attract. Smaller decoys attract predatory fish. Since the lake sturgeon is a filter feeder that sucks up plants, snails, larva and the like from the bottom of the lake, it is lured with a much larger "coaxer," or mating decoy. There are also "sizer" decoys that allow a fisherman to judge whether a fish is of legal size when it swims into view. A "sizer" decoy for Lake Winnebago sturgeon, for example, is 45 inches long.

Sturgeon coaxers from Wisconsin, 1950's. *(top)* 10-incher by Doug King, Nemo, Wis. *(bottom)* 9½ incher, maker unknown

6-inch perch (1920's) by Bert Perkins, New Baltimore, Mich. Note detachable head on this ice fishing spear.

The connoisseur of fish decoys can perceive regional differences in style. For example, Minnesota decoys tend to have simplified body shapes and are painted in bold colors. Michigan decoys, on the other hand, were crafted with more detailed carvings (even the scales may be rendered), and are painted more realistically. Wisconsin decoys often feature imaginative designs of swirls and spots.

Not surprisingly, given the market value of the older decoys, there is a thriving trade in forging fakes. A decoy from the Depression or earlier should not contain any hooks or holes where hooks might have been set. Holes could indicate the false deke was originally a lure. But some decoys made after spearfishing was outlawed, called "cheaters," were deliberately equipped with hooks to fool game wardens into thinking they were lures. Some fakes have been artificially aged by soaking them in motor oil. It can be difficult to judge the age of even a legitimate decoy because repeated immersion in icy water also accelerates aging and because working decoys were often given a fresh coat of paint before the fishing season.

12" sturgeon coaxer by Lloyd Walker, Quinney, Wis., 1950's style

The Sotheby sale did not pass unnoticed in collecting circles, and Peterson designs has been a favorite target of forgers. Peterson's fish have a distinctive shape: they are thin and curve slightly to the left or right. The fins have metal inlays and the lower jaw juts out, so that the fish wears a perpetual pout. Peterson "blanks," or unfinished carvings, that have been newly painted and artificially aged have recently appeared on the market.

Although the market value of fish decoys may be volatile, their aesthetic value endures. Most fish decoys are handsome and pleasing objects. I own one myself — a small perch with fins fashioned out of the lids of canning jars. I bought it near Lake Osakis in central Minnesota for $15. It sits on my computer and casts a beneficent, if fishy, eye on me as I work.

Those interested in fish decoys as collectibles or folk art are invited to join the National Fishing Lure Collectors Club, P.O. Box 1791, Dearborn, MI, 48121. □

Raymond Hamel is a librarian whose other interests include crafting crossword puzzles and competing in trivia contests. He lives in Madison.

3½-inch panfish (1930's) by Louis Henkie, Fridley, Minn.

Tacking down the conservation carpet

For ten years, the Conservation Reserve Program has saved soil, helped farmers and harbored wildlife. Can we save it?

(INSET & BACKGROUND SHOT) ROBERT QUEEN

Alice Stroinski: "We see birds we never saw before."

(background shot) CRP was designed to stem erosion on highly erodible land like these coulee country hills.

It looked a bit windy out the back window of the farmhouse. Alice Stroinski buttoned her coat, knotted the kerchief under her chin, and went out into her back yard. She gazed up at wispy clouds on the blustery day and remembered other days in this same place 60 years ago. From 1941 through the late seventies, the family raised animals, a few row crops, tended lush pastures and cut hay on this Fond du Lac County farm.

In those days, a meadowlark regularly visited a big evergreen at the edge of the yard. "He would sit on top of that tree, shake himself and tootle at me, *Teep-a-leep, teep-a-leep, teep-a-leep,*" she recalled. Once the family stopped raising animals and switched over to solely raising row crops, the meadowlarks vanished, unable to survive without the grassy habitat.

In 1988, the family enrolled land in the Conservation Reserve Program that took erodible cropland out of production and restored the grassy cover. By 1991, the meadowlarks returned.

How many more years Stroinski enjoys that scene is as much in the hands of blue-suited power brokers in Washington as in her ability to stay healthy.

Nationwide since 1986, the Conservation Reserve Program (CRP), has kept 36.5 million acres of marginal, erodible farmland carpeted with a blanket of grasses and trees. But the good that CRP is doing to anchor soil from Florida to Alaska could be quickly undone. Farm fields, rural streams and wetlands could again run turbid and muddy if Congress allows the program to expire.

CRP slowed the economic swings in farm policies

The CRP program was born to slow the rate of soil erosion and slow down federal subsidies that national farm policies created.

In the 1970s, our leaders aimed to calm the Cold War in a sea of wheat. The feds paved the way for U.S. agribusiness to form worldwide contracts to export grain to the Soviet bloc. Government price supports kept commodity prices high, which encouraged farmers to plow up millions of marginal acres. Wheat, corn and soybeans became the preferred currency of international economic trade. Though interest rates were high, farmers borrowed more money to buy more land and cash crop it. They thrived as long as the subsidies buoyed the price of farm products. When commodity markets fell in the late 70s, the cash croppers who had invested in bigger farms got hurt in the tumble.

Overplanting ripped up the fabric of rural life as much as the soil. Nightly newscasts carried stories of farm foreclosures. A populist groundswell led to Farm Aid concerts and support groups. But farmers needed more than community support; they needed real economic solutions.

In Washington, the farm lobbyists found allies in environmental groups like the National Audubon Society, Ducks Unlimited, The Nature Conservancy and Pheasants Forever. Conservationists had been worried as fencerow to fencerow production removed wildlife habitat in rural areas. It left little cover to stem wind and water erosion.

Farmers also wanted to cut the number of farmed acres, for different reasons. They had been enticed and burned by government subsidy programs. They wanted to cut their debt load, stabilize their income, and earn more for quality crops.

STEPHEN J. LANG

Dickcissels thrive in set-aside grasslands.

The idea of a Conservation Reserve Program was created in the 1985 Food Security Act. CRP aimed to cut production on highly erodible farmland for at least 10 years, reduce stores of surplus grains, and reduce the costs of farm subsidies.

Those in farm boots and hiking boots both found something to like in the conservation reserve idea. It pro-

vided an incentive to give marginal farmland a rest. Erodible land would be "retired" for 10 years. Federal payments would cushion the blow of lost yields. Farmers would be guaranteed to earn some money on their least productive acres, production would drop, and remaining crops grown on more productive acres would be that much more valuable. Blanketing the land with plant cover would also preserve soil, reduce runoff, keep the land productive for food and fiber. With planning these lands could enhance wildlife habitat and increase opportunities for outdoor recreation.

The benefits were greater than anyone imagined.

CRP not only took marginal land out of production, it demanded that idled acres stay covered with grasses, legumes, shrubs or trees that would not be disturbed or pastured during 10 years of federal payments.

The program has been successful at many levels. Unlike many soil conservation programs, CRP offered income for 10 years in addition to offering technical assistance to stem erosion from hillsides and areas with thin soils. Those who chose to enroll in the program could get help from agricultural and natural resource agencies to make long term plans for their CRP acres.

During the CRP sign-up periods, many DNR wildlife managers assisted the Soil Conservation Service in implementing it. Farmers coming in to enroll for the program could also meet the wildlife professionals and learn how the CRP program could dovetail with other programs to conserve soil and improve wildlife habitat at the same time.

Farmers across Wisconsin signed 21,638 CRP contracts and eventually enrolled 713,337 acres of erodible land in the program. To put those numbers in perspective, Wisconsin has about 10–11 million acres of cropland, so about six to seven percent of total croplands were enrolled in less than seven years. Or consider this, the number of acres protected by CRP since 1986 is more than the 672,493 acres the DNR has purchased as wildlife, fisheries, parks and scientific areas since it first began buying land in 1876.

(top) CRP has slowed soil erosion like this from 22 to less than 2 tons per acre.

(bottom) The pressures that fencerow to fencerow cropping brought led farmers, bureaucrats and conservationists to embrace the CRP idea — it was good for soil, the farm economy and wildlife.

DNR FILE PHOTO

CRP as a window of opportunity

The CRP program provides the financial fuel to fire up cooperative wildlife projects among farmers, agencies and private conservation groups. Farmers own the land, agencies have some incentive money, and conservation groups have the manpower and means to improve lands for wildlife. In addition to the annual rental payments farmers receive, CRP covers 50 percent of the cost for planting cover and restoring wildlife habitat. Nonprofit conservation groups are skilled at finding additional matching funds to restore wetlands, grassland nesting cover and food plots. In some cases, grants covered the costs of providing materials and conservation groups provided the labor to restore farmlands at little or no cost to the property owner.

Groups like Pheasants Forever, Ducks Unlimited, Wings Over Wisconsin, the Wisconsin Waterfowl Association and Wisconsin Whitetails Unlimited found that the Conservation Reserve funds opened the door to build partnerships with landowners and improve wildlife habitat on rural farmlands.

Here in Wisconsin, 85 percent of the CRP lands were planted in alfalfa, brome and timothy. Half of these lands were already in grass cover at the time the program began, but changing land uses on these CRP acres made a tremendous difference to wildlife.

In recent years, strategies to keep farming profitable have included cutting hay crops earlier and shortening the resting period between cuttings to get three or four cuttings off the same parcels. Cutting hay early and often provides less and less time for birds to nest and hatch a clutch before the mowers chop the crop, explains DNR Wildlife Biologist Alan Crossley. Since hay crops are not cut on CRP lands, we would expect that the nesting success for game birds like pheasants and ducks as well as songbirds is far greater than on regularly cropped hay, he said.

"Although we believe in planting native vegetation, you don't have to have pristine prairies to produce benefits for wildlife," Crossley said. "With a proper resting period, dandelions, thistles and pigweed mixed in with alfalfa, switchgrass and brome can benefit a lot of wildlife."

Studies by Professor Robert Robel of Kansas State show that in the Great Plain states, CRP fields that were planted with grasses supported 21 times the number of grassland birds found on lands with row crops. Birds had 32 times greater success nesting and raising young on CRP lands as on lands row-cropped for corn, grain sorghum, wheat and soybeans.

In Wisconsin, studies of grassland birds using CRP lands are still being analyzed. Studies indicate that CRP lands can provide valuable nesting area for these birds. While red-winged blackbird nests were the most common nests found in CRP fields, researchers said the next most abundant birds were eastern meadowlarks, field sparrows, song sparrows, grasshopper sparrows, bobolinks, upland sandpipers and savanna sparrows. CRP lands also were home to Bell's vireos, clay-colored sparrows, Henslow's sparrows, Northern bobwhite, northern harrier hawks, pheasants and 16 other species of grassland birds.

This is terrific news. Grassland bird surveys in Wisconsin between 1966-1991 showed dramatic declines in the populations of many of these birds. Moreover, several of these birds are considered most in need of help. CRP fields were among the most important sources of breeding habitat for upland sandpiper, dickcissel, grasshopper sparrow, bobolink and western meadowlark — birds designated as species of special concern by the Department of Natural Resources. Protecting these lands from regular cropping increases the undisturbed nesting time, provides food and affords greater protection from predators.

CRP grasslands throughout the Mississippi Valley Flyway are providing critical nesting habitat for waterfowl. The program contributes significantly to healthy resident and migrant populations of ducks and geese. North Dakota studies claim that CRP grasslands produced an additional three million ducks this year in that state.

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Most CRP acres in Wisconsin were planted in alfalfa, brome and timothy. Some 67,000 erodible acres were planted with permanent stands of trees.

Pheasants are major beneficiaries from CRP as these lands provide both nesting and winter cover. "The wild pheasant restoration projects in southern Wisconsin depend on the private lands enrolled in the CRP," Crossley said.

CRP has brought more permanent land use changes also. More than 67,000 erodible acres are now planted in trees — especially hardwoods like oaks, maples and walnuts. About 20,000 acres have been reclaimed as native prairie grasslands or restored wetlands as a consequence of CRP partnerships.

CRP saves soil and curbs pollution

Nationwide, stemming erosion from CRP lands has saved 740 million tons of topsoil annually and reduced erosion rates from 22 tons per acre to 1.7 tons per acre on the fields enrolled in the program. The value of keeping soil nutrients on farm fields and out of water is estimated at $36 per acre per year.

In Wisconsin, CRP keeps more than nine million tons of soil annually on farm fields and out of our waterways. That's enough soil to fill the State Capitol Building 23 times each year.

The water quality benefits from CRP-protected lands are estimated at

ROBERT QUEEN

$79 per acre, more than seven times greater than from traditional soil conservation programs. In the Northern Plains area, suspended sediment in waterways has been reduced 10 percent, nitrogen pollution cut by 11 percent and phosphorus pollution by 13 percent from the CRP program. Nationwide, these nonpoint pollutants cause 75 percent of our lake pollution and 40 percent of our river pollution.

What if CRP is not renewed?

If CRP lands come back into production "these acres will have significant impact on grain production and on our conservation agenda," says Bruce Weber, a USDA administrator. "Some of CRP's environmental benefits such as wildlife habitat and water quality improvements could be greatly diminished."

Estimates in Wisconsin are that 85-90 percent of the lands enrolled in CRP would revert to row crops and hay if the program ends.

A coalition of at least 115 Wisconsin groups including a wide mix of sporting clubs, the Conservation Congress, environmental organizations, farming organizations, soil conservationists, legislators, cattle interests, and agribusiness jointly recommended continuing CRP in the 1995 Farm Bill. They recommended extending CRP contracts for periods of 10 years or more, promoting long-term contracts to protect land that erodes easily, and providing additional incentives to continue conserving soil on lands taken out of the CRP program.

State leaders will also recommend fine-tuning future CRP programs by encouraging landowners enrolled in the program to plant a wider diversity of cover types including native grasses, trees and even wetland restoration where appropriate. Incentives could also reward landowners who make their property available for public recreation. To encourage greater tree planting as part of the CRP program, state leaders will recommend beefing up tree nurseries and planting programs that encourage planting more hardwoods.

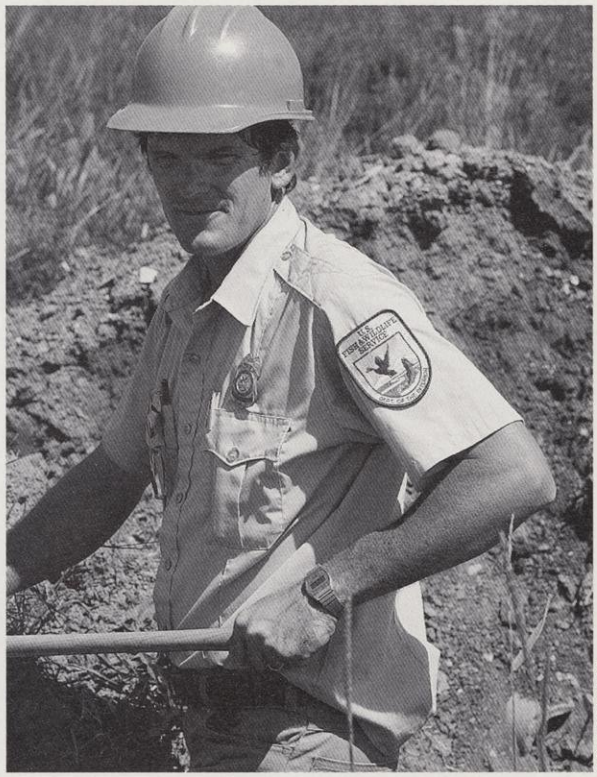
CRP proponents in other states propose modifying the program to allow limited haying and grazing. That might provide an acceptable compromise if the CRP lands are left idle during the May–early June season when birds and other wildlife are nesting. Thereafter, haying or grazing with cattle on a rotational basis could provide habitat benefits, soil benefits and a cheap source of forage for farmers.

Weighing many benefits

If CRP is to be judged a success in the future, economics will have to be weighed. Some critics perceive the CRP costs as enormous. They say that the annual payments almost equal the costs to purchase many of those farm acres. But that ignores some simple truths — most of these acres are not for sale. CRP is reaping soil, water and habitat benefits as well as reducing farm payments that are not figured into a strict cost analysis. And if CRP lands are brought back into production, they will surely add to grain surpluses and again lower commodity prices.

"We need more, not fewer incentives for conservation groups to work with landowners," Crossley says. "We can establish even more buffer strips along streams, create shelter areas for wildlife and enhance water quality. Perhaps CRP can serve as a model that shows the value of incentives and partnerships rather than assuming that land must be purchased or zoned to reform land uses.

"The future of CRP hangs in the balance of the 1995 Farm Bill," Crossley said. "I don't believe any other program in recent memory has done more for soil, water and wildlife. I believe that getting involved in the CRP debate is the single most important thing people can do this year to promote wildlife in Wisconsin."



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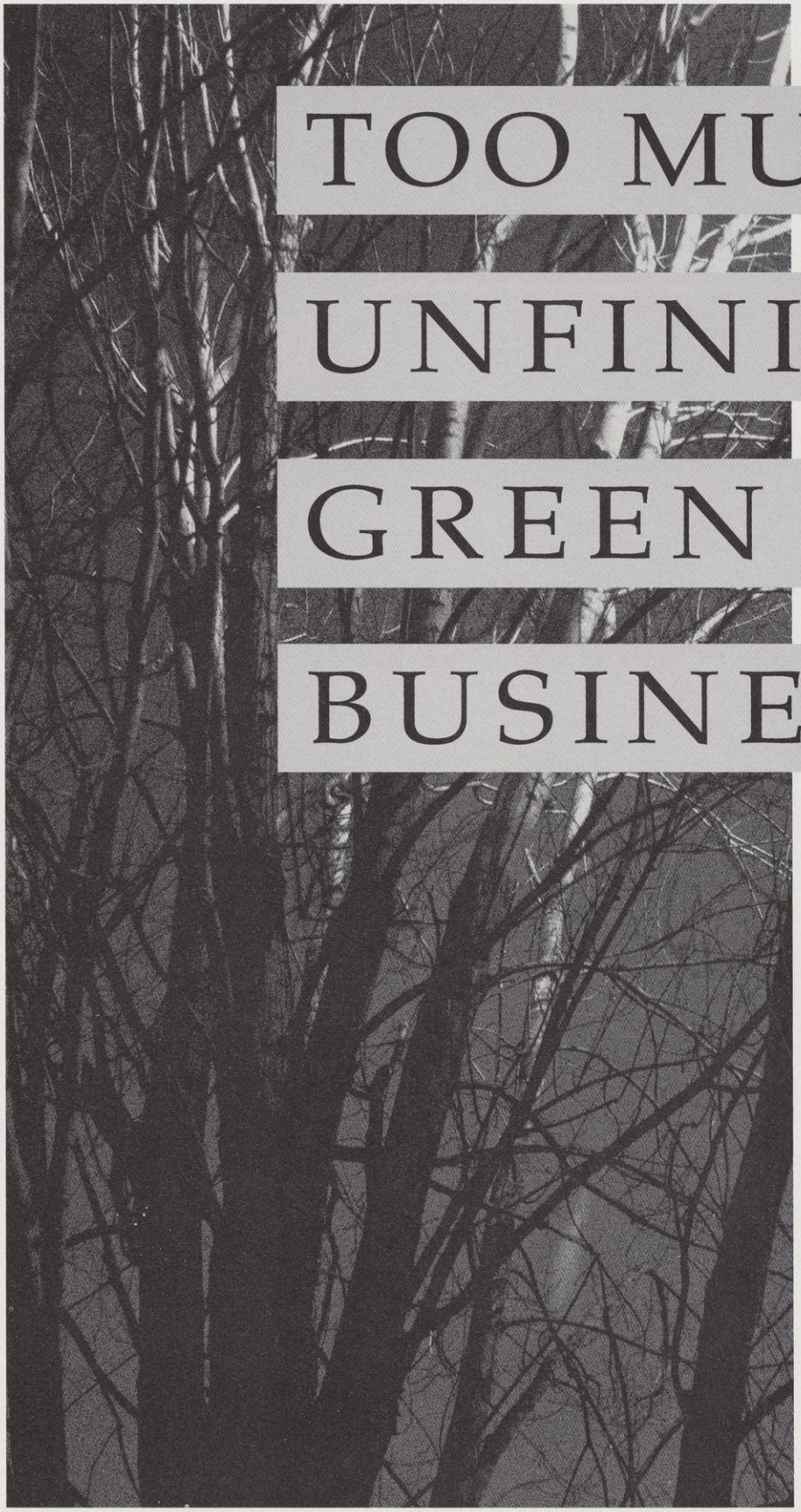
(above) CRP opened the door for landowners, conservation groups, state and federal agencies to stabilize soil, restore wetlands and bolster upland habitat.

(right) Ducks Unlimited restored this wetland on a Barron County farmstead.

Clearly, CRP has dramatically changed how 713,000+ acres in Wisconsin are being used. As its worth is debated in the current Congressional session, elected officials should assess how such programs can enhance rural quality of life by providing more wildlife and outdoor recreation. The dollars and cents calculations should also account for the changes that people like Alice Stroinski see. "The meadowlarks are back. Now that we have grasslands on the farm again, we see birds we never saw before." □



TOO MUCH UNFINISHED GREEN BUSINESS

As deficit and health care cornered the national debate, environmental issues slipped from the country's agenda.

Jessica Mathews

Deficit reduction, NAFTA and a few other achievements raised the 103rd Congress' overall record somewhat.

But with respect to the environment, the last Congress was pure scorched earth.

Legislators could not manage to fix the lawyer-riddled, overly expensive Superfund program for cleaning up toxic-waste sites, even though 80 percent of the work was done for them by a coalition of business and environmental leaders who produced a compromise plan.

Administration proposals to reduce subsidies that cause environmental harm while draining the federal treasury were all defeated.

They included a century-old mining law that forces the government to give away billions of dollars of taxpayer-owned minerals, water subsidies that encourage waste by charging farmers a few percent of what it costs to deliver the water, federal grazing fees set far below market rates, subsidies that underwrite otherwise unprofitable logging, and federal flood insurance that supports development in coastal areas where no private insurer would take the risk.

Each of these programs costs the taxpayer twice: once through the subsidy and later to deal with the damage it causes.

Reauthorization and needed improvements to the Clean Water Act, the Safe Drinking Water Act and the Endangered Species Act all failed.

A harmless proposal to create a National Biological Survey to identify which species live where didn't make it out of the starting blocks.

A bill to raise the Environmental Protection Agency to full Cabinet status went down. The Senate failed to ratify the Biodiversity Treaty, and the administration's proposed energy tax was slashed to insignificance.

The League of Conservation Voters, the political arm of the environmental movement, called this unequivocally the worst Congress in the 25 years it has kept score.

And it happened while polls show steady high public support for environmental protection...

The legislative debacle may also be a sign that the first environmental era has just about played itself out while the next is not ready to be born.

Until now, environmental progress has been achieved largely by government's setting standards and specifying exactly how they were to be met.

Because of the difficulties of enforcing such detail, the focus has been on major polluters. Small sources and individuals have been largely ignored.

There has been little integration of environmental needs with broad policy setting in areas like energy, agriculture and transportation, and virtually none with macroeconomic policy as a whole.

A great deal has been achieved, but because the legislation-regulation-litigation sequence is so slow, it is nearly always out of step with technological progress. And more often than not, regulation is a blunt, or even perverse, economic instrument.

The next era should see a shift from primary reliance on regulation to the use of economic signals.

These allow pollution to be reduced where that can be done at least cost. They can nudge change in the right direction without requiring the government to spend years deciding whether 0.01 or 0.013 is the safe level of a particular substance. They can be as easily applied to every consumer and small enterprise as to large businesses.

The ultimate goal is to make prices reflect environmental costs—the costs of resource extraction, of waste disposal, of land and habitat use, and of pollution.

The first step, getting rid of direct subsidies and indirect tax write-offs for environmentally damaging activities, will also reduce the regulatory burden.

Dozens of federal subsidies, for example, encourage the destruction of wetlands, which the government, with its regulatory hand, forbids.

The next step is to use targeted taxes, so-called "green fees" to adjust prices. These can be familiar types, like emissions charges and deposit-return fees, or newer ones like time-of-day pricing on highways to reduce congestion.

The revenues can be used to replace growth-inhibiting taxes on corporate income and payrolls.

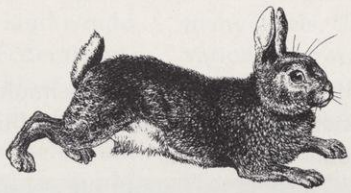
For all its advantages, this shift to a more-nimble, economically efficient approach to environmental protection won't come easily. Beneficiaries will fight for every dollar of federal largess they now enjoy, and though targeted fees are less objectionable than any other, no tax is welcome.

Thousands of lawyers and government regulators are financially or emotionally tied to the present system.

Most important, the environmental movement is torn: Part of it has embraced the new approach; others believe that only regulation can force progress.

The good news is that change is coming, though very slowly. The bad news is that 103rd Congress may be only the first of many unable to produce any environmental advance. □

Jessica Mathews is a senior fellow at the Council on Foreign Relations in Washington, DC.



RABBIT HUNTING REVIVAL

A cottontail hunt is the perfect introduction to a lifetime of outdoor enjoyment.

Kevin Naze

KEVIN NAZE

Marvin Bins, Luxemburg, was ready to take a quick shot as cottontails dashed out of a winter brush pile.

Rabbit hunting used to be the traditional training ground for young hunters seeking to hone gun-handling skills and develop the tracking techniques and patience necessary for bagging bigger game. A season or two in pursuit of cottontails brought all that a youngster had learned in hunter education into sharper focus. But that tradition seems to have faded a bit over the past decade as many young hunters graduate right from hunter education classes to hunting whitetailed deer.

That's too bad, because sunny winter days are perfect for cottontail rabbit hunts. Exciting trips afield and fresh meat for the table are possible rewards. Top that off with a booming population of cottontails and the time is right for a rabbit hunting revival.

Where the rabbits roam

Chances are you can find cottontails within a few miles of your home. Although nearly a million rabbits are harvested in Wisconsin each year, and tens of thousands more preyed upon by foxes, coyotes, bobcats, hawks and owls, there are still plenty of cottontails around. Adult rabbits can produce up to six litters a year, each with three to six young.

These prodigious reproducers are also renowned gnawers: Rabbits do a lot of damage to shrubs, trees and orchards, and many property owners would appreciate some help keeping the rabbit population in check.

Always get permission from the landowner before you hunt. It's best to contact landowners first during the off-season, so you can get to know each other. Then, when rabbit hunting rolls around, all it takes is a quick phone call or visit to renew your acquaintance.

DNR FILE PHOTO

Rabbit hunting with dogs is a time-honored tradition. Johnson Creek hunt in 1951.

Rabbits like grassy farmlands and love hiding out in abandoned buildings. Overgrown orchards, grassy fencerows, willow thickets and edge cover such as rows of sumacs adjacent to wooded land are also favored areas. It's possible that a brush pile exists somewhere in Wisconsin without a rabbit, but I doubt it! Look for piles of brush or make your own in an area where you have permission to hunt. If your quest for a special spot comes up empty, DNR wildlife managers can direct you to a public hunting ground with good rabbit prospects.

Ready for rabbits

A 12-, 16- or 20-gauge shotgun loaded with No. 6 shot is perfect for a rabbit hunt. If you've got a sharp eye, a .22 rifle might be a challenging choice. With either firearm, it's important to sight or pattern it in at an established range before hunting. Many sportsmen's clubs offer places to shoot. To find a range, check with friends who hunt, talk with the owner of a local sport shop or call a DNR wildlife manager at an area office.

ROBERT QUEEN

Skeet and trap shooting are a logical part of the cross-training hunters can take to match shooting skills with hunting judgement.

Now, assuming you have a small game, Sports or Patron license, a place to hunt and a firearm sighted-in, cleaned and ready to go, it's time to review the regulations and basics of rabbit hunting.

Wisconsin's cottontail rabbit hunting season is open statewide, with the exception of Milwaukee County, where no firearm hunting is allowed. Both the North and South Zone seasons run through Feb. 28, with a daily bag limit of three. If you've got access to the Northwoods' snowshoe hares, that season runs year-round, with an unlimited bag.

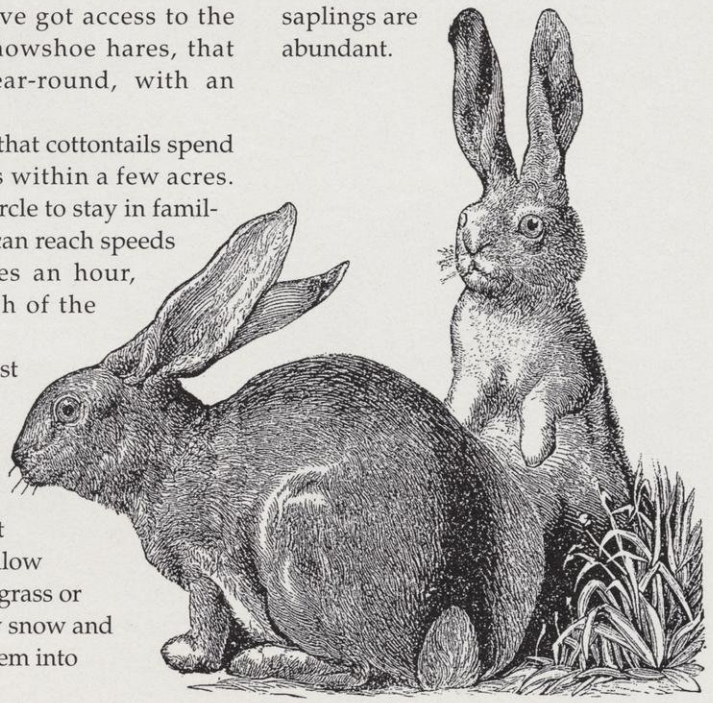
Keep in mind that cottontails spend their entire lives within a few acres. They'll usually circle to stay in familiar territory and can reach speeds of 10 to 20 miles an hour, zigzagging much of the way.

Rabbits are most active around dawn and dusk. A rabbit's daylight hours are typically spent crouched in a shallow depression in the grass or snow. Rain, heavy snow and wind will send them into dense cover.

There are two popular methods of hunting rabbits. The first — using tracking dogs like beagles — is loads of fun. Listening to a howling hound on a hot trail adds a lot to the hunting experience. Wait at the site where the rabbit was first jumped, and it'll likely be back soon, the beagle badgering its every move.

Mild winter days with fresh or melting snow are ideal for hunting with dogs. When it's cold and dry, rabbits hold tighter and dogs sometimes struggle to find or stay on scent.

If you're hunting without a dog, you can follow tracks through thick cover in hopes of catching a glimpse of the quarry before it sprints away. Remember those brush piles — they're rabbit magnets. Toss a dead branch on to the pile, stomp your feet around the outside, wiggle a stick into the top — then be ready when a bunny bursts out. Or try sneaking through likely feeding areas, places where tracks, droppings and girdled shrubs and saplings are abundant.



Preparing your quarry

To end a successful hunt, field dress the rabbit as soon as possible to cool the carcass. Wear a pair of surgical gloves so any nicks or scratches in you hands won't come in contact with rabbit blood. Rabbits carry several diseases which can be transmitted when the animal is cleaned.

First, cut off the head. Next, trim off the feet at the joints.

Pinch up the hide on the back, then slip your knife through it. Cut the hide from the neck to the tail along the backbone. Pull the hide off the carcass; it should come off easily around the legs, but you'll need to skin around the tail separately. When the hide is completely removed, slit open the body cavity, starting from the chest and working to the tail. Remove all of the entrails, being careful not to puncture the intestinal tract. Wipe the carcass with a paper towel or grass. Some hunters use a handful of snow to rinse the cavity. It's also a good idea to cut away meat damaged by the shot. Before cooking, wash the carcass with cold water and pat dry.

The taste of rabbit is greatly influenced by what the animal had been eating in recent weeks. Slow-cooking is one of the best ways of tenderizing the lean meat.

Here's are a few rabbit recipes I know you'll enjoy:

DNR FILE PHOTO

Rabbit hunting used to be an excellent way to continue the camaraderie of deer camp. Take youngsters with you and start a new rabbit hunting tradition.

Hasenpfeffer

(serves four or five)

Marinade:

- 1 cup water
- 1 1/2 cups red wine
- 1 1/2 cups white vinegar
- 2 cups chopped onions
- 6 whole cloves
- 2 bay leaves
- 2 teaspoons salt
- 1 teaspoon each dried thyme, dry mustard, tarragon, black pepper

•

- 4 pounds rabbit pieces

•

- 1/4 cup flour, seasoned with salt and pepper
- 4 tablespoons margarine
- 1/2 cup oil
- 12 ginger snaps, crushed
- 1 cup sour cream

Combine marinade ingredients in a large glass bowl. Add rabbit pieces. Cover with plastic wrap and refrigerate 24 hours, turning pieces several times.

Remove rabbit and dry each piece with paper towels. Strain marinade; reserve the onions and 1 1/2 cups marinade.

Dredge rabbit pieces in seasoned flour. Shake off excess flour. Heat margarine and oil in a frying pan until fragrant, but not smoky. Brown rabbit, about four pieces at a time. Place pieces into a dutch oven.

Sauté onions in the remaining oil and margarine. Drain onions and layer on top of rabbit. Pour reserved marinade over rabbit. Cover and simmer on stove for 40 minutes. Add crushed ginger snaps and cook 10 minutes more. Remove meat and keep it warm. Add one cup sour cream to gravy and heat until warm.

Serve rabbit on butter noodles or spaetzle covered with the sauce.

Rabbit Cacciatore

(serves six)

- 4 pounds rabbit pieces
- 1/2 teaspoon salt
- 1/4 teaspoon freshly ground pepper
- paprika
- 1/2 cup flour
- 6 tablespoons olive oil
- 1/2 pound sliced mushrooms
- 1 onion, sliced thin
- 3 medium tomatoes, chopped
- 1/2 cup dry white wine
- 1/4 cup chopped parsley
- 2 cloves minced garlic

Sprinkle rabbit pieces with salt, pepper and paprika. Dredge in flour and shake off excess. Sauté meat in olive oil in a 7- or 8-quart covered pot or dutch oven. Remove browned pieces and keep warm.

DNR PHOTO

The white-tailed jackrabbit is actually a hare. It's the largest member of the rabbit family in Wisconsin. Jackrabbit populations are scarce and widely scattered in the open country of pasture and fencerow.

Sauté mushrooms and onion in the pot until onions are translucent. Add chopped tomatoes and simmer five minutes. Return rabbit to pot. Add wine, cover and simmer 40 minutes. Add parsley and garlic. Stir, cover and cook 10 minutes more.

Serve on pasta or steamed rice.

Spanish style rabbit

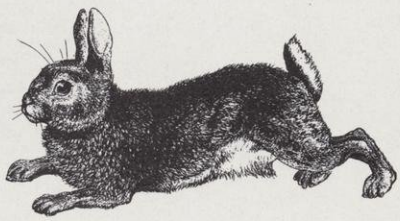
(serves four)

3 pounds rabbit pieces
salt
pepper
1/4 cup olive oil
1 onion, chopped
6 cloves garlic, chopped
1/4 teaspoon cinnamon
1 tablespoon parsley, chopped
1/4 teaspoon ground cloves
1/2 teaspoon saffron
1/2 teaspoon salt
3 bay leaves
1 cup dry white wine
1/2 cup slivered almonds
2 tablespoons sweet, unsalted butter

Rub salt and pepper to taste into rabbit pieces. Heat oil in a pan and cook onions and about three-fourths of the chopped garlic until soft, but not brown or bitter. Set onion/garlic mixture aside but leave the flavored oil in the pan.

In a blender or mortar and pestle, blend or crush remaining garlic, cinnamon, parsley, cloves, saffron and 1/2 teaspoon salt.

Brown the rabbit pieces in the oil. Add crushed herb/spice mixture. Add bay leaves and wine. Cover and bring to near boil. Reduce heat and cook 45 minutes. Sauté slivered almonds in the butter and add to the rabbit mixture. Heat another 10 minutes and serve over steamed rice.



Lemony skillet rabbit

(serves four)

3 pounds rabbit pieces
1/4 cup flour
2 teaspoons salt
1/4 teaspoon freshly ground pepper
6 tablespoons oil
1 1/2 cups chicken broth
juice of one lemon
juice of one orange
1 onion, chopped fine
1/4 teaspoon dried ginger
1 1/2 cups sliced mushrooms

Add half the salt and half the pepper to the flour. Dredge the rabbit pieces in this seasoned flour. Heat the oil in a pan and brown the rabbit pieces. Drain the pan. Add the chicken broth, lemon juice, orange juice, onion, ginger and remaining salt and pepper. Cover and simmer 45 minutes. Add mushrooms. Stir. Cover and heat another 15 minutes. Serve over noodles. □

Algoma, Wis., outdoor writer and guide Kevin Naze shares his enthusiasm for hunting and fishing with people of all ages.

You're never too old to learn

Last fall, after 20 years of hunting, I took a hunter education course for the first time with an excited 11-year-old boy. When the course was over, I walked away convinced that other experienced hunters should do the same.

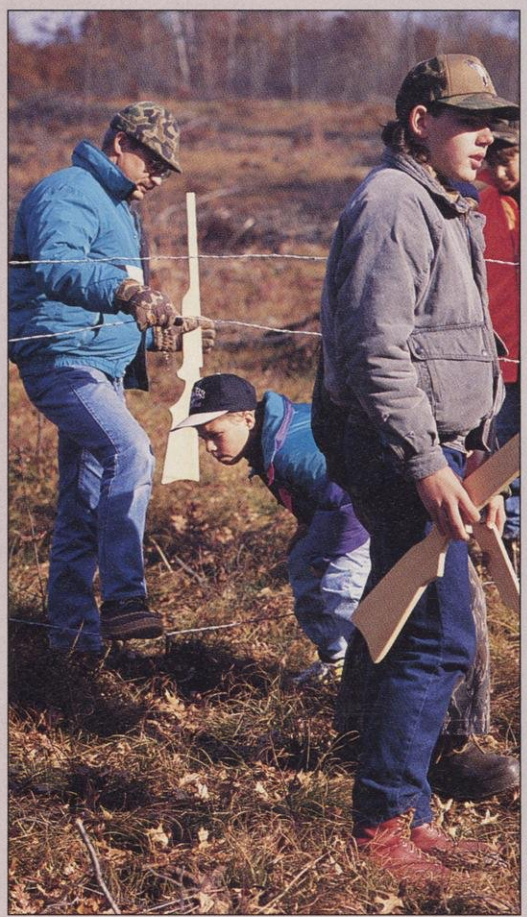
First, no matter how much you know about hunting, it never hurts to review the basics:

- Treat every firearm as a loaded firearm.
- Keep the muzzle of your firearm pointed in a safe direction.
- Be sure of your target and what is beyond.
- Keep the safety on until you are ready to shoot.
- Keep your finger outside the trigger guard until ready to shoot.
- Wear blaze orange clothing.
- Know where all the other members of your hunting party are.
- Know the safe zones of fire. When walking side by side, the hunter on the right shoots only straight ahead or to the right; the hunter on the left shoots only straight ahead or to the left. A hunter in the middle shoots only straight ahead. In a line, only the hunter in front has the green light to shoot.

Second, kids today are less likely to be exposed to the pleasures and challenges of hunting. Hunting must compete with video games, cable TV and a host of other recreational activities that weren't around a couple of decades ago. Wisconsin itself is growing more urban, with about two-thirds of our population living in metropolitan areas. With urban lifestyles come fewer opportunities to know nature up close.

So, if experienced hunters don't serve as role models for young people, who will? Wisconsin's volunteer hunter education instructors have given thousands of youngsters the tools they need to be safe and successful hunters, and the Department of Natural Resources is exploring new ways of teaching schoolchildren about hunting. But that's not enough. If you want the hunting tradition in Wisconsin to continue, consider taking a youngster you know to a hunter education course. — *Kevin Naze*

Students of all ages benefit from learning and relearning hunting safety fundamentals. Crossing fences properly, securing tree stands and raising firearms to the tree stand safely give new hunters and old hands confidence and judgement.



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Woodland partners

Why would private businesses plant trees in public places?

David L. Sperling

One sunny day last October, three jean-clad hikers parked their car, threw on light jackets and started walking up a windswept hillside in Grant County. It was a steep climb through tall, browned grasses, through shrubs and a few sparse trees still clinging to dried, decaying leaves, but the view from the top was worth the walk. The curving farm field at the top of the knoll offered a commanding view of the ridges and valleys of the

Young conifers planted by volunteers in an aging birch stand.

(below) Jeanne Germain, forester Bill Carlson and Eric Bloomquist inspect Colonial Craft's plantings on the Lower Wisconsin River hillsides.

RICK WOJCIAK

An Illinois forge and steelmaker, A. Finkl & Sons Co., has financed tree planting in Wisconsin's Northern Highland-American Legion State Forest for five years. The company 10-year mission to plant a million trees is part of a corporate investment in clean air. Here, Robert Ladevich, company director of energy and planning, inspects young jack pines they paid to plant on public lands.

driftless countryside and the Lower Wisconsin Riverway that shimmered below in speckled sunlight. Walking through the old field, now planted with knee-high rows of oaks and white pine, the hikers truly soaked in the long view, not only the panoramic hillsides and water, but 70 years into the future.

The three, DNR Forester Bill Carlson, Eric Bloomquist and Jeanne Germain of Colonial Craft, inspected and admired the mixed stand of pines and hardwoods that had been planting on public land through the generosity of the private wood-crafting company. It was a beautiful day to recognize a beautiful partnership.

A new program, the Wisconsin's Forests for the Future Fund, gives individuals and private companies the opportunity to sponsor tree planting on Wisconsin's public spaces. Why would private firms want to underwrite such ventures? They have their reasons.

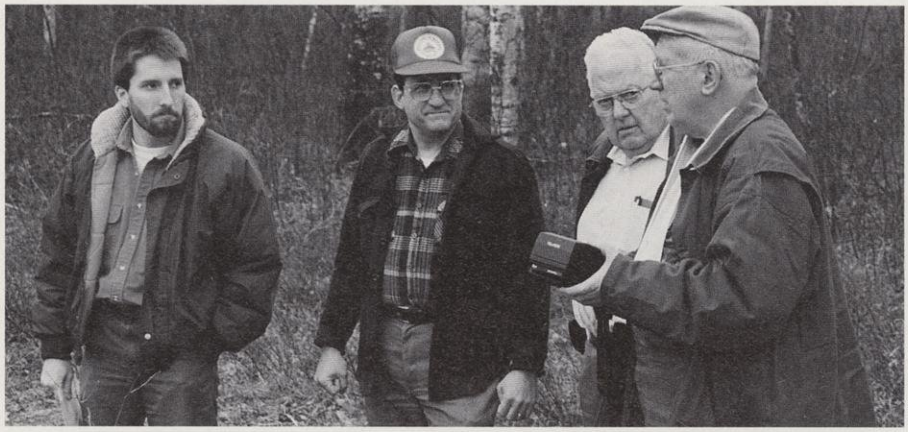
For Colonial Craft, a firm that makes wooden moldings, window grills and picture frames in Luck, Wis. and St. Paul, Minn., the partnership provides another way to reinvest in their stock in trade — quality hardwoods.

"We're a large user of quality hardwoods," said Germain, corporate communications director, "so we have a sincere interest in reforesting lands with hardwood trees." The company is one of a growing number of firms that are also committed to getting their stock from forests where trees are replanted to offset the harvest. "About half our hard maple now comes from timber sales certified by the 'Smartwood' system of sustainable forestry," said Colonial's co-owner, Bloomquist. "We hope to acquire all of our hard maple from certified sources within a year."

For the Department of Natural Resources, such partnerships allow innovative projects, increase planting and stretch public forestry funds.

"Private donations don't replace the work we are doing with public funds, rather, they build on them," said Charlie Higgs, Bureau of Forestry director. "We dedicate these donations to improve existing stands, make public places more appealing, and experiment with techniques that will improve both the quality and diversity of forests we plant for the future."

The Colonial Craft plantations in Grant County are a good example, says Carlson, DNR forester for the Lower Wisconsin Riverway in southwestern Wisconsin. "This old hillside farmfield overlooks the riverway, a state scenic treasure. By planting 10,000 oaks interspersed with 10,000 pines, we improve the aesthetics from the land and the water. We anchor the soil and decrease runoff from the hillside. We also continue experimenting with a technique



PAUL DELONG

(top, l to r) DNR foresters Paul Schultz and Dean Farr tour conifer stands with A. Finkl & Son executives. Corporate underwriting gives firms a tangible way to share their commitment to sustain natural resources and enhance outdoor recreation.

(bottom) Planting alternate rows of hardwoods and conifers produces straighter hardwoods, more diverse stands, food and shelter for wildlife.

DNR BUREAU OF FORESTRY

to intersperse hardwoods and conifers."

"Alternating rows of pines and oaks, as we're doing here accomplishes a number of things," said Trent Marty, DNR tree improvement specialist. "DNR grows a relatively small number of hardwood seedlings at the state nurseries. So planting them in alternating rows with pines allows us to plant hardwoods on many more acres.

"Moreover, pines planted between rows of hardwoods act like nursemaids to the longer-lived oaks, maples or walnuts we typically plant. The conifers grow faster, so they tend to act like natural hedgerows. They provide wind protection, and they shade the hardwoods on two sides. Subsequently the hardwoods grow straighter toward the light. The conifers will be harvested after 25–30 years. Ultimately, when the hardwoods are harvested 40–50 years later, that will produce higher quality lumber or veneer.

"The shade that conifers provide greatly reduces the need for herbicides and mowing to keep the undergrowth under control.

"By cutting the wind, shading trees and covering the ground with needles, the conifers also hold much more moisture in the soil, which is good for deciduous and coniferous trees.

"Also, these mixed stands of hardwoods and pines are great for wildlife. The pines provide shelter and the hardwoods eventually provide acorns and nuts that are important food sources for a wide variety of animals," Marty added.

"The company sponsored a second site in the bottomlands of the Fenley Recreation Area in Jamestown township," Carlson said. There, 3,500 swamp white oaks were hand-planted to improve animal habitat and produce some forest cover. Plastic tree shelters were constructed around 150 of those trees. "The overall survival rate at that stand is excellent — better than 90 percent."

Sort of a Fresh Air Fund through forestry

Up in the Northwoods forests, Paul DeLong shows another private partner the fruits of five years of labor at the midpoint of a 10-year project. DeLong, a DNR forestry lands specialist, and two local DNR foresters are taking Chuck Finkl and Robert Ladevich on a survey of several sites where underwriting from A. Finkl & Sons Co. enables state foresters to plant 100,000 conifers a year on the Northern Highland-American Legion State Forest. The company, a Chicago heavy forge and steelmaking concern, has pledged to plant a million trees in Wisconsin by

the year 2000.

Why did a firm in the metal business with no facilities in Wisconsin invest in our public forests? Clean air.

As a heavy manufacturing industry in an urban center, A. Finkl & Sons Co. got very concerned in the late 1980s that the byproducts of doing business produced air pollutants and likely contributed to acid rain and global warming.

In addition to curtailing emissions from steelmaking, the company started a "Forging A Fresher America" campaign to convince other corporate leaders to make an investment in their environmental future. The company's annual investment in Wisconsin supports the planting of 100,000 two-year-old red pines and jack pines in many scattered stands throughout the north woods of Vilas County.

"We reforest stands after harvest using one of two options," DeLong says. "Some species like aspen will naturally regenerate after they are cut, but several species, like red pine often have to be replanted if we are going to sustain them. The forest would produce a natural succession of trees, but it might not naturally produce the mix or quantity of trees we desire."

"Long-term commitments, like that from A. Finkl & Sons, are especially welcome," said Chief Forester Higgs. "It allows us to plant on a timeframe and a scale that can substantially supplement the value of our public investment in public places.

"For instance, people appreciate that the state nurseries produce quality trees for multiple uses at a reasonable cost," Higgs said. "Few realize that more than 70 percent of the nursery stock we raise (21 million seedlings) is sold for planting private lands. Comparatively, the state's annual plantings of 600,000 trees are small, and private donations can beef up that percentage."

DAVID KUNELIUS

Planting some steep fields and ridges along the Lower Wisconsin Riverway will stem erosion and add scenic beauty. Colonial Craft, a wood molding and picture frame maker in Wisconsin and Minnesota, sees corporate sponsorship as another way of reinvesting in quality hardwoods on public lands.

Sustaining the exurban forest

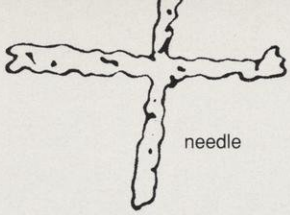
In a third locale, an old farm field within commuting distance of Milwaukee, Watertown and West Bend will provide a more scenic drive, food and cover for wildlife, and an aesthetic blend of trees.

The sponsor, the Hardwood Forestry Fund, is a support group of nationwide businesses that manufacture hardwood plywood and veneers. Their funds will turn a 25-acre field into a mixed stand of red oak, white pine and Norway spruce near Loew's Lake, a Washington County tract that's part of the Southern Unit of the Kettle Moraine State Forest.

The old agricultural field along Emerald Drive at the Shamrock Lane intersection will "provide screening along the roadways which not only gives wildlife more cover, but also gives users more of a feeling of privacy," explained DNR Forester Michael Sieger. We planted about 18,000 trees here — 9,000 red oaks, 4,500 white pine and 4,500 Norway spruce. When the conifers are about 25–30 years old, we plan to start thinning them, Sieger said. Hardwoods wouldn't be cut for 90 years. This mixed stand should provide decades of enjoyment for motorists, hikers and a wide range of wildlife, Sieger said.

Whether the reasons are personal or philosophical, tree planting on public lands gives people and companies a tangible way to invest in their beliefs — better forests, aesthetic beauty, more recreation, a more diverse mix of wildlife and raw materials for wood and paper products. It provides an opportunity to give roots and a sense of space to their ideals. □

David L. Sperling edits Wisconsin Natural Resources.



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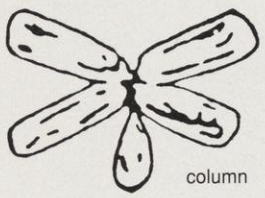
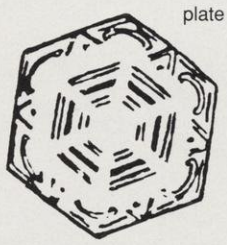
ILLUSTRATIONS COURTESY OF THE INTERNATIONAL GLACIALOGICAL SOCIETY





How does an individual crystal form? The process begins with a cloud. As warm moist air rises in the atmosphere, it cools. Cool air cannot hold as much water vapor as warm air. The water vapor condenses onto minute dust or salt particles (called condensation nuclei), thus forming water droplets and becoming clouds.

Water droplets grow by bumping into each other and fusing. In the cloud, water droplets may become supercooled; that is, they remain a liquid below the normal freezing point. When a water droplet encounters a much rarer freezing nucleus (such as a clay-silicate particle or a broken fragment from another ice crystal), the water droplet freezes around it and becomes a minute ice crystal. As the ice crystal floats in the cloud, water vapor freezes on its surface in a symmetrical pattern and the ice crystal grows into a snow crystal.

The temperature of the cloud determines the type of snow crystal that will form, and the crystal's rate of growth will be influenced by the amount of moisture available. Stellar dendrites form at around 5°F when there's plenty of moisture in the air. Hexagonal plates form in the temperature range of 0 to -25°F, but in much drier air.

As the snow crystal grows, it becomes heavier and begins to fall. It may pass into another region of the cloud with a different temperature or moisture level. The new physical factors sometimes result in a combination of crystal types. For example, needles may grow on hexagonal plates or hexagonal plates may grow on the ends of columns.

If a descending crystal hits a supercooled water droplet, the droplet freezes onto the crystal. The frozen droplet is called rime. As the crystal continues to strike supercooled water droplets, the rime thickens, destroying the crystalline symmetry and creating a crusty pellet called graupel.

Once the snow crystal leaves the cloud, its fate depends on the air temperature. In summer, the snow crystal melts and falls as a raindrop. In winter, the snow crystal reaches the ground...and your snow shovel. The type of snow crystals that fall during a snowstorm change in response to the physical conditions in the clouds, so take a break from shoveling and check your sleeve for a weather update. □

Do snow crystals lose their luster when they're piled knee deep?

ROBERT QUEEN

Anita Carpenter marvels at winter's wonders from her home in Oshkosh.

The return of TRAVELER

Long-time Wisconsin Natural Resources *readers may recall a feature we ran a few years back with the scintillating moniker of Wisconsin TRAVELER. This sprightly guide acquainted readers with festivals, tours, museums, outdoor recreation and other divertissements offered all around the state. Budgetary whiplash put TRAVELER out of commission for a spell, but now your companion has returned — a little slimmer, a little trimmer and ready as always to seek out and share the things that make living in and visiting Wisconsin so worthwhile. Take TRAVELER along on your journeys through the Badger State...and drop us a postcard, if you think of it. Write TRAVELER EDITOR,* Wisconsin Natural Resources, *Box 7921, Madison WI 53707.*

Readers Write

(STILL) AT READERS' FEEDERS

In the "Readers' Feeders" photos (June '94) Georgia and Robert Kalbas stated that they sometimes see badgers at their feeder. I worked for the Rock County Highway Department night and day for more than 15 years and never saw a badger!

Joe Kolanko
Janesville, Wis.

I have enjoyed your magazine for years from various locations. Now I'm back home in Wisconsin and I'll be able to relate even more to the articles and information. The "Readers' Feeders" photos in the June issue were great. Keep up the good work.

Marv Meier
Wausau, Wis.

THE ROAD WARRIOR

I have gotten your magazine for quite a few years and in general have found it dependable and enjoyable. However:

I decided to take a little drive south with the "Pocket Prairie Guide," which I found in your August 1994 issue. Your little "guide" lists Quincy Bluff Preserve, with sedge meadows and oak groves, a total of 2,000 acres. After stopping at three homes in White Creek and finally at a tavern I was able to discover the plot. I had been expecting to find quite a "sedge meadow." I found about 4–5 acres.

Your "guide" states that a "highway prairie" could be found at the Endeavor exit off Highway 51, then one mile north to County Hwy D. I exited 51 at Endeavor. There was no "D". I got back on 51, drove north to the Packwaukee exit, which indicates a Highway "D". I took "D" back south for several miles and saw no highway prairies.

Gus Lang
Wausau, Wis.

Because the prairie guide was so small, we could not provide detailed directions to each site. The best we could do is offer each prairie's general location and its approximate size. We included a phone number with each listing, so interested readers could call and get directions if they needed them.

Quincy Bluff is a large complex of sedge meadows, oak groves, woods and open fields. We did not state that the entire property consisted of a vast sedge meadow. Sorry this beautiful place didn't meet with your expectations.

About the highway prairie on County D: The Department of Transportation, which provided the information, reports that the highway prairie runs alongside Highway 51 between Endeavor and Packwaukee.

WHEY OUT

The way I look at it, we should find a way to better inform the public about the way the old whey is now being used as described by Tina V. Bryson in "The New Whey" (Aug. '94).

One way may be to find a way to reprint the story on edible peppermint- or chocolate-flavored whey paper and insert copies into all consumer products containing whey. Another way may be to find a way to print a condensed version of the story on the packages of products containing whey. Any way we look at it, it is remarkable how American ingenuity has found a way to turn waste whey into useable whey, profitable whey and obviously healthy whey. Whey to go!

Jerry Wiessner
Belleville, Wis.

OCTOBERS

I would like to let you know how much I enjoyed Bob Willging's "Octobers" (Oct. '94).

Wisconsin is the place to be in October. From my deer stand in central Wisconsin, I witness October's beauty: flocks of majestic waterfowl, carefree squirrels collecting nuts for the winter, ruffed grouse drumming on a nearby log. On a clear day, I can see a vibrant rainbow of fall color glowing from the trees on the horizon.

My family reads your magazine from cover to cover. Keep up the great work!

Drew Charpentier
Greenfield, Wis.

TAMARACK ATTACK

The October '94 issue included Tim Sweet's contribution, "The Double Life of the Tamarack," which I enjoyed reading, the more so because I am an enthusiast for the genus Larix. I do, however, see a need to correct the statement that tamarack "is the only coniferous tree that behaves like its deciduous counterparts." Had Mr. Sweet said "coniferous tree native to Wisconsin" he would have been on the mark. I am aware of at least four other genera of deciduous gymnosperms on our planet, including Ginkgo, Pseudolarix, Metasequoia and Taxodium.

Please excuse my professional compulsion for precision.

Hans G. Schabel
Professor of Forestry
University of Wisconsin
Stevens Point, Wis.

Compulsion noted. Thanks for the illumination!

WISCONSIN TRAVELER

A bloomin' delight

If you just can't wait for the first pasque flowers to burst through the snow, stop by Olbrich Botanical Gardens in Madison for the annual **Spring Flower Fest**, March 11–19. Thousands of fragrant blooming bulbs — daffodils, hyacinths, narcissi, tulips and irises — await winter-weary visitors starved for the sight of green and the scent of spring. The Olbrich horticulturalists always integrate some aspect of art into the show; this year, garden sculpture will be featured.

First-timers to Olbrich will enjoy the stunning conservatory, a soaring pyramidal greenhouse built in 1991. Vine-covered platforms and walkways set at different heights lend a tropical forest-like feeling to Olbrich's collection of more than 1,000 plants representing 700 species. (The orchids and carnivorous plants are especially intriguing.)

Plants aren't the only living things housed in this extraordinary glass structure. Button quail, coturnix quail, orange-cheeked waxbills, diamond doves, spice finches and canaries nest in the trees and shrubs; zebra longwing and dryas julia butterflies flit from flower to flower. If you're quick, you can spy on tree frogs, toads and anoles as they leap and scurry across the forest floor.

Olbrich Botanical Gardens, 3330 Atwood Ave., Madison. Hours: Mon.–Sat. 10 a.m.– 4 p.m.; Sun., 10 a.m. – 5 p.m. Admission: $1 ages 6 to adult. Free on Wednesday and Saturday mornings between 10 a.m–noon. 608/246-4550.

While you're in Madison and vicinity, visit:

Madison Children's Museum, featuring "Leap into Lakes," a new exhibit about water quality. Walk through a giant bluegill, take a water sample, and laugh a lot! 100 State St. 608/256-6445.

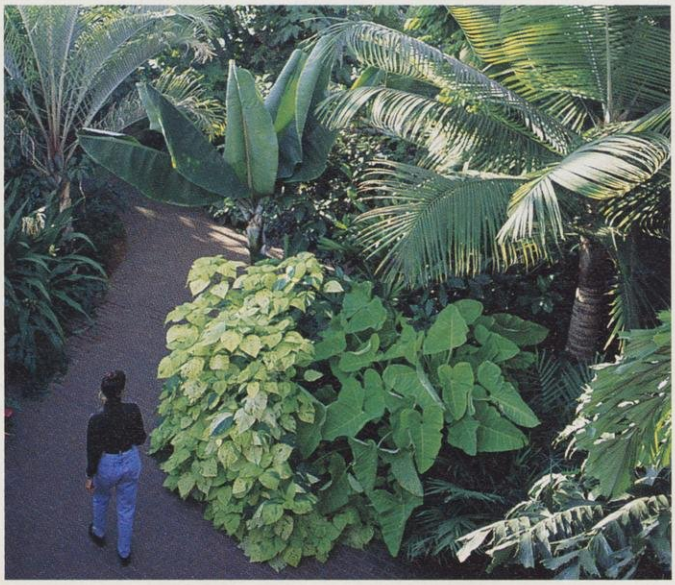
Indian Lake County Park, a pleasant place to hike or get in some cross-country skiing before the snow melts. Eight miles northeast of Madison on Highway 19. 608/246-3896.

Elvehjem Museum of Art, free classical music concerts each Sunday afternoon at 2:30. On the UW-Madison campus, 800 University Ave. 608/263-2246.

ROBERT QUEEN

Leap into lakes!

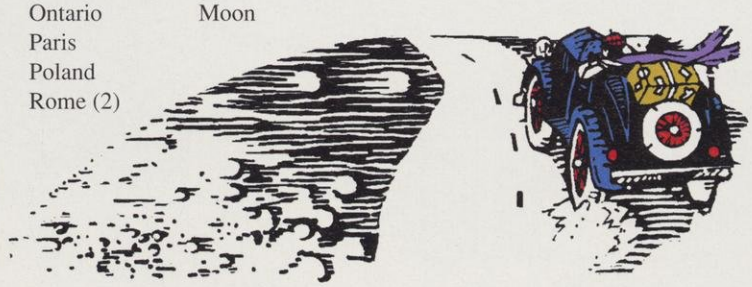
The tropics under glass at Madison's Olbrich Gardens.



ROBERT QUEEN

Trek the globe (and beyond) without leaving the state! On your travels, look for these Wisconsin communities:

Athens
Denmark
Genoa
Jordan
London
Ontario
Paris
Poland
Rome (2)
Scandinavia
Sparta
Stockholm
Waterloo
and
Moon



Dates and times of events listed in TRAVELER may change — avoid a hitch in your travel plans by calling ahead!

Make a date

February 17–19:

Mid-Continent Railway Museum's Steam Snow Train, North Freedom, Sauk County. Ah, choo-choo! Travel back in time in a steam-heated coach pulled by a turn-of-the-century steam engine. The train departs at 9 and 10:30 a.m., noon, 1:30, 2:45 and 4 p.m. A dinner train leaves the station at 6:30 p.m. on Feb. 17th and 18th. 608/522-4261.

February 25–26:

Echoes of the Past Trade Fair, Oshkosh, Winnebago County. Wool spinners and buckskinners, tinsmiths and potters make and sell their wares in this celebration of historic crafts and skills from the 1750s to the Civil War era. 414/233-5332.

March 18:

St. Patrick and St. Urho Celebration, Barnes, Bayfield County. When the Irish and the Finns get together, can a party be far behind? Parades and dancing begin at 1 p.m. in honor of the guys who drove the snakes out of Ireland and the grasshoppers out of the sauna. 1-800-472-6338.

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