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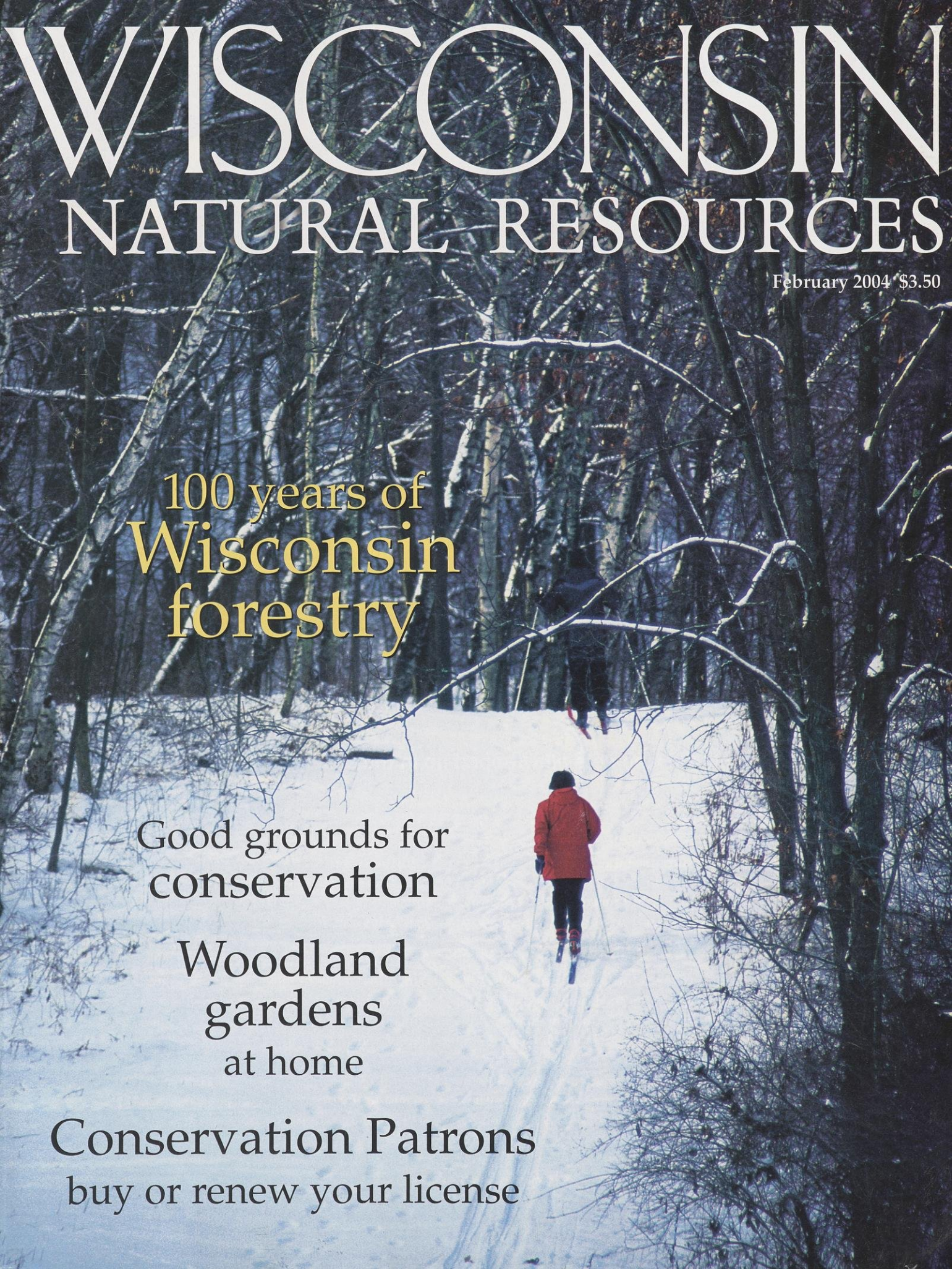
# WISCONSIN NATURAL RESOURCES

February 2004 $3.50



## 100 years of Wisconsin forestry

Good grounds for conservation

Woodland gardens at home

Conservation Patrons buy or renew your license

# A bittersweet tale

Bittersweet "berries" are capsules that contain three to six seeds. The fruits are readily eaten by birds that spread the seeds. In the northeastern U.S., this native vine is being replaced by the imported Asiatic bittersweet that has escaped cultivation.

**This colorful vine gets all wrapped up in the season.**

*Anita Carpenter*

During summer, bittersweet remains inconspicuous, slowly climbing and entwining the saplings on a fencerow. Its non-showy tiny greenish-white flowers and nondescript leaves are lost in the profusion of summer color and greenery.

In winter, when white dominates the scene, bittersweet glows. After the leaves shed, its bright orange fruit capsules persist on the vines and radiate like tiny beacons against the dull brown fall colors and bright white landscapes. If you discover this uncommon plant, follow the vines from the fruits back to their source and you can appreciate bittersweet's winding, climbing path. Remember its winter location and return there in summer to study a unique Wisconsin plant.

Bittersweet *(Celastrus scandens)*, sometimes called American bittersweet, is a native vine that thrives in open areas climbing along fencerows, roadsides and streambanks. By definition, vines have flexible stems that are unable to support them. They depend on other plants or manmade structures to rise to their place in the sun. Unlike grapes, Virginia creeper and wild cucumber, which use curling tendrils to anchor to a support tree or fence, bittersweet climbs by twining its smooth gray stems and branches around and up a tree. Bittersweet is not afraid of heights and may ascend to the dizzying height of 60 feet or more. When suitable support is unavailable, bittersweet trails along the ground or climbs over piled rocks or hedgerows.

*continued on page 28*

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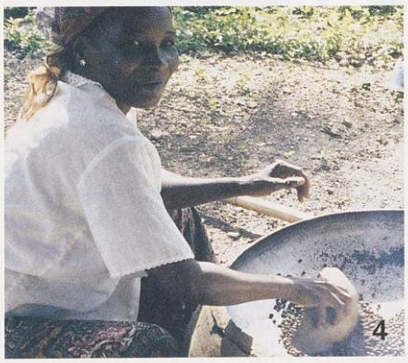
JOHN SHEFFY


DON BLEGEN


HERBERT LANGE



**FRONT COVER:** Forests are planned and managed to produce boards, cords, wildlife habitat, recreation and relaxation while maintaining the land.
ROBERT QUEEN

**BACK COVER:** Bear Beach State Natural Area in the Brule River State Forest, Douglas Co. Celebrate 100 years of growing and giving in Wisconsin's state forests. For information on the forestry centennial, see our website, www.wisconsinforestry.com.
CATHY KHALAR



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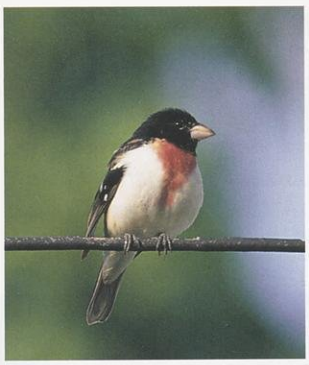
# Good grounds for conservation

## Time for a lesson about the birds and beans.

*Craig Thompson and John Sheffy*



STEPHEN J. LANG

*(above)* **Rose-breasted grosbeak. More than half of the birds that breed in North America winter in the tropics and benefit when *(below)* sun-grown coffee plantations switch back to shade-grown techniques that sustain habitat and soil.**

It begins at breakfast — the opportunity to make a difference. That first cup of coffee brims with possibilities: A connoisseur knows it's the bean that matters; a socially concerned conservationist knows it's not only the bean, but also how it is grown and by whom.

Deep in the cradle of Mexico lies a mountain blanketed with a riotous tangle of vegetation. Tree ferns grow to mammoth proportions and a profusion of bird song resonates through the forest. "El Triunfo," as it is known to residents of the Mexican state of Chiapas, is still a wild place. Cloaking the upper slopes of the Sierra de Chiapas, El Triunfo is the largest cloudforest remaining in southern Mexico. Little changed since the Pleistocene, it is a treasure trove of biological diversity.

El Triunfo provides vital habitat for myriad species, including migrant birds from Wisconsin. To help ensure its protection, in 1990 the Mexican government declared El Triunfo a biosphere reserve — a system of land use including strict preservation and multi-use conservation zones.

An experiment in compatible land use is underway on the slopes surrounding El Triunfo. Coffee farms of various sizes ring the reserve, acting as a buffer for the natural forest and preventing the land from being converted to row-crop agriculture or ranches, which quickly degrade and erode the thin tropical forest soil. The coffee farms provide habitat for the reserve's wild residents while diversifying the source of income for coffee pickers and farm managers.

## In the shade of a coffee forest

Coffee in the El Triunfo buffer zone is grown the old-fashioned way — in the shade. That makes all the difference in the world to a travel-weary warbler from Wisconsin.

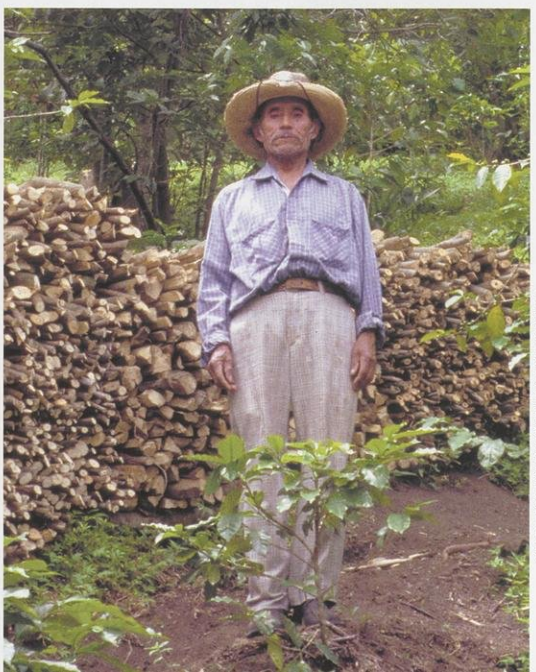
| | Shade-grown coffee | Sun-grown coffee |
|---|---|---|
| **Yield** | lower (about 25–40 percent) | higher |
| **Coffee plants per hectare** | 1,000–2,000 | 3,000–7,000 |
| **Kilograms of coffee per hectare per year** | 550 | 1600 |
| **Lifetime of coffee plants** | 24–30 years | 12–15 years |
| **Number of other crops in same area** | high | low/none |
| **Flavor** | less bitter | more bitter |
| **Producer** | mostly small-scale growers | mostly large-scale growers |
| **Number of bird species** | 150 | 20–50 |
| **Proportion of birdlife compared to a normal forest** | two-thirds | about one-tenth |
| **Number of mid-sized mammal species** | 24 | almost none |
| **Number of other plant & animal species** | more ants, beetles, epiphytes, amphibians, and other species | fewer ants, beetles, epiphytes, amphibians, and other species |
| **Weeding needed** | lower | higher |
| **Chemical fertilizers** | lower | higher |
| **Pesticide use** | lower | higher |
| **Irrigation needed** | lower | higher |
| **Soil erosion** | lower | higher |
| **Soil acidification** | lower | higher |
| **Toxic runoff** | lower | higher |

*Courtesy of the Seattle Audubon Society Shade-Grown Coffee Project*

Coffee bean "cherries" ripen over three to five months in Latin America, but the bulk of the crop is harvested in a few weeks creating an intense, short-term need for labor. Growing several different crops on the same land can sustain jobs for longer periods.

BILL BRADLEE/SEATTLE AUDUBON SOCIETY

For instance, coffee bushes and shade trees in coffee farms are pruned annually providing firewood for fuel and heat.



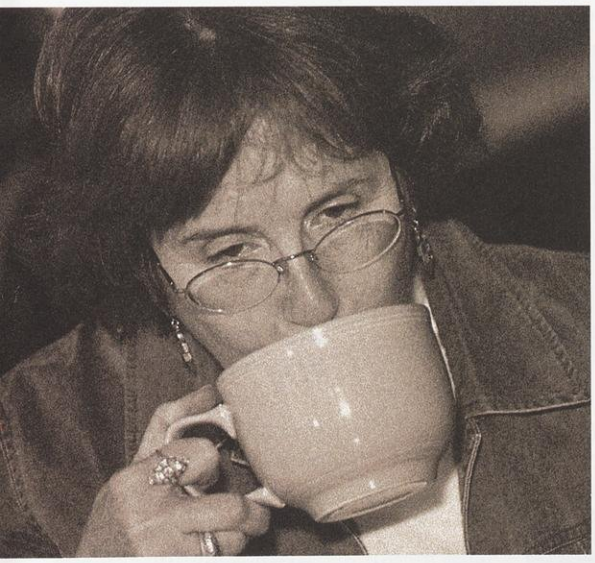
SMITHSONIAN MIGRATORY BIRD CENTER

More than half of the approximately 650 species of birds that breed in North America winter in the tropics. For those dependent on forested habitats, finding suitable tropical forests in many Latin American nations is a tenuous proposition. Two-thirds of Latin America's forests have fallen to small-scale peasant and plantation agriculture; the remaining habitat is fragmented, its edges degraded. To a northern oriole or rose-breasted grosbeak from Wisconsin, a coffee farm provides a welcome respite.

Originally found in the forests of Ethiopia, coffee was introduced to the New World in the 1700s. Cultivation spread rapidly throughout Latin America and now covers more than 7 million acres there. The shade-loving shrub traditionally was raised in "coffee forests." In a coffee forest farm, coffee plants are set out under a mixed canopy of forest shade trees. The farmer may include a second layer of fruit trees — banana, citrus, or avocado — for additional cash income. The coffee plants themselves occupy the third layer, and the surface of the soil is used for raising an understory of various low-growing vegetables, herbs and tubers.

The structure of a coffee forest resembles the surrounding tropical forest, complete with continuous groundcover, diverse communities of flowering trees, vines and other epiphytes. Coffee forests are very inviting to many species that require forested habitats, including more than 100 species of forest-dependent birds that migrate from North America to Latin America every year. As more native tropical forests are degraded, traditional coffee farms and other creative forest farming endeavors increasingly serve as surrogate habitat for migrant birds and resident wildlife.

In the 1970s, the robust and expanding coffee industry hit a speed bump. A fungal blight, coffee leaf rust, was found growing in damp, shady plantations in



ROBERT QUEEN

A traditional shade-grown coffee farm in Chiapas, southern Mexico, with the El Triunfo Biosphere Reserve rising in the background. Such farms bordering national parks and reserves expand habitat and act as corridors between forested tracts. Shade-grown coffee farms provide habitat for 94–97 percent more birdlife than sun-grown plantations.

STERLING ZUMBRUNN/CONSERVATION INTERNATIONAL

Brazil. The spreading blight threatened the entire industry. Green revolution researchers and aid agencies encouraged growers to switch to high-yielding varieties of coffee that grow well in full sun, eliminating the threat of fungal blight.

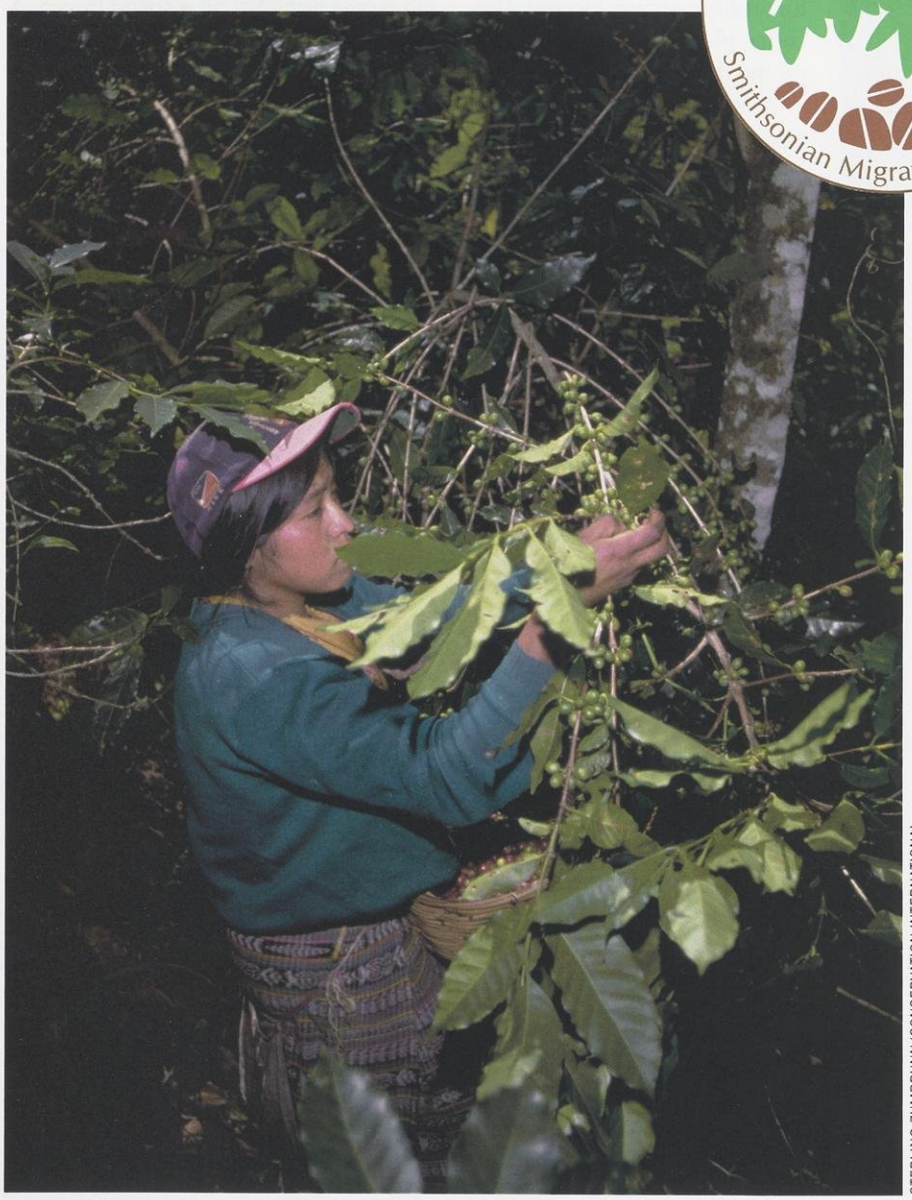

ROBERT QUEEN

Since that time 40 percent of formerly shade-grown coffee acreage cultivated in Latin America has been converted to "sun plantations." Many new coffee farms raise full-sun coffee as well. Sun-loving varieties of coffee produce up to 30 percent more beans than their shade-loving kin, but they also require the use of more fertilizers and pesticides to thrive. Without a lush tree canopy for protection, a sun plantation's thin tropical soil is exposed to heavy rains and harsh sunlight. Erosion is common, and the intense heat literally bakes the microorganisms vital for soil health, leaving a less fertile soil requiring greater amounts of fertilizer to produce a crop.

Biologically, these chemically dependent plantations are wastelands, supporting only a minute segment of the species found in forest farms, says Russell Greenburg, Director of the Smithsonian Institution's Migratory Bird Center. He has an inordinate fondness for shade-grown coffee. Work done by Greenburg and his colleagues in Chiapas has shown that forest farms are brimming with biodiversity, providing habitat for more than 150 species of birds — a number exceeded only by primary tropical forest. By comparison, plantations basking in full sun yield far fewer species, typically between 20–50. The same holds true for insects, amphibians and mammals, displaying the cascading results of land use decisions on all forest trophic levels.

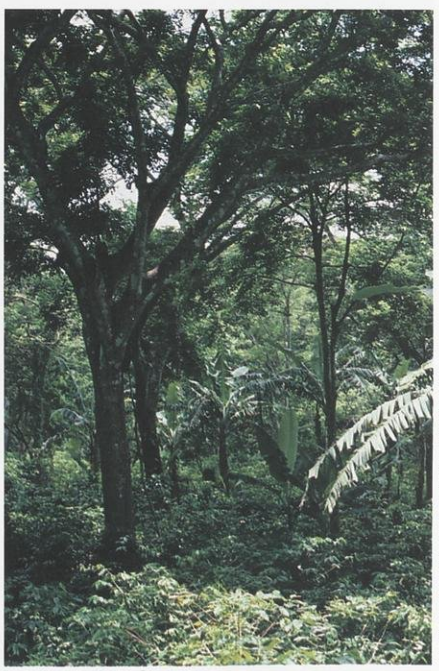
**Harvesting and marketing shade-grown, fair trade coffee can be good for birds and workers. Ask retailers to stock coffees certified by one of the many participating programs.**

BIRD FRIENDLY™
Smithsonian Migratory Bird Center



STERLING ZUMBRUNN/CONSERVATION INTERNATIONAL

**Shade cover with trees at least 35–40 feet high provides critical bird habitat. Crops grown at several levels from ground cover to treetops provide food and shelter for a diverse mix of birds, mammals and insects while protecting soil and holding moisture.**



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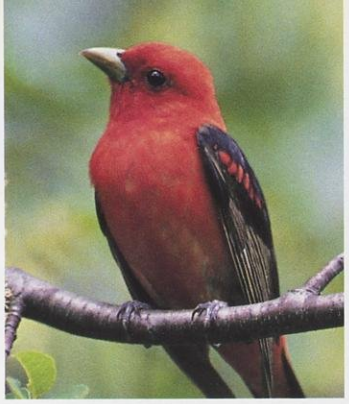
Red-eyed vireo.



Scarlet tanager.

Yellow warbler.

Turkey vulture.

(ALL PHOTOS THIS PAGE) STEPHEN J. LANG

## Migratory birds observed in shade-grown coffee plantations

The following birds breed in North America and spend the winter in the tropics.

- swallow-tailed kite
- sharp-shinned hawk
- broad-winged hawk
- yellow-billed cuckoo
- black-billed cuckoo
- Vaux's swift
- ruby-throated hummingbird
- rufous hummingbird
- yellow-bellied sapsucker
- olive-sided flycatcher
- western wood pewee
- eastern wood pewee
- alder flycatcher
- Hammond's flycatcher
- yellow-bellied flycatcher
- blue-headed vireo
- plumbeous vireo
- Cassin's vireo
- red-eyed vireo
- white-eyed vireo
- Philadelphia vireo
- yellow-throated vireo
- warbling vireo
- blue-gray gnatcatcher
- wood thrush
- Swainson's thrush
- blue-winged warbler
- golden-winged warbler
- Tennessee warbler
- Nashville warbler
- northern parula
- yellow warbler
- chestnut-sided warbler
- yellow-rumped warbler
- magnolia warbler
- Cape May warbler
- black-throated blue warbler
- Townsend's warbler
- black-throated green warbler
- Blackburnian warbler
- cerulean warbler
- black-and-white warbler
- American redstart
- prothonotary warbler
- ovenbird
- Louisiana waterthrush
- mourning warbler
- MacGillivray's warbler
- Wilson's warbler
- Canada warbler
- hepatic tanager
- summer tanager
- scarlet tanager
- western tanager
- rose-breasted grosbeak
- black-headed grosbeak
- indigo bunting
- painted bunting
- Lincoln's sparrow
- western oriole
- northern oriole
- turkey vulture

This list is gleaned from published articles on shade-grown coffee, surveys in Panama and Peru (www.si.edu/smbc), and from observations.

### New markets take wing

When compared to all of Latin America, the forests of Central America harbor the highest number of wintering North American migrant birds. Shade-grown coffee forest farms are critical for their survival — and to the survival of thousands of farmers suffering from the lowest coffee prices in decades on the world market. Shade-grown coffees certified as "bird friendly" command a higher price than uncertified coffees, giving forest farmers a direct financial incentive to conserve bird habitat. Many java aficionados say coffee beans raised rapidly on sunny acres lack the richness and density of slower growing shade coffee; these connoisseurs are willing to pay more to savor the shade-grown varieties.

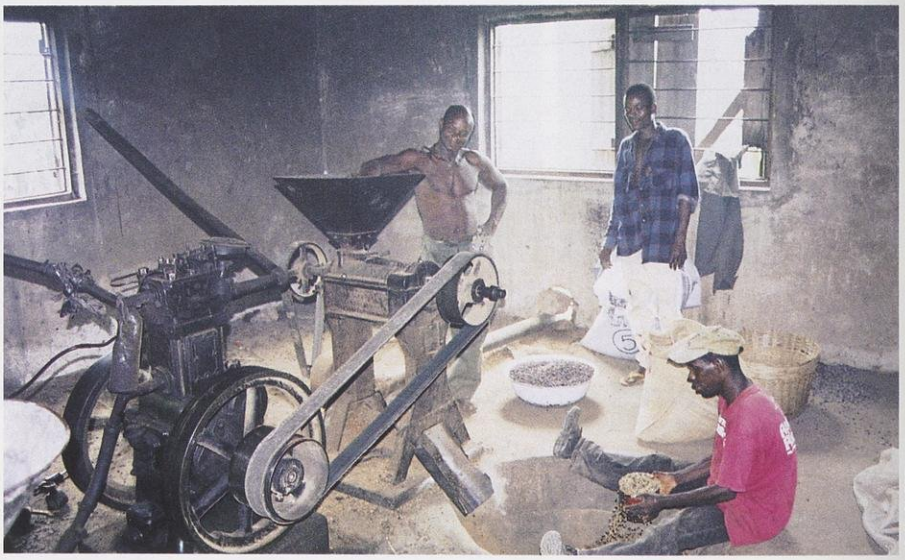
With habitat loss the primary threat to wildlife in Central America, coffee prices at all-time lows, and increasingly sophisticated consumer palates, it is no wonder that shade-grown coffee is receiving the attention of conservationists, development agencies and peasant farmers. When local Audubon societies in Latin American countries want to see birds, they often go to coffee forest farms. The layered coffee forest farm produces multiple benefits for farm families — fuel, construction materials, fruit, nuts, animal fodder, food, honey from beekeeping, medicinal plants, and cash from the sale of surplus farm produce and the coffee beans. Agroforestry systems like coffee forests decrease a farmer's dependence on volatile cash crop markets, and provide sustenance in years when the subsistence crop harvest is poor.

### Coffee with a conscience

Today, specialty coffees are all the rage. There has been an amazing profusion of local retail outlets offering an endless variety of mochas, lattes, cappuccinos, and even green beans sold online for home roasting. As expectations for coffee as a beverage evolve, so too should our expectations for how it is grown. The Specialty Coffee Association of America (www.scaa.org), a forerunner in coffee quality enhancement, recently expanded its concept of "total coffee quality" to include environmental and social characteristics. It is time to define a new niche for coffee, a niche that mainstreams the notion of what some refer to as "coffee with a conscience."

Habitat loss due to forest conversion is a symptom of land scarcity, perverse trade practices, skewed political incen-

ROBERT QUEEN



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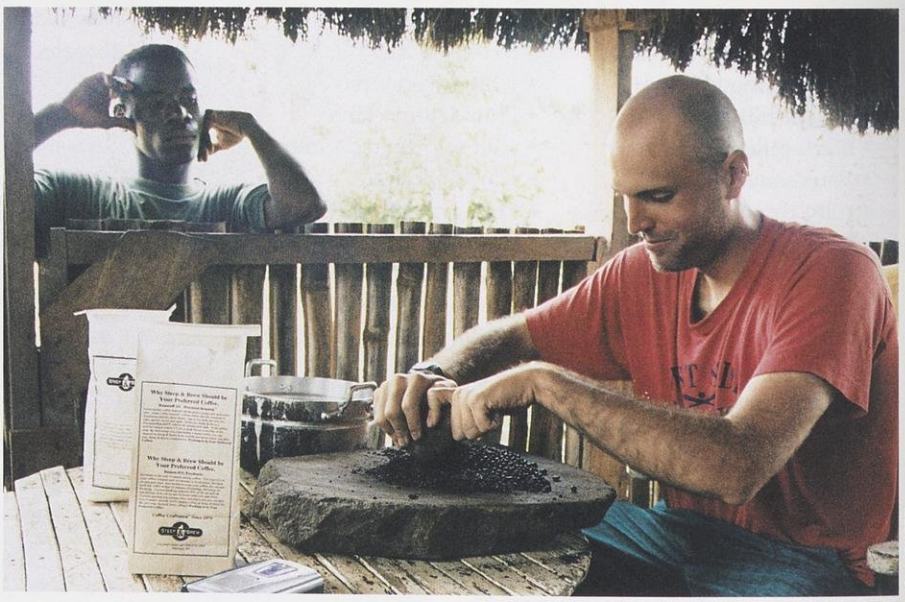

JOHN SHEFFY

**Small-scale growers of coffee, cocoa and other specialty crops (like macadamia nuts) worldwide are trying to find ways to raise and market products that can sustain people and the environment. Peace Corps volunteers are working with this coffee project and other commodities in Togo in hopes of breaking into European and U.S. markets.**

tives, and powerless local farmers. Certification programs — which designate coffee raised under appropriate conditions as "organic," "fair trade," and "shade-grown bird friendly" — are ways to empower small and large farmers by rewarding their stewardship efforts.

*Organically certified* coffees are produced without the use of chemical fertilizers, pesticides, or processing techniques. *Fair trade* coffees are produced by small-scale grower associations organized to promote social equity and sustainability. Under fair trade arrangements, farmers sell directly to retailers at an agreed-upon fixed price; the farmers' profits are higher and their markets more stable. Fair trade programs may also provide credit to allow farmers to improve their growing techniques.

*Shade-grown, bird friendly* coffees guarantee the coffee is organically produced and that coffee farms comply with habitat requirements for forest diversity and structure. Companies that sell "Bird Friendly®" coffees contribute 25 cents per pound towards Smithsonian Migratory Bird Center research and conservation programs.

Conservation International (www.conservation.org), one of the world's leading conservation organizations, and the United States Agency for International Development (USAID) among others, are working with companies like Starbucks and Green Mountain Coffee Roasters to develop robust markets for organic, shade-grown, bird friendly coffees from Latin America. USAID funds empowerment projects that supply coffee grower cooperatives with tools and technical training to increase the quality, and thus the value of their beans through processing and certification. Such support for small-scale farmers and local economies contributes to the conservation of forested areas in the world's tropical regions.

Leafy experiments like those near El Triunfo are germinating in other parts of the tropics. Ultimately, they will test the compatibility of conservation and consumerism. Their success is vital, for national parks and reserves alone will not address the habitat needs of migratory birds, other wildlife and people.

The shade-grown coffee forest farms adjacent to the El Triunfo Reserve are making a difference. As a consumer, so can you. It boils down to choice, to voting with your dollar, to making a conscious effort to purchase products like organic, fair trade and shade-grown coffees. The next time you order a cup, make sure to ask for "shade-grown" and look for the certification seals. And don't forget to educate your friends, preferably over an environmentally friendly, socially just cup of joe.

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*Craig Thompson leads the DNR's West Central Regional Land Team in La Crosse. John Sheffy is a Peace Corps volunteer stationed in Kpalimé, Togo, West Africa. His projects include developing sustainable agriculture programs.*

# From the trail to the garden

## Where there's a will, there's a way to enjoy Wisconsin woodland plants at home.

*Eva A. Counsell*

Woodland hikes provide plenty of opportunity to enjoy native flora. Whether you favor spring ephemerals like Dutchman's breeches *(Dicentra cucullaria)* and spring beauty *(Claytonia virginica)*, or you prefer the radiant bloom of cardinal flower *(Lobelia cardinalis)* in late summer, there are countless woodland plants to admire all year long. Unfortunately, most of us don't have the luxury of enjoying a day in the woods whenever the mood strikes us, particularly if we live in urban areas and have to travel to be surrounded by native woodland. But don't be discouraged, because there's a simple way to increase your access to native woodland plants: begin a woodland garden at home.

Planting native woodland plants in your yard is easy and environmentally sound. These indigenous plants, which have evolved in response to the light, moisture and nutrient conditions of the forest landscape, are well-suited to our soil and climate. Most species need minimal watering and are self-seeding, so they will spread naturally once established.

Native plants also attract other natives, such as birds and butterflies. Grow some of Wisconsin's most captivating natives at home in a backyard woodland garden and you'll have a daily opportunity to observe and learn about the plants and animals you usually see only on forest hikes.

Some woodland flowers will feel right at home in a garden raised on the north side of a house or shaded by trees and shrubs. The beauty of working with native species is that once they are established, maintenance needs are minimal. We've provided tips for finding plant stock for hardy plants like mayapple *(left)* and the ephemeral spring beauties *(above)*.

## Hiking for inspiration

Hiking or walking the woods is a great way to find ideas for your woodland garden.

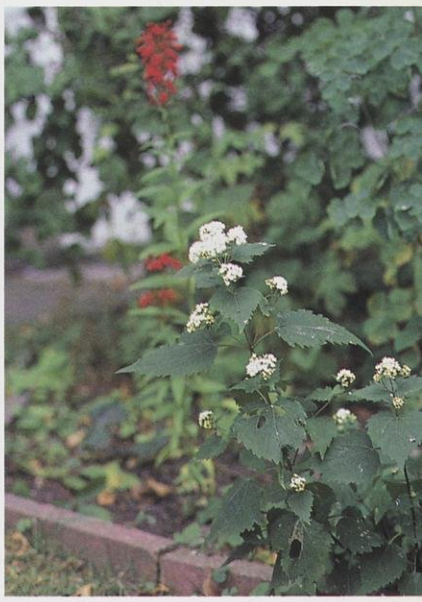
Wisconsin boasts over 2,730 miles of hiking trails to introduce you to spectacular woodland scenery. Don't know where to begin? I recommend starting your search at a library or bookstore. Look in the travel or nature sections for books that recommend woodland hikes. One I like is *Hiking Wisconsin*, by Eric Hansen. Hansen hiked over 800 miles to create an excellent guidebook, with routes organized by appealing features. His hikes in northern Wisconsin will take you through some of the most pristine woodland in our state. [*Editor's note:* Other good guides include the *Walking Trails of Wisconsin* series by Bob Crawford, *Great Wisconsin Walks* by Wm. Chad McGrath, and *Hiking Wisconsin: America's Best Day Hiking* by Martin Hintz.]

Many of the fall colors and spring blooms you enjoy in the woods will also thrive in a home garden plot, provided you create the right conditions. To understand what kind of conditions you will need, go for a walk in the woods closest to where you live, and bring along a notepad and pencil.

Notice the entire ecological community around you. How much shade is there? Is the soil damp or dry? What is the ground cover like? Use your field guide to identify the plants that interest you. When studying plants, never remove them from their natural habitat. Removal disrupts the ecological community and is often illegal. Instead, focus on clearly identifying the plants you enjoy, and observing their needs for light, soil and water. If you can, return to the same trails in different seasons. Notice when the white snakeroot *(Eupatorium rugosum)* is in bloom and when it is dormant. Try to identify the plants growing around it. Forest plants grow in communities; if you can create a similar woodland community at home, it's more likely your native plants will thrive.

(BOTH PHOTOS) EVA COUNSELL

Author Eva Counsell tends an 8x10-foot woodland garden on the shady north side of her home. She spends several seasons hiking forests, looking at forest flowers throughout the year, noticing compatible species and identifying the species she wants to try. Then she plants them, establishes them and lets them go.



White snakeroot (in front of the red cardinal flower) is a native woodland flower that could spread more widely and has the potential to be invasive.

Good things come early and in small, delicate packages. *(above left)* Dutchman's breeches and *(left)* round-lobed hepatica bloom in early spring, get pollinated and set seed by May to finish their cycle before the overarching canopy shades the forest floor.

## Finding a planting site

If you already have an area shaded by a tree or large woody plant in your yard, you're well on the way to providing the dappled light, ground cover and weather protection the understory of lower-growing native plants requires. If not, you can begin to mimic the natural conditions of a woodland by planting a tree or shrub.

The amount of shade you receive will determine the maximum garden size. A well-shaded north side of a house or building usually offers the best planting spots; the east side, which receives the gentler rays of the morning sun, is also a good bet. You don't need a lot of space for your woodland garden. My 8'x10' garden is shaded primarily by the north side of my house, which provides some wind relief on stormy days.

Fallen leaves from nearby trees are the best ground cover for a woodland garden. A layer of leaves keeps the soil surface from drying out and helps maintain the moist, cool atmosphere woodland plants prefer. As the leaves decompose, trace nutrients are returned to the soil and valuable organic matter builds up, loosening the soil and increasing its ability to hold water. If you don't have trees in your yard, you may need to rely on neighboring trees for leaves, or gather leaves others put on the curb for pick-up.

When preparing your garden site, remember you are trying to duplicate the conditions observed on your hikes. Turf grass does not grow in the forest, so if you have grass, you will need to remove it, either by pulling it up or killing it off. Here's an easy, nonchemical, non-back-breaking way to get rid of grass: Place a thick layer of wet newspaper over the grass, topped with a heavy layer of mulch. Leave it for a few months. The grass will die, and decompose into the soil. Other plants on the site can remain if you like them, or you can move them if you want to create a completely native environment.

## Choosing plants

After you have prepared the site, you can begin considering which plants are suitable for your garden. It's important

to match your plants to the available sunlight and moisture conditions.

Make sure the plants or seeds you acquire are native! A good field guide will tell you the plant's common and Latin name, as well as identify the true natives indigenous to the region before European settlement. Some of the plants you see in the wilderness may have become integrated later and may not be true natives, such as butter-and-eggs *(Linaria vulgaris)* or field bindweed *(Convolvulus arvensis)*. Others, like dame's rocket *(Hesperis matronalis)* or purple loosestrife *(Lythrum salicaria)*, may be invasive species that threaten native habitats with their aggressive growth habits. An exceptional resource for identifying natives is the Wisconsin State Herbarium, which has the world's largest collection of Wisconsin plants and a large online database of vascular plants with photographs to help with identification. A DNR handout can also put you in touch with a host of nurseries providing native plant stock to Wisconsin gardeners.

When I moved into my house, some plants were already growing in the woodland garden; I added others as time went on. My small garden now includes mayapple *(Podophyllum peltatum)*, jack-in-the-pulpit *(Arisaema triphyllum)*, wild geranium *(Geranium maculatum)*, wild strawberry *(Fragaria virginiana)*, twisted stalk *(Streptopus amplexifolius)*, maidenhair fern *(Adiantum pedatum)*, white snakeroot *(Eupatorium rugosum)* and most recently, sharp-lobed hepatica *(Hepatica acutiloba)*. I identified the natives and non-natives, then transplanted all the non-native herbaceous plants to another area of my yard to make room for natives I wanted to add.

Transplanting is best done during the shoulder seasons of early spring and fall to avoid the dry heat of summer and the freezing cold of winter. You want to give the plants time to root and establish themselves before any extreme weather arrives; this holds whether you are planting new arrivals or moving transplants from elsewhere. If you are unsure about transplanting, put your native plants in alongside your "exotic" or non-native plants. This will give you time to consider if you want exclusively native plants in your garden space and where you might relocate other non-natives when you are ready.

In my woodland corner, one shrub is a well-established exotic (Henry Lauder's walking stick *Corylus avellana 'Contorta'*), but I leave it alone to provide shade and shelter for the birds. Remember, a woodland garden is a small community. Once established, the less the garden is disrupted, the better.

## Establishing your woodland garden

Starting native plants from seed can be a slow, albeit rewarding process. Some seeds take years to sprout and mature into the plants you see trailside. Wisconsin is extremely fortunate to have many experienced hands in this field. Lori Otto of Milwaukee founded Wild Ones Natural Landscapers in 1990 to promote preserving and planting native species; the group has grown into a national organization of 50 chapters in 12 states. There are 13 Wild Ones chapters around Wisconsin whose members will gladly provide advice on collecting and propagating seed and raising Wisconsin natives in your garden.

Another option is to purchase plants from nurseries that specialize in raising native plants. Most local nurseries carry at least a small selection of natives. When choosing plants, make sure they are true Wisconsin natives. Knowing a common name may not be enough. For example, tall bellflower *(Campanula americana)* is a beautiful woodland plant native to the southern half of the state. Creeping bellflower *(Campanula rapunculoides)* is a prairie wildflower from Europe that was popular as a garden plant over half a century ago. It has since escaped into the wilderness and is so common it is often mistaken as a native wildflower. Be sure to look up the Latin genus and species name before you visit the nursery.

Native woodland species are planted in much the same way as other garden sets. Water the new spot in the garden before you plant. Dig holes large enough to hold the existing root system and settle plants at ground level. Anticipate the plant's full size and make sure it has room to grow.

**These two flowers grow on the edge of woods and in meadows.**
*(left)* **Wild strawberry. The edible small berry grows in the central part of the flower.**
*(right)* **Harebell is in the campanula family as are bellflowers and cardinal flower.**

AL HILLERY *(LEFT)* SCOTT NIELSEN

Jack-in-the-pulpit is also called Indian turnip. It prefers damp soils. Grow this showy plant a bit farther back in the garden as it grows taller (a foot or more) and lasts longer than many wildflowers. The central spadix (the jack) bears red berries in late summer into fall.

## Recommended resources

**In print:**

*Wildflowers of Wisconsin Field Guide* by Stan Tekiela, Adventure Publications Inc., 2000

*100 Easy-to-Grow Native Plants for American Gardens in Temperate Zones* by Lorraine Johnson, Firefly Books, 1999

*The American Woodland Garden: Capturing the Spirit of the Deciduous Forest* by Rick Darke, Timber Press, 2002

*Woodland Garden* by A.T. Johnson, Lyons Press, 1999

*Hiking Wisconsin* by Eric Hanson, Falcon/Globe Pequot Press, 2002

*Walking Trails of Southern Wisconsin* by Bob Crawford, University of Wisconsin Press, 2000

**Online:**

WDNR online Native Plant Nurseries and Restoration Consultants in Wisconsin
www.dnr.state.wi.us/org/land/er/invasive/info/nurseries.htm

Wild Ones
www.for-wild.org/

Wisconsin State Herbarium
www.botany.wisc.edu/herbarium/

Chicago Botanic Garden Plant Information
www.chicagobotanic.org/plantinfo/index.html

North Country Trail Association
www.northcountrytrail.org/pwf/

Invasive Plants Association of Wisconsin
ipaw.org

Wisconsin State Natural Areas
www.dnr.state.wi.us/org/land/er/sna

Environmental Protection Agency's Online Guide to Landscaping with Native Plants
www.epa.gov/greenacres

In the Chicago Botanic Garden's online guide to creating a woodland garden, Conservation Ecologist Jim Steffen recommends planting all of your natives at one time. In native woodland communities, the competition for light, water and nutrients is great, and plants added years later may not thrive. This is sound advice, but it is not always practical for the amateur gardener. Time, space and budget rarely allow planting a garden all at once. I have successfully added several plants to my woodland garden over the past two years, always making sure the new plants had ample space and light. Not all your woodland plants may survive, but it is interesting to watch how the new plants progress. Planting any garden is a continuous learning process; create a garden space you enjoy and you'll learn plenty as the years pass!

Keep watering your new plants until you see signs of new growth — an indication the plants have taken root. Once your native garden is established, additional watering and fertilizing are both unnecessary and unhelpful. Natives thrive in natural conditions. I do not prune, weed or rake out my woodland garden, just as I would not prune, weed or rake out the woods I hike through. There is one exception: If you find invasive or overly aggressive species in your woodland corner, pull them out before they threaten your remaining plants. I remove the highly invasive garlic mustard *(Alliaria petiolata)* from my yard every year regardless of where it turns up.

Gardening is an excellent way to bridge your life with the natural world. I still go for woodland hikes whenever I can and each time I do, I discover new wonders. Now I also enjoy those discoveries in my own back yard, as I watch my native woodland garden change over time. Having a woodland garden can make time at home as well as time on the trail more meaningful and satisfying.

*Eva A. Counsell is a certified Master Gardener and writes from Shorewood.*

WILD GERANIUM BY FREDRICK SEARS

# FOR OUR PATRONS

## News for Conservation Patron license holders

Wisconsin CONSERVATION PATRON

Thanks for your interest in renewing or buying a hunting, fishing or Conservation Patron license. These licenses expire each year on **March 31st**. The Wisconsin Department of Natural Resources offers four quick ways to conveniently buy a Conservation Patron license starting March 10, 2004. You will not receive a separate mailing to renew your CP license.

ROBERT QUEEN

**BUY ONLINE**

Just pull up **www.dnr.state.wi.us** or DNR's new address at **dnr.wi.gov** and follow the steps to purchase your patron license. Online orders need to be billed to MasterCard or Visa credit cards for a $3 handling fee. Make sure your computer is hooked up to a printer before purchasing your licenses so that you will be able to print your receipt.

**CALL US**

Purchasing a license by phone is a snap. Call toll-free (877) WI LICENSE (877-945-4236). Phone orders can be billed to either Visa or MasterCard for a $3 handling fee. At the end of your transaction, you'll receive an authorization number that provides immediate license privileges during open seasons except those that require a carcass tag. (See "Turkey permits," p. 5.)

**VISIT US**

Licenses can be purchased at over 1,500 sporting goods stores, merchants and resorts as well as at DNR offices. Don't know where the nearest license agent or DNR service center is located? A list of service centers is included in this insert on p. 4. Visit **www.dnr.state.wi.us/org/caer/cs** and click on the "ALIS Sales Locations" for a list of sales agents in a specific county or city.

**BUY BY MAIL**

For Conservation Patrons who still prefer to renew their CP license through the mail, fill out the form on p. 2 and mail it to: DNR — Attn: Conservation Patron Renewal, P.O. Box 7924, Madison, WI 53707-7924. Be sure to include the $3 handling fee in your check made payable to DNR, or pay by MasterCard or Visa credit card. Allow 4–6 weeks to process mailed applications for CP license renewals.

# 2004 Wisconsin Conservation Patron License Renewal Application

Form 9400-356R Rev. 1/04 (Photocopy or use a fine felt tip permanent marker to complete.)

Resident — $140.00 Nonresident — $600 Junior Resident/Nonresident CP (12–17 years old) — $75.00

Notice: Information collected on this form is required for any application filed under Chapter 29, Wis. Stats., and may be used for eligibility for approvals, participation in surveys, law enforcement and other secondary purposes. Credit card data will be kept confidential and will only be used to process this license request, under S.29.024 (2g), Wis. Stats.
☐ Check here if you want personal identifiers collected on this form withheld from disclosure on any list of 10 or more individuals that the DNR is requested to provide to another person (s.23.45, Wis. Stats.)

Name (Last–First–Middle) (Please print or type) DNR Customer# required

Street Address

City, State, Zip Code County of Residence Daytime Telephone Number

Date of Birth (Mo–Day–Yr) Eye Color Hair Color Weight Height Sex (M–F)

## Please answer the following questions: (Circle your answer)

Yes No 1. Do you wish to make a contribution to the Fish & Wildlife Fund? If yes, enter amount $ _____

Yes No 2. Do you wish to make a donation to food pantry venison processing? If yes, enter amount $_____

Yes No 3. Do you intend to hunt ANY migratory birds? If yes, you must complete **Section A – HIP Certification** (required for questions 4 and 5 below)

Yes No 4. Do you want an Early Season Canada Goose permit?

Yes No 5. Do you want to hunt the Regular Canada Goose Season? If yes, choose ONE of the following (see map on p. 3):

- ☐ Exterior Goose Zone (permit will be received with Conservation Patron license)
- ☐ Horicon or Collins Zone (complete the application in your Fall mailing)
- ☐ Undecided (complete the application in your Fall mailing)

Yes No 6. Residents only: Do you intend to trap? If yes, indicate which of the qualifications you meet:

- ☐ Trapper Education graduate
- ☐ Previously purchased a license, which authorized trapping prior to 1992
- ☐ I actively engage in farming (per s. 102.4(3), Wis. Stats.)

### Section A — HIP Certification

Circle the quantity of birds bagged last year (for each species):

| | Quantity Bagged | | | |
|---|---|---|---|---|
| Ducks | Did Not Hunt | 0 | 1–10 | >10 |
| Geese | Did Not Hunt | 0 | 1–10 | >10 |
| Woodcock | Did Not Hunt | 0 | 1–30 | >30 |
| Mourning Doves | Did Not Hunt | 0 | 1–30 | >30 |
| Coots/Snipe | Did Not Hunt | | Hunted | |
| Rails/Gallinules | Did Not Hunt | | Hunted | |

### Conservation Patron license:

| | |
|---|---|
| Resident ($140.00) | $ _____ |
| Nonresident ($600.00) | $ _____ |
| Jr. Res/Nonres ($75.00) | $ _____ |
| Fish & Wildlife Fund Contribution | $ _____ |
| Food Pantry Venison Donation | $ _____ |
| Application handling fee | $ 3.00 |
| **Total Amount Due** | $ _____ |

Payment: Credit card information will be kept confidential and only used to process this license request.

Make checks payable to "DNR" or please charge my: ☐ Visa ☐ MasterCard Expiration Date: _____

Card Number ___ ___ ___ ___ - ___ ___ ___ ___ - ___ ___ ___ ___ - ___ ___ ___ ___

I hereby certify that I have complied with all of the laws regulating the issuance and purchase of this license and that my license privileges are not otherwise revoked.

Signature of Applicant _____ Date Signed: _____

Mail to: DNR–Attn: Conservation Patron Renewal, P.O. Box 7924, Madison, WI 53707-7924


DNR FILES

## Regular season Canada goose zones

Do you hunt the regular Canada goose season? If yes, then you may find this map of state goose hunting zones helpful as you answer Question 5 on the Wisconsin Conservation Patron license application.

## Why buy a CP license? It's a great deal!

The Conservation Patron (CP) license lets the avid sportsperson save money and time. The CP license offers 22 privileges including outdoor licenses, stamps, applications, park and trail admissions and more for one low fee. The resident CP license costs $140 and the nonresident patron license costs $600, representing the first fee increases in seven years. Yet, this license continues to be a bargain. New this year — a Junior Conservation Patron license will be available for $75 to resident/nonresident 12- to 17-year-olds.

HERBERT LANGE

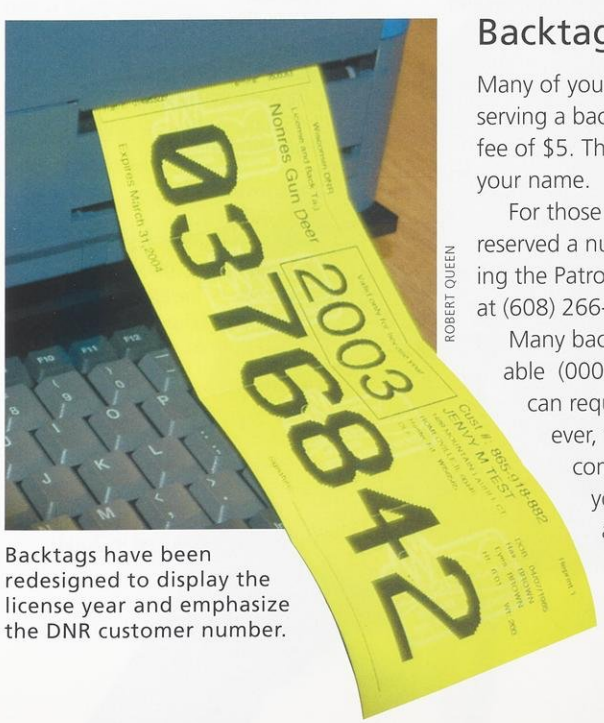
## What privileges **are included** in the CP license?

- Annual Fishing License
- Small Game Hunting License
- Deer Hunting License
- Resident Archery License
- Annual subscription to *Wisconsin Natural Resources* magazine
- Spring Turkey Hunting License
- Fall Turkey Hunting License
- State Turkey Stamp
- State Waterfowl Stamp
- State Pheasant Stamp
- Great Lakes Trout & Salmon Stamp
- Inland Waters Trout Stamp
- Trapping License (for residents)
- Spring Turkey Application *(see new procedures below)
- Fall Turkey Application
- Hunter's Choice Application
- Goose Application
- Early Season Goose Permit
- Annual State Park Sticker
- Annual Bike Trail Pass
- Admission to Heritage Hill State Park
- Otter & Fisher trapping (application fee for this activity, but not automatic receipt of an application form)

* The spring turkey permit program will have new procedures in 2004. CP license holders who have been selected to receive a permit, will be notified that they were successful in the drawing. The permit will be issued and printed with your purchase of your new 2004 CP license.

## **CPs** must apply for and pay a separate fee to participate in these activities:

| Activity | Application Deadline | Fee |
|---|---|---|
| Bear Hunting fall 2005 | Jan. 14, 2005 | $3 |
| Sharp-tailed Grouse 2004 | Aug. 10, 2004 | $3 |
| Bobcat Hunt 2004 | Sept. 10, 2004 | $3 |
| Sturgeon Spearing 2005 | Oct. 31, 2005 | $20 residents<br>$50 nonresidents |




ROBERT QUEEN

Backtags have been redesigned to display the license year and emphasize the DNR customer number.

## Backtags

Many of you have taken advantage of reserving a backtag number for an annual fee of $5. This number is still reserved in your name.

For those of you who have not already reserved a number, you can do so by calling the Patron/Sports License Coordinator at (608) 266-7030.

Many backtag numbers are still available (0000001 through 0009999). You can request a specific number, however, they are assigned on a first-come, first-served basis; and your first choice may not be available. Once a number is reserved, the $5 fee will be added onto your license renewal each year.

## What's **not included** in the CP license?

- Bear Hunting Application
- Class A Bear License (harvest license)
- Class B Bear License (pursuit license)
- Bobcat Application
- Bonus Deer Permits
- Federal Migratory Hunting Stamp
- Sturgeon Spearing License
- Sharp-tailed Grouse Hunting Application

## DNR service centers by city

DNR recreational licenses can be renewed online, on the phone, in person or through the mail. You can renew or purchase licenses in person at any of over 1,500 license sales locations.

You can also purchase or renew licenses at DNR service centers in these locations open to the public during the hours and days specified below. Office hours are subject to change, so please call ahead to ensure the office is open before beginning your travel. Some DNR service centers now have reduced hours. These hours are posted on the website.

**Antigo**
223 E. Steinfest Rd.
Antigo, WI 54409
(715) 627-4317 phone
Office Hours Tuesday–Friday
8:15 a.m.–1:00 p.m. and
2:00–4:00 p.m.

**Ashland**
2501 Golf Course Rd.
Ashland, WI 54806
(715) 685-2900 phone
Office Hours Tuesday, Thursday, Friday
8:15 a.m.–1:00 p.m. and
2:00–4:00 p.m.

**Baldwin**
890 Spruce St.
Baldwin, WI 54002
(715) 684-2914 phone
Office Hours Tuesday–Friday
8:15 a.m.–1:00 p.m. and
2:00–4:00 p.m.

**Black River Falls**
910 Highway 54 E
Black River Falls, WI 54615
(715) 284-1400 phone
Office Hours Tuesday–Friday
8:15 a.m.–1:00 p.m. and
2:00–4:00 p.m.

**Cumberland**
1341 2nd Ave.
Cumberland, WI 54829
(715) 822-3590 phone
Office Hours Tuesday, Thursday, Friday
8:15 a.m.–1:00 p.m. and
2:00–4:00 p.m.

**Dodgeville**
1500 N. Johns St.
Dodgeville, WI 53533
(608) 935-3368 phone
Office Hours Monday–Friday
7:45 a.m.–4:30 p.m.

**Eau Claire**
1300 W. Clairemont Ave.
Eau Claire, WI 54702-4001
(715) 839-3700 phone
Office Hours Monday–Friday
7:45 a.m.–4:30 p.m.

**Fitchburg**
3911 Fish Hatchery Rd.
Fitchburg, WI 53711
(608) 275-3266 phone
(608) 275-3231 tdd
Office Hours Monday–Friday
7:45 a.m.–4:30 p.m.

**Green Bay**
1125 N. Military Ave.
Green Bay, WI 54307-0448
(920) 492-5800 phone
(920) 492-5812 tdd
Office Hours Monday–Friday
7:45 a.m.–4:30 p.m.

**Hayward**
10220 N. Highway 27
Hayward, WI 54843
(715) 634-2688 phone
Office Hours Tuesday–Friday
8:15 a.m.–1:00 p.m. and
2:00–4:00 p.m.

**Horicon**
N7725 Highway 28
Horicon, WI 53032-1060
(920) 387-7860 phone
Office Hours Monday–Friday
7:45 a.m.–4:30 p.m.
(Hours to be reduced in 2004)

**Janesville**
2514 Morse St.
Janesville, WI 53545
(608) 743-4800 phone
(608) 743-4808 tdd
Office Hours Monday–Friday
7:45 a.m.–4:30 p.m.

**La Crosse**
3550 Mormon Coulee Rd.
La Crosse, WI 54601
(608) 785-9000 phone
Office Hours Monday–Friday
7:45 a.m.–4:30 p.m.
(Hours to be reduced in 2004)

**Ladysmith**
N4103 Highway 27
Ladysmith, WI 54848
(715) 532-3911 phone
Office Hours Tuesday, Thursday, Friday
8:15 a.m.–1:00 p.m. and
2:00–4:00 p.m.

**Madison**
101 S. Webster St.
Madison, WI 53703
(608) 266-2621 phone
(608) 267-6897 tdd
Office Hours Monday–Friday
7:45 a.m.–4:30 p.m.

**Milwaukee**
2300 N. Dr. Martin Luther King Jr. Dr.
Milwaukee, WI 53212
(414) 263-8500 phone
Office Hours Monday–Friday,
7:45 a.m.–4:30 p.m.

**Oshkosh**
625 E. County Rd. Y, Suite 700
Oshkosh, WI 54901-9731
(920) 424-3050 phone
Office Hours Tuesday–Friday
8:15 a.m.–1:00 p.m. and
2:00–4:00 p.m.

**Park Falls**
875 S. 4th Ave.
Park Falls, WI 54552
(715) 762-3204 phone
Office Hours Tuesday, Thursday, Friday
8:15 a.m.–1:00 p.m. and
2:00–4:00 p.m.

**Peshtigo**
101 N. Ogden Rd.
Peshtigo, WI 54157
(715) 582-5000 phone
Office Hours Tuesday–Friday
8:15 a.m.–1:00 p.m. and
2:00–4:00 p.m.

**Plymouth**
1155 Pilgrim Rd.
Plymouth, WI 53073
(920) 892-8756 phone
Office Hours Monday–Friday
7:45 a.m.–4:30 p.m.

**Poynette**
W7303 County Highway CS
Poynette, WI 53955
(608) 635-8110 phone
Office Hours Monday–Friday
7:45 a.m.–4:30 p.m.
(Hours to be reduced in 2004)

**Rhinelander**
107 Sutliff Ave.
Rhinelander, WI 54501
(715) 365-8900 phone
Office Hours Monday–Friday
7:45 a.m.–4:30 p.m.

**Spooner**
810 W. Maple St.
Spooner, WI 54801
(715) 635-2101 phone
(715) 635-4001 tdd
Office Hours Monday–Friday
7:45 a.m.–4:30 p.m.

**Sturgeon Bay**
110 S. Neenah Ave.
Sturgeon Bay, WI 54235-2718
(920) 746-2860 phone
Office Hours Tuesday–Friday
8:15 a.m.–1:00 p.m. and
2:00–4:00 p.m.

**Sturtevant**
9531 Rayne Rd., Suite 4
Sturtevant, WI 53177
(262) 884-2300 phone
(262) 884-2304 tdd
Office Hours Monday–Friday
7:45 a.m.–4:30 p.m.

**Superior**
1401 Tower Ave.
Superior, WI 54880
(715) 392-7988 phone
Office Hours Tuesday–Friday
8:15 a.m.–1:00 p.m. and
2:00–4:00 p.m.

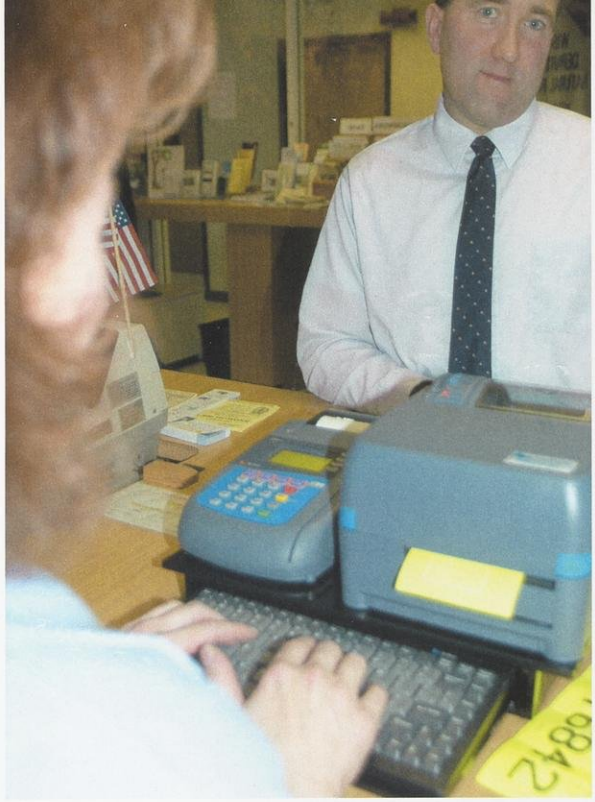
**Waukesha**
141 NW Barstow St., Room 180
Waukesha, WI 53188
(262) 574-2100 phone
Office Hours Monday–Friday
7:45 a.m.–4:30 p.m.

**Wausau**
5301 Rib Mountain Rd.
Wausau, WI 54401
(715) 359-4522 phone
Office Hours Monday–Friday
7:45 a.m.–4:30 p.m.
(Hours to be reduced in 2004)

**Wautoma**
427 E. Tower Dr., Suite 100
Wautoma, WI 54982
(920) 787-4686 phone
Office Hours Tuesday–Friday
8:15 a.m.–1:00 p.m. and
2:00–4:00 p.m.

**Wisconsin Rapids**
473 Griffith St.
Wisconsin Rapids, WI 54494
(715) 421-7800 phone
Office Hours Tuesday–Friday
8:15 a.m.–1:00 p.m. and
2:00–4:00 p.m.

**Woodruff**
8770 Highway J
Woodruff, WI 54568
(715) 356-5211 phone
Office Hours Monday–Friday
7:45 a.m.–4:30 p.m.
(Hours to be reduced in 2004)



ROBERT QUEEN

The new license system processes licenses faster and allows for better print quality. Turkey permits also are now delivered through the new system. The Junior Conservation Patron license is new for hunters ages 12 through 17 and costs $75.

## A new look for DNR licenses

Wisconsin recreational hunting and fishing licenses will soon get a facelift and both the license and the equipment that issues it will have a new look. In March 2004, DNR will introduce the next generation of its licensing system, with benefits to hunters, anglers and license agents. This system upgrades the Automated Licensing Issuance System (ALIS).

When you purchase your 2004 licenses, you will notice the equipment used to issue licenses is new. The new system will process your license faster and provide better print quality on license documents. Each terminal will have a keyboard to allow the sales person to enter customer information into the DNR database, correct a customer's address information on the terminal, and print the new address on the customer's license.

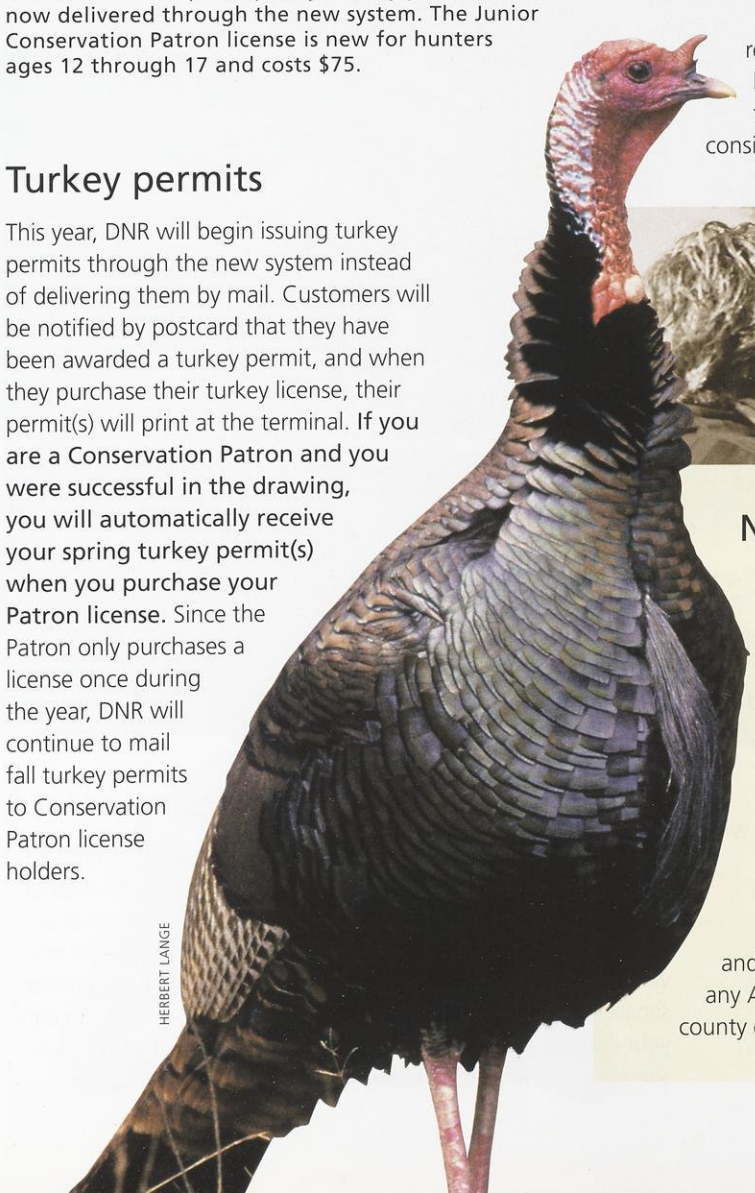
Licenses will continue to be issued on fluorescent yellow (chartreuse) paper year after year. Backtags and license documents have been redesigned to prominently display the license year and emphasize the DNR customer number. Each customer is assigned a unique 9-digit number the first time they purchase a license. When a customer presents a DNR customer number (along with another form of identification) to a license sales agent, the system will not request the customer's social security number.

All licenses will print on durable waterproof and tear-resistant paper, including turkey permits, short-term licenses and other licenses that previously were printed on receipt paper.

Nearly 1,500 sporting goods, hardware stores, and other retail locations use the automated system to issue recreational licenses. Over 3.4 million licenses and approvals are sold through ALIS, bringing in over $59 million in revenue to Wisconsin's fish and wildlife account each year.

## Turkey permits

This year, DNR will begin issuing turkey permits through the new system instead of delivering them by mail. Customers will be notified by postcard that they have been awarded a turkey permit, and when they purchase their turkey license, their permit(s) will print at the terminal. **If you are a Conservation Patron and you were successful in the drawing, you will automatically receive your spring turkey permit(s) when you purchase your Patron license.** Since the Patron only purchases a license once during the year, DNR will continue to mail fall turkey permits to Conservation Patron license holders.



HERBERT LANGE

ROBERT QUEEN

## New licenses available on ALIS

Recent legislation created two new licenses for customers who are 12 through 17 years of age.

- A **Junior Conservation Patron** license is available to both residents and nonresidents for $75. This license conveys the same privileges as a regular resident or nonresident Conservation Patron license.
- The **Junior Sports** license, which sells for $35 is also available to both residents and nonresidents. This license includes fishing, small game hunting and gun deer hunting.

Customers who qualify for the free armed forces fishing and small game licenses will be able to pick up their license at any ALIS agent location rather than only at a DNR office or county clerk's office.

## DNR online services

Did you know that you can purchase your Wisconsin recreational licenses from the convenience of your home starting March 10? With a computer, a printer, and a click of a mouse — you can purchase and in some instances print your licenses yourself. DNR also invites you to complete and submit your permit applications online for bear, turkey, deer, goose, sharp-tailed grouse, bobcat, otter and fisher. You can check your application status as well as review your preference points.

The results of permit drawings are posted on the DNR website for Hunter's Choice deer, bear, goose, otter and other species.

## How to apply for permits

New procedures have been developed to apply for permits in the following programs: Hunter's Choice/bonus, turkey (fall and spring), sharp-tailed grouse, bear, goose, bobcat, fisher and otter.

The $3 application fee may be paid at any license sales location, online or by phone. You must then complete and submit your application choices using one of the following options:

1. Complete/submit your application online at dnr.wi.gov. You will get confirmation that DNR received your application; or
2. Complete the paper application and submit by mail (you no longer need to affix a sticker to the application form — see instructions on application.)

## Permit winners and preference points

After DNR completes each permit drawing (Hunter's Choice, turkey, bear, goose, sharp-tailed grouse, bobcat, otter and fisher), you will be able to visit the DNR website to determine whether you were awarded a permit. In addition, you will be able to preview your ongoing preference status for each drawing. Another service that will be offered via the Internet is the ability to update your address in your license customer account. Visit DNR's website for more information: dnr.wi.gov

C. GORDON DIETZMAN

## Wisconsin hunting and fishing license sales

**123**

Three convenient ways to buy your license!

**ONLINE** www.dnr.state.wi.us or dnr.wi.gov
**VISIT** any license agent location
**BY PHONE** 1-877-945-4236

# Online boat, snowmobile and ATV registration

Owners of snowmobiles, boats and all-terrain vehicles now have the option of renewing their registration online.

Piloted in September 2003, online recreational vehicle registration for Wisconsin is now available 24 hours a day, seven days a week. Customers have been asking for this service, says Rita Harnack, chief of the DNR Registrations and Permits Section.

The site is currently available only for renewals, but the goal is to make this web option the foundation for all recreational vehicle transactions including new registrations.

Registration pages can be accessed through any of the following Internet addresses:

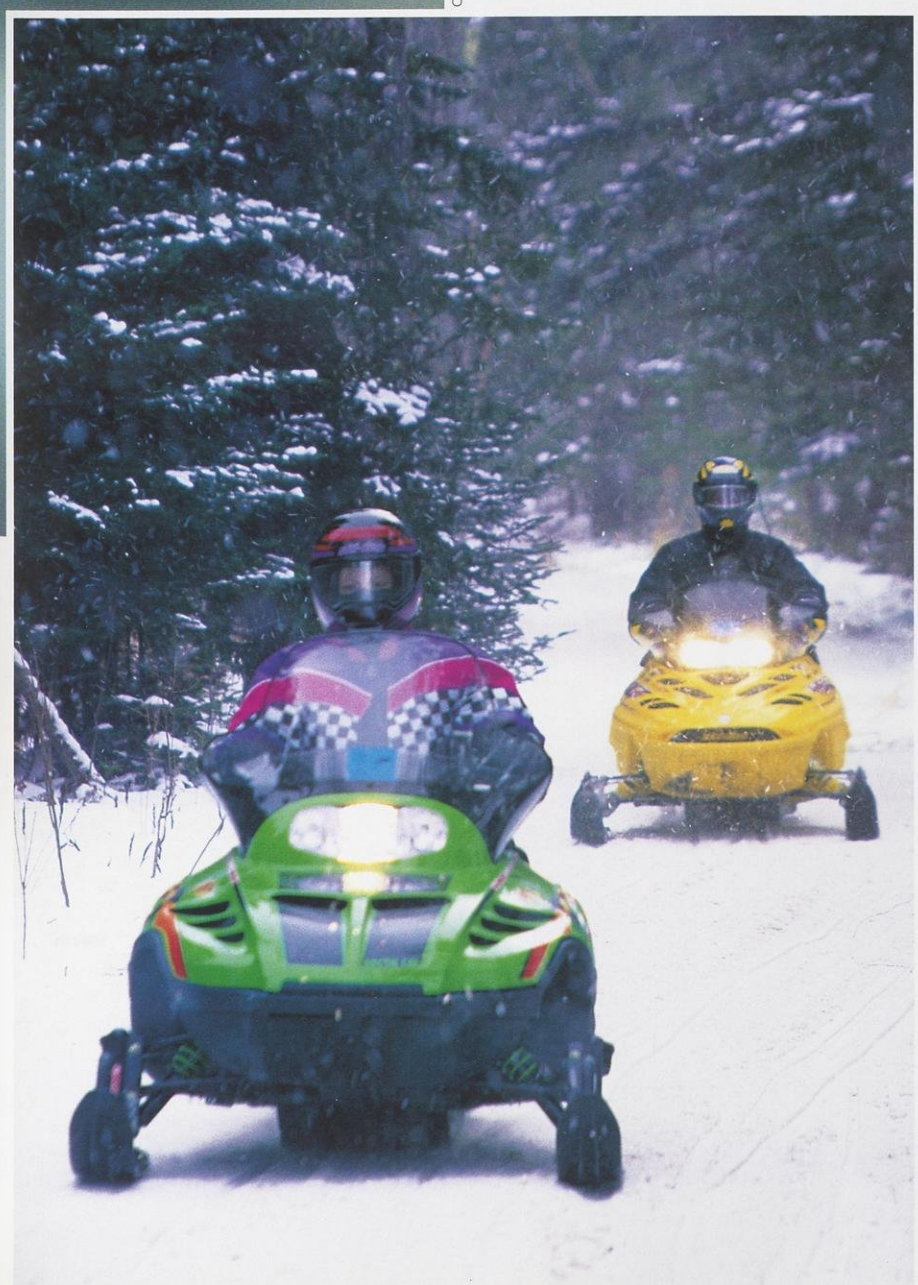
www.snowmobile.wisconsin.gov
www.atv.wisconsin.gov
www.boat.wisconsin.gov
www.recreationalvehicle.wisconsin.gov

MasterCard and Visa credit cards may be used to pay renewal fees for an additional $1 fee. Expired recreational vehicle registrations can be renewed no matter when they expire. Decals and registration certificates are processed and mailed within seven days.

Customers may print a validated receipt after completing their online registration renewal. Keep that receipt in hand and you can legally operate your recreational vehicle while waiting for registration documents to arrive in the mail.

You can also choose to renew these vehicle registrations at DNR service centers. The Department of Natural Resources processes about 500,000 recreational vehicle renewal transactions each year.

Snowmobile and ATV registrations are valid for two years, while boat registrations are valid for three years.



RJ & LINDA MILLER

Online registration renewal is available for snowmobilers. One benefit is that this registration is available 24 hours a day and includes options for renewing boat and all-terrain vehicle registrations. The online service is currently only available for renewals, however.

## Donate venison to help food pantries

When purchasing many types of hunting licenses, you will see a request to donate venison. Wisconsin encourages hunters to donate deer that will be processed and provided to food pantries. An additional monetary donation helps pay for processing and packaging fees.

The voluntary donation program gives hunters a chance to donate a dollar or more to the Wisconsin deer donation program. In 2002, about 4,970 hunters donated $18,075 to help pay for venison processing for food pantries.

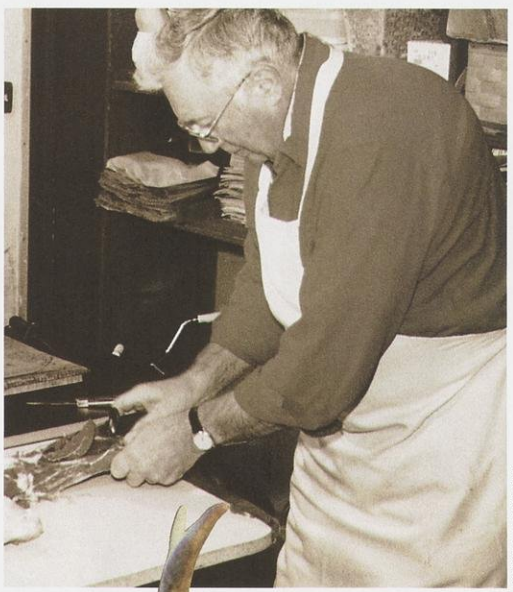
That year, hunters also donated 5,646 deer, which were processed by 86 participating processors. The combined effort resulted in over 250,000 pounds of donated ground venison. In the past three years, hunters have donated over 17,000 deer which provided over 750,000 pounds of ground venison to needy families in Wisconsin.

There is no processing cost to the hunter who donates a deer (except in Wood County). All the hunter has to do is bring in a legally harvested and field-dressed deer to a participating meat processor. The hunter will need to sign a log sheet to confirm the carcass donation. It is recommended that the hunter call the processor before dropping off the deer to ensure the processor has space to accept the deer. An average deer yields about 50 pounds of meat. The processed venison is frozen as ground meat in one-pound plastic packages.

All venison donated to the program, however, must come from outside the zones where chronic wasting disease has been detected. Only deer registered with silver tags from outside known CWD zones will be accepted by processors who are part of the donation program.

The Wisconsin wildlife damage abatement and claims program organizes and manages funding for the statewide deer donation program. Volunteers including sports groups, churches, civic organizations and food pantry staff also distribute the meat from the processor to the food pantries. USDA Wildlife Services staff, Department of Natural Resources staff and county wildlife damage staff help administer the program. Hunt For The Hungry also is a strong partner in the Wisconsin deer donation program.

Check the DNR website at www.dnr.state.wi.us/org/land/wildlife/damage/donation/index.htm for updates and information on participating processors. Contact Laurie Fike at (608) 267-7974, or Bryan Woodbury at (608) 266-2151 with any questions on this program.



DAVID L. SPERLING

**Venison may be ground and donated to needy families in Wisconsin. There usually is no processing charge to hunters who donate a deer.**



Art Direction by Nancy Warnecke, Moonlit Ink

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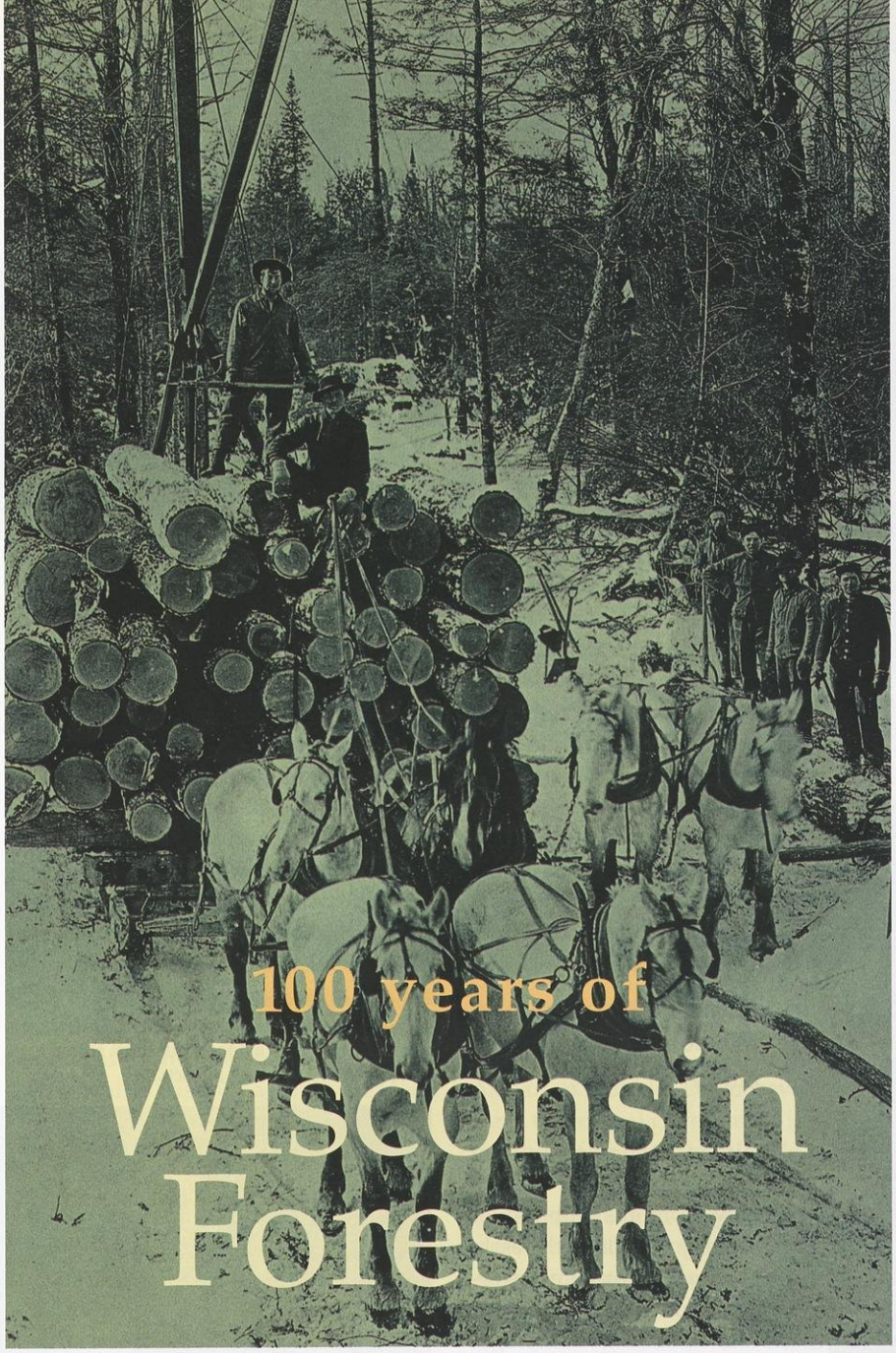
HERBERT LANGE




DNR FILE PHOTO

A load of logs leaving the Fountain Campbell Lumber Co. in northwest Taylor County, 1909.

Editor's note: *So many forestry programs are celebrating significant anniversaries this year that we're thinking it's time to issue golden toothpicks or gilded pencils! It's the centennial celebration for the state foresty program, the 85th year for the Wisconsin Society of American Foresters, the 75th year of the Wisconsin county forest system, the 60th anniversaries for Trees For Tomorrow, Smokey Bear and the Wisconsin Tree Farm programs, the 50th year for the Wisconsin Christmas Tree Producers, the 40th anniversary of the Wisconsin Arborist Association and the 25th year for the Wisconsin Woodland Owners Association. If we lit candles for all of them, we'd have to call out the fire control crews!*

*As part of the celebration to honor our silvicultural commitment, the Wisconsin Woodland Owners Association contracted with Trails Media Group and author Randall E. Rohe to compile a history, "*100 Years of Wisconsin Forestry,*" that will be published later this year. We've excerpted several segments from his narrative to share some interesting highlights in managing vast resources and working with the people who live and work in Wisconsin's forests.*

*Randall E. Rohe*

## The lumber era

Historians often divide the Wisconsin lumber era into three distinct phases. The river drive/white pine phase lasted from the beginning of the lumber era [in the 1840s] to about 1890. During this period, white pine was the major species harvested, and waterways transported logs to the mills. A series of nearly snowless winters, the exhaustion of pine near streams big enough to drive logs, and the increasing use of hemlock and hardwoods that waterlogged and sank in the streams began the next phase.

The hardwood/rail phase extended from about 1890 to 1920. Many railroads developed to bring logs to mills. The primary trees were hardwoods such as oak, maple, birch and elm. During the early years, there were many small operators. By the 1890s, however, the emphasis was on bigness. Huge sawmills, high production, vast acreages of timber and large-scale operations were the trend until the 1920s.

After World War I in phase three, the large holdings of hardwoods had been cut, and emphasis shifted to smaller-scale operations and fuller utilization of timber and timber varieties. Trucks and Caterpillar tractors replaced the logging railroad. The logging camps gradually disappeared and small, portable and semi-portable sawmills became common. Pulpwood — such as aspen, fir and spruce — for paper mills, ties, posts and poles largely replaced saw logs.

## Star Lake Plantation

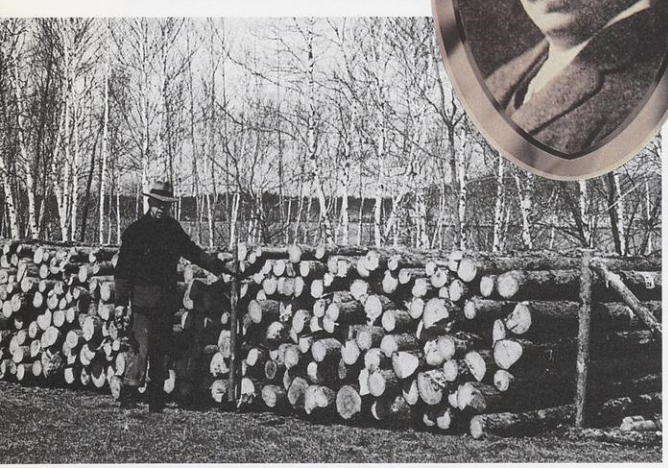
In 1913, E.M. Griffith [the first state forester] chose a peninsula in Star Lake, Vilas County, in what is now the Northern Highland-American Legion State Forest, as the location of the first state tree plantation. The peninsula once served as a pasture for the horses of the Williams and Salsich Lumber Company, and the company had fenced it off. Because of its proximity to water and a ranger station, the site was well protected from forest fires. Perhaps Griffith wanted to show that what had happened to the community of Star Lake

DNR FILE PHOTO


River drives floated logs to mills from the 1840s–90s.
*(above right)* In time, rail spurs and lines developed to link lumber to markets. A logging train hauls a load near Mercer in August 1937.

did not have to happen with good forest management. Star Lake had once been a thriving lumber town with a population of about 700. By 1908 it was a ghost town.

Griffith decided to plant mostly native red and white pine on the peninsula. Because many people questioned the effectiveness of reforestation, he included some Scotch pine, a fast-growing European species, to quickly convince the skeptics. Fred Wilson, state forest ranger, supervised the planting, which involved clearing areas about 18 inches square with a grub hoe and hand-planting the seedlings. Wilson developed a plan for the plantation based on management and thinning procedures used in Europe. He decided that after thinning, the distance between the remaining trees should be 20 to 25 percent of the height of the dominant trees. The first thinning took place in 1943 and his plans were followed thereafter. In 1977, Wilson remeasured and marked the Star Lake Plantation for a thinning cut for the sixth time. His meticulous records proved that tree planting paid off.



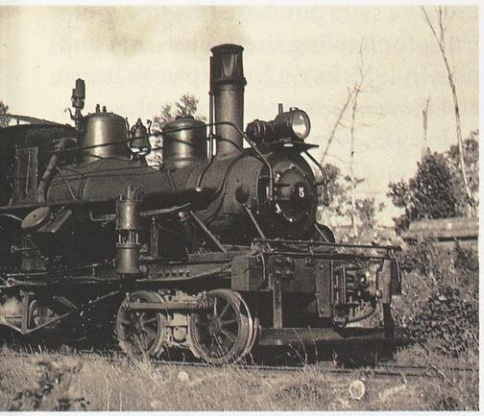
ED STEIGERWALDT *(INSET)* DNR FILE PHOTO

Fred Wilson inspects 9.6 cords of Norway pine harvested from one acre of the Star Lake Plantation in May 1954.
*(inset)* E.M. Griffith, Yale-trained and experienced in the U.S. and Germany, became Wisconsin's first forester in 1904.

## Wisconsin women's clubs

The General Federation of Women's Clubs began in 1890, and the women's club movement really took off in the early 1900s, a reflection of progressive movement activism and the female suffrage campaign. The federation promoted forestry almost from its beginning, and its efforts became particularly extensive and committed after 1930. Its forestry campaign centered on the observance of the George Washington Bicentennial in 1932. To commemorate it, the federation started a series of tree-planting campaigns, the first one in Wisconsin's Nicolet National Forest. Anna Leadbetter, president of the Wisconsin Federation of Women's Clubs (WFWC), and Wilhelmine LaBudde, chair of the Conservation Committee of the Milwaukee County Federation of Women's Clubs, spearheaded the project. They chose a tract of cutover land near Eagle River to reforest. The previous year a group of junior foresters had replanted seven acres there and named it the George Washington Memorial Forest. In the spring of 1932, more than 125 members of WFWC and others planted more than 150 acres with jack pine. In 1987, the plantation was harvested. In 1991, the club planted 7,000 more trees and

Wilhelmine LaBudde and the women's club movement helped save Horicon Marsh, Sheboygan Marsh, championed outdoor education, school forests and reforestation projects.



DOROTHY FERGUSON

rededicated the George Washington Memorial Forest. This work remains a lasting example of how women became involved in the conservation movement and contributed significantly to reforestation and conservation efforts in the state.

## The Velebit settlement

Numerous ghost towns were left in the wake of the lumber era, and attempts to farm the Cutover also produced their share of abandoned settlements. A good example is Velebit, a Croatian farming community once located about eight miles east of Eagle River. Most of the Croatians settled there at the encouragement of Joseph Habrich, a Croatian immigrant and an agent for the Sanborn Land Company. Habrich came to Eagle River in 1915 and in the next several years (1915–1925) helped 100 Croatian families settle at Velebit. The immigrants named their settlement after their home near the Velebit Mountains in [the former] Yugoslavia.

COURTESY OF CHRISTINE THOMAS, UW-STEVENS POINT

Apparently the Sanborn Land Company used some deceitful advertising to lure settlers to Velebit. Ads included a photo of a farm with a well-constructed house, a barn and a concrete silo. Some of the immigrants expected to find a cleared farm, a house, a barn and a cow on the land that they had bought. Instead, they found a heavily forested or stump-filled tract of 40 acres with no buildings.

The settlers at Velebit primarily cultivated potatoes, corn, cabbage and hay. They kept cows, pigs and chickens. Many of the men worked seasonally in local logging camps or sawmills to supplement their farm income. Besides the farmsteads, Velebit eventually grew to include a school and a Croatian Fraternal Union Hall. As in much of the Cutover area, however, a short growing season and poor soils made farming a tenuous undertaking. By the late 1920s, unable to make a satisfactory living, many settlers had abandoned Velebit. Today, little remains of the settlement except for some ruins and foundations along mostly unpaved forest service roads and trails.

EUGENE SANBORN

Cabins with plumbing and amenities provided homes to relocate isolated farm families. Family members were employed to reforest portions of what would become the Chequamegon National Forest. This shows an Oneida County project in September 1934.

## A forest-farm community experiment

As part of Franklin D. Roosevelt's New Deal, the federal government initiated a number of projects to relocate isolated settlers to better land within the Cutover region. Here, they could combine subsistence farming with work in the expanding network of county, state and federal forests. The Drummond Forest Community of 32 homes within the Chequamegon National Forest was one such project. The Resettlement Administration (later the Farm Security Administration) and the U.S. Forest Service started the project in 1935. Project officials chose a location about seven miles southwest of the town of Drummond in Bayfield County to relocate nearby, isolated rural families. The sites had soil suitable for agriculture and were accessibile to forest work, good roads, a modern school and a market for farm produce.

The project had three main objectives: foremost, to relocate and rehabilitate isolated families from areas with no adequate sources of income; second, to develop a skilled, reliable and easily accessible source of labor to rehabilitate the lands recently acquired for the Chequamegon National Forest; third, to develop a model of combined forest and agricultural economy that might work in much of the cutover lands.

The project area was divided into 20 acres of land with five acres cleared for crops and five acres brushed for pasture. The houses (23 four-room homes and 9 three-room homes) consisted of neat frame buildings with modern plumbing. Each unit had a combination barn-garage. From August 1930 to the end of 1940, the community was nearly fully occupied. The opening up of defense jobs and profitable work outside the community, however, caused occupancy to drop to about 20 percent between 1943 and 1944. As a result, the government decided to terminate the experiment and sell the homesteads to the residents. The Drummond project was imaginative and relatively well-managed, but the unexpected improvement in the economy brought on by World War II undermined it.

## A learn-while-you-work youth program

In 1961, Wisconsin began an environmental education program that included jobs for youth. Building on the Civilian Conservation Corps tradition, the

RAY HENDRIKSE

The Youth Conservation Camps employed young adults in work crews and summer camps to work on timber stand improvements and a wide range of conservation projects. This 1960s crew from the Kettle Moraine camp participated in a wood duck survey.

state established the Youth Conservation Camps (YCC) to provide employment for the state's young people in conservation work projects. The early YCC was administered cooperatively by two state agencies: the Public Welfare Department ran the camps while the Wisconsin Conservation Department handled the work programs. Within nine months, 200 youth had enrolled. Two-thirds of the nearly 80,000-worker-days expended in the first five years of the program went into timber stand improvement such as clearing, planting, thinning and release projects, along with parks development.

The Kellett Reorganization Act of 1967 transferred sole responsibility for the YCC to the new Department of Natural Resources. Between 1967 and 1985, nineteen thousand boys and girls participated in the program and accomplished some $15 million worth of work. [The Wisconsin Conservation Corps, a distinct agency, gave adults practical job skills while preparing to further their education. It was dissolved during the current budget crisis.]

"The simple truth of the matter," said DNR's last YCC Chief, Ray Hendrikse, "is that without the assistance of the youth camps, development, restoration and maintenance of state parks, wildlife areas, forests, streams and lakes would be severely reduced. Without them, conservation work would continue to get done, but to a much lesser degree..."

As testament to the success of Wisconsin's YCC program, in the 1970s the federal government established its own Youth Conservation Corps, modeled on Wisconsin's program. The Youth Conservation Corps program proved so successful that Congress expanded it and made it a permanent national endeavor on September 3, 1974. The new legislation authorized $60 million annually for the federal Youth Conservation Corps.

## The evolution of firefighting equipment

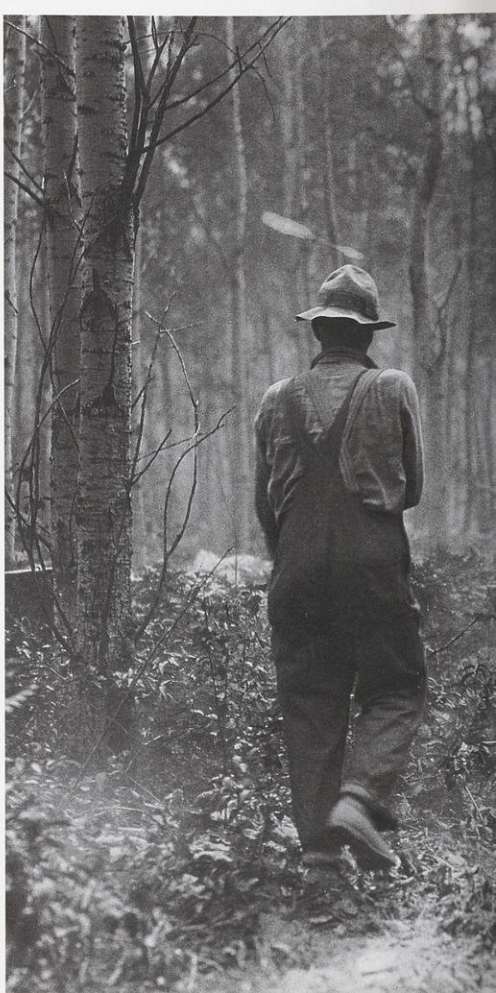
Early fire wardens and firefighters provided their own equipment, which usually consisted of a shovel or an ax, and gunnysacks or burlap bags. About 1911, patrolmen were furnished with canvas buckets to use where water was available. Backpack pumps came into general use about 1918. In the early days, the idea of setting backfires and building fire lines with horse-drawn plows represented state-of-the-art fire-fighting techniques.

For the most part, firefighters traveled on foot or horseback because roads were few and often impassable for vehicles. Sometimes logging railroads offered the best or only means of access to isolated areas. Here "pedes," or hand-operated railroad velocipedes, were widely used. In 1914, the state pointed with pride to its fleet of 10 hand-operated and one motor-powered railroad speeder. As roads developed in forested areas, horse-drawn vehicles came into use. The state purchased its first motor truck for hauling firefighters and supplies in 1915. In 1917, auto patrols began, and they soon came into general use.

In 1915, Wisconsin was the first state to use an airplane for forest fire detection. The plane, a Curtis flying boat, had the ability to land on and take off from water. Lack of communication with the ground and difficulty flying in windy weather, however, limited its effectiveness.

By 1927, headquarters buildings and a truck with a power pump, water tank, hose and hand tools for fighting fires had been provided in each of the established fire-protection districts. A system of 54 lookout towers and 400 miles of telephone line provided direct contact among patrolmen. The plow came into its own as standard firefighting equipment with the use of the Caterpillar tractor about 1930.

During the 1930s, L.W. Lembcke designed and constructed many pieces of firefighting equipment — a double moldboard fireline plow with rolling coulter, a tilting platform trailer to



transport plows and tractors, a heavy-duty centrifugal pumper-trailer, and a standard trailer hitch for department cars and trucks. The "Wisconsin Plow" was the forerunner of firefighting plows now used in many other parts of the country. These and numerous other devices initiated the modern era of mechanical fire control. In the 1930s, the Wisconsin Conservation Department began using airplanes on a regular basis for fire detection and for reconnaissance during fires. After some futile attempts to utilize radios in fire prevention and fighting, the Federal Communications Commission approved the use of ultra-high-frequency radios in early 1938. The Conservation Department immediately equipped primary fire tower crews, rangers' vehicles and the planes with them.

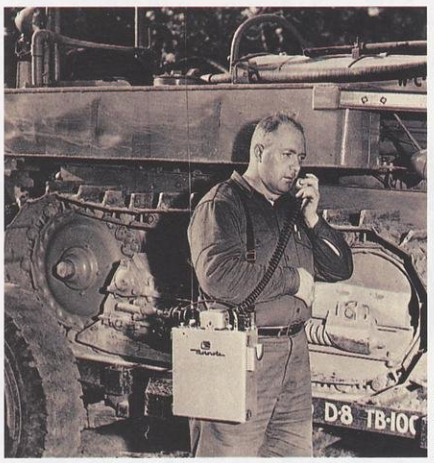
Today much of the work of firefighting is done by the tractor-plow, bulldozer and power pump. Each of the state's 57 fire-response units has a forest ranger equipped with modern initial-attack, four-by-four, 850-gallon tankers, and bulldozers equipped with a tractor-plow unit, water tanks and pumps.

Aircraft are used along with fire towers to detect fires, and specially equipped aircraft drop retardant from the air to aid in controlling forest fires. Planes also serve a safety role by observing firefighters in hazardous situations. While early lookout towers served only for fire observation, modern towers have two-way radios to facilitate communication with other towers and ground crews.

During the 1997 fire season, the DNR staffed 97 fire towers in Wisconsin, but the number of staffed towers is steadily decreasing as the agency relies more heavily on other means of fire detection, including citizen reporting and aerial sighting. Today, the DNR uses automated weather stations, which collect moisture and temperature data, and electronically transmit the data to a central computer to predict fire danger. Wisconsin has a network of 26 weather stations that closely monitor forest-fire conditions across the state.

Surveying the changing equipment used for fire control during the past hundred years provides a good measure of our progress. Firefighting equipment has come a long way from the days when backfiring was the only known method to stem spreading fires.

*(below)* **Developing forestry innovations – a CCC crew setting a backfire to slow a forest fire in Sawyer County, August 1936.**
*(right)* **Forest rangers communicated with field radios in April 1952.**
*(bottom)* **Plowing a fire lane with early bulldozer equipment.**




V.E. HOLTZ

DNR FILE PHOTO

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*Randall E. Rohe is a geography professor at UW-Waukesha. "100 Years of Wisconsin Forestry" will be available later this year from the Wisconsin Woodland Owners Association, P.O. Box 285, Stevens Point, WI 54481, phone: (715) 346-4798, website: www.wisconsinwoodlands.org.*


# Mornings

## Memories of special days start early and linger a lifetime.

*Pat Wilmot*

Over the years, some of my fondest memories throughout my hunting and fishing adventures were of mornings, especially very early mornings when the sky was just starting to turn pink and eventually faded out the evening stars, or the cloudy times when it seemed to take forever before we could make out the surroundings.

These are some of my recollections of that most magical time of day:

In a duck marsh, concealed next to a pothole after slugging through mud and water, a slight breeze ruffling the tops of the cattails and the occasional whistling of ducks flying close overhead as they search for a resting place after an evening of cornfield feeding.

In a squirrel woods, clear, cold and crisp, sitting with my back against a tree watching as the bushytails come out of their nests or dens, yawning, stretching and grooming themselves before starting their usual busy day.

Deer hunting, either gun or bow, after climbing up into a stand in the blackness, gradually making out details around me as it gets light and all sorts of birds and mammals come to life for the day. Every leaf rustle is cause for excitement as it could be the buck of a lifetime.

Turkey hunting in a new spring woods with its sparse ground cover, after carefully preparing my ground blind, setting out the decoy, and hoping my calling will be good enough to fool one of the truly wild creatures. Then, after

hearing the first ringing gobble, I'm never more alive as every nerve in my body is on instant alert.

Sitting in a line fence or cornfield next to a freshly cut field waiting for geese, hoping for a stout wind to help these gray travelers come within range. Then, hearing the first wild cries of a flock coming my way.

Fishing, when the boat slows to a stop at the spot we've chosen to start the day. The wake as we pass over the water slowly dissipates behind us as anchors are quietly lowered


over the side and tied off. Rods are unloosed, slip bobbers are set for the desired depth, hooks are baited and cast out with the anticipation that the bobber will just keep going down, and wondering what makes it do so.

Trout fishing my favorite brook trout stream for one of God's most beautiful creations. Walking in to the stream, hopefully getting rewarded with the glimpse of a deer slipping off to bed, the thunderous flush underfoot of a grouse, or the loud splash and frantic wing beats of a mallard as it explodes off the stream. Of course, early swats at the inevitable mosquitoes and deer flies add to the charm of the experience as well as snacking on wild raspberries or blackberries that never taste any better.

Ice fishing at the first dim light of dawn, walking out on snow that squeaks with every step and drilling a hole in clear, rock-hard ice that shatters with every turn of the auger. Icicles form on my mustache as I position the bucket as a seat and (hopefully) keeper of the catch. After baiting up, dropping the jig into the hole and following it as all of my attention focuses on thin fishline passing through a spring bobber as it stops, then wavers ever so slightly off the tip of the rod, the telltale bump of my quarry.

I would be remiss if I did not include in my morning memories the serenity of early Sunday mornings spent with Mom in our living room, sipping our first cups of coffee, with our miniature dachshunds Max or Heidi curled up under a blanket next to her on the couch, as our noses were buried in the morning papers.

These times have made my life very special, and I am thankful for them every day.

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*Pat Wilmot writes from Mayville.*

# Homegrown recovery

**Steps to restore a slumping economy need to sustain our natural assets as we expand business opportunity and create new jobs.**

*David L. Sperling*

As the U.S. economy shows signs of slowly pulling out of a sustained four-year sag, Wisconsin businesses and communities naturally want to be poised in a good position to recover. We want quality jobs for our skilled workers, educated children who can adapt to a changing job market, and a wholesome place where families and communities continue to prosper. Making it easier for companies to do business in Wisconsin can help create new jobs that will sustain our economy.

We also need to attract new kinds of businesses. The hard-working people of Wisconsin are accustomed to a homegrown economy based on the resources we either had or could raise as crops. Lead mining and timber production succeeded by extracting natural resources and exporting them. Papermaking and agriculture showed we could sustain trees, water, and soil and still produce quality products. Unfortunately the global marketing of paper and farming commodities wrested away our ability to control the price of the commodities we raise.

Manufacturing demonstrated other ways to succeed. We did not need to produce all the raw materials for products as long as we knew how to use them. Skilled labor in southeastern Wisconsin became famous for its foundries and machinists who still make most of the country's small engines. Our success as a tourism destination (a $12 billion industry in our state in 2002) shows we adapt and develop skills to strengthen job opportunities in a service economy. Building a more diverse base of service and technology jobs remains an important challenge. In the interim, making it easier for our existing businesses to stay in business and grow has the front-and-center attention of the governor, lawmakers, regulators, municipal officials and business groups.

Among the mixture of tactics aimed at economic development and employment incentives, legislators are vigorously developing proposals to streamline government regulations. And environmental and sporting interests have been just as vigorous in voicing that Wisconsin need not roll back environmental protection in the name of economic progress.

"It's always worth examining ways to do work more efficiently," says DNR Secretary Scott Hassett. "We will continue looking for ways to improve regulations and we'll seek those legislative fixes that can make it easier to do business without harming the environment. Clean water, clean air, quality spaces and a healthy quality of life will continue to be our greatest strength in attracting businesses. We can improve how we enforce regulations without harming our environment. That can and must be our benchmark for successful change."

## The strength of jobs and a clean environment combined

"Regulatory reform doesn't have to become a tired debate over economic growth vs. environmental protection," said John Imes of Wisconsin Environmental Initiative. We need not ignite another 'green war' that will hurt our ability to achieve both the healthy business climate and environmental quality every Wisconsinite deserves."

The governor's Grow Wisconsin Initiative continues that theme setting a direction to keep environmental standards high and protect quality of life while still fostering a competitive business climate. We can invest in people and make government responsive without sacrificing shared values, Gov. Doyle stated. Several of the mainstays of our economy — forest products, tourism and agriculture — depend on clean water, he noted.

Several studies bolster that notion. For a decade or more, The Green and Gold Report from the Institute for Southern Studies has ranked states on their environmental and economic standings. Wisconsin ranked 12th and 11th respectively in the latest report. The report concluded, "The states that

Some models for reducing regulations while meeting environmental goals have been practiced for more than a decade. The Pollution Prevention Partnership with 25 papermakers at 42 facilities reduced air emissions, wastewater discharges and solid/hazardous wastes on a voluntary basis by more than 63 percent between 1993–2000.

do the most to protect their natural resources also wind up with the strongest economies and the best jobs for their citizens."

A recent White House Report from the Office of Budget and Management studied the costs of regulations and economic benefits. Over a 10-year period regulations cost $37–43 billion to develop yearly, but these laws created $147–231 billion in annual benefits. The Corporation for Enterprise Development, which has issued a report card on economic activity for the past 17 years, gave Wisconsin an "A" rating for performance, which measures aspects of quality of life here, but we have ranked very poorly for having little "entrepreneurial energy" to raise venture capital and create new companies.

Jon Udell's 2001 study of *The Quality of Business Life* for the UW-Madison School of business gauged business executives' perceptions about living here and conducting business in the Badger State. It showed that a quality labor force, worker attitudes, stability and quality of life in the region are all much more important factors in attracting and keeping businesses than any issues relating to governmental regulations.

## Changes already underway

New business incentives are important, Hassett said, but we're not waiting for new laws to start improving government services. He pointed to many efforts under way at the Department of Natural Resources and successful partnerships that are proving to be good for business and the economy.

**Improved regulations for new sources of air pollution** — State air code NR 445 was revised to reduce the regulatory burden for firms that do not emit any hazardous air pollutants or have very few such emissions. The revisions also contain so-called "safe harbor" language to give leeway to diligent firms that subsequently emit minor amounts of hazardous substances.

**Reducing permit review time** — DNR air engineers have reduced the time that it takes to review operating permits by 50 percent and are committed to timely issuance of all permits by the end of 2004. Similarly, permits for new construction that may emit air pollutants are now reviewed within 87 days of the time complete applications are received. This is one of the fastest turnaround times in the nation.

**Fastest reviews in the region** — The Department of Natural Resources now processes wastewater permits for industries and municipalities faster than any other state in the Upper Midwest region and are among the fastest in the nation.

**Timely public water protection permits** — In the last six years, the amount of time it takes to issue permits that protect public waters has been slashed from 110 days to 34 days.

**Shoreland zoning rules being updated** — DNR staff and the public are working collectively to revamp the 35-year-old state shoreland regulations. An advisory committee, public listening

Revised air rules would give companies flexibility to change operations without a major permit revision if their total emissions do not exceed a plant-wide cap.


DNR will also consolidate permits to allow construction projects to proceed more quickly and the agency will designate a Small Business Ombudsman.

(ALL PHOTOS THIS PAGE) ROBERT QUEEN

sessions and hearings are all providing ample opportunity for diverse interests and public opinion to shape shoreland zoning and amend state laws. (See our October 2003 story, *Life on the edge.*)

Similar efforts are underway to update and improve other waterfront standards for piers, structures and land grading along waterways.

**Permit primer for small businesses** — This guide for small businesses helps owners determine what environmental requirements they need to meet, what permits are needed and how to apply for them.

**Federal award for excellence in waste permitting program** — DNR was lauded for its work in permitting and licensing hazardous waste facilities. DNR and state businesses more than met national goals to have controls in place by 2005 to prevent dangerous releases to air, soil and groundwater. Wisconsin is one of only 11 states and territories to reach 100 percent compliance.

**Burning alternate fuels** — Revisions to NR Code 428 are designed to give firms flexibility in meeting air emission limits if they are burning unusual fuels like methane recovered from landfill gas or gas from manure digesters to produce heat and electricity.

**Voluntary registry for reducing greenhouse gases** — Companies and governmental agencies can self-monitor, record and report air emissions in a database that will be published on a website. The voluntary program provides a one-stop shop for firms that are trading/selling emissions (like ozone offsets in southeastern Wisconsin). Through the website, these firms receive public recognition for reducing pollutants.

**School bus retrofits** — A program in southeastern Wisconsin retrofits diesel school buses to reduce VOC, nitrogen oxide, particle, toxic and carbon monoxide emissions. When fully implemented, this incentive program will reduce regulations on transportation companies and municipalities that operate school bus systems.

**Quick review of proposed large livestock operations** — Wisconsin continues its streak of reviewing more than 90 percent of permit applications for large feedlots (Confined Animal Feeding Operations) within six months or less. While increasing efficiency, permits set the standards for ensuring that millions of gallons of manure and process wastewater are properly stored and applied to land in an environmentally responsible manner.

**Recognizing environmental leadership** — An award program for hot mix asphalt plants encourages these businesses to be good neighbors by going beyond state requirements to contain pollution emissions, noise and odor on their sites. Thirty-four Wisconsin plants have earned this award which serves as a model for other kinds of businesses.

DNR Business Sector Specialist Jerry Rodenberg *(second from left)* works with asphalt makers to find solutions that are good for business while preventing pollution, reducing air emissions, minimizing wastewater, containing stormwater and recycling materials when surfacing roads.

Similarly scrap dealers can earn awards for annual inspections to contain waste oil, gasoline, solvents, prohibit open burning, remove refrigerants from auto air conditioners and conduct annual environmental audits. More than half of Wisconsin's scrap dealers and auto dismantling yards have joined this program.

**Pollution prevention among papermakers** — A partnership with 25 of Wisconsin's papermaking firms has reduced unwanted byproducts by 65 percent between 1993–2000.

**Safe sludge spreading** — When wastewater is treated to remove pollutants, the solid residues (sludges) can often be spread and used as fertilizers and soil builders. Sludge quantities and applications are monitored to ensure the nutrient-rich residues stay in the soil and quantities spread on any one parcel are limited to minimize runoff or groundwater contamination.

Currently more than 98 percent of Wisconsin communities operating wastewater treatment plants have found beneficial uses for these nutrient-rich sludges. Sludges from food processors including vegetable canners can also be spread or sprayed as soil conditioners. Potato processors, dairies and meat processors also have active programs with community farmers to landspread and incorporate organic wastes to build up soil. Paper mills also landspread sludges for fertilizers and soil conditioners. Sludge spreading is a win-win program that saves millions of dollars in disposal costs at approximately 30,000 approved sites in Wisconsin.

**Mercury reduction** — One residue that communities, businesses and DNR collectively aim to reduce in sludges is mercury. A DNR partnership with 18 of Wisconsin's largest cities focuses on collecting mercury to keep it from becoming an expensive waste from businesses, hospitals, dental practices, schools, heating and AC contractors, dairy farms, scrap yards and households. Community programs collected and recycled more than 13,000 pounds of elemental mercury to date, the largest such collection program in the nation. Further, through education, they are permanently replacing items like thermostats, switches and thermometers that formerly contained mercury.

**Cooperative environmental assistance** — This DNR service was developed to work with businesses whose operations have a complex mix of air, water and waste emissions. To find better ways of working with these busi-

nesses and to better understand their needs, some DNR employees are designated as "sector specialists" who learn the environmental requirements a given kind of business needs to meet. That understanding is key to resolving regulatory issues, building more flexibility into meeting environmental rules, and finding collective solutions to meet requirements more economically. DNR business sector specialists are at work now with papermakers, printers, dry cleaning firms, asphalt plants, fish and bait farms, auto repair shops and scrap dealers, energy producers, the wood products industry, chemical producers, and the construction/building demolition business. In return the firms agree to more than meet environmental requirements by preventing pollution, minimizing waste, and conserving water. One electrical utility now recovers ash from its landfills to use as supplemental fuel.

**EMS systems** — Much as accountants produce a balance statement as money constantly flows into and out of a business, Environmental Management Systems (EMS) can track a company's performance as resources flow into a business, and products and waste streams leave. The EMS challenge asks questions about how to expand business and cut costs while still doing right by the environment, the neighborhood and the community. EMS systems answer questions about: how to squeeze new products out of byproducts, how to minimize costs for waste disposal, how to save energy, and how to minimize costs of meeting environmental requirements. Better yet, EMS managers challenge their companies to cut wastes to avoid the need to meet environmental requirements thereby improving their performance and their competitive position.

The EMS idea is slowly growing. Two years ago only a handful of Wisconsin companies had formal environmental management systems. Now 80 firms have them in place. As the number of firms increases and their performance shows the businesses can consistently meet environmental requirements, then the nature of overseeing environmental compliance changes.

## Cooperative work with other agencies

Complex business proposals often involve judgments from several state agencies. Streamlining those interagency decisions can also save business substantial time and expense. The Department of Natural Resources has signed Memorandums of Understanding with three key state agencies — the Department of Transportation; the Department of Agriculture Trade and Consumer Protection; and the Public Service Commission (PSC) to cut delays and coordinate as business permits are considered and reviewed.

For instance, the agreement with the PSC now sets the process for reviewing proposed expansions and siting of power plants and power transmission lines.

Utility companies apply to both the PSC and DNR for permits to build and operate power plants. Historically, the two agencies cooperated on the environmental analysis, but there was no formal process to coordinate the permit reviews. The PSC assessed the need for new plants, the service areas and locations. DNR typically reviewed wetland and waterway permits in addition to assessing proposed air emissions, and plans for managing wastewater and solid wastes. Sometimes PSC would determine that the best site for a new power plant or an expansion was on land that was not permissible under environmental laws. This forced applicants to go back to PSC seeking modifications to plans before construction even began. Since September 2003, DNR and PSC agreements coordinate their environmental reviews on the same time schedule. The agreement also sets a state policy on transmission lines to include the possibility of using recreational corridors in certain circumstances.

"We are looking for areas where we can trim review times and duplication," says DNR's Hassett. "Yet we're still vigilant about maintaining environmental protections. It's vital to create jobs here and to be prepared to act when job opportunities are available. Those opportunities can be quickly explored without sacrificing natural resources, which are just as important to our quality of life. Quality resources, both natural and human, *are* the economic fabric and base of our state economy."

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

*(below)* **John Piotrowski of PCA of America, Tomahawk, and DNR's Laurel Sukup, wood products business sector specialist, worked to improve environmental performance, use biomass fuels and cut emissions.**
*(below right)* **Similar pilot projects seek to achieve environmental goals and sustain business with printers, agriculture, aquaculture, auto scrap dealers, chemical manufacturers, electronics firms, dry cleaners, power companies, food processors, foundries and wood products companies.**

ROBERT QUEEN

GREG VANDELEEST

**Bittersweet vines are colorful, attractive in all seasons and the fruits are highly prized by songbirds for food.**

*continued from page 2*

Bittersweet's leaves are long and lean — simple two- to five-inch pointed greenery that resembles elm and birch leaves — but the serrations along the edges are smoother and not so deep. Dark, shiny green leaves alternate on the stems and twigs.

From May to June, tiny flowers bloom in small clusters at the ends of twigs, so small that you need a hand lens to see them. It's worth a close look because bittersweet plants are polygamodioecious (poly-gamo-die-E-shus), a big word botanists use that means some of the flowers are male flowers with nonworking, rudimentary female pistils; some are female flowers with nonworking male stamens; and some are "perfect" flowers with fully developed male and female parts in one tiny flower. Having all three flower types in one plant is unique for a northern U.S. species.

Insects pollinate the bittersweet flowers. By July, the green unripe fruits have reached their maximum 3/8" size. These fruits, called capsules, ripen from September to October turning from dark forest green to bright blaze orange. When mature, each capsule splits open into three sections, folding back to reveal scarlet red arils, the fleshy "fruits" which encase three to six reddish-brown seeds. The bright contrast between red and orange is stunning on a browning autumn landscape.

The fruits are highly prized by songbirds, ruffed grouse, squirrels and chipmunks. I once discovered a small six-inch pile of orange capsules neatly deposited on a cutover tree stump. I imagined a chipmunk lurking nearby that had spent many hours gathering these fruits. After scrambling high into the tree canopy, he'd stuff his cheek pouches with plucked ripe fruits. Then returning to his favorite perch, he'd remove the seeds, discard the orange capsules and carry the seeds to add to his underground cache. The orange mound was a testament to his industriousness and the abundance of fruit that autumn.

Unfortunately, bittersweet also is highly prized by human collectors for use in floral arrangements and decorations. I believe its best use remains as a splash of color in nature's winter garden, decorating Wisconsin's fencerows, roadsides and streambanks, and serving as a grocery store for creatures that have no other.

*Anita Carpenter writes from Oshkosh and savors every winter walk.*

## READERS*write*

### LION'S DEN GORGE

I read with great interest the October article mentioning Lion's Den Gorge in Ozaukee County.

Over 30 years ago, while teaching in Grafton and acting as Scoutmaster of Troop 40, we used the property for a camping site and classroom instruction. We spent hours photographing wildflowers and observing bird life in the den. I was well aware of its diverse potential. I wrote letters, sent pictures and made phone calls to the DNR, the Nature Conservancy, the Audubon Society, the Ozaukee County Parks Department, the Sierra Club and the Southeast Regional Planning Commission, trying to get someone to realize the need to protect and preserve this natural Wisconsin gem. My efforts were in vain. Sometimes my letters were not even answered.

To say the least, I was highly disappointed at the lack of interest and the bureaucratic indifference. Thank God someone finally woke up before it was too late and began moving toward what I had suggested so many years ago.

The Lions Den is well worth preserving with its huge cedar trees, clear marl stream and assorted fauna and flora. There is also evidence of an underground water passageway throughout the park. Because of its wild and primitive aspect, I hope the powers that be will see fit to keep the den in an undisturbed, pristine and natural state. This property deserves the best we can offer it, as a monument to the earlier years of a wild and beautiful land.

*Don W. Carter*
*Muskego*

### SQUIRREL HUNTING VIEWS

Sure enjoyed Mary Kay Salwey's story about squirrel hunting ("The Taste of Autumn," October 2003, p. 11–16). It reminded me of all the times my partner and I used to harvest squirrels in the Sheboygan Falls area when I was a teenager. And it felt good to help put Sunday dinner on the table now and then.

*Fred Beisser*
*Parker, Colo.*

I would like to congratulate Mary Kay Salwey on her wonderful article on hunting squirrels. It was much better than another article on baiting deer ("The Bait Debate," December 1999, p. 4–9). In my opinion, hunting squirrel requires more skill than hunting over a corn pile. Hunting using four-wheelers, cell phones, mechanical duck decoys and baiting is a disgrace and should be outlawed. These methods add ammunition for anti-hunters to use against us.

If anyone wants a challenge, try photographing wildlife in the wild, not at a game farm. This is many times harder than any type of hunting.

*Herbert J. Lange*
*Hazel Green*

I truly enjoyed the article on squirrel hunting in the last issue. My son completed hunter safety last fall and squirrel hunting gives us time to spend together in the Wisconsin woods. I was worried about how to skin and prepare the squirrel when we got one. But that article made my worries disappear. The skinning technique described is easy, quick, and really works! Now that we have some squirrels in the freezer I'll be trying the recipe soon. How about a similar article on rabbit hunting?

*Bob Gionet*
*Mayville*

*Bob, we've carried three stories on rabbit hunting and the first one included some recipes ("Rabbit hunting revival," February 1995). The second, ("Adolescents, beagles and cottontails," February 2003) focused on teaching youngsters the pleasures of hunting with a good dog. The third,* "The digging out of Nip," *February 1998, was a*

*holiday tale of a young beagle who was rescued after he followed a rabbit right down a hole!*

*Bob's letter got us thinking that our readers harbor a wealth of knowledge of how-to basics of hunting raccoons, ruffed grouse or woodcock, to mention a few. If you would like to share some of your tips with our readers, please write us at Readers Write.*

### A TANGLED TALE

Gray squirrels love to visit our back yard because we feed and enjoy their antics, so I built a "home" for them and fastened it to the trunk of a large pine tree. It was made of half-inch plywood, approximately 12" by 12" by 18" high, with a hinged roof and a hole near the top. I put a shelf below, to make it convenient for entering and leaving. A mother squirrel decided to raise her young in it. All went well until one day, at the bottom of the tree, there was a clump of baby squirrels squealing and biting each other. A closer look revealed that their tails were tangled and tied together. I covered them with a towel and untangled them while my wife kept the mother squirrel at bay. We have noticed that some squirrels have short tails. Have these squirrels had this problem and have they gnawed their tails to get free?

*Ort Henning*
*Shawano*

*Our wildlife staff had neither seen nor read of such tangled tails.*

### BLACK SQUIRREL ANOMALY?

I just finished reading the article about squirrels in the October issue and was wondering why the black squirrel wasn't mentioned. We have a cabin in northern Wisconsin southwest of Minocqua and on our way going through the trails in the woods, we see small squirrels about the size of a fox squirrel, but all black. In the past four years we have only seen about four or five of them. I was wondering if there was more information about them.

*Ben Darkow*
*Sheboygan*

*The black squirrel is actually a color phase of the eastern gray squirrel. The scientific term to describe an individual of a species with black pigmentation is melanism. While not considered abundant anywhere, they are more common in northern Wisconsin than in the south. One exception seems to be in Reedsburg, where they are reportedly more abundant than the gray phase. Reedsburg is one of five cities nationwide recently featured in the Detroit News with a predominant population of black squirrels. Several theories explain the reasons black squirrels are more prevalent in some places than in others. One theory concludes that they are more abundant in northern climates because their black fur more readily absorbs the sun's rays, making them better able to survive cold winters.*

### MORE THAN ONE WAY TO SKIN A SQUIRREL

I have been getting your magazine a good many years and enjoy it much. After seeing your article on how to skin a squirrel, I thought I'd write and tell you how I have helped train my grandson to do it after arthritis in my shoulders prevented me from helping too much. He got the idea of using the vise that is fastened down in his grandpa's tin shed. He uses the vise to hold the head steady, then with a pair of fisherman's pinchers, proceeds as your article described. When he gets the back half done, he turns the squirrel around and pulls the other half of the skin off. Then, if I am there to help, I usually do the gutting and remove the rest of the skin.

I hope you can pass this information on to other handicapped hunters as it may help make them more independent and they can enjoy hunting even more.

*Keith Rakow and his grandma, Elizabeth Rakow*
*Avoca*

### THANKS TO RESPECTFUL HUNTER

Dawn crept across Palmer Lake toward the shoreline bringing another new day to this pristine Wisconsin wilderness lake. After my morning prayers for our American troops overseas, I spotted the duck hunter's decoys shimmering white in the new day's light.

I stepped outside briefly to refill one of five bird feeders and felt the biting cold chill my bones. I couldn't imagine how that duck hunter in the duck skiff could sit there in the frigid wind. Returning to my window table and a fresh cup of coffee, I focused my attention on the hunter braving the weather hoping for an unsuspecting flock of ducks. That's when I saw the white trumpeter swan floating about behind the weed bed!

I quickly called my neighbor lady who awaits the swan's return each year and alerted her. I wondered what the hunter would do when he or she saw this majestic bird. The trumpeter sat its ground, scouting the territory for a safe zone and peace.

Then the hunter moved and the skiff headed to the decoys. When he began picking them up, I could feel a heartwarming moment of joy, the first rush of joy I've humanly felt since the Vietnam War grabbed hold of my soul. I awaited the hunter's landing to thank him for respecting the swan's presence. Al Winiecki declined hot coffee and breakfast but told me he shared words with the majestic bird hoping he could convince it to stay. Al headed back to Green Bay, but before he left, he showed me his camera in his vehicle back at the landing. He had forgotten to take it to his duck blind. The memorable moment was captured just the same in his heart and mind forever, and in mine.

To all the Al Winieckis in this world, thank you for respecting and honoring our Wisconsin and federal protected wildlife.

*Phil G. Smith*
*Palmer Lake*

### ANOTHER VIEW OF FISHERS

I enjoyed your article on fishers in the August issue ("A long journey for the night hunter"). Unfortunately, there is another side to the fisher story.

Their introduction was a success. They were introduced into forests with ever-changing populations of prey species. With only minor, regulated interference from trappers, fishers moved through the forest like a vacuum cleaner. Where they lived, the forest looked normal, but prey species of all kinds disappeared and other predators like fox and coyotes left for lack of food.

Manuals tell us the fishers are a tree species that hunts at night, but that's not exactly true. Probably due to overpopulation they are abroad all day and only in trees when chasing other "tree" species.

As a result of overcrowding their natural habitat, they invaded urban areas and can be seen crossing streets within a few blocks of Main Street in some northern Wisconsin cities. Domestic cats and dogs disappear. In one instance a fisher invaded a kennel next to a home and so severely wounded a springer spaniel that the dog had to be euthanized.

Fishers are creatures of the forest that, in the natural order of things, would work like lightning-caused wildfires — they would clear and "purify" large sections of the forest for renewal. In the past, natural predators like wolves kept the fishers under control. Fishers disappeared from Wisconsin because they were suckers for a trap. Perhaps we should use that tool more vigorously to contain them.

*George F. Ellis, Sr.*
*Eagle River*

**COMMENT ON A STORY?**

*Send your letters to Readers Write, WNR magazine, P.O. Box 7921, Madison, WI 53707 or e-mail letters to sperld@dnr.state.wi.us.*

*John F. Olson, DNR Furbearer specialist responds: Mr. Ellis has eloquently expressed the views of some other residents of northern Wisconsin as well. Although fishers consume a wide variety of prey items, they also eat plants (vegetation, berries) and dead things (carrion). Having lived in northern Wisconsin all my life (with the exception of college), I too can relate to how things were before and after fishers were reintroduced. Our landscapes have changed and will continue to do so as human populations increase and natural succession continues. Through forest succession we're now losing thousands of acres of aspen forest, an important timber type for many wildlife species, especially woodcock, snowshoe hare and ruffed grouse. At the same time, northern hardwood forests are increasing and are valuable to such critters as the endangered pine marten and many forest canopy songbirds.*

*The fisher is but one of many species that dwells in our forested landscapes. Other northern arrivals? Raccoon populations have never been so high and along with striped skunks are some of our most efficient predators of ground-nesting species. Folks see fisher because they can be active during daylight hours as well as evenings, but their actual densities are quite low compared to such predators as raccoons, striped skunks, or even weasels. Ruffed grouse populations have always been cyclic with or without the presence of fishers.*

*Fishers disappeared due to a combination of significant events — a total loss of habitat through uncontrolled logging of our vast pineries, and uncontrolled take through shooting and trapping. European immigrants felt predators were a threat.*

*Today this native has returned as a result of careful, steadfast management by private owners and public land managers. Controlled trapping combined with hundreds of dedicated wardens assure harvest control and protection that society now desires. Through this balance and management, we are allowed to carefully use this species with an eye to maintaining a healthy, diverse natural landscape for this generation and many that will follow. Fishers are Wisconsin natives and are truly a wild species, nothing more, nothing less. Hopefully they will continue to be part of our wildlife legacy.*

## UPDATES

### BEACH TESTS APPRECIATED

*County and health officials gave a thumbs-up to the first year of uniform bacterial testing on beaches in Wisconsin coastal communities. Results showed generally good water quality, but identified some problem areas in Sheboygan, Kewaunee and Manitowoc counties. This last year Brown County beaches did not report a single instance when bacterial counts exceeded federal limits. The biggest surprise was in Manitowoc County, where bacterial levels spiked simultaneously at several public beaches leading to postings that advised against swimming on those days.*

*Holly Wirick, of US Environmental Protection Agency's Chicago office said Wisconsin was one of the first to implement beach water quality testing for an entire season.*

*DNR Water Toxicologist Toni Glymph is again working to secure federal grants to defray the costs of regular testing during the swimming season. This year's testing program was subsidized by a $225,670 federal grant. Glymph said the DNR would begin organizing new methods of notifying the public about shoreline beach conditions such as a daily telephone hotline for residents and tourists.*

*"We hope all the counties will participate next year and we hope the bumps we experienced this year will be eliminated," Glymph said at the October meeting summarizing the swimming season monitoring results.*

### PROMISING PERCH HATCH

*Results of perch survey hatches from last summer are promising, but DNR fisheries managers say it's too early to judge if Lake Michigan and Green Bay perch populations are rebounding.*

*Justine Hasz, DNR fisheries biologist stationed in Peshtigo, said that near perfect weather for the small number of spawning adults led to the bumper crop in 2003. "Spring water temperatures brought a slow, gradual warming that was just about perfect for survival of the eggs. We saw large numbers of fish come back to reproduce, and good egg survival."*

*However, Hasz cautioned that large numbers of young-of-year don't always generate large numbers of adults. Those fish that hatched this year have to survive their first winter, which she notes, represents another potential hurdle.*

*DNR fisheries biologists want to extend until June 30, 2006, current rules that limit the daily sport bag to 10 perch, and the annual commercial harvest to 20,000 pounds, of yellow perch from Green Bay. Extending those protections would safeguard the remaining adults while increasing the odds that fish hatched in the last few years will reach maturity and help rebuild the struggling yellow perch population.*

*"We don't think the adult population is strong enough to return to the more liberal limits in place in 2000, so we are proposing to continue with the 10 daily limit and the 20,000 pound annual commercial harvest with a sunset clause," Hasz says. "This will protect the adult population and give the fish from the 2001, 2002, and 2003 year classes protection to allow them to reach spawning age."*

*Surveys suggest that Green Bay's yellow perch population had plummeted 90 percent between 1988 and 2000. The estimated total biomass of yellow perch in Green Bay dropped from nearly 10 million pounds in 1988 to less than a million pounds in 2000. DNR's trawling surveys this summer showed that the 2003 year class is much stronger than preceding classes. In fact, Hasz says, the class this year "is off the chart. We have not seen anything like this since we started sampling in 1978."*

### A WILLINGNESS TO CHANGE

*A northern Wisconsin representative on DNR's shoreland regulations advisory committee said the agency had shown commitment to diverse opinions and had backed away from eliminating nonconforming homes.*

*Eagle River attorney and Vilas County Supervisor Chip Nielsen made his remarks to the Oneida County Zoning Committee in mid-November.*

*Shoreland zoning codes had limited homeowners to repairing or adding to shoreland homes up to 50 percent of their assessed value. Under the new proposals which still need to be reviewed by the Natural Resources Board, at public hearings, by the legislature and by the governor, unlimited maintenance repairs would be allowed on homes and structures located within 35–50 feet of the water's edge. Current limits on new construction only allow building farther than 75 feet from the shoreline.*

*The proposal recognizes that these older homes have value for their owners and will likely be here for the foreseeable future, Nielsen said.*

# Get real

JIM FORRESTAL (RIGHT) LOYD C. HEATH

The Wisconsin Historical Society's Old World Wisconsin hosts unusual workshops in time-honored skills like blacksmithing, working with draft horses and making braided rugs.

It seems our appetite for the truly authentic actually has been sharpened by those ridiculous *faux*-reality TV programs (although your TRAVELER is still waiting for "Survivor X: Sawyer County, Wisconsin/January"). When what poses as real is so patently false, it's only natural we would crave a dose of the genuine article.

**Old World Wisconsin** is poised to satisfy our desire for the real thing. This spring and summer, the historic site located in Eagle will offer a series of workshops on **traditional crafts and skills.** Guided by expert staff, the workshop participants will take up the tools and learn the techniques people used 100, 150, even 200 years ago to survive and thrive in Wisconsin's sometimes bountiful, sometimes unforgiving landscape.

Here are a few of the workshops on offer. Additional dates may be added if the workshops fill up, so be sure to ask when you register.

**Log Construction,** Preservation and Restoration: Intrigued by Lincoln Logs as a child? Now's your chance to scale up those construction dreams of youth. In this workshop you'll learn about log building layout, different corner notching styles, chinking and daubing materials, and how to remove and replace a full log or just a section. *Date:* Saturday, April 17th. *Cost:* $125. *Registration deadline:* April 2nd.

**Old Fashioned Lye Soap Making:** Staying clean involved plenty of elbow grease in years past. Fat had to be rendered into lard; lye had to be made by leaching water through ashes, and the two combined at just the right temperature to gel into soap. Old World staffers explain the process and will assist you in making your own soap cakes. *Date:* Saturday, April 3rd. *Cost:* $30. *Registration deadline:* March 19th.

**Draft Horse Basics:** Driving horses for transportation and farm chores like plowing is both a skill and an art. Old World's farmers will show you how to harness a team and hitch the team to various implements. After that, the reins will be in your hands! You'll also pick up tips on horse health and nutrition. *Dates:* Friday and Saturday, April 16th & 17th. *Cost:* $150. *Registration deadline:* April 2nd.

**Introduction to 19th Century Blacksmithing:** "Under a spreading chestnut tree, the village smithy stands…" If Longfellow's poetry is the nearest you've come to smithing, here's an opportunity to let the sparks really fly. Learn the rudiments of blacksmithing using traditional 19th century tools and a coal-fired forge. You'll make your own set of tongs during the five-hour workshop. *Dates:* Saturdays, May 1st, 8th, 15th or 22nd. *Cost:* $125. *Registration deadline:* Two weeks prior to each workshop.

LOYD C. HEATH

**Primitive Rug Making:** Using a hook with a wooden handle, you'll pull loops of wool through a woven base, creating a hand-hooked woolen rug in the same way as it was done in the 1850s. *Date:* March 13th. *Cost:* $85. *Registration deadline:* February 27th.

The Old World Wisconsin workshops are a great way to gain hands-on experience in a true-to-life historic setting. Call (262) 594-6305 or e-mail oww@whs.wisc.edu to register for the classes. Old World Wisconsin is located 1.5 miles south of Eagle on Highway 67 in Waukesha County. On the web: www.wisconsinhistory.org/oww

## *Wisconsin, naturally*


### Bear Beach State Natural Area

**Notable:** Marvel at the stretches of undeveloped beach along the Lake Superior shore, scattered pockets of cobblestones and driftwood "gardens" and adjacent uplands of trembling aspen, white spruce, white pine and balsam fir.

**How to get there:** From the intersection of highways 2 and county H in Brule, go north on H 11 miles, then west and north 3.8 miles on Brule River Road to a parking lot. The natural area includes the five-mile stretch west of the Brule River. *Wisconsin Atlas:* p. 101, grid C8.