



# LAST STANDS

FORESTS OF ELM, SUGAR MAPLE, BASSWOOD, AND OAK  
SOUTH-CENTRAL MINNESOTA. TODAY JUST 2 PERCENT  
THE PATH OF URBAN DEVELOPMENT.

NERSTRAND-BIG WOODS STATE PARK PHOTOGRAPH BY ROBERT ANDRZEJEK



OF BIG WOODS

ONCE COVERED MORE THAN 2,000 SQUARE MILES OF  
OF THESE FORESTS REMAIN, AND MOST STAND IN

BY DANIEL WOVCHA AND FRED HARRIS

## The Big Woods

**I**N THE 1980s, ABOUT THE TIME suburbia began to expand rapidly along Interstate 94 in northwestern Hennepin County, developers and real estate agents began knocking on Lloyd and Evelyn Henry's farmhouse door. They envisioned converting the 60-acre forest that occupies the northwest corner of the Henrys' farm into secluded lots for new houses. The Henrys knew they could sell their forest for a good price—undeveloped wooded lots in the area were going for as much as \$15,000 an acre—but they were determined to see the forest preserved, both as a memorial to Lloyd's grandparents, who bought the farm near Rogers shortly after the Civil War, and for people who enjoy the tranquillity and sense of history that old forests provide.

"I've kept them at arm's length," Lloyd, now in his 80s, says of the developers who used to appear at his door. "Over the years we've had many visitors to the woods when we've made maple syrup. People love to be out in these woods in the spring, and I'd like for them to continue to enjoy it."

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
*Plant ecologists Daniel Wovcha and Fred Harris coordinated recent vegetation surveys of the Big Woods region for the Minnesota County Biological Survey, a DNR program that is documenting Minnesota's native habitats and rare plants and animals.*

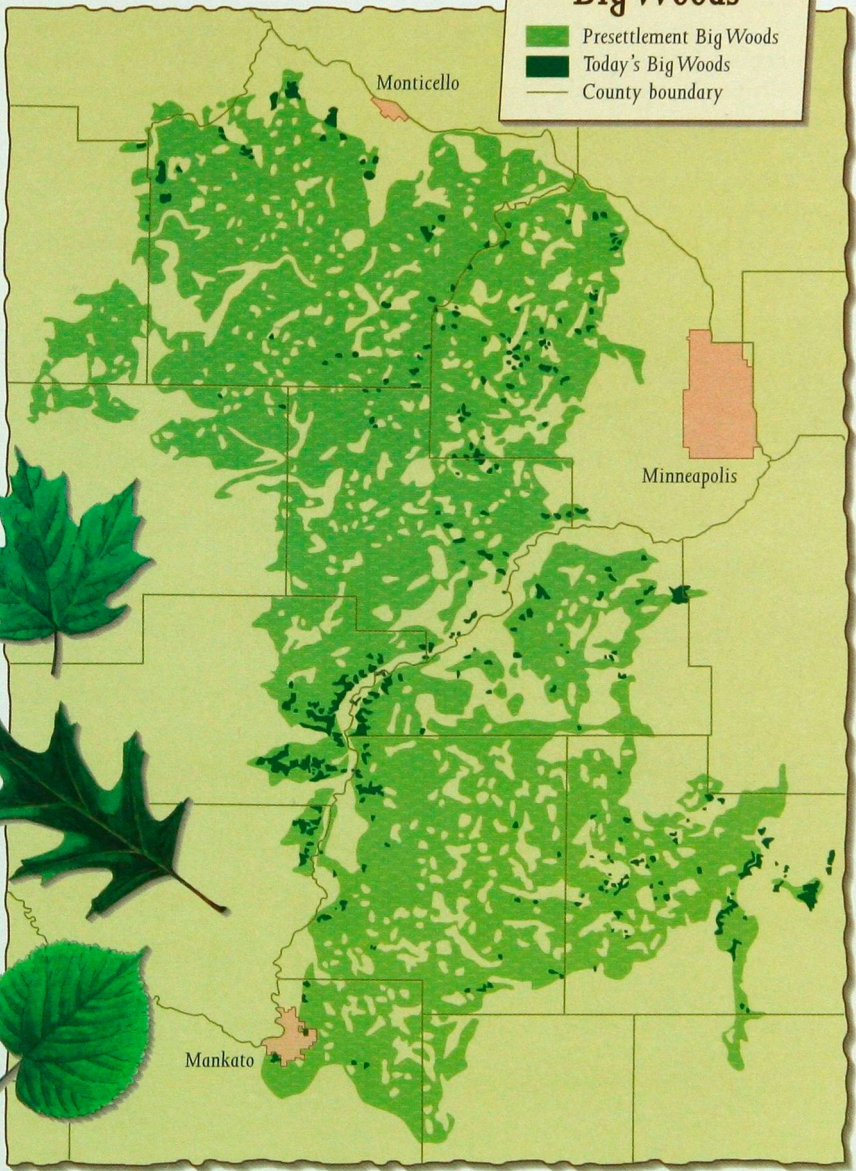
The forest, it turns out, is one of the best-preserved remnants of deciduous forest in the Twin Cities area, strengthening the Henrys' resolve to see it protected.

Forests of elm, sugar maple, basswood, and oak once covered more than 2,000 square miles of south-central Minnesota, extending in a band 40 miles wide from Mankato to Monticello. This band of forest contrasted markedly enough with the surrounding prairies, savannas, and brushy oak and aspen woodlands that French explorers traveling through Minnesota in the 1700s designated it the *bois fort* or *bois grand*, which English-speaking inhabitants later translated as "big woods."

In the 1800s the presence of the Big Woods in southern Minnesota—with its bears, wolves, and other forest-dwelling creatures—was a curiosity to new inhabitants of the region. N.H. Winchell, who participated in early geologic and natural history surveys of Minnesota, noted in 1875: "The existence of this great spur of timber, shooting so far south from the boundary line separating the southern prairies from the northern forests, and its successful resistance against the fires that formerly must have raged annually on both sides, is a phenomenon in the natural history of the State that challenges the scrutiny of all observers." It was not until 100 years later, through careful study of the notes

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-  Presettlement Big Woods
-  Today's Big Woods
-  County boundary



SOURCE: 1998 MINNESOTA COUNTY BIOLOGICAL SURVEY DATA AND 1930 MAP BY FRANCIS J. MARSCHNER

MAP BY MATT KANIA

## The Big Woods

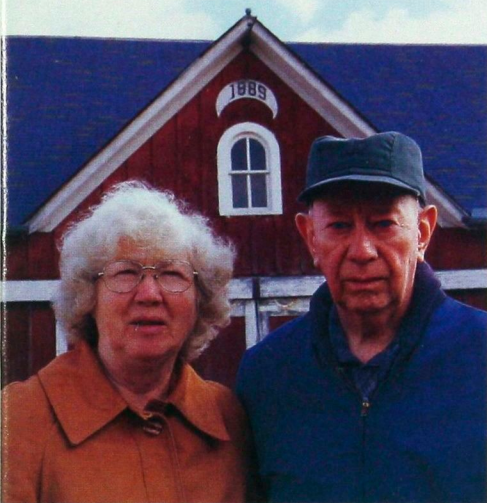
of public land surveyors from the 1840s and 1850s and examination of fossilized pollen grains left in bog and lake sediments, that scientists worked out the origin of the Big Woods in detail.

**RELATIVELY RECENT.** The development of the Big Woods turned out to be a relatively recent event that coincided with climate

cooling over North America about 300 to 400 years ago. Before this cooling, fire maintained the brushlands, prairies, and oak savannas that covered southern and western Minnesota. When the climate cooled, wildfires diminished in the area that would become the Big Woods. Forests spread outward from small, isolated groves into the brushlands and prairies.

**T**he forest on the farm owned by Lloyd and Evelyn Henry (right) remains much the same as it was when Lloyd's grandparents bought the land right after the Civil War. Other Big Woods forests (below) disappear as rising property taxes and land prices encourage owners to sell.





DANIEL WOVCHA

The Henrys knew they could sell their forest for a good price, but they were determined to see the forest preserved.

Fires remained frequent enough on the flatter and often drier lands surrounding the Big Woods region that brushlands, prairies, and savannas persisted in these areas. Bounded by rivers and rolling, lake-dotted terrain, the Big Woods region burned much less frequently. Dense, tall forests of elm, sugar maple, basswood, and oak developed during the next few hundred years.

The Big Woods was not only a curiosity to new inhabitants, but also a source of livelihood in the 1800s. Settlers who located their farms on nearby prairie land traveled to the Big Woods to obtain lumber to build houses and barns and firewood to heat them. Other settlers found that the region's soils made good cropland, and they cleared away patches of the forest to develop their homesteads.

Although European-American settlers began farming in the Big Woods region in the 1840s, sizable areas of forest persisted into the late 1800s. By the 1930s, however, farmers had converted most of the Big Woods to cropland, leaving a patchwork of widely scattered 40- to 80-acre wood lots. The Henrys' forest is one of these farm wood lots, set aside as a source of fuel wood or lumber (the Henrys' barn is made with wood from the forest) and shelter for livestock during the summer. Over the years, the Henry family collected sap from the maple trees for syrup, which provided additional incentive for preserving the forest and its dense canopy of sugar maples.

It is also likely that ginseng plants were harvested from the Henrys' forest, especially in the 1850s and 1860s, when economic depression led many farmers to seek other sources of income. At this time, hundreds of thousands of pounds of ginseng root were dug from the Big Woods region. It was often said that

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ginseng saved many Minnesota farms from bankruptcy.

Despite its history of use, the Henrys' forest has never been heavily grazed or logged. It still evokes the setting described by earlier inhabitants. Maple trees 150 years old tower in the forest canopy. Dutchman's breeches, wood anemones, and other wildflowers carpet the soft earth in the spring.

Evelyn Henry has watched the forest change with the cycling of time and weather, noting the reappearance each spring of trilliums and wood ducks, and the disappearance of other forest-dwelling plants and animals following droughts or cold winters. "We've thought the whole time we've been here about how nice it is to have a forest. We know we have something special," she says.

**REDUCING TAX BURDEN.** With just 2 percent of the Big Woods remaining in stands large enough to be called forests, the Henrys truly do have something special. What has been less certain in recent years is whether the Henrys would be able to preserve their forest and farm in the face of the higher taxes and assessments that are coming to northwestern Hennepin County as the land around their farm is developed into residences and businesses. Because of this, they have been considering options for reducing their tax burden and at the same time protecting their forest and

*With less than a quarter of the remaining Big Woods forests protected in parks or preserves, hundreds of acres have been disappearing each year.*

other parts of their farm.

Among the options available to them is having the forest designated as a park, which would both lessen the Henrys' taxes and ensure that people could visit the forest in the future. If the forest becomes a park, the Henrys would like to see it remain largely natural.

"But we're also interested in having a small replica maple-sugar camp in one corner with demonstrations of the maple-sugaring operations that we've had here for three generations," Lloyd says. "It's part of the history of the area."

The Henrys are also considering protecting their forest and other parts of their farm by donating a conservation easement to the Minnesota Land Trust, a nonprofit organization that has worked with private landowners to protect more than 7,000 acres of natural, scenic, and agricultural land in Minnesota.

A conservation easement, which is a legal agreement permanently

restricting the development of a piece of land, could benefit the Henrys in several ways, according to Jeanne Wright, a land protection specialist with the Minnesota Land Trust. First, it would assure that their forest will be protected in the future, regardless of who comes to own it. Second, it could help keep their property taxes down, because land that cannot be developed is

generally taxed at a lower level. It is also possible for the Henrys to place a conservation easement on their forest and have it turned into a park, ensuring that the agency or government body operating the park would not be able to sell it to developers in the future.

"The conditions of the easement are determined by the landowner," Wright says. "We work with them to

MINNESOTA HISTORICAL SOCIETY



**B**ig Woods shelter Dutchman's breeches, gray foxes, and many other forest-dwelling plants and animals. The Big Woods also has a centuries-old history of maple syrup production, such as this small operation (right) near Lake Minnetonka, ca. 1925.



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ensure that their interests are met.”

Whether the forest becomes a park or is protected by an easement, the Henrys would probably not benefit as much financially as they would from selling the woods outright to a developer.

“I realize I could sell my land and make all kinds of money. But I’d rather have my family come by it when they’re older and see it intact, instead of just a bunch of houses,” Lloyd says. “When you stay this

long in one place you get attached to it. It’s more than just money.”

**DISAPPEARING EACH YEAR.** While the Henrys are committed to seeing their forest preserved, other Big Woods remnants are not faring so well. With less than a quarter of the remaining Big Woods forests protected in parks or preserves, hundreds of acres have been disappearing each year, converted to subdivisions, golf courses, roads,

### A MANAGEMENT CHALLENGE

## Disappearing Wildflowers

**N**EARLY ALL REMNANTS OF THE Big Woods have undergone significant changes during the past 150 years. The large-scale die-off of American elms, once the most abundant tree in the Big Woods, has permanently altered deciduous forests throughout the region. Many stands have also had heavy logging of selected tree species, or have been heavily grazed.

Today, park managers and private landowners managing protected lands face a new set of thorny issues in addition to ameliorating the effects of past land uses.

For example, they must minimize impacts from increasing recreational use and onslaughts of exotic weeds. One especially perplexing problem is the apparent loss of wildflowers in woods in rapidly developing suburban areas. Forests carpeted with wildflowers 30 years ago now have mostly bare ground.

Several factors could be contributing to such declines. One problem is hungry deer. A recent University of Minnesota study found that white-tailed deer prefer certain plants—such as trilliums, large-flowered bellwort, and enchanter’s nightshade



ENCHANTER'S NIGHTSHADE BY RICHARD HAUG

and other developments as the Twin Cities and surrounding communities spread outward.

Efforts are underway to encourage protection of forests in the Big Woods region. In the past few years, several cities and townships in the region have initiated plans to protect forests and other natural lands within their boundaries. Hannah Dunevitz, a regional plant ecologist with the DNR, has been helping citizens and local governments preserve natural areas in

east-central Minnesota. "Many communities here are realizing that the time to act is now," Dunevitz says (see editor's note, page 18).

In Rice County a committee of citizens, developers, and local government officials has been drafting recommendations for protection of farmland and forest remnants near Nerstrand-Big Woods State Park. These recommendations include use of alternative zoning ordinances and other innovative land-protection

—and could be depleting them in the Big Woods, particularly in suburban areas where alfalfa fields and other types of forage have disappeared. In some Twin Cities suburbs, shrinking habitat and the absence of hunting have led to such high concentrations of deer—up to 50 per square mile in some forests—that virtually all plants below 5 feet tall are consumed.

Exotic earthworms might also be contributing to the decline of wildflowers in certain forests (see "A New Angle on Earthworms," page 20). As in other recently glaciated regions, Minnesota's ecosystems evolved without earthworms, which have been introduced in potting soil or as fishing bait since European-Americans began



NODDING TRILLIUM BY RICHARD HAUG

to settle the region. The worms devour the soft organic duff and leaf litter on the ground, reducing the availability and levels of soil nutrients, and altering the soil's structure—changes that many forest wildflowers might not tolerate. Indeed, wildflowers are often scarce in those Big Woods forests that have abundant earthworm castings and little or no leaf litter or duff.

More work is needed to determine how much these or other factors account for the decline of wildflowers in some Big Woods remnants. An altogether different and more challenging problem will be to determine how to keep these factors at bay so that these forests survive.

—FRED HARRIS AND DANIEL WOVCHA

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tools. They might eventually serve as a model for forest and farmland protection throughout the region.

With time running short, however, the survival of many Big Woods forests will likely depend on individuals like the Henrys, who value the forests for their place in the history of the region and for the habitat they provide for animals and plants, and who, importantly, are willing to act directly and quickly to protect them. □

*Two free publications offer guidance for land protection. Land Protection Options, an 80-page handbook for Minnesota landowners, is published by The Nature Conservancy, DNR, Trust for Public Land, and Minnesota Land Trust. Natural Areas: Protecting a Vital Community Asset is a 150-page sourcebook designed to help people at all levels of local government. It is published by the DNR Natural Heritage and Nongame Research Program. To order a free copy, write Attention: Sourcebook, DNR Ecological Services, 500 Lafayette Road, St. Paul, MN 55155-4025. To order Land Protection Options, write to the same address but specify Attention: LPO book.*

*Several scientific and natural areas include remnants of Big Woods, such as Wood-Rill SNA, a 110-acre parcel recently donated by Bruce and Ruth Dayton. A Guide to Minnesota's Scientific and Natural Areas lists others you can visit. The guide, which sells for \$12.95, is available by calling 651-297-3000 or 800-657-3757.*



NERSTRAND-BIG WOODS STATE PARK BY GARY ALAN NELSON