

PEOPLE ON THE LAND



Native Americans

People have been living in the Chicago region for thousands of years. It is likely that hunters followed the big animals such as mastodons north as the glaciers receded. In those times, human populations were small—as they were throughout the world—and hunting and gathering were the sole means of subsistence.

By 2,000 years ago, people in the Midwest were living in settled communities based upon a combination of agriculture and the harvest of natural foods such as fish, shellfish, and game. These communities developed into substantial societies capable of building such impressive works as the mounds at Cahokia, Illinois, and other Midwestern sites.

This Midwestern civilization was centered along the major rivers: the Illinois, Mississippi, and Ohio.

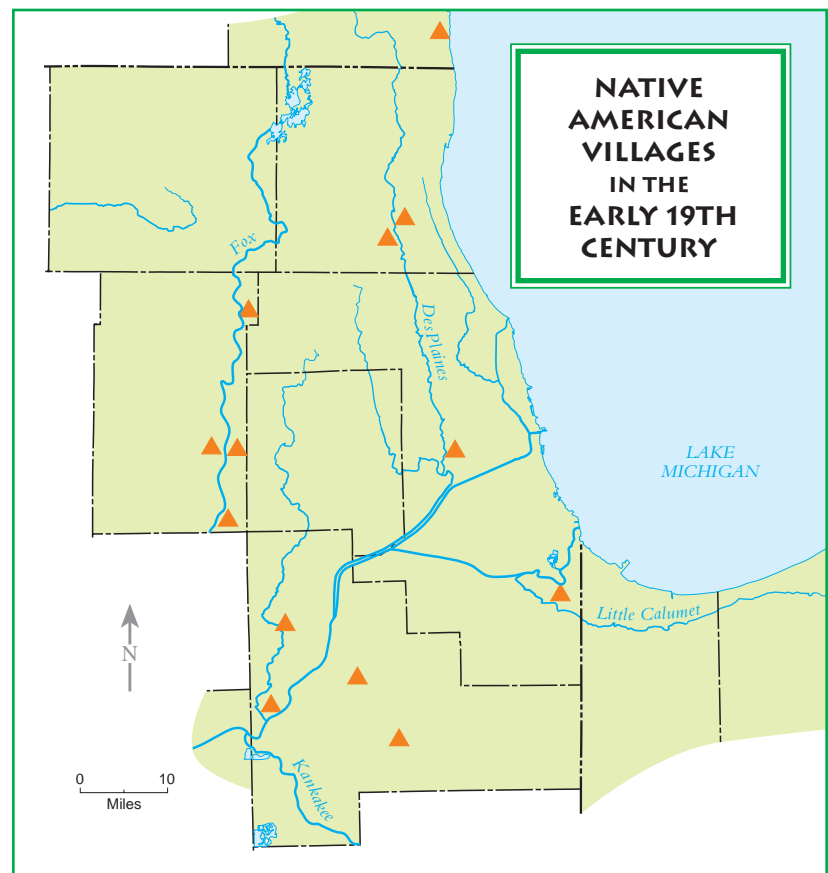
The arrival of Europeans in North America was catastrophic for native societies. Diseases such as smallpox and measles destroyed whole communities. Tribes displaced by the new colonists pushed west and came into conflict with people already there.

The Illini, a confederation of peoples that had greeted the first French explorers in the late 1600s, had practically ceased to exist by 1800. The Potawatomi, recent arrivals from the eastern shore of Lake Michigan, had occupied the Chicago region by the time the city was founded in the 1830s.

Native populations were small. Only a few thousand people lived in the Chicago region. Their way of life and their habitations followed the seasons. Spring and summer were spent in towns living in wooden houses. Fields near the towns were planted in corn, beans, and squash.

After the harvest, most people moved away from the towns. Often only a few elderly people remained there through the winter. The rest of the population moved into winter hunting camps. The camps were occupied by family groups.

The coming of spring was signaled by the gathering of the people at groves of black and sugar maple. There,



The permanent villages of Native Americans in this region were mainly along the rivers. People made seasonal use of the lake plain—where the present city of Chicago is located—but they didn't live on that wet, wind-swept land.

they collected the rising sap and boiled it down into maple sugar, which they used as a condiment much as we use salt.

The Potawatomi towns were mainly along the rivers. There they had reliable water supplies and firewood. The prairies were places they used seasonally for hunting and gathering. They had no reason to establish permanent towns there.

The major crops of the Potawatomi were of tropical origin and did not escape into the wild. Extensive trade networks existed throughout North America, but the goods traded were mainly portable commodities and luxury goods. The sort of bulk shipments that led to the accidental importation of large numbers of plants from Europe were not part of Native American commerce.

This way of life began to change after the fur trade became important as men turned more of their time and attention to trapping and hunting beaver and other furbearers. Iron pots and steel axes, acquired in exchange for furs, replaced pottery and stone tools. In the first 150 years of European presence, the newcomers and natives adapted to each other. It was only after the Americans began to pour in that natives were forced to move west.

The largest effect of Native Americans on the landscape came from their use of fire as a land management tool. The earliest account of burning in North America



Ruth Duncan and her daughter, members of the Lenape tribe, demonstrate the proper technique for building a wigwam at a maple sugar festival at the Indiana Dunes National Lakeshore.



dates from 1528 when Cabeza de Vaca saw people in Texas setting fires. In the seventeenth century, French traders planned journeys west from the Mississippi to miss the fall fire season. Accounts of fires in Illinois, Indiana, and southern Wisconsin are numerous.

Fires gave a competitive edge to the natural communities best adapted to them. They created the varied

landscape of prairie, savanna, woodland and forest that greeted settlers in the early 19th century. Fire is a natural process in many ecosystems, and many natural communities are adapted to regular blazes. The native peoples made use of this process to serve their own needs, but their actions protected and often increased the biodiversity of the region.

Settlement

Jean Baptiste Point du Sable set up his trading post at the mouth of the Chicago River just as Americans along the Atlantic coast were rebelling against the colonial government of England and setting up their new republic. Du Sable—of mixed French and African ancestry—was one of many traders in the Midwest who bought furs from the native people and paid for them with iron pots, steel axes, woolen blankets, and a variety of other commodities that had already, by the 1770s, profoundly changed the lives of Native Americans.

The society of the Midwest at the time was a blend of native peoples and small numbers of traders from elsewhere. Inter-marriage was common and close ties developed across cultural barriers. Except for the devastating attack on the beaver, changes in the human landscape had little effect on the natural landscape.

All that changed suddenly and profoundly after the United States gained control of the lands that are now in the Chicago region after the War of 1812. Settlers began to pour in. The government land office sent out teams of surveyors to mark off the land so it could be sold to set-

Jean Baptiste Point du Sable, a man of mixed African and French ancestry, established the first trading post at the mouth of the Chicago River when this region was still under British control.



tlers. The survey reports are now one of our important sources of information about the native vegetation of this region.

Chicago was meant to be a city from the beginning. Farmers who took up land at the edges of town were quickly overrun by development. By 1870, 350,000 people lived in Cook County, and the city's population would top one million before the end of the century.

In the rest of the region, settlement followed a more typical pattern, as farmers settled the land and market towns sprang up to serve them. In northwest Indiana, settlement was concentrated in the better lands on the moraine. The lake plain with its marshes and dunes had little attraction for farmers.

Prairie soils proved to be extraordinarily fertile, and unplowed prairies became pastures. The eating habits of cows and horses proved to be different than those of bison and elk, and some common prairie wildflowers began to disappear. Suppression of fire and the influx of exotic species that came with the settlers also made life difficult for many of the prairie natives.

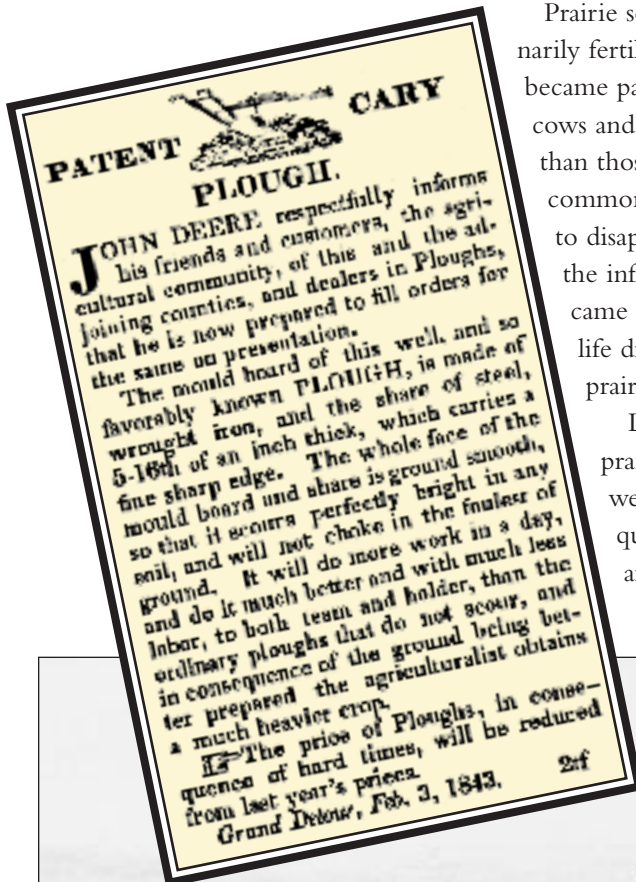
Land that had been brushy prairie during times when fires were a regular occurrence quickly became oak woods after settlement. Meanwhile,

suburban development, but this was confined to towns along the rail lines and was, for the most part, something that only the well-to-do could enjoy.

Settlement patterns began to change dramatically after World War II. Federal mortgage guarantees strongly favored new housing, encouraging the development of new neighborhoods and whole new towns. The building of the Interstate highway system in the fifties and early sixties made long-distance commuting practical, not just between the city center and outlying areas but from any point in the metropolis to any other point.

Suburban areas have grown explosively in the past 50 years. Chicago, meanwhile, hit its population peak in the fifties and has been losing people ever since.

Business and industry moved to the suburbs too. Corporate headquarters that occupied a few floors of a high-rise in the Loop became 40-acre corporate campuses in the suburbs. The region grew like a fairy ring mushroom,



An Illinois blacksmith named John Deere invented the steel moldboard plow that allowed farmers to till the heavy soils of the prairie.

the places that had been forested were cut over, and drainage projects were eating away at wetlands.

During the first century of settlement, human populations tended to be concentrated. In Chicago and in the smaller industrial towns like Joliet, Elgin, and Gary, most workers lived near their jobs, either walking to work or commuting by street car or other public transit. The coming of railroads led to some sur-

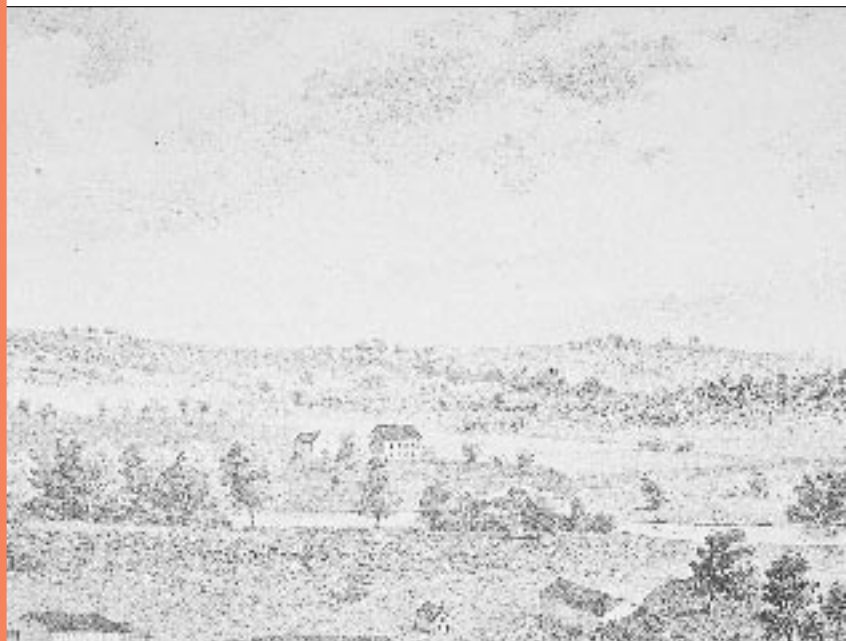
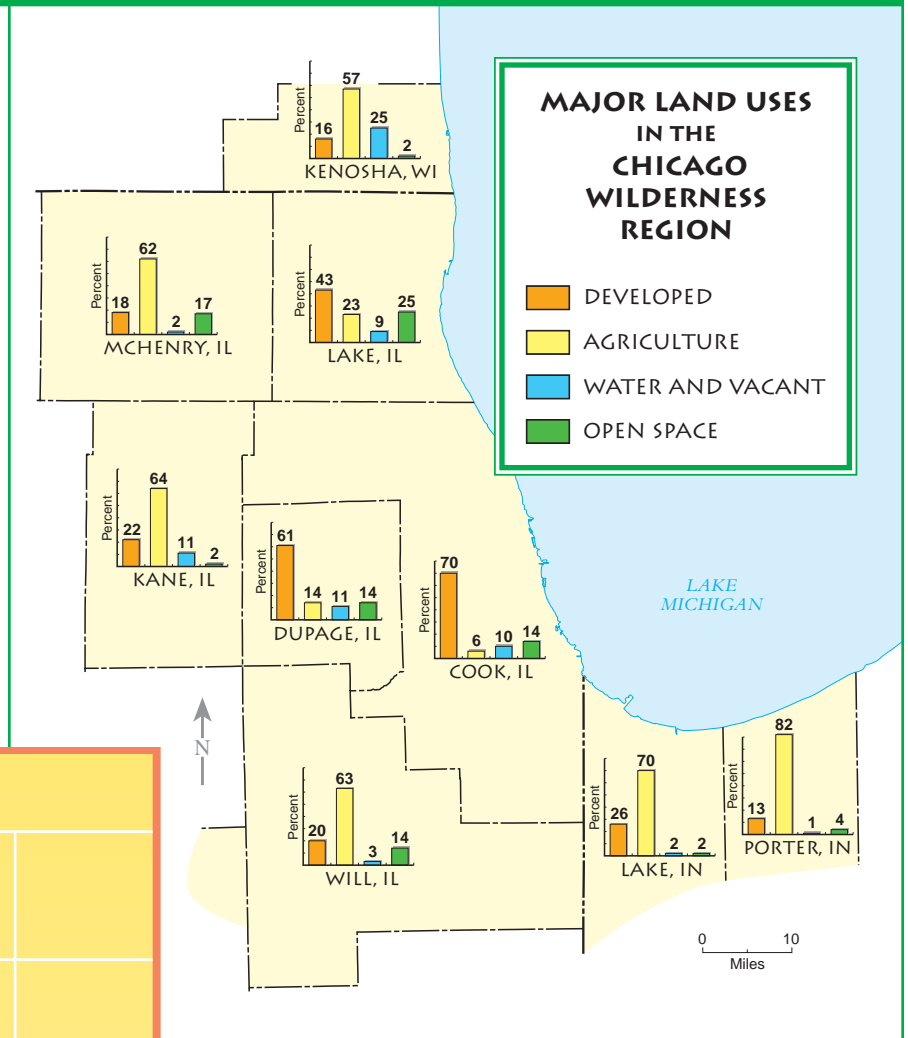
endlessly expanding at the margins while the center died.

Chicago lost more than 100,000 jobs in manufacturing in less than 30 years. In northwest Indiana, the older industrial areas in Gary, Hammond, and East Chicago saw major population declines while towns to the south were booming.

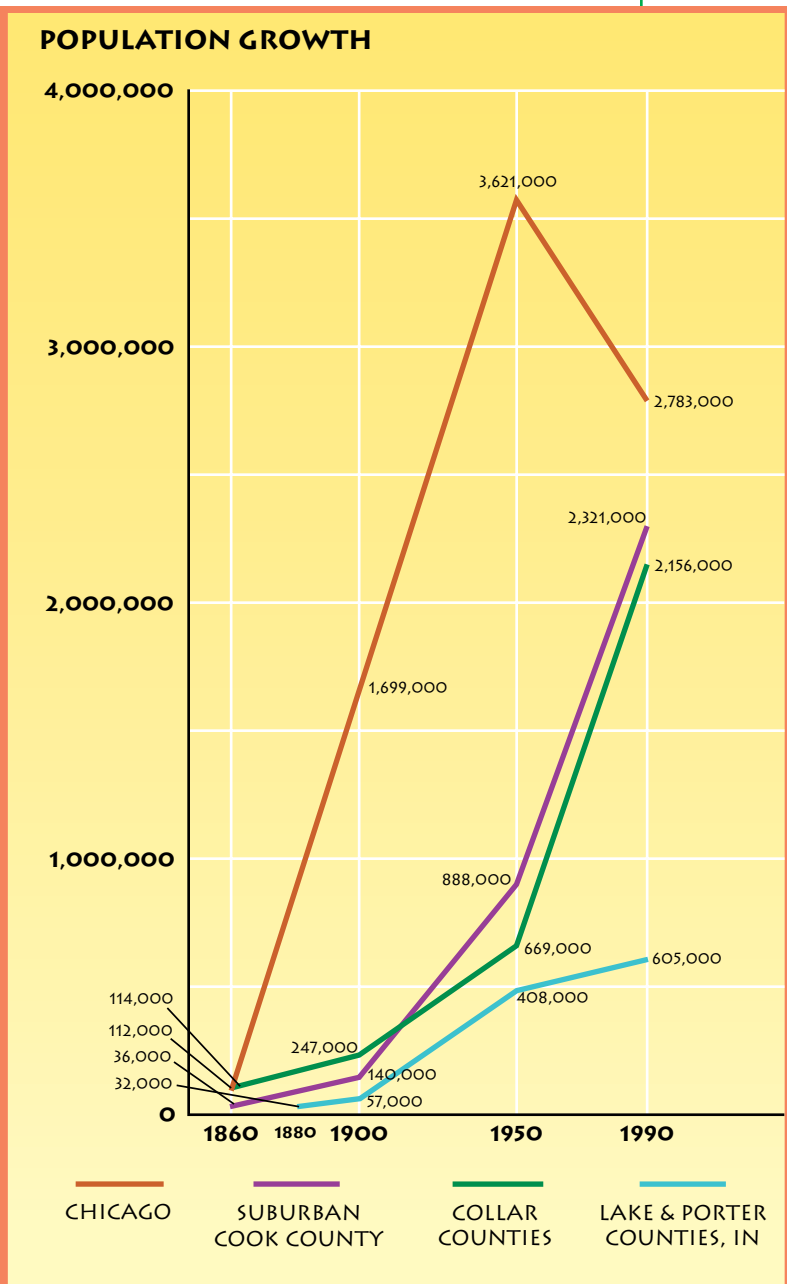
The shift from high density housing and business to low density suburbs has put a heavy

demand on land. For decades, the amount of developed land has been increasing at a rate several times larger than the population. Both farm land and natural land are rapidly being converted to homes and businesses.

Meanwhile, evidence has begun to collect that urban sprawl has an effect on natural areas even when it does not cause their direct destruction. Animals such as raccoons and white-tailed deer that have always been a part of natural communities in the Midwest suddenly undergo population explosions and become problems in isolated preserves surrounded by developed land. It may take decades for the full effects of urban sprawl to reveal themselves. In an environment of concrete and chemically treated lawns, the preservation of natural areas is a major challenge.



This drawing from an atlas published in 1870 shows a section of the DesPlaines River near Plainfield in Will County. The varied landscape of prairies and groves became a landscape of plowed fields and woodlots as settlement advanced.

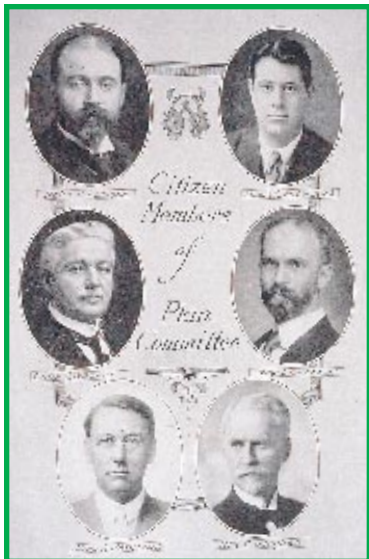


PEOPLE ON THE LAND

The Creation of the Forest Preserves



A pathway leads invitingly into Will County's Messenger Woods. Wildlife from coyotes to white-tailed deer are residents of local preserves.



Members of a committee that first proposed the idea of a system of natural preserves in Cook County. Dwight Perkins (center right), an architect, led the effort to make this idea a reality.

The early years of the twentieth century were a time when Americans began to look at the effects of our growing civilization on the natural environment. The belief of earlier times that the resources of North America were limitless no longer seemed to fit. The frontier was gone. The buffalo nearly killed off. The vast flocks of passenger pigeons that once darkened the skies of eastern North America were extinct. We had lost much and clearly we stood to lose much more if we did not change the way we thought about the land.

It was a time when the U.S. Forest Service and the National Park Service were created, a time when the first National Wildlife Refuges were set aside. There was even a proposal put forward to create a national park at the Indiana Dunes.

In Chicago, an organization called the Municipal Science Club headed by architects Jens Jensen and Dwight H. Perkins proposed that the most beautiful natural areas remaining in Cook County be set aside “for the benefit of the public.”

It took 15 years of work to turn that idea into reality, but in 1915, Forest Preserve Districts were created in Cook and DuPage Counties. Land purchases began immediately with a 79-acre tract in DuPage County and 500 acres at Deer Grove near Palatine in Cook County.

The essential idea of the forest preserves was to preserve the native flora and fauna of the region for the “education, pleasure, and recreation of the public.” The outcome has been to offer generations of city dwellers a

chance to experience nature within a few minutes travel of their homes while simultaneously offering protection to a broad range of natural communities that have been wiped out through most of their former range.

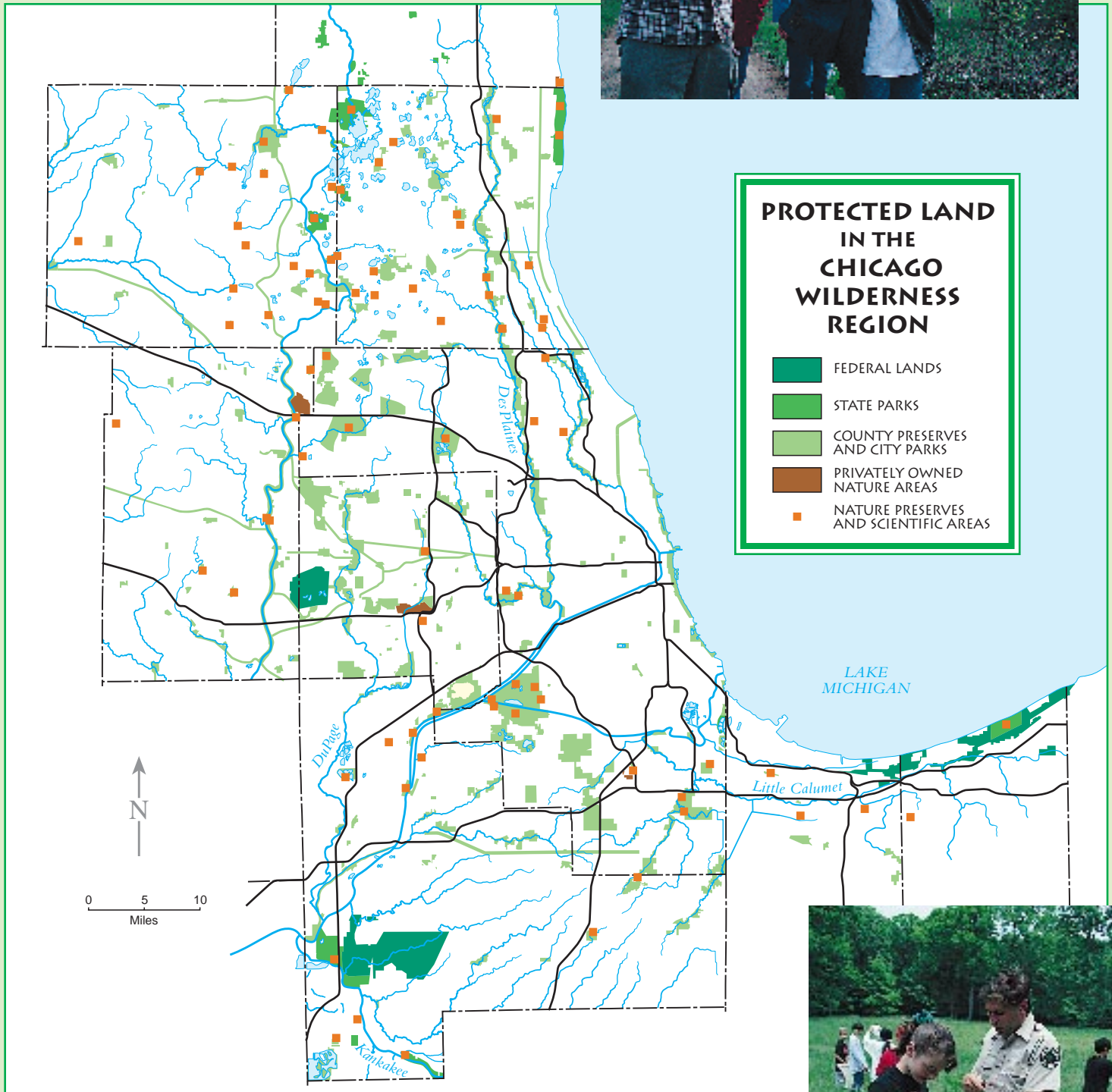
In the following years, the state of Indiana created a park at the Dunes, while Illinois developed parks at Illinois Beach and Chain O’Lakes and later a large Conservation Area where the Kankakee and Des Plaines Rivers join to form the Illinois and another park at Goose Lake in Grundy County.

In the years after World War II, as people began moving in ever larger numbers into the counties around Cook County, Lake, Kane, and Will Counties in Illinois and Lake County, Indiana created their own forest preserve districts. In 1971, McHenry County founded a Conservation District to hold and manage natural lands.

In 1966, 50 years after it was first proposed, the Indiana Dunes National Lakeshore became a reality. Most recently, the old Joliet Arsenal was converted into the Midewin National Tallgrass prairie, adding 15,000 acres of public natural land to the region.

We are lucky that our history has given us 200,000 acres of preserved natural land not “near to,” but right in the middle of one of the largest metropolitan areas in the country. Few metropolises can equal this total.

A group of birders searches for spring migrants in a Chicago Wilderness Preserve.



The 200,000 acres of protected natural land of Chicago Wilderness include preserves owned by federal, state, county, and municipal government as well as private organizations. These lands are the base that supports much of the biodiversity of the region. They are also the places where the nearly eight million people of the metropolis enjoy the beauties and mysteries of nature.

The curiosity of children is kindled by a field trip to a local preserve. Every school in the region is near enough to a preserve to make such a trip.



PEOPLE ON THE LAND

Restoration and Management**May Theilgard Watts**

In books and classes at the Morton Arboretum, she taught that the landscape is intelligible and that people can enrich their lives by learning to read it.

Human beings have been helping to shape the wonderfully diverse landscape of the Chicago region for thousands of years. The Native American setting fire to the golden grasses of the prairie autumn was giving an assist to the natural processes that sustained fire-dependent communities. Bending natural processes to the needs of humans, the native people could take what they needed from the environment without harming the ecosystems that supported them.

The flood of settlers that swept across the Midwest in the past 175 years arrived with no knowledge of the workings of the native natural communities. They imposed demands upon the land that the land could not sustain. Some ecosystems were lost on land that became farms and towns; others were lost simply because the new people did not know how to protect them.

The process called ecological restoration uses the knowledge gained over the past 200 years to restore and maintain the biodiversity of this region. As it restores the natural communities, it also restores the old human tie to the land, helping us function as benefactors instead of destroyers.

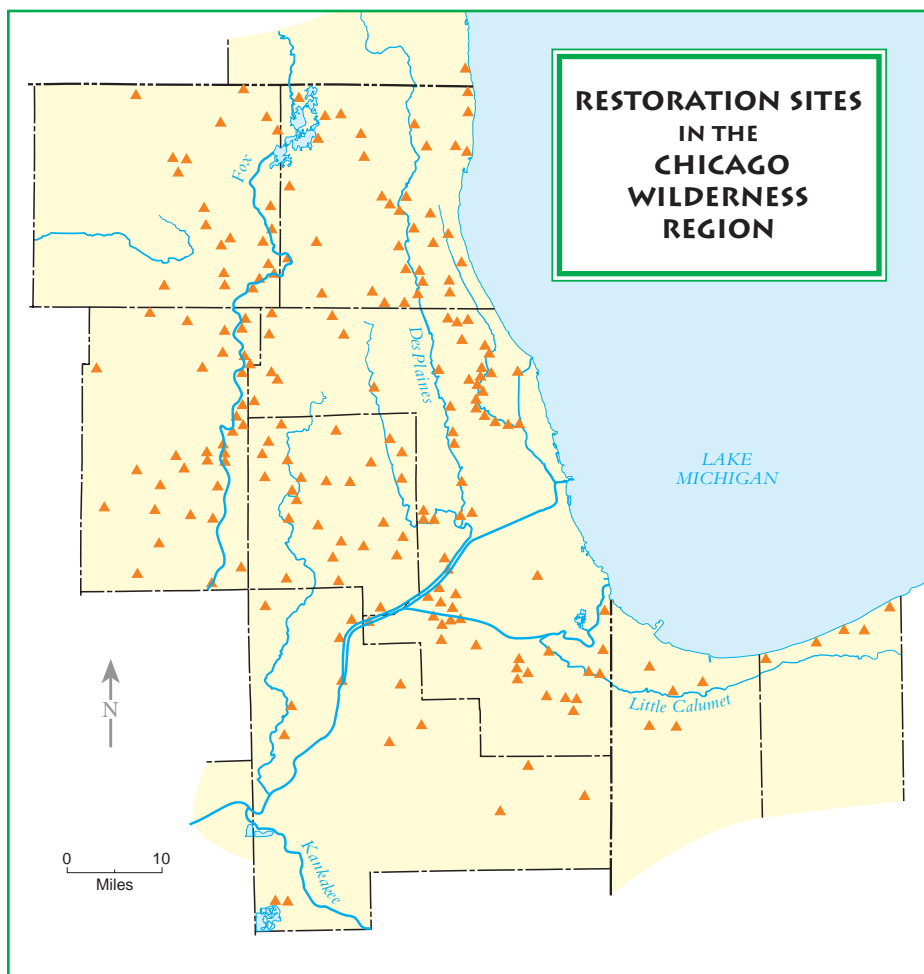
We can date the beginning of ecological restoration in the Midwest to a time about 60 years ago when scientists at the University of Wisconsin began planting tallgrass prairie species at the University's Arboretum in Madison. That restored ecosystem continues to be improved to this day.

It is not surprising that restoration began with an effort to restore a tallgrass prairie. The prairie, which once covered thousands of square miles in the Midwest, was approaching extinction in the thirties. It obviously needed help.

Those first prairie restorationists were also the first managers to apply fire as a tool of prairie protection. At the time, this was a daring step that was roundly condemned by many who considered fires to be totally destructive.

The first prairie restoration in the Chicago area was begun by Ray Schulenberg at the Morton Arboretum in 1962. Schulenberg used horticultural techniques, hand-planting prairie species and weeding around them to remove competition. He began with just half an acre,

The federally endangered lakeside daisy (Actinea herbacea), once extirpated in the region, has been reestablished on a dolomite prairie in Will County where it is currently doing well.



A close collaboration among scientists, land managers, and citizen volunteers is bringing the benefits of restoration to natural areas throughout the region.





John Rogner of the US Fish & Wildlife Service hand pollinates flowers of the federally threatened prairie white-fringed orchid.

although the Schulenberg Prairie has now expanded to 80 acres with an additional 20 acres of oak savanna.

For Dr. Robert F. Betz of Northeastern Illinois University, a man with an intense interest in reviving the prairie, the Schulenberg Prairie represented a major step forward. It showed that diversity could be established in a prairie restoration and provided significant information on how to go about the task. But Betz thought Schulenberg's restoration was too small to, in his words "hold all the species." Holding all the species was a task that demanded space, and a restoration project on the necessary scale could not be done by hand.

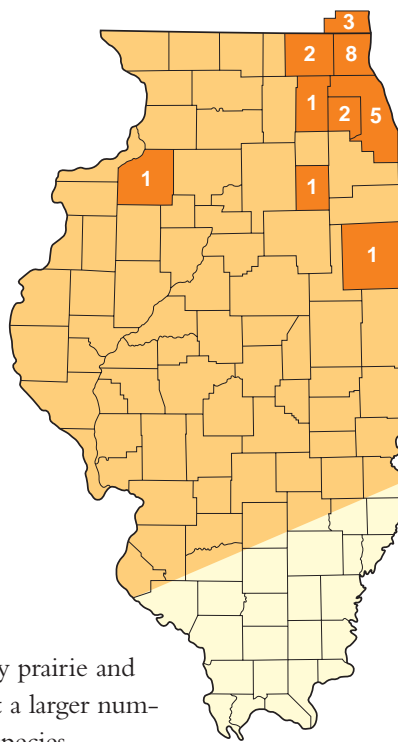
In 1972, Betz got permission to conduct prairie restoration at the Fermi National Accelerator Lab in Batavia, IL. Working with Lab staff and volunteers, he planted his first seeds in 1975. Initially, the project concentrated on the 600 acres that lay inside the accelerator's enormous ring. Gathering seeds with a combine and planting them with a machine that had been used to spread salt on highways has allowed the project to be expanded to 1,000 acres. The older parts now support populations of more than 80 species of prairie plants.

In the late seventies, restoration techniques began to be applied to surviving prairies. These prairies were small remnants where some prairie species could be found growing along with various weeds, shrubs, and small trees. Seeds of prairie species gathered from other sites could be sowed into these remnants. This enrichment, combined with the removal of the woody brush and periodic prescribed burns, could expand the

area covered by prairie and help it support a larger number of prairie species.

RESTORING THE WOODLANDS

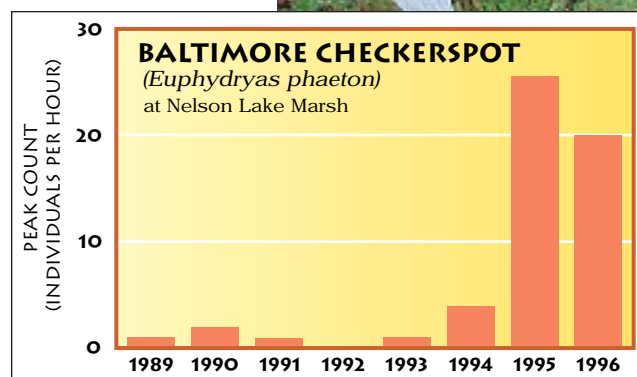
While prairies were the center of attention for restoration in its early decades, the eighties saw a major expansion of concern. The condition of those quintessentially Midwestern communities—the oak woodlands and savannas—was obviously worsening. Scarcely any savannas had survived, and those that did remain had been so heavily affected by the changes that settlement brought that an intense scientific debate broke out over the fundamental question of what they had been like. Were they simply ecotones—transition zones between forests and prairies? Or were they distinctive communities? Were they places where oaks grew over a ground layer of prairie plants?



Illinois Populations of the Prairie White-fringed Orchid

This flower (*Habenaria leucophaea*) once ranged over most of Illinois. The numbers show numbers of surviving populations in each county. The existence of these populations has made the Chicago region the center of recovery efforts for the species.

Volunteers in training to monitor butterfly populations check a site for lepidopterans. The nationally recognized program is operating on sites throughout the region.



Populations of the rare Baltimore checkerspot soar at burned areas of Nelson Lake Marsh in Kane County.



Floyd Swink

*Long-time chief taxonomist at the Morton Arboretum, he taught generations of students to recognize and appreciate the native landscape. His book, *Plants of the Chicago Region*, is the ultimate authority on the botany of Chicago Wilderness.*

Or was there a savanna plant community different from either prairies or forests?

The oak woodlands had survived the initial shock of the post settlement changes, but study after study found that the oaks in these communities were not reproducing. Sugar maples were becoming dominant trees, but the species lost to the heavy shade of the maples were not being replaced by typical maple forest species. Instead of ecological succession replacing an oak forest with a maple forest, ecological degeneration was replacing oak forests with a depauperate landscape of a few trees, a few weeds, and a lot of bare earth. Plainly conservationists needed to think beyond the edges of the prairie.

VOLUNTEERS LEND A HAND

The slow hand-work of the first restoration projects was quite unlike the industrial style of the Fermi Lab project, but the effects of this

protecting the earth, led to the formation of other volunteer groups. Changes in environmental laws were also focusing attention on restoration of all sorts of natural communities—wetlands as well as forests, savannas, and prairies.

With the organizational backing of The Nature Conservancy, thousands of volunteers throughout Illinois were recruited for the Volunteer Stewardship Network. The volunteers work in collaboration with land-owning agencies—chiefly the county forest preserve and conservation districts—on a wide range of restoration projects. The volunteers supplement the work of agency staff members, providing tens of thousands of hours of free labor. Some of this labor is the sheer hard work of cutting and removing invasive species like common buckthorn. Some requires a sophisticated scientific knowledge and the experience that only long hours in the field can provide.



A burn site at Indiana Dunes National Lakeshore looked blackened and charred right after the fire, but new growth, stimulated by the blaze, quickly clothes it in bright new greenery.



hand labor began to accumulate, thanks to a growing group of volunteers who donated their time to restoration projects. Restoration could be done by hand if you could get enough hands involved.

The first volunteer ecological restoration work was done in the preserves along the North Branch of the Chicago River in Cook County beginning in 1977. The volunteers called themselves the North Branch Prairie Project. As volunteers for the Forest Preserve District of Cook County, they recruited and organized interested people to carry on the work.

The results they got, and the enthusiasm they inspired in people whose love of nature made them eager to make a direct contribution to

Volunteers study ecology and land management, and, increasingly, ecologists and land managers recognize volunteers as sources of practical information on ecology.

The volunteers also offer the land managers thousands of extra pairs of eyes. They are often the first people to notice the presence of a rare species in a preserve. They also notice problems like illegal dumping or the place where off-road-vehicles are entering a preserve. Working on restoration projects has made people more effective conservationists. They are informed supporters of our preserve systems and pioneers in changing the way people in a modern industrial society relate to nature. They are helping put people back in the natural landscape in a constructive way.



Setting a back fire to create a fire break during a prescribed burn.

THE HOW OF RESTORATION

The lands in the preserves of the Chicago Wilderness range from beautiful natural areas filled with rare native species to former corn fields covered with weeds. Each piece of land has a unique history: How long ago was this woods logged? Was it grazed? Have drainage projects lowered the water table and killed off wetland vegetation?

The process of developing a management plan begins with a survey of what is there now and historical research into what was there in the past. The plan may call for the protection or expansion of natural communities already present, or, in the case of the cornfields, natural quality can be built from scratch. Each site is unique, so each plan is unique, but there are some common problems that need to be addressed on many sites. These include:

- Changes in hydrology. If a site was drained by field tile, removing the tile can restore the old water regime and make possible the reestablishment of the native natural community.
- Invasion by aggressive exotic plants. Only a few of the more than 500 species of plants introduced into the Chicago region in the past 200 years create problems, but those few make a lot of trouble. Whether it is common buckthorn (*Rhamnus cathartica*) in a woodland or purple loosestrife (*Lythrum salicaria*) in a marsh, the exotics can drive out both native plants and native wildlife. Restoration may involve

INCREASED BIODIVERSITY

	1985-86	1986-87	1988	1989	1991
NUMBER OF SPECIES	11.6	13.5	19.5	17.9	18.1
NUMBER OF NATIVE SPECIES	9.0	10.8	16.2	15.2	16.6
FQA*	3.8	6.4	10.2	11.4	13.5

*FQA: Floristic Quality Assessment from Swink and Wilhelm.

These are average numbers for 15 plots, each one square meter, in Vestal Grove, an oak savanna/woodland at Somme Woods Forest Preserve in northern Cook County. Restoration began in 1984. The plots were sampled twice, spring and fall. Fall, 1985 and Spring, 1986 data were combined, as were Fall, 1986 and Spring, 1987. Thereafter, spring and fall samplings were done in the same year.

physical removal of exotics and/or the use of herbicides to kill them.

- Thinning of native trees to allow more light to reach the ground. This promotes the growth of native plants of savannas and woodlands—including young oaks. The technique may also be used to protect the plants of fens and sedge meadows.
- Planting the seeds of native species typical of the natural community or to establish a community on old fields or other waste land.
- Returning fire to the ecosystem.

The ultimate aims are to return the species typical of the community to the land and to recreate the ecological forces that sustained the community in the past. Thus far, restoration has successfully expanded the ranges of rare species and rare ecosystems in the Chicago region. The work here has been taken as a model by conservationists around the globe. It represents our best hope for preserving the biodiversity of Chicago Wilderness.

Restoration Goals

Restore
natural processes.

Restock
lost species of
plants and animals.

Maintain
natural ecosystems in
good health.



Restoration heals the land and enriches the spirits of those who do it.