

# 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, 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



*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.*

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 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



*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.*

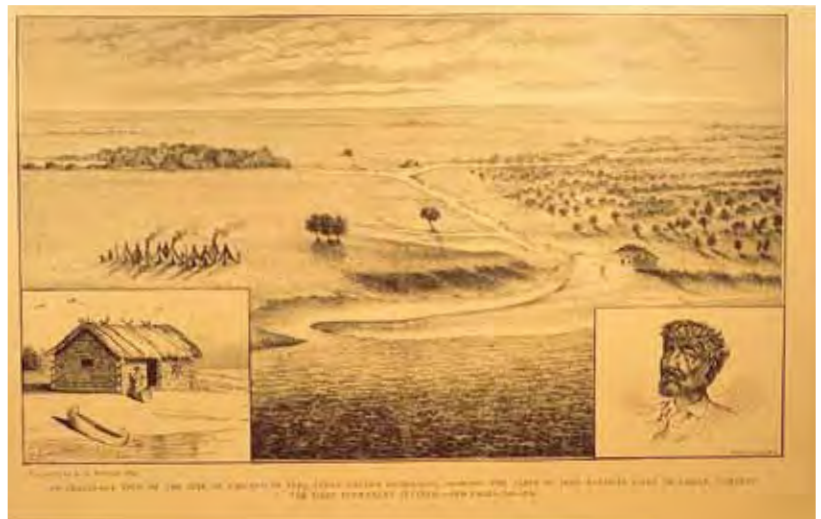
greeted settlers in the early 19th century. Fire is a natural process in many ecosystems, and many natural communities are adapted to regular blazes. The native peoples made use of this process to serve their own needs, but their actions protected and often increased the biodiversity of the region.

## Early 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. He 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. Intermarriage 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 following the War of 1812, when the United States gained control of the lands that are now in the Chicago region. 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 settlers. The survey reports are now one of our important sources of information about the native vegetation of this region.



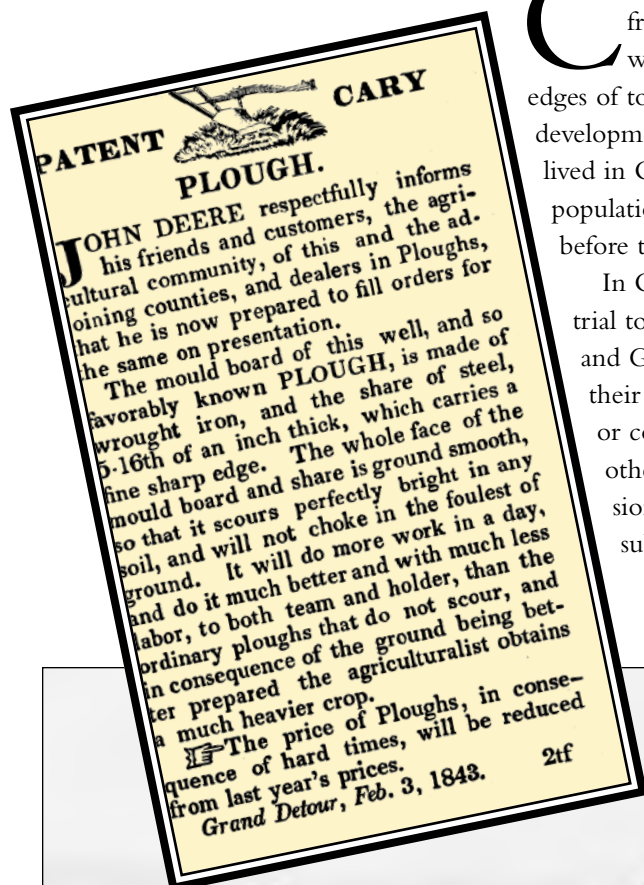
*Jean Baptiste Point du Sable, a man of mixed African and French ancestry, established the first trading post at the mouth of the Chicago River when this region was still under British control.*

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



## The Rise and Sprawl of the Metropolis



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 19th century.

In Chicago and smaller industrial towns, such as Joliet, Elgin, and Gary, most workers lived near their jobs, either walking to work or commuting by street car or other public transit. The expansion of railroads led to some suburban development, but this

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 60 years. Chicago, meanwhile, hit its population peak in the 1950s at 3.6 million. Since then, the population has steadily decreased to a little over 2.8 million according to the 2000 census.

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, endlessly expanding at the margins while the center did not.

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



*The invention of the steel moldboard plow, pioneered by the likes of Illinois blacksmith John Deere, allowed farmers to till the heavy soils of the prairie.*

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 suburban neighborhoods and whole new towns. The building of the interstate highway system in the '50s and early '60s made long-distance

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. If current development patterns remain unchecked, the anticipated increases in population and developed land threaten the destruction of hundreds of natural areas and critical species' habitats.

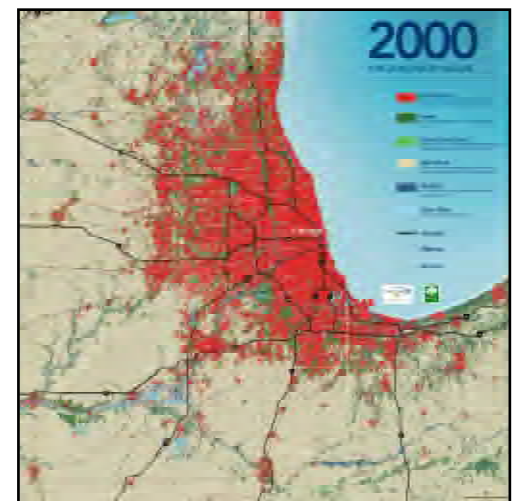
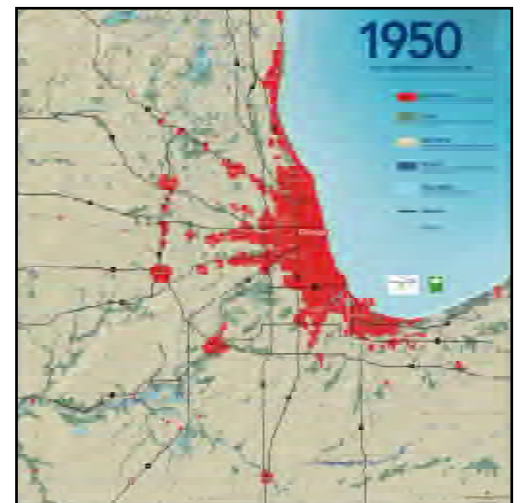
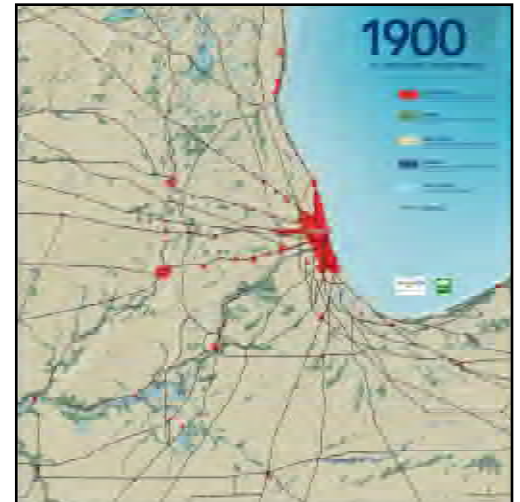
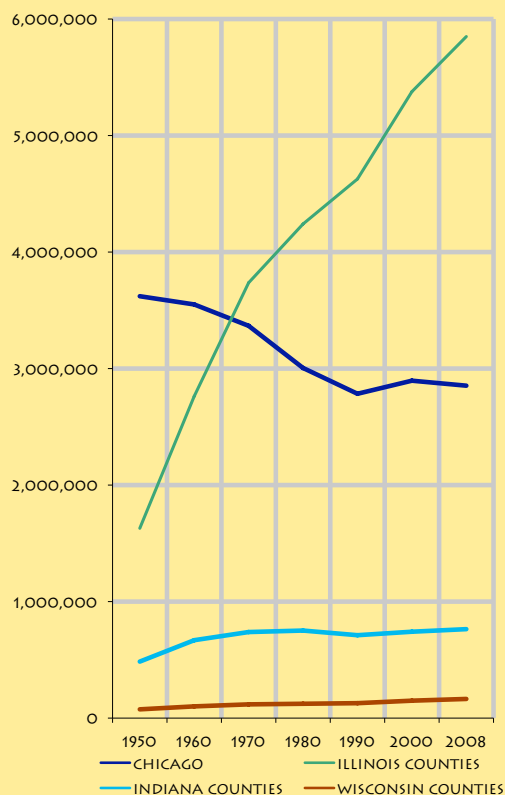


*This drawing from an atlas published in 1870 shows a section of the DesPlaines River near Plainfield in Will County. The varied landscape of prairies and groves became a landscape of plowed fields and woodlots as settlement advanced.*

**POPULATION  
CHANGES  
IN THE  
CHICAGO WILDERNESS  
REGION 1950-2000**

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 be revealed. In an environment of concrete and chemically treated lawns, the preservation of natural areas is a major challenge.

**POPULATION GROWTH**





## 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.

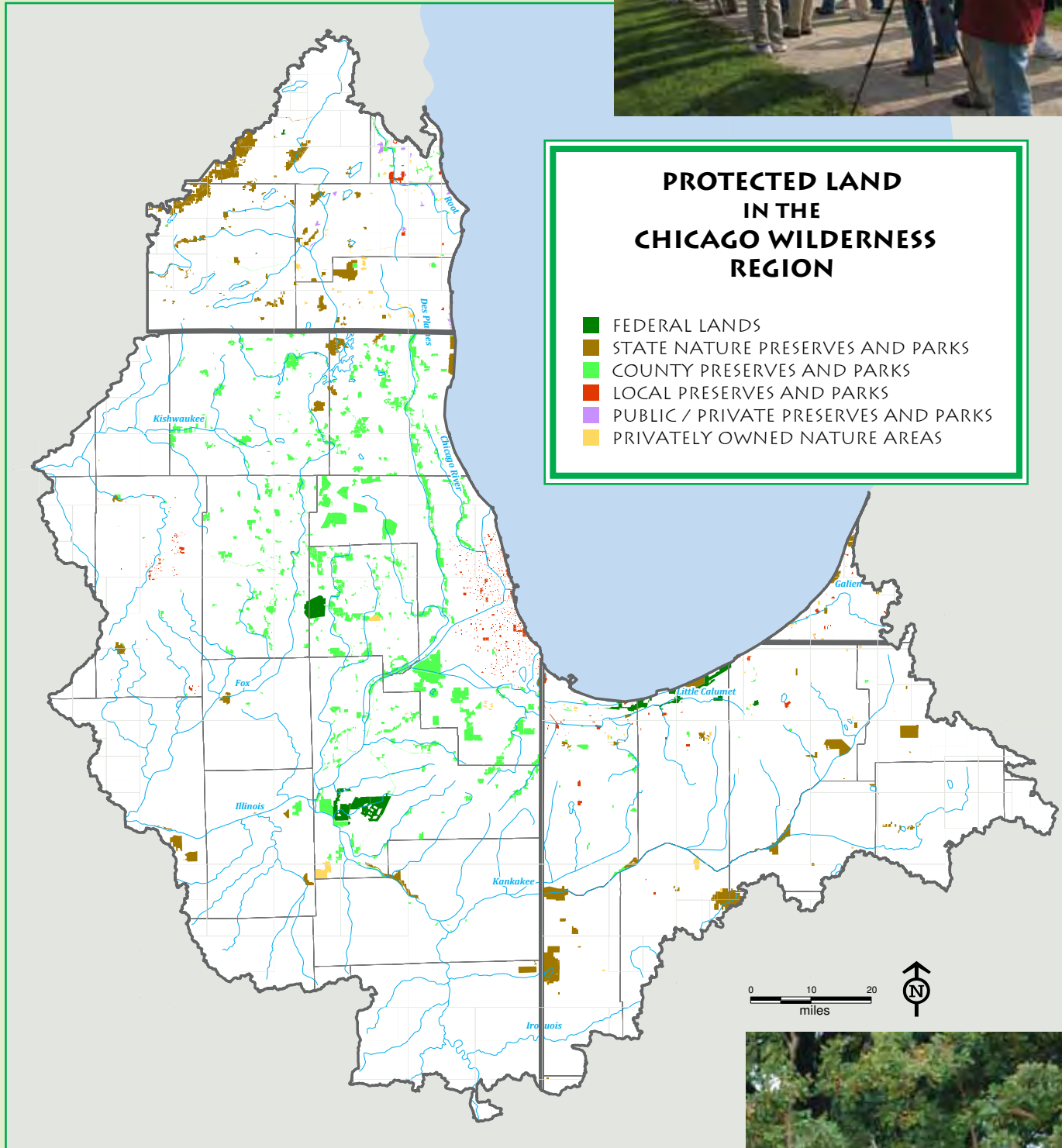
In the following years, the state of Indiana created a park at the Dunes, while Illinois developed parks at Illinois Beach and Chain O'Lakes and later a large Conservation Area where the Kankakee and Des Plaines Rivers join to form the Illinois and another park at Goose Lake in Grundy County.

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 Tall-grass prairie, adding 15,000 acres of public natural land to the region.

We are lucky that our history has given us nearly 370,000 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.

*Birders on a field trip led by the Lake Cook Chapter of the Illinois Audubon Society at Rollins Savanna in Lake County, Illinois.*



The nearly 370,000 acres of protected natural land of the Chicago Wilderness region 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 nine million people of the metropolis enjoy the beauties and mysteries of nature.

*Fourth-grade students enjoy a Leave No Child Inside field trip at Citizens for Conservation's award-winning Flint Creek Savanna.*





## PEOPLE ON THE LAND

## Restoration and Management

**May Theilgaard 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 helped shape the wonderfully diverse landscape of the Chicago Wilderness region for thousands of years. Native Americans set fires to the golden grasses of the prairie autumn, which gave a boost to the natural processes that sustain fire-dependent communities. Bending certain natural processes to their will, indigenous people mostly took what they needed from the environment without harming the ecosystems that supported them.

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 landscape that the land could not sustain. Some ecosystems were lost on land that became farms and towns; others were lost simply because the new arrivals 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 ecological restoration heals our natural communities, it also reestablishes the old human tie to the land, helping us function as benefactors instead of destroyers.

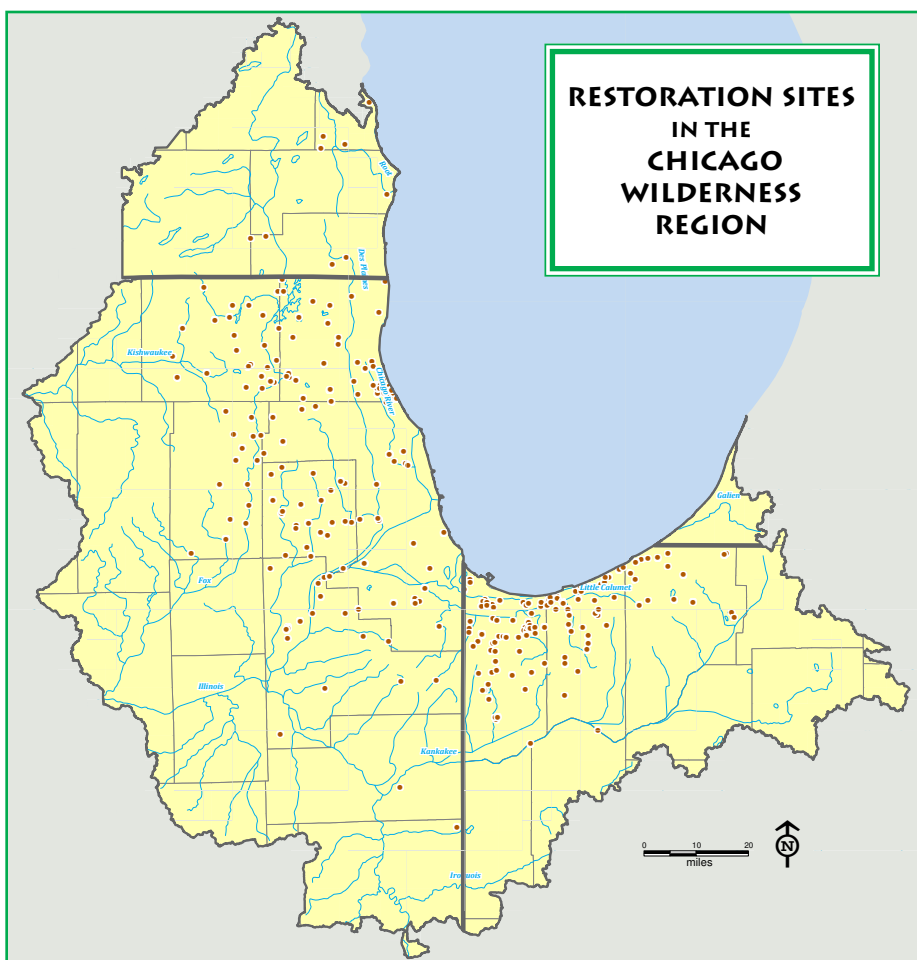
We can date the beginning of ecological restoration in the Midwest to a time about 70 years ago when scientists at the University of Wisconsin began planting tallgrass prairie species at the University's Arboretum in Madison. That restored ecosystem continues to thrive to this day.

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 '30s. It obviously needed help.

Those first prairie restorationists were also the first resource managers to apply fire as a tool of land 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

*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.*





*Because populations of the federally-threatened prairie white-fringed orchid are so few and scattered, its main pollinator—the sphinx moth (Tersa sphinx)—often has trouble finding them. That’s where volunteers step in, pollinating individual flowers by hand.*

competition. The Schulenberg Prairie, which started out with just half an acre, 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.


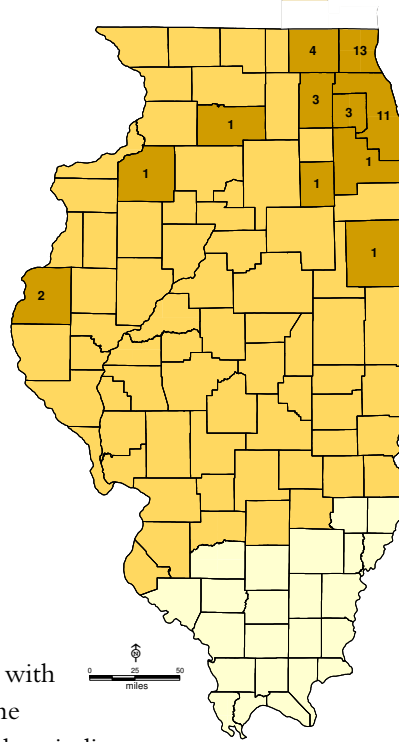
In 1972, Betz got permission to conduct prairie restoration at the Fermi National Accelerator Lab in Batavia, IL. Working with Lab staff and volunteers, he planted his first seeds in 1975. Initially, the project concentrated on the 600 acres that lay inside the accelerator's enormous ring. Gathering 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 were small prairie 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 enrich-

ment, 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 1980s 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 large-scale human settlement brought that an intense scientific debate broke out over the fundamental question of what they had been like. Were they

A photograph of a man in a light-colored short-sleeved shirt, khaki shorts, and a straw hat, holding a large white net. He is standing in a grassy field with trees in the background. A red strap is visible over his shoulder.

# Illinois Populations of the Prairie White-fringed Orchid

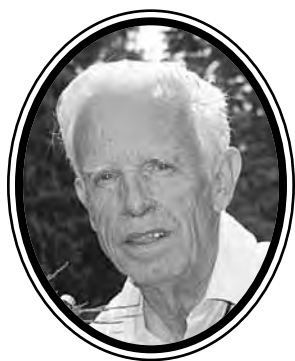
*This flower (Habenaria leucophaea) once ranged over most of Illinois and the lower third of Wisconsin. The numbers show how many populations survive in each county. The existence of these populations has made the Chicago Wilderness region the center of recovery efforts for this species.*

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



Rare Silver-Bordered Fritillary (*Boloria selene*) butterflies are among the species being reared and released by the Butterfly Conservation Team of the Nature Museum as part of the Butterfly Restoration Project to reestablish wild populations previously found in the Chicago Wilderness region.





**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 the Chicago Wilderness region.*

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? 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 an unhealthy landscape of a few tree species, some weeds, and a lot of bare earth. Plainly, conservationists needed to think beyond the edges of the prairie.

The results they got, and the enthusiasm they inspired in other people, 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 woodlands, savannas, and prairies.

With the backing of The Nature Conservancy, thousands of volunteers throughout Illinois were recruited for the Volunteer Stewardship Network. Through that network, volunteers began to work in collaboration with land-owning agencies—chiefly the county forest preserve and conservation districts—on a wide range of restoration projects. The Volunteer Stewardship Network is still active today, with volunteers supplementing the work of agency staff members, providing tens of thousands of hours of free labor every year. Some of this labor is the sheer hard work of



*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.*



## 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 hand labor began to accumulate, thanks to a growing group of volunteers who donated their time to restoration projects. Restoration can be done by hand if you 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, Illinois 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.

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

Volunteers also offer 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 places 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



Trained workers use a drip torch to initiate a controlled burn of a natural area.

industrial society relate to nature. They are helping put people back in the natural landscape in a constructive way.

## THE HOW OF RESTORATION

Restoration of a place begins with an assessment of what remains from the original mix of plants and animals native to a particular site. The next step is to determine what's missing or imperiled and why. Native species frequently are absent or under stress because the natural processes needed to sustain them have been disrupted.

Restoration also involves developing an ecological management plan. A plan, which can take years to implement, is likely to call for the removal of aggressive plant species, as well as the reintroduction of those native plants and animals that are missing. Even former farmland can be restored to a naturalized condition, although such recovery efforts have yet to achieve the level of diversity found in a natural area remnant.

Each site is unique, but there are a number of issues common among different sites that need to be addressed to restore healthy habitats. These include:

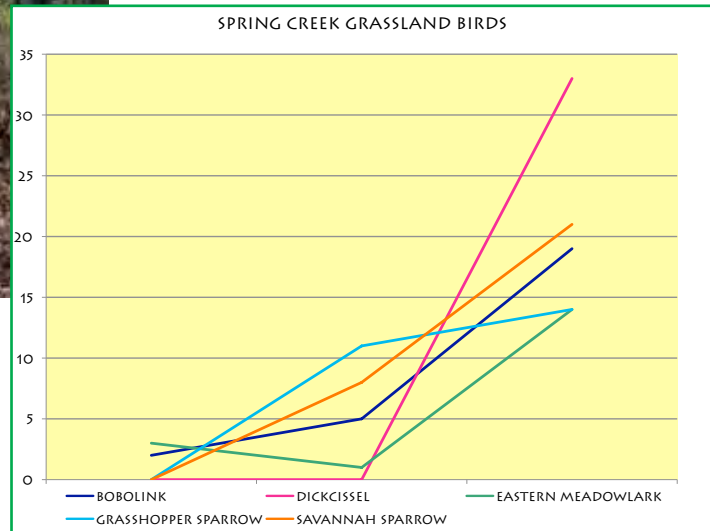
- Invasion by aggressive exotic plants. Only a few of the more than 500 species of plants introduced into the Chicago region in the past 200 years create problems, but those few create a lot of trouble. Whether it is common buckthorn (*Rhamnus cathartica*) in a woodland or reed canary grass (*Phalaris arundinacea*) in a marsh, exotics can drive out both native plants and native wildlife. Restoration may involve physical removal of exotics and/or the use of controlled fires and herbicides to control them.
- Loss of sunlight caused by too many fire-sensitive native trees. Without fire to keep them in check, some native tree species—including ash, elm and maple—can

overrun prairies, fens, and sedge meadows; even woodlands and savannas. Thinning these kinds of trees, in concert with removing exotic tree species, allows ground layer and understory communities the proper amount of sunlight they need to flourish.

- Absence of natural fires. Naturally-occurring fires were critical factors in maintaining the health of many native habitats. The use of controlled burns today not only helps control invasive vegetation, they stimulate the germination and growth of many native species.

- Lack of size and connectedness. Many of our natural area remnants are small—some only half an acre in size—and cut off from each other. The sustainability of such sites can be enhanced by enlarging them or connecting them with nearby natural areas through corridors of restored land.

- Excess populations of white tailed deer. Mainly due to the absence of large predators, populations of white tailed deer have exploded in density by 10 to 20 times since the settlement of our region. Unchecked, they can decimate entire natural areas. Reducing deer to sustainable numbers is the only way to maintain healthy ecological communities



Grassland birds are among our most imperiled bird species due to the lack of sufficient habitat. Most grassland bird species require large, open areas with no woody vegetation. At the Spring Creek Forest Preserve in Cook County, a recent effort to re-establish 110 acres of grassland habitat included the removal of brush and trees that fragmented the grassland. Within two years, populations of key grassland bird species increased more than five-fold. Grassland restorations at other reserves in our region—including those at Rollins Savanna, Springbrook Prairie, and Midewin National Tallgrass Prairie—have resulted in similarly encouraging increases in grassland bird populations.

## Restoration Goals

**Restore**  
natural processes.

**Reintroduce**  
absent species of  
plants and animals.

**Maintain**  
natural ecosystems in  
good health.



and populations of plants preferred by them.

- Changes in hydrology. If a site was drained by ditches or field tile, blocking the ditches or removing the tile can restore the former water regime.

The ultimate goal of restoration and management is to protect and restore biodiversity in our region. Thus far, we have successfully expanded the ranges of rare species and ecosystems. As a result, our efforts have been championed as a model by conservationists around the globe. Continued efforts represent our best hope for preserving the rich ecological heritage of the entire Chicago Wilderness region.



*In addition to the natural beauty they afford, native plants are a magnet for many native birds and butterflies. Once established, they can survive without regular watering due to their extensive root systems and require no fertilizers or pesticides. This backyard garden on the far south side of Chicago boasts 33 different native plant species, including common spiderwort, wild geranium, prairie dropseed, prickly pear cactus, cattail, and marsh marigold.*

## PEOPLE ON THE LAND How We're Doing



*The picture postcard Glacial Park in McHenry County, Illinois, thrives with a rich community of aquatic and bird life.*

We have learned much about management practices needed to care for our natural areas and native species, and many examples have demonstrated their effectiveness. But stress caused by development and invasive species are steadily eroding their health wherever management practices are not applied.

In 2006, Chicago Wilderness Alliance compiled a report card on the health of the region's major plant and animal communities. The grades were low, reflecting stresses and lack of management. While there are many examples of successful natural resource management, the overall condition of our natural areas shows that we need to substantially increase our support for management activities.

Encouragingly, the report card also chronicled a growing number of preserves that exemplify how people, working together, can restore our natural lands to health and beauty.

For example, three decades ago, Bluff Spring Fen—located in Elgin, Illinois—was

on ecological life support. The rare fen habitat had been the victim of gravel mining, illegal dumping and off-road vehicle abuse. Ten years later—after extensive trash removal, brush clearing, and the re-sowing of native species—the 100-acre site was dedicated as an Illinois Nature Preserve. Since then, on-going stewardship efforts have continued to improve the health and diversity of the fen and its related habitats. To date, more than 450 species of plants have been recorded there, along with 57 species of butterflies and more than 20 species of dragonflies. Bird monitors have identified nearly 100 bird species on site, 33 of which make their nests there.

In the 1950s, a stretch of Nippersink Creek that runs through Glacial Park in McHenry County, Illinois had been straightened and ditched to make the surrounding land better for agriculture. Half a century later, efforts began to restore the 1.6 mile channel to its winding, 3.2-mile natural pathway. More than 175 thousand cubic yards of soil were excavated from the original channel bed and used to re-build the glacial kames that had been mined

for channel fill. Two hundred twenty thousand native plants were installed and 290 acres of adjacent wetlands restored. The picture post-card site now thrives with a rich community of aquatic and bird life. But it also helps neighboring human communities keep safe and dry with its capacity to hold more than 94 million gallons of floodwater during major storms.

In the Calumet region of Northwest Indiana, bald eagles have returned after more than a century in response to coordinated efforts to restore the health of native habitat. To the north, some of the richest and rarest habitat along Lake Michigan has been restored and permanently protected as the Openlands Lakeshore Preserve, adding to the adjacent two miles of lakeshore bluffs and ravines owned by the Lake County Forest Preserves. Inland from the lake, efforts are underway to establish a National Wildlife Refuge straddling the Illinois-Wisconsin border.

These and other success stories underscore the fact that people can make a positive difference. People place stress on natural communities, but we can also take the actions needed to protect their health.



*People place stress on natural communities, but we can also take the actions needed to protect their health, such as volunteering for a restoration workday.*

