

# LOWER DES PLAINES RIVER BASIN

AN INVENTORY OF THE REGION'S RESOURCES



(continued from inside front cover)

In addition to coordinating IDNR programs with those of Ecosystem Partnerships, the Ecosystems Program:

- provides technical assistance to the partnerships, such as resource management plans for use by participating landowners;
- assesses resources in the area encompassed by each Ecosystem Partnership, collecting data that the local partners themselves may use to set project priorities and design projects, and supplying scientific support to ecosystem partners, including on-going monitoring of Ecosystem Partnership areas;
- funds site-specific ecosystem projects recommended by each partnership. Such projects may involve habitat protection and improvement, technical assistance, and research and education, including projects that seek to expand the relationships between natural resources, economic development, and recreation.

To provide focus for the program, IDNR developed and published the *Inventory of Ecologically Resource-Rich Areas in Illinois*, and is conducting regional assessments for areas in which a public-private partnership is formed.

*Lower Des Plaines River Basin: An Inventory of the Region's Resources* is based on one of these assessments, the *Lower Des Plaines River Area Assessment*. The assessment was compiled by staff of IDNR's Office of Realty and Environmental Planning; and the Illinois State Museum, the Illinois Waste Management and Research Center, and the Illinois Natural History, State Geological, and State Water Surveys of IDNR's Office of Research and Scientific Analysis.

The *Lower Des Plaines River Area Assessment* and all other CTAP and Ecosystems Program documents are available from the IDNR Clearinghouse at (217)782-7498 or TTY (217)782-9175. Some are also available on the World Wide Web at:

<http://dnr.state.il.us/orep/ctap> and

<http://dnr.state.il.us/orep/c2000>

For more information about CTAP, call (217)524-0500 or e-mail at [ctap2@dnrmail.state.il.us](mailto:ctap2@dnrmail.state.il.us); for information on the Ecosystems Program, call (217)782-7940 or e-mail at [ecoprg@dnrmail.state.il.us](mailto:ecoprg@dnrmail.state.il.us).

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COVER PHOTO: MICHAEL JEFFORDS

A Project of the Critical Trends Assessment Program

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November 2003

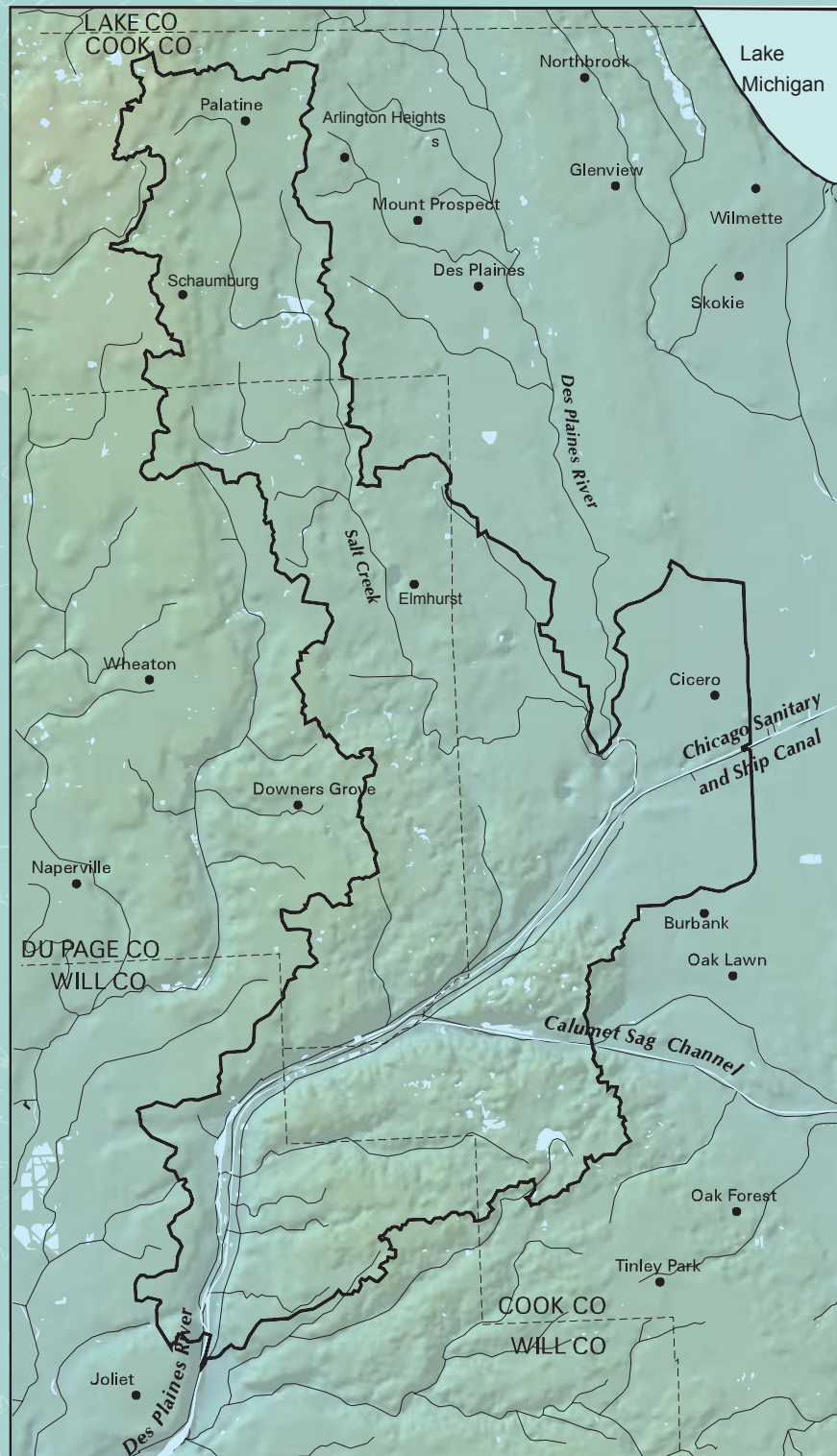
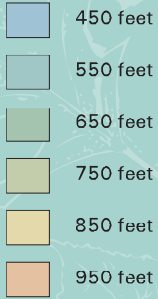
Published by the Illinois Department of Natural Resources  
Office of Realty and Environmental Planning

3M

Printed by the authority of the State of Illinois  
Printed with soy ink on recycled and recyclable paper

# Landforms in the Lower Des Plaines River Basin

Elevations in feet above mean sea level



LISA SMITH • ILLINOIS STATE GEOLOGICAL SURVEY



Illinois State Geological Survey





Michael R. Jeffords

*The Illinois and Michigan Canal near Lockport*

# LOWER DES PLAINES RIVER BASIN

## AN INVENTORY OF THE REGION'S RESOURCES

**T**he Lower Des Plaines River basin contains a hidden world of ancient nature and history. Consider these snapshots:

- ◆ Not far from Woodfield Mall, muskrats escort your canoe as you paddle along a clear-water stretch of Salt Creek.
- ◆ Take a turn off the highway onto the Salt Creek Greenway and you are ages away from nearby downtown Oak Brook, riding an old Indian trail route through woods that include a Civil War-era Underground Railroad stop and a pioneer cemetery.
- ◆ Meander off the Harlem Avenue commercial strip and you enter

the winding streets of Riverside, whose cathedral-like trees enable squirrels to leap from Harlem to the Des Plaines River in record time.

- ◆ Visit the Chicago Portage National Historic Site and stand on the same ground where all the discoverers, explorers, and creators of Chicago once walked.
- ◆ In the heart of the Palos Forest Preserves, you help cut back weeds in a wetland area, where sandhill cranes have returned because of restoration efforts.
- ◆ Visit Long Run Seep Nature Preserve and you might get a glimpse of the Hine's emerald dragonfly, one of the most endangered dragonflies in the U.S.

The natural forces that shaped this hidden world of the Lower Des Plaines watershed are millennia old and still at work. Many modern residents are now realizing that they are a part of those forces, and that the quality of the environment can be a major economic resource.

With riches to protect, the basin has become a national leader in nature preservation and restoration, with projects ranging from prairie and savanna restoration in the Palos Forest Preserves to the country's first National Heritage Corridor. The role is fitting because in times past the Des Plaines valley's barge and land traffic were the economic lifelines shaping Chicago as America's first major industrial metropolis. And for

thousands of years before that, the basin was an important transportation corridor for Native Americans, a gateway between the North Woods and the Gulf of Mexico.

The Lower Des Plaines watershed extends from north central Cook County down through eastern DuPage County and western Cook County into northern Will County. Major waterways include the Lower Des Plaines River (from the point where the Salt Creek joins it near the Brookfield Zoo), Salt Creek, and portions of the Chicago Sanitary and Ship Canal and the Calumet-Sag Channel. Smaller drainages include Addison Creek, Flag Creek, Sawmill Creek, and Long Run Creek. This 357-square-mile area unites some of Illinois' most affluent suburbs and historically important industrial towns. Twenty-eight Superfund sites, one of them on the National Priority List, are reminders of the area's heavily industrial past. While the leading economic sector today is services, manufacturing is still prominent.

Human development now covers two-thirds of the area's surface. Pre-glacial bedrock supplied the material for this growing metropolis. The area is famous for its old limestone buildings and also supplied the stone for Chicago landmarks such as the Water Tower. The basin's one million residents comprise 9% of the state's population and at least one of every ten employed Illinoisans works here.

### *A Relatively Young Landscape*

The landscape of the Lower Des Plaines basin, relatively new in terms of geologic time, was formed by the last glacial advance that ended about 13,000 years ago. The region includes some outstanding scenery and geological features such as seeps, ponds and

hills formed by glaciers, and dolomite cliffs and canyons eroded into ancient Silurian dolomite more than 400 million years old.

The eastern part of the Lower Des Plaines region includes part of the flat basin of ancient Lake Chicago and, to the west of that, closely grouped

moraines (ridges formed by glacial action). In the western portion, the moraines were dissected by the rivers of water overflowing from lakes formed by melting glaciers. The northern third of the basin features broader upland areas, level between tributaries and somewhat poorly



Daniel Soluk

## *Hine's Emerald Dragonfly*

The Lower Des Plaines River is one of the few places in the country where breeding populations of Hine's emerald dragonflies are found. The state- and federally-endangered Hine's emerald dragonfly has in some ways become a symbol of conservation in the Lower Des Plaines valley. The Hine's emerald—so named because of its brilliant emerald green eyes—appears to begin its life in cool shallow, slow-moving waters, spring-fed marshes, and seepage sedge meadows. Most larvae have been found along the edges of and in the shallow water of narrow channels. Adults usually fly over open areas of herbaceous vegetation and feed in meadows and fields that have groups of shrubs near breeding habitat (small areas of shallow water). Adults may live from five to six weeks.

Daniel Soluk

drained. Historically these featured farmland, but their latest crops are subdivisions and strip malls.

The ridge that divides the Chicago River drainage basin from the Des Plaines basin runs through the eastern half of the region, but the two dominant moraines are the Valparaiso Morainic System, along the Des Plaines River valley's western edge, and the Tinley Moraine, near the DuPage-Cook County line. The Salt Creek Valley runs between those two glacial ridges. Areas of high topographic relief such as bluffs — some of which feature bedrock outcrops — are found along the major water drainages, especially the Des Plaines.

Much of the quality of life on the surface is determined by ancient developments far beneath. As staff of the Illinois State Geological Survey noted in their assessment of the area: “Imagine that you are standing on the valley side overlooking the floodplain of the Des Plaines River.... Now imagine that 100 feet below that surface... lies another landscape, complete with rolling hills, flat plains, and valleys.” This is the bedrock surface, which plays a key role in “where flora and fauna prefer to grow, where streams flow, where humans build their homes, factories, cities, and where land is set aside for parks and natural areas.”

In the southern part of the Lower Des Plaines basin, for example, bedrock valleys that were buried and changed by the glaciations in the past 1.5 million years lie below the modern Des Plaines River, with the modern streams eroding into them. Within the bedrock layers, far below the bedrock surface, lies the massive Deep Tunnel and Reservoir Project (TARP) that was started in the late 20th century to reduce flooding and pollution

in northeastern Illinois. The tunnels were bored into the solid dolomite to act as storage reservoirs during storms. The tunnel follows the northern portion of the Chicago Sanitary and Ship Canal, which was built at the turn of the 20th century to reverse the flow of the Chicago River and carry sewage away from Lake Michigan and into the Mississippi watershed.

The clay-rich local soils tend to absorb water relatively slowly and flooding has been a concern dating back to early settlement. Since much of the land has been paved over in the last century, flooding is often exacerbated and numerous detention basins have been built to alleviate the problem. Erosion exposes clayey sediments that are unlikely to be revegetated naturally. As a result, preserving and restoring wetlands in river and stream lowlands is considered an important priority in the basin. With the help of native plants, wetlands cleanse runoff and slow its flow, allowing it to seep naturally into the ground and replenish groundwater supplies.

Historically, residents have made extensive use of these groundwater resources. The water levels in wells open to the deepest aquifers were drawn down sharply during the middle decades of the 20th century as suburbs grew and more and more wells were constructed. The high content of dissolved minerals in the water from the deep aquifers and the high cost of pumping water from great depths caused many communities to begin piping in water from Lake Michigan in the 1980s. Given the limits to lake water use, however, clean groundwater resources could be crucial again in future years.

A relatively large portion of the area has very thin soils. Romeoville

### **The Area at a Glance**

△ The Lower Des Plaines watershed extends from north central Cook County down through eastern DuPage County and western Cook County into northern Will County.

△ Major waterways include the Lower Des Plaines River (from the point where the Salt Creek joins it near the Brookfield Zoo), Salt Creek, and portions of the Chicago Sanitary and Ship Canal and the Calumet-Sag Channel.

△ The 357-square-mile area unites some of Illinois' most affluent suburbs and historically important industrial towns. Twenty-eight Superfund sites, one of them on the National Priority List, are reminders of the area's heavily industrial past.

△ While the leading economic sector today is services, manufacturing is still prominent, providing almost one in five jobs in 1995.

△ Human development now covers two-thirds of the area's surface. The basin's one million residents comprise 9% of the state's population and at least one of every ten employed Illinoisans works here.

△ The landscape of the Lower Des Plaines basin was formed by the last glacial advance that ended about 13,000 years ago.

Prairie (Will County) and Lockport Prairie (Cook County) Nature Preserves show the distinctive meld of wetland communities that thrive in these shallow-soil areas. The preserves are located on a former outlet that drained ancient Lake Chicago into the Mississippi River drainage basin. Large volumes from the overflow and draining of Lake Chicago eroded glacial deposits and carved bluffs up to 50 feet high, leaving bedrock exposed or covered only by thin tattered remnants of the thick glacial blanket. A tapestry of wet- to mesic-dolomite prairie, marsh, sedge meadow, fens, floodplain forest, and a high-quality spring can be found at the preserves.

### *A Prairie River*

Before modern canal building and the Deep Tunnel, area waterways were forged with the natural landscape in the wake of the last Ice Age. During the high point of glacial melt-



Michael R. Jeffords

*Black-crowned night-heron*

ing, Lake Michigan was as much as 30 feet higher than today, expanding into what is now called Lake Chicago, which covered the eastern part of the Lower Des Plaines basin. As its shores receded over time, separate drainage basins developed for the lake and the Des Plaines River, the latter of which became the outflow or “drain” for the glacial waters. In the resulting post-glacial topography, water tends to drain from the west to east, as well as from north to south. Before urbanization, lowlands remained largely wetlands, and before it was channelized the Des Plaines behaved like a meandering “prairie river,” splitting and flowing toward both Lake Michigan and the Illinois River during flood events.

Today in its lower basin, the Des Plaines River flows in a channelized course parallel to the Sanitary and Ship Canal. North of Lockport, the river’s channel is flanked by 80–100 foot natural bluffs within 2,500 feet of each bank of the river, reminders of this section’s past as the key drainage point for ancient Lake Chicago — the “Straits of Gibraltar” for the Great Lakes. Salt Creek remains less naturally well defined in its valley, which did not share meltwater draining duties on a similar scale. Lacking the bluffs of the Lower Des Plaines, it has been a source of more persistent flooding problems for suburbs now along its banks.

Besides the river and its tributaries, there are also 18 lakes in the region greater than 20 acres — some of them naturally occurring, some manmade — with hundreds more small lakes and ponds, most under two acres



Michael R. Jeffords

*Cranberry Slough, a Palos wetland*

each. Most of the larger lakes in the southern Lower Des Plaines area are former quarry pits.

Approximately 10,633 acres of wetlands remain in the area, about 21% of the presettlement amount. Disappearing with the wetlands were the nesting areas of now rare bird species. A symbol of the lost avian resources of that wetlands system is the Eskimo curlew, now thought to be extinct or nearly so, which was found in the area near Summit in 1872. State-threatened or endangered species that historically have bred in the Lower Des Plaines wetlands include the pied-billed grebe, the American bittern and least bittern, the black-crowned night-heron and yellow-crowned night-heron, the northern harrier, king rail, common moorhen, black tern, and yellow-headed blackbird. Many of these are now rare or no longer breed here, but are considered good candidates for returning to the area as wetlands are preserved and restored.

Among birders, the region is notable for its potential as habitat for wetland bird communities. Despite rapid development, there are still some 7,500 acres of nonforested wetlands in the basin, including notable marshes and sloughs in the Palos Preserves, in





# Natural Areas and Nature Preserves

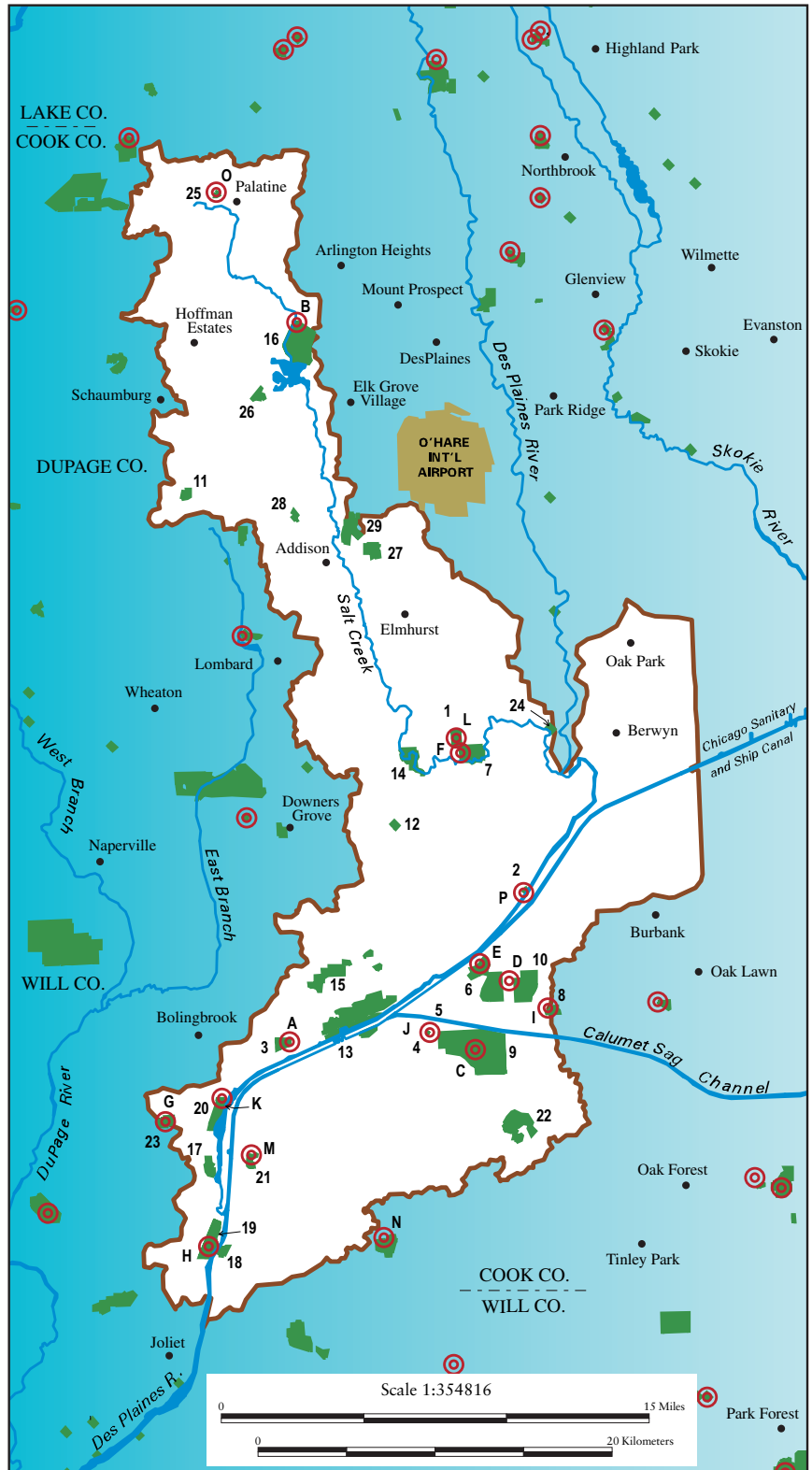
Illinois Nature Preserves

- A Black Partridge Woods
- B Busse Woods
- C Cap Sauers Holdings
- D Cranberry Slough
- E Paw Paw Woods
- F Salt Creek Woods
- G O'Hara Woods
- H Lockport Prairie
- I Palos Fen
- J Sagawau Canyon
- K Romeoville Prairie
- L Wolf Road Prairie
- M Long Run Seep
- N Messenger Woods
- O Palatine Prairie
- P Santa Fe Prairie

Illinois Natural Areas Inventory Sites

- 1 Wolf Road Prairie Nature Preserve
- 2 Santa Fe Prairie
- 3 Black Partridge Woods
- 4 Sagawau Canyon
- 5 Little Red Schoolhouse Nature Center
- 6 Paw Paw Woods
- 7 Salt Creek Woods Nature Preserve
- 8 Palos Fen Nature Preserve
- 9 Cap Sauers Holdings Nature Preserve
- 10 Cranberry Slough Nature Preserve
- 11 Meacham Grove
- 12 Hinsdale Prairie
- 13 Lemont East Geological Area
- 14 Fullersburg Woods Nature Center
- 15 Waterfall Glen
- 16 Busse Woods
- 17 Material Services Prairie
- 18 Lockport Prairie East
- 19 Lockport Prairie
- 20 Romeoville Prairie
- 21 Long Run Seep
- 22 McGinnis Slough
- 23 O'Hara Woods Nature Preserve
- 24 Brookfield Prairie
- 25 Palatine Prairie
- 26 WGN Marsh
- 27 Wood Dale Grove
- 28 Songbird Slough
- 29 Fischer Woods

-  Nature preserve
-  Natural area



## Salt Creek

The 29-mile Salt Creek corridor centers on a waterway that in recent times has been much-maligned for its flooding and poor water quality, although some old-timers who grew up in vanished rural areas of DuPage and Cook counties still recall swimming in it regularly.

Today, a new band of residents, allied with government officials and scientists, are at work to make such memories realities again by turning Salt Creek into a recreational waterway for the hundreds of thousands of suburbanites living in its watershed.

By some measures, they are not very far from their goal. Members of the new public-private Salt Creek Watershed Network have been sponsoring canoe and kayak trips down the clear waters of the creek just downstream from the Busse Woods dam in Elk Grove Village, where the sandy bottom is visible and muskrats often accompany boaters.

Another favorite canoeing area is downstream of Graue Mill in the Hinsdale-Oak Brook area, where the creek flows through forest preserves and great blue heron, deer, beaver, and migratory warblers are visible to water travelers.

The long-term restoration envisioned by the Network (which includes about 150 resident-activists and a similar number of staff from public sector agencies) involves mitigating flood damage and improving water quality. Projects and plans to restore the creek that are well underway include: wetland restoration, developing "water trail" facilities for canoes and kayaks, proposed dam removals and, long-term, improving sewer systems that now dump polluted water into Addison Creek, which feeds into Salt Creek.

In addition:

- ◆ the Network has prepared a watershed plan, and is working on educational projects such as its "Experience Salt Creek" water tours,
- ◆ DuPage County has drafted a Salt Creek Greenway Plan,
- ◆ Sierra Club volunteers are helping to monitor water quality in the DuPage section of the creek,
- ◆ the Northeastern Illinois Planning Commission and Openlands Project has released a "water trails" report that suggests how recreational facilities can be easily developed along the creek, and
- ◆ the Illinois Environmental Protection Agency is preparing a study that itemizes significant sources of pollution.

Philip L. Nixon



*Canada geese and mallards on bank of Salt Creek*



*Graue Mill*

Philip L. Nixon

It was in the 1960s and the 1970s that the creek's problems multiplied. Accelerated development and channelization led to greater storm runoff while pollution from factories and sewage systems continued. Environmental regulations since then have helped spur improvements, and citizen activism has made tangible progress in restoration. Sometimes fearsome floods have been a factor as well. In Elmhurst, for example, wetlands were restored where flood-damaged property that lay in the creek's floodplain was purchased.

Jeff Swano of Brookfield, executive director of the Salt Creek Watershed Network, says that stormwater runoff remains the creek's number 1 problem, although the Deep Tunnel and Reservoir Project (TARP) and Elmhurst quarry floodwater storage projects should reduce both flooding and pollution in the creek.

It is not just the creek that is getting attention as a recreation corridor. Two decades ago Westchester resident Valerie Spale and a friend decided that something more than piecemeal work was needed to preserve the Salt Creek corridor as an attractive place to live. Local forest preserve and park district officials got involved and today a 30-mile trail is being developed that links Cook and DuPage counties along the creek, ultimately with links to the Illinois Prairie Path and the Illinois & Michigan Centennial Trail. The former Mayslake monastery and grounds have also been preserved as a key cultural center and park along the corridor.

"The whole thing is win-win," says Swano, who cites increased property values and stronger local economies as results of turning Salt Creek from a flood-prone problem into a community asset. "Recreation is its greatest potential."

### **The Area at a Glance**

△ The region includes some outstanding scenery and geological features such as seeps, ponds and hills formed by glaciers, and dolomite cliffs and canyons eroded into ancient Silurian dolomite more than 400 million years old.

△ The eastern part of the Lower Des Plaines region includes part of the flat basin of ancient Lake Chicago and, to the west of that, closely grouped moraines. In the western portion, the moraines were dissected by the rivers of water overflowing from lakes formed by melting glaciers. The northern third of the basin features broader upland areas, level between tributaries and somewhat poorly drained.

△ The clay-rich local soils tend to absorb water relatively slowly and flooding has been a concern since early settlement. In the last century much of the land has been paved over, exacerbating flooding.

△ In the southern part of the Lower Des Plaines basin, far below the bedrock surface, lies the massive Deep Tunnel and Reservoir Project, which stores excessive water during storms.

△ While numerous detention basins have also been built to alleviate the problem, preserving and restoring wetlands is a priority to slow runoff.

forest preserves in the Schaumburg-Elk Grove Village area, and at Campbell Slough near Addison.

Other animals dependent on wetlands have also had a difficult time in recent decades. For example, the prognosis for reptile and amphibian populations in the valley is poor unless steps are taken to restore fishless woodland ponds, wet-prairie habitats,

and river wetlands to replace breeding grounds and habitat lost to development. Even so, 16 amphibian and 22 reptile species are known or likely to occur here, 39% and 37% of the state's amphibian and reptile species, respectively. These include the state endangered spotted turtle and Blanding's turtle as well as the state threatened Kirtland's snake.



Michael R. Jeffords

*The muskrat is one of several species that depends on wetlands for survival.*

Urban pollution has also degraded the habitats of aquatic species such as fish and mussels; as a result, the basin has a low diversity of aquatic life today. While records show 49 species of fish, 31 of mussels, and 10 of larger crustaceans, some species have disappeared in recent decades. Mussel populations have become very small, with only one of the 31 species having been collected in the past 20 years. Two state-endangered fishes recorded here have not been seen since 1901.

Over-enrichment from treated and untreated sewage is a major threat to the Lower Des Plaines River, which since the turn of the 20th century has been a conduit for most of Chicago's (usually treated) wastewater. Up to 1996, the Illinois Environmental Protection Agency (IEPA) had assessed 213 river miles in the watershed and rated them as being good or fair. Fourteen percent were found to meet the needs of designated uses, about half were impaired to a minor degree, and 17% were severely impaired. However, according to the Illinois

with water-quality improvements in recent years. Of 13 Lower Des Plaines subwatersheds prioritized by IEPA, 11 — including the Des Plaines and Salt Creek — were identified as restorable.

A few ways to further that goal: discharge wastewater into treatment lagoons and wetlands before releasing it into area waterways; use primary and secondary detention basins before releasing stormwater into the waterways; remove some additional dams that degrade water quality by obstructing flow.

Some ecologists hope to see the royalty of Midwestern aquatic life — namely the river otter — regularly playing in streams in the basin again. At the top of the aquatic food chain, the otter's ability to survive is the ultimate test of a water system's restoration to health. The animal is now modestly spreading along selected streams with help from a state release program. The last official sighting of an otter in the Lower Des Plaines basin was in 1988 at Waterfall Glen Forest Preserve in DuPage

Natural History Survey, "with improvements in water quality, species that have been extirpated could return and natural communities could become reestablished in areas where they have been eliminated or altered." Indeed, fish communities in the Des Plaines have registered increases in tandem

County. However, until further advances are made — in restoring wetlands, treating water, and reducing siltation and chemical runoff — residents sadly may still have to go to the Shedd Aquarium to see live otters in person, in a "prairie river" exhibit modeled in part on the Des Plaines River as it once was.

### *Natural Communities Weakened*

In the past 200 years, native ecosystems have been weakened or destroyed by agents such as industry, agriculture, urbanization, fire suppression, fragmentation and destruction of habitat, grazing by farm animals and by deer without predators, and the "invasion" of aggressive non-native species such as buckthorn, garlic mustard and multiflora rose. Together they have reduced the number of plant species flourishing in the area.

Very few acres of native ecosystems remain intact. Only a dozen high-quality natural sites totaling some 516 acres have been identified in the basin. The potential for ecological restoration is huge, however, especially given the significant preserve landholdings in the area. Prairie and savanna restoration projects are already underway at the Palos Forest Preserves in Cook County.

Because of the distinctive topography of the area, and its large amount of preserved land relative to areas of the state that were more intensively farmed, the highly urbanized basin retains a relatively high number of rare plant species. There are 10 state-threatened, 15 state-endangered, three federally threatened, and one federally endangered plant species in the valley. Most of these plants live in prairie and wetland habitats. For example, the basin supports a rare pop-

ulation of the nearly extinct prairie bush clover, which is considered endangered nationwide.

Midwesterners often do not realize that the disappearance of the prairie in the 19th century occurred so quickly and on such a large scale that it was comparable to the disappearance of tropical rain forest ecosystems in South America today. It was the first example of large-scale destruction of a major continental ecosystem by a modern industrial society. Some of the most important remnants of that ecosystem, alongside some of the most important efforts to preserve and revive it, are in northeastern Illinois and especially in the Lower Des Plaines River basin.

More than four-fifths of the Lower Des Plaines basin was covered by tallgrass prairie at the time of Euro-American settlement, but only small acreages of high-quality prairie remain in the region today. About half of this is categorized as mesic prairie, which grows in moderately wet soil and was originally only a small percentage of the whole area. Farming has destroyed almost all of the tallgrass prairie on rich silt-loam soils, which once dominated the area. In addition, only traces of rarer gravel, dolomite, and shrub prairies are left.

The biodiversity of such prairie remnants, however, illustrates the rich ecological resources that many naturalists and volunteers are working to restore in areas throughout the Lower Des Plaines basin. Wolf Road Prairie, for example, is the site of a subdivision that was never completed and whose empty lots form an island of native plants that survived the urbanization around them. The 80-acre prairie preserve boasts a species list of 320 plants and includes the only remaining high-quality undegraded

mesic prairie found in the basin. Those 37 acres also constitute almost half of all high-quality prairie remaining in the area. The state endangered and federally threatened prairie white-fringed orchid is found there.

### *Rare Prairies*

Other types of high-quality prairie preserved in the Lower Des Plaines basin include one acre of dry-mesic gravel prairie and four acres of mesic gravel prairie (22% of all that remains in the state) at Santa Fe Prairie Nature Preserve. The Santa Fe Prairie, which lies on the edge an industrial park between an interstate, a railyard, and the Des Plaines Diversion Channel, has been called the birthplace of the prairie restoration movement. The prairie was virtually untouched when the Atchison, Topeka & Santa Fe Railway acquired it in 1886, and it remained that way for



Michael R. Jeffords

*Wolf Road Prairie*

### **The Area at a Glance**

△ A relatively large portion of the area has very thin soils. Romeoville Prairie and Lockport Prairie Nature Preserves show the distinctive meld of wetland communities that thrive in these shallow-soil areas. A tapestry of wet- to mesic-dolomite prairie, marsh, sedge meadow, fens, floodplain forest, and a high-quality spring can be found at the preserves.

△ In its lower basin the Des Plaines River flows in a channelized course parallel to the Sanitary and Ship Canal. North of Lockport, the river's channel is flanked by 80–100 foot natural bluffs within 2,500 feet of each bank of the river, reminders of this section's past as the key drainage point for ancient Lake Chicago.

△ Salt Creek remains less naturally well defined in its valley, and is a source of more persistent flooding problems for suburbs now along its banks.

△ There are 18 lakes in the region greater than 20 acres — some of them naturally occurring, some man-made — with hundreds more small lakes and ponds, most under two acres each. Most of the larger lakes in the southern Lower Des Plaines area are former quarry pits.

### **The Area at a Glance**

## Palos Restoration

The 14,000-acre Palos Preserve in Cook County is perhaps the most famous single natural tract in the Lower Des Plaines region. Cited by the 1939 WPA Guide to Illinois as a landmark for hikers, it is known for its seasonal carpets of wildflowers and its migratory birds.

Yet even here, in this extensive piece of wildness in the southwest suburbs of Chicago, the ecological effects of surrounding urbanization have taken their toll.

Native ecosystems such as oak savanna and prairie became degraded because of the “island” effect of surrounding development and the absence of fire. Naturalists and ecological activists determined that active human involvement was needed to preserve the region’s native plant and animal species. In the early 1980s, volunteers began tending sites in the area.

Dennis Nyberg, volunteer steward at Cranberry Slough Nature Preserve in the Palos complex, says restoration management has dramatically improved both the appearance and ecology of the Cranberry Slough area. Volunteers have burned, trimmed and girdled brush and trees, primarily to reduce non-native buckthorn and to re-open vistas between sedge meadows, wetlands and oak woodlands, which had become overgrown due to a lack of fire and invasion of foreign species. They also planted native species and repaired eroded natural ponds.

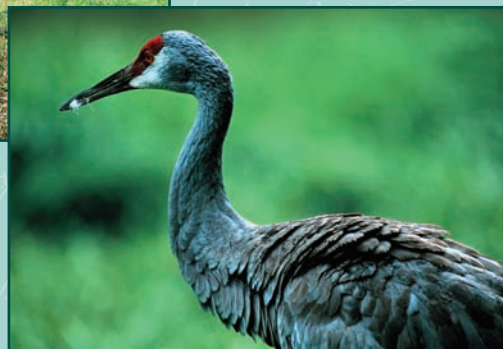
Since the 1980s, Nyberg estimates that he has visited the site about 50 times each year, for a few hours per visit. That’s typical of the dedication of many volunteer restorationists. He feels his efforts paid off when sandhill cranes returned to nest at the slough in 1998, probably the first cranes to nest in Cook County since the Civil War. The impressive birds prefer open wetlands surrounded by oak savanna, the 19th-century landscape of the slough area, brought back by restoration.

Restoration work in the Palos area has been politically controversial, however. In 1989 a major project was announced for Swallow Cliff Preserve, but the tree cutting called for in the project became a focus of criticism, leading to a 1998 moratorium on volunteer restoration work in preserves. Some restrictions have since been lifted, but Nyberg and other volunteers say more education is needed that will persuade the public of the benefits of restoration management.

According to Nyberg, restored native ecosystems tend to be more biologically diverse than unmanaged overgrown tracts. While aspects of the work at Swallow Cliff could have been done differently (removing fewer trees for example), he says the areas that were worked on in the 1990s do show greater ecological health today than they would have otherwise.



Michael R. Jeffords



the next 75 years as the railway protected it with benign neglect. Santa Fe Prairie was approximately 40 to 50 pristine acres when Dr. Floyd Swink first conducted a botanical survey in 1946. Thirteen years later biologist Robert Betz visited Dr. Swink at the prairie. “The Santa Fe Prairie was the first real prairie I’d seen and the plant variety astounded me....That first visit with Floyd Swink was what made me decide to dedicate the next 35 years of my life to prairies. He transmitted his excitement as he found each rare prairie plant. I began speaking to groups about saving our vanishing prairies....”

Several years later, when Betz learned that the prairie might be destroyed so that an industrial park could be developed, he began a decades-long campaign to save the site. By 1976, when the Illinois Natural Areas Inventory described the prairie as being a high-quality natural community, only 11 acres remained. The rest had been filled in by the railroad to raise the grade above floods.



Michael R. Jeffords

*Blue flag is a common wetland plant found in the basin.*

Two decades later, the Burlington Northern Santa Fe Railway—the owner at the time—donated the prairie to the I&M Canal Civic Center Authority. So, after 35 years of effort by many people and organizations, the Santa Fe Prairie was designated an Illinois Nature Preserve on October 3, 1997.

The moist calcareous (calcium rich) soils and gravelly well-drained portions of the preserve host more than 250 native plant species—the variations in soil moisture support far greater diversity than would generally be expected of a site its size. Characteristic plants in dry-mesic gravel prairies include little bluestem, porcupine grass, few-flowered goldenrod, scurf-pea, and stiff sandwort. In mesic gravel prairies are found big bluestem, prairie brome grass, low calamint, common valerian, and prairie dock. Common to both communities are Indian grass, prairie dropseed, and small skullcap. Because of habitat degradation and quarrying, the gravel prairie is one of the rarest prairie communities in Illinois.

Examples of rare dolomite prairies can be seen near Lockport and Romeoville. Dolomite prairie occurs where dolomite, a form of limestone, is usually less than a few feet below the soil surface. Only 42 acres remain in the state; most sites were either destroyed by quarrying for flagstone or mining for gravel. The lakeside daisy, a federally endangered species, is unique to this type of prairie. It is only found at one location in Will County, where it has been reintroduced into the Lockport Prairie. It is also being grown in a recreated prairie at the Morton Arboretum. Slender sandwort, a state endangered species associated with this type of prairie, is also found at four sites within the basin.

△ Approximately 10,633 acres of wetlands remain in the area, about 21% of the presettlement amount. Disappearing with the wetlands were the nesting areas of now rare bird species such as the pied-billed grebe, the American bittern and least bittern, the black-crowned night-heron and yellow-crowned night-heron, the northern harrier, king rail, common moorhen, black tern, and yellow-headed blackbird.

△ Despite rapid development, there are still some 7,500 acres of non-forested wetlands in the basin, including notable marshes and sloughs in the Palos Preserves, in forest preserves in the Schaumburg-Elk Grove Village area, and at Campbell Slough near Addison.

△ Sixteen amphibian and 22 reptile species are known or likely to occur here, 39% and 37% of the state’s amphibian and reptile species, respectively. These include the state endangered spotted turtle and Blanding’s turtle as well as the state threatened Kirtland’s snake.

△ Because urban pollution has degraded the habitats of aquatic species such as fish and mussels, the basin has a low diversity of aquatic life today. While records show 49 species of fish, 31 of mussels, and 10 of larger crustaceans, some species have disappeared in recent decades. Mussel populations have become very small, with only one of the 31 species having been collected in the past 20 years.

### **The Area at a Glance**



Michael R. Jeffords

*Prairie dock*

Lockport Prairie contains eight acres of high-quality mesic dolomite prairie, the only remnant left in Illinois. A rare plant that can be found in mesic dolomite prairies is the leafy prairie clover, a federal endangered species that is known to survive only in areas along the Des Plaines River and in limestone glades in central Tennessee and northern Alabama. Likewise the only examples of high-quality wet-mesic dolomite prairie remaining in Illinois are found at four sites in the Lower Des Plaines basin.

Ironically, it is the native plants at such remnant sites that are now, in a popular sense, considered “exotic” due to their rarity. Yet their very names evoke a kind of ecological poetry: rattlesnake master, compass plant, purple coneflower, black-eyed Susan, big bluestem, and prairie dock, to name a few. Such names come with stories, too. The compass plant, for example, has a pattern of leaf growth that was used by travelers to orient themselves in prairie and savanna.

Unlike prairies, forests today cover more of the land than they did at set-

tlement. Approximately 16.5% of the area was once forested; now about 19.4% (44,430 acres) is forested, but only about 432 acres are high quality and undegraded. About 94% of the forest is upland forest; some of the threatened and endangered species found in these types of forests include the northern grape fern, pretty sedge, dwarf raspberry, and Canada violet.

Northern flatwoods in Illinois are found on poorly drained sites within the Valparaiso Morainic System, largely within this basin. A total of 31 acres of high-quality northern flatwoods (36% of the statewide total) have been identified at a single site here. Common canopy species include swamp white oak, white oak, and Hill’s oak. Threatened or endangered species that can be found here include Tuckerman’s sedge, purple fringed orchid, and dwarf raspberry.

Two savanna community types were probably present in the basin, the dry-mesic and mesic savanna. Savanna, characterized by scattered trees and grasses and sedges (intermediate between open prairie and closed

woodland), and former savanna still occur here where restoration is underway. Although none are high-quality, some degraded remnants have strong restoration potential.

The basin’s natural history of rich prairie, wetland, and forest resources made it a haven for birds, with 150 species recorded as breeding in the basin. Today, however, 61 of these are either locally extinct or rare during the breeding season, probably due to loss of habitat.

Still, the area contains a greater diversity of bird species than most urbanized areas in Illinois, in part a legacy of days when prairies and savannas dominated the basin and wetlands stretched from the Lower Des Plaines into the vast Calumet Marshes, linking Lake Michigan and the Illinois Valley for birds as well as for people.

The region’s large forest areas, notably the Palos Preserves, are a signifi-



Michael R. Jeffords

*The prairie white fringed orchid is a state endangered and federally threatened species.*





Michael R. Jeffords

*The fox squirrel is one of several mammals that do well in urban areas.*

cant home for birds, and the potential for reintroducing state-threatened and endangered species in woods and prairies is thought to be still good. Such birds include the osprey and red-shouldered hawk, Swainson’s hawk, the upland sandpiper, the brown creeper, short-eared owls, and the loggerhead shrike. Some of these have not been found breeding in the area in decades, but could return to restored woods, savannas, and prairies in the next century.

The area could also be restored as an important bird migration corridor, naturalists say, by using techniques such as improving oak woods and shrubby areas on developed lands and linking existing preserves into larger habitats.

Despite the urbanization—two-thirds of the area is developed—some resilient species have expanded their numbers greatly in recent decades. White-tailed deer, coyotes, and raccoons have thrived as suburban residential areas and parklands have replaced industrial and agricultural land in the area. (Farmland declined

from 46% of the basin’s land cover in 1925 to 16% today; manufacturing employment fell by 12% since 1980.) The numbers of these species may be higher now than they were 200 years ago. Other mammals that do well in urban areas include the Virginia opossum, eastern cottontail, fox and gray squirrels, red fox, and striped skunk. The area is also home to eight species of bats, 19 rodents, and five insectivores.

The exploding deer population has caused new problems; deer have become a nuisance in developed areas and a danger on roads and highways, as well as a threat to native plants in prairie and savanna remnants, which they often over-graze. Still, there is a certain thrill for humans to spot deer in suburban neighborhoods, especially given the spread of development around the region.

### *In the Forefront of Preservation*

The presence of wandering deer in suburbia is a symptom of massive habitat destruction and fragmentation and loss of predators, and should be more a source of sadness than of wonder or annoyance, however. Indeed, the changes that have occurred in the basin during the past 200 years, by their very size and speed, have stimulated a human response that places the Lower Des Plaines River basin in the forefront of nationwide efforts to preserve and restore regional landscape.

Stephen Packard, who helped galvanize restoration efforts in the Palos Preserves and other areas in northeastern Illinois, put it this way: “When you see something about to pass out of existence, it calls out to you.”

Statistics illustrate the problem. In northeastern Illinois as a whole, be-

△ Up to 1996, the IEPA had assessed 213 river miles in the watershed and rated them as being good or fair. Fourteen percent were found to meet the needs of designated uses, about half were impaired to a minor degree, and 17% were severely impaired. Of 13 Lower Des Plaines subwatersheds prioritized by IEPA, 11 — including the Des Plaines and Salt Creek — were identified as restorable.

△ The basin retains a relatively high number of now-rare plant species. There are 10 state-threatened, 15 state-endangered, three federally threatened, and one federally endangered plant species in the valley. Most of these plants live in prairie and wetland habitats.

△ A dozen high-quality natural sites, totaling some 516 acres, have been identified in the basin.

△ More than four-fifths of the basin was covered by tallgrass prairie at the time of Euro-American settlement, but only small acreages of high-quality prairie remain in the region today. About half of this is categorized as mesic prairie, which grows in moderately wet soil and was originally only a small percentage of the whole area.

### **The Area at a Glance**

## Canal Gateway



*A lock and dam on the Illinois and Michigan Canal and a barge on the Calumet-Sag Canal*

After the Ice Age, the next single greatest impact on the Lower Des Plaines landscape was the construction of manmade waterways, which in turn led to the growth of Chicago and the suburban development now filling the valley. Today, historic preservation and interpretation of the canal corridor is helping to turn the basin into a tourist destination.

The area is distinctive as an intersection of four major manmade waterways: The Illinois & Michigan Canal, built in the 1840s, the Sanitary & Ship and Calumet-Sag canals, built around the turn of the 20th century, and the Lower Des Plaines itself, which, while a natural river originally, has been significantly redirected and channeled by human efforts in the past century and a half. This complex of constructed waterways, which still carries barge traffic and made the Chicago River “run backwards” into the Des Plaines for sanitation purposes, grew up around a key topographical break in the continental divide between the Atlantic watershed of the Great Lakes and the Mississippi watershed of the Illinois and Des Plaines rivers.

The Chicago Portage National Historic Site, one of only two Illinois sites with the highest National Park Service designation (the other being the Lincoln Home in Springfield), marks that connection point. At the site—at Harlem Avenue and 51st Street—stands a 1990 statue that depicts the French explorers Marquette and Joliet with their anonymous Native American teen-aged guide, who showed them the “secret” of the portage long-used by area Indians.

In the late 17th century Marquette and Joliet were the first Europeans to report using the portage, and they envisioned cutting a canal between the South Branch of the Chicago River and the Des Plaines in the area where the portage park stands today.

In pre-urban times, it was possible to paddle down the South Branch of the Chicago River to what at times was a continuous body of water known as Mud Lake, stretching from around Kedzie to Harlem. A small creek ran from the east side of Harlem into a little bend in the Des Plaines River (which has since been diverted away from the historic site). Through this portage, explorers, traders, and missionaries could paddle or carry their canoes from one watershed to the other. The Saganaskee Valley provided another such route between the Little Calumet and Des Plaines rivers.

Gary Mechanic, general manager of the Illinois & Michigan Canal Civic Center Authority, notes the organization is raising funds to develop the portage site as an interpretive center for the area's rich history. While other landmarks of Chicago's pioneer past are buried under concrete or drained away, the portage site is a rare remnant of that history, Mechanic explains, but "none of that history is interpreted" for visitors yet.

The portage site is centrally located in the Illinois & Michigan Canal National Heritage Corridor, which runs from LaSalle-Peru to Chicago, but has its heart in the lower Des Plaines basin in the Lockport-Lemont-Summit area. Designated in 1984 and the first of its kind in the nation, the national heritage corridor was founded largely through the efforts of Gerald Adelman, who grew up in Lockport where his family has lived since pioneer times. Seeing the area's industrial economy on the skids in the late 1970s, Adelman helped pioneer the idea of using history and natural landscape as the basis for a new kind of economy, based both on tourism and nurturing a quality of life that can attract investment and skilled workers in a new global marketplace. The corridor is "an on-the-ground example of regional

approaches, of voluntary incentive rather than a regulatory program," to foster "smart growth" (and combat sprawl) in a way suited to the politics of the Chicago area, Adelman says.



Michael R. Jeffords

*Chicago Portage National Historic Site*

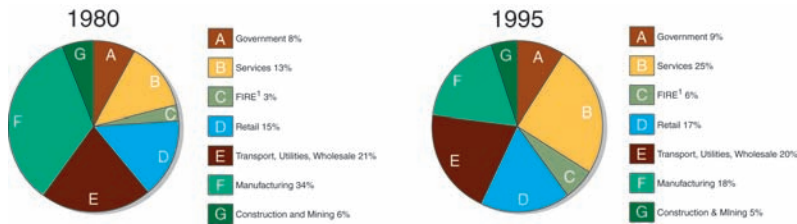
△ Wolf Road Prairie boasts a species list of 320 plants and includes the only remaining high-quality undegraded mesic prairie found in the basin.

△ Other types of high-quality prairie preserved in the Lower Des Plaines basin include one acre of dry-mesic gravel prairie and four acres of mesic gravel prairie (22% of all that remains in the state) at Santa Fe Prairie Nature Preserve. The preserve hosts more than 250 native plant species—the variations in soil moisture support far greater diversity than would generally be expected of a site its size.

△ Examples of rare dolomite prairie can be seen near Lockport and Romeoville. Dolomite prairie occurs where dolomite is usually less than a few feet below the soil surface. Only 42 acres remain in the state; most sites were either destroyed by quarrying for flagstone or mining for gravel. The lakeside daisy, a federally endangered species that is unique to this type of prairie, is only found at one location in Will County, where it has been reintroduced into the Lockport Prairie.

**The Area at a Glance**

## Employment Distribution



<sup>1</sup> Finance, insurance, and real estate

tween 1970 and 1990, population grew by only about 4%, yet acres of developed land increased by about 50% and now cover 66% of the land. Whereas prairie covered some 83% of the basin 175 years ago, remnants are found on only a few acres today. This area of the “meeting of the waters,” the link between Lake Michigan and the Mississippi Valley, now has no waterways rated as high-quality. It has no state-designated biologically significant streams. Natural wetlands have all but disappeared, and development has increased flooding problems along Salt Creek.

The basin’s very geography as a funnel for intercontinental transportation accelerated its industrialization and urbanization. Construction of the Illinois & Michigan Canal in the 1840s (a transportation predecessor to the Sanitary & Ship Canal) led to a string of canal towns exchanging raw materials and manufactured goods with Chicago and Great Lakes markets. The railroads followed the canal. And where the French explorers La Salle, Joliet and Marquette once followed Native American guides, today truckers cross the continent on I-80 and I-55, and commuters ride the Heritage Corridor train line into

Chicago. The second busiest airport in the world, O’Hare International, is also located in the Lower Des Plaines River basin.

Meanwhile, the pre-European history of the area lies largely hidden from modern residents. Native people, including some effigy mound-building cultures, lived in the Lower Des Plaines basin for some 12,000 years before the arrival of Euro-Americans. At the turn of the 20th century amateur archaeologists Charles Dilg and Albert Scarf surveyed Indian sites in the region, as did forest preserve historian Ed Lace in the latter part of the century. Most archaeological work in recent years has occurred in response to state and federal regulations on new construction projects. In comparison with some other regions in Illinois, archaeologists have done only a relatively small amount of work in the basin, examining only about five percent of its area, mainly in isolated sites. No specific museum or center in the basin is devoted to its rich Native American historical past.

Yet the experience of seeing nature as Native Americans once did remains imaginable to modern residents who encounter restored savanna and preserved prairie remnants in bloom. The

diversity of colors, smells, butterflies, and other life forms is dramatically different from the often overgrown and less diverse woods that are now more common in local preserves. English emigrant George Flower described what the experience was like when he wrote of seeing his first prairie in 1817:

“Bruised by the brushwood and exhausted by the extreme heat we almost despaired, when a small cabin and a low fence greeted our eyes. A few steps more, and a beautiful prairie suddenly opened to view. At first, we only received the impression of its general beauty....Its indented and irregular outline of wood, its varied surface interspersed with clumps of oaks of centuries’ growth, its tall grass, with seed stalks from six to ten feet high, like tall and slender reeds waving in a gentle breeze, the whole presenting a magnificence of park scenery, completely from the hand of Nature, and unrivaled by the same sort of scenery by European art. For once, the reality came up to the picture of imagination....the beautiful flowers, the transparent atmosphere, the soft zephyrs wafted from the South in bland and rich volume, all combine to impress the enchanted beholder with pleasing feelings, even to delusion.”

Efforts to preserve the natural biodiversity glimpsed by Flower began early in the Lower Des Plaines basin, led by a few visionary immigrants of European background. In one sense a hopeless fight against larger currents of history, these efforts nonetheless helped shape the current resurgence of interest in ecological preservation and restoration in the area. In fact, such activists helped pioneer the nascent science of ecology in the late 19th and early 20th centuries, struck as they

were by the disappearance of native ecosystems in the region.

In the post-Civil War era, the landscape architect Frederick Law Olmsted helped design what has since become a federally designated landmark, the town of Riverside. It was one of the first attempts to “get back to nature” on the part of residents of industrial America. The community’s wooded curving streets and common park areas, incorporating the river, sought to combine human culture and nature. It showed future generations how development and a sense of place could be nurtured together.

The experience of Riverside, together with Frank Lloyd Wright’s perfection of his Prairie Style of architecture in Oak Park and environs, also in the Lower Des Plaines basin, influenced American development patterns nationwide. Paradoxically, the work of both men provided inspiration for ecological approaches to human community alongside suburban development that often isolated and distanced people from nature and one another. Wright’s architecture, aimed at developing an organic style of design suited to Midwestern landscape, became in popularized form the prototype for the suburban ranch home. Olmsted’s model became in degraded form the

model for suburban subdivisions.

It was a sometime partner of Wright’s, landscape architect Jens Jensen, who helped focus attention on larger issues of conservation in the Des Plaines basin. Bringing from Denmark a more communitarian vision of conservation, Jensen, and other Chicago-area conservationists, notably architect Dwight Perkins, helped establish a ring of preserves around Chicago, including the landmark corridor of forest preserves along the Des Plaines River and Salt Creek. Their success is measured partly by the increase of forestland in the basin, from an estimated 16% of land area in presettlement times to about 19% today. About 10% of the area’s land (23,202 acres) is now held in county conservation preserves including—in addition to the largest, Palos Preserves—Salt Creek Preserve and Waterfall Glen and the smaller preserves such as Burr Oak, Mayslake, Wood Ridge and Songbird Slough.

In the 1920s, Jensen went even further, proposing a public plan for preserving nature and people together in the Des Plaines basin, in a quilt of forest and farmland, parks and communities, stretching from the river into Chicago’s industrial West Side. Without such natural connections, he warned, the inner city would suffer. He was right, but the plan was never implemented.

### *A New Generation*

Today, nearly a century after Jensen’s agrarian vision was swept aside by real-estate development, his basic vision of reuniting nature and human community has been taken up by a new generation of valley residents. Heron rookeries, a reconstructed French voyageur en-

△ Unlike prairies, forests today cover more of the land than they did at settlement. Approximately 16.5% of the area was once forested; now about 19.4% (44,430 acres) is forested, but only about 432 acres are high-quality and undegraded. About 94% of the forest is upland forest.

△ Northern flatwoods in Illinois are found on poorly drained sites within the Valparaiso Morainic System, largely within this basin. A total of 31 acres of high-quality northern flatwoods (36% of the statewide total) have been identified at a single site here.

△ The basin’s natural history of rich prairie, wetland and forest resources made it a haven for birds, with 150 species recorded as breeding in the basin. Today, however, 61 of these are either locally extinct or rare during the breeding season, probably due to loss of habitat.

△ Despite the fact that two-thirds of the area is developed, some resilient species have expanded their numbers in recent decades. White-tailed deer, coyote, and raccoons have thrived as suburban residential areas and parklands have replaced industrial and agricultural land. (Farmland declined from 46% of the basin’s land cover in 1925 to 16% today; manufacturing employment fell by 12% since 1980.)

### *The Area at a Glance*

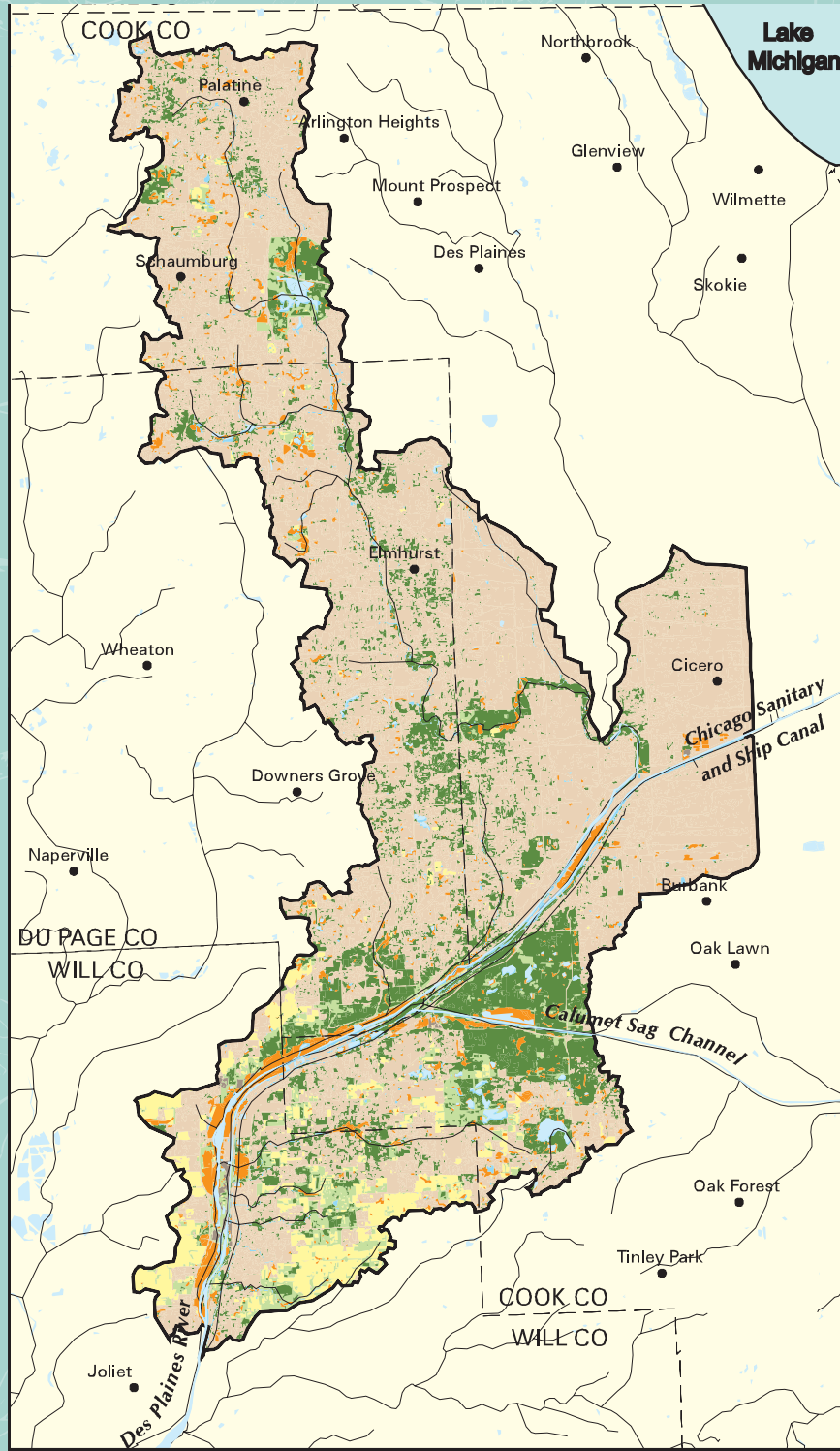


Michael R. Jeffords

*The green frog is common in ponds and streams with aquatic vegetation.*

# Land Cover

-  cropland
-  rural grassland
-  forest and woodland
-  urban and built-up land
-  wetland
-  lake or stream
-  barren and exposed land
-  outside of assessment area

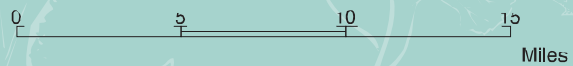


Source: Critical Trends Assessment Landcover Database of Illinois 1991-1995, IDNR 1995.

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Illinois State Geological Survey





Michael R. Jeffords

*Great blue heron*

campment, restored prairie and savanna tracts, ever-more-popular bike trails, and restored historic downtowns now mingle with often-rusted remains of the Industrial Revolution. In the last quarter of the 20th century, in addition to earlier county preservation efforts, 16 state nature preserves and 29 state natural areas have been established within the Lower Des Plaines watershed. These high-quality natural areas include remnants of upland and floodplain forests, prairie, marsh, and cliff ecosystems.

Even more important in terms of larger regional vision for the landscape was the founding of the Illinois & Michigan Canal National Heritage Corridor in the 1980s. The first of its kind in the nation, it seeks to coordinate both public and private preservation efforts in protecting a distinct natural and historic landscape along a broad corridor that stretches from La Salle-Peru in the west to Lake Michigan in the east. The heart of the corridor lies in the Lower Des Plaines basin.

The corridor helped stimulate the growth of other “greenway” projects in the basin. For example, in the 1980s the Salt Creek Greenway project gained attention as a national model. Today, a regional greenways plan developed by the Northeastern Illinois Planning Commission and the Openlands Project and a regional water-trails plan encourage further development of river corridors for recreational and ecological purposes.

Specifically, the Northeastern Illinois Regional Water Trail Plan calls for converting 90% of Salt Creek’s 29 miles into water trails by making minor improvements such as new or improved signs and bank stabilization. Currently the Lower Des Plaines counties rate among the lowest in terms of boat ownership per capita in Illinois. Voyageur re-enactors and local canoe enthusiasts may soon have more company when they trace the routes of early French and Native American water travelers.

△ Other mammals that do well in urban areas include the Virginia opossum, eastern cottontail, fox and gray squirrels, red fox and striped skunk. The area is also home to eight species of bats, 19 rodents, and five insectivores.

△ Between 1970 and 1990, population in northeastern Illinois grew by about 4%, yet acres of developed land increased by about 50% and now cover 66% of the land. Residents have responded to the speed and size of the changes, and the basin has become a national leader in nature preservation and restoration.

△ As early as the post-Civil War era, Frederick Law Olmsted helped design what has since become a federally designated landmark, the town of Riverside. The wooded curving streets and common park areas incorporating the river, sought to combine human culture and nature. It showed future generations how development and a sense of place could be nurtured together.

△ A century ago, Jens Jensen and other Chicago-area conservationists helped establish a ring of preserves around Chicago, including the landmark corridor of forest preserves along the Des Plaines River and Salt Creek.

***The Area at a Glance***

## Canal Towns



Michael R. Jeffords

*The Gaylord Building in Lockport*



Michael R. Jeffords

*The St. James of the Sag Catholic Church outside Lemont*

A series of photographs of downtown Lockport, taken around 1915 by a local pharmacist, shows surprising similarity to the look of the town's historic buildings today. Like its sister canal towns of Joliet and Lemont, Lockport built its important buildings solidly—from local limestone.

The material, in fact, became known as Joliet or Lemont limestone, and came into demand after workers building the Illinois & Michigan Canal discovered the yellow stone was easily accessible in the area, near the surface of the earth. After the canal was opened, some 50 quarries operated in the Lower Des Plaines region. Most famously they helped supply Chicago with building stone after the 1871 Chicago Fire. Local quarries still supply builders with gravel and crushed stone.

Hubs of 19th century commerce and industry, by post-World War II, canal towns like Lockport seemed in danger of watching the late 20th century pass them. Yet the way in which new development often skipped the old canal centers helped preserve their old character, a character that is increasingly in demand among both tourists and suburbanites in search of a distinctive sense of place in the outer Chicago ring of “edge cities.”

Downtown Lockport has blossomed. The Gaylord Building has been restored as exhibit and restaurant space alongside the I&M Canal, and the nearby headquarters of the old I&M Canal is now a museum. Gourmet dining and loft apartments in restored buildings are now part of the downtown Lockport “experience.”

Another good example of a classic limestone structure undergoing creative re-use is the Fitzpatrick House. Built by an immigrant Irish canal worker, the Greek Revival structure now houses the offices of the I&M National Heritage Corridor commission.

Lockport's first incarnation was as a canal and grain hub. In 1848, a basin was constructed as part of the canal that provided waterpower for paper, lumber and flour mills. Lockport then boasted the largest flour-milling complex in



Illinois. With the opening of canal-side railroads that made Joliet the area's biggest city, followed by construction of the Sanitary & Ship Canal in the 1890s, Lockport turned to other shipping-dependent industries, such as petroleum refining, as a source of employment.

Lemont, a canal-construction center in the 1840s, became a center for the thousands of immigrant limestone-quarrying workers who came to the area. In the 1890s, it turned into a boom town again as thousands more immigrant workers came to build the Sanitary & Ship Canal. Its distinctive limestone buildings and historic downtown area bear testimony today to those colorful earlier eras in its history.

Perhaps the most striking manmade stone structure in the area is St. James of the Sag Catholic Church outside of Lemont. It is prominently perched atop the Mount Forest Island glacial highlands at the juncture of the Calumet-Sag and Sanitary & Ship canals. The 1853 church building sits in a graveyard (complete with ghost stories) that holds the remains of immigrant Irish I&M Canal workers from the 1830s. Sometimes paid in farmland, these workers settled the community of Sag, of which the church is the only surviving landmark today. From the heights of the historic churchyard, visitors can contemplate the intensity of both the manmade and natural histories of the Lower Des Plaines basin—and the limestone that links both worlds.

Carl Sandburg wrote about this stretch of canal-town culture:

“Part of the valley is God's.

And part is man's.

The river course laid out a thousand years ago.

The canal ten years back.”

For pictures and history of the canal towns and their limestone architecture, see the book *Prairie Passage* (University of Illinois Press 1998), a collection of the photos of Edward Ranney with text by Emily Harris.

△ Today about 10% of the area's land (23,202 acres) is set aside as county conservation areas, forest preserves, etc. In addition, 16 state nature preserves and 29 state natural areas have been established within the watershed.

△ The Illinois & Michigan Canal National Heritage Corridor, designated in the 1980s, was the first of its kind in the nation. It stretches from La Salle-Peru in the west to Lake Michigan in the east. The heart of the corridor lies in the Lower Des Plaines basin. The corridor helped stimulate the growth of other "greenway" projects in the basin, such as the Salt Creek Greenway Project and the Northeastern Illinois Regional Water Trail Plan.

△ Current residents are looking at the Lower Des Plaines basin and at their place in it differently from previous generations. They see what makes the area distinctive, and have set about trying to save those special features.

The greatest single ecological challenge facing the Lower Des Plaines is fragmentation. When ecosystems are broken into small islands by development, native plants and animals are not able to thrive. So too the accompanying political and social divisions tend to isolate people from each other and from their natural surroundings. The Chicago metropolitan area, which in many ways pioneered pat-

terns of modern urban and suburban growth in America, is also one of the most politically divided in the nation in terms of the number of political units.


A jigsaw puzzle of municipalities, townships, counties, and special taxing districts often compete for tax revenue and prestige. Their plans don't often connect and the regional landscape has suffered as a result. Many

Chicago-area political divisions have historically reflected economic, social and racial separation. As in most places, residents identify themselves as being from one small suburb or another—whose boundaries often cut across ancient natural features—and not from the Salt Creek Valley, from the “moraines west of the Des Plaines,” or from the Des Plaines River basin.

This is beginning to change, however. Local nature centers, school environmental programs, area greenway and restoration projects, bike trail and canoe networks, the National Heritage Corridor, the Chicago Wilder-

ness consortium, and the Lower Des Plaines River Ecosystem Partnership are all encouraging new generations of residents to take a different look at the Lower Des Plaines basin and at their place in it. The underlying issue is finding what makes the area distinctive, and how those special features can be saved. Global economics and the electronic culture are increasingly placeless, yet ironically they put a higher premium on sense of place—it is becoming more valuable because it is becoming more rare.

One can only hope that the impression George Flower described when he first glimpsed the Illinois prairie

nearly two centuries ago will be true of restored prairies in the future: “For once, the reality came up to the picture of imagination.” Re-uniting imagination and reality to establish a sense of the metropolis as a part of nature, not merely incorporating it, is the community challenge for residents in the new millennium. 

## Long Run Creek



Long Run Creek meanders through the backyards of many residents in southwestern Cook County and northern Will County. Because of concerns about flooding and the area’s natural resources, citizens and government officials began meeting in December 1998 to develop a plan for the Long Run Creek Watershed. Over the past few years the group has been actively addressing many of the concerns listed in the plan as well as educating property owners, townships, and municipalities about these concerns. For example, the Long Run Creek Watershed

Committee has held workshops to teach property owners about the best management practices for creek maintenance. It has also partnered with the Village of Homer Glen to enhance and restore a wetland on the Creek, and to incorporate watershed resource concerns in the village’s comprehensive plan.



## ABOUT THIS REPORT

*Lower Des Plaines River Basin: An Inventory of the Region's Resources* is a product of the Critical Trends Assessment Program (CTAP) and the Ecosystems Program of the Illinois Department of Natural Resources (IDNR). Both are funded largely through Conservation 2000, a State of Illinois program to enhance nature protection and outdoor recreation by reversing the decline of the state's ecosystems.

Conservation 2000 grew out of recommendations from the 1994 CTAP report, *The Changing Illinois Environment*, the 1994 Illinois Conservation Congress, and the 1993 *Water Resources and Land Use Priorities Task Force Report*.

The Critical Trends report analyzed existing environmental, ecological, and economic data to establish baseline conditions from which future changes might be measured. The report concluded that:

- the emission and discharge of regulated pollutants over the past 20 years has declined in Illinois, in some cases dramatically;
- existing data suggest that the condition of natural systems in Illinois is rapidly declining as a result of fragmentation and continued stress;
- data designed to monitor compliance with environmental regulations or the status of individual species are not sufficient to assess ecological health statewide.

The Illinois Conservation Congress and the Water Resources and Land Use Priorities Task Force came to broadly similar conclusions. For example, the Conservation Congress concluded that better stewardship of the state's land and water resources could be achieved by managing them on an ecosystem basis. Traditional management and assessment practices focus primarily on the protection of relatively small tracts of land (usually under public ownership) and the cultivation of single species (usually game animals or rare and endangered plants and animals). However, ecosystems extend beyond the boundaries of the largest parks, nature preserves, and fish and wildlife areas. Unless landscapes are managed on this larger scale, it will prove impossible to preserve, protect, and perpetuate Illinois' richly diverse natural resource base.

Because more than 90% of the state's land area is privately owned, it is plainly impossible for Illinois governments to acquire resources on the ecosystem scale. Therefore, the Task Force and the Congress called for public agencies and private landowners to cooperate in a new approach to natural resource protection and enhancement. If landowners can protect, enhance, or restore precious natural resources through enlightened private management, the need for public acquisition can be reduced.

The Congress and the Task Force agreed that this new approach ought to be:

- organized on a regional scale;
- voluntary and based on incentives;
- guided by comprehensive and comprehensible ecosystem-based scientific information;
- initiated at the grassroots rather than in Springfield.

Finally, the Congress and the Task Force agreed that natural resource protection need not hamper local economic development but can enhance it through tourism and outdoor recreation.

CTAP described the reality of ecosystem decline in Illinois, while the Congress and the Task Force laid out principles for new approaches to reversing that decline. And Conservation 2000, designed to achieve that reversal, has implemented a number of their recommendations by funding several programs, one of which is IDNR's Ecosystems Program. The program redirects existing department activities to support new resource protection initiatives such as Ecosystems Partnerships. These partnerships are coalitions of local and regional interests seeking to maintain and enhance ecological and economic conditions in local landscapes. A typical Ecosystem Partnership project merges natural resource stewardship (usually within a given watershed) with compatible economic and recreational development.

*(continued on inside back cover)*