

# Into the Fields, Woods, and Wetlands

of the Metropolitan Water Reclamation District  
of Greater Chicago Properties



## *A Biological Survey of Plants and Animals*

MAY 2012



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THIS *POPULAR REPORT* HAS BEEN PREPARED IN COLLABORATION WITH A LARGE NUMBER AND VARIETY OF PROFESSIONALS IN THIS FIELD. THE SUPPORT OF THESE CONTRIBUTORS IS ACKNOWLEDGED HERE.

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# Into the Field of Land and Water

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On a chilly, sunny spring day, a boat leaves the Stickney Water Reclamation Plant landing dock owned by the Metropolitan Water Reclamation District of Greater Chicago. The boat's passengers are looking for birds, testing the water for cleanliness, and patrolling the area. This particular watercraft is going down the very canal that was built more than 100 years ago to reverse the flow of water from Lake Michigan. That action made the lake water cleaner and safer for Chicago area residents to drink.

Today, black-crowned night-herons, endangered in the state, perch in trees along the canal. Belted kingfishers give their telltale, rattle-like calls before plunging into the water to snatch a meal. Beneath the water, fish and other aquatic creatures are swimming. They serve as a food source for the animals that live in and around the waters. Meanwhile, turtles bask on a branch over the water while frogs wait until dusk to start singing their courtship music.

On some trips, the boat goes by the Baha'i Temple along the North Shore where pleasure crafts rest in waters on summer days. At other times, the boat winds through industrial areas and through downtown Chicago, aglow at dusk. The boat also meanders south to the Palos region where trees are laced with buds in spring and glowing with leaves in autumn.

The District controls the 77 miles of waterways and owns three-fourths of the land along them. Of the total 9,500 acres of land in District ownership in Cook County, half lie along these waterways and the other half are spread throughout the county. This land is used for reservoirs and wastewater treatment plants to keep pollution and flooding in check. Part of the land is vegetated and winds along the water offering habitat for the region's flora and fauna.



*North Shore Channel*

It is into these lands a group of biologists recently went to uncover the natural treasures that lie within District holdings. The researchers documented mammals, dragonflies, damselflies, butterflies, amphibians, plants, and birds on select lands. Within these pages, you'll discover what the biologists found—nature unfolding here as it did thousands of years ago when prairies, wetlands, and forests were formed after the last Ice Age retreated.

## A Landscape is Born

Amid skyscrapers, homes, shopping malls, businesses, and factories, remnants of an historic native landscape still exist in Chicago and surrounding suburbs. Here prairies, wetlands, and woodlands meander through concrete and asphalt. These ecosystems, which harbor a rich diversity of plants and animals, are products of the Ice Age. This era followed a warm climate that pervaded what is now the Chicago region roughly 500 million years ago.

Back then, a shallow sea covered what is now Illinois. Snails, clams, and other marine life thrived. Palm trees grew. Giant dragonflies flew. It was a tropical paradise.

The Earth began to cool slowly and then the Ice Age arrived roughly 2.5 million years ago. Frozen water, sometimes nearly a mile thick, plied the land, advancing, retreating, thawing, and refreezing as temperatures changed. Glaciers flowed like ribbons over the land, dipping and peaking, cracking, narrowing, and widening.

They carried boulders, pebbles, and sand, depositing them here and there and then picking up more, scraping the landscape, creating valleys and peaks in some places, completely flattening the land elsewhere. The last glacial age occurred during the Wisconsinan era roughly 110,000 to 10,000 years ago.

Then the Earth began to warm. Melting ice poured through valleys forged by glaciers, leaving in its wake huge lakes such as Lake Chicago, the precursor to Lake Michigan. Spruce forests and wetlands provided habitat for mastodons, arctic shrews, and giant beavers. As Lake Chicago's levels dropped, Lake Michigan was born along with what we now call the Des Plaines River.

The climate warmed further until conditions were perfect for the great prairies to prosper amid scattered open woodlands and wetlands. Some of the region's most significant natural areas are reminders of a time when glacial deposits created a big, mostly flat wetland throughout what is now Chicago. The complex consisted of wet prairie, sedge meadows, marshes, and wooded ridges. Signs of the area's historic wetlands are still evident in places such as the Lake Calumet area south of the city.



*Glaciers like this one in Alaska once covered what is now Illinois, creating a landscape of prairies, marshes, and trees*

While the glaciers retreated and the rivers flowed, silt from muddy streams mixed with the glacial till to form the prairie soils. As the climate became drier about 8,000 years ago, the landscape fostered fire. Influenced by these periodic fires and dependent upon them, the region's dominant ecosystems evolved to include tallgrass prairies and oak/hickory woodlands. Native Americans also encouraged the spread of fire to make it easier for them to hunt. Other ecosystems flourished, too, in areas where glacial action caused ridges and depressions to form fens, marshes, and bogs.

Many grasses and forbs evolved in the region's diverse soils. They developed deep root systems to protect themselves from the dry, hot summers and cold, hostile winters that now characterize our climate. Over the years, the organic root mass of these prairie grasses and forbs nourished and fertilized the soil. It was the richest soil in the world.

Long ridges of glacial material known as moraines formed higher ground and harbored the region's woodlands and savannas. Fire travels quickly uphill but slows on the way down. When fire reached the top of one of these ridges, it slowed, encouraging the development of wooded areas, principally on the north and eastern sides. Rivers also stopped the spread of fires, which encouraged oak openings. Here, bur oaks and grasses dominated.

Glaciers did not create neatly isolated landscapes. Instead, different types of wetlands, prairies, and woodlands are scattered throughout the region. All those ecosystems provided a home for a diverse group of flora and fauna.

As settlers moved in, the landscape began to change. Humans created agricultural fields, towns, and concrete buildings and parking lots. The result was the loss of habitat for the plants and animals that called the Chicago area their home. Streams and rivers became degraded from sewage and other garbage. Pollution, loss of habitat, the introduction of invasive species, and other factors contributed to the decline in numbers of plants, animals, and rare species.

Humans began to observe that what they were doing was damaging the natural world, and in turn, ourselves. Thus began the creation of forest preserve districts, conservation areas, environmental organizations, and governmental bodies such as the Metropolitan Water Reclamation District of Greater Chicago. Restoration and preservation work enabled some rare plants and animals to continue to thrive. Diversity—a combination of plants and animals and how they live together—is important to protect ecosystems as well as humanity.

## Further Reading

- "Geology Underfoot" by Raymond Wiggers
- "A Natural History of the Chicago Region" by Joel Greenberg
- "The Power of Ice: Trekking the Glacial Landscape" from "Chicago Wilderness" magazine by Sheryl DeVore

# Solution to Pollution: The History of the Metropolitan Water Reclamation District of Greater Chicago

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One of the world's largest wastewater treatment agencies, the Metropolitan Water Reclamation District of Greater Chicago (District), began as a solution to pollution in the 1880s. It carries on that mission today for millions of Chicago and suburban residents – keeping waterways safe and clean for the health of humans and wildlife.

In the late 1800s, Chicago residents were dumping their sewage and garbage directly into the Chicago River, which then flowed into Lake Michigan, the primary source of drinking water for the city. The pollution of the drinking water created a major health hazard. Many were dying from cholera and typhoid fever, which was directly related to the polluted water.

To restore the lake's health, the Illinois legislature enabled the creation of the Sanitary District of Chicago, now the Metropolitan Water Reclamation District of Greater Chicago (District), in 1889. The plan was to dig a 28-mile canal connecting the Des Plaines River and the South Branch of the Chicago River. A controlling works at Lockport discharging to the Des Plaines River would be constructed which would reverse the flow of water. By 1900, the job was completed and better health was restored to Lake Michigan and the people who drank its water.

As the Chicago area population grew, the District also grew. It built seven wastewater treatment plants for Chicago and more than 120 surrounding suburbs. As knowledge about treating wastewater grew, the District's facilities were modernized. Today, the District treats more than 1 billion gallons a day of wastewater generated by 5.3 million residents along with nearby industries.

The District not only treats wastewater but also traps and collects rainwater to reduce flooding and pollution. To that end, it began in the 1970s to build a system of tunnels and reservoirs. To date, more than 100 miles of tunnels have been completed and made operational.

The District also operates sidestream elevated pool aeration (SEPA) stations where oxygen is added to waterways through a series of cascading waterfalls. Adding oxygen improves the quality of the water and the environment for aquatic creatures such as frogs, ducks, and dragonflies.

Today, the District is in charge of 77 miles of waterways, part of a system that connects the Atlantic Ocean and the Great Lakes with the Gulf of Mexico.

## District Facts

- The District treats an average of 1.4 billion gallons of wastewater daily.
- Nine elected commissioners oversee 1,900 employees.
- The District serves 5.1 million people — plus the commercial/industrial equivalent of 4.5 million people, and a combined sewer overflow equivalent of 0.6 million people.
- The District serves an area of 883 square miles, which includes the City of Chicago and 125 suburban communities.
- All seven of the District's treatment plants received achievement awards in 2011 from the National Association of Clean Water Agencies. Among these was the Platinum 19 Award bestowed upon the Calumet Water Reclamation Plant. This award recognizes a continuous compliance for 19 years with pollution



*The District's Tunnel and Reservoir Project helps collect and hold water to curb pollution*

discharge standards. The Lemont and Stickney plants received Platinum 14 awards, which honor compliance for 14 years.

## A Survey Is Born

When it comes to preserving land and protecting natural habitats in the Chicago area, there's much work to be done. That is why the District decided to survey some of its land along waterways to see what plants and animals live there. The baseline study can help the District improve the habitat it owns for birds, animals, and in turn, humans.



*Scientists check for snakes at a District property*

A goal of this study was to determine how the District could better steward its land. In addition, the District hoped to find species that would indicate the successes of its work to clean the water in the region.

Researchers documented the presence of mammals, amphibians, reptiles, birds, dragonflies, damselflies, butterflies, and plant life on 25 District-owned properties. These included edges of waterways, treatment plant sites, reservoirs, and aeration stations. Figure 1 displays the location of the surveyed properties.

## What Biologists Found

An amazing 588 species of plants, 379 or nearly two-thirds which were native, were found. In addition, 198 bird species, with 92 of them likely breeding on the sites, were counted. Of these, eight are state-endangered and three are state-threatened. The total number of bird species seen represents more than half of all the regular bird species seen in Illinois.



*Rosinweed is a native prairie plant that botanists found during the biological surveys*

Biologists also counted 55 species of damselflies and dragonflies. That's about 50 percent of the number of those species found in northern Illinois. In addition, the federally endangered Hine's emerald dragonfly was discovered on one of the properties. Four dragonfly species observed during the surveys are rare in Illinois. Twenty-nine species of butterflies also were found feeding and courting on the properties.

Researchers documented 23 different mammal species native to Illinois, while herpetologists—those who study reptiles and amphibians—discovered five turtle species and six snake species, plus six amphibians including frogs and one salamander.

That's a total of 911 plant and animal species, nearly all native to the region, located on these 25 properties, just a portion of the entire District property.

While the numbers sound impressive, it's important to note that some of the land on the property has become degraded—just as with local forest preserves and other natural areas. The following sections show what's still there to be preserved and restored with work from humans and entities such as the District. Take a tour with the researchers who worked on these properties to discover interesting plants and animals. Learn about the creatures and plants that call the District property home.



Figure 1. Map of Study Area Showing 25 Survey Sites on District Properties

N  
 ↑ 52 - LOCATION

## 25 DISTRICT PROPERTIES SELECTED FOR BIOLOGICAL SURVEY

- 1A North Shore Channel: Green Bay Road to Bridge Street (west bank)
- 1B North Shore Channel: Touhy Avenue to Devon Avenue (east bank)
- 2 North Branch of the Chicago River: Addison Street to Belmont Avenue (east bank)
- 3A Chicago Sanitary and Ship Canal: 1.6 mile parcel of land extending from Shell Oil discharge (RM 310.8) to La Grange Road ( 309.2) (south bank)
- 3B Chicago Sanitary and Ship Canal: 1.9 mile parcel of land extending from Gilbert Avenue (RM 307.9) to RM 306.0 (north bank)
- 4A Calumet-Sag Channel: 0.2 mile parcel of land at junction of Calumet-Sag Channel and Chicago Sanitary & Ship Canal (RM 303.4) (south bank)
- 4B Calumet-Sag Channel: 1.0 mile parcel of land extending from RM 307.0 to RM 306.0, across from Saganashkee Slough (south bank)
- 4C Calumet-Sag Channel: 0.6 mile parcel of land extending from RM 314.2 to RM 314.8 (north bank)
- 5 Hanover Park WRP: south end of property along West Branch of DuPage River
- 6 John E. Egan WRP: south end of property along West Branch of Salt Creek
- 7 James Kirie WRP: west end of property along Higgins Creek including native prairie landscape
- 8 North Side WRP: west end of property including native prairie landscape
- 9 Stickney WRP: west end of property
- 10 Calumet WRP: ponds and west end of property
- 11 Lemont WRP: east, north, and south end of property including native prairie landscape
- 14 Calumet West Solids Drying Area: north end of property
- 20 Stony Island Solids Drying Area: west end of property including Dead Stick Pond
- 32 Edward C. Howell Reservoir: northwest, south and east end of property
- 40 Gloria Alitto Majewski Reservoir: west end of property
- 45 St. Michael Reservoir: throughout property
- 49 Tinley Park Reservoir: throughout property
- 53 Dr. Mary Woodland Reservoir: south end of property along Lansing Ditch
- 54 Sidestream Elevated Pool Aeration Station #1: north end of property
- 57 Sidestream Elevated Pool Aeration Station #5: south end of property along I&M Canal
- 59 Mainstream Tunnel and Reservoir Pumping Station: south end of property along Des Plaines River including native prairie landscape

## Teeming with Turtles The North Shore Channel

Rob Carmichael and Mike Knoerr walk along the muddy banks of the North Shore Channel on a cool summer morning. Both carry special traps shaped like cones and made of netting. They will lay these along the banks every so often. In each one a sardine is placed—perfect bait for hungry turtles.



*Spiny softshell turtle*

The traps are partially submerged in water so that a turtle can breathe while it waits to be released. The scientists will return within 24 hours to check the traps and discover what surprises might lie within.

The North Shore Channel is a man-made canal completed in 1910. Today it conveys stormwater from the northern suburbs and diverts water from Lake Michigan into the North Branch of the Chicago River.

The Channel runs from Wilmette, near the Baha'i Temple and Lake Michigan, roughly parallel down McCormick Boulevard in Evanston to Foster Avenue in Chicago. From there it flows into the North Branch of the Chicago River.

Surveying turtle populations is one way to tell if the water in the channel is clean. Many turtle species require unpolluted water in which to feed and reproduce.

Within 24 hours after setting the traps, Carmichael and Knoerr head toward the bank to check them. Inside is a 6-inch wide, grayish brown turtle with yellow lines on its outer shell some say looks like a map.

It's a common map turtle.

But it is not common in Cook County. In fact, it's been more than 30 years since this species has been documented in this county.



*Common map turtles*

Map turtles don't do well in heavily silted areas. They prefer unpolluted water. So the presence of a map turtle along the North Shore Channel is a sign that the water is clean.



*Snapping turtle in turtle trap*

The researchers spent several days checking traps and releasing turtles at the Channel. They found more common map turtles as well as a spiny softshell turtle, which also prefers clean water. This reptile can live to 50 or more years old. The top shell, called a carapace, is not bony as it is in other turtles. Instead, it's flat like a pancake and the edges are flexible. Take a look at its nose and you'll see it almost looks like a snorkel.

Also found in the traps were common snapping turtles. In fact, a 40-pound snapping turtle was found. It looks like a prehistoric animal with its dinosaur-like tail. It might be called a snapping turtle, but when alarmed the reptile actually first tries to ram sharp projections

from the outer shell into the intruder, rather than biting. Not picky about food, the snapping turtle will eat just about anything it can fit into its mouth, including other reptiles.

Turtles paddle along the waterways and dive to look for fish, crustaceans, and other critters for food as well as plants. They can only stay underneath the water so long. They breathe with lungs, not with gills as fish do. When they come up for air they seek an open canopy area and a log or fallen tree trunk where they can bask in the sun to regulate their body temperatures.

Turtles mate in spring and summer. The female lays and buries eggs in the soft soil, then leaves them to hatch and fend on their own.

When autumn comes, turtles become more sluggish, eventually burying themselves into mud where they will hibernate until spring. Young turtles may even spend the winter right where they were born. As the weather warms and the snow disappears, the turtles emerge to begin their life cycle anew along the North Shore Channel.

## Further Reading

- *Field Guide to Amphibians and Reptiles of Illinois* by Christopher A. Phillips, Ronald A. Brandon and Edward O. Moll, Illinois Natural History Survey

### Fun Fact:

Turtles have no teeth. They use their sharp jaws to grasp food and sometimes will actually suck their prey into their mouths.

# Restored Prairie

## North Branch of the Chicago River

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A 20-mile long paved trail runs along the North Branch of the Chicago River, beginning in northwest Chicago and then heading north past the Skokie Lagoons and the Chicago Botanic Garden in Glencoe. The trail passes by two prairie restorations, meadows, golf courses, and woodlands.

Running or bicycling on the trail, you'll notice the greenery of the trees and the purple and yellow hues of a prairie in summer.

But if you're a botanist, you'll have to get up close and personal with plants, bending down to see what's hidden beneath the dominant species, examining every nook and cranny, knowing the non-blooming appearance of a plant, and keying out the difficult ones to identify. That means using a field guide that asks questions leading you to the right plant.

By detailed work and observations, botanist Margo Milde and her colleagues documented 157 plant species in just a few miles stretch along the North Branch of the Chicago River south of the North Branch Dam. One-hundred of these plants are native to the region, and the rarest are those found in the prairie. Though disturbed by encroaching non-native species, these prairies restored by the District continue to harbor rare plants.



*Lead plant*

Closely examining the prairies revealed plants with names like rattlesnake master and leadplant, used by Native Americans and European settlers to describe perceived medicinal purposes. Settlers believed that rubbing a mixture of the roots and leaves of rattlesnake master on snake bites would relieve the pain and possible poisoning. Rattlesnake master grows from two to five feet tall and has unusual marble-sized, prickly, round balls at the top. Those are the flowers which attract native bees, butterflies, and moths.



*Rattlesnake master*

Leadplant is a flimsy plant that sprawls along the ground toward the direction of light. Its tiny purplish flowers attract bees and other insects, while its many small green leaves get munched on by deer and rabbits.

Settlers thought the presence of a leadplant indicated there was lead ore below. Indians, however, called this plant buffalo bellow plant because it bloomed when the buffalo were rutting. They used it to treat arthritis and other ailments.

Today the presence of these plants signals a healthy prairie as well as the availability of nectar and pollen for copious insects.

In a healthy prairie, dozens of species can coexist in a small area – not only the leadplant and rattlesnake master – but also prairie dropseed, prairie alum root, and wild indigo, each with their own time to bloom and to set seed for next year's crop.

All of these plants have what botanists call a high Conservatism, or C-value. The plants are scored on a scale from 0 to 10. Many of the plants in the restored prairie had C-values of 8. A value of 0 represents common plant species. Rare species or species most likely to be found only in natural, undisturbed areas are assigned a value of 10.

As with all prairies, if not managed, non-native species threaten to diminish the ecosystem's health. White prairie clover, a non-native aggressive plant, is starting to take over the restored prairies. But with some work, such as putting herbicides directly on the clover, these prairies can thrive as they did even before settlers arrived.

Several other restored prairies exist on district sites, at the John E. Egan and Lemont Water Reclamation Plants. These were created by the District, and they not only provide beauty for humans and food for wildlife, but they also hold thousands upon thousands of seeds that can be collected and used to create other restored prairies.

## Further Reading

- "Plants of the Chicago Region" by Floyd Swink and Gerould Wilhelm
- "Wildflowers of Fields, Roadsides, and Open Habitats of Illinois" by Richard H. Mohlenbrock
- Illinois Native Plant Guide Web site:  
[www.il.nrcs.usda.gov/technical/plants/npg/](http://www.il.nrcs.usda.gov/technical/plants/npg/)

### Fun Facts:

Prairie dropseed has a distinct aroma that some liken to hot buttered popcorn.

Settlers may have named the rattlesnake master because of all the rattling they heard while walking through sedge meadows and wet prairies teeming with the plant. The rattling belonged to the eastern massasauga, a type of rattlesnake once very common, but now very rare in the Chicago area.

# The Habitat Connection: Butterflies and Birds

## The Calumet-Sag Channel

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On a sunny August day, colorful butterflies dance over the vegetation adjacent to the Cal-Sag Channel. Among them are the tiny eastern tailed blue with its soft azure hue and the larger great spangled fritillary decked in orange and black. High in the trees, a scarlet tanager drops caterpillars into the mouths of begging young, while in the mid-canopy a wood thrush sings its flute-like “Eeeloay.”

Each of these animals belongs to a food web that keeps an ecosystem in harmony. Along the Cal-Sag Channel, and in combination with the nearby Saganashkee Slough, plenty of habitat is available for birds, butterflies, and other creatures to live.

### Channel History

The Cal-Sag channel, a shortened name for Calumet-Sag Channel, was constructed in 1922 by the Sanitary District of Chicago to change the flow of the Calumet River. That action diverted some of the sewage and waste away from Lake Michigan toward the Illinois River.



*Pearl crescent butterfly*

Today, the channel connects to the Little Calumet River on its eastern end, runs west past the forest preserve district-owned Saganashkee Slough, then connects again on the west with the Chicago Sanitary and Ship Canal.

In one portion of the channel vegetation, a thin parcel of district property abuts a large semi-natural field – that with the adjoining open space is responsible for the relatively high abundance of diversity and butterflies on the site. In fact, this site had the highest butterfly diversity of all 25 sites visited.

### Fancy Fliers

Doug Taron surveys butterflies by using what’s called a Pollard-Yates transect. He establishes a straight line through all the major habitats at a site. Then he walks the transect at a constant pace, writing down every butterfly seen within 20 meters. He rarely needs to use a butterfly net unless there’s something he’s having difficulty identifying.

On a sunny day in August, he recorded 22 orange sulphurs, 12 pearl crescents, six wild indigo dusky wings, one monarch, and one viceroy among other butterfly species. Though these species are mostly generalists, meaning they don’t require specific habitat in which to feed or lay eggs, it’s still a good sign to see them using the site.

Some have adapted to changes in the landscape. For example, the wild indigo dusky wing sips nectar from sunflower, white sweet clover, and dogbane, among other plants. It lays its eggs on wild indigo, a native plant. But it has also learned to use an introduced species, crown vetch, as well, which grows along the Cal-Sag Channel.



*Monarch on butterfly weed*

Butterflies are active on warm sunny days – they require plants from which they can obtain nectar for sustenance and host plants upon which they can lay their eggs. For example, the monarch feeds on a variety of flowers, including asters and black-eyed susans, but needs milkweeds specifically to lay its eggs. When the eggs hatch, the

larvae or caterpillars emerge and grow, munching on the milkweed leaves before forming chrysalises, the last stage before a caterpillar magically emerges as a butterfly.

## The Dawn Chorus

While Doug Taron samples the butterfly life during the day when it's warm and the sun is shining, Walter Marcisz needs to be up before dawn in June when it's still chilly to document bird life.

He paddles a boat down the channel, listening carefully.

"Here I am. Over here. Right over here," sings the red-eyed vireo. "Eeloy. Eeloy," comes the flute-like song of the wood thrush.

Marcisz stops every so often at designated spots to record what he hears. Most of what he hears he doesn't see – and that's why a keen ear is required to document birds during summer.



*Scarlet tanager*

Male birds sing to attract potential mates and to deter intruders. The bird with the best song gets his mate, while the other males fly away seeking mates in other territories. Birds sing early in the morning when insects are most active – and they can feed to gain energy to attract mates.



*Black-billed cuckoo*

The forest and scrub habitat along the channel held 53 breeding bird species in summer including the state-threatened black-billed cuckoo.

As its name implies, the bird actually does sing a medium-pitched, "cuk-cuk-cu." This species is declining in Illinois for unknown reasons and can be elusive as it nests in dense secondary woodlands and shrubs.

While the cuckoo nests in understory, the scarlet tanager nests high in the canopy singing a hoarse robin-like song. Remarkably, the male with bright red body and dark black wings can hide really well in the greenery.

Many of these breeding birds have flown thousands of miles from Central and South America, where they spend the winters. They fly north to find more space to raise their young. Here they need bigger territories and plenty of protein. Insects, including mosquitoes, along the waterways provide ample food for the young. Butterfly caterpillars also help feed the hungry young.

When autumn comes, many of these birds fly back south where they can find insects to sustain themselves while awaiting another breeding season.

Likewise, in autumn monarchs will begin their treacherous task of flying to a small region in central Mexico where they overwinter. Some will lay eggs on their way south, while others will not make it. It's a complex migration scientists are just beginning to understand.

Other butterfly species will remain here but in different forms. Each species survives either as an egg, larva, pupa, or adult—finding a warm place to stay tucked in during cold and snow. Those that spend the winter as a pupa, like the spring azure, will be the first to appear in spring. When spring azures are flying, birds are returning from the south—and the story of their lives begins anew.

## Further Reading

- “Field Guide to Butterflies of Illinois” by John K. Bouseman and James G. Sternburg
- “Birds of Illinois” by Sheryl DeVore, Steven D. Bailey and Gregory Kennedy
- “Birds of Chicago” by Chris Fisher and David B. Johnson
- Butterflies and Dragonflies of Illinois: Web site: [www.illinoisbutterflies.com](http://www.illinoisbutterflies.com)

Additional resource:

- Friends of the Calumet-Sag Trail, P.O. Box 532, Blue Island, IL 60406.

## House mouse? Not!

Mice that get into homes, garages, and attics are often the house mice, a species native to Asia that was introduced to Europe and North America. Finding a mouse whether you want to or not in the wild, however, is a little more difficult—and is likely NOT the house mouse.

That’s why mammologists set out traps: to discover what critters, including wild mice, are hiding in the leaf litter and scampering about, often unseen except by the keen eyes of animal predators.

The scientists use live traps, which they place in a line 10 meters apart in habitat where they think the creatures might live. The traps, which are about 23-inches long, are baited with rolled oats. To keep the critters warm as they await their retrieval, the mammologists place cotton bedding. These traps can catch shrews, voles, mice, rats, chipmunks, and other small mammals.

Once they set the traps, the mammologists return within 24 hours to check them. Among the most common mammals was the ubiquitous white-footed mouse; Seventy-seven of this species alone were trapped while John Yunker surveyed the Cal-Sag Channel.

But he got a surprise one day when he discovered a deer mouse in the trap. This mouse is much, much rarer than the white-footed variety.

The deer mouse looks nearly identical to a white-footed mouse, so the only way to make sure it was a deer mouse was for Yunker to measure the length of the hind foot and tail as well as its skull width to rule out white-footed mouse.

### Fun Facts:

Birds eat plenty of caterpillars and butterflies but usually leave the monarch alone. That’s because this butterfly species emits a horrible taste—one taste of a monarch and a bird won’t be having that for dinner again.

Cuckoos are more plentiful when there’s an outbreak of tent caterpillars, their favorite food. Cuckoos seem to like caterpillars that are hairy.

The red-eyed vireo could very well be the most vocal of songbirds. Researchers have discovered one red-eyed vireo that sang more than 20,000 times in 10 hours.

The pupa of a butterfly is called a chrysalis, not a cocoon. A chrysalis often hangs from a branch and looks just like a leaf. The term cocoon refers to a moth’s pupal stage.



*White-footed mouse*

The deer mouse has declined dramatically in the Chicago area because of the loss of prairie and other grassland habitats.

Both these mice sit in the middle of the food chain—eating insects and greens while being eaten by birds such as owls and kestrels and larger mammals such as weasels and foxes.

Deer mice and white-footed mice get nicely fattened for their predators by eating plant seeds, including those from oak and hickory trees. The omnivorous rodents also eat insect larvae, spiders, and centipedes.

They spend hours at night eating and eating. Small rodents need more food in proportion to their weight than do larger warm-blooded animals because it's hard for the little guys to conserve heat.

They are great recyclers, using old birds' nests for their winter homes. They just add some grasses, dome it over, and create a little igloo-like house in which to live out the cold time of year.

Researchers can find these domed-over nests in winter when trees are bare of leaves – it's just another sign that good food for other animals is roaming the wild lands in the Chicago region.

### Further Reading

- "Fieldbook of Illinois Mammals" by Donald F. Hoffmeister and Carl O. Mohr
- "Field Manual of Illinois Mammals" by Joyce E. Hofmann

#### Fun Fact:

If white-footed mice are abundant, American kestrels, northern saw-whet owls, and other birds of prey will only eat the head, the most nutritious (and tasty) part. The rest of the body will be discarded and will decompose, adding nutrients to the soil.

# Rare Remnant Hanover Park Water Reclamation Plant

Tucked in the southeast corner of the Hanover Park Water Reclamation Plant exists one of the rarest habitats in Illinois, if not the Midwest. It is a remnant prairie untouched by the plow, un-grazed, and intact, teeming with native plants that display a palette of colors– yellow, gold, purple, lavender, and white arising in the summer sun as they have for millennia.

Researchers Paul Bollinger and Irwin Polls found the remnant parcel when they were meandering through the site on a warm summer day. In front of their eyes were prairie blazing stars with lavender blooms that appear from the bottom up and prairie dock, with huge basal leaves and long slender stalks reaching four feet tall ending in small, four-petal yellow blooms. They also saw nodding ladies tresses, white orchids that thrive in native prairies.

In this small parcel, the researchers observed 139 species with 94 of them being native.

For a botanist, this is heaven.



*Paul Bollinger at work in the prairie*

Hanover Park WRP	
Plant Area:	289 acres
Where is it?	Hanover Park, IL
Public Access?	Special arrangements required
The Hanover Park WRP provides wastewater treatment for approximately 128,000 residents in a service area of 44.2 square miles.	

Prairie remnants, untouched by grazing, are the rarest habitats in Illinois. Only one tenth of one percent of the state’s undisturbed prairie ecosystem remains.

One way to tell that this is a remnant prairie rather than a restored one is that the soil holding the plant is hummocky. Little knobs and ridges rise slightly above the ground level, a good indication that the soil had never been tilled.

The botanists began their search for plants at the entrance to the water reclamation plant where two small restored prairies are located. Beyond that, gravel roads traverse through 300 acres of fields – some years fallow, other years planted with corn or other crops, with about 200 acres left to service wildlife.

The biosolids from the Hanover Park Plant are used to fertilize corn crops. Biosolids are a rich source of nutrients and organic matter. Nothing leaves this award-winning, self-sustaining plant site except for the treated and unpolluted water that flows into the nearby West Branch of the DuPage River.

Here a great blue heron can be found fishing on a fine June day – while a young spotted sandpiper born near the banks of the river can be seen running along the fields looking for mom.

Bollinger and Polls drove and hiked the region finding small sedge meadows here and there, rare ecosystems themselves. The biggest jewel was the native prairie remnant adjacent to railroad tracks at the edge of the property.



*The remnant prairie at Hanover Park has never been plowed, tilled, or grazed*

Gerald Wilhelm, a DuPage County botanist, discovered this site several years ago when wandering along railroad tracks where remnant prairies can be found.

With Bollinger's survey comes a renewed interest in protecting this very rare ecosystem. In just a few acres, hundreds of plants coexist. There are dry, medium and wet areas to the prairie, each with their own suite of plants. The dry spots have rough blazing star, compass plant, and rough dropseed. In the slightly wetter area another kind of blazing star, this one called the prairie blazing star, grows alongside mountain mint, which adds a lovely fragrance to the prairie. The wettest region contains blazing stars as well as some rushes and sedges. Wet meadows that contain sedges are among the most imperiled ecosystems in the state, right along with remnant prairies.

But some non-native plants that were introduced into the wild from various sources are threatening to take over this rare remnant. One of them is called common teasel. It is listed by the U.S. Department of Agriculture as an invasive weed species. Native plants haven't evolved to get along with the non-natives, and sometimes, as in the case of the teasel, non-native plants can completely crowd out the native ones. All those animals that depend on various native plants for food and nesting cannot live with just one kind of plant taking over an area.

Applying non-toxic herbicides may be one answer. Another is to perform periodic prescribed burns. This tool is important to the health of native prairies.

Prescribed burns in prairies kill woody plants, promote the growth of native plants, reduce wildfire fuel build-up, and increase populations of rare species.

Well managed prairies provide an ever changing landscape of native wildflowers and grasses—a feast for the senses. What the botanists saw is what our ancestors saw and what we can still enjoy today if we preserve and restore land.

## Further Reading

- "Plants of the Chicago Region" by Floyd Swink and Gerould Wilhelm
- "Wildflowers of Fields, Roadsides, and Open Habitats of Illinois" by Robert H. Mohlenbrock
- Illinois Native Plant Guide Web site: [www.il.nrcs.usda.gov/technical/plants/npg/](http://www.il.nrcs.usda.gov/technical/plants/npg/)

### Fun Facts:

Blazing star provides ample food for a wide variety of critters in the prairie. Bees and butterflies such as the monarch sip on the nectar and pollinate the plants. Mammals such as rabbits and groundhogs eat the young plants. Voles graze on the corms, which are somewhat like bulbs underground.

Native Americans made medicinal poultices out of mountain mint to treat headaches. Tea made from the leaves has been said to have a calming effect.

# Dancing Damsels

## John E. Egan Water Reclamation Plant

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Wearing hip waders, Craig Stettner walks through thick, wet vegetation to a gravel-bottom stream to search for damselflies dancing above the water. He spots an ebony jewelwing grabbing a mosquito. Then he sees an American rubyspot chasing another, a violet dancer here, and a rainbow bluet there. In just a few hours, he counts more than 500 of these delicate insects at the John E. Egan Water Reclamation Plant.

Here, damselflies emerge to mate in summer when insect prey is plentiful. They hover like tiny Tinkerbells over the water and plants, snatching for food and laying eggs.

Water reclamation plants take water from sewers originating in people's homes and businesses, put the water through processes that remove pollutants, and then release the clean water into a nearby creek, river, or other body of water

The Egan plant's treated water is piped into Salt Creek, where Stettner found so many damselflies. Also on the property are wet woods, fallow fields, and moist woodland edges, which provide habitat for damselflies to hunt for food and lay their eggs. You can't find fish in these areas, and that's great for dragonflies and damselflies, whose nymphs are tasty snacks for the animals with gills.

John E. Egan WRP	
Plant Area:	275 acres
Where is it?	Schaumburg, IL
Public Access?	The District leases part of the property for soccer fields and a golf driving range. Special arrangements are required for WRP access.
The John E. Egan WRP provides wastewater treatment for approximately 172,500 residents in a service area of 44.4 square miles.	

### Damsels vs. Dragons

Damselflies, like dragonflies, belong to the order Odonota – they have large compound eyes, a long, slender abdomen, two small antennae, and four veined wings. Typically damselflies hold their wings together over their back, while dragonflies hold their wings out, appearing like tiny airplanes. Dragonflies are often larger and stronger fliers, and damselflies tend to stay away from their larger cousins.



*Calico pennant dragonfly*

The violet dancer damselfly finds the stream at the John E. Egan Water Reclamation Plant to its liking. Its entire body glows in black and violet, even its eyes. The tip of its abdomen is sky blue—and there's none other in Illinois that looks like this lovely damsel. Identifying males can be fairly straightforward, but females often are dull brown—and that's when the experience of biologists like Stettner comes in handy.

He recognizes the ebony jewelwing with an iridescent metallic green body and all black wings. He'll note the female ebony jewelwing

because she has white near the wing tip.

The male rainbow bluet has an orange face, green head, and yellow and black on its body. It's another of the stunning damselflies that find the John E. Egan Water Reclamation Plant grounds a perfect place to court, mate, and lay their eggs.

## Further Reading

- “Dragonflies through Binoculars” by Sidney W. Dunkle
- Butterflies and Dragonflies of Illinois: Web site: [www.illinoisbutterflies.com](http://www.illinoisbutterflies.com)

### Fun Facts:

Damselfly nymphs breathe through 3 feathery gills which grow out the back of their tails. The adults breathe through holes in their bodies, known as spiracles.

# Dining Stopover, Mammal Heaven

## Calumet Water Reclamation Plant

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On a hot July day, hundreds of shorebirds of various species pluck morsels of food from the lagoons at the Calumet Water Reclamation Plant west of Lake Calumet and north of the Little Calumet River.

Here these shorebirds find sustenance as they migrate to their winter homes in Central and South America. On a single day, 100 killdeer, 140 least sandpipers, and fewer numbers of lesser yellowlegs found this dining stopover.

During migration, shorebirds stop at mudflats where they can probe their various-sized and various-shaped bills into the rich, gooey soil to feast on critters living within. As that habitat declines, shorebird numbers are also plummeting.

The Calumet Water Reclamation Plant provides an artificial life-sustaining habitat for these species of special concern.

When District employees first lay liquid biosolids in the lagoons for aging, it's like a moonscape. No life appears to be found. But in a few weeks, insects lay their eggs on the sludge and soon you've got shorebird food.

Walter Marcisz, who surveyed shorebirds at the plant during spring and fall migration, said he can almost guess the day when the insects will hatch out and the shorebirds will come to feed.

Fifty-three different species of shorebirds migrate through and breed in the United States. In all, 34 species of shorebirds were documented at the reclamation plant.



*Lesser yellowlegs*

Shorebirds have long legs, bills, and toes – designed to help them wade on mudflats and in wetlands searching for food. They feast on insects and crustaceans such as tiny, nearly microscopic shrimp that they find by sight, taste, or touch. Since most of them nest on the ground, they display drab plumage – brownish splotches and streaks, which help camouflage them and challenge the bird watcher.

Shorebirds usually lay four or fewer eggs and so produce relatively few young each season – and many of these young are lost to bad weather and predation. Several shorebird species nest in the Chicago area, but many of them at the reclamation plant are just stopping for food before they head to the Arctic to raise young in summer.

More than half of the shorebird species that breed in North America are highly imperiled, according to the U.S. Shorebird Conservation Plan.

Market hunting in the late 1800s followed by habitat loss and disturbance on their breeding, wintering, and migratory grounds has contributed to their decline.

Even populations of killdeer, a common shorebird in the Chicago area that can be seen at the Calumet plant, are declining, according to a 2006 U.S. Fish and Wildlife Service and Canadian Wildlife service report.

### Calumet WRP

Plant Area:	470 acres
Where is it?	Chicago, IL
Public Access?	Special arrangements required

The Calumet WRP provides wastewater treatment for approximately 1,056,000 residents in a service area of 305.4 square miles.

It's not only shorebirds that visit the District property's riches. Surrounding the lagoons, as well as on other land near the plant, are fields and bushes which attract migratory sparrows. These birds eat seeds from the grasses and wild plants. On a single day in October, fox sparrow, white-crowned sparrow, and song sparrow, all with their unique plumages, can be found feasting in the fields.

Migratory birds need every haven they can find during their arduous journeys. The Calumet Water Reclamation Plant serves as one of those respites and a stopover dining place they can rely on each year.

## Surprise, It's a Weasel

Lurking in the vegetation surrounding the plant is a different kind of animal – one rarely seen. The live traps mammalogists use are stocked with oats to attract plant-eaters like mice and chipmunks. One day, however, Amy Sullivan was checking the traps for various mammals, when she was surprised to see a long-tailed weasel—a carnivore or meat-eater. Sullivan guessed that the weasel smelled the scent of another critter that didn't get trapped, and instead got trapped itself.



*Least weasel*

This was the only weasel trapped during the mammal surveys on all 25 properties. The long-tailed weasel is a handsome, seldom-seen mammal with a slender body, long neck, short legs—and a long, bushy tail. In summer, it's brown on the back and white on the stomach, in winter some long-tailed weasels might be entirely light or entirely dark. They measure 11 to 16 inches long—about the size of a ruler.

Unlike the more common least weasel, which adapts to most habitats, the long-tailed weasel prefers grasslands.

Long-tailed weasels feed and rest day and night, spending their time alone unless mating or caring for young, typically in spring and summer.

When their main food, voles, is plentiful, the weasel produces more young. As the weasel numbers increase, the vole numbers start to decrease, which in turn, lowers the weasel numbers. Then the vole population can rise again, beginning a new cycle.

## Coyotes at Night

On the heels of the weasel and other small mammals is the coyote, which preys on rabbits and other mammals. Just as the weasel keeps the vole population in check, the coyote helps keep the rabbit population in check. What gardener wouldn't like an animal that keeps rabbits from nibbling on their flowers and vegetables?



*Coyote at night*

At the Calumet plant, Sullivan documented three different coyote individuals by their coats and other patterns. She didn't have to stay up all night with a pair of night vision glasses, though, to search for coyotes that are more active during the dark hours.

Today, she has a great tool to document the larger mammals—a motion-sensor camera. Sullivan puts a dish out with peanuts, sunflower seeds, sardines, and cat food to attract the larger mammals. She sets the camera on a tree pointed toward the dish. When the camera senses movement, it snaps a photo, which can be seen later by removing the camera card.

Coyote litters are born in the spring in a den. Both parents and sometimes siblings care for the young.

Coyote numbers are increasing in the Chicago region – that’s because they are opportunistic feeders and will eat dog and cat food set out by suburban residents, as well as garbage and rats.

Coyotes have learned to live in woodlands, agriculture lands, and shrubby areas. Not only will they eat rabbits and small rodents, but they’ll also feast on frogs, lizards, snakes, and fruit as well as young deer, another overly abundant mammal.

As long as coyotes remain afraid of humans, these interesting mammals should not become a problem. Instead, they will continue to serve as a vital part of the food web.

### Further Reading

- “Fieldbook of Illinois Mammals” by Donald F. Hoffmeister and Carl O. Mohr
- “Field Manual of Illinois Mammals” by Joyce E. Hofmann
- “Birds of Illinois” by Sheryl DeVore, Steven D. Bailey and Ted Gregory
- “Birds of Chicago” by Chris Fisher and David B. Johnson

### Fun Facts:

Coyotes pounce on small prey to kill them and use their fast legs to run after the larger prey.

A coyote can run 40 miles per hour.

Coyotes are especially active on nights with a full moon.

Many shorebirds migrate farther than any other species. The least sandpiper, one of the species seen at the plant, may fly 2,000 to 3,000 miles one way from its northeastern Canadian breeding grounds to its eastern Brazil wintering site each year, making the return trip in fall.

# The Rare Ones: a Dragonfly, a Frog and a Snake

## Lemont Water Reclamation Plant

Walking along a former settling pond within the grounds of the Lemont Water Reclamation Plant in summer, Craig Stettner sees a two-inch long, slender black dragonfly with a bouncy flight and clear wings. He knows immediately from its appearance and behavior that it's the federally endangered Hine's emerald dragonfly, one of the rarest in the United States.

With hip waders on, Stettner tallies the species on his notebook as he slowly meanders through a mucky, wet meadow atop a limestone bedrock. This is enticing habitat for the Hine's emerald as well as a host of other dragonflies, frogs, and snakes.

The Lemont Water Reclamation Plant is surrounded by vegetation, gravel walkways, and several ponds, all within District property. The District has also created a restored prairie on the property, which harbors native plants and snakes.

Just beyond the plant confines lies the Illinois and Michigan Canal and the Chicago Sanitary and Ship Canal as well as the Des Plaines River and several protected forest preserves—all this contiguous habitat increases the chances of seeing diverse and interesting species.

### Magical Pond

The meadow where Stettner cataloged a variety of dragonflies is a former settling pond with scattered pockets of water and vegetation.

Mosquitoes ensconced within the wet areas make good meals for the emergent dragonflies including the widow skimmer and a female blue dasher Stettner found.

Different species of dragonflies emerge into adulthood at different times during spring and summer. On an early July day, several species had likely just turned into adults and were hiding in the grasses to rest and then emerging to grab food to give them the energy to reproduce. Soon the adult males would be staking out reproductive territories in the nearby bodies of water on the property.



*Ruby meadowhawk dragonfly*

The female lays the eggs on a plant near water or right over the water. The eggs hatch into nymphs, which look like miniature creatures from outer space. They have no wings and live in the water growing and eating. Some nymphs overwinter in the frozen water. There they await spring to crawl onto a plant where they shed their final skin and become an adult dragonfly.

The Hine's emerald dragonfly nymph can take up to four years to become an adult. The adult has large emerald green eyes and thorax, decorated with two bright yellow stripes.

It's especially attracted to spring-fed seepages over limestone



*Hines emerald dragonfly*

Lemont WRP	
Plant Area:	21.5 acres
Where is it?	Lemont, IL
Public Access?	Special arrangements required
The Lemont WRP provides wastewater treatment for approximately 17,600 residents in a service area of 20.9 square miles.	

bedrock. The loss of this kind of habitat has caused populations of Hine’s emeralds to decline. Near the Lemont plant is the Waterfall Glen Forest Preserve, where these dragonflies have been known to breed.

## Frogs a Calling

While Stettner does his work in the heat of a sunny day when dragonflies are most active, the scientist documenting frogs has to come out in the evening – that’s when the amphibians start singing. Frog songs aren’t necessarily melodic, and frogs really don’t say “ribbit.” Some of them make grunting calls.

But one rare frog makes a sound as if two rocks were being hit together—and it’s this frog that Rob Carmichael discovered while imitating their sounds near the same pool where the dragonfly was found.

He used a hand-held clicker that created the ticking sound a cricket frog makes—and he heard their response loud and clear. This frog species has neither been seen, nor heard, in Lake or Cook County since before 1980.

Don’t expect to see this frog even if you’re standing close to a chorus of them. It’s only about as big as a child’s thumb and stays hidden in vegetation and moisture. If you do see one, you’ll notice a brownish or greenish animal with colorful patterns.

The cricket frog is one of the last to start calling in the spring. The male’s throat expands as it shouts to females to come on over. Competing males, however, should stay away.



*Northern cricket frog*

Females will lay about 50 eggs on aquatic vegetation and in about four days, the tadpoles emerge. These tiny creatures eat algae and microscopic animals in the water and grow slowly. They barely reach adulthood in time to close up shop for the winter. Cricket frogs likely spend the winter buried in muck below the frost line.

## Snakes Alive

There’s good snake habitat here, too, and Carmichael has the data to prove it. To get an accurate picture of the population of snakes in an area, he places cover boards in strategic places. These well-weathered, ¼-inch thick, two-foot by three-foot wooden boards serve as a place for snakes to go on hot days when they need to regulate their temperatures.

Once the boards are placed, the scientist comes back the next day, then lifts them up to see what’s underneath. On one occasion, Carmichael found a recently hatched eastern milk snake. It was a mere five inches long.



*Eastern milk snake*

It’s possible that the adult milk snake laid her eggs underneath that board – they will lay them in rotting logs or tree stumps as well. The adults grow to nearly three feet long and grayish-tan with dark spots.

Milk snakes eat mammals, birds, bird eggs, reptiles, frogs, and fish, and in turn become prey for raptors and large mammals. As with other snakes, the milk snake’s biggest predator is the automobile. Many get killed while crossing roads – the greater an area of vegetation and habitat, the better for a snake.

## Smooth and Green

Carmichael also placed coverboards in the restored prairies on the site. That's where he discovered a smooth green snake, a rare find. This species, whose numbers are declining in the Chicago area, prefers open areas without a lot of shrubs—including somewhat wet prairies. It's 14 to 20 inches long and is one solid color—green. It's definitely a handsome snake.

The Lincoln Park Zoo has been working with a local forest preserve district to create habitat for the smooth green snakes. Young are raised at the zoo and then released into the wild. Smooth green snakes eat crickets, grasshoppers, spiders, beetles, and other critters that can easily be found in prairies. They find their food through smell, sight, and ground vibrations.

There's a lot of natural life beyond the confines of the treatment plant – the rarest of the rare – from a dragonfly to a frog to a smooth green snake, all of which have found a home on the grounds of the Lemont Water Reclamation plant.

### Further Reading

- “Field Guide to Amphibians and Reptiles of Illinois” by Christopher A. Phillips, Ronald A. Brandon and Edward O. Moll, Illinois Natural History Survey
- “Dragonflies through Binoculars” by Sidney w. Dunkle
- Butterflies and Dragonflies of Illinois: Web site: [www.illinoisbutterflies.com](http://www.illinoisbutterflies.com)
- “Damselflies of the Northeast” by E. Lam
- “Damselflies of the North Woods” by B. DuBois

### Fun Facts:

While flying through the air, dragonflies twist their heads to help them spot insects. Then they grab the insects out of the air with their legs, then transfer the prey to their powerful jaws.

The eastern milk snake gets its name from the erroneous belief that it sucks milk from cow's udders .

The eastern milk snake can live to be 21 years old.

The tiny cricket frog, just a mere 2-inches long, can jump 6 feet into the air.

Dragonflies and damselflies have been flying around for more than 300 million years.

# Birds of Different Feathers

## Stony Island Solids Drying Area

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Resonating from Deadstick Pond on an early June day at dusk comes the guttural croak of a Black-crowned night-heron. It is one of two state-endangered birds and 106 avian species that have called portions of the Stony Island Solid Drying Area their home at different times of the year. Indeed, at least one-fourth of all the species of birds seen in the state have stopped at Stony Island to rest, feed, and raise young.

Deadstick Pond is just north of the Calumet River, which flows on the south side of Stony Island Solids Drying Area. Surrounding the pond and the drying area are trees and shrubs, which attract a different suite of birds from the wetlands.

To find all these birds requires surveying birds on the property in summer, spring and fall. But that means dealing with mucky hikes on wet spring days, pesky mosquitoes on summer mornings, and cold winds at the end of autumn. The researcher tallies number of species and number of individuals while walking a straight line through the property.

Identifying the birds requires a keen ear and keen eyes, plus years of experience watching birds in the wild.

Starting in early spring, researchers go out to listen for the return of wetland breeders and migrants.

At dusk or dawn is when the wetland birds start their choruses. A sora, a type of rail, whinnies like a horse. A pied-billed grebe gives a maniacal laughter. The green heron utters a medium-pitched croak.

The sora will likely move on to a different wetland or even farther north to breed. But the night-heron has found a stand of non-native phragmites in which to build its nest.

It's an odd-looking bird— stout with a white underbelly, a bluish back, a black crown, and a black line through its deep red-orange eyes. Juveniles have brown streaks and lack the clean look of an adult. It stands about two feet tall.

On the edges of the pond, the night-herons begin their courtship – bowing, stretching, and bobbing their heads as well as clapping their bills. They resemble penguins as they rock from foot to foot. Once a mate has been chosen, the adults build nests with twigs and line them with roots and grasses. Night-herons nest communally in what's called a rookery.

They actively feed at night, catching insects, worms, fish, lizards, bird eggs, mice, and even ducklings.

Not too many black-crowned night-heron rookeries are left in the state, but several of the District properties along waterways continue to attract these birds.

Also hanging around are more common wading birds including great blue herons. These waders eat frogs and fish, among other critters. Fish require clean water and as the number of these gilled creatures has grown, so too has the population of wading birds.



*Black-crowned night-heron*

### Stony Island Solids Drying Area

Site Area:	195 acres
Drying Area:	75 acres, paved
Where is it?	Bordered by Stony Island Avenue, 122 <sup>nd</sup> Street, the Calumet River, and the N&W Railroad.
Public Access?	There are public areas surrounding the gated property with good bird watching opportunities. Special arrangements required for WRP access.

While night-herons are busy courting and laying eggs in May, small songbirds including warblers, grosbeaks, orioles, and tanagers pause to rest and eat insects at the Stony Island Solids Drying Area during migration.

On a mid-May day, the cottonwoods and box elders along the pond can be decorated with warblers. Listening is especially important since the warblers are good at hiding atop a leaf grabbing a caterpillar.

“Pleased to pleased to meetcha,” a warbler sings. Chestnut-sided warbler. Heard, not seen, but countable. “Sweet. Sweet. Sweeter than sweet.” A yellow warbler. Heard, not seen, but countable.



Wood duck

Sometimes though, the researcher has to point binoculars to the tops of trees and catch glimpses of patterns that enable them to identify the bird – the yellow body and blue wings of the blue-winged warbler, for example, or the fanning out of a red and black tail by the American redstart.

By early June the migrants have left and the breeding birds are well into tending their young, some young night-herons are even out to learn to catch their own food, while some warblers like the yellow warbler remain to build a nest in a shrub.

As summer fades, the ducks begin to return – blue-winged teal first, followed by wood ducks. In early September, it’s not uncommon to see 50 or more wood ducks in the pond, the males showing off their spectacular colors of green, red, and yellow.

Following the blue-winged teal and wood ducks come gadwall, northern shovelers, and other ducks. On Oct. 23, bird researchers counted 82 gadwall and 242 mallards, plus smaller numbers of northern pintails and redhead ducks, which really do have red heads. These species are called dabbling ducks because they dabble at the bottom of ponds for vegetation. Some of them will stick their tails up in the air while searching for food.

This island, surrounded by vegetation and water and located near other natural areas, promises to offer respite for birds for years to come, as long as the water stays clean.

## Further Reading

- “Birds of Illinois” by Sheryl DeVore, Steven D. Bailey and Gregory Kennedy
- “Birds of Chicago” by Chris Fisher and David B. Johnson

### Fun Facts:

During spring and fall, every little patch of greenery is important for migrating songbirds such as warblers, tanagers, and orioles. Birds need these green spaces amid the surrounding buildings and parking lots in which to rest and find food that lurks within the leaves. Every District property surveyed has some green space that provides respite for birds during migration.

Different types of birds migrate through Illinois at different times. The ducks, for example, come early and leave late, as long as there’s open water. Other birds like insect-eating warblers wait until April and May to come through the state and leave before the last insect dies off in autumn.

# Red Damselfs

## Gloria Alitto Majewski Reservoir

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The eastern red damselfly is a picky creature. It prefers spring-fed water in which to lay its eggs. And this damselfly found just what it needs close to one of the world’s largest airports, O’Hare International.

Near the airport is a District-owned reservoir, known as the Gloria Alitto Majewski Reservoir—and it is on District-owned property surrounding the reservoir where Craig Stettner discovered 126 adult eastern red damselflies feeding, mating, and laying eggs.

As airplanes roared over head, the delicate flying machines hovered over a spring-fed, sedge meadow marsh. The eastern red damselfly male has a black-tipped red abdomen, females are brown.

You can tell when a damselfly or dragonfly is mating because of the unusual way they join abdomens creating a loop. They can stay in this position for up to half an hour.

You have to be at the right place and at the right time to find different damselfly and dragonfly species. They’re adults for only a few weeks. Most of their time is spent underwater as nymphs.

The nymphs only come to the surface when they are ready to emerge as adults. When they are ready, they crawl out of the water up reed stems. They then undergo a rapid final change into an adult. Some damselfly and dragonfly species can take two, three, or more years to develop from egg to adult.

They must be able to develop and fly off quickly before they are eaten by another animal, and so they usually emerge out of their old skin, within just two hours.

They are very pale when they first emerge, and it takes a few days before their bright colors develop fully.

Clean water is important to successful reproduction of damselflies – plus they like areas where there’s plenty of vegetation around the water upon which they can lay their eggs.

The pond on the south end of the site transitioned into a good-sized marsh. While it contains water year-round, it does not appear to support a large fish population, which makes it especially desirable to damselflies as well as dragonflies. That’s because fish would eat their eggs and the nymphs. The area just adjacent to the marsh made a wet transition into dry land, which offers yet another reproductive opportunity for these carnivores.

The weaker flying damselflies in particular need wetland areas which are close together so that they can find food and a mate in time to breed before they die.

Lucky for the eastern red damselfly, the Gloria Alitto Majewski region has just the right habitat for them to live, mate, eat, and grow.



*Eastern red damselflies*

### Gloria Alitto Majewski Reservoir

Site Area:	94 acres
Where is it?	Elk Grove Township, IL
Public Access?	Special arrangements required

The Gloria Alitto Majewski Reservoir provides retention capacity for 343 million gallons of stormwater.

## Further Reading

- Butterflies and Dragonflies of Illinois: Web site:  
[WWW.ILLINOISBUTTERFLIES.COM](http://WWW.ILLINOISBUTTERFLIES.COM)
- “Damselflies of the Northeast” by E. Lam
- “Damselflies of the North Woods” by B. DuBois

### Fun Fact:

Damselflies and dragonflies eat multitudes of mosquitoes. Without these insects, there would be even more mosquitoes in Chicagoland.

# Bigger is Better

## St. Michael Reservoir

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Bobolink. Yellow rail. Henslow's sparrow. Bullfrog. Green frog. Northern leopard frog. Short-tailed shrew. Masked shrew. Painted turtle. Spiny softshell turtle. Band-winged meadowhawk. Spotted skimmer. Small bedstraw. Great waterdock. Red-spotted purple.

Thanks to diverse habitats on a large site, there's room for all of these species, and more— some of them which are rare and declining—at the St. Michael Reservoir.

This expansive meandering reservoir contains various habitat including open water, marshes with thick vegetation, streams, meadows, fields, and forest.

Each of the scientists documenting species here found a rare animal or plant to marvel about. It's a place anyone would love to wander and explore.

### Bobolinks Thriving

Sam Burckhardt explored the grassy fields adjacent to the large reservoir during his research and heard the unmistakable rollicking song of the rare and beautiful bobolink. It's one of North America's fastest declining songbirds. This robin-sized bird looks like it's wearing a backward tuxedo, with black on its chest and white on its back. The lemon yellow on its hind neck completes the package. To attract mates and deter other males, it flies on the wing giving its tinkling song.

Burckhardt counted 67 adult and young bobolink at the end of June – there could be as many as 100 adult and young at St. Michael in one year.

When this bird returns from South America to northern Illinois in spring, it flies over a grassland singing and displaying. Hidden within the grasslands are the camouflaged, brownish females. They will lay their eggs in a cup-shaped nest built in a shallow depression.

The bobolink is losing its habitat throughout its range. During the breeding season, mowing practices have also caused the decline of grassland birds including the bobolinks – young that are still in the nest can get destroyed if mowing is done too early.

These species include the savannah sparrow, which likes shorter grasses and the Henslow's sparrow, which likes a little taller, wetter grasses. This mosaic of wet, medium-wet, and dry grasslands provides habitat for varying needs of breeding birds.

In a wet meadow—an observer even spotted the rare yellow rail in spring as it was migrating north to its breeding grounds. This is one of the rarest birds ever to be seen in Illinois.

#### St. Michael Reservoir

Site Area: 215 acres

Where is it? South side of West Algonquin Road between North Roselle Road and Palmer Drive, Schaumburg, IL

Public Access? Yes

The St. Michael Reservoir provides retention capacity for 133 million gallons of stormwater.



Bobolink

## Unseen Predators

Scurrying beneath these avian creatures are two kinds of shrews rarely seen by humans—the masked and the short-tailed.

Shrews look like mice but have velvety fur and pointed noses. They look like they have no ears, which is quite opposite from mice who have Mickey Mouse-type ears.

Shrews might be tiny, but they are still quite scary. Their saliva contains a toxin that immobilizes its prey so it can stash it for later eating. If some of its saliva gets on a human, it can be a painful experience.

Shrews eat all sorts of things—worms, snails, insects, slugs as well as small rodents and even snakes.

Shrews spend their time scurrying through grassy tunnels or through leaf litter. They can't see very well, so they use their whiskers and sense of smell to find their way around. They even use a type of echolocation, just as bats do.

The masked shrew prefers a bit wetter spot than the short-tailed, so there's plenty of room for both at this site.

## Multitude of Frogs and Turtles

St. Michael Reservoir also holds enough diverse habitat to provide space for several different frog species. The bullfrog is the big bully frog of the wetlands – it's the largest of all native frogs in Illinois. It gives out its low jug-o-rum call on warm summer evenings.

The bullfrog could make a tasty meal out of the smaller northern leopard frog, but luckily there's enough habitat for both to live at St. Michael.

In fact, the northern leopard frog needs several kinds of habitats for all its life stages – it breeds in slow moving or still water along streams and wetlands. That's where you can hear the low rattle which sounds like a small motor boat engine.

Each female can lay up to 3,000 eggs in a large mass of jelly in the water. The eggs hatch into tadpoles within 10 to 20 days and become adults in early August. At that time, they migrate to more permanent bodies of water – the reservoir itself.

This medium-sized frog gets its name from the dark spots on its backs and legs. The leopard frog will eat just about anything it can fit in its mouth, sitting still and waiting for prey to happen by. It will eat beetles, ants, flies, worms, smaller frogs, even young birds and garter snakes. Researchers also found green frogs at St. Michael. This frog makes a sound like a banjo being plucked.

The numbers of leopard, green, and other frog species have been declining worldwide. It's difficult to know why, but scientists think it's a combination of global warming and pollution.

Frogs are often documented by scientists at dusk by listening to their songs. But finding turtles requires a stealthier technique – placing aquatic turtle traps in strategic spots.

A team of researchers placed cone-shaped traps covered with netting along the banks of streams and open water to trap turtles. To make it even more enticing, the researchers put sardines inside. They then placed the traps in the water but only partially submerged so the turtle can breathe while it waits to be discovered.

Among those discovered was the painted turtle, a common creature that nature lovers enjoy watching. Painted turtles have green shells patterned with red and black, and they love to lie on logs basking in the sun for hours.

They eat plants and animals including insects.

Painted turtles prefer shallow water but when winter comes, they look for deeper water where they can burrow in the bottom. There they absorb just enough oxygen from the water to survive the winter.

## Winged and Green Beauties

Hanging around the wetlands with the frogs and turtles were 29 species of dragonflies, the most found at any site – again because of the varied habitats. On a hot July day, Craig Stettner documented a common pond hawk, 12 spotted skimmers, and an abundance of common green darners to name a few. If you have 20-40 species of dragonflies and damselflies, the habitat is likely good.

In addition, he found the rare band-winged meadowhawk. This dragonfly has only been documented in 7 of the 102 counties in Illinois, according to the Northern Prairie Wildlife Research Center. It has a bright red abdomen that glistens in the sun.

Within the various types of wetlands, botanists also found several rare plant species including small bedstraw and great waterdock. Small bedstraw is indeed small and easily overlooked among the stands of bulrushes and sedges where it often lives. You really have to be a fine botanist to discover this little gem.

It's considered one of the rarest plants in northern Illinois, one that requires a special habitat in which to live. It's only found in about 11 counties throughout the state. It only grows up to two inches tall. In June or July, it bears three white petals that are only 1/16 of an inch across.



*Halloween pennant dragonfly*

While the bedstraw might be easy to overlook, another wetland plant found at St. Michael is not. It's the great waterdock. With a stem that shoots up to 6 feet tall, it certainly makes its presence known. It's typically found standing in water.

The small yellow-green flowers hang downward on long stalks throughout summer. Sometimes leaves toward the bottom of the plant can be two feet wide. Waterdock is not quite as rare as the small bedstraw, but it's still excellent in a botanist's mind. And it's great for butterflies. This plant attracts many caterpillars that munch on its leaves. The caterpillar of some butterflies, especially purplish coppers, appreciate a fine meal of waterdock leaves. No purplish coppers were found at St. Michael Reservoir, but the red-spotted purple was found. This native species lays its eggs on willow trees, which are often associated with wet areas.

All in all, botanists counted 162 plant species, 104 of which were native to the region.

Many plants and animals are living in these wetlands for now, but the habitat is becoming degraded as purple loosestrife, a non-native plant begins to take over.

It grows a flimsy mass of plants that doesn't offer much to wildlife. The introduction of a certain species of beetle to lands in the Chicago area overgrown with purple loosestrife has shown promising results.

Phragmites is another non-native plant taking over. Selectively, herbiciding this plant might keep its numbers in check. Plus mowing practices can often help keep invasive greenery from taking over the native plants.

## Further Reading

- “Plants of the Chicago Region” by Floyd Swink and Gerould Wilhelm
- Illinois Native Plant Guide Web site:  
[WWW.IL.NRCS.USDA.GOV/TECHNICAL/PLANTS/NPG/](http://WWW.IL.NRCS.USDA.GOV/TECHNICAL/PLANTS/NPG/)
- “Birds of Illinois” By Sheryl DeVore, Steven D. Bailey and Ted Gregory
- “Birds of Chicago” by Chris Fisher and David B. Johnson
- “Field Guide to Amphibians and Reptiles of Illinois” by Christopher A. Phillips, Ronald A. Brandon and Edward O. Moll, Illinois Natural History Survey
- “Dragonflies through Binoculars” by Sidney w. Dunkle
- Butterflies and Dragonflies of Illinois: Web site:  
[WWW.ILLINOISBUTTERFLIES.COM](http://WWW.ILLINOISBUTTERFLIES.COM)
- “Fieldbook of Illinois Mammals” by Donald F. Hoffmeister and Carl O. Mohr
- “Field Manual of Illinois Mammals” by Joyce E. Hofmann

### Fun Facts:

Masked shrews and short-tailed shrews can eat their entire body weight in a day. If that were true of humans, a 200 pound man would have to eat equivalent of 800 quarter pounders.

The bullfrog is native species to Eastern North America, but it has been introduced to the western part of the United States.

If you get close enough to a masked shrew, you can see teeth that are dipped in red. It resembles blood, but it's actually a pigment of color.

The root of great waterdock was used by Native Americans for medicinal purposes, including as a breath freshener.

Bedstraw may have gotten its name from European settlers who apparently used the plant to stuff in mattresses to make them softer.

Bobolinks regularly fly 5,000 miles south for winter.

The sex of nearly all turtle species is determined by the temperature when the eggs are developing. In some species, warmer eggs are typically female, while the cooler eggs hatch as males.

# At Water's Edge

## Sidestream Elevated Pool Aeration Station no. 1

The edge of a body of water, such as a river or canal, can provide quality habitat for a variety of critters – and the cleaner the water, the better it is for them.

The District's aeration stations add oxygen to the water before releasing it in the river – and that makes the water cleaner and more attractive to a host of species that researchers found here along the river, along back canals, and in marshy areas.

Three long-legged birds, all rare in the state, arrived at different times to snatch frogs, crayfish, and other delights. One of them, the yellow-crowned night-heron, is especially rare. It's endangered in the state and more common in the southern part of Illinois compared with the north.

Researcher Walter Marcisz also saw numbers of state-endangered black-crowned night-herons feeding along the shores, and a single state-endangered little blue heron.



*Little blue heron*

It is a great place for these birds to forage because it's very close to where they have nested. In fact, these three species have built nests just 500 meters northwest of the site in what's known as Heron Pond.

They are colonial nesters – choosing to raise young in close quarters, possibly as a way to keep each other safe. They need plenty of food when the young hatch and cannot find it just at their nesting spot. They need to go elsewhere and the clean water at the aeration station is a perfect spot for them. That's because they eat fish and fish need clean water.

While the waders are feeding along the river and nearby canals, a reptile is cruising the waterways fishing as well.

The dark brown to tan creature has dark bands along its body and can grow nearly as long as a man can grow tall. It's the northern water snake and it has a varied diet – fish, frogs, worms, leeches, salamanders, even small birds and small mammals, which it swallows whole. In turn, this snake will get eaten by foxes, snapping turtles, and other snakes.

SEPA 1	
Site Area:	20 acres
Where is it?	North side of the Calumet River at Torrence Avenue in Chicago, IL
Public Access?	Yes

Scientist Rob Carmichael said the site hosts an impressive population of northern water snakes, which he discovered through observation and laying cover boards. These well-weathered, wooden boards serve as a place for snakes to go on hot days when they need to regulate their temperatures.



*Northern water snake*

Once the boards are placed, the scientist comes back the next day, then lifts them up to see what's underneath.

Interestingly, the water snake has a penchant for an introduced species of fish called the round goby – this snake may be able to teach researchers about the fish and its habits – and how to keep its population in check.

There's not only food for the water snake but also rocks along the waterway edges where it can either hide or bask in the sun. You

might also find a northern water snake basking on a tree in the sun, its long body curled around the branch.

The rocky shoreline also serves as a place for these snakes to go come winter. Like all snakes, they slip into what's called a hibernacula, a dark, hidden place where they can spend the winter dozing.

The northern water snake is not venomous, but it can be scary when it's disturbed. If you pick one up it will bite you over and over, defecate, and release a musky odor. The saliva contains ingredients that could cause more bleeding—it's best to observe this snake from a distance.

This snake has also recently been observed along the limestone banks or in the waters of the Chicago Sanitary and Ship Canal. It's another sign of the presence of fish and clean water.

**Fun Fact:**

The northern water snake bears live young in summer. Most other snakes in Illinois, such as the rare smooth green snake found at the Lemont Water Reclamation Plant, lay eggs that hatch into young snakes.

## Further Reading

- "Field Guide to Amphibians and Reptiles of Illinois" by Christopher A. Phillips, Ronald A. Brandon and Edward O. Moll, Illinois Natural History Survey
- "Birds of Illinois" by Sheryl DeVore, Steven D. Bailey and Ted Gregory
- "Birds of Chicago" by Chris Fisher and David B. Johnson

# An Electric Pole: A Perfect Spot to Raise a Family

What do you do with an old electric pole dating back to 1907 on the site of an aeration station? Leave it up there – you never know what creature will come to build a nest on top of it.

But a state-endangered bird? That’s right. The osprey, a fish-eating bird which rarely breeds in Illinois, found the electric pole at Sidestream Elevated Pool Aeration Station number five (SEPA 5) owned by the District a perfect place to build a nest.

Osprey like to have a 360-degree view of all things around them when raising young, and this pole provided that view.

An osprey is a big bird, nearly as large as an eagle. With its wings spread, the osprey measures nearly six feet in width. When it flies, it holds its wings with a slight crook.

The osprey, like the fish-eating bald eagle, declined dramatically during the era when DDT was used as a pesticide. The chemical caused thinning of eggs, which meant they would break before it was time to hatch. After DDT was banned in the United States, the osprey as well as the bald eagle slowly made a comeback.

The osprey wasn’t confirmed nesting in Illinois for at least 50 years. Now with cleaner water and the banning of DDT, the osprey is returning. At least seven pairs of osprey have been confirmed nesting in the Chicago area, including the one at the District’s aeration station.

SEPA 5	
Site Area:	6 acres
Where is it?	North side of the Cal-Sag Channel at Route 83 in Lemont, IL
Public Access?	Special arrangements required

To help the osprey, humans began erecting platforms atop telephone poles to give the bird the view they command as well as keep the raccoons at bay. The nesting platforms worked, but the osprey at the aeration station found an old electric pole works just as well.

Osprey are faithful to their nesting sites, and this particular osprey pair should return year after year to the old pole to raise young.



Osprey on nest

## Further Reading

- “Birds of Illinois” by Sheryl DeVore, Steven D. Bailey and Gregory Kennedy
- “Birds of Chicago” by Chris Fisher and David B. Johnson

### Fun Facts:

The osprey grabs fish with its feet – barbs help it keep hold while it flies to a perch to enjoy its meal.

Once in a while an osprey catches a fish that is just too heavy for it to handle. After several attempts to fly away with the fish, the osprey may have to drop its would-be meal.

# A Vole of a Different Kind

## Tunnel and Reservoir Plan Mainstream Pumping Station

The District adopted the Tunnel and Reservoir Plan (TARP) in 1972 to protect Lake Michigan – the region’s drinking water supply - from raw sewage pollution, improve water quality of area rivers and streams, and provide an outlet for floodwaters to reduce street and basement sewage backup flooding.



Meadow vole

Since then this plan, which involves deep tunnels to capture water and pumping stations to direct the water, has won major awards. In fact, the U.S. Environmental Protection Agency named the Mainstream Pumping Station as one of the nation’s top Clean Water Act success stories.

Within the grassy areas on district property here, an unusual mammal species lives. It’s what Amy Sullivan found when she set out snap traps to sample the mammal species.

Sullivan and other mammalogists found meadow voles at several of the other District properties, so she was expecting meadow voles here, too. Instead, she found a prairie vole, the only one discovered during

mammal surveys on District property.

Prior to settlement by Europeans, prairie voles were quite common in the Midwestern prairies. But as prairie habitat declined, so did the number of prairie voles.

Telling a prairie vole apart from a meadow vole can be tricky. The prairie vole has dark orange fur, while the meadow vole’s fur is darker brown. In the lab, however, mammalogists can clinch the identity by looking at the molars of the voles in hand. Prairie voles have four enamel triangles on the upper molar while meadow voles have six.

Voies are often called meadow mice. Measuring about four inches from the head to the end of the body, they can resemble mice. But their behavior is quite different.

Voies create runways through the vegetation, chewing on plants to keep the pathway open. They’ll also dig burrows with several tunnels leading to them. All these are to store food and raise young. Prairie voles cannot survive just on grass, they need stems, leaves, roots, and seeds of grasses and forbs that grow in prairies.

Another interesting fact about this species is that it is one of few rodents that mate for life. In fact, fewer than five percent of all mammals mate for life.

The male and female prairie voles share a nest, and the male helps to keep the young warm and safe. The young may stay with the parents when they start another litter and help with the care of their siblings. Why this strategy works for this particular rodent remains a mystery.

### Further Reading

- “Fieldbook of Illinois Mammals” by Donald F. Hoffmeister and Carl O. Mohr
- “Field Manual of Illinois Mammals” by Joyce E. Hofmann

#### Mainstream Pumping Station

Site Area:	52 acres
Where is it?	Hodgkins, IL
Public Access?	Special arrangements required

#### Fun Facts:

Prairie voles and meadow voles eat the flowers and stems of penstemon, a native prairie plant.

Prairie voles use a variety of techniques to deter intruders; from lunging to boxing to wrestling.

## The Future

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Because the land on District property has been altered from its native state, fewer plants and animals were found during the survey than are found in certain protected natural areas in the Chicago area. Still, the discovery of so many different plants and animals on District property is promising. And with restoration and appropriate land-management, the District can enhance and improve the habitats.

This diversity also means that there is habitat right now that is providing homes to rare creatures and plants. Consider the bobolinks at St. Michael Reservoir that return to breed on the property every year. These birds are losing habitat every year both on their breeding and wintering grounds. St. Michael Reservoir continues to provide space for them.

Also consider the prairie remnant at Hanover Park Water Reclamation Plant. Hundreds of plants our ancestors saw are still growing in one small spot, providing beauty to humans and food to animals including butterflies, birds and small mammals.

At the Lemont Water Reclamation Plant, one of the rarest dragonflies in North America stopped by.



*Yellow coneflower*

These discoveries are all signs that good habitats still exist on District-owned land. The District recognizes the valuable natural resources within its boundaries and is committed to being good stewards of their land. To that end, they are developing a comprehensive land use policy and are looking for partners in the community to help restore and manage their natural properties.

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# Photo Credits

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