

# A Habitat Guide for Chicago Land Owners: Enhancing Your Property for Birds

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*Prepared by the Department of Environment in  
association with Audubon Chicago Region.*



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# A Habitat Guide for Chicago Land Owners and Managers: Enhancing Your Property for Birds

## INTRODUCTION

Almost any property in the city can be made inviting for birds, and there are many good reasons for doing so. This guide provides suggestions to landowners about how to design and manage your land to make it a better place for beneficial and threatened birds.

When we think of saving wildlife, we often think of the tropics or other faraway places. Yet there are birds right here in our city that need our help. More than 300 species of birds can be found in Chicago, making use of many small and large pieces of habitat tucked into the fabric of the city. Waves of beautiful and rare migrants pass through our city in April, May, September and October. And each year, almost 100 different bird species, some endangered or threatened, raise their young in the city's various habitats.

To use this guide, start by reviewing "Part I: Recommendations for All Properties." Then, identify the type(s) of habitat found on your land and read the sections of this guide that pertain to that habitat.

Bird habitat can be large or small, natural or landscaped, formal or informal. By following a few simple principles, any landscape can provide opportunities for birds to find food and shelter. The landowner and visitors alike will enjoy both the satisfaction of helping birds to safely migrate and raise young, as well as the rewarding experience of contact with nature in our urban lives.

Improving bird habitat can bring additional benefits. Good bird habitat is often appealing to butterflies and other wildlife. The simple landscape guidelines that enhance habitat for birds can also increase the value of your property and the quality of life in our city. Some of these guidelines will also help to reduce the impacts of nuisance species such as Canada Geese.

This guide offers land management guidelines based on specific land types. To use this guide, start by reviewing the first two sections "Enhancing Your Property for Migratory Birds" and "Enhancing Your Property for Nesting Birds in Chicago's Built Environment" and then review the habitat guidelines for your land's specific habitat type(s). Be sure to check the additional resources in the back of the document which contain detailed information for various habitats. The City of Chicago Department of Environment and the National Audubon Society Chicago Region Office are pleased to assist you with evaluating options for habitat enhancement. Please contact them at: [birds@cityofchicago.org](mailto:birds@cityofchicago.org) or [chicagowildthings@yahoo.com](mailto:chicagowildthings@yahoo.com).



Bird-friendly habitat at Northerly Island  
Photo Credit: Chicago Park District



Northern Parula Warbler

# Enhancing Your Property for Migratory Birds in Chicago's Green Spaces

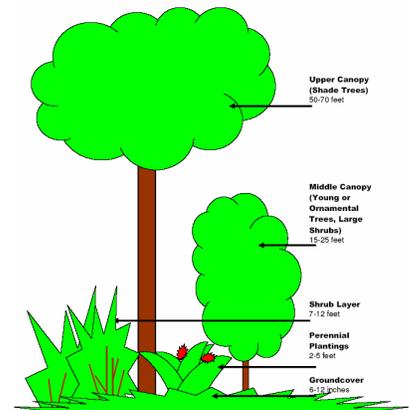
Over 150 species of land birds migrate through Chicago during the fall and the spring, including scores of migratory songbirds that need habitat to feed and rest. These birds have flown long distances and arrive hungry and exhausted. Any Chicago green space can host migratory birds by providing appropriate habitat such as;

- Residential backyards,
- Landscaped campuses,
- Calumet Region,
- Chicago River and canals,
- Forest preserves,
- Cemeteries,
- Golf courses,
- Lake Michigan lakefront,
- Parks, community gardens, and schoolyards.

## DESIGN GUIDELINES FOR MIGRANT BIRD HABITAT

### *In Yards and Landscaped Areas:*

- Install layered plantings that will provide food and shelter for migrant birds. Layers include canopy, under-story, shrub, ground cover.
- Provide a diversity of food sources in spring and fall such as nectar-producing flowers, seeds, berries, and a variety of plant species that attract tiny insects. Oaks, elms, hawthorns and hickories are particularly well-used by migrants.
- Allow dead vegetation to stand over the winter where possible.
- Incorporate native plant species.
- Plant fragrant, white, yellow, or lavender flowers to attract insects, and red tube-shaped flowers for hummingbirds.
- Include a year-round water supply. The best water sources have a gradually sloping, planted edge.
- Use bird-safe design for any structures, paying special attention to windows and doors, to prevent birds from colliding with glass.



Schematic of a layered planting  
Photo Credit: Chicago Department of Environment

### *In Existing Natural Areas:*

- Restore and maintain native ecosystems. Grassland, shrub land, savanna, woodland, and wetland are all valuable for migrant land birds.
- Retain or restore woody vegetation along banks of ponds, lakes and rivers.

## MANAGEMENT GUIDELINES FOR ALL CHICAGO SITES

- Time renovation, clean-up and maintenance to reduce habitat disturbance in spring and fall.
- Reduce or eliminate use of insecticides.
- Retain some standing dead and fallen trees for habitat.
- Keep cats indoors to prevent predation on birds.
- Cover trash cans to prevent attracting opossums, raccoons and other nest predators.
- Revise mowing and pruning practices to minimize disturbance during migratory season, March 17- June 7 and August 20-November 15, and, if possible, delay the first mowing to after June 1.

## CASE STUDY: MCCORMICK PLACE BIRD SANCTUARY

In the 1990's there was a big, fairly lifeless lawn atop the underground parking garage at McCormick Place Lakefront Center. Now, most spring and fall days will find hundreds of migratory birds there – anything from a Blue Grosbeak to a Long-eared Owl to a Red-headed Woodpecker to scores of native sparrows. The area was transformed through the addition of 11 acres of prairie above and next to the garage, clusters of bird-friendly species of trees and shrubs such as oak and chokeberries around the perimeter, and a low fountain surrounded by sloping rocks and water-loving plants. Tall, aggressive grass and flower species were omitted from the prairie mix because they often create dense stands that birds do not use. The Chicago Park District, Audubon Chicago Region, and the Metropolitan Pier and Exposition Authority partnered to create this bird sanctuary, which received support from the U.S. Fish and Wildlife Service and the U.S.D.A. Forest Service.

# Enhancing Your Property for Nesting Birds in Chicago's Built Environment

Chicago is home to many important bird species that nest on bridges, roofs, ledges, chimneys and other structures in the built environment.

- Commercial, industrial and residential buildings
- Lakefront parks
- Large interior parks
- Schoolyards



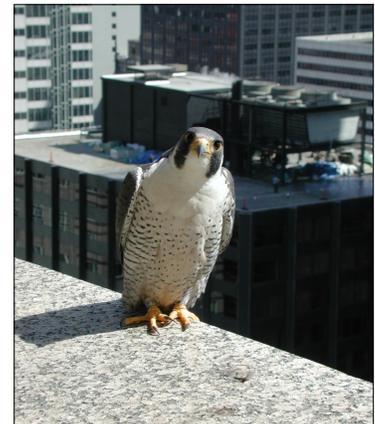
Killdeer may nest in gravel patches at the edges of parking lots or on flat roofs.

## IDENTIFYING BUILT HABITAT AREAS

The built environment can be an important nesting and hunting ground for certain native Illinois birds that nest in Chicago's built environment. Rooftops, bridges, ledges, and chimneys that are relatively undisturbed may house the nests of Peregrine Falcons, kestrels, swallows and swifts.

## DESIGN AND MANAGEMENT GUIDELINES FOR THE BUILT ENVIRONMENT

- Construct chimneys or other nesting structures on buildings for chimney swifts, or protect existing structures used for nesting.
- Install vegetated roofs that include a gravel area and a highly reflective surface for nighthawks.
- Build bird boxes in lakefront and large interior parks for Purple Martins, Kestrels and Screech Owls.
- Build platforms in lakefront parks or along other waterways for Osprey.
- Do not power wash bridges during June and July to avoid injuring breeding swallows.
- Keep cats indoors.
- Use bird-safe designs for all structures. (See Resources: City of Chicago 2007, *Bird-Safe Building: Design Guide for New Construction and Renovation*).
- Participate in the Lights Out Program. (See Case Study: Downtown Skyscraper).
- Where Peregrine Falcons are nesting, do not work on buildings from April through July, including inspecting façades.



A Peregrine Falcon on a building's ledge in Chicago's loop  
Where Peregrine Falcons are nesting, do not work on buildings from April through July.  
Photo Credit: Mary Hennen.

## NATIVE ILLINOIS BIRDS THAT NEST IN CHICAGO'S BUILT ENVIRONMENT:

Peregrine Falcon; American Kestrel; Common Nighthawk; Chimney Swift; Barn Swallow; Rough-winged Swallow; Tree Swallow; Cliff Swallow; Purple Martin

## CASE STUDY: DOWNTOWN SKYSCRAPER

77 W. Wacker Dr. is one of the 30 buildings that participate in the Lights Out Program, a partnership between the City of Chicago, the Building Owners and Managers Association of Chicago, the Audubon Society and the Field Museum. Buildings cooperate in the program by dimming their decorative lights at night for five months of the year. Researchers at the Field Museum estimate that the program saves the lives of tens of thousands of migratory birds every year. According to Myrna Coronado, General Manager at 77 W. Wacker Dr., "At first, our tenants were a little skeptical and laughed off the idea, but I assured them the cause was important. Now tenants are bringing in injured birds they find on the sidewalk! We take enormous pride in knowing that we can make a difference in the world."

# Grasslands with Shrubs

Chicago has areas of grasslands, thickets and shrubs in:

- Northerly Island
- Van Vliissingen Prairie
- The southeast end of Wolf Lake
- Harborside Golf Course
- Under power lines
- Most forest preserves and large parks



Bobolink Meadow at Jackson Park  
Photo Credit: Chicago Park District

## IDENTIFYING A GRASSLAND WITH SHRUBS HABITAT

Grasslands and prairies are historically the most dominant habitat in Illinois. These areas are typified by large expanses of open land dominated by native grasses interspersed with wildflowers and shrubs. Because grassland birds nest on the ground, they require expanses of 50 acres or more to protect them from predators. With rare exceptions, grassland birds no longer nest in Chicago. However, clumps of shrubs in a grassy field are used by shrubland birds for nesting. Native shrublands are a rare and important component of Chicago’s biodiversity, and natural areas managers are beginning to think about how to maintain this transitory habitat.

## DESIGN AND MANAGEMENT GUIDELINES FOR GRASSLANDS WITH SHRUBS

### *Neighbors*

- Keep cats indoors.
- Cover trash cans to prevent attracting opossums, raccoons and other nest predators.

### *Land Managers*

- For maximum conservation value, establish or maintain large, native-grass\*-dominated fields with scattered pockets of shrubby vegetation. \*Native-grasses, not to be confused with turf-grass.
- Cut and remove invasive herbaceous and woody species.
- In sites used by shrubland birds of concern, carefully phase transition from invasive to native shrubby vegetation.
- Establish an appropriate disturbance cycle of controlled burning or mowing based on the ecological restoration plan and utilizing staggered and phased management to allow for habitat use.
- Limit management activities, especially mowing, during nesting season

## NATIVE ILLINOIS BIRDS THAT NEST IN CHICAGO’S GRASSLANDS WITH SHRUBS HABITAT:

Willow Flycatcher; Brown Thrasher; Field Sparrow; Yellow-breasted Chat; Bell’s Vireo; Blue-winged Warbler

### CASE STUDY: THE SOUTH END OF EGGARS WOODS

This site is a good example of the way that shrubland birds will sometimes use a site that has little other conservation value. This section of a Cook County Forest Preserve sits on fill dumped into Wolf Lake. Scattered shrubs and small trees, native and non-native, dot its weedy meadow. Shrubland birds such as the Yellow-breasted Chat, Brown Thrasher, Orchard Oriole, Yellow-billed Cuckoo and three other species of conservation concern have moved in. As the trees grow up and the shrubs become denser, the habitat for these birds will go away. Part of this site is under Com Ed power lines. Since power lines need to be periodically cleared of vegetation, they can be the perfect habitat for these birds. Com Ed times its management activities here so as not to disturb the nests and clears trees and tall vegetation to promote low-growing shrubland habitat.



Bell's Vireo

# Savannas

Chicago has existing savanna and landscaped areas that could function as savanna in:

- Cook County Forest Preserves: North Branch River, DesPlaines River, Powderhorn, and Beaubien Woods
- Larger cemeteries such as Rosehill Cemetary
- Golf courses
- Large Parks – Lincoln, Garfield, Douglas and Humboldt Parks

## IDENTIFYING A SAVANNA HABITAT

Grasslands that are punctuated by shrubs and trees are classified as *savannas*. Ample sun reaches the ground which is covered by grasses and wildflowers or shrubs. Birds swoop from branches and forage in the ground cover.



Eastern Bluebird in a Chicago savanna

## DESIGN AND MANAGEMENT GUIDELINES FOR SAVANNAS

### *Neighbors*

- Keep cats indoors.
- Cover trash cans and refrain from ground feeding as it attracts raccoons, opossums, crows and other nest predators.
- Use as little insecticide as possible. These chemicals can often enter the food chain and harm birds.

### *Land Managers*

- Open the canopy by removing invasive trees.
- Leave dead trees standing wherever possible.
- Remove invasive ground cover.
- Restore groundcover to native species as much as possible.
- Create large naturalized areas featuring native plant species.
- In the late fall or early spring, use controlled burns to maintain native groundcover.
- Retain or replace shrubs if shrubland birds listed below are present in June and July.

## NATIVE ILLINOIS BIRDS THAT NEST IN CHICAGO’S SAVANNA HABITATS:

*Savanna with Shrubs:* Black-billed Cuckoo; Eastern Towhee; Blue-winged Warbler; Yellow-breasted Chat; Indigo Bunting; Orchard Oriole; American Goldfinch

*Savanna without Shrubs:* Red-tailed Hawk; Red-headed Woodpecker; Northern Flicker; Eastern Kingbird; Eastern Bluebird; Baltimore Oriole

## CASE STUDY: ROSEHILL CEMETERY



Landscaping at Rosehill Cemetery  
Photo Credit: Rosehill Cemetery

Rosehill Cemetery is a good example of a property that is actively managing for bird habitat while maintaining its primary functions. Stands of oak and other trees scattered throughout the property function as bird habitat. Bird-friendly practices include planting and promoting native species, retaining existing stands of trees, and reducing the amount of pesticides and herbicides used on the landscape. A low-mow mix of various grass species is used in place of turf grass, providing more habitat for birds to feed upon and nest in.

## Woodlands

Chicago has existing woodland or areas that could function as woodland in:

- Cook County Forest Preserves such as Eggers, Dan Ryan and Beaubien Woods, North Branch and Des Plaines Rivers
- Golf Courses
- Cemeteries



Woodland  
Photo Credit: Chicago Wilderness

### IDENTIFYING A WOODLAND HABITAT

Woodlands have scattered trees creating 50-80% canopy cover. One of the most distinctive and diverse community types in Chicago's native landscapes, open woodlands have oak trees as a major component and include diverse and rich layers of grasses and wildflowers or shrubs.

### DESIGN AND MANAGEMENT GUIDELINES FOR WOODLANDS



Indigo Bunting

#### *Neighbors*

- Keep cats indoors.
- Use bird-safe design for any structures to prevent birds from colliding with glass.
- Cover trash cans and refrain from spreading food on the ground or providing excessive food that can also feed raccoons, opossums, crows and other nest predators.
- Remove invasive shrubby vegetation.

#### *Land Managers*

- Restore light conditions adequate for oak reproduction by removing invasive trees and shrubs.
- Plant native woodland species to restore a diverse under-story of grasses, flowers and shrubs.
- Manage through appropriate methods such as controlled burning where allowed by permit, and mowing to encourage native plantings.
- Retain or replace shrubs if shrubland birds listed below are present in June and July.

### NATIVE ILLINOIS BIRDS THAT NEST IN CHICAGO'S WOODLAND HABITAT:

*With Shrubs:* Blue-winged Warbler; Eastern Towhee; Black-billed Cuckoo; Yellow-billed Cuckoo; Cooper's Hawk; Red-headed Woodpecker; Great Crested Flycatcher; Eastern Wood-Pewee; Cedar Waxwing; Blue-gray Gnatcatcher; Rose-breasted Grosbeak; Indigo Bunting; Baltimore Oriole

*Without Shrubs:* Cooper's Hawk; Red-headed Woodpecker; Great Crested Flycatcher; Eastern Wood-Pewee; Cedar Waxwing; Blue-gray Gnatcatcher; Rose-breasted Grosbeak; Indigo Bunting; Baltimore Oriole

### CASE STUDY: JARVIS MIGRATORY BIRD SANCTUARY

The Jarvis Bird Sanctuary is located east of Lake Shore Drive at 3600 N. Addison. This area supports many native wildflowers including several species of trillium, goldenrods and asters, as well as native sedges and grasses. The oak and hackberry trees provide great habitat and cover for migrating birds. Great efforts are made to control the spread of invasive species such as Purple Loosestrife, Garlic Mustard, European Buckthorn and other aggressive woody saplings. The site has greatly benefited from the dedication and hard work of the community volunteers of the Nature Stewardship Program at the Chicago Park District. Volunteers spend many hours collecting and dispersing native seed, removing trash, and clearing away invasive plants. The Chicago Park District and the Stewards also plant numerous native trees and shrubs that provide a variety of food sources throughout the season for the birds. The bird sanctuary itself is fenced off to protect the habitat, but the Chicago Park District has built a wildlife viewing platform and provided informational signage to support public interaction with the wildlife that inhabits this area.

## Wetlands

Chicago has existing wetland or areas that host wetland birds such as:

- The Calumet Region
- Park Lagoons
- The Chicago Center for Green Technology bioswale and rain gardens
- Ponds, such as North Pond



Common Moorhen

### IDENTIFYING A WETLAND HABITAT

The Chicago landscape is generally poorly-drained with many types of wetlands. Some wetlands are submerged year round, some are wet in early spring and summer and dry by August, and in others, the soil is saturated but there is little standing water. Soil and water conditions heavily influence vegetation, which in turn determines which birds use the habitat.

### DESIGN AND MANAGEMENT GUIDELINES FOR WETLANDS

- Limit the amount of chemical fertilizers and pesticides used adjacent to rivers, ponds and marshes.
- Remove invasive species such as Reed Canary Grass and Purple Loosestrife. Plant deep-rooted native wetland plants that retain and absorb water.
- Control water levels to meet habitat needs. For example, remove blockages to outflow structures or regulate excessive stream flow after rainfall to prevent flooding of habitat.
- Remove drainage tiles to restore natural drainage patterns.
- Seek opportunities to create and expand nearby wetlands (especially clusters of varying depth).
- As weather conditions vary from year to year, the extent and type of wetland habitat will also fluctuate. Complexes of wetlands of varying depths and types will better serve nesting birds in both drought years and rainy years.

### NATIVE ILLINOIS BIRDS THAT NEST IN CHICAGO'S WETLAND HABITAT:

*With Shrubs:* Green Heron; Black-crowned Night-Heron; Willow Flycatcher

*Without Shrubs:* Pied-billed Grebe; American Bittern; Least Bittern; Blue-winged Teal; Ruddy Duck; Virginia Rail; Sora, Common Moorhen; American Coot; Marsh Wren; Yellow-headed Blackbird

### CASE STUDY: THE CALUMET REGION OF CHICAGO



Wetland in Calumet Region of Chicago  
Photo Credit: Chicago Department of Environment

The extensive wetlands in the Calumet region of southeast Chicago are treasured for their critical habitat. With less than nine percent of Illinois wetlands remaining, native flora and fauna are hard-pressed to find suitable conditions for survival. Many state-listed endangered and threatened birds use the Calumet wetlands. Hegewisch Marsh is one of Calumet's wetlands and consists of 130 acres including emergent marsh, wet savanna, forested wetland, and a black willow marsh. Various mechanisms are being used by the City of Chicago to protect the Calumet area's wetlands, including removing invasive species, planting native species, studying and managing hydrology, and controlled burning. Trails are set back to avoid disturbance, and ecological restoration work does not occur in nesting areas from April 1 to August 15.

# Shorelines and Mudflats

Chicago has shoreline and mudflat-like habitat, used by migrant shorebirds, in:

- The Lake Michigan shoreline, especially Montrose Beach, South Shore Cultural Center, Rainbow Beach
- The Calumet Region
- Sewage lagoons



This section of Montrose Beach is not groomed and provides an important food source for shorebirds like these Sanderlings.



Solitary Sandpiper

## IDENTIFYING SHORELINE AND MUDFLAT-LIKE HABITAT

Shoreline and mudflat-like habitats are typically found on wider and less-disturbed beaches along Lake Michigan, and are used by dozens of species of shorebirds during migration.

## DESIGN AND MANAGEMENT GUIDELINES FOR THE SHORELINE AND MUDFLAT-LIKE HABITATS

- Plant or maintain native species on beaches to control erosion, create a vegetative buffer, and provide food.
- Refrain from applying pesticides, and fertilizers near wetlands where runoff could contaminate the water and be harmful to birds.
- Control invasive vegetation threats on lakefront beaches and inland wetlands.
- Where possible, use water control structures to draw down water levels and create mudflats in May, and from July through October.
- Locate dog beaches on sites that are not prime shorebird habitat.
- Reduce disturbance to birds due to recreational pressures by separating shoreline uses.
- Leave sections of the beach ungroomed to promote a build-up of algae and other natural detritus that support a food source for shorebirds.

## SPECIES OF CONSERVATION CONCERN THAT USE CHICAGO'S SHORELINE AND MUDFLAT-LIKE HABITAT DURING MIGRATION:

Greater Yellowlegs; Whimbrel; Least Sandpiper; Buff-breasted Sandpiper; Short-billed Dowitcher; Wilson's Phalarope; Black-bellied Plover; American Golden-Plover; Killdeer; Solitary Sandpiper; Hudsonian Godwit; Ruddy Turnstone; Red Knot; Sanderling; Semipalmated Sandpiper; Western Sandpiper; Dunlin; Wilson's Snipe; Northern Phalarope

## CASE STUDY: MONTROSE BEACH DUNES

The Montrose Beach Dunes are located on the east end of the largest beach in Chicago. The dunes started forming in the 1990's when a few successful plants established themselves, grew and started trapping the migrating beach sand. Over the years, the Chicago Park District has fenced off the area to reduce traffic and eliminate dog access to the site. The area supports five state-listed plant species and is a stopover point to the federally-endangered Piping Plover. The Park District and its dedicated volunteers manage the spread of invasive plants, such as Reed Canary Grass, Lyme Grass, and cottonwoods. With a state-funded grant, the Park District has also undertaken the task of managing the spread of the invasive Sand-bar Willow. In order to stabilize sand movement, encourage the spread of non-invasive, native vegetation, and enhance the site for bird habitat, the Park District has planted thousands of native grasses and forbs and will be planting native shrubs in the fall of 2007. The site is now part of the Illinois Natural Areas Inventory which recognizes the highest quality natural sites in the state of Illinois.



Montrose Beach Dunes  
Photo Credit: Chicago Park District

## Lakes and Rivers

Chicago's lakes, lagoons and rivers include:

- Lake Michigan
- The Calumet Region lakes and rivers
- Park lagoons and ponds
- The wooded banks of the Chicago River and related channels and canals
- Chicago River turning basins



Green Heron

### IDENTIFYING A LAKE OR RIVER HABITAT

Any land that abuts a lake or river is likely to be important for bird habitat. Aquatic birds use lakes for resting and feeding year round, while wooded river corridors are often used by migratory landbirds as well as nesting herons. In these systems, preserving the quality of water is just as important as maintaining vegetative habitat for nesting and food.

### DESIGN AND MANAGEMENT GUIDELINES FOR LAKES AND RIVERS

- Create a buffer from speedboat disturbance around traditional waterfowl concentration areas.
- Improve trash collection at beaches, and inform recreational users such as fishermen and beachgoers about the dangers of carelessly discarded fishing line and plastic six-pack holders which can entangle and injure or kill wildlife.
- Prevent pollution and clean up toxic residues.
- Install erosion prevention devices or plant native species to buffer the shoreline.
- Restore or establish wooded habitats in appropriate places along riverbanks, using the suggestions for woodlands.
- Build platforms in lakefront parks or along other waterways for osprey.
- Encourage measures to prevent additional invasive species from further disrupting Lake Michigan's ecosystem.

### NATIVE ILLINOIS BIRDS THAT NEST IN CHICAGO'S LAKE AND RIVER HABITATS:

Green Heron; Black-crowned Night-Heron.

#### CASE STUDY: LABAGH WOODS

In the northwest portion of the city, the narrow band of vegetation along the Chicago River opens up into floodplain forest and restored woodlands. LaBagh Woods is near the southernmost point of that forest. Birds migrating over miles of city blocks are drawn to this refuge, and they fill the small preserve in springtime. This site is most used by warblers: tiny, colorful insect-eating birds that fill the city in May.

Thirty-seven species of warblers, some of them rare and declining in population, have been observed along the riverbanks in LaBagh Woods. There, they feast on small insects that live in or near the water. The biggest concentrations are found on windy, chilly days when birds avoid the lakefront. The combination of wooded riverbanks, sizeable habitat and lack of stopover sites to the south combine to make LaBagh Woods a critical refuge for springtime migrants.



Black-crowned Night-Heron, North Pond, Lincoln Park  
Photo Credit: Chicago Audubon Society

## RESOURCES

This resource list will help the land owner to implement the suggestions made in this guide. All web resource links were active as of June 13, 2007. The City of Chicago Department of Environment and the National Audubon Society Chicago Region Office are pleased to assist you with evaluating options for habitat enhancement. Please contact them at: [birds@cityofchicago.org](mailto:birds@cityofchicago.org) or [chicagowildthings@yahoo.com](mailto:chicagowildthings@yahoo.com).

### **MIGRATORY BIRD HABITAT FOR ALL CHICAGO GREENSPACES:**

Chicago Center for Green Technology. See seasonal schedule of classes at:  
<http://www.cityofchicago.org/Environment/GreenTech>

Chicago Park District and Friends of the Park. *Chicago Park District's Lakefront Habitat Guidelines*.  
<http://www.fotp.org/downloads/BirdHabitatGuidelines.pdf> (Can apply to all landscaped situations such as golf courses, cemeteries and parks.)

Ewert, D.N., G.J. Soulliere, R.D. Macleod, M.C. Shieldcastle, P.G. Rodewald, E. Fujimura, J. Shieldcastle, & R.J. Gates. (2006). *Migratory Bird Stopover Site Attributes in the Western Lake Erie Basin: Final Report to The George Gund Foundation*.  
[http://www.nature.org/wherewework/northamerica/greatlakes/files/gund\\_stopover\\_rpt\\_2006apr20\\_final.pdf](http://www.nature.org/wherewework/northamerica/greatlakes/files/gund_stopover_rpt_2006apr20_final.pdf). (This report describes characteristics of critical migratory habitat in the Great Lakes. It provides excellent guidance for duck, shorebird and landbird migrant habitat.)

National Audubon Society, Inc. (2005). *Audubon at Home*.  
[http://www.audubon.org/bird/at\\_home/index.html](http://www.audubon.org/bird/at_home/index.html). (Guidance for backyards, landscaped campuses, and small parks)

National Wildlife Federation (2007). *Why Garden For Wildlife?*  
<http://www.nwf.org/backyardwildlifehabitat/> (Guidance for backyards, landscaped campuses, and small parks)

Pollock, J. (2000). *Birds of the Windy City: Discover over 300 species right in Chicago*.  
[http://www.ci.chi.il.us/Environment/BirdMigration/pdf/Birds\\_Of\\_The\\_Windy\\_City.pdf](http://www.ci.chi.il.us/Environment/BirdMigration/pdf/Birds_Of_The_Windy_City.pdf). (Provides information about the city's bird life, as well as habitat guidelines for yards.)

Pollock, J. & Glennemeier, K. (Audubon Chicago Region), & Stotz D. (Field Museum) (2004). *Migrant Bird Habitat Study*. [http://www.bcnbirds.org/greenpapers\\_files/migranthabitatstudy.pdf](http://www.bcnbirds.org/greenpapers_files/migranthabitatstudy.pdf). (A study of local plantings frequently used by foraging migrants. This study reinforces the need for effective management and describes local plantings frequently used by foraging migrants.)

Schilling, T., & Williamson, C. (2005). *The Lake Michigan Flyway: Chicagoland's Role in the Miracle of Bird Migration: A Green Paper by the Bird Conservation Network*.  
[http://www.bcnbirds.org/greenpapers\\_files/GPflyway.html](http://www.bcnbirds.org/greenpapers_files/GPflyway.html). (Provides guidelines and recommendations for the lakefront.)

United States Environmental Protection Agency (2007). *Green Landscaping: Greenacres*.  
<http://epa.gov/greenacres/>. (The Greenacres program has information about creating or improving local native habitat in landscaped areas.)

## **NESTING BIRD HABITAT FOR CHICAGO'S BUILT ENVIRONMENT:**

City of Chicago. *Bird-Safe Building: Design Guide for New Construction and Renovation.*, <http://www.cityofchicago.org/Environment>. See Publications.

City of Chicago. *Recommendations for Reducing Bird Collisions with Existing Buildings.* <http://www.cityofchicago.org/Environment>. See Publications.

City of Toronto. Green Development Standard. *Bird-Friendly Development Guidelines*. March 2007. [http://www.toronto.ca/lightsout/pdf/development\\_guidelines.pdf](http://www.toronto.ca/lightsout/pdf/development_guidelines.pdf)

The Field Museum (2007). *Monitoring Endangered Peregrines in Chicago.* <http://www.fieldmuseum.org/expeditions/mary2/about.html>.

Lights Out Chicago. <http://lightsout.audubon.org/>

New York City Audubon Society, Inc. (2007). *Bird – Safe Building Guidelines.*

The Purple Martin Society (2007). *The Purple Martin Society, NA.* <http://www.purplemartins.com/>.

Texas Parks and Wildlife (2007). *Texas Partners in Flight Chimney Swift Conservation Challenge.* [http://www.tpwd.state.tx.us/huntwild/wild/birding/pif/chimney\\_swift/](http://www.tpwd.state.tx.us/huntwild/wild/birding/pif/chimney_swift/).

## **GRASSLAND WITH SHRUB HABITAT:**

SK Robinson, EJ Heske, JD Brawn. 1997. *Factors Affecting Nesting Success of Edge and Shrubland Birds - Final Report for Federal Aid Project W-125-R.* Illinois Department of Natural Resources Springfield, Illinois. (Contains management recommendations for local habitats that are an excellent primer.)

## **SAVANNA HABITAT:**

Brawn, J. D. (2006). Effects of Restoring Oak Savannas on Bird Communities and Populations. *Conservation Biology*, 20(2), 460-469.

Packard, S., & Mutel, C. (Eds.). (1997). *The Tallgrass Restoration Handbook: For Prairies, Savannas, and Woodlands.* Washington, DC: Island Press.

## **WOODLAND HABITAT:**

See *Migrant Bird Habitat Study* in Resources for Migratory Bird Habitat for All Chicago Greenspaces.

Chicago Wilderness (2003). *Conservation of Wooded Lands in the Chicago Wilderness Region: A Model Policy.* <http://www.chicagowilderness.org/members/resources/index.cfm>. (Addresses practices for restoring wooded landscapes.)

Chicago Wilderness (2003). *Natural Fire and Controlled Burning in the Chicago Wilderness Region: A Model Policy.* <http://www.chicagowilderness.org/members/resources/index.cfm>. (Addresses practices for restoring wooded landscapes.)

**WETLAND HABITAT:**

Mitsch W., & J. G. Gosselink. (2000). *Wetlands*. New York: John Wiley and Sons Inc.

Weller, M. W. (1994). *Freshwater Marshes*. Minneapolis, MN: University of Minnesota Press.

Weller, M. W. (1999). *Wetland Birds, Habitat Resources and Conservation Implications*. New York: Cambridge University Press.

**SHORELINE AND MUDFLAT HABITAT:**

See *Migratory Bird Stopover Site Attributes in the Western Lake Erie Basin: Final Report to The George Gund Foundation* in Resources for Migratory Bird Habitat for All Chicago Greenspaces

De Szalay, Helmers, Humburg, et. al, *Upper Mississippi Valley/Great Lakes Regional Shorebird Conservation Plan*. U.S. Shorebird Conservation Plan.

<http://www.fws.gov/shorebirdplan/RegionalShorebird/downloads/UMVGL5.doc>

**LAKE AND RIVER HABITAT:**

City of Chicago. Department of Planning and Development. *Calumet Design Guidelines*. October 2003.

**PLANT LISTS:**

See *The Tallgrass Restoration Handbook: For Prairies, Savannas, and Woodlands* in Resources for Savanna Habitat.

See *Green Landscaping: Greenacres* in Resources for Savanna Habitat.

**INVASIVE SPECIES IDENTIFICATION:**

College of DuPage (2007). *Invasive Species*.

[http://www.cod.edu/Visitors/prairie/invasive\\_species.htm](http://www.cod.edu/Visitors/prairie/invasive_species.htm).

Kennay, J., & Fell, G. (Natural Land Institute) (1990). *Vegetation Management Guideline*. 2007, from <http://www.inhs.uiuc.edu/chf/outreach/VMG/VMG.html>.

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