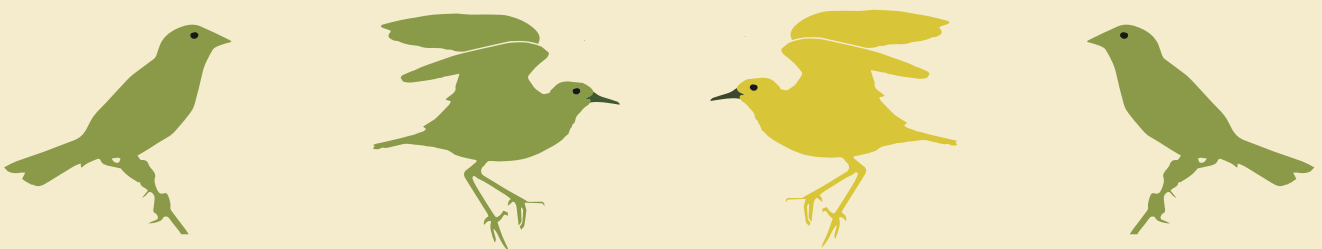
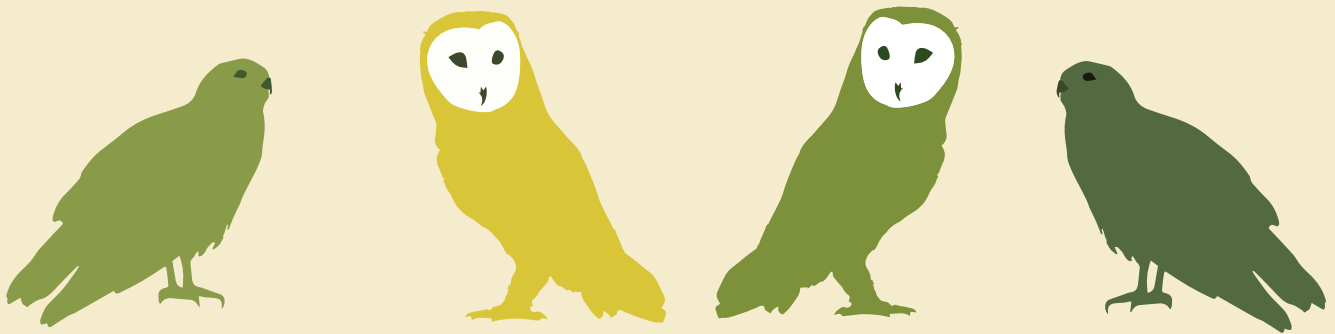




PARTNERING FOR BIRDS

A guide to birds of conservation concern, their habitats and best management practices in the Forest Preserves of Cook County



Dedication

This report uses data collected by the BCN bird monitors and birders of Cook County and describes projects implemented by staff, volunteers, partners, interns and contractors. These many efforts at different scales all contribute to conserving habitat for our birds. Taken together, it is an enormous effort driven by the vision, inspiration and innovation of many.

This report is dedicated to all of the people working to improve bird habitat in the Forest Preserves of Cook County.

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Introduction

Just 200 years ago in Cook County, wild birds flourished in unfragmented landscapes, interwoven with scattered villages, farms and settlements. Vast prairies, woodlands, wetlands and waterways provided endless variation in habitat. Today, a bird passing overhead finds only islands of suitable habitat surrounded by miles of development.

And yet, the birds still come. Although the land now supports many fewer individuals of most native species, more than 275 species still frequent the region. Despite notable losses such as the passenger pigeon, almost all the birds recorded here prior to European settlement can still be found in the county. These birds are a living inheritance. They tie the ecosystem together and enliven the landscape with color, movement and sound.

Their survival relies on our good stewardship.

Cook County's "developed" land—its neighborhoods, boulevards and city parks—supports birds, too, of course. Native species such as Canada geese, red-winged blackbirds and robins have proliferated there, successfully adapting to the conditions humans created. Greener urban landscaping increasingly welcomes other native birds as well. Peregrine falcons and kestrels now hunt from the "cliff" ledges of skyscrapers. And species not known here before European immigration, notably house sparrows and starlings, are now ubiquitous.

Still, the Forest Preserves of Cook County—the subject of this report—contain the majority of the protected natural land in and around Chicago. It is in these preserves that we still find the sweeping expanses, the unruly wet places, and the deep, quiet woods that sustain nearly the full suite of bird species that have lived here for millennia.

The resources that birds are able to find in the Forest Preserves impact their ability to survive over their entire range. For many species, the preserves are a vital breeding destination each summer. For birds migrating through, the preserves provide critical stopover habitat. For yet other, hardier birds, the preserves provide a milder climate with just enough food to survive winter.

When a bird arrives in the preserves, it must quickly be able to find food—fruits, seeds, insects, small mammals, frogs, snakes, other birds, fish, nectar. It must be able to locate water—for drinking, foraging and bathing. And it must find shelter—the right kinds of places to roost, hide and nest.

Historically, Cook County's landscape was large and varied enough to accommodate the vastly differing needs of prairie, woodland, shrubland and wetland birds, some of which are extremely specialized. Because today's preserves are relatively small, our challenge becomes to maintain all of these niches on a diminished footprint. Climate change further complicates this challenge.

Across the Forest Preserves, staff, volunteers and partners are working to restore natural lands that support full, functioning natural communities. Birds play so many crucial roles in the ecosystem that it behooves us to pay attention to them in our management decisions. They pollinate plants and transport their seeds, control insect populations, serve as food for predators, create key architecture such as sap wells and cavity nests, and warn other organisms of predators. With their mobility, they connect the pieces in ways few other organisms can.

Birds can teach us about our natural areas, too. Since birds will use a site if it meets their needs, they can often be used as indicator species. Birds of conservation concern, in particular, can signal the ecological quality of a site, though not always. And because some birds have very specific needs, they can help identify otherwise overlooked habitat types in need of preservation. Preserving habitat for one or a few species often benefits countless others.

The habitat in the Forest Preserves of Cook County (FPCC) is among the best-preserved and most diverse in the Midwest. It has long been vital to reaching state- and national-level bird conservation goals. Out of 92 Illinois Important Bird Areas statewide, 10 are in Cook County's Forest Preserves.

ILLINOIS IMPORTANT BIRD AREAS
in the Forest Preserves of Cook County

- Baker's Lake Nature Preserve
- Bartel Grassland and Bobolink Meadow Land and Water Reserve
- Bergman Slough
- Lake Calumet Area
- McGinnis Slough
- Orland Grassland Land and Water Reserve
- Paul Douglas Forest Preserve
- Plum Creek Forest Preserve
- Salt Creek Woods Nature Preserve—Bob Mann Woods
- Spring Creek Valley Forest Preserve

The FPCC's *Next Century Conservation Plan* and related *Natural and Cultural Resources Master Plan* set bold goals for the restoration of native habitat across the county. This guide seeks to augment that essential work by sharing proven ways that land managers and volunteer stewards are restoring land for sustainable use by birds, in balance with other management goals.

The recommendations in this guide are informed by the work of the Bird Conservation Network (BCN) and its 21 member organizations, other birders and bird monitors, researchers, conservation partners and the ecologists and stewards of the Forest Preserves of Cook County and the broader Chicago region.

For those who want to study this topic more closely, we encourage you to contact the steward, bird monitor or ecologist associated with the sites mentioned and to read the full studies behind these recommendations.

This guide is just a start to understanding avian conservation in the Forest Preserves of Cook County. Each natural area is unique. Conditions are always evolving, as is our ecological knowledge. One constant, though, is that we all want birds to remain a part of these landscapes. We want to be able to close our eyes and know where we are by the sound of birdsong around us.

Understanding the Maps

The five maps in this report show the distribution of Birds of Conservation Concern observed in the Forest Preserves of Cook County. The Bird Conservation Network (BCN) developed the list of Birds of Concern in the Chicago Wilderness Region to highlight species needing priority attention and management; it was last updated in 2015. The list was developed using regional compilations of species of concern in the Partners in Flight Species Assessment Database (2013), the Upper Mississippi River & Great Lakes Joint Venture's Habitat Strategies for Shorebirds, Waterfowl and Waterbirds, and the Illinois Endangered Species Protection Board's Checklist of Illinois Endangered and Threatened Animals and Plants (2015).

If a bird has been observed in a Cook County Forest Preserve during the breeding season, it is listed as a "Breeding-Season Bird" although it may not have nested and raised young in a preserve. For details on distribution, see the *Forest Preserves of Cook County Birding Checklist*.

Data used to generate these maps were entered into eBird, Cornell Lab of Ornithology's online data collection portal, by BCN bird monitors and other birders. Dots on the map indicate the number of species of concern reported to eBird for three or more of the last six years (2012–2017). For the four habitat maps, all sightings were in June (nesting season for most birds). For the migrants map, sightings occurred throughout the year. The map of migrants of conservation concern is divided into landbirds, shorebirds, wintering and migrant raptors, and waterbirds. Lists of Birds of Concern and data tables for the last 6 years and the last 13 years can be found in the appendices.

The total numbers are not adjusted for effort. At some underbirded sites that lack monitors, smaller dots may be reflective of less effort (fewer birding hours) rather than fewer birds. This is particularly true of the landbird migrants. Birders are encouraged to visit sites that they suspect may be underreported and to use eBird to record their findings. For the most part, however, birders and monitors cover and report the preserves thoroughly. Our conclusion is that the maps accurately portray priority sites.



Bobolinks do best in hundreds of acres of grassland. The Bartel Grassland-Bobolink Meadow Land and Water Reserve complex hosts the second-highest population of these birds in Illinois.

Grassland Birds

Bobolinks, meadowlarks, northern harriers—these are just a few of the iconic birds of our once-dominant and now largely vanished ecosystem, the tallgrass prairie. As intensive agriculture and development have replaced prairies, grassland bird populations have dwindled. In the past 50 years, they have become our nation's fastest-declining bird habitat group. Yet at most sites where grasslands are being managed, these birds have responded well, offering hope for recovery.

Because they nest on the ground, grassland birds need large preserves to hide and protect their nests from predators. Many will not nest in a grassland smaller than 50 or 75 acres. (50 acres is about 40 football fields.) Although different birds in this group have preferences for wetter or drier ground, sparser or denser vegetation, or certain ratios of grass to wildflowers, many species can meet these requirements in a native prairie, an overgrown Eurasian meadow or a hayfield.

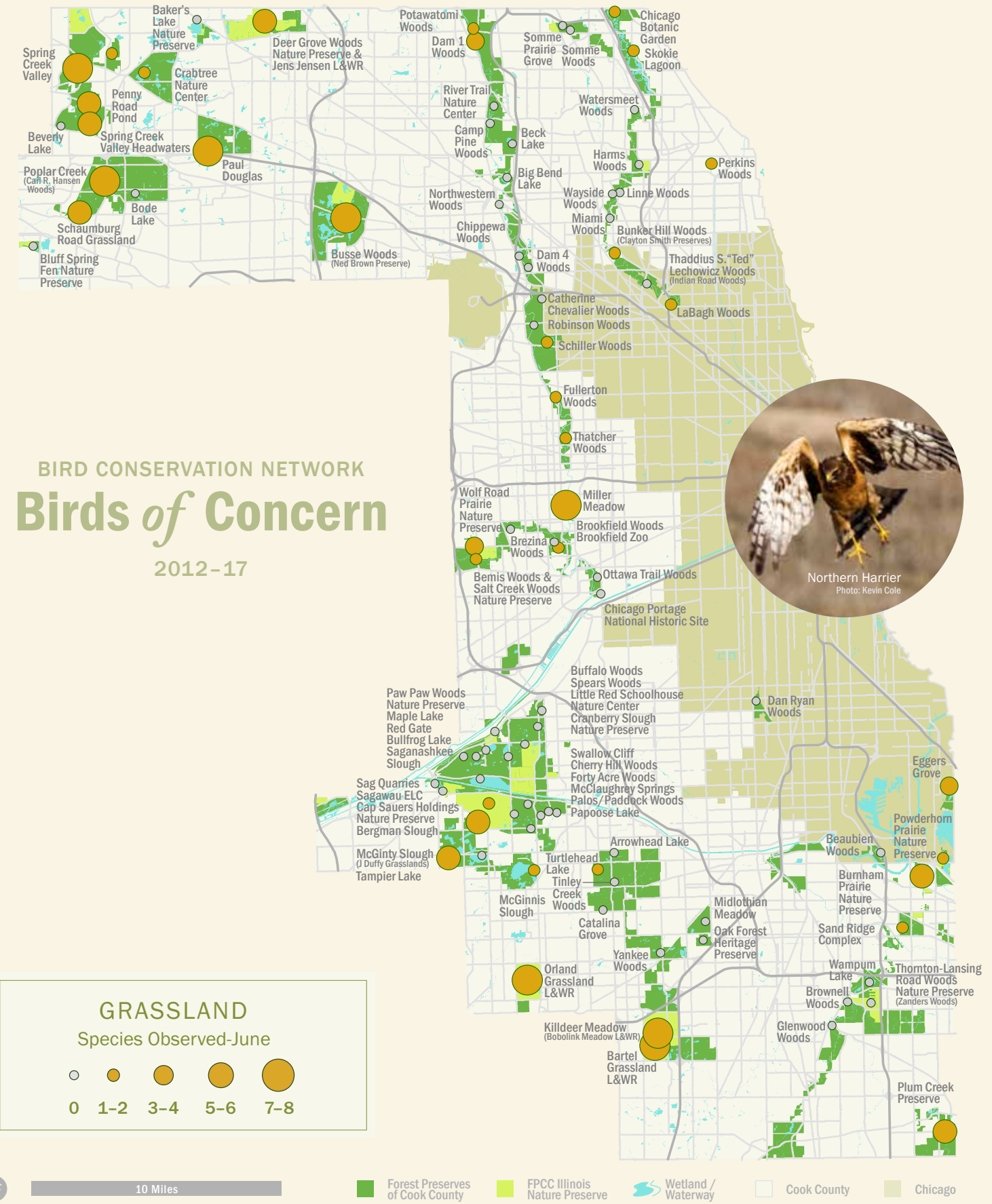
Structure is also important. Early attempts at prairie restoration were often dominated by monocultures of the tallest grasses, big bluestem and Indian grass. These dense plantings proved unappealing to most grassland birds. Now, experiments have shown that using a mix of shorter grasses (such as little bluestem and prairie dropseed) along with sedges and wildflowers is coaxing grassland birds back.

Across all FPCC land holdings, there are approximately 7,225 acres of grassland habitat, consisting of a range of compositions and management regimes. Roughly 2,000 acres, where large prairie reconstruction projects have been undertaken, are dominated by warm-season grasses.

The remainder are cool-season-grass dominant. (Most prairie grasses are warm-season, and most non-native hay and meadow species are cool-season.) Management regimes for cool-season dominant patches include conservation haying, mowing and burning. All warm-season dominant grassland patches are regularly burned with prescribed fire.

The FPCC's long-range restoration vision calls for increasing current prairie acreage by more than 500 percent, to more than 10,000 acres, by far the greatest increase of any ecosystem type. This would not only convert Eurasian meadows and cropland into native prairie, but would greatly increase overall grassland acreage available to grassland birds.

Restoring the FPCC's large grasslands requires a mix of volunteers, contractors, government and nonprofit partners, staff and interns. With the FPCC overseeing management, volunteers including Poplar Creek Prairie Stewards, Orland Grassland Volunteers, Spring Creek Stewards, Deer Grove Natural Areas Volunteers and Bartel Grassland Volunteers contribute sweat, vision and energy. Openlands, along with the US Army Corps of Engineers, has restored large prairies at Orland Grassland, Bartel Grassland-Bobolink Meadow, Deer Grove East-Jens Jensen Land and Water Reserve and Bergman Slough. National Audubon has recently developed an important new set of guidelines for this work, *Grassland Landscape Conservation Design in the Chicago Region*. Federal and state programs, and foundations such as the Gaylord and Dorothy Donnelley Foundation and the Grand Victoria Foundation, along with the FPCC, supply funding vital for these large restoration projects.



BIRDS OF CONCERN

American kestrel Bobolink Common nighthawk Dickcissel Eastern meadowlark Grasshopper sparrow
Henslow's sparrow Sedge wren Upland sandpiper

This data was submitted by birders and BCN Survey monitors through the eBird portal; it represents the number of bird species of concern observed in June for at least 3 of the last 6 years and is not adjusted for effort. Forest Preserves of Cook County 04/2018

GRASSLAND Birds of Concern

BREEDING-SEASON BIRDS

Grasshopper sparrow
Bobolink
Henslow's sparrow
American kestrel
Sedge wren
Dickcissel
Common nighthawk
Eastern meadowlark
Northern harrier

BREEDING IN ADJACENT COUNTIES

Swainson's hawk
Upland sandpiper
Barn owl (reintroduced)

MIGRANTS & WINTERING

Swainson's hawk
Rough-legged hawk
Short-eared owl
Long-eared owl
Smith's longspur



Bobolinks. Photo: Ralph Chicester

Best Conservation Practices

- To maximize grassland bird habitat, keep grasslands of 40–250 acres free of trees and shrubs by regular burning, mowing or haying.
- Grasslands larger than 250 acres can support a mosaic of grassland, shrubland and wetland birds.
- Keeping portions of a site unburned each year provides litter for birds such as the Henslow's sparrow, which use it to nest.
- Remove brush and trees to join disconnected fields into a larger habitat.
- When seeding initial plantings, emphasize short and medium grasses and wildflowers to minimize tallgrass monoculture.
- Perform conservation mowing or haying at sites that lack a burn regime. To avoid destroying bird nests, conduct these activities after August 1.
- To reestablish natural hydrological fluctuations and maximize nesting and foraging options on large grassland-wetland complexes, consider disabling drain tiles. This should be done before seeding, but after major invasives control work, which is less damaging to soils when done on drier ground.
- Carefully consider management activities such as brush and tree cutting during the nesting season (late April through July) so as not to disturb or destroy bird nests.

Success Stories

BARTEL GRASSLAND & BOBOLINK MEADOW LAND / WATER RESERVE

Since 2002, the FPCC, Openlands, the US Army Corps of Engineers and a dedicated corps of volunteers and nonprofit groups have worked to transform Bartel Grassland, a former farm in southern Cook County, into a haven for grassland birds. In 2008, the work expanded to include land just to the north, now called the Bobolink Meadow Land and Water Reserve. Partners removed seven miles of Osage orange hedgerows and 150 acres of tree plantations, disabled more than 25 miles of drain tile and seeded short native grasses.

The result: a 985-acre open prairie and wetland complex that now supports seven grassland bird species of conservation concern, including wintering northern harriers and short-eared owls, and nesting bobolinks and grassland sparrow species. The site's bobolink numbers during breeding season have doubled, from 128 in the late 1990s to 252 in 2016. The wetter environment also supports populations of wetland birds, from nesting king rails to migratory shorebirds and waterfowl.

Openlands managed both phases of the project using polluter fines and wetland mitigation funds administered through the US Army Corps of Engineers. National Audubon, Thorn Creek Audubon and the BCN are also key partners.

SPRING CREEK

To the far northwest of the county, the sprawling 4,000-acre Spring Creek Forest Preserve has become a mecca for breeding bobolinks, Henslow's sparrows, dickcissels and other species. Propelled by a burgeoning volunteer community and local partners, the FPCC began in 2003 to convert portions of the site's former agricultural land and tree plantations to native prairie habitat. Some areas were overgrown with invasive brush, while others had been kept open as harvested hayfields and row crops. As grassland patches have been cleared, connected, seeded with native grasses and wildflowers, or managed through conservation haying, bird populations have rebounded. Partners include National Audubon, Citizens for Conservation, ComEd, BCN and the Bobolink Foundation and the Spring Creek Volunteers.

Galloping Hill was one of the first areas to be restored at Spring Creek Forest Preserve. In January 2005, the FPCC mowed about 40 acres of brush there. The following January, partners removed brush fragmenting multiple openings to create a single 110-acre field. Breeding bird numbers increased dramatically, and have remained at those higher levels since. TABLE 1.

BREEDING BIRD NUMBERS			
	JUNE 04	JUNE 05	JUNE 06
Bobolink	2	5	19
Dickcissel	0	0	33
Eastern meadowlark	3	1	14
Grasshopper sparrow	0	11	14
Savannah sparrow	0	8	21
TOTAL	5	25	101

TABLE 1. Results of Woody Vegetation Removal at Galloping Hill

ORLAND GRASSLAND LAND & WATER RESERVE

In the 1990s, grassland birds were found only in a single small opening of less than 100 acres at Orland Grassland. This 960-acre former prairie was full of tree stands planted decades ago to reforest the site, which was then considered a standard conservation measure. Disabling 12 miles of drain tiles in 2009 and removing about 400 acres of tree plantations and invasive brush has opened the landscape and created wetland pockets on the rolling terrain. Now grassland birds are found over the majority of the site and migratory shorebirds and waterfowl numbers have increased. Site stewards are also nursing remnant prairie plant populations back to health. This extensive restoration project was another collaborative effort that included the FPCC, Openlands, the US Army Corps of Engineers, National Audubon, the Village of Orland Park and the Orland Grassland Volunteers.



Above: The Forest Preserves of Cook County prescribed burning of Orland Grassland, in March 2016. Photo: Joe Orchiuzzo.

Other Successes

AGRICULTURAL FIELD CONVERSION

At Bergman Slough and Crabtree Nature Center, crop fields have been converted to prairie that hosts grassland birds. The Bergman Slough restoration was spearheaded by Openlands with mitigation funds administered by the US Army Corps of Engineers.

REUSE OF DISTURBED AREAS

Miller Meadow is one of several forest preserves in which the Metropolitan Water Reclamation District excavated drop shafts for the Deep Tunnel and Reservoir Project. When the project was completed, some of the disturbed area was reclaimed as grassland and hosts nesting birds.

HAY MOWING

The FPCC contracts with local farmers to seasonally harvest hayfields on some land. Mowing begins in August, after young birds have fledged. This mutually beneficial arrangement keeps large open acreages from being overtaken by woody invasives until resources for restoration become available.

HEDGEROW REMOVAL

Taking out hedgerows between fields has a powerful multiplying effect on viable space for breeding grassland birds. At Schaumburg Road Grasslands, the Poplar Creek Prairie Stewards and FPCC crews removed 1.5 miles of hedgerows, creating a single 125-acre prairie where Henslow's and grasshopper sparrows, meadowlarks, bobolinks and other grassland birds nest.

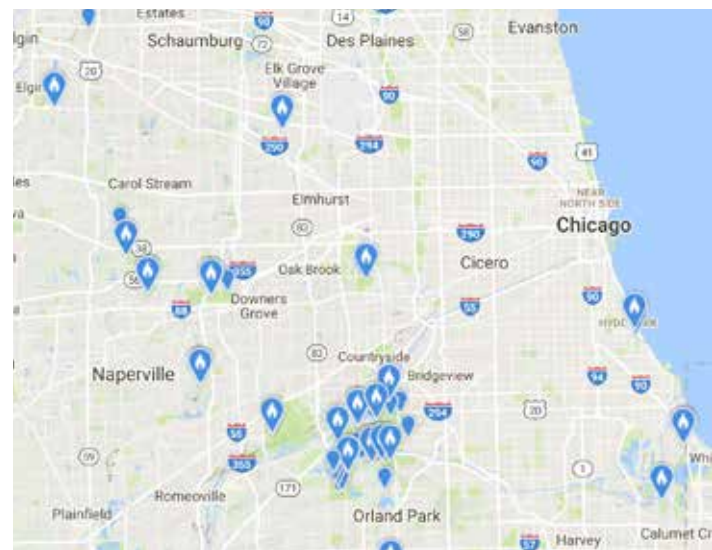


Shrubland Birds

Shrubland birds are adapted to habitats that change from year to year depending on the frequency and intensity of fires. They are flexible and opportunistic in selecting their nest locations in shrub clumps. Some prefer dense shrub clumps surrounded by grassland, some use the edges between fields and woods and others use the shrubby understory of the woodland interior.

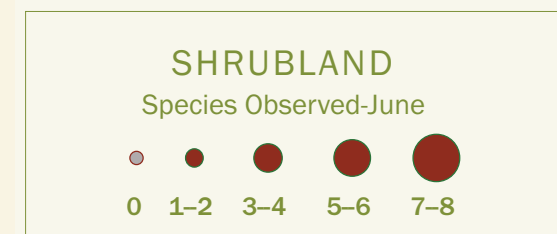
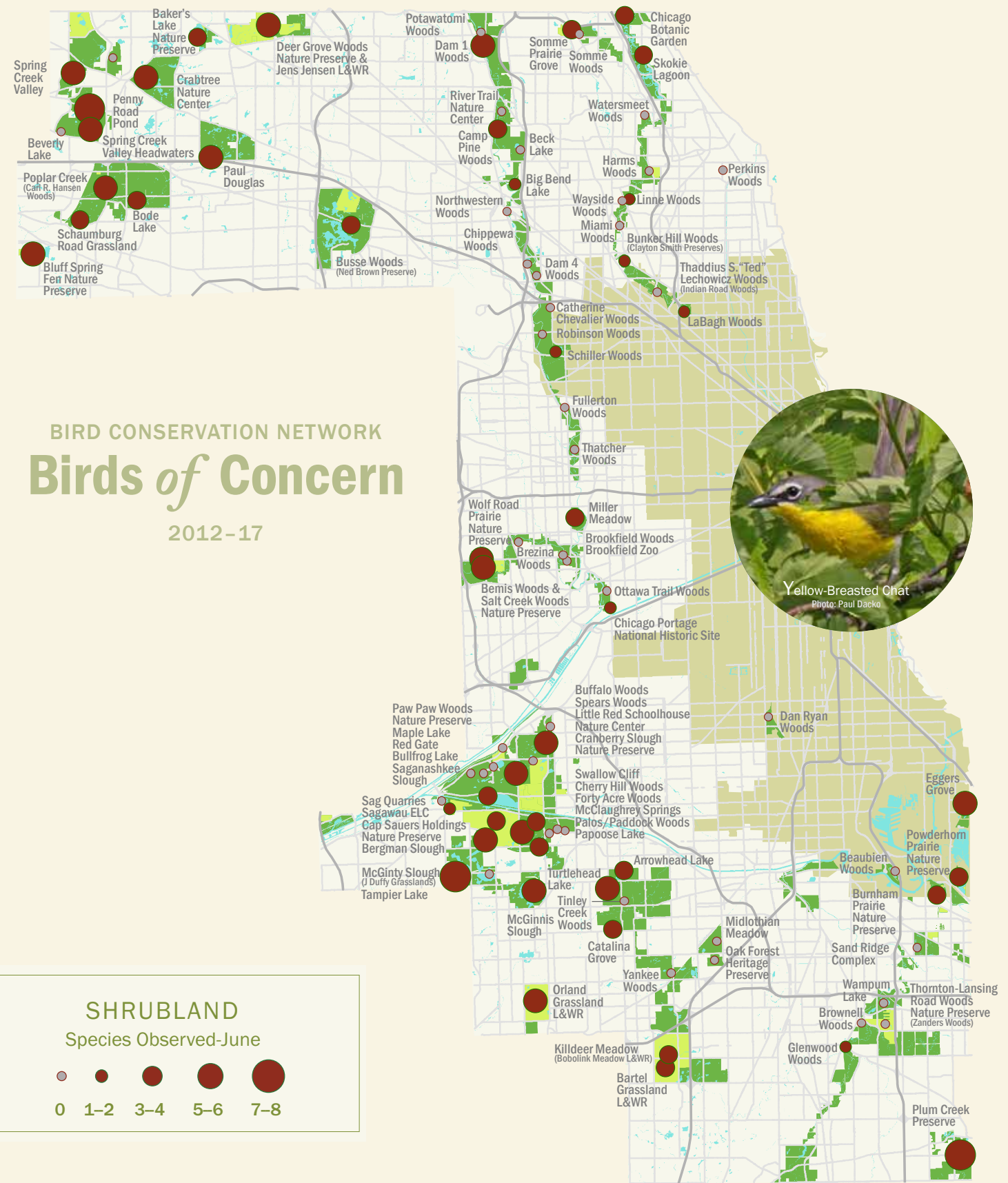
Our native shrub layer is dwindling as buckthorn, honeysuckle and other invasives spread. Deer herbivory is a serious threat to the rehabilitation of the shrub layer in many places. Numbers of shrubland birds have also decreased as grasslands have been converted to agriculture or development.

Studies have shown that birds in shrublands in the suburban Chicago area are less vulnerable to predation than those in rural shrublands (Chiavacci 2015). The Forest Preserves provide important habitat for these birds.



Blue-winged warbler sightings in Cook County reported to eBird in the 2012-2017 nesting seasons. Almost all sightings were in the Forest Preserves.

eBird is an online citizen science tool that collects birders' sightings from any place people find birds, including backyards, parks and preserves. This map shows blue-winged warbler sightings in Cook County reported to eBird in the 2012-2017 nesting seasons. All but three sightings were in forest preserves, suggesting the importance of the preserves to specific birds of conservation concern.



BIRDS OF CONCERN

Black-billed cuckoo Bell's vireo Blue-winged warbler Brown thrasher Eastern kingbird Field sparrow Loggerhead shrike
Northern bobwhite Willow flycatcher Yellow-breasted chat

This data was submitted by birders and BCN Survey monitors through the eBird portal; it represents the number of bird species of concern observed in June for at least 3 of the last 6 years and is not adjusted for effort. Forest Preserves of Cook County 04/2018

SHRUBLAND Birds of Concern

BREEDING-SEASON BIRDS

Black-billed cuckoo
 Loggerhead shrike
 (likely extirpated from
 the county)
 Northern bobwhite
 Brown thrasher
 Willow flycatcher
 Field sparrow
 Yellow-breasted chat
 Bell's vireo
 Blue-winged warbler
 Eastern kingbird

MIGRANTS

Mourning warbler
 Connecticut warbler
 Canada warbler

Best Conservation Practices

- Grasslands and woodlands can often include shrubland bird habitat areas, in shrub prairies, edges, shrubby savannas and woodland openings. Incorporate these areas into management plans where possible.
- Consider managing for shrub prairie in openings less than 35–40 acres that lack nesting grassland birds. Grassland birds are unlikely to nest in small prairies, so maintaining scattered clumps of native shrubs in the grassland will improve the bird conservation value of the site without compromising habitat for rare plants, invertebrates, reptiles, and others.
- Also consider maintaining areas of shrub prairie in grasslands larger than 250 acres, especially in moist spots.
- Other locations to consider are woodland openings and edges. Take advantage of openings left by ash trees killed by emerald ash borer.
- Preserve shrublands of varying sizes. Birds such as yellow-breasted chat may need larger shrublands—five acres or greater—while many others may use smaller shrub patches.
- In many sites native shrubs can be found, and their growth encouraged, by clearing nearby invasive shrubs.
- Due to deer herbivory or invasive brush, the shrub layer may be much diminished. Planting shrubs after clearing invasive brush can be considered if there is good ecological justification. Fenced exclosures may be needed until the shrub clumps establish.
- Younger shrubs may not survive prescribed burns and may need to be raked around while they become established.
- Shrub distribution matters. In grasslands, clumps 40–60 yards apart with 14 percent shrub coverage overall performed best in a local study (see middle treatment area in photo below).
- Carefully consider management activities such as brush and tree cutting during the nesting season (late April through July) so as not to disturb or destroy bird nests.

Success Stories

ORLAND GRASSLAND LAND & WATER RESERVE

At the 960-acre Orland Grassland, volunteers removed woody invaders that had infiltrated two longstanding patches of native shrubs and small trees. After the restoration, these shrubland patches hosted nesting yellow-breasted chats and Bell's vireos.



Above: Illustration of McGinnis Slough and mowing patterns.

MCGINNIS SLOUGH

At two sites in the Palos-Sag complex, McGinnis Slough and a shrubland at the southeast corner of LaGrange and 107th (as well as at sites in other counties), the FPCC, National Audubon and BCN tested different restoration methods on significant areas of shrubland habitat (Glennemeier 2015). At each site, dense areas of buckthorn were mowed in two different patterns of shrub clumps in an attempt to inexpensively create shrubland bird habitat in a degraded area that is not a restoration priority. The study showed that shrubland birds of concern such as brown thrasher and field sparrow preferred the shrub clumps in mowed areas to the solid brush of the control sites. Preference for the denser or sparser pattern varied between these two sites, but when all sites in the study were considered, the pattern with more patches (top middle) was preferred.

SOMME PRAIRIE GROVE

Volunteers, interns, staff and contractors have slowly reduced buckthorn and transitioned to native shrubs over four decades. Nesting birds of concern such as black-billed cuckoos, red-headed woodpeckers, willow flycatchers, brown thrashers, kingbirds, field sparrows, woodcocks and flickers now use the site.

Other Habitat Improvement Projects

MANAGEMENT FOR SHRUBS

The FPCC and volunteers have managed landscapes to feature shrubs at several sites. At Spring Creek's Bluebird Field and Steeplechase areas, copses of nonnative shrubs are gradually being converted to native shrubs to maintain habitat for the shrubland birds that already use it. The work is being done in partnership with the Spring Creek Stewards and Citizens for Conservation.

SHRUB PLANTING

Some sites have been the recipients of large-scale shrub plantings where shrubs would historically have been part of the landscape. At Miami Woods, National Audubon worked with contractors and volunteers to plant 570 viburnum, hazel, plum and other shrubs. At Jens Jensen Land and Water Reserve (also known as Deer Grove East), a restored savanna was planted with native shrubs as part of the site's restoration. These sites are being monitored for the return of shrubland birds.



The American woodcock needs a wet woods—where it uses its long bill to probe for earthworms—adjacent to a grassy opening for its courtship flights.

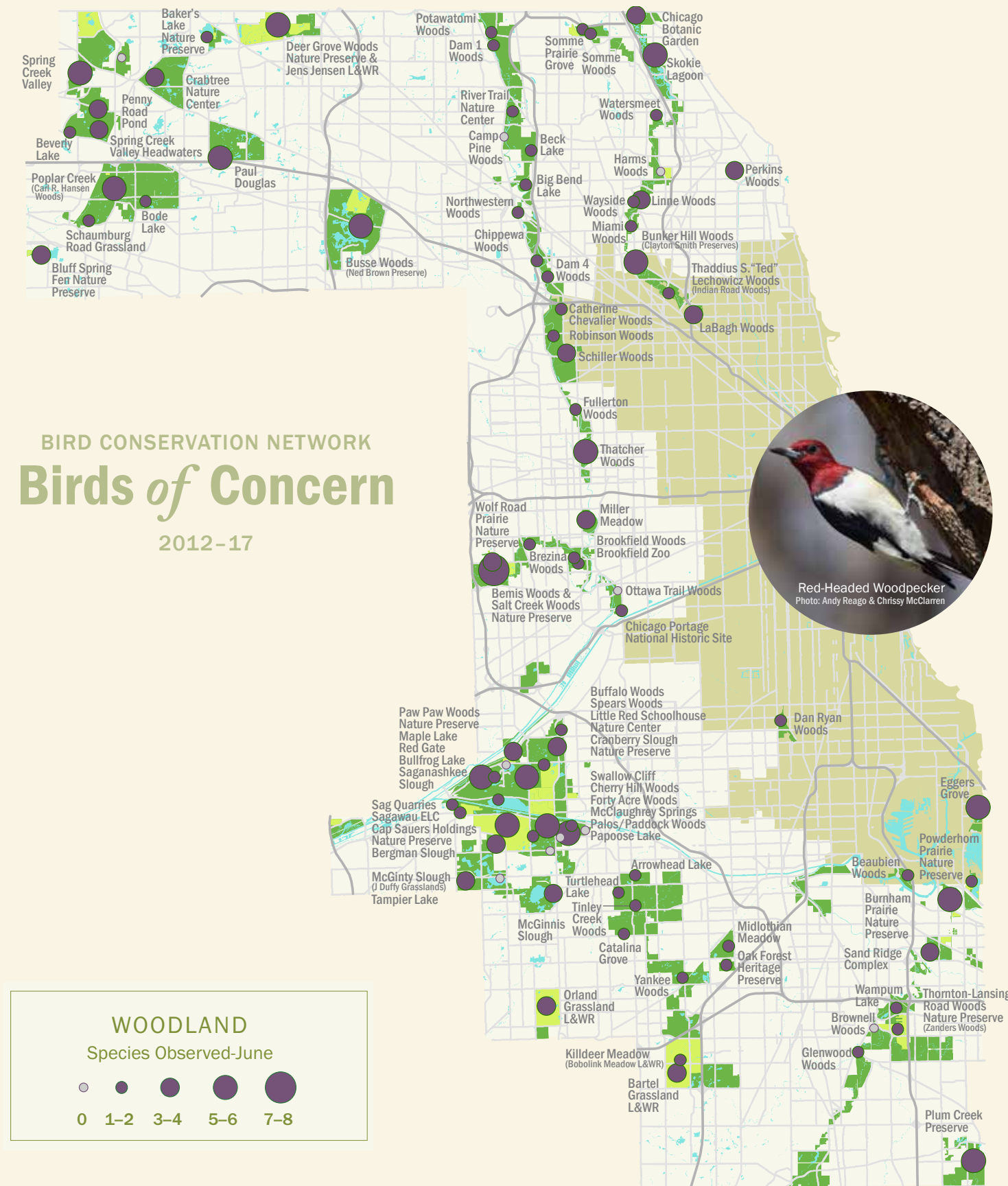
Woodland & Savanna Birds

Our oak woods are one of our most intact ecosystems, despite significant threats. As a result, woodland nesters have seen the smallest population declines of our nesting bird species statewide. Woodlands have a variety of ecological niches for birds. Many landbird migrants rely heavily on the insects in the oak canopy.

Some nesting birds such as red-headed woodpeckers need open woodland and savanna to swoop for prey, and have moved back into areas as invasive shrubs have been cleared. Others, such as the veery and yellow-billed cuckoo, need a dense, complex, shrubby understory in which to hide their nests. Floodplain forests host red-shouldered hawks and prothonotary warblers. Some species, including wood thrush, need large, unbroken woods to avoid nest parasites and predators. The expansive preserves in the Palos area provide habitat for this last group.



Hundreds of thousands of migrating landbirds rely on the diverse, complex mix of species in our woodlands for food and shelter on their journeys. Oaks, elms, hickories, hawthorns and other tree and shrub species host the insect species that they rely on each spring and fall. Buds, fruits, seeds and nectar are other important foods for migrants. While the FPCC's long-range restoration vision calls for relatively modest bumps in restored forest and woodland habitat, savanna habitat could increase by almost 4,000 acres—more than 300 percent.



BIRDS OF CONCERN

Acadian flycatcher American woodcock Cerulean warbler Chimney swift Eastern whip-poor-will Hooded warbler Louisiana waterthrush
Northern flicker Prothonotary warbler Red-headed woodpecker Red-shouldered hawk Veery Wood thrush Yellow-billed cuckoo

This data was submitted by birders and BCN Survey monitors through the eBird portal; it represents the number of bird species of concern observed in June for at least 3 of the last 6 years and is not adjusted for effort. Forest Preserves of Cook County 04/2018

WOODLAND Birds of Concern

BREEDING-SEASON BIRDS

Red-headed woodpecker
Eastern whip-poor-will
Cerulean warbler
American woodcock
Northern flicker
Chimney swift
Yellow-billed cuckoo
Wood thrush
Veery
Acadian flycatcher
Louisiana waterthrush
Prothonotary warbler
Hooded warbler
Red-shouldered hawk

MIGRANTS

Common nighthawk
Chimney swift
Olive-sided flycatcher
Philadelphia vireo
Golden-winged warbler
Black-and-white warbler
Nashville warbler
Cape May warbler
Bay-breasted warbler
Blackburnian warbler
Chestnut-sided warbler
Black-throated green warbler
Rusty blackbird
Purple finch



Ruby-throated hummingbird nest, with a quarter for size comparison. Nests can be difficult to spot, but a period of quiet observation may reveal where birds are nesting. Photo: Jim McCormac

Best Conservation Practices

Woodland birds generally benefit from the practices used to restore healthy woodlands, including removing invasives, thinning woody species to promote germination of native trees, shrubs and herbaceous ground cover, and prescribed burns to control invasive brush—though note the following considerations.

- Carefully consider management activities such as brush and tree cutting during the nesting season (late April through July) so as not to disturb or destroy bird nests.
- Some woodland birds need shrubs, while others need shrubless, open savannas. As appropriate, consider retaining or planting areas of native shrubs, restoring some open savanna areas, or a combination.
- To provide habitat for migrants, retain or enhance some areas with diverse, dense, layered woody vegetation. In a local study, oaks, elms and hawthorns were found to be the trees most used by spring migrants (Pollock et al. 2004). A variety of woody plants that bloom and fruit at different times will provide food across the seasons for the distinct waves of birds that migrate through, as well as those that stay to nest.



Cap Sauers Holding on the Blue Trail by Kevin Coyote-Trust - November 2016

Success Stories

CAP SAUERS HOLDING AND CRANBERRY SLOUGH

Set within the 14,000-acre Palos and Sag Valley Preserve complex, Cap Sauers Holding and Cranberry Slough Nature Preserves are large, diverse natural areas that provide bird habitat in a way few other Cook County sites can. This complex is a priority site for the FPCC. Palos Restoration Project Volunteers have been working to restore these sites for over 25 years. FPCC has committed substantial resources to an ambitious open woodland and savanna restoration project that has removed invasive shrubs (primarily Asian honeysuckle, Japanese barberry, smooth arrowwood and

multiflora rose), thinned trees and conducted landscape-scale prescribed fire to promote the open woodland and savanna habitat favorable to red-headed woodpeckers. BCN monitoring results show that the population of red-headed woodpeckers has persisted through the work, and birds are often seen foraging and nesting. Moreover, both areas are great places to view the full suite of woodpeckers that occur in the region, including pileated woodpeckers and northern flickers.

LABAGH WOODS

An important but often overlooked component of woodlands is the shrub layer. At LaBagh Woods in Chicago, a migrant hotspot along the North Branch of the Chicago River, the FPCC, partners and volunteers removed invasive shrubs. The Chicago Ornithological Society raised funds to replace them with native species such as spicebush, bladdernut, Iowa crab and hazel. The clearing was done in phases and created a series of openings connected by dense brush. Monitoring showed that populations of migrants held steady (Fidino et al. 2017). As shrub plantings in the cleared areas become sufficiently dense more buckthorn will be removed. A few brush piles were retained in strategic locations to provide a habitat. A robust partnership of birders and habitat restoration volunteers are working together to maintain the site, and includes the support of Friends of the Chicago River, Friends of the Forest Preserves and FPCC staff. Support from the US Fish and Wildlife Service, the Forest Preserve Foundation

and other funders has been critical to the site's success.

SALT CREEK NATURE PRESERVE

Extensive, long-term brush removal efforts by volunteers and contractors, augmented by prescribed fire, has returned the understory to its original open condition, welcoming to red-headed woodpeckers, eastern bluebirds and Cooper's hawks.

SOMME WOODS

Volunteers, interns, FPCC staff and contractors have cleared buckthorn from large tracts of Somme Woods over the past 20 years. Volunteers have also thinned pole trees and restored the herbaceous layer. Woodland birds have responded beautifully. Transect surveys done in 2002 and 2006 yielded only 6 of the most common woodland birds. On the same transect in 2016, 24 species were observed, including 2 species of conservation concern (Packard, 2018).



The pied-billed grebe nests in hemi-marsh, an intermixed structure of roughly 50 percent vegetation and 50 percent open water. It uses emergent aquatic vegetation for building and anchoring its nest, and open water for foraging.

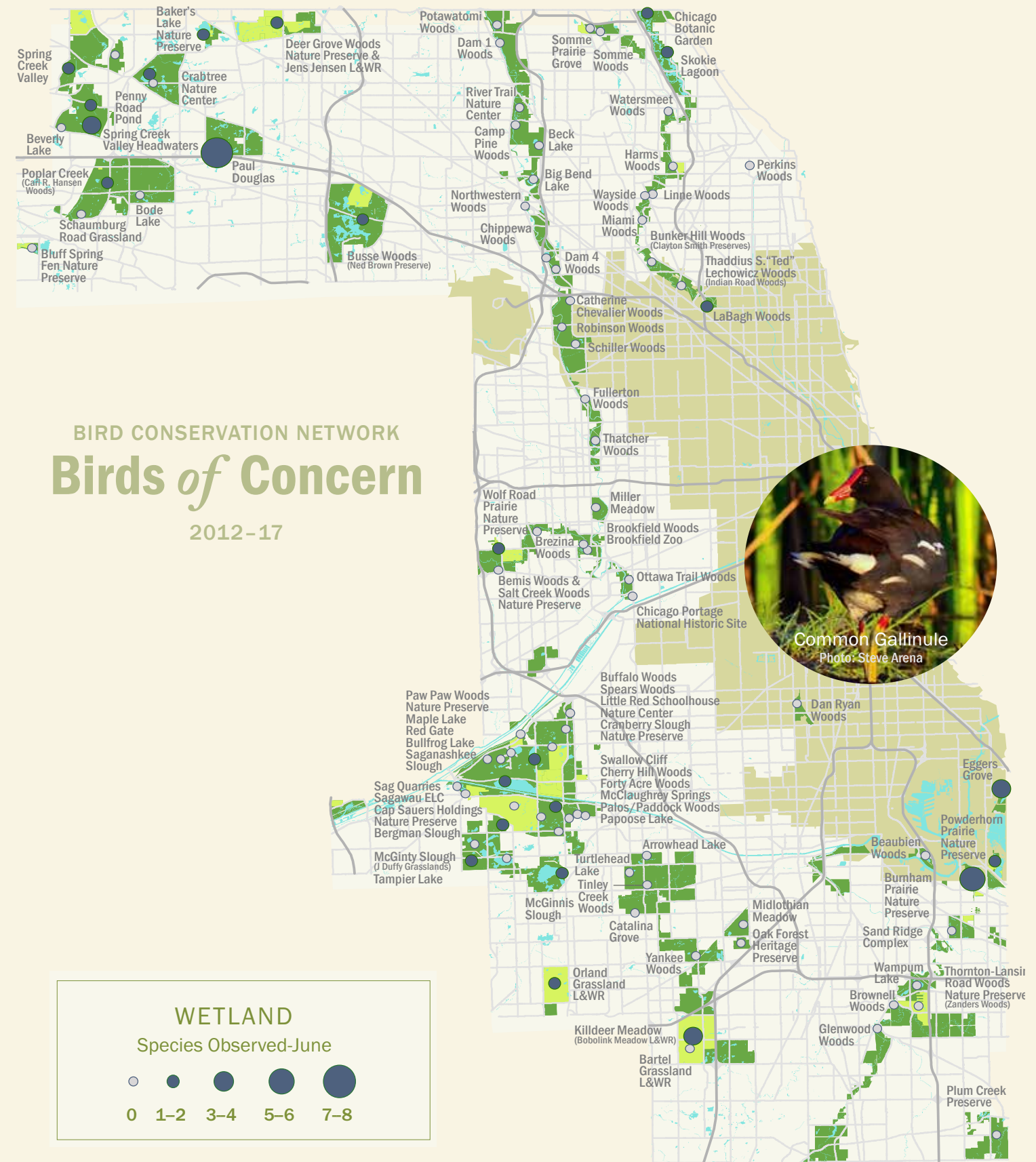
Wetland Birds

Wetlands are visibly dynamic ecosystems, as water levels fluctuate throughout the seasons and year to year. Depending on long- and short-term precipitation, the same spot on the map can be an open pond with ducks and swans, a grassy marsh with rails and bitterns, or a bare mudflat attracting shorebirds. Many of our wetland birds require specific vegetation types or structure at specific times of year, conditions which may only be present during brief windows.

Because local hydrology has been so greatly changed by development, successful management of at least some wetlands relies on human manipulation of water levels, such as with water control structures.

Over the long term, FPCC wetland acreages are expected to remain relatively static, increasing through restoration by only a few hundred acres. The wise management of these areas, however, can maximize their suitability and productivity for wetland birds.

A new partnership is seeking to improve our understanding of a large area of Cook County's highest-quality wetlands. The Calumet Wetlands Working Group—a collaboration between the FPCC, Audubon Great Lakes, Chicago Park District, the Wetlands Initiative, Field Museum, Illinois Department of Natural Resources, Illinois Nature Preserves Commission, The Nature Conservancy and the US Fish and Wildlife Service—is developing the *Conservation Action Plan for Critical Wetlands in the Millennium Reserve*, funded under the Coastal Zone Management Act by NOAA's Office for Coastal Management, in conjunction with the Illinois Department of Natural Resources' Coastal Management Program. The Working Group is continuing to learn about the needs of several threatened or endangered bird species and to restore an 800-acre complex of wetland habitat in the Calumet region.



- BIRDS OF CONCERN**
- American bittern Black tern Black-crowned night-heron Common gallinule Great egret King rail Least bittern Little blue heron Marsh wren
 Osprey Peregrine falcon Pied-billed grebe Sora Virginia rail Wilson's phalarope Wilson's snipe Yellow-crowned night-heron Yellow-headed blackbird
- This data was submitted by birders and BCN Survey monitors through the eBird portal; it represents the number of bird species of concern observed in June for at least 3 of the last 6 years and is not adjusted for effort. Forest Preserves of Cook County 04/2018

WETLAND Birds of Concern

BREEDING-SEASON BIRDS

American bittern
King rail
Least bittern
Black tern
Black-crowned night-heron
Common gallinule
Yellow-headed blackbird
Pied-billed grebe
Wilson's snipe
Wilson's phalarope
Marsh wren
Virginia rail
Sora
Osprey
Little blue heron
Yellow-crowned night-heron
Great egret
Caspian tern

MIGRANTS

Greater scaup
Lesser scaup
Long-tailed duck
Common goldeneye
Common loon
Horned grebe
Yellow rail
American golden-plover
Solitary sandpiper
Greater yellowlegs
Buff-breasted sandpiper
Short-billed dowitcher
Bonaparte's gull
Common tern
Forster's tern
Barn owl
Nelson's sparrow



Volunteers planting wetland sedges at Bartel Grassland.

Best Conservation Practices

- Where possible, maintain a matrix of varying wetland types in close proximity to accommodate a range of species and hydrological fluctuations (e.g., marsh, hemi-marsh, mudflat, sedge meadow, open water).
- Remove drain tiles where feasible to reactivate former wetlands.
- When feasible, actively manage water levels where needed, especially to maintain hemi-marsh and to create seasonal mudflats for shorebirds.
- Maintain some extensive areas of mixed emergent and submergent vegetation and open water (hemi-marsh) to attract birds of conservation concern.
- Proactively remove invasive vegetation.
- Seriously consider excluding or removing invasive fish, especially carp, where appropriate.
- Native fish may be introduced as a food source, unless amphibians or odonates are a higher priority.
- Cattails provide important tall structure for breeding wetland birds in deeper marshes but may be invasive in shallower conditions such as sedge meadows.
- Where safety considerations allow, maintain flooded-out, dead trees to provide nesting habitat for red-headed woodpeckers.



Saganashkee Slough

Success Stories

BURNHAM PRAIRIE

At this large wetland complex, the FPCC and the US Army Corps of Engineers extended a berm to prevent polluted water from flooding over the banks of the Grand Calumet River into the site's wetlands. Extensive invasive vegetation was also removed and native species planted. Of 11 wetland sites monitored on the Illinois side of the Calumet region in 2017, Burnham Prairie had the highest number of wetland species of concern — 12 — including American bittern and common gallinule.

SAGANASHKEE SLOUGH

Saganashkee Slough, a 377-acre former wetland (now a dammed lake) in the Palos Preserves, is a mecca for wetland birds. During migration seasons, it attracts large populations of waterfowl — and the eagles that prey on them. The FPCC halts the use of all watercraft when these birds appear each spring and fall, when the birds take over fishing duties. One-day highlights include 86 common loons, 5 species of grebe and 156 American white pelicans feeding on gizzard shad and yellow bass. In 2011, the FPCC installed an osprey platform atop a 30-foot telephone pole and ospreys occupied it the following year. Since 2012, between 8 and 12 young have fledged from this nest.

JENS JENSEN GRASSLANDS AND WOODLAND LAND AND WATER RESERVE

This 220-acre mosaic of woods, grasslands and wetlands is located within the 624-acre Jens Jensen Forest Preserve (also known as Deer Grove East) in northwest Cook County. In partnership with Openlands, extensive restoration has been underway at the site since 2007 as a part of an O'Hare Modernization Mitigation Account project. The area also benefits from long-term, dedicated volunteer stewardship. Restoration efforts have focused on restoring hydrology through disabling drain tiles, controlling invasive species, prescribed fire and reintroduction of native plants with seeds and plant plugs. Restoration results include the return of nesting sandhill cranes and the creation of habitat for migratory shorebirds, as well as more than 100 acres that support breeding populations of grassland birds.

OTHER SUCCESSES

INVASIVE SPECIES REMOVAL

At Eggers Grove, removal of invasive *Phragmites* grasses improved nesting structure for marsh birds, although yellow-headed blackbirds have yet to return. Migrant ducks swim amidst buttonbush at the site's wet, wooded swale. At nearby Powderhorn Prairie Nature Preserve, large-scale control of wetland invasives such as purple loosestrife and *Phragmites* in conjunction with a regular prescribed burn regime have improved habitat for wetland birds. Partner organizations such as the Field Museum, The Nature Conservancy, and Friends of the Forest Preserves have long been advocates for these sites and are helping to recruit volunteers and manage these preserves.

ROOKERIES

The human-built heron rookeries at Paul Douglas Forest Preserve and Baker's Lake Nature Preserve support nesting herons, egrets and cormorants.

OSPREY PLATFORMS

Between 1999 and 2017, the FPCC has installed 21 nesting platforms for osprey; several of the platforms were installed with the financial support of Friends of the Chicago River. In 2017, there were 14 active nests. The first platforms installed—at Bergman Slough, Crabtree Nature Center and Powderhorn—were still active as of 2017.



Rookery in Baker's Lake Nature Preserves

WATER-LEVEL CONTROL

A dam installed in 2000 at Paul Douglas to create wetland habitat allows the FPCC to draw water down. The water level at McGinnis Slough can also be lowered every summer. At both sites, drawdowns provide feeding and resting habitat for migratory shorebirds, herons and egrets. The water control structures are closed later in the fall to allow the wetland to refill in time for the fall migration of waterfowl. In recent years, road repair issues near each site have dictated that neither structure be used. When the water levels are low, as many as 20 species of shorebird use McGinnis Slough, along with as many as 300 great blue herons and a similar number of great egrets. A water-control structure is scheduled for installation at Eggers Grove in 2019, which will allow restoration of hemi-marsh conditions. A plan, funded through IDNR's Coastal Management Program, is currently in development to address Powderhorn Lake's impaired hydrology.

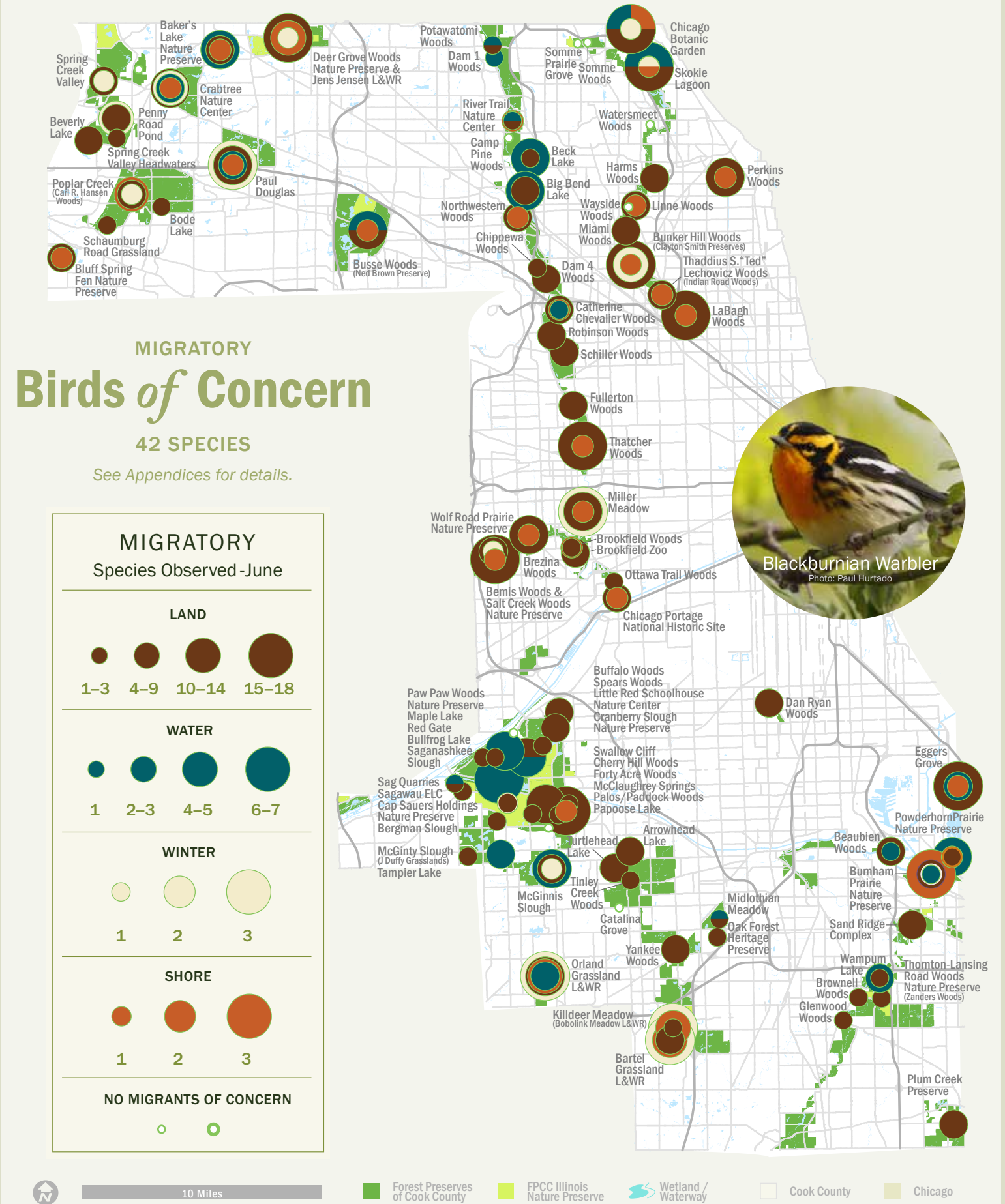
RESTORATION OF GRASSLAND-WETLAND MOSAICS

Large-scale restorations at Crabtree Nature Preserve and Spring Creek now support nesting sandhill cranes and migrating shorebirds and waterfowl. Invasive species removal and sedge meadow restoration at Skokie Lagoons has prompted the return of willow flycatchers to the habitat. Bartel Grassland-Bobolink Meadow and Orland Grassland are two other complexes where restoration brought good results for certain wetland birds.

DRAIN TILE REMOVAL

The removal or disabling of drain tiles in former farm fields has had a dramatic and widespread positive impact on wetland bird populations. See elsewhere in this document for description of specific sites.

BIRD CONSERVATION NETWORK-2012-17



This data was submitted by birders and BCN Survey monitors through the eBird portal; it represents the number of bird species of concern observed for at least 3 of the last 6 years and is not adjusted for effort. Photo: Cranberry Slough, Joe Occhuzzo Forest Preserves of Cook County 04/2018



Resources for Monitors and Stewards

Stewards, volunteers, birders and ecologists are all important sources of information about a site. Because of their frequent visits and particular perspective, they often notice patterns, issues and opportunities others may not. Communication between stewards, monitors and staff is encouraged for best conservation results.

For instance, bird monitors can share bird lists, location of nests and critical habitat features such as well-used snags or muddy banks. They may also be able to make informed predictions of management actions' likely impacts on bird populations, and share ideas for improving habitat.

Bird monitoring results and tools for interpreting them are available in a number of places:

eBIRD

A variety of data exploration tools can be found in eBird, Cornell Lab of Ornithology's online bird data entry portal. Cook County bird monitors use eBird to store their data. Use the "Explore" tab to:

- Look up Cook County in the "Explore a Region" section to find an illustrated checklist of our birds, list of hotspots and other useful features.
- Use the "Explore Hotspot" tab to find birding activity at the county's most popular locations, including many forest preserves.
- Use the "Species Maps" feature to investigate which species have been seen in your preserve and who is seeing them. BCN monitoring points (distinct from hotspots) will show up in these maps.

For their part, stewards and ecologists can welcome bird monitors to attend workdays and educational activities and add them to stewardship group mailing lists. The FPCC's Volunteer Resource Center can help introduce monitors and stewards to each other and foster a dialogue.

BCN DATA REPORTS

Data reports for a site can be requested from BCN data volunteers.

Follow the instructions at bcnbirds.org/rawdata.html.

BCN WEBSITE

Useful information about our local birds including population trends and lists of Birds of Conservation Concern can be found at bcnbirds.org/trends13/.

COMMENTS

Please share ideas and comments about this report with Chicago Audubon Society at cas@chicagoaudubon.org.

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Appendices

Birds of Conservation Concern

NESTING SEASON

GRASSLAND

American kestrel
Bobolink
Common nighthawk
Dickcissel
Eastern meadowlark
Grasshopper sparrow
Henslow's sparrow
Northern harrier
Sedge wren
Upland sandpiper

SHRUBLAND

Black-billed cuckoo
Bell's vireo
Blue-winged warbler
Brown thrasher
Eastern kingbird
Field sparrow
Loggerhead shrike
Northern bobwhite
Willow flycatcher
Yellow-breasted chat

WOODLAND AND SAVANNA

Acadian flycatcher
American woodcock
Cerulean warbler
Chimney swift
Eastern whip-poor-will
Hooded warbler
Louisiana waterthrush
Northern flicker
Prothonotary warbler
Red-headed woodpecker
Red-shouldered hawk
Veery
Wood thrush
Yellow-billed cuckoo

WETLAND

American bittern
Black tern
Black-crowned night-heron
Common gallinule
Great egret
King rail
Least bittern
Little blue heron
Marsh wren

Osprey
Peregrine falcon
Pied-billed grebe
Sora
Virginia rail
Wilson's phalarope
Wilson's snipe
Yellow-crowned night-heron
Yellow-headed blackbird

Common goldeneye
Common loon
Common tern
Forster's tern
Greater scaup
Horned grebe
Lesser scaup
Long-tailed duck
Yellow rail

Birds of Conservation Concern

MIGRATION SEASON

MIGRANT LANDBIRDS

Bay-breasted warbler
Black-and-white warbler
Black-throated green warbler
Blackburnian warbler
Canada warbler
Cape May warbler
Chestnut-sided warbler
Chimney swift
Common nighthawk
Connecticut warbler
Golden-winged warbler
Le Conte's sparrow
Mourning warbler
Nashville warbler
Nelson's sparrow
Olive-sided flycatcher
Philadelphia
Vireo
Purple finch
Rusty blackbird
Smith's longspur veery

MIGRANT AND WINTER RAPTORS

Barn owl
Long-eared owl
Northern harrier
Rough-legged hawk
Short-eared owl
Swainson's hawk

MIGRANT SHOREBIRDS

American golden-plover
Buff-breasted sandpiper
Greater yellowlegs
Short-billed dowitcher
Solitary sandpiper

MIGRANT WATERBIRDS

Bonaparte's gull

Birds of Concern

Reported to eBird 3 or More Times in June; 2012–2017

PRESERVE	GRASSLANDS	SHRUBLANDS	WOODLANDS	WETLANDS
Arrowhead Lake	0	2	1	0
Baker's Lake	0	2	2	2
Bartel Grassland	8	2	3	0
Beaubien	0	0	1	0
Beck Lake	0	0	1	0
Bemis/Salt Creek	1	4	9	0
Bergman Slough	5	5	3	1
Beverly Lake	0	0	1	0
Big Bend Lake	0	1	1	0
Bluff Spring Fen	0	4	3	0
Bode Lake	0	2	2	0
Brezina Woods	0	0	2	0
Brookfield Woods	0	0	1	0
Brookfield Zoo	1	0	2	0
Brownell Woods	0	0	0	0
Buffalo Woods	0	0	1	0
Bullfrog Lake	0	0	1	0
Burnham Prairie	5	3	5	5
Busse Woods	7	3	5	1
Camp Pine Woods	0	2	0	0
Camp Sagawau	0	1	1	0
Cap Sauers Holding	1	3	6	0
Catalina Grove	0	2	1	0
Catherine Chevalier Woods	0	0	1	0
Cherry Hill Woods	0	4	2	0
Chicago Botanic Garden	1	2	3	1
Chicago Portage	0	1	2	0
Chippewa Woods	0	0	1	0
Clayton Smith Preserves	2	1	5	0
Crabtree	1	4	3	2
Cranberry Slough	0	0	2	0
Dam #1 Woods	3	4	2	0
Dam #4 Woods	0	0	2	0
Dan Ryan Woods	0	0	1	0
Deer Grove	6	4	7	1
Eggers Grove	3	4	6	3
Forty Acre Woods	0	0	0	0
Fullerton Woods	1	0	2	0
Glenwood Woods	0	1	1	0
Harms Woods	0	0	0	0
Horizon Farms	1	0	0	0
Indian Road Woods	0	0	1	0
J. Duffy Grasslands	5	6	3	1
Killdeer Meadow	7	2	2	4
LaBagh Woods	1	1	4	1

PRESERVE	GRASSLANDS	SHRUBLANDS	WOODLANDS	WETLANDS
Linne Woods and Prairie	0	1	3	0
Little Red Schoolhouse	0	4	5	1
Maple Lake	0	0	0	0
McClaghry Springs	0	0	7	0
McGinnis Slough	1	4	4	2
Miami Woods	0	0	2	0
Midlothian Meadows	0	0	1	0
Miller Meadow	7	2	3	0
Northwestern Woods	0	0	1	0
Oak Forest Heritage	0	0	1	0
Orland Grassland	7	4	3	1
Ottawa Trail Woods	0	0	0	0
Palos Park/Paddock Woods	0	0	2	0
Papoose Lake	0	2	0	0
Paul Douglas	8	4	7	9
Paw Paw Woods	0	0	3	0
Penny Road Pond	6	6	4	2
Perkins Woods	1	0	3	0
Plum Creek	5	6	6	0
Poplar Creek	8	4	5	2
Potawatomi Woods	1	0	1	0
Powderhorn Lake	1	2	2	2
Red Gate Woods	0	0	5	0
River Trail	0	0	1	0
Robinson Woods	0	0	1	1
Sag Quarries	0	0	1	0
Saganashkee Slough	0	2	2	1
Sand Ridge Complex	1	0	3	0
Schaumburg Rd Grassland	5	3	2	0
Schiller Woods	1	1	3	0
Skokie Lagoons	2	3	7	1
Somme Prairie Grove	0	2	2	0
Somme Woods	0	0	1	0
Spears Woods	0	4	3	0
Spring Creek	8	5	7	2
Spring Creek Headwaters	5	5	3	3
Swallow Cliff	0	3	7	1
Tampier Lake	0	0	0	0
Thatcher Woods	1	0	5	0
Tinley Creek Woods	0	0	1	0
Turtlehead Lake	2	4	2	0
Wampum Lake Woods	0	0	1	0
Watersmeet	0	0	1	0
Wayside Woods	0	0	1	0
Wolf Rd Praire	4	5	3	1
Yankee Woods	0	0	1	0
Zander's Woods	0	0	0	0

Birds of Concern (Migrants)

Reported to eBird 3 or More Times; 2012-2017

PRESERVE	LANDBIRDS	WATERBIRDS	SHOREBIRDS	RAPTORS
Arrowhead Lake	6	0	0	0
Baker's Lake	9	4	1	0
Bartel Grassland	4	0	2	3
Beaubien	5	1	0	0
Beck Lake	2	4	0	0
Bemis/Salt Creek	18	0	1	0
Bergman Slough	1	0	0	0
Beverly Lake	5	0	0	0
Big Bend Lake	4	4	0	0
Bluff Spring Fen	4	0	1	0
Bode Lake	1	0	0	0
Brezina Woods	11	0	1	0
Brookfield Woods	3	0	1	0
Brookfield Zoo	6	0	0	0
Brownell Woods	1	0	0	0
Buffalo Woods	6	0	0	0
Bullfrog Lake	1	0	0	0
Burnham Prairie	9	1	3	1
Busse Woods	12	5	1	0
Camp Pine Woods	0	0	0	0
Camp Sagawau	2	0	0	0
Cap Sauers Holding	3	0	0	1
Catalina Grove	0	0	0	0
Catherine Chevalier Woods	5	1	1	0
Cherry Hill Woods	2	0	0	0
Chicago Botanic Garden	17	7	3	1
Chicago Portage	9	0	1	0
Chippewa Woods	1	0	0	0
Clayton Smith Preserves	17	0	1	2
Crabtree	14	3	1	2
Cranberry Slough	3	0	0	0
Dam #1 Woods	0	1	0	0
Dam #4 Woods	5	0	0	0
Dan Ryan Woods	6	0	0	0
Deer Grove	15	0	2	1
Eggers Grove	18	3	1	0
Forty Acre Woods	1	0	0	0
Fullerton Woods	8	0	0	0
Glenwood Woods	1	0	0	0
Harms Woods	6	0	0	0
Horizon Farms	0	0	0	0
Indian Road Woods	5	0	1	0
J. Duffy Grasslands	1	0	0	0
Killdeer Meadow	2	0	2	3
LaBagh Woods	18	0	1	0

PRESERVE	LANDBIRDS	WATERBIRDS	SHOREBIRDS	RAPTORS
Linne Woods and Prairie	7	0	1	0
Little Red Schoolhouse	10	4	0	0
Maple Lake	0	5	0	0
McCloughry Springs	15	0	1	0
McGinnis Slough	6	4	0	1
Miami Woods	5	0	0	0
Midlothian Meadows	1	1	0	0
Miller Meadow	14	0	1	3
Northwestern Woods	8	0	1	0
Oak Forest Heritage	1	0	0	0
Orland Grassland	10	2	2	3
Ottawa Trail Woods	3	0	0	0
Palos Park/Paddock Woods	3	0	0	0
Papoose Lake	0	0	0	0
Paul Douglas	10	2	1	3
Paw Paw Woods	0	0	0	0
Penny Road Pond	5	0	0	2
Perkins Woods	14	0	1	0
Plum Creek	7	0	0	0
Poplar Creek	7	0	2	1
Potawatomi Woods	1	1	0	0
Powderhorn Lake	3	4	1	0
Red Gate Woods	2	0	0	0
River Trail	2	1	1	0
Robinson Woods	6	0	0	0
Sag Quarries	1	1	0	0
Saganashkee Slough	0	6	0	0
Sand Ridge Complex	7	0	0	0
Schaumburg Rd Grassland	1	0	0	0
Schiller Woods	7	0	0	0
Skokie Lagoons	18	6	1	1
Somme Prairie Grove	0	0	0	0
Somme Woods	0	0	0	0
Spears Woods	6	0	0	0
Spring Creek	7	0	0	0
Spring Creek Headwaters	1	0	0	0
Swallow Cliff	11	0	0	0
Tampier Lake	0	2	0	0
Thatcher Woods	18	0	1	0
Tinley Creek Woods	2	0	0	0
Turtlehead Lake	5	0	0	0
Wampum Lake Woods	1	2	0	0
Watersmeet	0	0	0	0
Wayside Woods	0	0	0	0
Wolf Road Praire	5	0	0	1
Yankee Woods	9	0	0	0
Zander's Woods	1	0	0	0

Birds of Concern

Reported to eBird 3 or More Times in June; 2005–2017

PRESERVE	GRASSLANDS	SHRUBLANDS	WOODLANDS	WETLANDS
Arie Crown Sundown Meadow	0	0	1	0
Arrowhead Lake	0	4	2	0
Baker's Lake	1	2	3	2
Bartel Grassland	8	4	4	0
Beaubien	1	2	4	2
Beck Lake	0	0	2	0
Belleau Lake	0	0	0	0
Bemis/Salt Creek	1	4	9	1
Bergman Slough	8	5	5	2
Beverly Lake	0	1	2	0
Big Bend Lake	0	1	1	0
Black Partridge Woods	0	0	2	0
Bluff Spring Fen	4	5	5	1
Bode Lake	2	4	3	0
Brezina Woods	0	0	2	0
Brookfield Woods	0	0	1	0
Brookfield Zoo	1	0	3	1
Brownell Woods	0	0	0	0
Buffalo Woods	0	0	1	0
Bullfrog Lake	0	0	1	0
Burnham Prairie	7	3	6	9
Busse Woods	8	3	6	2
Camp Pine Woods	0	2	2	0
Camp Sagawau	0	4	2	0
Cap Sauers Holdings	2	4	9	1
Catalina Grove	0	6	2	0
Catherine Chevalier Woods	0	0	1	0
Cermak Woods	0	0	1	0
Che Che Pin Qua	0	0	1	0
Cherry Hill Woods	0	4	2	0
Chicago Botanic Garden	2	2	4	1
Chicago Portage	0	1	3	0
Chippewa Woods	0	0	1	0
Clayton Smith Preserves	2	2	6	0
Columbia Woods	0	0	3	0
Country Lane Woods	0	0	2	0
Crabtree	3	4	4	2
Cranberry Slough	0	0	3	0
Crawdad Slough	0	0	1	0
Crooked Creek Woods	0	3	1	0
Dam #1 Woods	3	4	2	0
Dam #4 Woods	0	0	2	0
Dan Ryan Woods	0	0	2	0
Deer Grove	8	4	8	2
Eggers Grove	3	4	6	6

PRESERVE	GRASSLANDS	SHRUBLANDS	WOODLANDS	WETLANDS
Forty Acre Woods	0	0	0	0
Fullerton Woods	1	0	2	0
Glenwood Woods	0	1	1	0
Harm Woods	0	0	5	0
Hidden Pond Woods	0	2	2	0
Horizon Farms	1	0	0	0
Indian Road Woods	0	0	1	0
J. Duffy Grasslands	6	8	5	2
Killdeer Meadow	7	2	3	4
Kings Grove	2	1	1	0
LaBagh Woods	2	1	6	1
Linne Woods and Prairie	1	1	4	0
Little Red Schoolhouse	1	4	5	1
Maple Lake	0	0	1	0
McClaghry Springs	0	0	9	0
McGinnis Slough	2	4	4	4
Miami Woods	0	1	5	0
Midlothian Meadows	1	3	3	1
Miller Meadow	9	3	5	1
Northwestern Woods	0	0	2	0
Oak Forest Heritage	0	0	1	0
Orland Grassland	9	6	5	3
Ottawa Trail Woods	0	0	2	0
Palos Park/Paddock Woods	0	0	3	0
Papoose Lake	0	2	0	0
Paul Douglas	8	7	12	11
Paw Paw Woods	0	0	3	0
Penny Road Pond	8	6	6	2
Perkins Woods	1	0	3	0
Pioneer Woods	0	1	0	0
Plum Creek	7	6	7	0
Poplar Creek	8	6	7	2
Potawatomi Woods	1	0	4	0
Powderhorn Lake	1	2	3	3
Red Gate Woods	0	0	5	0
River Trail	0	0	2	0
Robinson Woods	0	0	2	0
Sag Quarries	0	0	1	0
Saganashkee Slough	1	2	3	1
Sand Ridge Complex	1	0	4	1
Schamamburg Road Grassland	5	3	2	0
Schiller Woods	1	1	4	0
Skokie Lagoons	2	4	7	1
Somme Prairie Grove	0	5	4	0
Somme Woods	0	0	1	0
Spears Woods	0	4	5	0
Spring Creek	9	6	7	4
Spring Creek Headwaters	9	6	7	1

Birds of Concern

Reported to eBird 3 or More Times in June; 2012–2017

PRESERVE	GRASSLANDS	SHRUBLANDS	WOODLANDS	WETLANDS
Spring Lake	1	3	5	1
Swallow Cliff	0	5	8	1
Tampier Lake	0	2	3	0
Thatcher Woods	1	0	7	0
Tinley Creek Woods	0	2	2	0
Turtlehead Lake	5	5	2	0
Wampum Lake Woods	0	0	1	0
Watersmeet	0	0	1	0
Wayside Woods	0	2	4	0
White Eagle Woods	0	0	1	0
Wolf Rd Prairie	4	5	7	1
Yankee Woods	0	0	1	0
Zander's Woods	0	0	2	0

Birds of Concern (Migrants)

Reported to eBird 3 or More Times; 2005–2017

PRESERVE	LANDBIRDS	WATERBIRDS	SHOREBIRDS	RAPTORS
Arie Crown Sundown Meadow	0	0	0	0
Arrowhead Lake	9	0	0	0
Baker's Lake	10	4	1	0
Bartel Grassland	4	0	2	4
Beabien	11	1	1	1
Beck Lake	2	4	0	0
Belleau Lake	0	1	0	0
Bemis/Salt Creek	18	0	1	0
Bergman Slough	2	1	0	1
Beverly Lake	5	0	0	0
Big Bend Lake	4	4	0	0
Black Partridge Woods	1	0	0	0
Bluff Spring Fen	14	0	1	1
Bode Lake	1	0	0	0
Brezina Woods	11	0	1	0
Brookfield Woods	7	0	1	0
Brookfield Zoo	6	0	0	0
Brownell Woods	3	0	0	0
Buffalo Woods	8	0	0	0
Bullfrog Lake	1	0	0	0
Burnham Prairie	11	2	4	1
Busse Woods	13	5	1	1
Camp Pine Woods	0	0	0	0
Camp Sagawau	4	0	0	0
Camp Sauers Holding	7	0	0	1
Catalina Grove	1	0	0	0
Catherine Chevalier Woods	5	1	1	0
Cermak Woods	1	0	1	0
Che Che Pin Qua	3	0	0	0
Cherry Hill Woods	2	0	0	0
Chicago Botanic Garden	19	7	3	1
Chicago Portage	15	0	1	0
Chippewa Woods	5	1	0	0
Clayton Smith Preserves	17	0	1	2
Columbia Woods	1	0	0	0
Country Lane Woods	2	0	0	0
Crabtree	17	4	1	2
Cranberry Slough	4	0	0	0
Crawdad Slough	1	0	0	0
Crooked Creek Woods	5	0	0	0
Dam #1 Woods	0	1	0	0
Dam #4 Woods	9	0	0	0
Dan Ryan Woods	8	0	0	0
Deer Grove	15	0	2	1
Eggers Grove	18	3	2	0

PRESERVE	LANDBIRDS	WATERBIRDS	SHOREBIRDS	RAPTORS
Forty Acre Woods	1	0	0	0
Fullerton Woods	10	0	0	0
Glenwoods Woods	2	0	0	0
Harms Woods	9	0	0	0
Hidden Ponds Woods	2	0	0	0
Horizon Farms	0	0	0	0
Indian Road Woods	5	0	1	0
J. Duffy Grasslands	6	1	0	0
Killdeer Meadow	2	0	3	3
Kings Grove	0	0	0	0
LaBagh Woods	18	0	1	1
Linne Woods and Prairie	7	0	1	0
Little Red Schoolhouse	13	4	0	1
Maple Lake	3	5	0	0
McCloughry Springs	16	0	1	0
McGinnis Slough	8	7	2	1
Miami Woods	9	0	0	0
Midlothian Meadows	1	1	0	0
Miller Meadow	17	0	1	3
Northwestern Woods	9	0	1	0
Oak Forest Heritage	1	0	0	0
Orland Grassland	16	4	2	3
Ottawa Trail Woods	10	0	0	0
Palos Park/Paddock Woods	5	0	0	0
Papoose Lake	0	1	0	0
Paul Douglas	12	2	3	3
Paw Paw Woods	0	0	0	0
Penny Road Pond	6	0	0	2
Perkins Woods	16	0	1	0
Pioneer Woods	1	0	0	0
Plum Creek	8	0	0	0
Poplar Creek	11	0	2	1
Potawatomi Woods	4	1	1	0
Powderhorn Lake	8	4	1	0
Red Gate Woods	2	0	0	0
River Trail	3	1	1	0
Robinson Woods	13	1	0	0
Sag Quarries	1	1	0	1
Saganashkee Slough	1	6	0	1
Sand Ridge Complex	8	0	0	0
Schaumburg Rd Grassland	1	0	0	0
Schiller Woods	13	1	0	0
Skokie Lagoons	18	8	1	1
Somme Prairie Grove	1	0	0	0
Somme Woods	0	0	0	0
Spears Woods	6	0	0	1
Spring Creek	8	0	0	1

Birds of Concern: Migrants

Reported to eBird 3 or More Times; 2005–2017

PRESERVE	LANDBIRDS	WATERBIRDS	SHOREBIRDS	RAPTORS
Spring Creek Headwaters	4	0	1	0
Spring Lake	2	0	0	0
Swallow Cliff	13	0	0	0
Tampier Lake	1	4	0	0
Thatcher Woods	18	0	1	0
Tinley Creek Woods	3	0	0	0
Turtlehead Lake	11	0	0	0
Wampum Lake Woods	1	2	0	0
Watersmeet	0	0	0	0
Wayside Woods	5	0	0	0
White Eagle Woods	3	0	0	0
Wolf Rd Prairie	8	0	1	1
Yankee Woods	9	0	0	0
Zander's Woods	1	0	0	0

Acknowledgments

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WRITERS:

Judy Pollock, Don Parker

MAPS:

Diana Krug, Chris Monaghan

GRAPHIC DESIGN:

Heather Anderson

OVERSIGHT COMMITTEE:

FPCC: Becky Collings, Chip O'Leary, Lydia Uhler, Nina Baki

CAS: Dave Willard, Laurel Ross, Jane Balaban, John Elliott

Consultant: Judy Pollock

REVIEWERS:

Deborah Antlitz, Stephanie Beilke, Craig Billington, Steve Constantelos, Emma England, Jenny Flexman, Melissa Foster, Ethan Gyllenhaal, Pat Hayes, Dan Lory, Nat Miller, Pat Miller, Monica Mueller, Tom Mulcahy, Stephen Packard, Jim Phillips, Kristin Pink, Julie Sacco, Chuck Scannell, Dan Spencer, Meredith Tucker, Michelle Uting

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