

BREEDING BIRD TRENDS IN THE CHICAGO REGION 1999-2020

SUMMER 2022

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ABOUT THE BIRD CONSERVATION NETWORK

- A coalition of 21 conservation organizations with an interest in the preservation of birds and the habitats they need to survive
- An advocate for bird-friendly policy changes and a resource for researchers, land managers, and conservation partners in the Chicago Wilderness



THE 1999-2020 BCN SURVEY

- Data collected within managed lands in Cook, Lake, McHenry, DuPage, Kane, and Will
 - 220,000 acres, 344 square miles
 - 9.5% of total land available
- Target habitats: grassland, shrubland, woodland, and wetland
- Strict protocols for point counts
 - 29,724 surveys by volunteer monitors
 - 2,463 point counts
- A minimum of 10 sightings for survey inclusion



ANALYSIS METHODOLOGY

- Retained services of a professional statistician to analyze data
- Calculated a confidence level in trends based on number of sightings and other factors
- Used findings as one of several inputs to *Birds of Concern* (referenced throughout)

LVL 1	Immediate Management Needed: Species having high regional threats and experiencing large population declines. Conservation action needed to reverse or stabilize long-term declines.
LVL 2	Species experiencing moderate to strong declines and/or threats to breeding. Management or other actions needed to stabilize/increase populations or reverse threats.
LVL 3	Declines or threats to regional populations. Require management and monitoring. Includes certain widespread species plus species using only limited/localized habitats.
RRE	Rare or Recently Extirpated. A species not of regional importance in the Midwest, but threatened or endangered in at least one of the states in the Chicago Wilderness Region.



DELIVERING UNIQUE INSIGHTS INTO THE REGION

- A rich repository for land managers to use in preservation and restoration efforts
- A catalyst for researchers to explore BCN data and collaborate with us
- An opportunity to educate the public about the importance of local natural areas for birds

“The Bird Conservation Network has been a pioneer in using targeted surveys to better understand birds in a region and influence the way that areas are managed to ultimately increase the populations of species that are declining elsewhere.”

CHRIS WOOD
Project Leader
eBird, Cornell Lab of Ornithology

CHICAGO WILDERNESS AS A STRONGHOLD



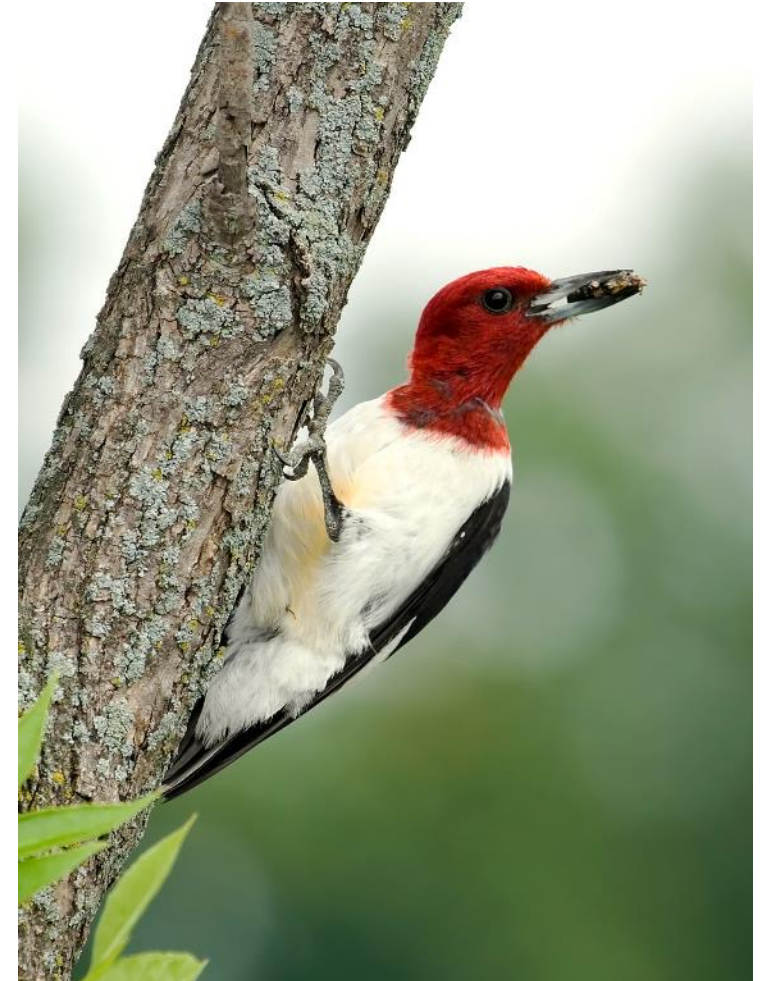
*North American Breeding Bird Survey for Illinois

- A dynamic landscape of bird population shifts—and a complex set of influences
- Doing better than other parts of Illinois in last 22 years
 - 56% of 104 species surveyed are stable or expanding vs. 37% elsewhere in Illinois*
- An impressive green space of global importance to key avian species
- Notable for a metropolitan area



POWER OF PROACTIVE LAND MANAGEMENT

- Preservation and restoration efforts are working for many birds
- Managing habitats for the needs of many bird species remains a challenge
- Our region can be a model for balancing habitat restoration goals with the needs of specific birds of concern
- BCN is eager to partner with land managers to facilitate this goal





FINDINGS BY HABITAT:

GRASSLANDS

- A stronghold of highly concentrated habitat
- Of 27 surveyed species, half are stable or growing, while the other half are declining
- Our grasslands are globally important for Henslow's Sparrows, and restoration efforts appear to have benefited them
- 13 Birds of Concern depend on our grasslands

FINDINGS BY HABITAT

GRASSLANDS

- Henslows and Dickcissel are successes
- Field Sparrows and aerial insectivores doing better than national trends
- Sandhill Cranes and Northern Mockingbirds becoming more common
- BUT: Many traditional grassland species are in decline

SPECIES	Trend	% Error
<u>SANDHILL CRANE</u>	7.3%	+/-4.4%
<u>DICKCISSEL</u>	5.5%	+/-0.8%
<u>COMMON YELLOWTHROAT</u>	5.1%	+/-0.5%
<u>NORTHERN MOCKINGBIRD</u>	4.4%	+/-3.0%
<u>HENSLOW'S SPARROW</u>	3.4%	+/-0.9%
<u>BARN SWALLOW</u>	2.6%	+/-1.1%
<u>TREE SWALLOW</u>	2.3%	+/-0.9%
<u>GRASSHOPPER SPARROW</u>	-2.7%	+/-0.9%
<u>BOBOLINK</u>	-2.9%	+/-0.7%
<u>VESPER SPARROW</u>	-3.0%	+/-5.6%
<u>SAVANNAH SPARROW</u>	-3.4%	+/-1.0%
<u>UPLAND SANDPIPER</u>	-10.4%	+/-5.2%

PRIORITY SPECIES FOR CONSERVATION

GRASSLANDS

- Given vanishing grasslands nationally and the global importance of our stronghold, grassland habitat protection and restoration should continue to be a top priority for our region.

LEVEL 1: Henslow's Sparrow, Bobolink

LEVEL 2: Grasshopper Sparrow, Sedge Wren, Upland Sandpiper, Eastern Meadowlark

LEVEL 3: Dickcissel, Northern Harrier, Swainson's Hawk, American Kestrel, Common Nighthawk, Horned Lark, Barn Owl (Rare)

From *Birds of Concern*: <https://www.bcnbirds.org/trends21/concern.html>



RESEARCH QUESTIONS: GRASSLANDS

- Why are Bobolinks declining in Chicago Wilderness?
- Why do some insectivores appear to be doing better in our grasslands than national trends indicate (such as Tree Swallow and Barn Swallow)?
- What is the impact of declining insect populations on breeding birds?
- What is the right balance of short grass vs. tallgrass to support the largest number of grassland species?
- What is driving the increase of Dickcissels in the survey?
- How are Kestrels doing statewide? How much are they using ag fields?
- Why are Upland Sandpipers disappearing from our grasslands?
- What are best practices for managing invasive sweet clover and tall goldenrod?



FINDINGS BY HABITAT: SHRUBLANDS

- Challenge and opportunity managing our ephemeral shrublands
- 20 of 37 species stable or increasing, while the rest are in decline or lack sufficient data
- Doing better than elsewhere in Illinois*
- 11 shrubland species appear as Birds of Concern



*North American Breeding Bird Survey for Illinois

FINDINGS BY HABITAT SHRUBLANDS

- Some shrubland and edge species increasing, such as Ruby-throated Hummingbird, Warbling Vireo, Common Yellowthroat, and Eastern Towhee
- Field Sparrows and Brown Thrashers holding steady here
- Declining species merit further study, such as Willow Flycatcher

SPECIES	Trend	% Error
<u>RUBY-THR. HUMMINGBIRD</u>	6.4%	+/-2.9%
<u>WARBLING VIREO</u>	5.4%	+/-1.4%
<u>COMMON YELLOWTHROAT</u>	5.1%	+/-0.5%
<u>EASTERN TOWHEE</u>	4.4%	+/-1.0%
<u>BLACK-BILLED CUCKOO</u>	-1.7%	+/-4.3%
<u>AMERICAN GOLDFINCH</u>	-3.0%	+/-0.6%
<u>WILLOW FLYCATCHER</u>	-3.4%	+/-0.9%
<u>AMERICAN REDSTART</u>	-8.1%	+/-5.5%

From *Breeding Bird Trends*: <https://www.bcnbirds.org/trends21>

PRIORITY SPECIES FOR CONSERVATION

SHRUBLANDS

- Because more than 3 dozen species of our breeding birds use shrublands, these successional habitats merit further consideration for restoration and maintenance.

LEVEL 1: Black-billed Cuckoo

LEVEL 2: Brown Thrasher, Field Sparrow, Willow Flycatcher, Northern Bobwhite

LEVEL 3: Blue-winged Warbler, Loggerhead Shrike, Yellow-breasted Chat, Bell's Vireo, Eastern Towhee, Prairie Warbler (rare), Golden-winged Warbler (rare)

From *Birds of Concern*: <https://www.bcnbirds.org/trends21/concern.html>



RESEARCH QUESTIONS: SHRUBLANDS

- What is the best way to monitor secretive and hard-to-detect species like Black-billed Cuckoo? Is conspecific playback necessary to adequately sample these species?
- Are there habitat changes we can make to bring back Loggerhead Shrikes?
- What is the ideal amount of burning and clearing to support shrubland birds? What are the best configurations of shrubby clumps?
- Does re-creating uneven terrain in restored shrublands that were farmed and tilled help promote wet shrublands and species like Willow Flycatcher?
- What habitats are Blue-winged Warblers and Brown Thrashers using?



FINDINGS BY HABITAT: WOODLANDS



- Our most intact ecosystem, supporting an impressively diverse 66 breeding bird species
- More than half of our survey points
- Moderate to strong expansion for 22 breeding species; another 17 are stable
- BUT: 15 species show declines, inviting further study
- 15 species appear as Birds of Concern



FINDINGS BY HABITAT WOODLANDS

- Encouraging expansion of Pileated Woodpecker, Red-headed Woodpecker, Chimney Swifts
- Possible range expansion for Acadian Flycatcher, Summer Tanager, Orchard Oriole, and others
- Steady growth for many of our traditional woodland species

SPECIES	Trend	% Error
<u>PILEATED WOODPECKER</u>	29.5%	+/-9.8%
<u>ACADIAN FLYCATCHER</u>	16.9%	+/-8.2%
<u>SUMMER TANAGER</u>	8.6%	+/-8.0%
<u>CHIMNEY SWIFT</u>	6.8%	+/-2.2%
<u>RUBY-THR. HUMMINGBIRD</u>	6.4%	+/-2.9%
<u>RED-BELLIED WOODPECKER</u>	6.3%	+/-0.8%
<u>WHITE-BREASTED NUTHATCH</u>	6.1%	+/-0.9%
<u>ROSE-BREASTED GROSBEAK</u>	5.6%	+/-1.4%
<u>WARBLING VIREO</u>	5.4%	+/-1.4%
<u>YELLOW-THROATED VIREO</u>	5.3%	+/-2.7%
<u>GREAT CRESTED FLYCATCHER</u>	5.1%	+/-0.9%
<u>ORCHARD ORIOLE</u>	3.5%	+/-1.8%
<u>RED-HEADED WOODPECKER</u>	3.3%	+/-2.9%

FINDINGS BY HABITAT

WOODLANDS

- Concerning declines among other woodland species, inviting further study

SPECIES	Trend	% Error
<u>BROWN-HEADED COWBIRD</u>	-1.3%	+/-0.7%
<u>BLACK-CAPPED CHICKADEE</u>	-1.4%	+/-0.8%
<u>BROAD-WINGED HAWK</u>	-1.9%	+/-6.4%
<u>VEERY</u>	-2.7%	+/-3.3%
<u>OVENBIRD</u>	-4.6%	+/-2.7%
<u>GREAT HORNED OWL</u>	-6.1%	+/-3.8%
<u>AMERICAN CROW</u>	-7.6%	+/-1.2%
<u>AMERICAN REDSTART</u>	-8.1%	+/-5.5%
<u>LEAST FLYCATCHER</u>	-10.8%	+/-6.3%

From *Breeding Bird Trends*: <https://www.bcnbirds.org/trends21>



PRIORITY SPECIES FOR CONSERVATION

WOODLANDS

- Proactive management of our oak woodlands and savannas has shown positive results and should continue to be a priority.

LEVEL 1: Red-headed Woodpecker, Cerulean Warbler, Eastern Whip-poor-will

LEVEL 2: Yellow-billed Cuckoo, Chimney Swift, American Woodcock, Wood Thrush

LEVEL 3: Northern Flicker, Broad-winged Hawk, Kentucky Warbler, Prothonotary Warbler, Hooded Warbler, Acadian Flycatcher, Ovenbird, Red-shouldered Hawk, Yellow-throated Warbler

From *Birds of Concern*: <https://www.bcnbirds.org/trends21/concern.html>



RESEARCH QUESTIONS: WOODLANDS

- Why are we seeing increasing numbers of Chimney Swifts in our managed lands compared to statewide figures? How are the populations of swifts in our urban areas doing?
- Are Wood Thrushes successfully nesting in our region given their susceptibility to predation and nest parasitism? Should we look at key individual sites to determine why we might be seeing positive and dramatic change from 2013 to 2020?
- How is clearing of understory and growth of invasive species impacting Ovenbird populations?
- What factors are contributing to the range expansion [northward?] of woodland birds?
- Which birds are telling the best stories about factors other than climate change (e.g., Emerald Ash Borer and woodpeckers, Cooper's Hawks and DDT/feeders)?



FINDINGS BY HABITAT: WETLANDS



- Much more to learn since wetlands not as extensively surveyed as other habitats
- Stable or increasing numbers for 22 species
- Insufficient data on 16 species due to lack of coverage, difficult detection, and low numbers of nesting birds
- Additional species with numbers too low

FINDINGS BY HABITAT

WETLANDS

- Sora and Sandhill Crane increasing though low number of sightings
- Swamp Sparrow and Marsh Wren on the rise
- Northern Rough-winged Swallow and Bank Swallow findings consistent with national trends
- Night Heron findings possibly skewed due to nesting sites outside of survey geography

SPECIES	Trend	% Error
<u>SORA</u>	10.3%	+/-5.9%
<u>SWAMP SPARROW</u>	9.1%	+/-2.4%
<u>SANDHILL CRANE</u>	7.3%	+/-4.4%
<u>MARSH WREN</u>	6.7%	+/-2.4%
<u>N. ROUGH-WING. SWALLOW</u>	-0.1%	+/-2.2%
<u>BANK SWALLOW</u>	-2.5%	+/-5.8%
<u>BLACK-CR. NIGHT-HERON</u>	-10.5%	+/-5.7%

From *Breeding Bird Trends*: <https://www.bcnbirds.org/trends21>

PRIORITY SPECIES FOR CONSERVATION

WETLANDS

- Wetlands are fast disappearing across Illinois, including the Chicago region. Our conservation efforts should include restoration of functional wetlands to places where they once were.

LEVEL 1: Piping Plover, Black Rail, King Rail, American Bittern, Common Tern, Black Tern

LEVEL 2: Black-crowned Night-Heron, Least Bittern, Wilson's Snipe

LEVEL 3: Yellow-headed Blackbird, Common Gallinule, Virginia Rail, Pied-billed Grebe, Marsh Wren, Sora, Osprey, Caspian Tern, Great Egret, Bald Eagle, Yellow-crowned Night-Heron (rare), Little Blue Heron (rare), Snowy Egret (rare), Forster's Tern (rare), Wilson's Phalarope (rare), Trumpeter Swan (rare)

From *Birds of Concern*: <https://www.bcnbirds.org/trends21/concern.html>

RESEARCH QUESTIONS: WETLANDS

- What does weather history of dry vs. wet years tell us about weather impact on wetlands?
- What is happening with Black-crowned Night-Herons in our region?



LEADERSHIP AS A BIRD-FRIENDLY REGION



- An important regional role for Chicago Wilderness given national trends of bird decline
- 50+% of our breeding birds stable or expanding in protected lands over last 22 years—a testament to the hard work of land managers, conservation groups, policy makers, and ordinary citizens
- Bird-friendly programs like Lights Out, Cats Indoors, etc. lead the way
- Furthermore, we are an important stopover for migrants



THE NEXT STEP: SHARE, COLLABORATE, MAKE CHANGE HAPPEN

- Interested in partnership opportunities to leverage the data and answer the many questions findings raise
- BCN as a resource for community science, advocacy, and information



THE POWER OF ONE: WHAT YOU CAN DO

- Become a bird monitor with BCN and help monitor the health of our birds
- Advocate for bird-friendly policies in your community—lights out programs, bird-friendly building design, cats indoors, etc.
- Vote for referendums that protect or expand green space
- Adopt bird-friendly homeowner practices

7 SIMPLE ACTIONS TO HELP BIRDS

- Landscape for birds and wildlife, even in a small city lot.
- Limit use of pesticides.
- Reduce window kills in highly reflective areas.
- Consume shade-grown coffee.
- Keep your cats indoors.
- Reduce use of plastics that pollute our landfills and oceans.
- Get involved in community science.

www.birds.cornell.edu/home/seven-simple-actions-to-help-birds/



**THE WAY TO GET
STARTED IS TO QUIT
TALKING AND
BEGIN DOING.**

--Walt Disney



For more information on the
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THANK YOU

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