

# 3 billion fewer birds than we had in 1970: Birds are disappearing at alarming rates in Illinois and across North America, new science reveals

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Birder Geoff Williamson, center, leads a group of birders, including beginner Pam Linge, second from right, as they participate in the North Pond Bird Walk near the Peggy Notebaert Nature Museum in Chicago on Sept. 18, 2019. A study revealed there are 3 billion fewer birds in the U.S. and Canada than in 1970. (Jose M. Osorio / Chicago Tribune)

When Geoff Williamson moved to Chicago in 1989, he looked around for the best places to watch birds, and discovered the hybrid of heavy industry and

wilderness around Lake Calumet. "I really enjoyed going down there," he says, "but when you'd talk with people who had been going down there for years, they'd say that the area was a shadow of its former self."

Back in the day, the birders told him 30 years ago, you would have really seen something.

He took it with a grain of salt: Birders are known for a universal nostalgia for that elusive "big day" spotting birds.

But today, Williamson, an engineering professor at the Illinois Institute of Technology and longtime birder says, "I go down there, and I feel like it's a shadow of when I started going down there."

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Though he has seen progress through ongoing conservation efforts at Lake Calumet, an uneasy sensation remains — there aren't as many birds as there used to be.



A blackpoll warbler is spotted near the Peggy Notebaert Nature Museum on Sept. 18, 2019. (Jose M. Osorio / Chicago Tribune)

In a large-scale study released Thursday by the Cornell Lab of Ornithology, American Bird Conservancy, Bird Conservancy of the Rockies, Smithsonian Migratory Bird Center, Environment and Climate Change Canada and Georgetown Environment Initiative, scientists for the first time have confirmed those sneaking suspicions. Study data documents an overall decline in bird population that accounts for 3 billion fewer birds in the U.S. and Canada than in 1970.

In the most basic terms, the research revealed a finding that shocked even the veteran scientists working on it: There are 29% fewer birds in North America than there were 50 years ago. The decline, the researchers say, is not accounted for by the loss of endangered species, but rather in the numbers of the birds we see every day: sparrows, for instance, or the Prairie State's seemingly ubiquitous redwing blackbird.

“We knew some species were declining and others were increasing,” says Ken Rosenberg, a senior scientist at Cornell and the study’s lead author, “but what we didn’t know was whether birds were declining overall or whether there was just a shifting of numbers among species. We were stunned by the results. I was so surprised that there was this net loss in total abundance across all birds.”

In the faithfully kept records of scientists and amateur bird watchers who have been counting birds along the same routes for decades for the massive North American Breeding Bird Survey, and in the high-tech radars that now scan the continent’s birds as they migrate by night, the same story emerged. “It’s a pervasive loss across all habitats, across multiple species,” says Rosenberg, “and the birds that are the majority of the actual loss are the common species.”

The thought that something you see every day is disappearing is arrestingly eerie. When he began talking about his findings, Rosenberg says, people kept asking him one question: Can you imagine walking outside and not seeing birds in the yard, on the sidewalk, in the park?



Pam Linge, center, who said she's a beginner birder, looks for birds with a group participating in a North Pond Bird Walk by the Peggy Notebaert Nature Museum on Sept. 18, 2019. (Jose M. Osorio / Chicago Tribune)

Jim Herkert, executive director of the Illinois Audubon Society, has been studying data for our state that further confirms the Cornell study's findings: "Over the past 10 years, my estimate is that Illinois is losing about 1.4 million birds per year," Herkert says. That's a decline, he points out, that is continuing. And though it's a small percentage of a large population of birds, "it's big. And it's certainly not a sustainable rate of decline."

The widespread nature of the decline, Rosenberg says, means that "there isn't one cause, but multiple interacting causes that need to be addressed." What is easily discernible, say he and other scientists, is that human interference in ecosystems is at the root of these changes.

"There are a variety of bad things that we are doing to the environment that affect birds," says Doug Stotz, senior conservation ecologist at the Field Museum and a respected figure in Illinois' birding community. "The nature of

how we are endangering birds has changed. We don't hunt them to death — we habitat them to death, or we poison them to death accidentally. So it's something we have to come to terms with."

Stotz, who has spent years in the agricultural zones of Illinois documenting bird populations, says the shift to industrialized agricultural starting around the 1970s is a major habitat change for birds that has undoubtedly had an impact on the decline. "The intensification of agriculture doesn't leave a lot of room for anything else out there."

The Cornell study shows a 53% reduction in population for grassland birds, the most threatened group, which includes the inhabitants of Illinois' native prairies. Though the introduction of the self-cleaning plow in the 1800s allowed settlers to quickly carve up tough prairies into farm fields, many grassland birds were able to transition into those early farmlands, taking up residence in hayfields and cornfields.

But industrialized farming practices, including the use of herbicides and insecticides, gradually changed those fields to a vast agricultural desert supporting little but corn and soybeans.



Northern flickers are seen near the Peggy Notebaert Nature Museum during a bird watching event Sept. 18, 2019. (Jose M. Osorio / Chicago Tribune)

“Fifty years ago, if you went out into the agricultural fields in Illinois, a lot of the grassland birds were still in them,” says Stotz. “Today, if you go out there, there’s nothing.”

Species such as bobolink quail, a common, iconic American bird that was once frequently spotted around Kankakee, have retreated mainly to protected landscapes and preserves. “There were about a million bobolink in Illinois in the 1950s,” Stotz says, “and the most recent estimate was about 34,000 remaining. So you’re talking about a decline of more than 90%.” Other more common species also find it hard to subsist in agricultural landscapes that have grown ever more efficient. “We know that changes in agriculture are one of the big drivers in the overall decline,” says Rosenberg.

House sparrows, which were introduced to this country from Europe, were once widely present in farmland, where they feasted on spilled grain and set up shop around farmhouses. Now, Stotz says, “there is no spilled seed” and

sparrows are declining in those rural landscapes — though they are still ubiquitous in cities like Chicago.

Though it seems counterintuitive, “cities can be a refuge for wildlife,” says Stotz. Chicago’s backyards, lakefront and network of forest preserves have helped to nurture wildlife for decades and continue to provide habitat for species such as raptors, a group of birds that rebounded after use of the pesticide DDT was discontinued. “There’s habitat in cities,” Stotz says, “and there’s potential for a whole lot more.”

Spotting pockets of continued bird abundance, Rosenberg says, is important, whether it’s tied to a particular location, species or conservation effort. “It’s important to study the groups that are doing well and figure out why,” he says.

The hope is that, with numbers in hand documenting bird decline, scientists can start to identify more of what humans can do to halt that decline. When duck hunters noticed a decline in waterfowl numbers 25 years ago, Rosenberg points out, the hunters themselves launched a massive effort to protect and restore waterfowl populations. And raptors’ numbers have increased because “we figured it out in time” to save them, he says.

Studying the causes of the decline represents the next scientific challenge for Rosenberg and other scientists. “It’s incredibly complex,” he says, with potential factors that range from weather shifts due to climate change to degradation of habitats all along a bird’s migratory path, which might span continents.

Scientists say isolating those causes is crucial to birds, and the rest of us. The expression “canary in a coal mine” didn’t come from nowhere, Rosenberg points out. “Birds may be some of the earliest warning signs that something is wrong,” he says. “The unraveling of ecosystems is obviously what we’re seeing here.”



Birder Geoff Williamson, left, leads a group of birders near the Peggy Notebaert Nature Museum on Sept. 18, 2019. (Jose M. Osorio / Chicago Tribune)

Yet he's "weirdly optimistic" that humans can reverse the losses birds are suffering. In the study, authors point to public policy initiatives that may help, as well as basic changes people can make, including better practices around windows that cause bird deaths during migration, and even keeping household cats indoors.

Stotz takes a broader approach: "One of the takeaways is that agriculture is a big driver of this, and so it's important to think about how you choose to consume agricultural products." In other words, if you're concerned about birds, it's one more reason to consider how to be a conscious consumer when it comes to your food. "Basically," he says, "anything you can do to reduce your footprint is a good idea."

Until further research reveals exact, large-scale measures humans can take to save birds, individual interventions are a start. Rosenberg says he's ready

to get back to work: "I believe we can still turn this thing around."

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