

# The Washington Post

*Democracy Dies in Darkness*



## North America has lost 3 billion birds in 50 years

By **Karin Brulliard**

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Slowly, steadily and almost imperceptibly, North America's bird population is dwindling.

The sparrows and finches that visit backyard feeders number fewer each year. The flutelike song of the western meadowlark — the official bird of six U.S. states — is growing more rare. The continent has lost nearly 3 billion birds representing hundreds of species over the past five decades, in an enormous loss that signals an “overlooked biodiversity crisis,” according to a study from top ornithologists and government agencies.

This is not an extinction crisis — yet. It is a more insidious decline in abundance as humans dramatically alter the landscape: There are 29 percent fewer birds in the United States and Canada today than in 1970, the study concludes. Grassland species have been hardest hit, probably because of agricultural intensification that has engulfed habitats and spread pesticides that kill the insects many birds eat. But the victims include warblers, thrushes, swallows and other familiar birds.

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“That’s really what was so staggering about this,” said lead author Ken Rosenberg, a senior scientist at the Cornell Lab of Ornithology and American Bird Conservancy. “The generalist, adaptable, so-called common species were not compensating for the losses, and in fact they were experiencing losses themselves. This major loss was pervasive across all the bird groups.”

The study's authors, who include scientists from Canada's environment agency and the U.S. Geological Survey, were able to put a number on the decline because birds are probably the best-monitored animals on Earth. Decades of standardized, on-the-ground tallies carried out by ordinary bird enthusiasts — including the annual North American Breeding Bird Survey and the Christmas Bird Count — provided a wealth of data that the researchers compiled and compared.

They then cross-referenced that with data from a very different, nonhuman source: 143 weather radars that are designed to detect rain but also capture “biomass” flying through the skies, as hundreds of migratory bird species do every fall and spring. Birds look “sort of like big blobs” in radar imagery, said co-author Adriaan Dokter, a migration ecologist at the Cornell Lab. Measurements of the blobs' size and movements showed that the volume of spring migration dropped 14 percent in the past decade, according to the study, published Thursday in *Science*.

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Earlier research has documented several threats that could be responsible for the large-scale bird decline. Agriculture and habitat loss are thought to be the primary drivers, with other factors such as light pollution (which disorients birds), buildings (which they crash into) and roaming cats (which kill them) amounting to “death by a thousand cuts,” Rosenberg said.

Birds, because they are so well-monitored, should be viewed as canaries in coal mines, the authors argue — harbingers of a wider environmental malaise at a time when other creatures, including insects, are also thought to be fading but are more challenging to count.

“Studies like this do suggest the potential of a systems collapse,” said Richard Gregory, head of monitoring conservation science at the Royal Society for the Protection of Birds and a professor at University College London. “These birds are an indicator of ecosystem health. And that, ultimately, may be linked to the productivity and sustainability of agricultural systems.”

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Gregory, who was not involved in the study, called its scale “impressive” and said the “picture of decline and general methodology is compelling and first-rate.”

The study is the largest effort yet to document a bird decline that has been detected in previous studies in Europe and elsewhere. In 2014, Gregory and colleagues reported a loss of 421 million birds in Europe over 30 years. Scientists in Germany reported this month that Lake Constance, at the border of Germany and Switzerland, had lost 25 percent of its birds in three decades.

A recent United Nations report warned that 1 million animal and plant species are at risk of extinction as people log, farm and mine the natural world and as the climate warms. But in the case of most dwindling bird species, the problem is not that they are in immediate danger of vanishing.

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Instead, the authors say, bird populations are shrinking at rates we do not see, and so do not act upon. Conservationists refer to this as “shrinking baseline syndrome,” and it can have devastating effects: Passenger pigeons were once so abundant that their massive flocks darkened U.S. skies. They were driven to extinction in just a few decades.

“Birds are not dropping out of the sky,” said Cagan Sekercioglu, a University of Utah ornithologist who was not involved in the new report, which he described as a “landmark” study. “When you are young, that’s your baseline. The problem is, the next generation, their baseline is lower. But they don’t know what they’re missing.”

Losing birds is not just about no longer seeing their vast array of shapes and hues or hearing their dizzying repertoires of songs and sounds. They provide essential “services” to ecosystems, the study said.

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Some are “seed dispersers” — they eat seeds from tree fruits and then spread them across wide areas through defecation, helping create new trees; when they’re not around, “seed predators,” such as rodents, consume seeds from fallen fruits but crack them open, rendering them unable to grow, said Sekercioglu, who has studied birds’ roles in ecosystems. He cited studies finding that birds save conifer farms in the Pacific Northwest many hundreds of dollars per hectare by eating harmful insects and help Jamaican coffee farmers reduce the use of pesticides.

Some birds are pollinators. Some are predators, and some are prey.

“They’re integral to the system. It’s like a very large corporation in a marketplace — they’re diversified across all areas,” said co-author Mike Parr, president of the American Bird Conservancy. “If that corporation starts to have problems, then it starts showing up everywhere.”

The study notes some bright spots. On the rise are wetland birds such as ducks and geese, which have benefited from conservation efforts by hunting groups. Also increasing are raptors such as bald eagles, which were close to extinction before the prohibition of the insecticide DDT. Endangered species protections helped them rebound, and they remain protected under other federal laws.

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Those examples show that conservation policies and protections can work, the authors say. But sparrows and meadowlarks may be trickier: There's no hunting constituency to rally behind them, and their numbers aren't low enough to warrant federal protection.

Still, Rosenberg said, these birds can be helped. Sustainable agricultural practices that depend less on pesticides and programs that offer farmers incentives to set aside land for wildlife should expand, he said.

“We’re seeing this steady intensification of agriculture and pastureland being converted to pure corn ... squeezing out every last bit of that habitat, getting rid of hedgerows, trees, grassy margins where these birds used to thrive,” Rosenberg said. “But we know of lots of examples where sustainable agriculture systems can produce the food we need.”

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Parr said more conservation funding should be directed to the Central and South American nations where many of North America's birds spend most of their lives, in cooler months. Ordinary people can aid birds by keeping cats indoors, turning off outdoor lights during spring and fall migrations, and reducing the use of pesticides.

“If you've got this rapid decline in 50 years, what's it going to be in 1,000 years? We need to design a planet for the future, and we're not doing that,” Parr said. “I really hope this can be a wake-up call.”

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