

Audubon Press Releases

BIRDS MOVEMENTS REVEAL GLOBAL WARMING THREAT IN ACTION

Species Wintering Farther North Show Need for Policy Change

New York, NY, February 10, 2009 - The northward and inland movement of North American birds, confirmed by thousands of citizen-observations, provides new and powerful evidence that global warming is having a serious impact on natural systems, according to new analyses by Audubon scientists. The findings signal the need for dramatic policy changes to combat pervasive ecological disruption.

Analyses of citizen-gathered data from the past 40 years of [Audubon's Christmas Bird Count \(CBC\)](#) reveal that 58 percent of the 305 widespread species that winter on the continent shifted significantly north since 1968, some by hundreds of miles. Movement was detected among species of every type, including more than 70 percent of highly adaptable forest and feeder birds. Only 38 percent of grassland species mirrored the trend, reflecting the constraints of their severely-depleted habitat and suggesting that they now face a double threat from the combined stresses of habitat loss and climate adaptation.

Population shifts among individual species are common, fluctuate, and can have many causes. However, Audubon scientists say the ongoing trend of movement by some 177 species-closely correlated to long-term winter temperature increases-reveals an undeniable link to the changing climate.

"Birds are showing us how the heavy hand of humanity is tipping the balance of nature and causing ecological disruption in ways we are just beginning to predict and comprehend," said report co-author and [Audubon Director of Bird Conservation, Greg Butcher, Ph.D.](#) "Common sense dictates that we act now to curb the causes and impacts of global warming to the extent we can, and shape our policies to better cope with the disruptions we cannot avoid."

Movements across all species-including those not reflecting the 40 year trend-averaged approximately 35 miles during the period. However, it is the complete picture of widespread movement and the failure of some species to move at all that illustrate the potential for problems.

Purple Finch, Pine Siskin, and Boreal Chickadee have retreated dramatically north into the Canadian Boreal, their ranges moving an estimated 433, 288, and 279 miles respectively over 40 years. Continuing warming and development are predicted to have adverse impacts on the boreal forest and the species that depend on it.

Red-breasted Merganser, Ring-necked Duck, and American Black Duck, normally found in southern-tier states, have all taken advantage of warmer winter waters and have shifted their ranges north by an estimated 317, 219, and 182 miles. Still, they are likely to be negatively impacted by the increased drought expected in many parts of North America as global warming worsens.

Only 10 of 26 grassland species moved north significantly, while nine moved south. Species such as Eastern Meadowlark, Vesper Sparrow, and Burrowing Owl were likely unable to move despite more moderate northern temperatures because essential grassland habitat areas have disappeared, having been converted to intensive human uses such as row crops, pastures, and hayfields. In combination, global warming and ongoing overuse of grasslands by humans will doom grassland birds to continued population declines.

"Experts predict that global warming will mean dire consequences, even extinction, for many bird

species, and this analysis suggests that that the process leading down that path is already well underway," warned [Audubon President John Flicker](#). "We're witnessing an uncontrolled experiment on the birds and the world we share with them."

Butcher explains that many birds move great distances to find suitable food and habitat, but questions how far they will be able to move in the face of climate change before they run out of habitat, food or even luck. "The long term picture is not good for many species, and even in the short term, a single harsh winter could have a devastating impact on birds that have moved too far," he adds.

New forward-looking research from Audubon California reinforces the national findings, predicting that about 80 of that state's native bird species will experience significant climate-driven reductions in their geographic range over coming decades.

Scientific models indicate that the magnitude of losses in California depends largely on steps taken now to reduce greenhouse gas emissions. The California Gnatcatcher could lose as much as 56 percent of its range, or as little as 7 percent, depending on how climate change is addressed. Projected range losses for the Bay area's popular Chestnut-backed Chickadee vary from 49 percent to as little as 16 percent.

Detailed GIS maps produced using the California research project where the birds are likely to be in 50 to 100 years. Findings will help policymakers and land managers augment efforts to mitigate the severity of global warming impacts with better habitat conservation investments to address changes that can't be avoided.

"The birds are giving us yet another warning that it's time for urgent action," added Flicker. "People hear about melting glaciers and changing weather, but now they can witness the impact global warming is having with the birds they see or don't see right outside their doors. These birds are our 'canaries in the coal mine' and they're telling us that we'd better do something fast to curb global warming and to protect habitat."

Critical steps citizens can take can be found online at [Audubon.org](#) and include signing a national petition demanding aggressive federal policy action. Habitat conservation efforts based on forward looking projections such as those from Audubon California are also essential.

Habitats already under siege from development, energy production and agricultural expansion and other human uses will require enhanced protection and restoration to sustain bird populations and provide ecological benefits essential to human health, economic prosperity and quality of life.

Audubon anticipates that the new avian evidence will help attract the attention and spark action among more than 40 million self-proclaimed U.S. bird-watchers, ten of thousands of whom contributed to the Christmas Bird Count data on which the studies are based. The 109-year-old census provides the world's longest uninterrupted record of bird population trends.

"Citizen Science is allowing us to better recognize the impacts that global warming is having here and now. Only citizen action can help us reduce them," said Butcher.

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