

2007 GBBC Summary

In 2007, Great Backyard Bird Count participants made history, breaking records for number of birds reported, number of species, and number of checklists. As of March 5, participants had submitted 80,744 checklists documenting 11,066,350 birds of 629 species.

“Literally, there has never been a more detailed snapshot of a continental bird-distribution profile in history,” said John Fitzpatrick, director of the Cornell Lab of Ornithology. “This is a cool, timeless project and this year it achieved real scale. Imagine ornithologists and ecologists 250 years from now comparing these data with their own!” Fitzpatrick urged the Lab’s data analysts to use these new data along with past counts to take a look at what the 10-year data set may tell us about birds. We will keep you posted of future results on this web site.

Results

By Paul Green, director of Citizen Science, National Audubon Society

The number of checklists submitted increased during 2007 by around one third, from 60,616 in 2006 to 80,744. We have done a cursory examination of patterns of numbers and distributions to highlight those worthy of more investigation, and have made adjustments to allow for the differences in the checklists submitted between years. Changes in distribution and numbers can be caused by a wide range of factors that may interrelate, including climate, weather, food supply, disease, and breeding success. Each of the preliminary observations in the summary below requires more in-depth exploration which you, as an interested studier of birds, can do using the results available on this site.

This year’s weather

In last year’s GBBC summary, we noted that the United States had its warmest January on record.

The pattern for 2007 was closer to the average; the mean January temperature for the contiguous United States was 0.9°F above the 20th century average of 30.9°F, based on preliminary data. The central and eastern United States saw a pattern of spring-like temperatures during the first two weeks of the year, and 29 states were warmer than average east of the Mississippi River and in the northern High Plains. Alaska also was warmer than average at 0.9°F above the mean for 1971–2000.

The same upper-level wind pattern, responsible for the warmer-than-average temperatures in the East, brought colder-than-average temperatures to the southern Plains and much of the West in January. Hundreds of daily low temperature records were either tied or broken during a mid-January cold outbreak that extended snowfall as far south as Arizona and southern California. Below-average temperatures had spread across much of the country by the end of the month.

For more details on average precipitation, storms, and tornadoes prior to the GBBC, see the story farther down in this document.

Tree Swallows in the North

Last year, we explored the idea that the warmer temperatures allowed more of the insect eating bird species to remain north. Have those species receded, or were they reported in large numbers in the north again this year?

The Tree Swallow is the most northerly of the wintering swallows that can increase the amount of vegetable food that it eats to survive in winter. In 2007, we received no reports from Michigan and New Mexico, where participants recorded the species last year. However, participants reported Tree Swallows in New York, Ohio, Washington State, and British Columbia, locations not recorded in 2006.

The proportion of checklists reporting Tree Swallow remained about the same in 2007, but the number of individuals reported per checklist increased by 50%, from 40.6 to 60.8. The numbers of birds per checklist in the North were quite small; the overall numbers were skewed by large counts from Florida.

The number of states reporting Tree Swallows increased from 14 in 2000 to 22 in 2007, inching northward to New York state and British Columbia, and increasing in numbers in Oregon and Washington from one to twenty checklists between 2000 and 2007. There was a similar increase in the coastal mid-Atlantic states (Virginia through New Jersey, from 1 to 25 checklists). Another 20 years of data should reveal if this is a real trend.

Warblers

The warbler species we examined last year do not allow us to say very much new. Participants reported Orange-crowned Warbler on fewer checklists in 2007, and smaller numbers per checklist. The northern distribution of a small number of checklists reporting this species, including British Columbia, Washington, Oregon, Idaho, Illinois, and Maine, contrasts strongly with 2000 reports that reach their northern extremes in California and Pennsylvania.

It is difficult to say much about Pine Warbler, which showed no significant change from 2006. This bird has long had a distribution that encompasses northern provinces, such as Prince Edward Island and Nova Scotia, and there is no indication of an increasingly northern distribution.

Northern Finches: Complex pattern continues

Tracking the irruptive “northern finches” is always an interesting exercise following GBBC. The scientific literature discusses alternate-year patterns of occurrence and non-occurrence of these species in southern Canada and south, a pattern visible in results from past GBBC counts.

However, over the long-term, this every-other-year pattern is too simplistic. More recent results

from the GBBC indicate a more complex pattern that includes differences between the West and the East. The year 2005, which was expected to be an off-year, was about 90 percent as strong as 2004 across the continent. In 2006, a strong southward movement occurred in the East, but not in the West. Now in 2007 we see a weak southward movement in the East and a strong one in the West.

GBBC data in 2006 revealed significant number of **Common Redpolls** in the West and few in the East. Adjusted totals of Common Redpolls this year were down by around one third, though the pattern of distribution was very different. In 2007, participants reported the greatest numbers of redpolls in the West and the North (Alaska, Alberta, Manitoba, Saskatchewan, British Columbia and Montana). In 2006, the greatest number of reports were in Ontario, Quebec, Maine, Newfoundland, Vermont, and New York. North Dakota, which reported no birds in 2006, reported 1,284 from 36 checklists (36 per checklist). In Montana, the figure of 10 birds from 5 checklists in 2006 increased to 2,229 from 70 checklists in 2007. Farther east the pattern was reversed; for example, in Ontario, Common Redpolls were reported from around one quarter of the number of checklists in 2006. This is probably because the seed crops on white birch and alder are excellent to bumper in the north of the province, where GBBC participants are scarce.

Pine Siskins showed a similar pattern of more frequent reports from the West. For example, the adjusted number for Washington shows an increase of 230 percent in checklists reporting Pine Siskins (171 checklists), whereas New York showed a decrease to 28 percent of the 2006 figure of 125 checklists. Ontario showed predicted declines. Reports come mainly from the south of the province and showed a decrease to less than one third of 2006 checklist numbers in 2007, with a decrease in the number of birds per checklist from 24 to 10. Ron Pittaway had predicted that in Ontario most Pine Siskins will winter in northern and central Ontario because cone crops are bumper on spruces, balsam fir, tamarack (larch), cedar, and hemlock.

This was a banner year for **White-winged Crossbills** in the East. Quebec, New York, Vermont, Maine, and New Brunswick turned in 77 checklists with this species, compared with 0 in 2006. Ontario and Michigan turned in 14 compared with 0 for last year. Pittaway had again predicted a southerly movement because of bumper seed crops on spruces, tamarack, balsam fir, and hemlock. He predicted the highest concentrations of white-wings to be in northeastern Ontario between Lake Superior and Quebec where the super bumper crop of white spruce cones is “a 1-in-20-year cyclical phenomenon,” making this is a rather rare event in seed production for white spruce. In the West, the number of checklists reporting White-winged Crossbills was down, from an adjusted 69 in Alaska and British Columbia in 2006, to 18 in 2007, with the average count dropping from 7 to 6.

Participants reported **Evening Grosbeaks** from fewer checklists this year, down by 66%. Ontario remained the region with the largest number of checklists, though the adjusted number fell to around one half, with the average count falling from 14 to 12. Pittaway had predicted that Evening Grosbeaks would stay in the boreal forest this winter because tree seed crops are excellent on conifers and hardwoods such as black ash.

Sandhill Crane migration delayed

The maps for Sandhill Cranes show fingers of migration movements across the continent. Last year's warm temperatures had stimulated the birds to move early. The storm of 2007 seems to have slowed this year's movements.

In 2006, checklists with Sandhill Cranes came from around the Great Lakes from Indiana, Michigan, Wisconsin, Ohio, Illinois, and Minnesota. In 2007, Indiana and Michigan checklists with Sandhill Cranes dropped to less than one third of their 2006 number, with Ohio, Illinois, Iowa, and Minnesota not reporting any. In the central flyway, cranes per checklist in Nebraska fell from 688 to 31 in 2007.

New states report Eurasian Collared-Doves

One of the most spectacular animated GBBC maps we have seen is for Eurasian Collared-Dove. In 1999, 8 southeastern states recorded the species on 201 checklists. In 2007, that increased to 34 states with 1,839 checklists. Although the Southeast is still the Eurasian Collared-Dove's stronghold, GBBC participants now report this species from Washington, California, and Saskatchewan. New states this year included Minnesota, Pennsylvania, Wisconsin and Indiana. This species is repeating in North America what it achieved in Europe in the 1940s, and in the Britain in the 1950s and is clearly an aggressive colonizer.

Red-bellied Woodpeckers moving west?

The long-term northern expansion of Red-bellied Woodpecker did not make any great pushes this year. There was a record from New Brunswick in 2007 which we did not have in 2006, although there was an earlier record from 2005. Red-bellied Woodpecker, which pushed north in previous years, now appears to be moving west, with records for Colorado and the Texas Panhandle.

Few northern owls reported in '07

A big story in 2005 related to large numbers of northern owls coming south, presumably because of the need to find their food source of small mammals. In contrast, this year, participants reported few owls: 9 checklists reporting 10 Northern Hawk Owls (compared with 34 checklists with 36 in 2005), and just 6 checklists reporting Great Gray Owls (compared with 175 checklists reporting 672 Great Gray Owls in 2005).

American Robins as far as the eye can see

American Robins were the most numerous bird reported in the Great Backyard Bird Count, for the first time ever. See story farther below.

American Robins as Far as the Eye Can See

Great Backyard Bird Count participants document a massive winter roost

“Then the robins just pour out of there...It’s spectacular with the sunrise on their red bellies. When you see it, you think this is what makes life worth living.”

—Lorraine Margeson

By Miyoko Chu, science editor, Cornell Lab of Ornithology

During the 2007 Great Backyard Bird Count (GBBC), [American Robins](#) ranked as the most numerous species reported, for the first time ever. Participants counted more than two million robins—an astounding number, considering that the highest GBBC count for robins previously was 337,973.

The size of the roost varies each year, according to Margeson. She estimated there were 42,000 robins at the peak last year. She speculated that snow and ice in the Northeast and an ice storm in Texas this year may have pushed robins into Florida, accounting for the huge numbers. Robins returned to the roost for a month or so before their numbers began dwindling as they moved on in search of food.

Margeson said she experienced the true magnitude of the roost when she went to the mangrove forest about 15 minutes before daybreak. “The noise is deafening, with as many as 10,000 Common Grackles calling at once. Then, just before the birds take off, they all go silent,” she said. Suddenly, with an incredible rush of wings, the grackles come out, she recalled. The other birds follow—starlings, Red-winged Blackbirds, cowbirds, waxwings.

“Then the robins just pour out of there,” Margeson said. “It takes at least 15 minutes to empty the mangroves of robins. It’s spectacular with the sunrise on their red bellies. When you see it, you think this is what makes life worth living. It’s amazing.”

American Robins are the most widespread and abundant thrush species in North America. In autumn, they gather into flocks and migrate to the southern states. They roam in search of berries during winter, their movements varying depending on the availability of food. [GBBC data](#) have shown that robins avoid areas with heavy snow cover. Weather and food supply can determine which areas the robins may inundate in any given year.

This year, participants in Washington state also reported an influx of robins, with flocks as large as 37,000 reported in Yakima.

GBBC participants this year tallied robins on 22,722 checklists in 60 states and provinces, creating a continentwide picture of where the robins were. As the Margeson's efforts show, every checklist helps record the variation in concentration of robins across the landscape. How unusual is the Saint

Petersburg roost? Where will next year's phenomenal flocks show up? By reporting your sightings of robins to the Great Backyard Bird Count, and to eBird year-round, you can help reveal the dynamic patterns of movement and abundance of robins through time.

To report your bird sightings to eBird at any time, visit www.ebird.org.

Precipitation and Storms Leading up to the 2007 GBBC

Precipitation for the contiguous United States during January 2007 was near average, with sharply contrasting conditions across the country. According to the [NOAA Satellite and Information Service](#), near-average to drier-than-average conditions occurred along much of the East Coast, Southeast, Upper Midwest and the northern High Plains to the Pacific Northwest. Precipitation was above average from southern Texas and New Mexico to the Midwest and parts of the Northeast, while much-drier-than-average conditions were present in parts of the Intermountain West and California.

A series of snow and ice storms struck the central United States in January, with severe winter weather as far south as San Antonio and Houston, Texas. For much of the mountainous West, below-average seasonal snowfall totals persisted. Snowpack was below average throughout most of the West through early February, with only portions of the Northern Cascades and the Front Range of the Rockies in Colorado and New Mexico above average.

Then in February 2007 a severe winter storm affected most of the eastern half of North America, starting on February 12, 2007, and peaking on February 14. The storm produced heavy snowfalls across the midwestern United States from Nebraska to Ohio and produced similar conditions across parts of the northeastern United States, and into Canada in Ontario, Quebec and New Brunswick. Significant sleet and freezing rain fell across the southern Ohio Valley and affected portions of the east coast of the United States, including the cities of Boston, Baltimore, Washington D.C., New York City and Philadelphia.

The southern portion of the storm produced severe thunderstorms with numerous tornadoes reported. One tornado hit a subdivision of New Orleans that was still recovering from the effects of Hurricane Katrina, which hit the region in August 2005. In total, this storm system was responsible for 35 deaths across 13 states and the Canadian provinces of New Brunswick, Ontario, and Quebec. The NOAA classified the storm as a Category 3 "Major" storm. The National Weather Service has determined that this storm was one of the three largest snowstorms to hit the inland areas of the northeastern United States since 1940.

USA Today Reports on Birds, Global Climate Change

For an article about this year's Great Backyard Bird Count results in light of global climate change, see the March 19, 2007, edition of [USA Today](#).

http://usatoday30.usatoday.com/weather/climate/globalwarming/2007-03-18-birds-winter_N.htm