

# **2006 GBBC Summary**

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

A preliminary descriptive analysis of this year's Great Backyard Bird Count (GBBC) results reveals changes in the patterns of bird distribution and numbers as we would expect with changing climate and weather conditions between years. In February 2006 participants reported distribution patterns of note for American Robins and northern seedeaters, and various reactions to food availability in northern Canada. GBBC-ers reported a more northerly distribution for a broad suite of species following a period of above-average temperatures.

## **Weather Summary**

The United States had its warmest January on record, with an average temperature of 39.5 degrees Fahrenheit, which was 8.5 degrees (4.7 degrees Celsius) warmer than the average for 1986-2006. The jet stream remained unusually far to the north during January, trapping cold air in Canada and Alaska. None of the lower 48 states experienced below-average temperatures, and each state was warmer than the long-term average.

NOAA reports that 15 states in the Northern Plains, Great Lakes, and Midwest had record high temperatures for the month, with an additional 26 states having temperatures much above average. More than 74 percent of the United States was classified as "much above normal." Some regions, such as the northern and central plains, that normally have some of the most severe winter temperatures, had temperatures more than 10 degrees Fahrenheit above their January average. January was warmer than December by 6.1 degrees on average, the reverse of typical years in which January would be 2.4 degrees colder than December.

North of the jet stream, however, temperatures were much lower than average. Fairbanks, Alaska, reached a minimum temperatures of minus 51 degrees Fahrenheit on January 27, with a high of only minus 40 degrees for that day.

## **Southern Insect-eaters**

Some species that might be able to take advantage of warmer temperatures showed predictable results in 2006. Insectivores, such as most swallow and warbler species, move south and out of the United States and Canada to track available food. Those that are more catholic in their diet may linger farther north. The Tree Swallow, which can eat berries during the winter when insects are scarce, is the most northerly of the wintering swallows. Much is made of its ability to digest bayberry (*Myrica* spp.) berries, with their waxy coating, and winter distribution of Tree Swallows increasingly reflects the distribution of species of bayberry.

The Tree Swallow has broadened its distribution from 11 states in 2001 to 20 states in 2006. Adjusted GBBC figures showed an increase of 43 percent in the number of checklists reporting the species since 2005 to 642, and the number of birds reported up by 134 percent to 25,795. The number of birds reported from those checklists increased from 4,000 in 2000 to 25,795 in 2006.

Orange-crowned and Pine Warblers show similar patterns. Orange-crowned Warbler occurred in five new states and provinces for GBBC in 2006, namely New Mexico, British Columbia,

Washington, New Jersey and Nova Scotia. The number of checklists reporting Orange-crowned Warblers was up by 55 percent, and the numbers up 98 percent, with participants often reporting these birds were at suet and nectar feeders.

Orange-crowned Warblers often feed by probing, and in winter can often be seen feeding on the ground for insects, as well as taking vegetable food. Their ability to survive on vegetable food, and their change in feeding location from tree to ground, may enable them to winter farther north than most warblers. As a result, they may be well placed to take advantage of warmer northern winter temperatures to increase in numbers and distribution.

Like the Orange-crowned Warbler, the Pine Warbler was reported by an increasing number of checklists when compared with 2005, a 12 percent increase to 2,344, and the number of birds reported increased by 74 percent to 6,283. Pine Warblers were reported in Missouri, Indiana, Michigan, Nova Scotia, and Prince Edward Island in 2006. An ability to feed on seeds of pine species during the winter would help this species benefit from warming temperatures.

### **American Robins--Flocks as Loud as Jets**

Compared with 2005, the number of checklists reporting American Robin decreased by around 6 percent, while the number of birds reported from those checklists increased by 57 percent. A large part of this increase was accounted for in the Yakima region of Washington State, which appears to result from at least two possible causes.

Robins returned to the southern interior of British Columbia by early February, about a month earlier than normal. Then, with falling temperatures in the entire region during the GBBC weekend, it is possible that the birds retreated south and to the relative warmth of eastern Washington, while birds from farther east also moved to Yakima when the cold weather hit. Since Yakima is a center for growing apples and grapes, the area has a lot of cold-weather food for robins.

The 2005 Yakima figure of 150 American Robins from 8 checklists soared to 45,285 birds from 31 checklists. Across the state of Washington, robins reported through GBBC checklists increase from 2,895 to 85,065, and checklists containing American Robin increased from 403 to 840, accounting for a large part of the overall increase. Eyewitness accounts from Yakima suggest the robins created a phenomenal spectacle.

During the count, temperatures were down to minus 10 degrees Fahrenheit in eastern Washington and minus 30 degrees in Central British Columbia. Robin Conway, one of our two Washington regional reviewers, reports that every three or four years, when big pockets of very cold air settle in, the robins make a pit stop to avoid the coldest air and settle in to feed on unpicked apples, Russian Olive, and crabapples.

The largest flocks estimated this year were around 40,000 in the Moxee area, where in 2002 residents reported flocks of up to 250,000 in that same area--all roosting in small riparian groves. The noise was reported by one person as sounding like four or five big jet engines in need of lubrication because they screeched so much.

Large increases in robin counts occurred across the continent, including British Columbia, Oregon, and Idaho, and in the east in New Jersey, Maryland, North Carolina, Kentucky, Florida, and Tennessee. States showing decreased robin counts included Texas (down 70 percent), Louisiana (down 76 percent), Mississippi (down 55 percent), and Georgia (down 25 percent). It is possible that warmer weather led American Robins to winter farther to the north, although other factors may also be involved.

## Creepers Crept Up

A suite of other species showed increases over 2005. For example, Brown Creeper, a bird about which relatively little is known, has shown a remarkable increase. The adjusted number of checklists with Brown Creeper reported is up by 57 percent to 2,523, with a 53 percent increase in the number of birds. Warmer temperatures over the winter would probably lead to decreased mortality for many species, which could help account for larger numbers of many of the smaller-bodied species, Brown Creeper included.

## Irruptions and non-irruptions for seedeaters

Common Redpoll, as an irruptive species, is always a candidate for investigation in GBBC, normally alternating the years they come south in large numbers, and years when they do not. Animated maps in the GBBC map room for this species blink like a light! While the literature talks of reliable two-year cycles, GBBC data indicate that there is some complexity in the figures. The year of 2005 was the second "on" year, about 90 percent as strong as 2004 across the continent. In 2002, Common Redpolls showed different patterns in east and west: they streamed south along the Rockies but not in the east. Now, in 2006, a strong southward movement occurred in the East, but not in the West.

Overall, numbers of Common Redpolls were down to about half in 2006. Adjusted checklist numbers were down to 58 percent of 2005 levels, and the number of birds was at 49 percent of 2005 levels. But it's the pattern that is more interesting. The articulation point occurs around North Dakota. In North Dakota, adjusted numbers from 2004-2006 were 2,002, 2,549, and zero. Farther east, in Quebec for example, the figures for 2004-2006 were 3,297, 2549, and 4,980. So we see a clear east-west divide, birds coming south in the east but not in the west.

One report from Dick Cannings in Canada indicates that the spruce cone crop in northern British Columbia and the southern Yukon is "monumental," with huge numbers of Common Redpolls, White-winged Crossbills, and Pine Grosbeaks everywhere. In southern British Columbia the seed crop is poor, and birders report "the worst year in memory" for winter forest finches with not even Red Crossbills appearing in any numbers. The pattern we observe could therefore be the result of redpolls remaining to the north in western Canada where few people took part in the GBBC.

Snow Buntings mirrored Common Redpolls in some respects. The number of checklists reporting them was down 22 percent and numbers down 48 percent. The distribution showed birds coming south in the East but staying north in the West, perhaps reflecting poor seed availability in the northeast of Canada. Snow Buntings were seen most frequently and in the greatest numbers from Minnesota and Ontario to all points west, as well as Alaska and Alberta.

The Pine Siskin is another seedeating species whose populations move around the continent in winter, locating the best food sources. Pine Siskin checklists and numbers were down by 35 percent, but the distribution varied greatly. Once again, numbers in the East were high. In Ontario there was a three-fold increase in the number of checklists reporting the species and a five-fold increase in the number of birds reported.

Meanwhile, in western states and provinces, such as Oregon, Washington, Idaho, and California, numbers of checklists reporting the Pine Siskin, and the number of individual birds reported, were down to around one-fifth or less of 2005 levels. The British Columbia coast usually has the highest concentration of wintering Pine Siskins on the continent, and in 2006 there were almost none. Victoria reported 68 siskins during the Christmas Bird Count when, in a good year, they may have 10,000. Good food farther north is probably the answer to what we see happening with Pine Siskins this winter.

## Owl Oscillations

Just as 2005 was a spectacular year for Great Gray Owls, this year was remarkable for their absence. The adjusted number of birds was down to nine percent of the 2005 figure, and the number of checklists reporting the species was down to three percent of last year's figure.

Minnesota, for example, reported 344 Great Gray Owls on 68 checklists in 2005, and just one bird on one checklist in 2006. Food supplies of small mammals were probably plentiful this year in the northern areas where there are fewer GBBC observers.

In contrast, Snowy Owls came south in record numbers during this GBBC, with 182 reported. Three of the ten reporting locations for this species were in Washington State, with 35 reports—compared with zero reports of this species in 2003, 2004, and 2005. Read more on the Snowy Owl story farther below.

## Crow Family Troubles?

Two members of the crow family show a decreasing trend. Whereas the adjusted number of checklists for American Crow was around the same when compared with 2005, the number of birds reported was 35 percent to 204,440 birds.

People who find roosts of gregarious species, such as the American Crow, can skew numbers easily, but this decrease was a general one across the continent. In addition, Yellow-billed Magpie, restricted to a small area, 500 miles by 150 miles, in California, was reported on 135 checklists in 2005, with 1,835 individual birds counted. In 2006, the number of checklists reporting the species was down 10 percent to 122, and the number of birds reported was down 45 percent to 994.

## Continued Expansions

The GBBC also provided updates on species showing an increase in their ranges. Eurasian Collared-Doves appeared as escaped birds in Florida in the 1980s, and they have been expanding their range on the continent ever since. This year, Eurasian Collared-Doves were reported in three new regions for the GBBC: Ontario, Saskatchewan, and Nevada. Red-bellied Woodpecker,

pushing north in previous years, now appears to be moving west with records for Colorado and the Texas Panhandle.

## **Flights of the Cranes**

The map of Sandhill Crane distribution from GBBC results is always one of the most interesting and most easily translated. Straight lines pointing at stop-over sites and breeding grounds from wintering grounds show clearly the pattern of migration of various wintering crane populations. Or not. What is interesting is that in cold years, the Sandhill Cranes are still on their wintering grounds, or just beginning their migration at the time GBBC is held. Take a look at the animated map, paying close attention to 2003 for the Florida population, 2002 and 2003 for the Texas and Arizona populations, and 2001 for the California population.

Nebraska's Platte River is a staging ground for migrating Sandhill Cranes. In 2006, as in 2005, significant numbers of birds were counted there: 2,751 from 4 checklists this year. In those slower years of 2002 and 2003, the counts were from 1 checklist with 4 birds, and 2 checklists with 111 birds. Likewise, in those colder years of 2001 and 2002, New Mexico produced large counts of birds not yet migrating. In other words, the birds had left early in 2006.

Sandhill Cranes streaming up from Florida through Tennessee produced a count of 5,256 individual birds on 25 checklists in 2006, while in 2003 there were only 191 birds on 7 checklists, since the birds had not moved that far north in mid-February. In 2003 the Sandhill Cranes has reached Georgia but not Tennessee. We can even see the fine difference between 2005 and 2006. In 2005 the birds had reach Georgia in numbers but fewer had reached Tennessee. In 206, the situation was reversed. The story is the same on the West coast. In 2003, no birds had reached Oregon at the time of the GBBC, whereas in 2006, 16 checklists reported 351 birds.

The GBBC maps provide a very graphic representation of the effects of climate on the migration timing of Sandhill Cranes, and also of their migration routes toward their dispersed breeding grounds in the northern parts of the continent. The maps represent a startling illustration of what we can achieve with thousands of sets of eyes and ears focused on birds during the GBBC period.

## **Checklist Champs for 2006**

With more than 60,000 checklists submitted, the 2006 Great Backyard Bird Count ranks as the second-highest ever in participation, up 15 percent compared with last year and up a whopping 40 percent from two years ago. Three Canadian provinces and fifteen states set new records for checklists submitted. The following are the checklist champs for this year's competition:

### **Top 3 Provinces:**

- 1) Ontario (1,309)
- 2) British Columbia (424)
- 3) Alberta (317)

### **Top 10 States:**

- 1) New York (3,978)

- 2) Pennsylvania (3,173)
- 3) Virginia (2,863)
- 4) North Carolina (2,847)
- 5) Ohio (2,833)
- 6) Texas (2,754)
- 7) California (2,550)
- 8) Georgia (2,507)
- 9) Florida (2,263)
- 10) Michigan (2,071)

**Top 5 U.S. communities:**

- 1) Fultondale, AL (505)
- 2) Charlotte, NC (362)
- 3) Mentor, OH (340)
- 4) Cincinnati, OH (287)
- 5) Richmond, VA (262)

**Top 5 Canadian communities:**

- 1) London, Ontario (86)
- 2) Calgary, Alberta (69)
- 3) Saskatoon, Saskatchewan (47)
- 4) Winnipeg, Manitoba (45)
- 5) Campbell River, British Columbia (40)

The Cornell Lab of Ornithology and National Audubon Society thank Wild Birds Unlimited, sponsor of the Great Backyard Bird Count.

## Record Counts of Snowy Owls

By Brian Sullivan, project leader, eBird

March 9, 2006

One of the world's most spectacular birds irrupted southward this winter in unusually high numbers. For the first time in years, Snowy Owls moved far south of their regions of normal occurrence into the Pacific Northwest primarily, but also across Montana and the Great Lakes region. Snowy Owls made an incredible showing in the Great Backyard Bird Count, with 182 reported—a record high in the nine years since the count began.

This amazing Arctic breeder rarely occurs in the Lower 48. A few Snowy Owls typically wander well south of their normal range each year, but in years when prey availability is low, they move as far south as the United States/Canada border region, sometimes in numbers. Snowy Owls are diurnal hunters, and can be found actively foraging during the daylight hours throughout the winter. Birders often find Snowy Owls in coastal areas and agricultural habitats that approximate their favored tundra habitat.

This year was indeed unusual for Snowy Owls, not only in the numbers of birds reported, but in the concentrations of individuals. Ten or more Snowy Owls were reported from 4 locations across Washington, Montana, and Michigan. A record high count was also set for the most owls at a single location—18 at Pablo, Montana!

The big story was in the Pacific Northwest, where this winter's numbers went through the roof. Three of the top ten reporting locations for this species were in Washington, with 35 reports! This is substantially different from previous years—five Snowy Owls reported in 2001, one in 2002, and none in 2003, 2004, and 2005. Similarly, numbers were very low in Montana in previous years, but 26 reports came in statewide this year! Michigan typically reports several Snowy Owls, but this year a remarkable 21 were found. Despite good numbers known to be present around Wolfe and Amherst Islands in Ontario, reports were lacking from that area.

This kind of movement to the south and subsequent concentration of individuals recalls the 2004–2005 invasion of Great Gray Owls into southerly regions. Like the great grays, the Snowy Owls seem to have taken a good bit of time to find their way south, but have congregated presumably around ample food resources available in relatively small areas. There was even a report this winter of up to 30 Snowy Owls in a single field in Montana!

It will be interesting as the years go on to continue to document the ebb and flow of these large, northern owls as they find their way south. Our knowledge of just why these invasions occur will increase as participation in the Great Backyard Bird Count and eBird continues to rise.

*Report sightings of owls and other birds year-round with eBird. Visit [www.ebird.org](http://www.ebird.org).*

To learn more about Snowy Owls, visit the [Online Bird Guide](#) on the Cornell Lab of Ornithology's [All About Birds](#) web site.

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## After the Hurricanes

A preliminary look at bird counts from Mississippi and Louisiana

By Paul Green, Director of Citizen Science, National Audubon

March 9, 2006

The hurricane season of 2005 saw five landfalling major hurricanes—Dennis, Emily, Katrina, Rita, and Wilma. Florida and Louisiana were each struck twice by major hurricanes; Mississippi and Texas were each struck once. A 30-foot storm surge from Hurricane Katrina caused flooding that destroyed most structures on the Mississippi coastline. Inundation with salt water and high winds have caused much damage to forests and other vegetation.

Focusing on Mississippi and Louisiana, first of all we notice the human side of the GBBC. The number of checklists submitted from Mississippi was down by 40 percent, from 2,390 to 1,423,

against an overall increase of 17 percent for the year. Louisiana showed a 15 percent increase from 417 to 478. Mississippi turned in 11 fewer species (166), Louisiana 6 fewer species (176) when compared with 2005. The number of individual birds reported from those checklists was down in Mississippi by 69 percent and up in Louisiana by 66 percent. The distribution of those checklists showed little difference between years. Checklists from New Orleans dropped by only 3, from 15 to 12.

Making much sense of changes between years in terms of the birds reported is difficult. The best we can do is to describe the greatest changes as we look for input from the region. The numbers below indicate the number of checklists reporting the species, followed by the number of individual birds reported. Adjusting figures to a 2005 standard, counts of the following species increased in Louisiana: Chipping Sparrows (114/775 to 158/3309), Double-crested Cormorant (69/1047 to 63/4667), Snow Goose (15/8372 to 16/24,918), American Coot (16/1013 to 29/2798). Lesser Scaup (8/68 to 15/1140), and American White Pelican (20/213 to 18/1081). Birds in decline included American Robin (275/6400 to 93/1455), Cedar Waxwing (104/2724 to 39/987), and Greater White-fronted Goose (10/1113 to 2/57).

In Mississippi, adjusted figures reveal the following gains and losses. Species with higher counts included Chipping Sparrow (305/1904 to 747/10,090) and Brown-headed Cowbird (281/5301 to 376/13,846). Those with a drop in counts included Red-winged Blackbird (545/62,207 to 641/16,112), American Robin (943/9588 to 492/8082), American Crow (611/109,710 to 551/5425), Double-crested Cormorant (88/24,480 to 94/3003) and Cedar Waxwing 197/5429 to 107/1585).

Given the decrease in checklists in Mississippi in 2005, it is difficult to read much into these figures. Both states saw lower numbers of fruit-eating species (American Robin, Cedar Waxwing). Reports indicate that there is fruit to be eaten and there are fewer birds to eat it: they could simply have remained further north due to record high temperatures across the lower 48. Louisiana saw an increase in waterbirds that seems to be an anomaly caused by increased observer effort. Why the dramatic increase in Chipping Sparrows in both states? We're not sure. It will be interesting to see what next year's numbers show.

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## Counts

### Species with increasing counts in Louisiana

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