



The Passenger Pigeon

Volume 48, Number 9

The Newsletter of the Cincinnati Bird Club

December 2012

How Christmas Bird Count Helps Protect Species and Their Habitat

(Courtesy National Audubon Society.
Reprinted with permission.
www.audubon.org)

The data collected by observers over the past century allow researchers, conservation biologists, and other interested individuals to study the long-term health and status of bird populations across North America. When combined with other surveys such as the Breeding Bird Survey, it provides a picture of how the continent's bird populations have changed in time and space over the past hundred years.

The long term perspective made possible by the Christmas Bird Count is vital for conservationists. It informs strategies to protect birds and their habitat - and helps identify environmental issues with implications for people as well. For example, local trends in bird populations can indicate habitat fragmentation or signal an immediate environmental threat, such as groundwater contamination or poisoning from improper use of pesticides.

In the 1980's CBC data documented the decline of wintering populations of the American Black Duck, after which conservation measures were put into effect to reduce hunting pressure on this species. More recently, in 2009, the data were instrumental in Audubon's Birds & Climate Change analysis, which documented range shifts of bird species over time. Also in 2009

CBC data were instrumental in the collaborative report by the North American Bird Conservation Initiative, U.S. Fish & Wildlife Service - State of the Birds 2009

In 2007, the data were instrumental in the development of two Audubon State of the Birds Reports - Common Birds in Decline, which revealed that some of America's most beloved and familiar birds have taken a nosedive over the past forty years, and WatchList 2007, which identified 178 rarer species in the continental U.S. and 39 in Hawaii that are imperiled. These three reports helped scientists and policy-makers to both identify threats to birds and habitat, and promote broad awareness of the need to address them.

Christmas Bird Count Data Show Changes in Evening Grosbeak Numbers between 1960 and 1998

The Evening Grosbeak (*Coccothraustes vespertinus*) breeds throughout the northern forests of Canada and Northeastern United States, as well as at higher elevations in the West into central Mexico. During certain winters, they move to more southerly latitudes in the East, or to lower elevations in the West. These winter irruptions typically begin in early October, and flocks of Evening Grosbeak are conspicuous where they regularly aggregate at bird-feeding stations. The National Audubon Society's 112-year-old Christmas Bird Count (CBC) is an excellent tool for tracking such irruptions as well as for monitoring long term bird

population trends. The CBC is particularly important in tracking birds that breed in remote regions but that winter in areas that are more accessible. Since much of the breeding range of the Evening Grosbeak is inaccessible, winter surveys like the CBC provide the best indicator of the health of the species.



Evening Grosbeak. Photo courtesy Lana Hays

For this analysis, we measured Evening Grosbeak abundance obtained from CBCs between 1959 and 1998. Not all the counts held during this period were analyzed. Instead, only counts that occurred during at least half of the 40 years of the analysis period were included. This way, we reduced the bias resulting from new counts that started during the later years of the analysis period. To minimize bias due to varying observer effort, the total number of birds observed during any CBC was divided by the total party hours for that count, thereby allowing a standardized birds/party hour (BPH) comparison. For each year, the average BPH was calculated from all CBCs that were above 30° latitude. The annual average BPH was graphed, and a linear regression was calculated in order to look for

indications of continuous increase or decrease in abundance of grosbeaks over the time period in question. This same method was also used for within-state or -province analysis.

The results from the CBC clearly show that the Evening Grosbeak is an irruptive species across much of North America. What is apparent is that Evening Grosbeak exhibits a biennial pattern of irruption; years where they were plentiful were followed by years when low numbers were reported. When Evening Grosbeak did irrupt, they invaded different regions. See birds.audubon.org for a graphical representation of irruption.

Data also shows that Evening Grosbeak numbers were stable or increased until 1980 when their numbers began to decline significantly. The decline of Evening Grosbeak numbers between 1980 and 1998 was significant ($p < 0.001$) which indicates that there is less than one chance in one thousand that the decline in Evening Grosbeak numbers was due to random fluctuations in abundance. Data also indicates that the rate of decline has increased between 1990 and 1998. And it shows which state or province exhibited the most significant declines in Evening Grosbeak between 1980 and 1998. What is clear is that the Northeast and Great Lakes region show the steepest declines in Evening Grosbeak numbers. On the other hand, Evening Grosbeak numbers appear stable in the Rocky Mountain region. The cause of the decline in Evening Grosbeak numbers is unknown, but there are several possibilities. The most obvious is that Evening Grosbeaks may simply not be moving as far south during the winter due to the hemispheric trend in warmer winter temperatures. The declines might also be related to food availability. Hardwood tree seeds, a favorite natural source of food of Evening Grosbeaks, may be less common due to broad-scale changes in forestry

practices in Canada. Finally, Evening Grosbeak numbers in the East may be stabilizing after their colonization of the north woods east of the Great Lakes. Prior to the late nineteenth century, the Evening Grosbeak did not occur east of the Great Lakes; since then they have expanded rapidly across Ontario, Michigan, Quebec, the Canadian Maritimes, and New England.

Whatever the reasons for the decline in Evening Grosbeak numbers, it is through long term continent-wide citizen-based monitoring projects like the Christmas Bird Count and Project FeederWatch that the health of wild bird populations can be assessed. This monitoring can both sound an alarm before the situation becomes dire as well as lead to a greater understanding of overall environmental changes that may be the cause of dramatic changes in bird populations. Another BirdSource project, the Iriruptive Bird Survey, is tracking the abundance of winter food across the continent, in order to determine whether irruptive migrants vary their wintering areas by according to natural food abundance.

Biennial Iriruptions of Pine Siskins Across North America

Even though range maps in most field guides suggest that one could predict exactly where a bird species may or may not be found, for many species the picture is actually more complex. How a bird population moves across the landscape and within and among seasons varies from one year to the next and varies across species.

Continentwide monitoring projects such as Project FeederWatch and the Christmas Bird Count allow us to identify patterns in bird population changes. A closer look at one

finch species that often visits feeders-the Pine Siskin (*Carduelis pinus*) has revealed some notable trends.

Pine Siskins are distributed across much of Canada and at higher elevations in the western portions of the United States. Periodically, they will irrupt into parts of the East and into areas of lower elevations in the West. The animated map of Project FeederWatch sightings during the month of January between 1991-1998 demonstrates that for this period, the southern irruption of Pine Siskins is biennial, meaning this species irrupts every other year (see birds.audubon.org).

What is peculiar about the biennial irruption of the siskin is that it is asynchronous. That is, when Siskins irrupt into Southern California they are not irrupting into the East. And, when they are irrupting into the East, they are not irrupting into Southern California.



Pine Siskin. Photo courtesy John Cassady, audubon.org

But the asynchronous pattern in the winter movements of Pine Siskin has not always been the norm. As curious as this biennial, "see-saw" pattern is, movements of the Pine Siskin are even more complex when viewed across decades. Christmas Bird Count results indicate that between 1978 and 1992, the pattern of Pine Siskin irruptions was not asynchronous, but much more variable. The data comparing Christmas Bird Count results between 1979-1998 from Southern California to reports from North Carolina demonstrates

this variability. During this time, the general trend is for biennial irruptions. But sometimes the bird's population numbers remained low in a year that the pattern would prescribe them to be high. Other times, the bird's population numbers remained high in a year when the pattern would prescribe them to be low.

What is it that drives this pattern of biennial irruptions for Pine Siskins, and why is the pattern occasionally broken? It is unknown precisely why Pine Siskins irrupt some years and not others, but for other closely related finch species there appears to be an association with food production on the wintering grounds. For example, the catkin production cycle in birches (*Betula* sp.) appears to be correlated with invasions of Common Redpoll (Bock and Lepthien. 1976. Synchronous Eruptions of Boreal Seed-eating Birds. *American Naturalist* 110: 559-571). When birch catkin production is high, Common Redpolls remain in Canada, but when catkin abundance is low, they irrupt southward into the United States. There is speculation that this variation in food production is an evolutionary strategy that forces these birds south every few years, thereby reducing their long-term impact on the plants. The same may be true for Pine Siskins. In years when Pine Siskins appear in either Southern California or North Carolina, food abundance in their typical wintering grounds may be low.

The data submitted by the participants of long-term bird population monitoring programs such as Christmas Bird Count and Project FeederWatch are what make these fascinating observations possible. Continued long-term monitoring of bird populations on a continentwide scale will only enhance our knowledge and understanding of wild bird populations.

Christmas Bird Count and The Breeding Bird Survey Document Population Trends in American Kestrel

Formerly called "Sparrow-hawk," the American Kestrel (*Falco sparverius*) is a lovely, small, widespread falcon of the Western Hemisphere. Possessing an amazing breadth of both latitudinal range (from the edge of the Arctic tundra to Tierra del Fuego) and selected habitat (found in virtually all terrestrial habitats except dense forest), kestrels are familiar to city dwellers and field birders alike. Extreme northern and southern populations are migratory, with some birds heading to warmer climes in their respective winters. Kestrels are sexually dimorphic; females are larger with rusty wings, while males are smaller with bluish-gray wings. They feed primarily on small mammals and insects, but will take other food items including small birds.

Though remaining fairly common, as illustrated by Christmas Bird Count-based species abundance maps, American Kestrels have gone through several population cycles in the past decades. This is not surprising for several reasons. Kestrels wintering in North America are at one extreme of their geographic range, and they are probably more susceptible to hardships of winter weather. Also, they are primarily carnivorous, and much of their diet consists of what humans consider as pests—insects and mice. Therefore, American Kestrels could well suffer directly from pesticide applications used to control their prey items. In addition, North American populations of the American Kestrel move considerable distances in the winter, and face more potential survival threats over a greater geographic area than resident or short-distant migrant species.

Maps (see birds.audubon.org) show several cycles of ebb and flow of American Kestrel numbers on Christmas Bird Counts over the past half century. The most recent years show a decline in numbers, as has been often reported in the Regional Editors' comments in the printed Christmas Bird Count results. It is important to note that the abundance maps are generated based upon birds reported per party-hour on Counts, and not raw numbers of kestrels reported. Since kestrels are common and conspicuous birds, more observers in the field for more time on any given count will sight more birds. When data are presented based on birds per party-hour, changes in numbers of birds can be seen, not confused by variance in observer effort.



American Kestrel. Photo courtesy Lana Hays

Local Calendar

Audubon Society of Ohio

Date: Monday, Jan 21

Program: *Tanzania with Rick Lisi*

See www.cincinnati.audubon.org for additional details.

Cincinnati Nature Center

Field Trips

December 30	CBC
January 12	Darlena Graham
January 26	Bill Stanley
February 9	Steve Bobonick
February 23	Lester Peyton (LBFT)

See www.cincynature.org for additional details.

Oxbow, Inc.

See www.oxbowinc.org.

Raptor, Inc.

See www.raptorinc.org.

The 113th National Audubon Society Christmas Bird Counts

(Contributed by Jay Stenger, Field Trip Coordinator)

***Note: All National Audubon Society Christmas Bird Counts are now FREE.**

Beginning this season the Audubon Society will no longer charge the \$5.00 field participation fee. To offset this loss of income “American Birds” will no longer be printed on paper and mailed to participants and Audubon will move to an online delivery of the summary results of the Christmas Bird Counts.

The Christmas Bird Count (CBC) is a long-standing program of the National Audubon Society, with over 100 years of citizen science involvement. It is an early-winter bird census, where thousands of volunteers across the US, Canada and 19 countries in the Western Hemisphere, go out over a 24-hour period to count birds. Last years count set an all-time high with 2,215 individual counts conducted. Those counts included a record total of over 61,000 participants.

Count volunteers search for birds within a designated 15-mile (24-km) diameter circle while counting every bird they see or hear throughout the day. It’s not just a species tally; all individual birds are counted, giving an indication of the total number of birds within the circle that day. If observers live within a CBC circle, they may arrange in advance to count the birds at their feeders and submit those data to the count compiler. All individual CBC’s are conducted during the period beginning December 14th through January 5th each season, and each count is conducted during one calendar day.

CBC participants are organized into groups or field parties by the compiler of the count. Each field party covers a prearranged and specific area within the 15-mile diameter count circle. And everyone is welcome and encouraged to participate regardless of ones birding skills. Compilers arrange field parties so that inexperienced observers are always out with seasoned CBC veterans. You don’t have to commit to the whole day either. You are welcome to participate for as long as you like, a half-day or even a few hours

The data collected by observers over the past century allow researchers, conservation biologists, and other interested individuals to study the long-term health and status of bird populations across North America. When combined with other surveys such as the Breeding Bird Survey, it provides a picture of how the continent's bird populations have changed in time and space over the past hundred years. The long-term perspective made possible by the Christmas Bird Count is vital for conservationists. It informs strategies to protect birds and their habitat - and helps identify environmental issues with implications for people as well.

The first CBC was done on Christmas Day of 1900 as an alternative activity to an event called the “side hunt” where people chose sides, then went out and shot as many birds as they could. The group that came in with the largest number of dead birds won the event. Frank Chapman, a famed ornithologist at the American Museum of Natural History and the editor of Bird-Lore (which became the publication of the National Association of Audubon Societies when that organization formed in 1905) recognized that declining bird populations could not withstand wanton over-hunting, and proposed to count birds on Christmas Day rather than shoot them.

There are many Christmas Bird Counts to chose from and we encourage you to take part in as many as possible. But we also hope

you can find the time to participate in at least one of our local Christmas Bird Counts listed below. If you have any questions concerning a particular count feel free to contact that count's compiler.

For more information on Audubon Society Christmas Bird Counts visit the following website:

<http://birds.audubon.org/christmas-bird-count>

2012-2013 Greater Cincinnati (Local) National Audubon Society Christmas Bird Counts:

Cincinnati Christmas Bird Count
(66th Annual)
Sunday, December 30, 2012
Compiler Jay Stenger, (513) 522-8147,
jaystenger@cinci.rr.com

Western Hamilton County Christmas Bird Count (47th Annual)
Sunday, December 23, 2012
Compiler Ned Keller, (513) 941-6497,
keller@one.net

East Fork Christmas Bird Count
(30th Annual)
Saturday, January 5, 2013
Compiler Joe Bens, (513) 353-4229,
joebens@live.com

Ohio River Christmas Bird Count
(26th Annual)
Sunday, December 16, 2012
Compiler Paul Wharton, (513) 353-3403,
pwharton@fuse.net

Hamilton-Fairfield Christmas Bird Count
Saturday, December 15, 2012
Compiler Mike Busam, (513) 755-0057,
mbusam@gmail.com

Michaela Farm/Oldenburg CBC
Saturday, December 29, 2012
Compiler Wayne Wauligman (513) 922-4430
or (513) 680-4447
wrrwpgw@aol.com

This count usually lasts until 1 pm then meets for lunch and tally at the Sisters of St. Francis Franciscan Center next door to the Oldenburg Academy.



The Passenger Pigeon

Newsletter of the Cincinnati Bird Club

Cincinnati Bird Club
c/o Newsletter Editor
15 Sherry Rd
Cincinnati, OH 45215

President: Mark Gilsdorf

email: markg74@gmail.com

Program Chair: Steve Bobonick

email: bobonick@msn.com

Field Trips: Jay Stenger

email: jaystenger@cinci.rr.com

Newsletter Editor: Harris Abramson

email: harrisabramson@hotmail.com

Treasurer: Lois Shadix

email: lcshadix@fuse.net

Park VIP: Jay Lehman

2012-2013 Dues:

If you haven't sent in your dues yet for the September
2012 - May 2013 birding season, please fill out the form
below and mail it in along with your membership fees.

Visit us on the Web at:

www.cincinnatibirds.com/birdclub/index.php

Bird Club Membership

Name _____

Address _____

Phone _____

Yes I would like to receive my newsletter via e-mail. E-mail _____

_____ Individual \$12.00 _____ Family \$15.00 _____ Student (under 18) FREE

Make your check payable to Cincinnati Bird Club, and mail to our Treasurer:

Lois Shadix (lcshadix@fuse.net), 2928 Saddleback Dr, Cincinnati, OH 45244