Final Report to Illinois Department of Natural Resources
Wildlife Preservation Fund Grant Program

Grant Agreement # 14-002W

Grantee Name/Address: Bird Conservation Network
c/o Bird Division
1400 S. Lake Shore Drive
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Time Frame: August 2013 to December 2014

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Chicago Wilderness Bird Population Trends Update 2013

Project Objectives:

1. To summarize and analyze bird population trends since BCN's last analysis (2007) and to analyze the species status in managed areas of the Chicago region.
2. To update the Bird Conservation Network's 1999-2007 Breeding Birds Trends Analysis website (http://www.bcnbirds.org/trends07/index.html) with the new data.
3. To create, publish and distribute an updated and revised ***Chicago Wilderness Region Birds of Concern*** brochure to inform and educate the public specifically about the bird species of high and moderate regional concern. The original Birds of Concern brochure was funded by Illinois Wildlife Preservation Fund in 2010. The new, expanded, updated publication is eight pages and includes local breeding birds as well as identifying migrants that depend heavily on the Chicago region during migration.

Completed Project Description:

Bird Conservation Network has been training volunteer monitors and compiling data from their bird observations since 1997. Approximately 200 experienced volunteer monitors now collect data in 7 Illinois counties using methods developed in 1997 by a team of Chicago Wilderness land managers, birders and ornithologists. Volunteers enter data online using a specially adapted version of Cornell Lab of Ornithology's eBird, developed with BirdSource. The database is shared with land managers and researchers annually. The primary purpose for the

collection of these data is to provide information to land managers re species that need special help to guide the land managers' restoration efforts, specifically in relation to the Species of Concern; a secondary purpose is to provide trend information for birds on managed lands in the region.

The database can be used to describe local population trends for local birds and was large enough to yield credible trends for 59 species when we last analyzed it in 2007. In 2013 another analysis was done to update the species trends and is now available on the BCN website (www.bcnbirds.org). With the newly accumulated data we have even more accurate and statistically robust results.

To do the analysis, in 2013 BCN raised funds to hire an environmental statistician to analyze the collected data from the past five years, to integrate it with the existing database and to draw conclusions on the population trend of the local birds. The resulting information will help guide land managers and stewards in their efforts to restore and improve habitat for the benefit of the identified regionally important species of concern.

BCN's Webmaster updated the BCN Survey website to reflect the current population trends (http://www.bcnbirds.org/trends13/index.html).

BCN selected the species to be listed in the ***Chicago Wilderness Region Birds of Concern*** brochure with the help of local experts and ornithologists. It then designed, wrote and published 5,000 copies of the ***Chicago Wilderness Region Birds of Concern*** brochure, funded by the Illinois Department of Natural Resources from contributions to the Illinois Wildlife Preservation Fund (hard copies of the brochure are included with this report; it is also viewable at (http://www.bcnbirds.org/trends13/concern.html). The brochure has been distributed to the public, to nature centers, to members of birds clubs and conservation organizations, and to the land managers and stewards of the managed areas within the seven counties monitored. The brochure and the website copy of the brochure both feature credit to IDNR and the Illinois Wildlife Preservation Fund.

Introduction, Materials and Methods:

1) In 2013 BCN hired an environmental statistician to analyze the additional data collected after the 2007 analysis was done. The BCN eBird database contains over 3.5 million records including over 125,000 records following the breeding season point count protocol. The 2013 analysis was performed on these 125,000 records in the BCN Survey database using a statistical software package called TRIM

(Trends & Indices for Monitoring Data), developed by Statistics Netherlands. Trends were then determined for 160 bird species breeding in the Chicago Wilderness area. For a detailed description of the methods see http://www.bcnbirds.org/trends13/methods.html

2) The BCN Webmaster updated the trends website to describe the increased size of the database and to present trends for the 160 birds grouped by habitat: Grasslands, Shrublands, Woodlands, Wetlands, and Urban/Introduced. Each species has its own page, which includes a brief description of the birds' preferred breeding habitat, the overall trend and comments about the trend, statistical support for the trend, and a graph displaying the trend.

3) To determine which birds would be included in the ***Birds of Concern*** brochure, BCN appointed a committee of local experts and ornithologists. The committee used the results of the trends analysis along with information from the Partners in Flight *Species Assessment Database*, the Upper Mississippi River & Great Lakes Region Joint Venture's *Shorebird Habitat Conservation Strategy*, the Upper Mississippi River & Great Lakes Region Joint Venture's *Waterfowl Habitat Conservation Strategy*, the *North American Waterfowl Management Plan 2004 Implementation Framework*, the *Upper Mississippi Valley/Great Lakes Waterbird Conservation Plan*, and the Endangered and threatened species lists from Illinois, Indiana, Wisconsin and Michigan. A description of the methods used to select the species for the brochure is on the BCN website at http://www.bcnbirds.org/trends13/BCNBirdsofConcernProcess.pdf

Once the committee compiled the final list of birds the Webmaster designed a brochure and arranged for it to be printed and distributed.

Results:

The analysis produced trends for 160 breeding birds in the Chicago Wilderness area. About half of our breeding species show stable to increasing populations. Birds like Eastern Bluebirds and Orchard Orioles and grassland species like Henslow's Sparrows are bucking the national trend of declining populations by increasing here in the Chicago Region. To see the trend for each species go to http://www.bcnbirds.org/trends13/trends.html.

The ***Birds of Concern*** brochure lists 59 species of breeding birds grouped by their preferred breeding habitat: Grasslands, Shrublands, Woodlands and Wetlands. For the first time 38 migrant species were also listed.

Five thousand copies of the brochure were printed and distributed to the public, to nature centers, to members of birds clubs and conservation organizations, and to the land managers and stewards of the managed areas within the seven counties monitored.

The brochure is also part of the BCN Trends Analysis website and can be seen at http://www.bcnbirds.org/trends13/concern.html (note IDNR credit at bottom of page). A pdf version of the brochure is available for downloading at http://www.bcnbirds.org/z-brochureConsrv.html

Discussion:

The BCN Survey, which began in 1997, is a breeding season bird-monitoring program implemented in the Chicago Wilderness region by the BCN and Audubon Chicago Region. The primary purpose for the collection of these data is to provide land managers with information that can help guide restoration practices. Its creators envisioned a second purpose: when the database grew large enough, it might be used to describe local population trends for species of concern. After amassing over 100,000 records and eight years of data, in 2004 BCN and Audubon-Chicago Region set out to investigate species trends in the region. This initial phase showed that the database was large enough to yield useful data for many species, and that it is possible to apply analysis methods that will yield credible trends.

In 2007, after amassing over 180,000 records, a more intensive analysis attempted to refine previous results and ask new questions. In 2013, after another five years had passed, a third analysis was initiated to update the trends and in an effort to continue to improve the accuracy and significance of the results. The results from this latest analysis are displayed on the website. Today, the BCN eBird database contains over 3,500,000 records including over 125,000 records following the breeding season point count protocol. These counts are much higher than the entire database of all records from 2004 and thus likely to produce more robust evidence for the trends. The 2013 analysis was performed on the 125,000 breeding season point count records in the BCN Survey database. From this analysis trends for species were updated and used to update the Birds of Concern list.

The BCN Survey continues to add data each year and in the future another analysis will be performed to further update trends to provide land managers with information to inform their land management practices for breeding birds.

The new ***Birds of Concern*** brochure includes migrants in addition to the breeding birds. The reasons for including migrants in the new brochure are compelling. The Chicago Region plays a vital role for many neo-tropical migrants that breed further to the north. Migrants face many threats during migration, some causing mortality and others affecting their level of fitness when they arrive at their breeding ground or the timing of their arrival. Recognition of the importance of migrants, especially landbird migrants, as conservation targets for the region is growing. Local land managers and restoration experts are beginning to take advantage of opportunities for providing dense understory cover, a strong insect base, and a diversity of woody plant species, especially along river corridors.

Summary:

The continuing efforts of BCN volunteer bird monitors to collect and enter reports of birds seen during the breeding season set the stage for another analysis of the population trends for local breeding birds. A fund-raising campaign was initiated to provide funds to perform the analysis and update the web site displaying the trends.

A request for a grant from IWPF was submitted and granted to create the new ***Birds of Concern*** list, and to design, print, and distribute a new brochure, reflecting the current data.

The brochure indicates that several grassland species, including Bobolink, Henslow's Sparrow and Dickcissel populations have either moderate population increase or strong population increase in managed areas of Chicago Wilderness. It's believed that this is due to the conversion of large tracts of grassland habitat so that they are no long bisected by hedgerows or trails. In shrublands, the Brown Thrasher, Field Sparrow and Eastern Kingbird are holding their own.

BCN distributed supplies of the ***Chicago Wilderness Region Birds of Concern*** brochures to all forest preserve district nature centers for distribution to the public, to all land managers and stewards for their use in planning restoration work, to all 20 BCN member organizations for their further distribution to their membership, to bird seed supply stores, to the public at Wild Things, a nature symposium attended

by about 1200 at the University of Illinois Chicago in January 2105, and to birders at the annual Gull Frolic in February 2015.

The new brochure was also the focus of Jeff Reiter's "Words on Birds" column for the *Daily Herald*, January 12, 2015:
http://www.dailyherald.com/article/20150112/news/150119925/

Jeff Reiter's article is also permanently posted on Reiter's blog at:
http://wordsonbirds.blogspot.com