PREFACE TO THE INAUGURAL ISSUE OF *RESIDENT BIRD COUNTS*

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Resident Bird Counts is a new publication of two venerable bird counts: the Breeding Bird Census and Winter Bird Population Study. The National Audubon Society initiated these programs in 1937 and 1948 respectively and published the counts until 1984. The back cover of this issue contains a brief history of the programs. With these innovative efforts, the Audubon Society recruited the considerable energy and talent of volunteer birders and ornithologists to produce valuable data on bird populations in specific habitats.

In 1949, count editor Robert E. Stewart stated four objectives for the Breeding Bird Census. He felt that plot-based count data could be used (1) to determine the species and density of breeding birds found in each habitat type throughout North America; (2) to measure the effects of various land-use practices on breeding-bird populations; (3) to quantify the amount of yearly variation in densities of breeding birds occupying various habitat types; and (4) to establish the habitat requirements for each species of bird throughout its range.

In addition to their usefulness for these objectives, Breeding Bird Census data have been employed by conservation biologists to address questions about the design of nature preserves and the decline of neotropical migrants. Breeding counts also have been used to examine topics like the patterns of species richness and relative abundance in bird communities, geographic variation in the habitat of various species, and how numbers of birds change with plant succession. Because the Breeding Bird Census can be used to estimate densities of birds in habitats, it complements the Breeding Bird Survey–an annual roadside count run by the U.S. Fish and Wildlife Service–as a system to monitor population trends of nongame birds within localities.

Weather and food availability in winter strongly affect annual survivorship during this time. Winter Bird Population Study data documents the habitat use of birds during the harshest part of the nonbreeding season. The data also can be used to monitor population trends of birds. These data should be compared to the more geographically extensive Christmas Bird Count.

Participants use the "spot-mapping method" to count breeding birds, and a modification of the method to count winter birds. Birds are counted on several trips on a measured plot of land. By walking slowly through the study plot, the observer can listen and watch for birds, and mark their locations on a map. At the end of the season after eight or more visits to the plot, the data are summarized for each species. The observer determines the number of territorial males of each species on the plot for the Breeding Bird Census, and the average number of individuals of each species detected per count visit for the Winter Bird Population Study. The National Audubon Society has published complete instructions for the Breeding Bird Census (G.A. Hall. 1964. *Aud.Field Notes* 18:413–416; W.T. Van Velzen. 1972. *Amer.Birds* 26:1007–1010) and the Winter Bird Population Study (H. Kolb. 1965. *Aud.Field Notes* 19:432–434). In the near future, I plan to incorporate a few changes suggested by recent research in the methods for counting birds and interpreting maps.

Spot-mapping is one of the best methods we have for measurement of the abundance of birds, especially if counts are repeated carefully according to instructions. To meet the program goals, comparability of counts among observers and different habitats over time is essential. Bird counts in different habitats can be compared only if spot-mapping methods are standardized and followed by all participants. Standardized methods of habitat description and counting birds will allow direct comparison of bird densities among habitats.

In addition to counting birds, the observer is expected to describe the vegetation carefully. In 1970, Frances James and H.H. Shugart, Jr. developed quantitative methods of habitat

description for participants to use on each study plot (F.C.James and H.H. Shugart. 1970. *Aud.Field Notes* 24: 727–736). The sampling method includes counts and indentification of individual trees and estimates of the "basal area" for each tree species in several 0.04-ha sample areas. Other measurements made in the samples of the plot are the percent ground and canopy cover, canopy height, and shrub density.

The National Audubon Society has not published the results of the Breeding Bird Census and Winter Bird Population Study since 1984 because of bugetary constraints. In July 1988, recognizing the value of the counts, the United States Fish and Wildlife Service provided a grant to the Association of Field Ornithologists for the publication of *Resident Bird Counts* for 5 years starting with the 1988 data. The data from 1984 to 1987 are available from the Cornell Laboratory of Ornithology upon request. Publication after the 5-year period will depend on future funding.

Instructions for the Winter Bird Population Study and the Breeding Bird Census can be obtained from the Cornell Laboratory of Ornithology. We will evaluate completed winter and breeding bird counts for adherence to methods, thoroughness, and importance of the data for meeting program goals. Acceptable counts will be edited at the Laboratory of Ornithology and then forwarded to the editor of the *Journal of Field Ornithology*. We urge everyone who is interested in starting a new count to obtain the instructions and then to send a brief description of a proposed plot to the Cornell Laboratory of Ornithology. This will allow us to assess whether a plot will meet the requirements for plot area and habitat quality *before* any field work is started.

We are pleased to bring a new feature to this publication of the Breeding Bird Census and Winter Bird Population Study. An index lists the common and scientific names of all bird species and the count reference numbers. This will allow users to locate easily all of the counts for every bird species in this issue of *Resident Birds*. The common and scientific names of plants are also listed.

Publication of the counts is just the first step. We encourage the establishment of new counts in habitats that will be relatively protected from human development. One such set of areas is the network of Ecological Research Areas throughout the United States. The United States Department of the Interior recently compiled a long list of biosphere reserves, experimental forests, and research natural areas that potentially would be excellent locations for bird research plots. Currently, Breeding Bird Censuses are being conducted in some of these areas, and we should expand on these models.

Data from natural habitats are invaluable because these habitats are disappearing rapidly. However, bird counts in suburban and agricultural habitats are also important because these environments now dominate the landscape. Multi-year bird counts in either natural or man-altered habitats would be significant contributions. Another priority is to obtain good data on bird populations in neotropical habitats.

The Breeding Bird Census and Winter Bird Population Study are attempts to monitor and study birds in a variety of habitats. We hope to integrate the counts with data from other monitoring programs, such as the Breeding Bird Survey and Christmas Bird Count. With rigorous adherence to standard methods and better coverage of the many different temperate and tropical habitats, the Breeding Bird Census and Winter Bird Population Study will continue to be two of the most useful tools for the study of bird populations.