

Project 7
Wildlife Survey for Birds Breeding in Alabama
(Alabama Breeding Bird Atlas – Final Year)
Final Report

State: Alabama

SWG Grant Number: T-04-P-01

Period: October 1, 2005 to September 30, 2006

Purpose and Need: Unlike all other states east of the Mississippi River Alabama has not completed a Breeding Bird Atlas (BBA). It is needed for such projects as the “Birds of Conservation Concern” in *Alabama Wildlife* (2004) [preliminary data already used], state wildlife conservation plans, Alabama Gap Analysis Project (in preparation) [data already used], information source for special species studies, such a Swallow-tailed Kite preliminary paper [data already used], Birds of North America species profiles (1992-2003) [used in states where available], and study on distribution of West Nile Virus occurrence vis-à-vis bird distribution [data already used].

Objective(s): The objectives of the Breeding Bird Atlas are;

- (1) To accurately determine and map the breeding distribution of every bird species breeding in Alabama.
- (2) To provide a 12% sample of reliably studied areas useful for statistical projections and as a baseline against which future changes in the status of breeding birds in Alabama can be measured.
- (3) To provide some index of relative abundance of Alabama’s breeding birds, especially in understudied areas.
- (4) To provide a reliable data base useful for writing a modern state bird book, and for making sound natural resource use decisions in Alabama.
- (5) To involve birders, students, land owners and interested citizens in a directed, cooperative, educational and fascinating research project.
- (6) To work with landowners and land stewards so as to serve as ambassadors to the community at large.

The objective of the fifth year (Grant Year) was to complete these studies to a high standard. SWG provided limited funding during this final year of field work, primarily to cover the costs of a technician needed to fill data gaps by surveying areas not adequately covered by volunteers.

Expected Results and Benefits: The 5-year project will provide data for detailed distribution maps for 165 species of birds breeding in Alabama; these distribution maps can be interpreted in connection with habitats and geographical information. The data will be a primary source for the summer season portion of a modern *Alabama Birds*. An additional benefit will be the production of an inventory of colonial waders. The statistical component of the study will establish a basis for comparison of distribution among Alabama ecoregions, comparison between Alabama distribution and that in other states, and comparison of present distribution between now and some future time (difference map). Such difference maps have already been produced in other countries, and repeat atlases are underway in Maryland, Pennsylvania, New York, and Ontario. Such maps are valued as a

sensitive indicator of changes in the population of birds in response to gradual changes in environmental factors. The final year of the survey (Grant Year) will complete the survey sufficiently to insure valid comparisons and reliable maps. The maps produced are useful to scientists, conservationists, land managers, and government agencies, and are greatly informative to those interested in birds.

Approach: The approach is similar to other state atlases, and bird atlases around the world. Alabama is divided in to 878 parts based on the area covered by the USGS survey topographical sheets. Each sheet is, in turn, subdivided into 6 equal blocks, describing 10-square-mile study areas – about 5100 for the state. Since this is too many to thoroughly survey in 5 years with volunteers, a sampling plan is used in which one block from each sheet is thoroughly surveyed in all upland Alabama, and one block from every other sheet in the coastal plain. This provides 586 sample blocks, 12% of total.

Cooperators are supplied maps of the assigned areas, and field cards giving the progress to date on which to record new species and new breeding evidence. The cards are returned at the end of the season for compilation, giving species, place, date, and observer for each observation. The project is cumulative with the objective of recording at least once in 5 years as many different species as possible in the sample blocks. Observations in the sample blocks are supplemented with observations in all the other blocks throughout the state. These are further supplemented with observations from other sources, particularly from the USGS Breeding Bird Survey and from special studies done by DCNR and academic biologists.

The Atlas survey will be largely completed by 2005, but many of statistical sample blocks will have to be resurveyed for possible missed species. Those species not found in the statistical sample blocks will be sought in adjacent blocks. To provide the cooperators with the information they need on the status of the project, 4000 field cards with the current status will have to be printed and distributed. To aid in deciding which species should be sought, 20 sets of 165 maps (for 165 species) will have to be printed. These maps should include predictive maps for about 20 species such as the GAP Project is capable of preparing. These maps will enable us to efficiently field check the thoroughness of the Atlas results. The State Coordinator is responsible for covering those statistical blocks that volunteers do not go back into. This will require a paid assistant capable of working independently – a qualified field technician for May 1 through June 30, 2006. The inventory of heronries will have been drafted, and a final check of important sites should be made by air in connection with the Eagle survey. (Both herons and eagles select the same habitat for nesting.) These final field reviews will improve the thoroughness and usefulness of the project substantially.

Target Date for Achievement: September 30, 2006

Completion Date: September 30, 2006

Activities: Data obtained by the Breeding Bird Atlas during the duration of the State Wildlife Grant is being incorporated into the comprehensive database maintained by the Natural Heritage Section of the State Lands Division. This comprises 36,908 observations and includes new observations for the

Atlas, upgrades in breeding evidence, duplicates from prior years, and duplicate reports of observations made this year. By in large it is new data for the database, as we have ways of reducing duplicates, and a program that will combine these results the aggregate results from prior years. Also attached as other pages in the spread sheet are lists of breeding codes, defined, and of the USGS Quadrangles with their locations.

The final, five-year results, which we will publish as maps, contains approximately 150,000 unique observations, when the duplicates and lower-level breeding reports for the same species in the same block are eliminated. These results exceed or are comparable to the results of other state Atlases.

Final compilation, quality assurance processes, and final map making remain to be done.

Significant Problems Encountered:

None.

Significant Deviations:

None.

Costs: See Grant Agreement, first year cost reflected on SF 269.