

**SUMMER BIRD COUNT IN SOUTHERN PIEDMONT
ECOREGIONS OF ALABAMA — 2005**

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INTRODUCTION

Summer Bird Counts (SBC) are excellent ways to explore areas that have received little fieldwork. Not only do they provide valuable breeding bird density and distribution data, they also can complement ongoing Breeding Bird Atlas (BBA) efforts. The primary objective of the Alabama BBA (2000-2006) was to determine the breeding distribution of species by sampling uniformly distributed 25 km² (10 mi²) blocks throughout the state. Past SBCs have focused on a specific county (Jackson 2000, Gardella 2001, 2003, Haggerty and Jackson 2004); however, this restriction was removed in 2005 to help improve coverage needed to complete the BBA project. Ecoregions indicate areas of general similarity in ecosystems and environmental resources and are designed to serve as a spatial framework for research and assessment (Griffith et al. 2001). These ecoregions can offer a larger area from which to select BBA blocks, and baseline studies are necessary for characterization. Since BBA survey work was needed from numerous areas within the Southern Inner Piedmont and the Southern Outer Piedmont Level IV ecoregions, the 2005 SBC was conducted within four adjacent counties (Chambers, Coosa, Elmore, and Tallapoosa) of these two ecoregions (Fig. 1). This paper reports the findings of that survey.

STUDY AREA AND METHODS

In Alabama, the Southern Inner and Outer Piedmont Level IV ecoregions form a triangular area that lies along the mid-eastern border with Georgia. Within their boundaries are five almost complete county areas and parts of six additional counties (Fig. 1). The rolling to hilly Southern Inner Piedmont is mostly forested with oak-pine and oak-hickory communities. Open areas are primarily pasture with some small areas of cropland. The Southern Outer Piedmont ecoregion has less relief and less precipitation than the Southern Inner Piedmont, with similar vegetation but with more loblolly-shortleaf pine forest (Griffith et al. 2001). Both regions are interlaced with riparian hard-

wood habitats, with the Coosa and Tallapoosa rivers and associated reservoirs important hydrologic features.

To conduct the count, 19 BBA blocks in 17 U.S. Geological Survey quadrangles (quads) were surveyed by 17 observers 4-20 June 2005 (Table 1). Coverage was primarily by automobile and foot, but Hatcher Creek was also surveyed by kayak in the Hollins: SE, Goodwater: SW, Rockford: CW, and Flag Mountain: CE blocks. The counting period of the survey extended from roughly dawn until late morning (no later than 1100 hrs), with counts for each block occurring in a single morning during the period. Additional breeding status data were collected after 1100 hours and during pre-count scouting. A total of 90.9 party-hours was expended in quantitative counts of diurnal species. Another six hours of coverage was spent searching for nocturnal species, though relative abundance calculations have been excluded for these (Table 2).

In addition to counting, surveyors looked for evidence of breeding. The breeding designation codes used in this study are the same as those for the Breeding Bird Atlas project and have been used previously on Alabama SBCs

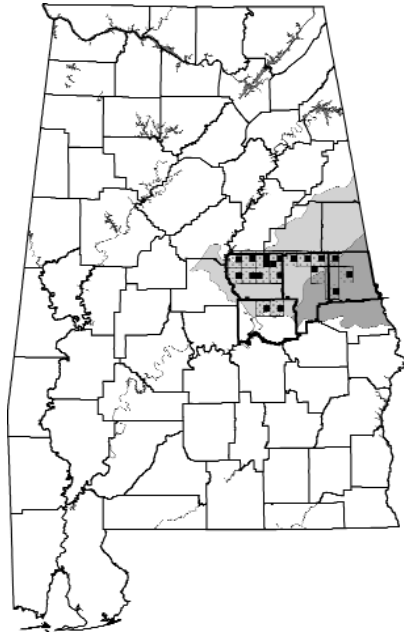


FIGURE 1. Location of 2005 Summer Bird Count. Dark squares denote surveyed blocks in 17 quads (stippled) of four counties within Southern Inner Piedmont (light shading) and Southern Outer Piedmont (dark shading) Level IV ecoregions, Alabama.

(Jackson 2000, Gardella 2003, 2004, Haggerty and Jackson 2005). “Confirmed” breeding was designated if a species was observed carrying nest material or food, constructing a nest, performing a distraction display, or incubating; discovery of a nest with eggs or young, a used nest, or dependent short-tailed young also confirmed breeding. “Probable breeding” for a species was indicated when at least seven well-distributed singing males were noted in a block within “safe dates” (i.e., when migrants are extremely unlikely to occur); this designation also was used within safe dates for the detection of a pair in suitable habitat, for individuals showing courtship behaviors or agitated behaviors associated with nest disturbance, and for nest building by wrens and woodpeckers. “Possible breeding” was noted if a species was found in suitable habitat within safe dates. “Observed” breeding status was used for species detected outside safe dates, even in suitable habitat; this designation also applied to independent juveniles, species not in suitable habitat, and soaring vultures and colonial species away from colonies.

TABLE 1. Southern Piedmont Summer Bird Count Survey Areas, June 2005.

Quad: Block	County (primary)	Survey Date	Party Leaders
Buttston: NW	Tallapoosa	14 June	A. Miller
Camp Hill: CE	Chambers	20 June	M. Hodges
Daviston: CE	Tallapoosa	18 June	M. Hodges
Dexter: CE	Elmore	4 June	L. Gardella
Eclectic: CE	Elmore	18 June	R. Reed
Flag Mountain: CE	Coosa	8 June	G. Jackson
Goodwater: CE	Coosa	12 June	T. Schneider
Goodwater: SW	Coosa	12 June	R. West
Hackneyville: CE	Tallapoosa	7 June	B. Fleming
Hollins: CE	Coosa	16 June	R. West
Hollins: SE	Coosa	12 June	R. West
Kellyton: CE	Coosa	9 June	T. Pratt, C. Kennedy
Lafayette: CE	Chambers	9 June	B. Fleming
Mitchell Dam NW: CE	Coosa	19 June	G. Harber
New Site: CE	Tallapoosa	4 June	M. Hodges
Rockford: CW	Coosa	15 June	R. West
Talladega Springs: CE	Coosa	10 June	S. McConnell
Wadley South: CE	Chambers	18 June	L. Gardella
Weogulfka: CE	Coosa	15 June	H. Wright

RESULTS AND DISCUSSION

A total of 95 species (90 diurnal) and 7773 individuals (7683 diurnal) was recorded during 90.9 hrs of surveying. This resulted in a total of 84.5 individuals per party-hour (excluding nocturnal species), with a mean of 0.94 birds per party-hour per diurnal species. Forty-one species (43%) on the count were confirmed as breeders, 35 (37%) were probable breeders, 17 (18%) were possible breeders, and two (2%) were noted as only “observed” species (Table 2).

In descending order, the most frequently encountered species (> 2.0 individuals/party-hr) were Northern Cardinal, Red-eyed Vireo, Yellow-breasted Chat, Indigo Bunting, American Crow, Tufted Titmouse, Eastern Towhee, Carolina Wren, Barn Swallow, Mourning Dove, Pine Warbler, Northern Mockingbird, and Eastern Bluebird. The most widely distributed species, detected in all blocks surveyed by land, were Red-bellied Woodpecker, Great Crested Flycatcher, Red-eyed Vireo, Blue Jay, American Crow, Carolina Chickadee, Tufted Titmouse, Carolina Wren, Blue-gray Gnatcatcher, Wood Thrush, Northern Cardinal, and Indigo Bunting. Species with a limited distribution (seen in only one or two blocks) included Canada Goose, Mallard, Great Egret, Cooper’s Hawk, Eurasian Collared-Dove, Great Horned Owl, Loggerhead Shrike, Fish Crow, Cliff Swallow, Cedar Waxwing, Blue-winged Warbler, American Redstart, and Bachman’s Sparrow.

TABLE 2. Southern Piedmont Summer Bird Count Totals, June 2005.

Species	Total	Total/party-hr	No. Blocks	Breeding Status
Canada Goose	9	0.10	1	Possible
Wood Duck	11	0.12	5	Probable
Mallard	5	0.06	1	Confirmed
Wild Turkey	16	0.18	5	Possible
Northern Bobwhite	56	0.62	14	Probable
Great Blue Heron	13	0.14	3	Possible
Great Egret	1	0.01	1	Possible
Green Heron	11	0.12	5	Probable
Black Vulture	64	0.70	6	Observed
Turkey Vulture	71	0.78	14	Observed
Cooper's Hawk	1	0.01	1	Possible
Red-shouldered Hawk	29	0.32	11	Confirmed
Broad-winged Hawk	9	0.10	7	Confirmed
Red-tailed Hawk	10	0.11	8	Confirmed
Killdeer	11	0.12	3	Possible
Rock Pigeon	23	0.25	3	Probable
Eurasian Collared-Dove	3	0.03	1	Possible

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TABLE 2. cont.

Species	Total	Total/party-hr	No. Blocks	Breeding Status
Mourning Dove	200	2.20	15	Probable
Yellow-billed Cuckoo	112	1.23	16	Probable
Eastern Screech-Owl	6	-----	3	Possible
Great Horned Owl	2	-----	1	Probable
Barred Owl	9	-----	5	Probable
Chuck-will's-widow	46	-----	9	Probable
Whip-poor-will	27	-----	5	Probable
Chimney Swift	85	0.94	15	Probable
Ruby-throated Hummingbird	19	0.21	12	Possible
Belted Kingfisher	13	0.14	8	Confirmed
Red-headed Woodpecker	8	0.09	5	Probable
Red-bellied Woodpecker	109	1.20	18	Confirmed
Downy Woodpecker	57	0.63	17	Probable
Hairy Woodpecker	9	0.10	5	Probable
Northern Flicker	6	0.07	6	Possible
Pileated Woodpecker	33	0.36	13	Confirmed
Eastern Wood-Pewee	51	0.56	13	Probable
Acadian Flycatcher	51	0.56	13	Probable
Eastern Phoebe	87	0.96	17	Confirmed
Great Crested Flycatcher	97	1.07	18	Confirmed
Eastern Kingbird	97	1.07	13	Confirmed
Loggerhead Shrike	3	0.03	2	Possible
White-eyed Vireo	147	1.62	17	Probable
Yellow-throated Vireo	54	0.59	14	Probable
Red-eyed Vireo	384	4.22	18	Confirmed
Blue Jay	177	1.95	18	Confirmed
American Crow	293	3.22	18	Confirmed
Fish Crow	6	0.07	1	Possible
Purple Martin	107	1.18	13	Confirmed
Northern Rough-winged Swallow	53	0.58	9	Confirmed
Cliff Swallow	31	0.34	2	Confirmed
Barn Swallow	207	2.28	17	Confirmed
Carolina Chickadee	180	1.98	18	Confirmed
Tufted Titmouse	276	3.04	18	Confirmed
White-breasted Nuthatch	9	0.10	6	Possible
Brown-headed Nuthatch	41	0.45	10	Confirmed
Carolina Wren	226	2.49	18	Probable
Blue-gray Gnatcatcher	159	1.75	18	Confirmed
Eastern Bluebird	184	2.02	16	Confirmed
Wood Thrush	163	1.79	18	Probable
American Robin	65	0.72	13	Confirmed
Gray Catbird	28	0.31	9	Confirmed
Northern Mockingbird	186	2.05	15	Confirmed
Brown Thrasher	80	0.88	16	Confirmed
European Starling	108	1.19	11	Confirmed
Cedar Waxwing	2	0.02	1	Confirmed
Blue-winged Warbler	2	0.02	1	Possible

TABLE 2. cont.

Species	Total	Total/party-hr	No. Blocks	Breeding Status
Northern Parula	160	1.76	16	Probable
Yellow-throated Warbler	22	0.24	7	Probable
Pine Warbler	190	2.09	16	Confirmed
Prairie Warbler	133	1.46	15	Confirmed
Black-and-white Warbler	26	0.29	12	Confirmed
American Redstart	1	0.01	1	Possible
Worm-eating Warbler	11	0.12	4	Probable
Swainson's Warbler	6	0.07	4	Probable
Ovenbird	5	0.06	3	Possible
Louisiana Waterthrush	28	0.31	10	Confirmed
Kentucky Warbler	89	0.98	16	Confirmed
Common Yellowthroat	127	1.40	17	Probable
Hooded Warbler	145	1.60	17	Confirmed
Yellow-breasted Chat	347	3.82	17	Confirmed
Summer Tanager	113	1.24	17	Probable
Scarlet Tanager	28	0.31	10	Confirmed
Eastern Towhee	276	3.04	17	Probable
Bachman's Sparrow	1	0.01	1	Possible
Chipping Sparrow	173	1.90	15	Confirmed
Field Sparrow	51	0.56	12	Probable
Northern Cardinal	416	4.58	18	Confirmed
Blue Grosbeak	109	1.20	17	Probable
Indigo Bunting	324	3.56	18	Confirmed
Red-winged Blackbird	29	0.32	9	Confirmed
Eastern Meadowlark	35	0.39	10	Probable
Common Grackle	70	0.77	12	Probable
Brown-headed Cowbird	69	0.76	16	Probable
Orchard Oriole	65	0.72	14	Probable
House Finch	33	0.36	8	Confirmed
American Goldfinch	28	0.31	9	Probable
House Sparrow	25	0.28	4	Probable

Data were collected on species of conservation concern. Although no “Priority I” species (Mirarchi et al. 2004), of highest conservation concern, were noted on the count, four “Priority II” species (high conservation concern) were found. Of these, Wood Thrush and Kentucky Warbler both had individual counts greater than the relative species abundance mean for the count and were distributed widely (18 and 16 blocks, respectively; Table 2). Swainson’s Warbler and Bachman’s Sparrow, however, had counts considerably below the

relative abundance mean and occurred in only four blocks (Flag Mountain: CE, Hackneyville: CE, Camp Hill SE: CE, Eclectic: CE) and 1 block (Wadley South: CE), respectively (Table 2).

Prior to the count, certain species were designated by Jackson as target birds to be sought by participants; these were selected on the basis of likelihood of occurrence as well as distributional interest. Of these 28 target species, 14 (50%) were detected during the surveys, including two Priority II species mentioned above (Swainson's Warbler and Bachman's Sparrow). Whip-poor-will was surprisingly numerous near the southern edge of its range, with 27 birds heard in five blocks. A nesting pair of Cedar Waxwings in Daviston: CE provided the southernmost confirmed breeding of this species in



Figure 2. Cedar Waxwing adult on nest 19 June 2005 in Daviston: CE block, Tallapoosa County, Alabama, providing the southernmost breeding evidence for species in state (photograph by Malcolm Hodges).

Alabama (Fig. 2). Two Blue-winged Warblers were notable so far southeast in Hackneyville: CE, as were five Ovenbirds in three CE blocks (Mitchell Dam NW, New Site, and Daviston), and 28 Scarlet Tanagers in 10 blocks. Eurasian Collared-Dove, Fish Crow, Cliff Swallow, White-breasted Nuthatch, and Yellow-throated, Black-and-white, and Worm-eating warblers were the other species of interest recorded on the SBC.

Of the undetected target species, the following were recorded during the multi-year BBA project within the quads surveyed on the SBC, though not always in blocks covered on the count. Bald Eagle was discovered nesting in Mitchell Dam NW: CW in 2004, and Sharp-shinned Hawk was recorded in Rockford SW: CW in 2003. Common Ground-Dove was noted in Flag Mountain (CW and SE blocks) in 2004; another was found during the 2005 SBC period in Buttston: CE. Red-cockaded Woodpecker nested, with young produced, in Mitchell Dam NW (SW and SE blocks) in 2006. Black-throated Green Warbler was found in Flag Mountain: NW during the SBC period in 2005, and Grasshopper Sparrow was noted in Camp Hill: CE in 2006. The other target species (Pied-billed Grebe, Mississippi Kite, American Kestrel, Barn Owl, Yellow Warbler, Lark Sparrow, Baltimore Oriole, and Red Crossbill) were not recorded during the BBA project in the quads included on the SBC (unpublished data).

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