

An All-year Census

*A census in all seasons
tells much more about
the ecological value of a tract.*

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AMERICAN BIRDS IN ITS 31st Winter Bird-Population Study published 120 studies for 1978 with an average 21 observer hours (*AB* 33:18-53); in its 42nd Breeding Bird Census 199 censuses averaged 27.3 observer hours (*AB* 33:54-114). At least 42 of the 1978 WB-PS tracts also had a BBC the same year, thus some tracts received an average of about 48 hours' coverage. With these two censuses *American Birds* is doing a remarkable job of documenting ecological values.

Yet perhaps a better indication of the ecological value of any given tract would be the birds it supports *throughout the year*. Granted, those WB-PSs and BBCs represent a tremendous outlay of effort — considering the winter weather at some tracts and the remoteness of others. But for those tracts that are convenient the possibility of a daily or almost daily census throughout the year should be considered. One half-hour per day alone for 360 days is 180 man-hours, or one hour per day five days a week is 260. It seems too that often the coverage is overstated by using man-hours instead of party-hours, so the increase in coverage throughout the year is even greater than the figures show. It is also quite likely that tracts that are frozen much of the year receive intense summer bird use but very little at other times. Thus an appraisal of a tract's ecological worth based on the breeding season only may be overstated.

THE AUTHOR IS fortunate in having a cemetery across the street from his home. Perhaps a year-round census is possible for others who have tracts readily accessible in their daily or almost daily activities. The following All-year Census has its format as close as possible to the WB-PS and BBC. While the censusing effort and the information it generates are considerably greater than for counts of both wintering and breeding birds from the same tract, the amount of space required in *American Birds* should be far less.

SUBURBAN CEMETERY. — **Location:** Alabama; Jefferson Co., Birmingham, Oakland Cemetery, immediately NE of intersection of Pike and Warrior Rds. in Ensley section; 33°29'N, 86°54'W, Bessemer Quadrangle, USGS. **Continuity:** New, counts for 1978 and 1979 included. **Size:** 15.0 ha = 37 acres (rectangular with sawtooth NE edge, measured from topo map and cemetery records). **Description of Plot:** Cemetery established about 1903; the only structures are an office and nearby storage shed, the general aspect is

of mature trees, ornamental shrubs, extensive lawn, small headstones, paved and dirt roads, and a two-acre rectangular wooded plot on the E edge. **Vegetation:** Natural hackberry-elm limestone valley on SW blending into oak-hickory chart ridge on NE. A quantitative survey of vegetation yielded the following results: Trees 3-in. and over from ten 0.1-acre circles, 67/acre; total basal area, 77.0 ft²/acre. Species comprising 93% of the total number of trees: Hackberry (*Celtis laevigata*) 9 trees per acre, 13% relative density, 6% relative dominance, 30% frequency; S. Red Oak (*Quercus falcata*) 8, 12, 37, 30; Post Oak (*Q. stellata*) 6, 9, 16, 50; Dogwood (*Cornus florida*) 6, 9, 1, 50; Arbor Vitae (*Thuja orientalis*) 6, 9, 1.3, 20; Sweet Gum (*Liquidambar styraciflua*) 5, 8, 19, 30; Crepe Myrtle (*Lagerstroemia indica*) 4, 6, 0.5, 10; Black Oak (*Q. velutina*) 2, 3, 9, 20; Pignut Hickory (*Carya glabra*) 2, 3, 3, 20; Red Mulberry (*Morus rubra*) 2, 3, 0.3, 20; Catalpa (*Catalpa bignonioides*) 2, 3, 1.4, 10; Winged Elm (*Ulmus alata*) 2, 3, 2.4, 10; Silver Maple (*Acer saccharinum*) 2, 3, 2, 10; Cherry (*Prunus serotina*) 1, 1.5, 2, 10; Am. Elm (*U. americana*) 1, 1.5, 2, 10; Shagbark Hickory (*C. ovata*), 1, 1.5, 2, 10; Mockernut Hickory (*C. tomentosa*) 1, 1.5, 2.4, 10; Blackjack Oak (*Q. marilandica*) 1, 1.5, 2.4, 10; Water Oak (*Q. nigra*) 1, 1.5, 2.4, 10; White Oak (*Q. alba*) 1, 1.5, 2, 10; Black Gum (*Nyssa sylvatica*) 1, 1.5, 2, 10; Willow Oak (*Q. phellos*) 1, 1.5, 2, 10. Remaining 7% woody species include in approximate decreasing order of frequency: E. Red Cedar (*Juniperus virginiana*), Indigobush (*Amorpha* sp.), Paulownia (*Paulownia tomentosa*), Crab-



Oakland Cemetery, looking northwest. An older, more wooded area. Photos, Nov. 1979 /T. A. Imhof.

apple (*Malus angustifolia*), Loblolly Pine (*Pinus taeda*) mature specimen, Deodar Cedar (*Cedrus deodara*), Black Walnut (*Juglans nigra*), Pecan (*Carya pecan*), N. Red Oak (*Q. borealis*), White Mulberry (*M. alba*), Sycamore (*Platanus occidentalis*), Tulip-poplar (*Liriodendron tulipifera*), Sassafras (*Sassafras albidum*), Carolina Laurelcherry (*Prunus caroliniana*), Hawthorn (*Crataegus* sp.), Chinaberry (*Melia azedarach*), Sumac (*Rhus typhina* and *copallina*), Holly (*Ilex bufordii*), Possum-



Oakland Cemetery, taken from highest point, showing open grassy area, wooded on slope. In the distance, 2 miles away across the city, the U.S. Steel Co. Cokeworks.

haw (*Viburnum nudum*), Red Maple (*Acer rubrum*), Box-elder (*A. negundo*), Persimmon (*Diospyros virginiana*), Ash (*Fraxinus americana* and *pennsylvanica*), Black Willow (*Salix nigra*), Mimosa (*Albizia julibrissin*), Heart-bursting-with-love (*Euonymus atropurpureus*), Redbud (*Cercis canadensis*). Dominant among the many vines are: *Toxicodendron*, *Lonicera*, and *Smilax*. Elms and mature cherries — several in diameter size class D — appear more dominant than the samples indicate. Trees by diameter size class: A (3-6 in.) 24/acre, 36% relative density, 2.4 ft²/acre basal area, 3.1% relative basal area; B (6-9 in.) 11, 16, 3.3, 4.3; C (9-15 in.) 6, 9, 4.8, 6.2; D (15-21 in.) 15, 22, 27, 35.1; E (21-27 in.) 8, 12, 24.8, 32.2; F (27-33 in.) 3, 5, 14.7, 19.1. Shrub stems/acre, 740; ground cover (numerous grasses and forbs) 98%; canopy cover 50%; average canopy height 46 ft. (range 0-70). **Edge:** Bordered on S and W by Warrior and Pike Rds., on N and E by occupied residential lots. Bordering property is about 80% residential, 20% commercial. I-59, I-20 passes 300 yds. to the W. Compiler's house with feeding station lies just off the NW corner; two other feeding stations are known in bordering yards. **Topography:** Limestone valley to chert hill. **Elevation:** 547 ft. (benchmark at SW corner) to 642 ft. on NE. **1978: Weather:** January and February colder than normal — 43 of 59 days minimum temp. below 32°F; June-August also cooler than normal. **Coverage:** 321 ½ hr. trips or 160.5 hrs. (by 4-week periods number of trips were: 26, 14, 24, 23, 24, 27, 28, 26, 28, 22, 26, 26, 27), hours varied from 0700 to 1800. Every trip was timed for exactly ½ hr. making it easier to ensure daily coverage and easy to calculate birds per hour. **Count:** Starling, breeds on tract, (hereafter, B), average 110.6 b/hr (high 299 Jan., low 46.4 Dec.), 369 b/km² 150 b/100 acres; House Sparrow B, 61.9 (110.9 Sept., 12.7 Mar.) 206, 83.6; Com. Grackle B off tract, 38.3 (145.6 Feb., .81 May), 128, 51.8; Blue Jay B, 30.2 (45.5 Sept., 23.2 Jan.), 101, 40.8; Cardinal B, 25.3 (36.7 May, 13.1 Dec.), 84.3, 34.2; Am. Robin B, 24.3 (96.1 Jan., 1.3 Dec.), 81, 32.8; Mourning Dove B, 14.3 (41.6 Dec., 1.4 June), 47.7, 19.3; Mockingbird B, 11.5 (19.0 Aug., 3.7 Feb.), 38.3, 15.5; Rufous-sided Towhee B, 10.0 (18.5 July, 4.4 Jan.), 33.3, 13.5; White-throated Sparrow 9.9 (24.3 Mar., 0 June-Sept.), 33.0, 13.4; Com. Flicker B, 5.0 (11.5 Jan., 1.7 Apr.), 16.7, 6.8; Dark-eyed Junco 3.64 (19.3 Feb., 0 Apr.-Oct.), 12.1, 4.9; Yellow-rumped (Myrtle) Warbler 2.83 (21.2 Mar., 0 May-Sept.), 9.4, 3.9; Red-winged Blackbird B off, 2.22 (11.6 Dec., 0 July-Oct.), 7.4, 3.0; Cedar Waxwing 2.05 (7.8 Feb., 0 Apr.-Oct.), 6.8, 2.8; Chimney Swift B off, 1.77 (10.1 Sept., 0 Nov.-Feb.), 5.9, 2.4; Brown Thrasher B 1.65 (4.7 Sept., .29 Aug.), 5.5, 2.2; Brown-headed Cowbird B (host: towhee) 1.65 (4.2 Nov., 0 Dec.), 5.5, 2.2; Rock Dove B off, 1.3 (2.4 Dec., 0 Jan.), 4.3, 1.8; Field Sparrow 1.3 (7.0 Jan., 0 May-Sept.), 4.3, 1.8; Red-bellied Woodpecker B, 1.14 (2.24

Feb., .29 Jan.), 3.8, 1.5, Carolina Chickadee B .92; Rusty Blackbird .90; Tufted Titmouse B .88; Great Crested Flycatcher B .75; Palm Warbler .67; Am. Goldfinch .66; Downy Woodpecker B .47; Yellow-bellied Sapsucker .46; E. Wood Pewee .42; Bay-breasted Warbler .41; Red-eyed Vireo .40; Am. Redstart .31; Purple Finch .29; Wood Thrush B .28; Tennessee Warbler .28; E. Meadowlark .28; Carolina Wren (may have bred) .26; Ruby-crowned Kinglet .17; Blue-gray Gnatcatcher .15; Red-headed Woodpecker B .14; N. Parula B .11; Brown Creeper .10; White-eyed Vireo .10; less than 0.1 b/hr.: Hawk: Red-tailed, Red-shouldered, Broad-winged; Am. Woodcock may have bred, Cuckoo: Cuckoo, Yellow-billed, Black-billed; Com. Nighthawk, E. Kingbird, E. Phoebe, Least Flycatcher, *Empidonax* sp., Barn Swallow, Purple Martin; Wren: House; Winter: Gray



Oakland Cemetery, Ensley, Birmingham, Ala., looking north. Foreground: nandina Rt.: water oak still in leaf. Evergreens are mostly privet and cedar.

Catbird, E. Bluebird; Vireo: Solitary, Philadelphia; Warbler: Black-and-white, Orange-crowned, Nashville, Magnolia, Yellow, Black-poll, Blackburnian, Com. Yellowthroat; Kentucky, Hooded; Rose-breasted Grosbeak, Indigo Bunting; Sparrow: Chipping, Song. For all species marked B a nest or dependent young were seen; species marked "B off" were present most of summer often in reduced numbers, with no evidence of nesting on tract but often evidence of off-tract nesting. Total: 79 species, 371/hr. (1237/km², 501/100 acres).

1979: Because of AB deadlines the first ten 4-week periods of 1979 — through Oct. 7 — are herein reported, and the remaining three periods of October, November, and December will be reported later. **1979: Weather:** cold and wet; as of Sept. 29 the local deficiency in temperature was 33°F. (1.25°/day) and total precipitation of 60 in. was 19 in. in excess; January and February colder than normal — 34 of 59 days with minimum temperature

below 32°. **Coverage:** 200 ½-hr. trips or 100 hrs. (by 4-week periods number of trips were: 18, 24, 22, 19, 13, 14, 7, 28, 28, 27) through Oct. 7, 1979, balance of year later; hours varied from 0900 to 1900, every trip exactly ½ hr. **Count:** Starling breeds on tract, average 115.5 b/hr. (high 350.22 Jan., low 35.3 July), 385/km², 156 /100 acres; Com. Grackle B off, 55 (272, Jan., .77 Apr.), 183.5, 74; House Sparrow B, 45 (102.7 Aug., 18.7 May), 150, 61; Am. Robin B, 35 (67 Sept., 18 July), 116, 41; Blue Jay B, 26 (56 Sept., 19 May), 82, 35; Cardinal B, 18.5 (26.6 Aug., 11.7 Jan. and Feb.), 62, 25; Red-winged Blackbird B off, 12.8 (72 Feb., 0 Aug. and Sept.), 42.8, 17; Mourning Dove B, 12.2 (29.9 Jan., 4.6 June), 40.7, 16.5; Rufous-sided Towhee B, 12.2 (18 June, 5.7 Jan.), 40.4, 16.4; Mockingbird B, 11.8 (15.8 Sept., 6.1 Jan.), 39.4, 16.0; Brown-headed Cowbird B (host: towhee) 9.1 (41.8 Feb., 0 Aug.), 30.2, 12.3; White-throated Sparrow 4.9 (14.8 Jan., 0 May-Sept.), 16.5; 6.7; Cedar Waxwing 4.4 (16 Feb., 0 May-Oct.), 14.7, 6.0; Chimney Swift B off, 3.5 (26 Sept., 0 Nov.-Feb.), 11.5, 4.7; Com. Flicker B, 3.1 (5.8 Feb., 1.7 May), 10.3, 4.2; Yellow-rumped (Myrtle) Warbler 2.8 (18.3 Mar., 0 Jan., May-Sept.), 9.3, 3.8; Brown Thrasher B, 2.1 (5.8 Sept., .22 Jan.), 7.0, 2.8; Rusty Blackbird 2.0 (9.2 Jan., 0 Mar.-Oct.), 6.6, 2.7; Dark-eyed Junco 1.4 (3.9 Jan., 0 Apr.-Oct.), 4.2, 1.9; Red-bellied Woodpecker B, 1.2 (1.7 June, .7 July), 4.1, 1.7; Great Crested Flycatcher B, 1.2 (4.0 June, 0 Oct.-Feb.), 4.0, 1.6; Rock Dove B off, 1.0 (3.9 Jan., 0 Apr., Aug.), 3.3, 1.4; Am. Goldfinch .90; Carolina Chickadee B .78; Am. Redstart .75; Tufted Titmouse .73; Palm Warbler .71; Red-headed Woodpecker B .69; Wood Thrush B .66; Broad-winged Hawk .62; Purple Finch .62; Carolina Wren (may have bred) .59; Downy Woodpecker B .58; E. Wood Pewee .55; N. Parula B .38; Red-eyed Vireo .23; Blue-gray Gnatcatcher .16; White-eyed Vireo .16; Rose-breasted Grosbeak .15; Yellow-billed Cuckoo .13; Tennessee Warbler .11; Yellow-bellied Sapsucker .10; E. Meadowlark B off .10; less than 0.1 b/hr.: Green Heron, Red-tailed Hawk, Merlin, Am. Kestrel, Am. Woodcock, Herring Gull, Ruby-throated Hummingbird, E. Phoebe, *Empidonax* sp., Purple Martin, Gray Catbird; Thrush: Swainson's, Gray-cheeked, Veery; Ruby-crowned Kinglet, Loggerhead Shrike; Warbler: Black-and-white, Yellow, Magnolia, Black-throated Green, Chestnut-sided, Bay-breasted, Black-poll, Prairie; Ovenbird, N. Waterthrush; Hooded, Canada; Oriole: Orchard, N. (Baltimore); Tanager: Summer, Scarlet; Indigo Bunting; Sparrow: Savannah, Vesper. **Total:** 78 species, 406/hr. (1352/km², 548/100 acres). **Remarks:** A few Winged Elms are dying or dead (Dutch elm disease?), one or two Arbor Vitae and junipers are heavily infested with bagworms and almost dead, the Catalpas with heavy worm infestations are almost defoliated but seem to recover. — THOMAS A. IMHOF, 1036 Pike Road, Birmingham, Ala. 35218.