

August 13-16. Hours ranged from 4 a.m. to 8:55 p.m. (E.D.T.) and totaled over 25, of which 19 were before 9 a.m. **Census:** Song Sparrow, 9 (185, 75); Robin, 5 (103, 42); Am. Redstart, 5 (103, 42); Yellow Warbler, 4 (82, 33); Myrtle Warbler, 4 (82, 33); Least Flycatcher, 3 (62, 25); E. Wood Pewee, 3 (62, 25); Veery, 3 (62, 25); Purple Finch 3, (62, 25); Brown Creeper, 2; Parula Warbler, 2; Blackburnian Warbler, 2; Pine Warbler, 2; Am. Goldfinch, 2; Brown-headed Cowbird, 1.5 (females); Ruby-throated Hummingbird, 1 (female); Yellow-shafted Flicker, 1; E. Kingbird, 1; Black-capped Chickadee, 1; Red-eyed Vireo, 1; Red-winged Blackbird, 1; Chipping Sparrow, 1; E. Phoebe, 0.5; Com. Raven, +. **Total:** 24 species; 58 territorial males (or females) (1194 per square kilometer, 483 per 100 acres). **Visitors:** Great Blue Heron, Pileated Woodpecker, Great Crested Flycatcher, Tree Swallow, Bank Swallow, Barn Swallow, Blue Jay (regular, probably nested), White-breasted Nuthatch, Red-breasted Nuthatch, Cedar Waxwing (regular, average 6 to 8, probably nested), Solitary Vireo, Ovenbird, Baltimore Oriole, Com. Grackle (regular, probably nested), Scarlet Tanager, Rose-breasted Grosbeak. **Remarks:** This plot is undersized, with a high population density, in part because of the large amount of edge. Since 1962, few changes in species composition have occurred, although several species have declined noticeably. The Least Flycatcher, in the past (1959-1962) the most numerous species, has dropped from 10 territorial males in 1962 to only 3 this year. The Red-eyed Vireo and several warblers, which were at peak densities in 1962, have declined to more normal numbers. The Am. Redstart and Veery were lower than normal this year. Ten nests were found: Yellow-shafted Flicker, 1; E. Kingbird, 1; Brown Creeper, 1; Robin, 2; Veery, 2; Red-winged Blackbird, 1; Am. Goldfinch, 1; Song Sparrow, 1. Nestings reported to me: Black-capped Chickadee (1 brood left hole just before census began); Com. Raven (in May). I saw 4 ravens flying over the island on June 29, and 6 over the adjacent mainland on July 4. Two Com. Loons were seen in the cove on the north side of the island; nesting is not inconceivable. Herring Gulls and some Great Black-backed Gulls roosted or perched on boulders off Huckleberry Island (about 1/8 mile to the east), and occasionally gulls flew over the island. The continued absence of the Black-throated Green Warbler as a breeding bird is interesting. — RICHARD W. SIMMERS, JR., 62 Buckingham St., Cambridge, Mass. 02138.

36. CLIMAX HEMLOCK-WHITE PINE FOREST WITH TRANSITION HARDWOODS.— **Location:** Connecticut; White Memorial Foundation, Litchfield; 41°43'20"N, 73°12'W, Litchfield Quadrangle, U.S.G.S. **Size:** 26 acres (roughly a trapezium). **Description of Area:** See *Audubon Field Notes* 19: 594-595 (1965). **Coverage:** May 30; June 3, 5, 9, 11, 15, 19, 22, 23, 25, 28, 29; July 1, 8, 11, 16, 17, 20, 22. Hours varied from 4:30 a.m. round the clock to 1 a.m. and totaled more than 30. **Census:** Ovenbird, 7 (27); Black-throated Green Warbler, 6.5 (25); Blackburnian Warbler, 5.5 (21); Wood Thrush, 4.5 (17); Veery, 3.5 (13); Scarlet Tanager, 3.5 (13); Blue Jay, 3 (12);

Brown Creeper, 3 (12); Red-eyed Vireo, 3 (12); Black-and-white Warbler, 3 (12); Rufous-sided Towhee, 3 (12); Black-capped Chickadee, 2.5; Canada Warbler, 2; Com. Grackle, 2; Brown-headed Cowbird, 2; Great Crested Flycatcher, 1.5; Com. Crow, 1.5; Robin, 1.5; Myrtle Warbler, 1.5; Mourning Dove, 1; Downy Woodpecker, 1; Cardinal, 1; Barred Owl, 0.5; E. Wood Pewee, 0.5; Red-breasted Nuthatch, 0.5; Black-billed Cuckoo, +; Great Horned Owl, +; Pileated Woodpecker, +; Hairy Woodpecker, +; White-breasted Nuthatch, +; Indigo Bunting, +; Purple Finch, +; White-throated Sparrow, +; Song Sparrow, +. **Total:** 34 species; 64.5 territorial males (248 per 100 acres). **Visitors:** (Average number of individuals per 100 acres): Cedar Waxwing, 10; Com. Grackle, 6; Red-winged Blackbird, 4; Solitary Vireo, 2; Yellow-shafted Flicker, 1; Tufted Titmouse, 1; Catbird, 1; Wood Duck, +; Red-shouldered Hawk, +; Broad-winged Hawk, +; Yellow-throated Vireo, +; Chestnut-sided Warbler, +; Pine Warbler, +; Yellowthroat, +; Baltimore Oriole, +. **Remarks:** This area has been censused each year since 1965, except 1970. General stability of habitat and density continues. Intense defoliation of oaks by large span worms occurred. New breeders included single pairs of Cardinal and Black-billed Cuckoo, each of which were included as breeders whose territories spilled over from an area of second growth and open road. A new breeder of special interest is the Myrtle Warbler; at least one male sang continuously throughout the period, occasionally joined by a second. This year was a banner year, with at least 7 local singers on territory throughout June. A female was observed with grass in its bill. The species preferred the highest crowns of the White Pine, which forms islands above the forest canopy. The Myrtle Warbler is locally at the edge of its breeding range. Black-throated Green Warblers, which incidentally prefer the same habitat as the Myrtle Warblers, are continuing a slow decline (down from 11 in 1967) while Blackburnian Warblers have risen by 2.5 since 1969. A more obvious and interesting relationship since 1969 involves the decline of Veeries by 1.5 and a rise of Wood Thrushes by 4. Collective numbers of thrushes, including a Hermit Thrush in 1965, have always varied between 5.5 and 8. Veeries, until this year, have always dominated, culminating in an imbalance of 5 Veeries to 0.5 Wood Thrushes in 1969. Though no live Ruffed Grouse were seen on the area this year, as in years past, feather piles were found beneath a shady stand of large hemlocks, which was a regular roost for a Barred Owl. In past years, evidence of grouse kills were definitely associated with the Great Horned Owl. For the first time since 1965 Broad-winged Hawks were not present as breeders near or on the area, but were recorded only as visitors. The Solitary Vireo, as usual, moved in immediately after breeding in nearby similar woods, and thereafter almost assumed territoriality complete with weakened song. Two Wood Duck broods were seen on several occasions in a Beaver-created stream-turned-pond a couple of hundred feet from the western edge of the area. — ANDREW MAGEE, 34 Hobson Street, Springfield, Mass. 01109, under the direction of the White Memorial Foundation, Inc., Litchfield, Conn.

37. DISTURBED FIR-SPRUCE FOREST WITH ALDER OPENINGS. — Location: Quebec; about 13 miles west-northwest of Duparquet, Co. Abitibi-Ouest, and about three-quarters of a mile east of the Ontario boundary, on the north side of Matheson Road (Highway 101 in Ontario); southwest corner of the plot is at 48°31½'N, 79°30'W, on map sheet 32 D/11 West, Palmarolle, National Topographic Series. Size: 16.5 ha = 40.8 acres (a rectangle 350 x 500 meters, with a 100 meter square omitted at the northwest corner; laid out in 50-meter squares with compass and measured rope). Description of Area: See *Audubon Field Notes* 24:



Census 37. Mature Balsam Fir stand, with alder and other hardwood shrubs in openings. June 18, 1971.

752-753 (1970). Coverage: May 38, 31; June 5, 7, 12, 15, 18, 27; July 1. All surveys were made between 4:58 a.m. and 12:52 p.m., and totaled 28 hours. Census: Magnolia Warbler 12 (73, 29); Bay-breasted Warbler, 9 (55, 22); Chestnut-sided Warbler, 8 (48, 20); White-throated Sparrow, 7.5 (45, 18); Swainson's Thrush, 6.5 (39, 16); Philadelphia Vireo, 5.5 (33, 13); Ruby-crowned Kinglet, 4.5 (27, 11); Tennessee Warbler, 4 (24, 10); Ovenbird, 4 (24, 10); Ruffed Grouse, 3.5 (21, 9); Mourning Warbler, 3.5 (21, 9); Nashville Warbler, 3 (18, 7); Myrtle Warbler, 3 (18, 7); Blackburnian Warbler, 3 (18, 7); Am. Redstart, 3 (18, 7); Purple Finch, 3 (18, 7); Winter Wren, 2; Boreal Chickadee, 1; Red-breasted Nuthatch, 1; Golden-crowned Kinglet, 1; Black-and-white Warbler, 1; Cape May Warbler, 1; Black-throated Green Warbler, 1; Hairy Woodpecker, 0.5; Black-capped Chickadee, 0.5; Yellow-bellied Flycatcher, +. Total: 26 species; 92 territorial

males (558 per square kilometer, 226 per 100 acres). Visitors: (From territories near the plot) Yellow-bellied Sapsucker, 2; Robin, 2; Red-eyed Vireo, 1; Rose-breasted Grosbeak, 1; Pine Grosbeak, 5; (not known to have nearby territories) Pileated Woodpecker, 1; Downy Woodpecker, 1; Com. Crow, 1; Solitary Vireo, 3; Canada Warbler, 1; Evening Grosbeak, 5; Pine Siskin, 4. Remarks: Broods seen: Ruffed Grouse, 2 (seen 3 times and twice, respectively). The indicated density increase over 1970 may be spurious, owing to improved coverage this year. Not only was I much more familiar with the area, but the lines were better cleared and easier to walk, and the woods were much drier in 1971. Precipitation was far below normal during the census period this year; in 1970, three surveys experienced drizzle during part or all of the time, and the woods were wet with dew on all early morning surveys. My impression was that numbers of most species were similar in both years. A few species showed more obvious changes. The decrease in Red-breasted Nuthatches seemed general in the region, and the drop in Am. Redstarts on this plot was also obvious. The apparent increase in Ruffed Grouse was general, and not entirely owing to better appreciation of the distances at which the drumming could be heard in this habitat. The apparent increase in Myrtle Warblers may have been partly owing to more surveys, under better conditions, early in the season, as few of this species were detected after June 12 in either year. The other increases can probably be attributed largely to better conditions and increased familiarity. No White-winged Crossbills were detected in the entire region in 1971, in contrast to their numbers in late June and July 1970. Other vertebrates detected on plot: Varying Hare, 2 (on first survey only); Red Squirrel (average 4 per survey). — ANTHONY J. ERSKINE, *Migratory Bird Populations, Canadian Wildlife Service, Ottawa, Ont. Canada.*

38. LODGEPOLE PINE FOREST WITH ASPEN. — Location: Colorado; one mile west of Silverthorne, Summit County; 39°37'N, 106°06'W, Dillon Quadrangle, U.S.G.S. Size: 13.4 ha = 33 acres (a rectangle 200 feet long by 600 feet on the west and 800 feet on the east). The linear shape is dictated by topography and edge. Description of Area: See *Audubon Field Notes* 24: 550, 760-761 (1970). Coverage: April 11, 30; May 1, 10, 11, 23, 24, 30, 31; June 13, 20, 27; July 4, 5; Aug. 1. Hours: 6 to 10 a.m. and 4:30 to 11 p.m. Census: Mountain Chickadee, 5 (37, 15); Brown Creeper, 4 (30, 12); Gray-headed Junco, 4 (30, 12); Ruby-crowned Kinglet, 3.5 (26, 11); Audubon's Warbler, 3 (22, 9); Red-breasted Nuthatch, 2.5; Robin, 2; Red-shafted Flicker, 1; Tree Swallow, 1; Townsend's Solitaire, 1; Warbling Vireo, 1; Yellow-bellied Sapsucker, 0.5; Hairy Woodpecker, 0.5; Black-capped Chickadee, 0.5; House Wren, 0.5. Total: 15 species; 30 territorial males (225 per square kilometer, 91 per 100 acres). Visitors: Regular: Gray Jay, Broad-tailed Hummingbird, Pine Siskin. Irregular: Mallard, N. Three-toed Woodpecker, Western Flycatcher, W. Wood Pewee, White-breasted Nuthatch, Hermit Thrush, Wilson's Warbler, Brown-headed Cowbird (during May and June), Evening Grosbeak, Cassin's Finch, Pine

Grosbeak, Red Crossbill. **Remarks:** As last year, a substantial majority of the nesting birds selected territories in the eastern section of the plot where aspen intrudes or predominates. However this year the central portion, which is predominantly Lodgepole Pine, supported the Townsend's Solitaire and half the pairs of the seven most common birds in the plot, except Audubon's Warblers. The western, pure Lodgepole, section supported only one territory of Mountain Chickadees and one of Brown Creepers. All three woodpeckers, Tree Swallows, both chickadees, and House Wrens nested in aspen holes. The Black-capped Chickadees, busy cleaning out a nest hole on the west section on May 24, were seen neither before nor after that date. A Mountain Chickadee later established a territory including the same location. Other Black-capped Chickadees were seen near the census plot during the summer, but no others occurred within the plot. In contrast to last year, the juncos did not begin singing in early May; nesting occurred later for at least some pairs, since the one nest located had eggs on June 27 and July 5. Gray Jays habitually brought their young through the area; a pair could have nested in or nearby, but I noted no evidence of it. The same possibility exists for the hummingbird. **Erratum:** Last year's census should be adjusted to add one territorial male Brown Creeper. — HUGH E. KINGERY, *10 Emerson, Denver, Colo. 80218.*

39. MESQUITE-PALO VERDE-SAGUARO DESERT IN LOWER SONORAN ZONE. — Location:

Arizona; 0.75 miles west of the town of Cave Creek and 25 miles north of Scottsdale; 33°40'N, 111°50'W, Cave Creek Quadrangle, U.S.G.S. **Size:** 10 ha = 25 acres (square, measured with a tape, stone cairns placed at each acre-corner). **Description of Area:** See *Audubon Field Notes* 24: 774 (1970). **Coverage:** April 25, 27; May 1, 3, 4, 9, 10, 11, 14, 18, and 19. Trips were made between 5:30 and 8:00 a.m. Man-hours totaled 24. **Census:** Cactus Wren, 2.5; Verdin, 2; Curve-billed Thrasher, 1.5; Black-throated Sparrow, 1.5; White-winged Dove, 1; Mourning Dove, 1; Black-tailed Gnatcatcher, 1; Brown-headed Cowbird, 1; Bronzed Cowbird, 1; Cardinal, 1. **Total:** 10 species; 13.5 territorial males or female cowbirds (133 per square kilometer; 54 per 100 acres). **Visitors:** Gambel's Quail, Poor-will, female hummingbird, Gilded Flicker, Gila Woodpecker, Ladder-backed Woodpecker, W. Kingbird, Wied's Crested Flycatcher, Ash-throated Flycatcher, Say's Phoebe, *Empidonax* flycatcher, W. Wood Pewee, Violet-green Swallow, Rock Wren, Starling, Orange-crowned Warbler, Virginia's Warbler, Townsend's Warbler, Wilson's Warbler, Hooded Oriole, House Finch, Lesser Goldfinch, Brown Towhee, Brewer's Sparrow. **Remarks:** The results of what has been called the worst drought in the Southwest in 40 years are graphically illustrated in our census this year. In 1969 we found 20.0 territorial males of 12 species; in 1970 there were 23.5 territorial males representing 13 species; but in 1971, excluding cowbirds, we estimated only 11.5 territorial males of 8 species. During the year preceding the 1971 census,

rainfall was approximately one-fifth of the average. Consequently, as nesting season approached, there was no annual herbaceous vegetation; no tip growth, and sparse leaf growth on trees and shrubs; no emergent green at the base of dried grasses. Few seeds remained and there was a dearth of insect life. Wildlife, in general, moved from the desert to the immediate vicinity of houses where food and water were available. Birds came to feeders for seed, suet, and syrup-water in unprecedented numbers. The little nesting attempted in April and May occurred chiefly near houses; few young were fledged. Away from houses, territories — if they existed — were frequently ill-defined; nests were started and abandoned; eggs were laid and abandoned. Five species (Gambel's Quail, Gilded Flicker, Ladder-backed Woodpecker, Ash-throated Flycatcher, House Finch) that were recorded as having territories on the census plot in 1970 could be listed only as visitors in 1971. Most of the Gambel's Quail remained in coveys until mid-June, when a substantial amount of pairing-off was observed for the first time. Ash-throated Flycatchers were last seen on the plot on May 4; during the entire spring and summer, they were generally absent from desert areas where they normally nest. House Finches apparently nested with good success in June and July, after the Saguaro fruits had ripened. — ELEANOR L. RADKE, *P. O. Box 446, Cave Creek, Arizona*, and ELLIS R. JONES, *P. O. Box 217, Cave Creek, Ariz. 85331.*

40. OAK-MAPLE FOREST AND EDGE. — Location:

Illinois; Trelease Woods, 6 miles northeast of Champaign. **Size:** 55 acres plus 1.25 miles of forest-edge. **Description of Area:** See *Audubon Field Notes* 2: 232-233 (1948). **Coverage:** April 17, 28; May 28; June 5, 12, 23; July 14. Total, 24 man-hours. The density of the forest-interior species has been calculated as the number of territorial males per 100 acres, the density of the forest-edge species as the number per mile. **Census: Forest-Interior Species:** E. Wood Pewee, 7 (13); Great Crested Flycatcher, 6 (11); Downy Woodpecker, 5 (9); House Wren, 5 (9); Red-eyed Vireo, 4 (7); Yellow-billed Cuckoo, 3 (5); Red-bellied Woodpecker, 2; Wood Thrush, 2; Hairy Woodpecker, 1; White-breasted Nuthatch, 1; Carolina Wren, 1. **Forest-edge Species:** Starling, 47 (38); Blue Jay, 15 (12); Mourning Dove, 10 (8); Red-headed Woodpecker, 10 (8); Indigo Bunting, 10 (8); Robin, 9 (7); Yellow-shafted Flicker, 6 (5); Cardinal, 6 (5); Field Sparrow, 4 (3); Red-tailed Hawk, 1; Catbird, 1; Brown Thrasher, 1; Yellowthroat, 1; Ring-necked Pheasant, +; Com. Crow, +; Brown-headed Cowbird, +; Am. Goldfinch, +; Rufous-sided Towhee, +. **Total:** 11 species in forest-interior, with 37 territorial males (67 per 100 acres); 18 species in forest-edge, with 121 territorial males (97 per mile). **Remarks:** The population of House Wrens (5) is the lowest since 1935. In 1949, it was the most abundant species with 61 territorial males. — S. CHARLES KENDEIGH and ROLAND R. ROTH, *Vivarium Building, University of Illinois, Champaign, Ill. 61820.*

41. WOODED CITY RAVINE. — **Location:** Ontario; Belt Line Ravine between Moore Avenue and Chorley Park, Toronto; 43°41'N, 79°22½'W. **Size:** 20 ha = 49.4 acres (measured by planimeter from City of Toronto Planning Board map of the ravine. The ravine is 1320 meters in length and varies between 120 and 180 meters in width). **Description of Area:** About 75% of the plot is covered with a heavy growth of large trees up to 32 meters in height. About half the trees are Black Willow (*Salix nigra*). The other half are mostly White Oak (*Quercus alba*), Red Oak (*Q. rubra*), Sugar Maple (*Acer saccharum*), Box-elder (*A. negundo*), Green Ash (*Fraxinus pennsylvanica*), Beech (*Fagus grandifolia*), White Birch (*Betula papyrifera*), Quaking Aspen (*Populus tremuloides*), Balsam Poplar (*P. balsamifera*), Basswood (*Tilia americana*), E. Hemlock (*Tsuga canadensis*), White Pine (*Pinus strobus*), and Black Locust (*Robinia pseudo-acacia*). The former Am. Elms (*Ulmus americana*) have died, and immediately after this survey period the authorities cut down most of the standing trunks. The willows predominate in the lower creek area and the oaks and maples on the upper slopes. A footpath runs the length of the ravine and along this path and adjacent to the open areas there is a growth of small Box-elder, Quaking Aspen, and Staghorn Sumac (*Rhus typhina*), plus a few Choke Cherry (*Prunus virginiana*) and Striped Maple (*A. pennsylvanicum*). These trees reach a height of 6 meters and make up 7% of the area of the plot. The remainder of the plot (18%) is open along the path and in some places up the adjoining slopes. The open areas are covered with annual growth. Typical plants are: Canada Goldenrod (*Solidago canadensis*), Chicory (*Cichorium intybus*), horsetail (*Equisetum* sp.), Poison Ivy (*Rhus radicans*), Heart-leaved Aster (*Aster cordifolius*), Dandelion (*Taraxacum officinale*), Burdock (*Arctium minus*), Queen Anne's-lace (*Daucus carota*), Com. Yarrow (*Achillea lanulosa*), White Vervain (*Verbena urticifolia*), Joe-Pye-weed (*Eupatorium maculatum*), Evening Primrose (*Oenothera biennis*), Wild Bergamot (*Monarda fistulosa*), Creeping Bellflower (*Campanula rapunculoides*), Bouncing Bet (*Saponaria officinalis*). In a few wet spots (1% of the area) appear Com. Cat-tail (*Typha latifolia*) and Marsh Fern (*Thelypteris palustris*). The clearings below the higher trees have Bracken (*Pteridium aquilinum*) and Sensitive Fern (*Onoclea sensibilis*). **Edge:** The ravine is surrounded by houses and gardens except at the lower end where the plot ends at a brick quarry and an open park. **Topography:** At the north end the ravine is steeply cut and narrow, 142.5 meters above sea level and 30 meters deep. Toward the south end it is 90 meters above sea level and 30 meters deep. Toward the south end a flat flood plain appears to a maximum width of 37 meters. **Coverage:** May 30; June 3, 17, 19, 20, 22, 23, 29; July 2, 3. Ten trips between 6:00 and 10:30 a.m. varying from 1 to 4 hours duration. Total man-hours: 19.75. **Census:** Catbird, 4 (20, 8); Song Sparrow, 4 (20, 8); E. Wood Pewee, 3 (15, 6); Robin, 3 (15, 6); Cardinal, 3 (15, 6); Indigo Bunting, 3 (15, 6); Great Crested Flycatcher, 2; Blue Jay, 2; Wood Thrush, 2; Baltimore Oriole, 2; Com. Grackle, 2; Mourning Dove, 1; Yellow-shafted Flicker, 1; Downy Woodpecker, 1; Red-headed Woodpecker, 1; Starling,

1; Brown-headed Cowbird, 1. **Total:** 17 species; 36 territorial males (180 per square kilometer, 73 per 100 acres). **Visitors:** *Regular* (from adjacent areas): Sparrow Hawk, Ring-necked Pheasant, Com. Crow, Am. Goldfinch, Red-winged Blackbird, House Sparrow. **Mammals:** E. Chipmunk, E. Gray Squirrel (black-phase), E. Cottontail, Woodchuck, Raccoon. **Reptiles:** Milk Snake. **Remarks:** A breeding-bird population study of this ravine was made in 1966 by George Fairfield (*Audubon Field Notes* 20: 6, 1966). Since then the natural growth has been unimpeded by man. The traces of the ancient railway right-of-way have become less obvious, and the raw earth left from the laying of a trunk sewer has been covered by new growth. Comparing with the 1966 census, we have lost the Red-winged Blackbird as a breeding bird. We have gained from Fairfield's visitors listing: Blue Jay, Baltimore Oriole, Downy Woodpecker and Starling as breeding species. In addition we recorded Mourning Dove, Wood Thrush and Red-headed Woodpecker new from the 1966 census; Fairfield remarked on the general return of the Wood Thrush to the city ravines. The Red-headed Woodpecker was not previously recorded in the ravine in my study which covers the last two years. Fairfield generously made available his background information, which I have used, and checked out my present work. During July and August a student team, in consultation with conservationists, added some side footpaths to the area, cleaned up the accumulation of litter, and added some rustic construction features to draw attention to certain points of interest. This unique ravine is now under the Toronto Metropolitan Parks Board which, as nearly as can be determined, intends to preserve the natural features of the area. — ERIC NASMITH, 308 Heath Street East, Toronto 7, Ont., Canada.

42. URBAN CEMETERY. — **Location:** Ontario; western half of Mount Pleasant Cemetery in central Toronto. **Size:** 36.7 ha = 90.7 acres (erroneously published as 84 acres in prior years; 2700 x 1350 feet, rectangular except for one area of about 4.7 ha, extending south from the southern edge). **Description of Area:** See *Audubon Field Notes* 16: 539-540 (1962). **Coverage:** June 1 to July 30; most weekdays between 7:30 and 8:00 a.m. and 5:00 and 5:30 p.m.; 40 trips of about 30 minutes each, totaling 20 man-hours. **Census:** Robin, 5 (14, 6); Red-winged Blackbird, 3 (8, 3); Song Sparrow, 3 (8, 3); Cardinal, 2.5; Starling, 2; Chipping Sparrow, 2; Yellow-shafted Flicker, 1; Great Crested Flycatcher, 1; Com. Crow, 1; Com. Grackle, 1. **Total:** 10 species; 21.5 territorial males (10 per square kilometer, 24 per 100 acres). **Visitors:** Blue Jay, Black-capped Chickadee, Red-eyed Vireo, House Sparrow, Brown-headed Cowbird, Am. Goldfinch. **Remarks:** This was the first survey on the plot since 1968. There has been no change in the habitat and little change in the bird population. Great Crested Flycatcher, a new species for the plot, was assumed to have had a successful nesting, since a pair was seen with three short-tailed flying young in July. The Red-wings have maintained their foothold, established in 1968, but have not increased. Two males guarded territories on brushy wooded slopes. A third male oc-

cupied an unsuitable-looking area of well-manicured lawns and trees. Two Starling nests were found; one 30 feet above ground in a cavity in a large Black Willow and one in a bird box. Gray Squirrels seemed as abundant as ever but no estimate of numbers was attempted. A rough count was made of the other more sparsely distributed mammals, using the spot-mapping method: Chipmunk, 7; Red Squirrel, 5; E. Cottontail, 3; Woodchuck, 3. The Manager of the Cemetery provided a list of the trees, containing some 216 species from all over the temperate parts of the world. However, most of the trees in the Cemetery are native oak, maple and hickory. — GEORGE M. FAIRFIELD, 490 Merton Street, Toronto, 7, Ont., Canada.

43. RESIDENTIAL STREET. — Location: Ohio; along Fairgreen Drive in northwestern Toledo, a rectangular plot located east and south of Secor and Laskey Roads, respectively; 41°43'N, 83°39'W. Size: 43.4 acres (2365 x 800 feet, from city map). Description of Area: See *American Birds* 25: 663 (1971). Coverage: May 23, 27, 30; June 4, 6, 13, 16; July 14 and 23 (some daily except for the period June 20-July 10; the author lived in the census area). Census: House Sparrow, 13 (30); Com. Grackle, 12 (28); Robin, 10 (23); Blue Jay, 7 (16); Starling, 5 (12); Yellow-shafted Flicker, 2; Red-eyed Vireo, 2; Baltimore Oriole, 2; Cardinal, 2; Mourning Dove, 1.5; E. Wood Pewee, 1.5; Song Sparrow, 1.5; Downy Woodpecker, 1; Great Crested Flycatcher, 1; Tufted Titmouse, 1; Brown-headed Cowbird, 1; House Wren, 0.5; Catbird, 0.5; Indigo Bunting, 0.5. Total: 19 species; 65 territorial males (150 per 100 acres). Visitors: (After June 6): Com. Nighthawk, Chimney Swift, Red-headed Woodpecker, Purple Martin, Brown Thrasher, Cedar Waxwing, Red-winged Blackbird, Scarlet Tanager, Am. Goldfinch. Remarks: I had the impression of poor breeding success, since relatively few juvenile birds appeared on the plot. Perhaps one causal factor was the drought, which began in April and greatly intensified in June, and which may have kept insect populations far below normal levels (I can certainly attest to a scarcity of mosquitos compared to the previous summer!). The one Blue Jay and two Robin nests that were closely monitored fledged 2, 1, and 0 young, respectively. House cats, which number at least 10 on the census area, are known to have killed 2 male House Sparrows, a territorial male Song Sparrow, and a juvenile grackle during the census period; the actual toll was probably much higher. — ELLIOT J. TRAMER, Department of Biology, University of Toledo, Toledo, Ohio 43606.

44. WILLOW-ALDER THICKETS ON OLD FIELDS. — Location: Quebec; about 4.5 miles north of Duparquet, Co. Abitibi-Ouest, and one mile west of Highway 63, on south side of gravel road; southwest corner of plot is near 48°34'N, 79°13'W, on map sheet 32 D/11 East, Palmarolle, National Topographic Series. Size: 24 ha = 59.3 acres (rectangular, 600 x 450 meters, with a rectangle 300 x 100 meters omitted along the southwest edge; laid out in 50-meter squares with compass and measured rope). Description of Area: Part of an area of old fields reverting to

forest; three vegetational types were recognized. Two strips, 60 and 120 meters wide, running the full length (N-S) of the plot, and comprising about 44% of the area, had evidently been maintained as fields, probably for pasture and/or hay, until about five years ago. Nearly two-thirds of this area is occupied by herbaceous growth, chiefly Blue-joint Grass (*Calamagrostis canadensis*), noted on 9 of 13 samples in this habitat (important on 5); a Wool-grass (*Scirpus atrocinctus*), 8 (4); Wood Horsetail (*Equisetum sylvaticum*), 11 (1); Fireweed (*Epilobium angustifolium*), 8 (1); Orange Hawkweed (*Hieracium aurantiacum*), 6 (2); and Dandelion (*Taraxacum officinale*), 6; with dead grasses and sedges, 13 (12), between the living



Census 44. Dense thicket of Beaked Willow, about 12 feet tall, looking south along cut line. June 11, 1971.

plants. Scattered through the old field area are bushes and open thickets, chiefly of willows, especially Beaked Willow (*Salix bebbiana*), 13 (5), and Balsam Willow (*S. pyrifolia*), 12 (9), with lesser amounts of *S. planifolia*, 6; Speckled Alder (*Alnus rugosa*), 11 (2); and Quaking Aspen (*Populus tremuloides*), 8 (2). Shrubs in the open habitat seldom exceed 8 feet in height, with most only 4-6 feet. The second type, although cleared at one time, must have been abandoned much earlier, as the thickets are both taller and denser, increasing in height from 6-8 feet near the north edge to 15-20 feet at the south end. This habitat occupies about 50% of the total area, including the eastern third except for the northeast corner, a narrow strip separating the two old fields, and an area along the northwestern edge. Here only 10% of the area is occupied by low growth, and the bulk of the area is dense thickets of willows, alder, and young aspens.

Two small areas, totaling little more than one acre, are dominated by Black Spruce (*Picea mariana*) and Balsam Fir (*Abies balsamea*). Composition of the tall shrub-small tree layer is Beaked Willow, 36%; Speckled Alder, 26%; Balsam Willow, 12%; Quaking Aspen, 6%; Black Spruce, 4%; with small amounts of Balsam Fir, Tamarack (*Larix laricina*), Paper Birch (*Betula papyrifera*), Balsam Poplar (*Populus balsamifera*), and Mountain Juneberry (*Amelanchier bartramiana*). Major species in the ground and low shrub layers, including the openings, on 16 samples in this habitat, are Blue-joint Grass, 11 (5); Rough Goldenrod (*Solidago rugosa*), 10 (4); Wood Horsetail, 10 (2); Fireweed, 8 (1); Wild Raspberry (*Rubus idaeus*), 7 (2); Northern Blue Violet (*Viola septentrionalis*), 7 (1); Skunk Currant (*Ribes glandulosum*), 6 (1); Dewberry (*Rubus pubescens*), 6; and Sweet Coltsfoot (*Petasites palmatus*), 6. Dead grass, 8 (6); dead leaves, 8 (5); and dead wood, 4, also figure prominently in the ground cover. The third habitat occupies only about 6% of the total, at the northeast corner. This is an area of dense shrubs up to 7 feet tall, interspersed with patches of lower shrubs and less than 5% herbaceous cover. The major cover plants are Dwarf Birch (*Betula pumila*), 57%; Leatherleaf (*Chamaedaphne calyculata*), 14%; Quaking Aspen, 10%; and Bog Willow (*Salix pedicellaris*), 8%; with small amounts of other willows, spruce, and Tamarack. Characteristic ground cover plants include Labrador-tea (*Ledum groenlandicum*), Mountain-Fly Honeysuckle (*Lonicera villosa*), and Fowl-meadow Grass (*Poa palustris*); dead leaves are also important. All the lower areas, towards the north end and along the course of an intermittent stream (now in a ditch about 4 feet deep), were wet underfoot early in the summer, and probably held water through much of the summer in less dry years, as suggested by the presence of Cattails (*Typha latifolia*). A small clearing (perhaps one-half acre), with a bulldozed track across the plot to it, and several cut lines (some of which were used for the bird survey) had resulted from mineral prospecting in September 1970. **Edge:** Similar habitat borders the plot on all sides; shrubby bog to the northeast and hardwood thickets grading into young forest elsewhere except in the recently abandoned fields, which were relatively more open to the south (uphill). Beyond the road, which passes 50 meters north of the plot, similar habitat resumes except opposite the northwest corner, where a rough hayfield with scattered willows stretches away to the west. The nearest active farm is about one-quarter mile west. **Topography:** Sloping gradually uphill from north to south; elevation about 890 to 930 feet. **Coverage:** May 27, 30; June 2, 7, 11, 14, 20, 24, 28; July 4; all between 4:44 a.m. and 12:18 p.m., totaling 34½ hours. In addition, 13 hours were spent on the plot while surveying and marking the grid, 10½ hours during the plant survey, and about one hour in other work; a few bird observations were added during these visits. **Census:** Yellowthroat, 16 (67, 27); Wilson's Warbler, 11 (46, 19); White-throated Sparrow, 11 (46, 19); Traill's Flycatcher, 10.5 (44, 8); Philadelphia Vireo, 9 (38, 15); Swamp Sparrow, 9 (38, 15); Am. Redstart, 5 (21, 8); Swainson's Thrush, 4 (17, 7); Least Flycatcher, 3.5 (15, 6); Lincoln's Spar-

row, 3.5 (15, 6); Nashville Warbler, 3 (12, 5); Red-eyed Vireo, 2; Magnolia Warbler, 2; Yellow-bellied Flycatcher, 1.5; Robin, 1; Hermit Thrush, 1; Ruby-crowned Kinglet, 1; Black-and-white Warbler, 1; Brown-headed Cowbird, 1; Am. Goldfinch, 1; Savannah Sparrow, 1; Song Sparrow, 1; Yellow-shafted Flicker, 0.5; Black-capped Chickadee, 0.5; Chestnut-sided Warbler, 0.5; Mourning Warbler, 0.5; Marsh Hawk, +. **Total:** 27 species, 101 territorial males (421 per square kilometer, 170 per 100 acres). **Visitors** (total number seen): Am. Bittern, 1; Com. Snipe, 1; Black-billed Cuckoo, 1; Com. Nighthawk, 1; Belted Kingfisher, 1; Barn Swallow, 4; Cliff Swallow, 1; Blue Jay, 2; Com. Crow, 3; Veery, 1; Myrtle Warbler, 5; Bay-breasted Warbler, 1; Red-winged Blackbird, 1; Com. Grackle, 2; Evening Grosbeak, 3; Purple Finch, 1; Pine Siskin, 1. **Remarks:** Nests found: Robin, 1; White-throated Sparrow, 2; Swamp Sparrow, 1. The nests were singularly unhelpful in outlining territories; no Robin was heard to sing within 300 meters of the nest of this species, nor a White-throat within 200 meters of a nest during the period it was active. The Swamp Sparrow nest, in a dry, almost shrubless area, was about 100 meters farther uphill than any territory of this species. Although most of the area could be described as brushy thickets, there was some obvious segregation. The Yellow-bellied Flycatchers, Hermit Thrush, Ruby-crowned Kinglet, and Magnolia Warblers were virtually restricted to the small area of conifers in the eastern thickets. Least Flycatchers, Red-eyed Vireos, and Am. Redstarts were found mainly in the taller thickets, both in the east and in the narrow strip between the fields. Swainson's Thrushes, Philadelphia Vireos, Wilson's Warblers, and White-throats were found in all parts of the thickets, while Traill's Flycatchers, Yellowthroats, and all three *Melospiza* sparrows were found mainly in the low areas and along the edges of the old fields. Yellowthroats reached their highest density in the Dwarf Birch bog and in a willow thicket of similar height and density near the west edge. The one Song Sparrow territory overlapped those of both Swamp and Lincoln's Sparrows, and other territories of the latter two species also overlapped broadly. Although this plot is optimum habitat only for the Swamp Sparrow, it seems obvious that ecological tolerances of these congeneric species overlap more in this region than in most other areas. Two other territories of Song Sparrows along the roadside did not extend onto the plot. Only Savannah Sparrows occupied the most open areas, except near the southwest corner, where scattered forb were the only vegetation and birds were lacking. The Marsh Hawk, one of the only two seen in the region all summer, was flushed from the plot at dawn on June 7, and passed over the area on four other visits. The bittern and cuckoo were seen or heard nearby on two and one other visit respectively, and these might also be included as marginal ("+" breeders. W. G. Dore, J. M. Gillett, and D. S. Erskine assisted in identification of plants. — ANTHONY J. ERSKINE, *Migratory Bird Populations, Canadian Wildlife Service, Ottawa, Ont., Canada.*

45. UPLAND SCOTCH PINE PLANTATION. —

Location: New York; 2 miles west-southwest of Alfred, bordering on the west side of Lake Road, adjacent to the evergreen plantings on the east side of Foster Lake; in Allegany County; 42°7'30"N, 77°45'W, Andover Quadrangle, U.S.G.S. **Size:** Approximately 9.3 ha = 23 acres (roughly rectangular; 1881 feet in length, varying in width from 209 feet at the north end to 627 feet at the south end) measured with tape and compass, and divided into one-acre plots. **Description of Area:** See *Audubon Field Notes* 23: 743-744 (1969). The Scotch Pine trees, now 13 years old, range in height from 4 to 10 feet. Trees were again trimmed to Christmas-tree shape in July. Approximately 2000 trees were harvested the previous fall. **Coverage:** April 20; May 11, 15, 18, 22, 24, 25, 29; June 4, 7, 8, 9, 10, 13, 14, 15, 16, 17, 18, 20, 25; July 10, 16, 21. Hours varied from 5:45 a.m. to 8:30 p.m., E.D.T., and totaled 25 man-hours. **Census:** Song Sparrow, 23 (247, 100); Chipping Sparrow, 14.5 (156, 63); Robin, 13 (140, 57); Purple Finch, 8 (86, 35); Field Sparrow, 6 (64, 26); Brown-headed Cowbird, 4 (43, 17); Rufous-sided Towhee, 2.5; Am. Woodcock, 2; Myrtle Warbler, 2; Com. Grackle, 2; Mallard, 1; Tree Swallow, 1; Clay-colored Sparrow, 1; Black-billed Cuckoo, +; E. Kingbird, +; Traill's Flycatcher, +; Yellowthroat, +; Red-winged Blackbird, +. **Total:** 18 species; 84 territorial males (902 per square kilometer; 365 per 100 acres). **Visitors:** Great Blue Heron, Red-tailed Hawk, Marsh Hawk, Sparrow Hawk, Ruffed Grouse, Chimney Swift, Yellow-shafted Flicker, Pileated Woodpecker, Great Crested Flycatcher, Least Flycatcher, Tree Swallow, Blue Jay, Com. Crow, Black-capped Chickadee, House Wren, E. Bluebird, Cedar Waxwing, Nashville Warbler, Black-throated Green Warbler, Bobolink, Am. Goldfinch, Savannah Sparrow, Slate-colored Junco. **Remarks:** A pair of Tree Swallows nested in a box; 4 young successfully fledged. An additional 22 nests were discovered; most surprising was that of a Mallard whose presence had not even been suspected until her nest with 10 eggs, cleverly hidden under a Scotch Pine, was found on June 10. The nest was checked 3 times in the next 8 days; on June 26 it was found destroyed. Of 9 Robin nests, 6 nestings produced 17 fledglings; the outcome of the remaining 3 nests was unknown. Two pairs of Myrtle Warblers nested 5 feet up in Scotch Pines; one of these nests, discovered on May 22, apparently fledged 4 young on June 18. The second nest successfully produced 3 young. These 2 nestings are probably the second and third documented Myrtle Warbler nestings in the western New York area where this warbler is just beginning to establish itself as a breeding species. One Purple Finch nest produced 2 young and 1 Brown-headed Cowbird. The outcome of one Chipping Sparrow nest with 3 eggs was unknown. The most exciting nest found was that of the Clay-colored Sparrow (see *Audubon Field Notes* 24: 766 for observations of this species in 1969 and 1970); this appears to be the first documented nesting in New York state. By mid-June the territory of this pair had been narrowed down to roughly 3½ acres of Scotch Pine trees surrounding a large bramble thicket. After a number of days of painstaking, somewhat frustrating search, the

nest with 3 young was finally found on June 15, 2½ feet up and close to the trunk of a 4-foot high Scotch Pine tree. The young, guessed to be approximately 6 days old when discovered, were photographed and observed daily; they apparently fledged on June 20. Of 2 Field Sparrow nests, one had 3 eggs (outcome unknown) and one fledged 2 young. Of 5 Song Sparrow nests, 1 containing 4 eggs was destroyed; 1 produced 3 young plus 1 young found dead underneath the nest; 1 contained 5 eggs, 2 of which were cowbird eggs, outcome unknown; 1 successfully produced 3 young with 1 egg left in the nest; and 1 had 5 eggs, 2 of which were cowbird eggs, outcome unknown. Of the 22 nests studied, 3 were parasitized by Brown-headed Cowbirds. All nests were located either in or under Scotch Pine trees or beneath the stubs of previously harvested trees. Am. Goldfinches and Cedar Waxwings were active in the study area but again no territories were defined or nests discovered. Two new species appeared as territorial breeders this year. The number of Robins, which had risen significantly last year, was back down to the 1969 level. A significant decrease in the number of Chipping Sparrows was noted; their numbers seemed less in other areas of Alfred also but no explanation is offered for their decline. The mean temperature recorded at the Alfred Cooperative Weather Station was 3.1° F. higher for May and 4.8° F. higher for June than the 50-year average for these two months. The precipitation was 1.37 inches and 3.14 inches, respectively, for May and June. There were no damaging storms or prolonged cold or wet periods to disturb nesting during the study period. The author wishes to thank Clarence Klingensmith for his valued assistance and advice. Permission to conduct the study on this plantation was granted by the owner, Eddy Foster, whose cooperation is gratefully acknowledged. — ELIZABETH W. BROOKS, *Water Wells Road, Alfred Station, N.Y. 14803.*

46. UPLAND BRUSHY PASTURE. —

Location: Connecticut; White Memorial Foundation, Litchfield; 41°42'50"N, 73°13'28"W, Litchfield Quadrangle, U.S.G.S. **Size:** 21 acres (parallelogram). **Description of Area:** See *Audubon Field Notes* 19: 609-610 (1965). **Coverage:** May 31; June 2, 4, 6, 8, 17, 22, 26, 28; July 1, 4, 8, 11, 14, 17. Hours varied from 5:30 a.m. to 11 p.m. and totaled more than 36. **Census:** Catbird, 9 (43); Rufous-sided Towhee, 7.5 (36); Yellowthroat, 6 (29); Song Sparrow, 6 (29); Brown Thrasher, 5 (24); Prairie Warbler, 5 (24); Field Sparrow, 5 (24); Blue-winged Warbler, 4.5 (21); Am. Goldfinch, 4 (19); Yellow Warbler, 3.5 (17); Am. Woodcock, 3 (14); Robin, 3 (14); Wood Thrush, 3 (14); Cedar Waxwing, 3 (14); Am. Redstart, 3 (14); Brown-headed Cowbird, 3 (14); Nashville Warbler, 2.5; Chestnut-sided Warbler, 2; Indigo Bunting, 2; Veery, 1.5; Ruffed Grouse, 1; Yellow-billed Cuckoo, 1; Black-billed Cuckoo, 1; Black-capped Chickadee, 1; Rose-breasted Grosbeak, 1; Yellow-shafted Flicker, 0.5; Hairy Woodpecker, 0.5; Downy Woodpecker, 0.5; Blue Jay, 0.5; House Wren, 0.5; E. Kingbird, +; Great Crested Flycatcher, +; Least Flycatcher, +; Red-eyed Vireo, +; Warbling Vireo, +; Black-and-white Warbler, +; Baltimore Oriole, +; Cardinal, +. **Total:** 38 species; 89 territorial males (42 males

per 100 acres). **Visitors** (average number of individuals per 100 acres): Barn Swallow, 12; Tree Swallow, 8; Com. Crow, 6; Starling, 5; Red-winged Blackbird, 4; Com. Grackle, 3; Red-tailed Hawk, +; Broad-winged Hawk, +; Chimney Swift, +; E. Wood Pewee, +; Tufted Titmouse, +; Scarlet Tanager, +. In addition, Yellow-throated Vireo and Canada Warbler were regularly found along the very edge of the area. **Remarks:** This area has been censused every year since 1965, except 1970. The habitat continues to undergo rapid change in its evolution from open grazed field to hardwood forest. New species have constantly been gained, but none has yet disappeared. Since 1965 density has continued to rise by 35.5 males (169 males per 100 acres), about two-thirds the original density. Nests found this year: Catbird (11), Brown Thrasher (4), Robin (3), Yellow-billed Cuckoo, Black-billed Cuckoo, Hairy Woodpecker, Blue Jay, Wood Thrush, Blue-winged Warbler, Prairie Warbler (2), Rose-breasted Grosbeak, Rufous-sided Towhee, and Indigo Bunting. Since the last census (1969) general habitat changes include growth of vegetation and intense defoliation by large span worms, and Gypsy Moth and tent caterpillars. Growth was evident in the older thickets (20+ feet tall), which are more open underneath, and in the height and coverage area of saplings forming stands of second growth. Early in the census period an extremely heavy infestation of tent caterpillars defoliated all the small, very slender apple saplings and then started on the hawthorns, causing comparative openness in the central portion where alder thickets or large saplings do not predominate (this area is prime habitat for Field and Song Sparrows, and Prairie Warblers, so the infestation may have influenced their numbers). Saplings throughout the area, especially all along the second-growth edge, were heavily infested by the large span worm and, to a much lesser extent, the Gypsy Moth caterpillar. New breeders, indicating sufficient habitat growth to meet their needs, were House Wren, Rose-breasted Grosbeak, and Indigo Bunting. Wood Thrush and Nashville Warbler, both new single breeders in 1969, have tripled their numbers. On the other hand the Veery (new in 1966) is now at 1.5 compared to 3 in 1969. The Catbird, Yellow Warbler, Yellowthroat and Rufous-sided Towhee have all tripled since 1965, and are now present in

greater numbers than ever before. Both cuckoos were more in evidence than ever before. The Prairie Warbler, at 5 (up 1 from 1969), has held its own since 1967 (down from 8 in 1965) in spite of increased closing in of growth. The Song Sparrow (down from 12 in 1967) and Field Sparrow (down from 10 in 1969), now at half their past peaks, are the only obvious and sudden declines. Aside from growth of vegetation and loss of preferred habitat, perhaps the severity of the tent caterpillar infestation hastened this drastic reduction in numbers. — ANDREW MAGEE, 34 Hobson Street, Springfield, Mass. 01109, under the direction of the White Memorial Foundation, Inc., Litchfield, Conn.

47. POWERLINE RIGHT-OF-WAY — **Location:** Maryland; on Patuxent Wildlife Research Center, Prince Georges County; south edge of plot 39°2'55"N, west end 76°48'59"W, Laurel Quadrangle, U.S.G.S. **Size:** 5.6 ha = 13.8 acres (rectangular, approximately 250 x 2400 feet, paced and calculated from quadrangle map). **Topography:** From west to east the plot slopes from an elevation of 180 to about 130 feet above sea level. A small stream obliquely traverses the area extending for about one-fourth the plot length through the westerly one-third of the plot. **Description of Area:** The vegetation, a secondary successional stage with abundant forbs, shrubs, and sapling hardwoods, is maintained at a height below the transmission lines. The oak-hickory forest originally on the plot was clear-cut in 1960. By 1967, the area had revegetated to the degree that trees of tall-growing species, Virginia Pine (*Pinus virginiana*) and Pitch Pine (*Pinus rigida*) had grown to a height necessitating control. The dominant plant species noted were: Tulip-tree (*Liriodendron tulipifera*), Black Gum (*Nyssa sylvatica*), Sweet Gum (*Liquidambar styraciflua*), oaks (*Quercus* spp.), Large-toothed Aspen (*Populus grandidentata*), White Sassafras (*Sassafras albidum*), Black Locust (*Robinia pseudo-acacia*), Smooth and Shining Sumac (*Rhus glabra* and *copallina*), Red Maple (*Acer rubrum*), S. Arrow-wood (*Viburnum dentatum*), Silky Dogwood (*Cornus amomum*), Com. Elder (*Sambucus canadensis*), serviceberry (*Amelanchier* spp.), blueberry (*Vaccinium* sp.), huckleberry (*Gaylussacia* spp.), blackberry and dewberry (*Rubus* spp.), Com. Green-



Census 47. Vegetation along power line right-of-way; dead trees from herbicide treatment. Summer, 1971.

Table 1. Numbers of territorial males recorded for the powerline right-of-way in the period 1967-1971.

Species	1967		1968		1969		1971	
Prairie Warbler	11	(80)	7	(51)	7.5	(54)	3.5	(25)
Field Sparrow	10	(72)	6	(43)	7.5	(54)	8.5	(62)
Indigo Bunting	9	(65)	5	(36)	5.5	(40)	3.5	(25)
Yellowthroat	7	(51)	6.5	(47)	5.5	(40)	8.5	(62)
Yellow-breasted Chat	4	(29)	3.5	(25)	5	(36)	7.5	(54)
Cardinal	4	(29)	3	(22)	4	(29)	3	(22)
Rufous-sided Towhee	3.5	(25)	5	(36)	5	(36)	7	(51)
Carolina Chickadee					+		+	
Tufted Titmouse							+	
Mourning Dove			1		+		+	
Brown-headed Cowbird			1		2		2	
E. Kingbird	1		1		1		2	
Mockingbird	1		1		2		2	
Catbird	1		6	(43)	3.5	(25)	1	
Brown Thrasher	1		3	(22)	2		3.5	(25)
White-eyed Vireo	1		1.5		2.5		2.5	
Am. Goldfinch	+		+		+		+	
Song Sparrow	+							
Yearly No. Species	14		15		16		17	
Totals Territorial males	53.5		50.5		53		54.5	
Males/100 Acres	388		366		384		395	

() males/100 acres



Census 47. Vegetation along powerline right-of-way; Summer, 1971.

brier (*Smilax rotundifolia*), Sweet Pepperbush (*Clethra alnifolia*), Cinnamon Fern (*Osmunda cinnamomea*), Broom-sedge (*Andropogon virginicus*), goldenrod (*Solidago* spp.), panic grass (*Panicum* spp.), Poverty Grass (*Danthonia spicata*). Plant names follow M.L. Fernald, *Gray's Manual of Botany*, 8th Ed., 1950. A great number of other grasses and forbs were present in the rich flora of the plot but are too numerous to list. In the summer and fall of 1968 the pines were cut and chipped onto the right-of-way. Selective basal applications of herbicide were made to the individual stems of all other trees that would grow tall. A similar follow-up treatment was conducted in the summer of 1970. **Edge:** The north and south sides of the plot (comprising 90 percent of the edge) are bordered by mature oak-hickory forest, the east end by a paved road and the west by habitat similar to the plot. **Coverage:** 1967: May 18, 20, 21, 25, 30; June 3, 1968: May 3, 4, 30; June 1, 23, 30. 1969: May 3, 25, 31; June 1, 15. 1970: no census. 1971: May 21, 22, 26, 27; June 1, 8, 10. Hours varied between 5:30 and 10:00 a.m. Total man-hours for each year were: 1967, 15; 1968, 13; 1969, 9; 1971, 12. In 1967 nearly 10 additional hours were expended searching for nests. **Census:** (See Table 1). **Visitors:** 1967: Red-tailed Hawk, Yellow-billed Cuckoo, Yellow-shafted Flicker, Pileated Woodpecker, Red-bellied Woodpecker, Downy Woodpecker, Great Crested Flycatcher, E. Phoebe, Blue Jay, Carolina Chickadee, Tufted Titmouse, Yellow-throated Vireo, Parula Warbler, Ovenbird, Am. Redstart, Scarlet Tanager. 1968: Bobwhite, Ruby-throated Hummingbird, Yellow-shafted Flicker, Red-bellied Woodpecker, Downy Woodpecker, Great Crested Flycatcher, E. Phoebe, Blue Jay, Com. Crow, Carolina Chickadee, Tufted Titmouse, Robin, Wood Thrush, Red-eyed Vireo, Hooded Warbler, Ovenbird, Com. Grackle, Scarlet Tanager, Blue Grosbeak. 1969: Bobwhite, Red-bellied Woodpecker, E. Wood Pewee, Blue Jay, Tufted Titmouse, Carolina Wren, Red-eyed Vireo, Red-winged Blackbird, Scarlet Tanager, Blue Grosbeak, Chipping Sparrow. 1971: Cooper's Hawk, Sparrow Hawk, Bobwhite, Ruby-throated Hummingbird, Red-bellied Woodpecker, Downy Woodpecker, Great Crested Flycatcher, E. Wood Pewee, Blue Jay, Com. Crow, Robin, Wood Thrush, Starling, Red-eyed Vireo, Ovenbird, Kentucky Warbler, Am. Redstart, Com. Grackle, Scarlet Tanager. **Remarks:** Most breeding bird species fluctuated somewhat during the census years but the differences, for the most part, could not be attributed to vegetational changes. However, the management of the vegetation apparently adversely affected the numbers of nesting Prairie Warblers. The removal in 1968 of the Virginia Pine (used very commonly for a singing perch) may have contributed to the decline in singing males. A number of nests were found: 1967-Prairie Warbler, 9; Field Sparrow, 6; Indigo Bunting, 2; E. Kingbird, 1; Yellowthroat, 1; Yellow-breasted Chat, 1; Rufous-sided Towhee, 1. 1968-Cardinal, 2; Mourning Dove, 1; E. Kingbird, 1. 1969-Field Sparrow, 1; Cardinal, 1. 1971-Field Sparrow, 3; E. Kingbird, 2; Yellow-breasted Chat, 1 (2 Brown-headed Cowbird eggs in nest). The E. Kingbird nests were all located on the metal transmission line towers, two at a height of approximately 100 feet.

Nearly all the Prairie Warbler nests were located in blackberry or dewberry tangles with copious quantities of Cinnamon Fern "wool" incorporated in the nests. W.T. Van Velzen aided in field work in 1971. — JERRY R. LONGCORE, *Patuxent Wildlife Research Center, Laurel, Md. 20810.*

48. ABANDONED BOTTOMLAND. — Location: West Virginia; 5.5 miles north-northeast of Point Pleasant, in the McClintic State Wildlife Station; extending south from 38°55'31"N, 82°05'03"W, Cheshire Quadrangle, U.S.G.S. **Size:** 15 acres (rectangular, 110 x 660 yards, measured). **Description of Area:** See *Audubon Field Notes* 21: 658 (1967). Little change in 4 years in the area graded in 1942 for a munitions plant. Poison Ivy (*Rhus radicans*), Steeplebush (*Spiraea tomentosa*), blackberry and dewberry (*Rubus* sp.) are still predominant. Japanese Honeysuckle (*Lonicera japonica*) is encroaching upon the plot and now covers about one-half acre. Tent caterpillars were again abundant in the Black Cherry (*Prunus serotina*) and both cuckoos were seen but not heard. **Coverage:** May 28 — 31. Twelve trips between daylight and 8 a.m. and one trip in the evening. Total party-hours, 11. **Census:** Yellow-breasted Chat, 9 (60); Yellowthroat, 7 (47); Field Sparrow, 6 (40); Yellow Warbler, 4 (27); Rufous-sided Towhee, 4 (27); Song Sparrow, 4 (27); Catbird, 3 (20); Prairie Warbler, 2.5; Trail's Flycatcher, 2; Brown Thrasher, 2; Red-winged Blackbird, 2; Cardinal, 2; Indigo Bunting, 2; Carolina Chickadee, 1.5; Carolina Wren, 1.5; White-eyed Vireo, 1.5; House Wren, 1; Wood Thrush, 1; E. Phoebe, 0.5; Blue Jay, 0.5; Red-shouldered Hawk, +; Bobwhite, +; Am. Woodcock, +; Yellow-billed Cuckoo, +; Black-billed Cuckoo, +; Blue-winged Warbler, +; Brown-headed Cowbird, +. **Total:** 27 species; 57 territorial males (380 per 100 acres). **Visitors:** Green Heron, Canada Goose, Mourning Dove, Chimney Swift, Yellow-shafted Flicker, Barn Swallow, Com. Crow, E. Bluebird, Orchard Oriole, Com. Grackle, Am. Goldfinch. **Remarks:** Goldfinches were quite numerous but cowbird was the most abundant species. Ticks were also very abundant and discouraged nest hunting so, although we suspect that many nests were parasitized, we were unable to prove it. — KENNETH ANDERSON, ANDY WEAKS, HARRY SLACK, ROY SLACK, MAXINE KIFF, GEORGE KOCH (compiler), *Brooks Bird Club, Inc., Wheeling, W. Va. 26003.*

49. CUT-OVER OAK-HICKORY FOREST. — Location: West Virginia; Hopkins Mountain Study Area, 3¼ miles by road north of Blue Bend Recreation Area, Greenbrier County. **Size:** 15 acres (rectangular 110 x 660 yards, measured). **Topography:** The centerline starts about 200 feet from the Forest Service road 0.3 miles below the fire tower and extends south down an old logging trail from elevation 3150 to 2950 feet. The ground slopes to the west or southwest 20-30%. **Description of Area:** See *Audubon Field Notes* 6: 657 (1966). **Coverage:** June 5 to 10. Ten trips between daylight and 8 a.m., one trip in late morning and one trip in the evening. Total man-hours, 18. **Census:** Chestnut-sided Warbler, 10 (67); Hooded