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TENTH
BREEDING-BIRD
CENSUS

SECTION II AUDUBON FIELD NOTES

Edited by Margaret Brooks Hickey

THE tenth annual breeding-census report of *Audubon Magazine* covers 33 study tracts scattered among 19 different political subdivisions of North America. The areas censused comprise a total of 1135 acres, and represent the collective efforts of 61 people.

This tenth report is a postwar effort that constitutes almost half again as many censuses as that of 1945. The richness of variety of the new contributions surpasses anything that *Audubon Magazine* has printed along these lines in the past. The first quantitative studies ever to be completed for Alaskan tundra and river-delta birds are detailed by L. H. Walkinshaw, John Stophlet, and James Walkinshaw. Five equally important censuses from southern and southeastern States are reported by J. W. Aldrich, W. P. Baldwin, T. D. Burleigh, Phil Goodrum, H. T. Odum and Mrs. Adelaide Walters: floodplain and young oak-hickory forests in North Carolina, hammock-type forest in South Carolina, coastal pine forest in Georgia, and virgin hardwoods in the Great Smokies of Tennessee. As far as we know, no breeding-bird studies have ever before been published for native habitats in these States, so that the work of these investigators constitutes a notable contribution to the ornithology of this great region.

Among the other new contributions are interesting Maryland reports from the Audubon Society of the District of Columbia and the Maryland Ornithological Society, fine censuses of typical grazed grassland in Ontario (Holliday), of an Indiana pond and meadow (Burr, Kirkpatrick), in Ohio of a small pond and border (Carrothers) and an upland forest swamp and marsh (Hamann), of an elm-oak-beech forest in Pennsylvania (Reeves, Zaid), and of California foothill chaparral (Cogswell).

It is, of course, the year-to-year censuses that form the backbone of this annual endeavor. As in the past, publication costs have restricted the tabulation of year-to-year results; the custom of giving ten-year and five-year tabulations has, however, been continued. Two five-year reports falling into this category (census Nos. 7 and 18 by W. P. Smith and Miss S. K. Dandridge) well illustrate the relative stability in the numbers of various species on fairly small-sized tracts, as well as the occasional fluctu-

ations for which no adequate explanations are present at this time. There is now a strong possibility that, aside from major and readily detectable changes in the vegetation on a study area, the factors responsible for many of these fluctuations can only be evaluated by specialists who concentrate on a single species and who extend their field work over much larger areas.

The study of a Vermont pine-hemlock forest for which W. P. Smith now presents ten years of census work does represent, however, one of the most fascinating avian population analyses that we have ever seen. Here for the first time we have an accurate quantitative picture of the remarkable ornithological aftereffects of a hurricane that wrecked a mature stand of timber. While the picture is somewhat complicated by the parallel effects of lumbering activities, it must be remembered that these were accelerated throughout the hurricane-swept portions of New England and were even encouraged by government subsidy. Several species in Mr. Smith's report beautifully illustrate a theory that is gradually gaining the support of field workers. It is this: *Abrupt* major changes in bird habitat may be followed by relatively *gradual* changes in the numbers of resident birds. *Adult* residents will return to their old territory if they possibly can, even though it no longer meets their ecological requirements. The new habitat, now attractive to different species of birds, will be gradually filled by *first-year* nesting birds (especially by males).

At this, the tenth anniversary of the *Audubon Magazine* breeding-bird censuses, it seems appropriate to express our gratitude to the many census takers whose conscientious work has given us a new insight into the bird life of our continent. More particularly, we want to express our appreciation to Dr. A. B. Williams of the Cleveland Museum of Natural History whose fourteenth annual census is given in the pages that follow and whose guidance of an inspired generation of Cleveland census takers lent so much substance to this enterprise in its early years. Ohio still leads all other States in the number of censuses annually undertaken. It is not too much to say that, without that support in its first ten years, this endeavor might well have suffered an early and untimely death.

on 5/3, cowbird egg in nest on 5/7, nest deserted; [c] 5 eggs on 5/9, young in nest on 5/18, nest empty on 5/29; [d] 5 eggs on 5/17, eggs gone on 5/21, nest deserted; [e] 2 well-developed young on 5/28, nest empty on 6/2).
TOTAL: 51 species, 81 pairs. **DENSITY:** 495 pairs per 100 acres. **FREQUENT VISITORS:** Great blue heron, numerous (breeding colony 1/4 mile south); green heron, 2P; turkey vulture, 1-3; Cooper's hawk, 1; red-tailed hawk, 1P; red-shouldered hawk, 1P (nest 1/4 mile west); marsh hawk, 1P; woodcock, 1P (nest 100 yards north); great horned owl, 1; black-billed cuckoo, 1; nighthawk, 1P; belted kingfisher, 1; flicker, 1P; piliated woodpecker, 1P; phoebe, 1P; purple martin, numerous; tufted titmouse, 1P; blue jay, 3P; robin, 2P; veery, 1P; bluebird, 1P; cerulean warbler, 1M; red-wing, 2P; goldfinch, 4P. **COMMENT:** From the nesting dates detailed above, it would appear that the possibility of re-nesting and second broods has unfortunately impaired the census figures here reported for some species. The data thus represent a preliminary report that should be re-evaluated when territorial mapping is carried out on this area in 1947.—CARL F. HAMANN, Cleveland Museum of Natural History, Cleveland, Ohio.

13. RECENTLY CUT-OVER EASTERN HARD-WOOD SLOPE. A 15-acre portion of the valley of the Middle Fork of Little Beaver Creek, cut-over in 1940; located near Teegarden, Salem Township, Columbiana County, Ohio; described in 1943 and censused annually thereafter. Three tree-stubs suitable for woodpeckers fell during the past year. **COVERAGE:** April 21, 27; May 5, 7, 12, 14, 17, 18, 27, 30; June 3, 11, 16, 22, 23, 28; July 2, 20. Total, 27 hours. Additional visits were made before and after the active nesting period, also 2 night visits. Raymond O. Marshall was responsible for 2 visits. **WEATHER:** With the exception of February, there was subnormal precipitation during the winter months and through April; May and June were abnormally wet with a 3-day storm that yielded a total of 10.78 inches in late May. December temperatures were about 6° below a 50-year average, and March about 11° above. The period was otherwise normal. **CENSUS:** Ruffed grouse, 1P; downy woodpecker, 1P; crested flycatcher, 1P; Acadian flycatcher, 1P; wood pewee, 2P; black-capped chickadee, 1P; tufted titmouse, 1P; white-breasted nuthatch, 1P; house wren, 1N; catbird, 1P; wood thrush, 3P; blue-gray gnatcatcher, 2P; yellow-throated vireo, 1P; red-eyed vireo, 2P; blue-winged warbler, 2P; cerulean warbler, 3P (1N, 2P); Kentucky warbler, 2P; yellow-breasted chat, 7P (1N, 6P); redstart, 1P; cowbird, 3P; scarlet tanager, 2P; cardinal, 7P (3N, 4P); indigo bunting, 4P; goldfinch, 2P; red-eyed towhee, 6P (1N, 5P); field sparrow, 2P; song sparrow, 1P. **TOTAL:** 27 species, 61 pairs. **DENSITY:** 407 pairs per 100 acres (386 in 1943, 423 in 1944, 467 in 1945). **VISITORS:** Yellow-billed cuckoo, 1P; red-bellied woodpecker, 1P; hairy woodpecker, 1P; downy woodpecker, 1P; crested flycatcher, 1P; phoebe, 1P; tufted titmouse, 1P; bluebird, 1Y; robin, 1P; yellow-breasted chat, 1P; orchard oriole, 1UM (June 22).—PAUL A. STEWART, Leontona, Ohio.

14. BRUSHY FIELD, WOODLOTS, AND POND. The same 100-acre farm described in detail in 1940, containing 83 acres of fields, 12 acres of woodland, and 5 acres of pond; located in Pennfield Township, Calhoun County, Mich., and censused since 1938. **COVERAGE:** March 14, 22, 28; April 17, 28-30; May 1-3, 5, 6, 8-10, 12-15, 17, 19, 21; June 29, 30; July 5, 9, 13, 15, 18, 20, 23-25, 30; August 3, 7, 10, 20. Total (to August 20), 61 hours. **WEATHER:** March, only a fraction of a degree colder than March 1945, which was the warmest March on record for this area; April, normal; May, about normal; June, July, and August, very dry. Pond dry by July. **CENSUS:** Bob-white, 2P (1P, 1N); mourning dove, 2P (1Y, 1P); yellow-billed cuckoo, 2P (1N, 1P); great horned owl, 1P (1Y); ruby-throated hummingbird, 1P; flicker, 1P; red-headed woodpecker, 3P (2N, 1P); hairy woodpecker, 1P; downy woodpecker, 1P; kingbird, 2P (1N, 1Y); crested flycatcher, 2P; least flycatcher, 1UM; cedar flycatcher, 1P; wood pewee, 2P; blue jay, 1P (several others, 6-8 birds feeding); black-capped chickadee, 1Y; white-breasted nuthatch, 1P; house wren, 1P; catbird, 5P (4N, 1P); brown thrasher, 3P (1N, 2P); robin, 5P (2N, 2P); bluebird, 3P (1N, 2P); cedar waxwing, 1P; red-eyed vireo, 1UM; warbling vireo, 1P; yellow warbler, 1P; yellow-throat, 2P; English sparrow, 3P; eastern meadowlark, 5P (1N, 1Y, 3P); red-wing, 1P; orchard oriole, 1Y; Baltimore oriole, 1Y; cowbird, 5P; scarlet tanager, 1UM; cardinal, 3P (1N, 2Y); goldfinch, 5P

(2N, 3P); red-eyed towhee, 7P (5N, 1Y, 3P); grasshopper sparrow, 2P; vesper sparrow, 2P (3N, 2Y, 2P); chipping sparrow, 1P (others fed 2 pairs and their young); field sparrow, 43P (43N, 5Y); song sparrow, 5P (2N, 3P). **TOTAL:** 42 species, 137 pairs, plus 3 unmated males. **DENSITY:** 137 pairs plus unmated males per 100 acres (121 in 1938, 146 in 1939, 132 in 1940, 95 in 1941, 158 in 1942, 147 in 1943, 146 plus 1 unmated male in 1944, 143 in 1945). **FREQUENT VISITORS:** Black tern, 3P; chimney swift, several flying over; crow, 5-8 individuals; blue jay, 6-8 individuals foraging over area; purple martins, and barn and bank swallows feeding over area in varying numbers.—LAWRENCE H. WALKINSHAW, 1703 Central Tower, Battle Creek, Mich.

15. SHRUBBY FIELD WITH STREAM-BORDERED TREES. An oblong-shaped area, uncultivated since 1936, interspersed with islands of shrubs and bordered along one side by trees with a DBH of 5 inches. In the open areas the most common plants are: grasses, sensitive fern (*Onoclea sensibilis*), nettle (*Urtica* sp.), sweet clover (*Melilotus* sp.), jewelweed (*Impatiens biflora*), Queen Anne's lace (*Daucus carota*), dogbane (*Apocynum* sp.), Joe-pye weed and boneset (*Eupatorium* spp.), golden-rod (*Solidago* spp.), aster (*Aster* spp.), seabane (*Erigeron* sp.), black-eyed susan (*Rudbeckia hirta*), and giant and common ragweeds (*Ambrosia* spp.). This large area, which is dotted with islands of staghorn sumac (*Rhus typhina*), black locust (*Robinia pseudo-acacia*), and blackberry (*Rubus* sp.), comprises 90% of the study tract. Where the field was too wet for cultivation, there is about an acre of trees, consisting of sycamore (*Platanus occidentalis*), American elm (*Ulmus americana*), willow (*Salix* sp.), cotton-wood (*Populus deltoides*), white ash (*Fraxinus americana*), and red maple (*Acer rubrum*), approximately in that order of abundance. Bounded on the 2 long sides by a stream and by railroad tracks, across from which are a deciduous woodland and lawns and shade trees respectively. Botanical nomenclature follows Gray's "Manual." **SIZE:** About 15 acres (approximately 2000 ft. by 325 feet, paced). **LOCATION:** Outlet of Lake Roland, just north of the city limits of Baltimore, Md. **TOPOGRAPHY:** Level plain cut by 3 rivulets several feet wide. **EDGE:** About 4000 ft. provided by narrow band of trees along stream, and about 2000 ft. by isolated clumps of trees. **COVERAGE:** May 22, 25, 26, 30; June 4, 11, 15, 22, 26, 30. Total hours, 31. **CENSUS:** Least flycatcher, 1P; catbird, 8N; robin, 3P (5N); wood thrush, 2N; starling, 1N; warbling vireo, 2P; yellow warbler, 6P, 6N; yellow-throat, 9P; yellow-breasted chat, 5P, 1N; red-wing, 5N; orchard oriole, 1N, 1P; Baltimore oriole, 1N; cowbird, 2P (4 parasitized nests found); cardinal, 1P; indigo bunting, 2P; goldfinch, 4M; towhee, 1P; song sparrow, 9P, 4N. **TOTAL:** 18 species, 75 pairs. **DENSITY:** 500 pairs per 100 acres. **FREQUENT VISITORS:** Black-crowned night heron, 3; bob-white, 1 (male called through June 11, probably nested outside area); spotted sandpiper, 1; chimney swift, 20±; downy woodpecker, 2; phoebe, young moved into area about June 1, but adults fed there regularly; kingbird, 2P; wood pewee, 2; rough-winged swallow, 25P± (nested just below area); barn swallow, 10; tufted titmouse, 1P (seen feeding young on area); red-eyed vireo, 1P; redstart, 1P (seen feeding young); English sparrow, 1Y. **COMMENT:** Baltimore is south of the regular breeding range of the least flycatcher; another pair of these birds had its territory across the stream from the area. Cedar waxwings were seen until early June, but no censuses were made after June to check their nesting. Goldfinch numbers were based on territorial song flights. This census was a project of the Maryland Ornithological Society, and was directed by Allen W. Stokes.—CHARLES M. BUCHANAN, JOSEPH BURES, FLORENCE BURNER, ORVILLE CROWDER, PEARL HEAPS, BENJAMIN S. LEVIN, WILLIAM S. McHOUT, J. H. PASSMORE, A. O. RAMSEY, BERT RAMSEY, ALICE H. STOKES, ALLEN W. STOKES, F. STOLLENWERK, HERBERT STRACK, and WILLARD STRACK.

16. YOUNG UPLAND OAK-HICKORY FOREST. Typical piedmont woodland of North Carolina. Many pines remain in this area, which is in transition from pine woods to climax oak-hickory. The crown trees, which average about 50 ft. in height and 10 inches DBH, are composed of: 56% oak (15% white—*Quercus alba*, 14% scarlet—*Q. coccinea*, 11% black—*Q. velutina*, 8% southern red—*Q. rubra*, 8% post—*Q. stellata*, 1% black jack—*Q. marilandica*); 17% pine (loblolly—*Pinus taeda*, short-leaf—*P. echinata*); 14% white-heart hickory (*Hicoria alba*); 8% black gum (*Nyssa sylvatica*); 3% red cedar (*Juniperus*

eyed vireo, 1P; cowbird, 1P. TOTAL: 5 species, 5 pairs. DENSITY: 40 pairs per 100 acres. GRAND TOTAL: 17 species, 27 pairs. FINAL DENSITY: 133 pairs per 100 acres (75 in 1940, 117 in 1941, 141 in 1942, 148 in 1944, 138 in 1945). VISITORS, UNGRAZED WOODS: Baltimore oriole, 1M; bronzed grackle, several present at each visit.—CHARLES A. DAMBACH, Cooperative Wildlife Research Unit, Ohio State University, Columbus, Ohio.

22. DENSE LOWLAND BEECH-MAPLE FOREST.

An area of 55.3 acres located 6 miles south of Youngstown, Ohio; fully described in 1940 and censused annually thereafter. The tract comprises the south-central portion of the Boardman woods. COVERAGE: March 23, 30; April 7, 20, 21, 27; May 1, 2, 8, 9, 13, 15, 18, 19, 23, 25; June 3, 4, 8, 9, 12, 15, 16, 18, 22, 23, 26; July 4, 6, 13. Total, 48 hours. Paul A. Stewart compiled the reports for the 3 preceding years and aided in this year's census on 2 trips; Frank Ferris assisted on one trip. WEATHER: Temperatures in April above normal, and about normal from then until July 15. Rainfall from April to July 15 was below normal, except for an excess of 6 inches in May when the area was flooded for several days in the lower areas. CENSUS: Red-shouldered hawk, 1N; barred owl, 1N; hairy woodpecker, 2P; downy woodpecker, 2P; crested flycatcher, 4P; Acadian flycatcher, 1N, 7P; wood pewee, 8P; blue jay, 2P; black-capped chickadee, 1P; tufted titmouse, 4P; white-breasted nuthatch, 3P; catbird, 1P; wood thrush, 1N, 7P; red-eyed vireo, 1N, 14P; cerulean warbler, 7P; oven-bird, 1N, 13P; Louisiana water-thrush, 2P; n. yellow-throat, 1P; redstart, 1NY, 3N, 10P; cowbird, 4P; scarlet tanager, 3N, 6P; cardinal, 1N, 2P; indigo bunting, 1P; red-eyed towhee, 2P; song sparrow, 1P. TOTAL: 25 species, 118 pairs. DENSITY: 213 pairs per 100 acres (222 in 1940, 203 in 1941, 215 in 1943, 237 in 1943, 246 in 1944, 255 in 1945). VISITORS: A pair each of cardinals and red-eyed vireos nested just outside the area and were constant visitors. Crows in varying numbers were observed throughout the season, but were not known to nest. A singing veery remained until June 15. The cedar waxwing was an occasional and the goldfinch a frequent visitor. Two woodcocks were flushed on July 4, a pileated woodpecker was listed on June 15, a ruby-throated hummingbird on June 15 and 23, and a wood duck on March 23. Robins began visiting the area by July 6.—E. O. MELLINGER, North Lima, Ohio.

23. ELM, OAK, BEECH ASSOCIATION WITH EDGE. A fairly evenly aged mature forest consisting of approximately 40% oak (*Quercus alba*, *Q. velutina*, *Q. prinus*), 20% elm (*Ulmus americana*), and 10% beech (*Fagus grandifolia*). The other 30% is composed of locust (*Robinia pseudo-acacia*), tulip tree (*Liriodendron tulipifera*), sumac (*Rhus typhina*), sassafras (*Sassafras variifolium*), and inkberry (*Ilex glabra*). The forest crown is dense, uneven, and 35-65 ft. high, with small openings throughout; the average DBH is 10 inches. In its relative order of abundance, the undergrowth, which averages 11 ft. in height, consists of spice bush (*Benzoin aestivale*), sassafras, highbush cranberry (*Viburnum Opulus*), mountain laurel (*Kalmia latifolia*), catalpa (*Catalpa bignonioides*), and honeysuckle (*Lonicera* sp.). The tract was originally part of a large estate, but is now part of the Montgomery County Park System. As far as can be learned, the land has never been burned or grazed, nor has there been any commercial lumbering; a few large dead trees have been cut down, presumably by park attendants. Except as mentioned under "Edge" below, similar forest bounds the area. SIZE: 16 acres, rectangular in shape. LOCATION: Lorimer Park, Walnut Hill, Pennsylvania. TOPOGRAPHY: Rolling or sloping toward a small stream that flows through the center of the tract and empties into Pennypack Creek, the northeastern boundary. Elevation is from 100 to 200 ft. EDGE: Provided along the southern boundary by one-third of the area's circumference. This edge community consists of brasses, blackberry (*Rubus* sp.), common milkweed (*Asclepias syriaca*), and goldenrod (*Solidago* sp.); scattered about in this narrow open strip are such small trees as locust, wild black cherry (*Prunus serotina*), and tulip tree. This forms a transition area between the forest and cultivated land just beyond the physical boundary of the tract. The Reading Railroad, which runs through the length of the area along one side from northeast to southwest, and the stream within the area did not seem to possess much edge effect in our opinion. (Botanical nomenclature above follows Gray's "Manual.") COVERAGE: April 28; May 5, 19, 29, and 30; June 16, 23; July 14, 16; August 3, 11, 13. Hours

varied from 5 a.m. to 11 p.m., and totaled 32. WEATHER: Previous winter mild, warmer than usual; snow totaled 17½ inches. Temperatures during the census period were normal, although rainfall was considerably above normal. CENSUS: Ring-necked pheasant, 1P; flicker, 1P; downy woodpecker, 2N; phoebe, 2N; crow, 1N; house wren, 1P; catbird, 1N, 3P; robin, 1N; wood thrush, 3P; veery, 1P; red-eyed vireo, 4P, 1Y; oven-bird, 3P; Louisiana water-thrush, 3P; yellow-throat, 4P; yellow-breasted chat, 1UM; indigo bunting, 1P, 1Y; towhee, 3P; chipping sparrow, 1P; field sparrow, 5P, 2Y. TOTAL: 19 species, 45 pairs plus one unmated male. DENSITY: 284 pairs per 100 acres. FREQUENT VISITORS: Sparrow hawk, 1P; screech owl, 1P; chimney swift, 15; belted kingfisher, 1P; flicker, 4; kingbird, 6; phoebe, 2P; barn swallow, 20; crow, 4P; robin, 6P; wood thrush, 3P; yellow-breasted chat, 1P; red-wing, 30; goldfinch, 2P; towhee, 2P; field sparrow, 6. COMMENT: The 18 pairs and 1UM found in the narrow open strip along the southern periphery of this tract constitute 40% of the total bird life reported here. In other words, this minor part of the study area increased the woodland density by 67%.—ROBERT B. REEVES and ALBERT ZATO, Junior Zoological Society of Philadelphia, Philadelphia, Pa.

24. FLOODPLAIN FOREST. Section of an extensive floodplain forest typical of piedmont North Carolina and approaching climax. In the order of their abundance, forest trees consist of: 23% oak (swamp chestnut—*Quercus prinus*, swamp red—*Q. shumardii* and *Q. pagoda*, willow—*Q. phellos*, overcup—*Q. lyrata*), 18% red ash (*Fraxinus darlingtonii*), 17% hickory (mostly shell-bark—*Hicoria ovata*), 13% red maple (*Acer rubrum*), 10% sweet gum (*Liquidambar styraciflua*), 6% black gum (*Nyssa sylvatica*), 5% winged elm (*Ulmus alata*) and slippery elm (*U. fulva*), 3% tulip tree (*Liriodendron tulipifera*), and 5% miscellaneous other species. There is a moderately lush growth of saplings and shrubs: swamp chestnut oak, overcup oak, red ash, sweet gum, red maple, hornbeam (*Carpinus caroliniana*), pawpaw (*Asimina triloba*), American holly (*Ilex opaca*), and several species of *Crataegus*. Trees average 10 inches DBH (oak and hickory, 14; elm, 11; sweet gum, 8; black gum and maple, 5; ash, 4), and the crown trees reach a height of 65 ft. Many of the largest trees were removed in 1934, but the crown seems to have closed over since then. The area is flooded with a foot or more of water in every month of the year, except during drought periods and in September. Pools remain throughout the breeding season. There are about a dozen pools approximately 15 ft. across, as well as an interlacing network of 3 creeks that effect partial drainage during floods but become a series of pools at other times. New Hope Creek winds along the eastern and southern boundary. An estimated 500 mostly decayed logs and stumps cover the area. A few cows have wandered through these forests in past years. The study tract is surrounded on all sides by similar forest. (Botanical nomenclature above follows "Trees of the Southeastern States" by Coker and Totten.) SIZE: Approximately 18.5 acres (300 by 300 yds. with string). LOCATION: 5 miles east of Chapel Hill, North Carolina, south of the Raleigh highway. TOPOGRAPHY: Flat. EDGE: Almost none; the large stream along the border has no different type of vegetation. SURVEYS: Many trips in all seasons since 1938; map completed in April; tree count made in August. COVERAGE: 27 hours on 12 days between March 1 and August 1946, averaging 138 minutes per trip. WEATHER: Precipitation normal to slightly above normal; temperatures normal to slightly below normal; area was flooded about 8 times during the period. CENSUS: Wild turkey, 1N; yellow-billed cuckoo, 2P; ruby-throated hummingbird, 1P; hairy woodpecker, 1P; downy woodpecker, 1P; red-bellied woodpecker, 1P; pileated woodpecker, 1P; Acadian flycatcher, 6P; Carolina chickadee, 1Y; tufted titmouse, 1Y; wood thrush, 1P; yellow-throated vireo, 1P; red-eyed vireo, 11P; blue-gray gnatcatcher, 1Y, 1P; Carolina wren, 1Y; Louisiana water-thrush, 1P; Kentucky warbler, 1Y, 2P; hooded warbler, 3P; redstart, 1P; cardinal, 1Y, 1P. TOTAL: 20 species, 42 pairs. DENSITY: 227 pairs per 100 acres. REGULAR VISITORS: Parula warbler, (?) pairs; barred owl, 1P; red-shouldered hawk, 1P; turkey vulture, (?) pairs.—HOWARD T. OGDEN and MRS. ADELAIDE WALTERS, Chapel Hill, N.C.

25. MATURE DECIDUOUS FLOODPLAIN FOREST WITH OPENINGS. A mature woodland about 100 years old located on an extremely narrow island in the rocky gorge of the Potomac River; the forest averages