

The Bulletin

Vol. 7, No. 2
Fall, 1962

NEW JERSEY ACADEMY OF SCIENCE



CONTENTS

An Annotated List of the Birds
of Hutcheson Forest 1

At the Colleges 6

Annual Meeting 8

List of Members 9

An affiliate of the AMERICAN ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE

An Annotated List of the Birds of Hutcheson Forest*

JEFF SWINEBROAD
*Douglass College, Rutgers University
New Brunswick, New Jersey*

INTRODUCTION

Qualitative fauna lists may have value in certain cases. Description of exotic habitats usually are based on such lists, and distributional maps may be made from combining local lists. In New Jersey numbers of bird watchers have made many lists of birds, mostly unpublished, though two fairly recent works summarize the bird fauna of the state or metropolitan area (Bull. 1958; Fables, 1955). Nevertheless, this list of Hutcheson Forest birds may be of service in that it is, (one), based on over 100 censuses of the woods plus 10,000 net-hours of banding and therefore has a quantitative basis; (two), will have historic value as research continues in the forest; (three), is of a mature oak forest, a habitat becoming increasingly rare on the Piedmont of New Jersey; and, (four), this list may be of aid to future regional descriptions, or species lists.

Hutcheson Forest, (formerly Mettler's Woods) is a mature oak forest of about 65 acres almost surrounded by 71 acres of fields (Buell, 1957). A more complete description may be found in Monk (1957), or Buell (op. cit.). The forest is located in Somerset County, New Jersey, seven miles west of New Brunswick, N. J.

Comments on relative abundance refer to the status of a species in the forest proper or in the adjacent fields, regardless of the status of that species in the county or state. Thus, the Field

Sparrow is recorded as an irregular visitor *in the woods*, whereas it is a common summer resident in appropriate habitats over the entire state. Status terms, such as resident, transient, rare, uncommon, etc., are the same as generally used in most qualitative bird lists.

Breeding birds are so identified if they satisfy one or more of the following criteria:

1. Active nest located,
2. Fledgling observed out of nest,
3. Adult carrying food to nest,
4. Persistent territorial behavior throughout the breeding season for at least three of the six years reported on.

No subspecies are included in the list although there are several subspecies whose described range included the Hutcheson area. The inclusion of subspecies, however, usually implies comparison of specimens, which has not been done in this case.

Only data from the ornithological investigations supported by the Hutcheson Memorial Forest Ecology Research Operating Fund are included. These investigations started in 1956 and are continuing to date. In this list data from 1956 to 1962 are used. The resultant loss of historical records should not detract from the aim of this report, which is to provide on the *current* status of the birds of the forest.

The following people contributed records, advice, and numerous helpful observations: Thomas Crebbs, Jr., Bertram G. Murray, Mrs. Ann Barton, David Buchholz and Miss Christine Pattee.

To save space Hutcheson Memorial Forest is often abbreviated in the text to HMF.

* This report is based on a series of continuing studies of the avifauna of Hutcheson Forest and similar areas elsewhere. Other papers are in preparation dealing with quantitative aspects of the bird populations.

ANNOTATED LIST

MALLARD (*Anas platyrhynchos*). An occasional visitor to the flooded portion of Spooky Brook at the north corner of the woods.

WOOD DUCK (*Aix sponsa*). An irregular visitor to the woods.

TURKEY VULTURE (*Cathartes aura*). Irregular visitor. Vultures may on occasion roost, and feed in the woods, and are often seen circling over the area.

RED-SHOULDERED HAWK (*Buteo lineatus*). An occasional individual may be seen moving over or perched at the edge of the woods.

BROAD-WINGED HAWK (*Buteo platypterus*). Transient and summer resident. A pair of Broad-winged Hawks, or a succession of pairs, has nested each year in HMF. One adult was banded in 1960. The nest which was located in 1960 apparently has been used since before the study started.

PEREGRINE FALCON (*Falco peregrinus*). An irregular visitor to the woods during spring or fall migration.

SPARROW HAWK (*Falco sparverius*). A regular visitor to the woods. This species breeds in nearby areas and often hunts in the fields adjacent to the woods. May be a breeding bird in the forest.

RING-NECKED PHEASANT (*Phasianus colchicus*). Permanent resident. Breeds regularly at the west periphery of the woods.

SPOTTED SANDPIPER (*Actitis macularia*). An irregular visitor to the flooded portions of Spooky Brook.

SOLITARY SANDPIPER (*Tringa solitaria*). An irregular transient, observed each year in the northern-most portion of Spooky Brook, near the research laboratory.

MOURNING DOVE (*Zenaidura macroura*). Transient and summer resident, irregular winter resident. Probably breeds in the edge of the woods, but no positive evidence of this has yet been obtained.

YELLOW-BILLED CUCKOO (*Coccyzus americanus*). Summer resident. An uncommon breeding bird of the forest. Perhaps 2-4 pairs breed in the forest.

BLACK-BILLED CUCKOO (*Coccyzus erythrophthalmus*). Summer resident. An uncommon breeding bird of the forest, less numerous than the Yellow-billed Cuckoo.

SCREECH OWL (*Otus asio*). Permanent resident. This species may be a breeding bird of the forest, yet the only records are of an occasional calling individual.

GREAT HORNED OWL (*Bubo virginianus*). Permanent resident. A breeding bird. The same nest site has been used each year of the study, and apparently one or two young have been produced each year.

NIGHTHAWK (*Chordeiles minor*). Transient and summer visitor. This species and the Chimney Swift are frequently seen flying over the woods, and may feed on some insect swarms rising above the canopy.

CHIMNEY SWIFT (*Chaetura pelagica*). Transient and summer visitor. See comments above.

RUBY-THROATED HUMMINGBIRD (*Archilochus solubris*). An irregular visitor to the forest. No breeding records.

FLICKER (*Colapetes auratus*). Permanent resident. A common breeding woodpecker. Because of its large size and vociferous nature it is the most conspicuous woodpecker of the forest. Nests have been discovered each year of the study and adults and young have been banded.

RED-BELLIED WOODPECKER (*Centurus carolinus*). Formerly permanent resident. Although Fables (1955) reports almost yearly records for the three southern-most counties of New Jersey, he mentions only two breeding records (Salem Co., Cumberland Co.). The Urner Club lists it as a rare bird for the state. At least one pair of Red-bellied Woodpeckers was present during the years of 1955, 1956, and 1957, and was a breeding bird in the forest. During 1957 the adults were observed feeding young at a nest hole. Since 1957 no Red-bellied Woodpeckers have been observed in the woods by any of the research staff, though each year one or more sightings are reported by bird watchers. Apparently none of these individual birds have remained for long in the area.

HAIRY WOODPECKER (*Dendrocopus villosus*). Permanent resident. An uncommon breeding bird represented by 2-5 pairs each year.

DOWNY WOODPECKER (*Dendrocopus pubescens*). Permanent resident. A common breeding woodpecker of HMF with 4-7 nesting pairs each year. Nests and young have been observed each year of the study.

EASTERN KINGBIRD (*Tyrannus tyrannus*). An irregular visitor. Most records are of individual birds from nearby nests chasing crows over the woods, or of individuals perching momentarily in the woods.

GREAT CRESTED FLYCATCHER (*Myiarchus crinitus*). Transient and summer resident. The common breeding flycatcher of HMF. As many as 10 pairs nest in the woods.

PHOEBE (*Sayornis phoebe*). Transient and summer resident. Although no phoebes are known to nest in the woods they are occasionally observed feeding at the edge of the forest.

ACADIAN FLYCATCHER (*Empidonax virescens*). One record of a bird heard repeatedly in June, 1961.

TRAILL'S FLYCATCHER (*Empidonax traillii*). One record of a singing individual, May 23, 1961, and one banded May 31, 1961.

- EASTERN WOOD PEWEE (*Contopus virens*). Transient and summer resident. A common breeding bird of the forest, probably as numerous as the Crested Flycatcher, but not as conspicuous.
- BARN SWALLOW (*Hirundo restica*). Occasionally observed flying over the woods.
- TREE SWALLOW (*Iridoprocne bicolor*). Common transient, especially in the fall.
- PURPLE MARTIN (*Progne subis*). Occasionally observed flying over the woods.
- BLUE JAY (*Cyanocitta cristata*). Transient and permanent resident. The Blue Jay is a common breeding bird of the woods, but the size of the jay population is difficult to determine. The birds range throughout the woods and, when mobbing the Horned Owls, birds from nearby areas move in, making critical counts impossible.
- EASTERN CROW (*Corvus brachyrhynchos*). Permanent resident. A common breeding bird of HMF, but the same situation applies to the determination of the crow population as it does to the Blue Jays.
- FISH CROW (*Corvus ossifragus*). Uncommon spring transient.
- BLACK-CAPPED CHICKADEE (*Parus atricapillus*) and CAROLINA CHICKADEE (*Parus carolinensis*). Transient, permanent resident. Both of these birds probably are rare breeding birds in the forest. The only banded bird (June, 1961) was a black-capped Chickadee, yet both species were observed singing during June and early July in 1962. There are scattered winter records of Black-capped Chickadees, some April and May records of both species, but until the summer of 1961, when Black-capped Chickadees bred in the woods, no summering chickadees had been reported.
- TUFTED TITMOUSE (*Parus bicolor*). Permanent resident. A common breeding bird, for as many as a dozen pairs probably nest in the woods.
- WHITE-BREASTED NUTHATCH (*Sitta carolinensis*). Permanent resident. An uncommon breeding bird. Perhaps 5 pairs regularly breed in the woods.
- RED-BREASTED NUTHATCH (*Sitta canadensis*). A rare transient.
- BROWN CREEPER (*Certhia familiaris*). Transient summer resident. A very rare and irregular breeding bird in the forest. Fables (1955) notes breeding records for this species in Sussex County early in the 1900's, and reports a nest near Princeton in 1954. B. G. Murray observed an adult feeding young in HMF in June, 1961, and a singing adult was present from May through July of 1961.
- HOUSE WREN (*Troglodytes aedon*). Transient and summer resident. This is a very common breeding bird of the forest. Singing male counts indicate that as many as from 12 to 15 pairs are present during the breeding season.
- WINTER WREN (*Troglodytes troglodytes*). One record, March 12, 1961.
- CAROLINA WREN (*Thryothorus ludovicianus*). Transient and summer resident. The Carolina Wren was not recorded until 1959 in Hutcheson Forest. In 1960 four singing males were observed and during July of that year two males, one female, and four immature birds were banded. No Carolina Wrens were recorded in 1961 or 1962. Resident populations may have been reduced by the hard winters of 1960-1961.
- MOCKINGBIRD (*Mimus polyglottos*). A permanent resident. Nests in shrubbery areas near the HMF laboratory.
- CATBIRD (*Dumetella carolinensis*). Transient and summer resident. A very common breeding bird of the forest. Although singing male counts never indicated more than 7 or 8 pairs, banding records indicate about 15 breeding pairs are present.
- BROWN THRASHER (*Toxostoma rufum*). Transient and summer resident. An uncommon breeding bird of thickets at the edge of the woods.
- ROBIN (*Turdus migratorius*). Transient, permanent resident, summer resident. Flocks of robins periodically invade the woods and feed there, but perhaps fewer than four pairs breed in the woods proper. Robins may be found throughout the year in the forest, particularly if the winter is mild.
- WOOD THRUSH (*Hylocichla mustelina*). Transient and summer resident. A very common breeding bird of HMF. More resident wood thrush have been banded than any other species. This species, the Catbird, Ovenbird, and Red-eyed Vireo make up the bulk of the avian population of the forest. Although singing male counts are difficult to interpret, banding data indicate that there are 30-40 breeding pairs of Wood Thrush present during the summer.
- HERMIT THRUSH (*Hylocichla guttata*).
- SWAINSON'S THRUSH (*Hylocichla ustulata*).
- GRAY-CHEEKED THRUSH (*Hylocichla minima*).
- The above species are common spring and fall transients in the woods.
- VEERY (*Hylocichla fuscescens*). Transient and summer resident. The Veery is a common spring and fall transient, and, based on banding data, at least two pairs bred in the woods, in 1959, '60, '61 and '62.
- BLUEBIRD (*Sialia sialis*). Transient and former summer resident. From before 1956 through 1958, Bluebirds nested in a large pin oak in the center of the north field. The spring this large oak was cut down (1959), the Bluebirds did not appear and none have been recorded since. One other Bluebird territory probably existed

at the southern-most point of the woods prior to 1958, but birds were observed only once in 1957.

BLUE-GRAY GNATCATCHER (*Poliophtila caerulea*). Transient and uncommon summer resident. Probably three to five pairs nest each summer in the woods.

GOLDEN-CROWNED KINGLET (*Regulus satrapa*).

RUBY-CROWNED KINGLET (*Regulus calendula*).

Uncommon to common transients.

WATER PIPIT (*Anthus spinoletta*). Irregular transient. This species has been observed on the plowed portion of fields adjacent to the woods.

CEDAR WAXWING (*Bombycilla cedrorum*). An irregular visitor to the forest.

STARLING (*Sturnus vulgaris*). Permanent resident, transient. A common breeding bird nesting wherever there are standing dead trees with holes available. This is a difficult bird to census in the forest as residents, transients, and feeding flocks from other areas are frequently intermingled. Probably about 10 territories are maintained by breeding males.

WHITE-EYED VIREO (*Vireo griseus*). Summer resident. This bird is a rare breeding bird in HMF, represented by one or two pairs. No nests have been found, but it is persistent in certain locales and immatures have been observed in July.

YELLOW-THROATED VIREO (*Vireo flavifrons*). Transient and summer resident. An uncommon breeding bird, with 5-7 pairs present each summer.

SOLITARY VIREO (*Vireo solitarius*). An uncommon transient.

RED-EYED VIREO (*Vireo olivaceus*). Transient and summer resident. One of the four most common birds of the forest (see Wood Thrush). Between 32 and 40 pairs have been recorded either by singing male counts or by repeat banding data.

BLACK AND WHITE WARBLER (*Mniotilta varia*). Transient and summer resident. Four to six pairs make up the breeding population of this species.

WORM-EATING WARBLER (*Helmitheros vermivorus*). A rare transient. One adult (female?—had incubation patch) was banded July 5, 1961, and a male August 10, captured along with one immature.

BLUE-WINGED WARBLER (*Vermivora pinus*). Transient and summer resident. Each extensive area of hurricane damage (blow-down) in the woods supports a community typified by Blue-winged and Chestnut-sided Warblers, White-eyed Vireo and Catbird. Three to five pairs of Blue-winged Warblers usually occupy territory in the woods.

NASHVILLE WARBLER (*Vermivora ruficapilla*).

PARULA WARBLER (*Parula americana*).

YELLOW WARBLER (*Dendroica petechia*).

MAGNOLIA WARBLER (*Dendroica magnolia*).

CAPE MAY WARBLER (*Dendroica tigrina*).

BLACK-THROATED BLUE WARBLER (*Dendroica caerulescens*).

MYRTLE WARBLER (*Dendroica coronata*).

BLACK-THROATED GREEN WARBLER (*Dendroica virens*).

BLACKBURNIAN WARBLER (*Dendroica fusca*).

BAY-BREASTED WARBLER (*Dendroica castanea*).

BLACK-POLL WARBLER (*Dendroica striata*).

PALM WARBLER (*Dendroica palmarum*).

NORTHERN WATER-THRUSH (*Seiurus noveboracensis*).

LOUISIANA WATER-THRUSH (*Seiurus motacilla*).

HOODED WARBLER (*Wilsonia pusilla*).

CANADA WARBLER (*Wilsonia canadensis*).

All of the above are uncommon to common transients in the woods, and their relative abundance varies from season to season, and during each migratory period.

CHESTNUT-SIDED WARBLER (*Dendroica pensylvanica*).

Transient and summer resident. Two or three pairs of this species breed in the woods in the blow-down areas. The Chestnut-sided utilizes the saplings and pole sized trees as singing perches. The nests have been located in small trees. Its territory overlaps that of the Blue-winged Warbler, and both species may be expected to decline as the blow-down areas disappear.

OVENBIRD (*Seiurus aurocapillus*). Transient and summer resident. The most common breeding bird of Hutcheson Forest, with 35 to 45 territories occupied each breeding season. The territories are distributed almost uniformly throughout the mature areas of the forest.

KENTUCKY WARBLER (*Oporornis formosus*). Rare summer resident. Each summer from 1956 through 1960, there were records of a singing male on territory in the forest. No nests were ever located, so this species is a hypothetical breeding bird of the forest.

YELLOW-BREASTED CHAT (*Icteria virens*). Transient and summer resident. The chat nests at the extreme west end of the woods in a second growth stand which is out of the census area proper, and at scattered locales along brushy fence rows adjacent to the forest.

REDSTART (*Setophaga ruticilla*). Transient and possible summer resident. There are scattered records of singing males for each summer. If they nest in the woods probably only one or two pairs are present.

MEADOWLARK (*Sturnella magna*). A frequent visitor to the fields adjacent to the woods.

REDWING (*Agelaius phoeniceus*). Transient, and regular winter and summer visitor. Flocks of redwings and grackles frequently feed in the woods in spring, fall, and occasionally, in winter.

BALTIMORE ORIOLE (*Icterus galbula*). Transient and summer resident. At least one pair of Baltimore

Orioles has bred in the woods each year of the study.

RUSTY BLACKBIRD (*Euphagus carolinus*). Rare transient.

COMMON GRACKLE (*Quiscalus quiscula*). Transient and regular summer and winter visitor. During invasions of feeding flocks it may be the most numerous bird in the woods.

COWBIRD (*Molothrus ater*). Transient and summer resident. An uncommon breeding bird, but common transient.

SCARLET TANAGER (*Piranga olivacea*). Transient and summer resident. Five or six pairs usually are present during the breeding season.

CARDINAL (*Richmondia cardinalis*). Permanent resident (?) represented by four or five breeding pairs, plus in the winter a half dozen males from some fringe areas.

ROSE-BREASTED GROSBEAK (*Pheucticus ludovicianus*). Transient. This species has been common in migration and in each of 1960 and 1961 an adult male was banded the first week in July. As the species breeds in north Jersey, it may become a summer resident in Hutcheson.

INDIGO BUNTING (*Passerina cyanea*). Summer resident. This is a common breeding bird nesting at the edges of the woods and in the blow-downs. Probably no more than 6-8 pairs are present during any one season.

BLUE GROSBEAK (*Guiraca caerulea*). Rare summer visitor. The blue grosbeak bred near Middlebush, N. J., in 1959, '60 and '61, and there are single sight records of a bird in the forest for each summer of those years.

PURPLE FINCH (*Carpodacus purpureus*). Uncommon transient.

AMERICAN GOLDFINCH (*Spinus tristis*). Regular visitor. The goldfinch breeds in adjacent areas and is a frequent visitor to the woods.

RUFIOUS-SIDED TOWHEE (*Pipilo erythrophthalmus*). Transient and summer resident. Towhees are a fairly common breeding bird of the forest, with about 12 breeding pairs present.

GRASSHOPPER SPARROW (*Ammodramus savannarum*). Summer resident. This sparrow was, until 1962, infrequent in the fields adjacent to the woods, though present in many fields through Somerset County. In 1962, as some abandoned test plots grew up, grasshopper sparrows became the common breeding sparrow of the adjacent fields.

VESPER SPARROW (*Poocetes gramineus*). Transient and summer resident. This species and the Grasshopper Sparrow have more or less exchanged status in the last two years. Through 1961 the Vesper Sparrow was common in fields contiguous to the woods, and the Grasshopper was uncommon. In 1962 the reverse occurred. Further observations should indicate whether or

not this is a reversal related to vegetational succession in the abandoned test fields.

SLATE-COLORED JUNCO (*Junco hyemalis*). Transient and winter visitor. Flocks of varying numbers may be seen from late September through April in the forest. The actual numbers present apparently depend on the severity of the winter.

TREE SPARROW (*Spizella arborea*). Transient and winter visitor. This bird, though common in the surrounding countryside, is an irregular visitor to the woods. As the ecotone between the forest and the abandoned test fields develop, this species should increase in numbers at the woods.

CHIPPING SPARROW (*Spizella passerina*). Transient. Although this sparrow is a common breeding bird in nearby orchards and gardens, it occurs irregularly as a visitor to the woods. The lack of a well developed ecotone (as contrasted to physical edge) between forest and the adjoining fields accounts for its absence as a breeding species.

FIELD SPARROW (*Spizella pusilla*). Transient and uncommon summer resident of adjacent fields. A situation similar to that of the Chipping Sparrow, i.e., the absence of ecotone, precludes the presence of the Field Sparrow as a breeding bird of the forest.

WHITE-THROATED SPARROW (*Zonotrichia albicollis*). Transient and winter visitor. A common bird of spring and fall in the woods, irregular in winter.

FOX SPARROW (*Passerella iliaca*). Transient. The numbers present in migration vary from half dozen to 50 or more from year to year.

SONG SPARROW (*Melospiza melodia*). Permanent resident, transient. A regular breeding bird utilizing the shrubbery area along the entrance of Spooky Brook into the woods, but not usually found in the woods proper.

Within the 63 acres of the woods proper, from 1956 through 1962, and based on the breeding bird counts and netting, there were forty species definitely recorded as breeding. One species, the Mourning Dove, probably breeds in the woods. In addition, four species were possible breeding birds in the woods (Screech Owl, Kentucky Warbler, Worm-eating Warbler, Redstart). Eight more species bred in fields contiguous to the woods or in ecotones between the woods and stream or fields (Sparrow Hawk, Yellow-breasted Chat, Grasshopper Sparrow, Vesper Sparrow, Field Sparrow, Mockingbird, Bluebird, and Song Sparrow). Species not breeding in 1962 were Bluebird, Creeper, Red-bellied Woodpecker, and Carolina Wren.

The total number of species that have been observed, breeding birds plus transients and winter visitors, 1956-1962, is 108 species.

LITERATURE CITED

- BUELL, MURRAY F. 1957. The Mature Oak Forest of Mettler's Woods. William L. Hutcheson Memorial Forest Bulletin, Dedication Issue. Rutgers • The State University, New Brunswick: 16-19.
- BULL, JOHN L. 1958. Birds of the New York City Area. American Museum of Natural History
- FABLES, DAVID, JR. 1955. Annotated List of New Jersey Birds. Uner Ornithological Club
- MONK, CARL D. 1957. Plant Communities of Hutcheson Memorial Forest Based on Shrub Distribution. Torrey Botanical Club 84 (3): 198-206

At The Colleges

Newark College of Engineering

Twenty-five students from high schools in New York and New Jersey participated in the research training program which was conducted during the summer and jointly sponsored by the college, the NCE Research Foundation, and the National Science Foundation. These students, who were chosen from a group of 487 applicants, served during the summer as research assistants to staff members carrying on regular research programs. Each student was awarded a certificate showing that he had participated in the program.

A grant amounting to \$45,400 from the National Science Foundation will be applied to the NCE Computer Center's three-year budget of \$175,000 to increase its educational and research programs, equipment, and personnel. The expanded programs will include advanced computer courses for undergraduate and graduate students, additional research time for faculty members, and expanded enrollments for tuition-free in-service institutes for high school teachers who are interested in receiving training in computer technology. The grant will

also make it possible for the Computer Center to offer a summer institute for graduate students. The first such institute is tentatively scheduled for the summer of 1964.

The national honor and recognition societies on the campus initiated 89 new student members into their chapters this fall. Of these, 71 were elected to membership in the various honor societies.

Henry Zatzkis, chairman of the Department of Mathematics, has recently been appointed to the undergraduate science education committee of the National Science Foundation for a one-year term.

R. P. Misra has been appointed research professor in electrical engineering at the college. Dr. Misra, who has had considerable experience in college teaching and in industrial research, will devote full time to developing research programs in high voltage and dielectrics and in electric discharge in gases, electron tubes, and transistors. His research professorship is sponsored by the NCE Research Foundation.

This year the Greater Newark Science Fair will be held at the college on April 8 and 9.