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GUIDE TO THE SUMMER BIRDS

OF THE

BEAR MOUNTAIN AND HARRIMAN PARK SECTIONS

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Palisades Interstate Park

BY

P. M. SILLÓWAY, M. S.

Investigator in Forest Zoology



THE NEW YORK STATE COLLEGE OF FORESTRY

AT

SYRACUSE UNIVERSITY

1920

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The New York State College of Forestry
AT
SYRACUSE UNIVERSITY

HUGH P. BAKER, Dean

Guide to the Summer Birds of the Bear
Mountain and Harriman Park
Sections of the Palisades
Interstate Park

BY

P. M. SILLOWAY, M. S.

Investigator in Forest Zoology

Prepared under the direction of Charles C. Adams



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CONTENTS

	PAGE
INTRODUCTION	9
General remarks	9
Method of treatment	9
Acknowledgments	10
CHAPTER I. The Palisades Interstate Park as a Home for Birds	10
How to Reach the Park	10
Boundaries of the Bear Mountain and Harriman Park Sections	12
The Mountains of the Region	12
The Lakes of the Region	13
The Forest	17
CHAPTER II. Suggestions for Bird Study in the Palisades Interstate Park	17
How to Study Birds in the Field	17
Bear Mountain Station as a Bird Resort	22
The Base of Bear Mountain	23
The Southeast Entrance and Marsh	25
Bear Mountain Trail and Crest	26
Doodletown Valley	27
The Kanahwauke Chain of Lakes	29
Little Long Pond	30
Carr Pond, as a Bird Resort	34
Summit Lake	36
CHAPTER III. The Birds of the Vicinity of Bear Mountain	38
Description of the Region	38
The Forest of the Region	40
List of the Birds of the Vicinity of Bear Mountain	40
CHAPTER IV. The Birds of the Vicinity of the Guest House	62
Description of the Guest House Region	62
Vegetational Features	64
List of the Birds of the Vicinity of the Guest House	67
CHAPTER V. Supplementary Notes	94
Notes on Park Birds in 1919	94
Notes on Birds of Localities Adjacent to the Park	100
INDEX	103

ILLUSTRATIONS

All illustrations are by the author, except the following: Nos. 1, 2, 5, 15 and 33 were furnished by the Park Commissioners; No. 32 by A. W. ABRAMS; Nos. 3, 4 and 10 by Prof. T. L. HANKINSON.

	PAGE
FIG. 1. General view of the Hudson Highlands at Bear Mountain, showing the Inn, the wooded Highlands, and the Seven Lakes Drive around the base of Bear Mountain.....	11
FIG. 2. Queensboro Brook, showing the character of Park streams. Water adds much to a bird haunt.....	14
FIG. 3. Cedar Pond, showing islands formed by rafts of floating bogs at the north end.....	15
FIG. 4. Cedar Pond, showing large floating island of bog at the south end.....	15
FIG. 5. Partial view of the Kanahwaque Chain of Lakes. Little Long Pond to the right.....	16
FIG. 6. The open trail at the base of Bear Mountain; a favorite singing site for birds.....	24
FIG. 7. "Warbler Point", at the base of Bear Mountain a favorable place for birds.....	24
FIG. 8. Roadway around the base of Bear Mountain to Doodletown Valley. Anthony's Nose in the background. A good locality for the roadside study of birds.....	28
FIG. 9. Another view along the roadway at the base of Bear Mountain; affording a view into the tree tops.....	28
FIG. 10. Johnson's swamp at east end of Little Long Pond, showing abundance of swamp vegetation.....	29
FIG. 11. Looking over the east end of Little Long Pond toward Hemlock Hill.....	31
FIG. 12. The Bear Mountain-Tuxedo, or Seven Lakes Drive, along the shore of Little Long Pond. A favorable site for bird study.	31
FIG. 13. Open area near top of Hemlock Hill, or mountain, showing picturesque distorted trees and the bare rock. Virgin vegetation.....	33

ILLUSTRATIONS — (Concluded)

	PAGE
FIG. 14. Another view of the Seven Lakes Drive, between the Guest House and Carr Pond. A favorite resort for brush birds...	33
FIG. 15. Carr Pond, or Lake Stahahe.....	35
FIG. 16. Hessian Lake, at Bear Mountain, showing the surrounding forest.....	39
FIG. 17. Site of Oven-bird's nest.....	46
FIG. 18. Nest of Chestnut-sided Warbler, from near Bear Mountain..	46
FIG. 19. The approach to the Guest House, showing open character of the forest; a favorable site for bird study.....	63
FIG. 20. Opening through the forest from the Guest House to Little Long Pond, with portion of Hemlock Hill in the background	63
FIG. 21. The lawn at the Guest House, looking to the East, showing wooded surroundings	65
FIG. 22. The open lawn about the Guest House.....	65
FIG. 23. Nest of Redstart, from near Guest House.....	71
FIG. 24. Site of nest of Maryland Yellow-throat, in the tussock of grass near the center.....	73
FIG. 25. Detail of the tussock of grass in which the Maryland Yellow-throat nested	73
FIG. 26. Site of nest of Black-throated Blue Warbler, near the top of Hemlock Hill	75
FIG. 27. Nest of Black-throated Blue Warbler, exposed to show location, Hemlock Hill.....	75
FIG. 28. Nest of Red-eyed Vireo, showing method of construction, near Guest House	79
FIG. 29. Nest of Indigo Bunting, from a brushy ravine, near Little Long Pond	81
FIG. 30. The "Whip-poor-will Rock" at the Guest House. The bare area was visited nightly by the Whip-poor-will.....	87
FIG. 31. Young Whip-poor-wills, in the down, found in woods near the Guest House	87
FIG. 32. Nest and eggs of Spotted Sandpiper, on the shore of Carr Pond	90
FIG. 33. Map of the Bear Mountain and Harriman Park section of the Palisades Interstate Park.....	At end

THE RELATION OF FORESTS AND FORESTRY TO HUMAN WELFARE

“Forests are more than trees. They are rather land areas on which are associated various forms of plant and animal life. The forester must deal with all. Wild life is as essentially and legitimately a part of his care as are water, wood and forage. Forest administration should be planned with a view to realizing all possible benefits from the land areas handled. It should take account of their indirect value for recreation and health as well as their value for the production of salable material; and of their value for the production of meat, hides and furs of all kinds as well as for the production of wood and the protection of water supplies.

“Unquestionably the working out of a program of wild life protection which will give due weight to all the interests affected is a delicate task. It is impossible to harmonize the differences between the economic, the æsthetic, the sporting and the commercial viewpoints. Nevertheless, the practical difficulties are not so great as they appear on the surface.”

HENRY S. GRAVES, *Chief Forester,*
United States Forest Service.

“Outdoor recreation is a necessity of civilized life, and as civilization becomes more intensive the demand grows keener. The vast extent of our present National Forests, their enticing wildness, and the notable beauty of the native landscape lure men and women thither by hundreds of thousands. The really enormous extent and value of this kind of forest product has been generally overlooked in America.

“The moment that recreation (using this word in a very liberal meaning) is recognized as a legitimate Forest utility the way is opened for a more intelligent administration of the National Forests. Recreation then takes its proper place along with all other utilities. In each particular case these utilities are weighed against one another and a plan of administration devised to adjust and harmonize, to the utmost point practicable, the various forms of use so that the largest net total of public good may be secured. Where one must be subordinated to another, preference is given to that of highest value to the public.”

FRANK A. WAUGH, *Colaborator,*
United States Forest Service.

GUIDE TO THE SUMMER BIRDS OF THE BEAR MOUNTAIN AND HARRIMAN PARK SECTIONS OF THE PALISADES INTERSTATE PARK*

By P. M. SILLOWAY

INTRODUCTION

General Remarks. As the representative of The New York State College of Forestry at Syracuse, and acting through the courtesy of the Commissioners of the Palisades Interstate Park, it was my privilege to study the bird life of the Palisades Interstate Park, particularly the Bear Mountain and Harriman Park regions, from May 27 to August 8, 1918. The purpose of this study was to obtain such general information regarding the birds as might serve for a basis for a popular preliminary report designed to aid beginners to form acquaintance with the common birds of the region; also, to make such observations as might be of value for a publication of more technical character concerning the relation of birds to the forests of the Palisades Interstate Park. Owing to the extent of the Park domain and its lack of continuity, it was deemed advisable to confine the available time in the season of 1918 to limited centers of observation. Therefore two locations were selected,—Bear Mountain, and Little Long Pond of the Kanahwauke Lake group,—as typical of the main unit including the Bear Mountain locality and the Harriman Park region.

Method of Treatment. The treatment of the subject herein presented will consist of three parts: a brief general description of the Bear Mountain and Harriman tracts of the Palisades Interstate Park as an environment or habitat for birds; a more specific account of the ecological features—those concerned with the rela-

* For a general descriptive account of the Park, see Silloway and Brown, *The Palisades Interstate Park: A Study in Recreational Forestry, etc.*; Bulletin No 10 of this same series, 1920.

tions of birds to their surroundings — of each of the two selected centers of observation, in connection with a list of the birds noted at each center, together with such characterizations and descriptions as will aid elementary bird students in identifications and a wider acquaintance with the birds of the region; and a chapter of suggestions regarding bird study applicable to these two fields of observation and the region in general as a part of the Palisades Interstate Park environment.

Acknowledgments. In this connection I desire to acknowledge the assistance and courtesy I received while making these observations: to Dr. Chas. C. Adams, of the Department of Forest Zoology of The New York State College of Forestry, under whose direction the work was done; to the Commissioners of the Palisades Interstate Park, and particularly to their representative, Mr. Edward F. Brown, superintendent of the Camp Department, for every convenience and courtesy during my stay in the Park; and to all who contributed in making my sojourn there one of the most pleasureable of my field experiences.

THE PALISADES INTERSTATE PARK AS A HOME FOR BIRDS

How to Reach the Park. The use of the term Palisades Interstate Park in this connection may be understood to describe only the Bear Mountain locality and the Harriman Park tract, which together form the largest and most compact unit of four or five included in the entire Palisades Park property. As a portion of the Palisades Interstate Park, the Bear Mountain and Harriman section is adjacent to the Hudson River, which constitutes the natural highway of approach to the Park. The logical railroad terminal along the Hudson is Iona Island, forty-two miles up the river from New York City, on the West Shore Railroad; there is, however, a Bear Mountain station located between Iona Island and Fort Montgomery. Iona Island station is about a mile from Bear Mountain Inn, the only hostelry in the Park (Fig. 1). Bear Mountain station is the regular landing-place for steamers, in their daily trips up and down the river in the Park summer season, and thousands of excursionists thus visit the Park. The Park is also

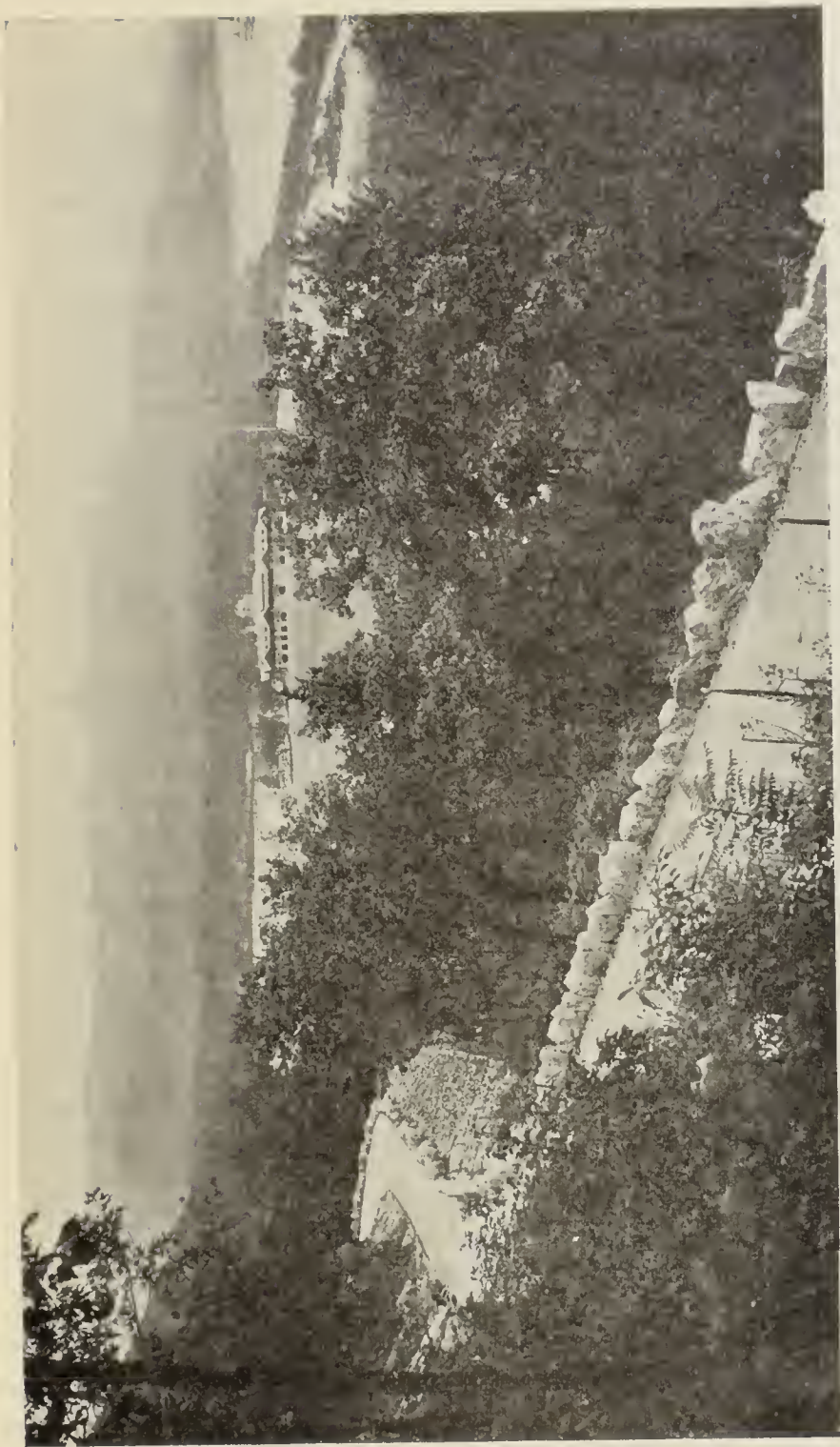


FIG. 1. General view of the Hudson Highlands in the vicinity of Bear Mountain Inn, showing in the background the wooded Highlands and a part of the Seven Lakes Drive.

easily accessible on the western side from Tuxedo, Arden, and Southfields, on the Erie Railroad, but there are no general arrangements for transportation from these stations into the Park except by private conveyances. Visitors by rail should in general use the Iona Island entrance, on the West Shore Railroad.

The Bear Mountain and Harriman Park region is remarkably accessible by the splendid system of motor roads traversing this portion of New York and New Jersey. The Park is approached along the river on the west shore by the magnificent Hudson Boulevard, the Henry Hudson Drive, and the New York State Route No. 3. Good motor roads lead into the Park from Central Valley, Tuxedo, Sloatsburg, Southfields, and Suffern, on the Erie Railroad.

The boundary line between Orange County and Roekland County traverses this region of the Park in a straight line from Hessian Lake through the head of Little Long Pond, of the Kanahwauke group.

Boundaries of the Bear Mountain and Harriman Park Sections. This section of the Palisades Interstate Park is an area with boundaries extremely irregular (Fig. 33). The domain may be appropriately bounded by lines beginning at Bear Mountain Inn and running westward to Twin Lakes; from Twin Lakes, by varying angles, to Southfields, in the Ramapo valley; from Southfields to Stony Brook; from Stony Brook, around an extensive area embracing Pine Meadow Brook, to Gate Hill; from Gate Hill to Iona Island, and around the eastern base of Bear Mountain. Along these general directions are many angles and doublings, to include desirable wooded tracts and to exclude particular areas not especially suitable for Park purposes.

In brief, the region is a portion of the Highlands plateau between the Hudson and Ramapo rivers, varying in elevation from the Hudson River tide level at Bear Mountain to fourteen hundred feet at several summits in the Park interior. The boundaries of the area are purely arbitrary, without regard to physical limits or any particular ecological relations.

The Mountains of the Region. The region is characterized by densely forested mountains separated by wooded valleys and

ravines, the summits generally rising to elevations of five to eight hundred feet above the subjacent valleys. We have, therefore, a succession of hills and valleys or mountains and lakes. The roads follow the valleys and the hills stand back on either hand or loom ahead or behind, bordering and encompassing the valleys on all sides. There are at least fifteen mountains in the area reaching an elevation of more than twelve hundred feet, and as many more varying between one thousand and twelve hundred in altitude. The diversity of the region is suggested by an estimate of one mountain, with subjacent valley and ravines, to each square mile of Park area.

The Lakes of the Region. The lakes and brooks of the region constitute a dominant factor in the regulation of the bird life, for it is usually in the vicinity of water, either still or running, that the greatest activity among woodland birds is noticeable. In general, the dry wooded hillsides are seemingly devoid of bird life, and it is only where streams trickle down ravines or where brooks dash from ledge to terrace, or along the shores of the ponds and lakes, that the birds can be observed to the best advantage. While the woods of dry valleys usually offer few attractions for birds, damp woods or lake shores make a good showing in avian activity. This region of the Palisades Interstate Park is unsusally well supplied with water margins. The hillsides are carved with gullies and ravines, which lead into the brooks of the valleys encompassing the mountains. On its northern side this section of the Park is drained by the small tributaries of Popolopen Creek; on the west, by tributaries of the Ramapo River, Stillwater Creek, Stony Brook, and Pine Meadow Brook. Along its southern and eastern sides the region has many small streams from the Ramapo hills to the Mahwah River, besides Queensboro Brook (Fig. 2) and Cedar Pond Brook. The interior valleys of the area contain a series of lakelets, several of which are artificial reservoirs formed by dams at the foot of the including valleys. Among the lakes, Cedar Pond is the most prominent (Figs. 3, 4), as it occupies a plateau over a thousand feet in elevation. The Kanahwauke chain of lakes is an important factor (Fig. 5) in the ecology of the region.

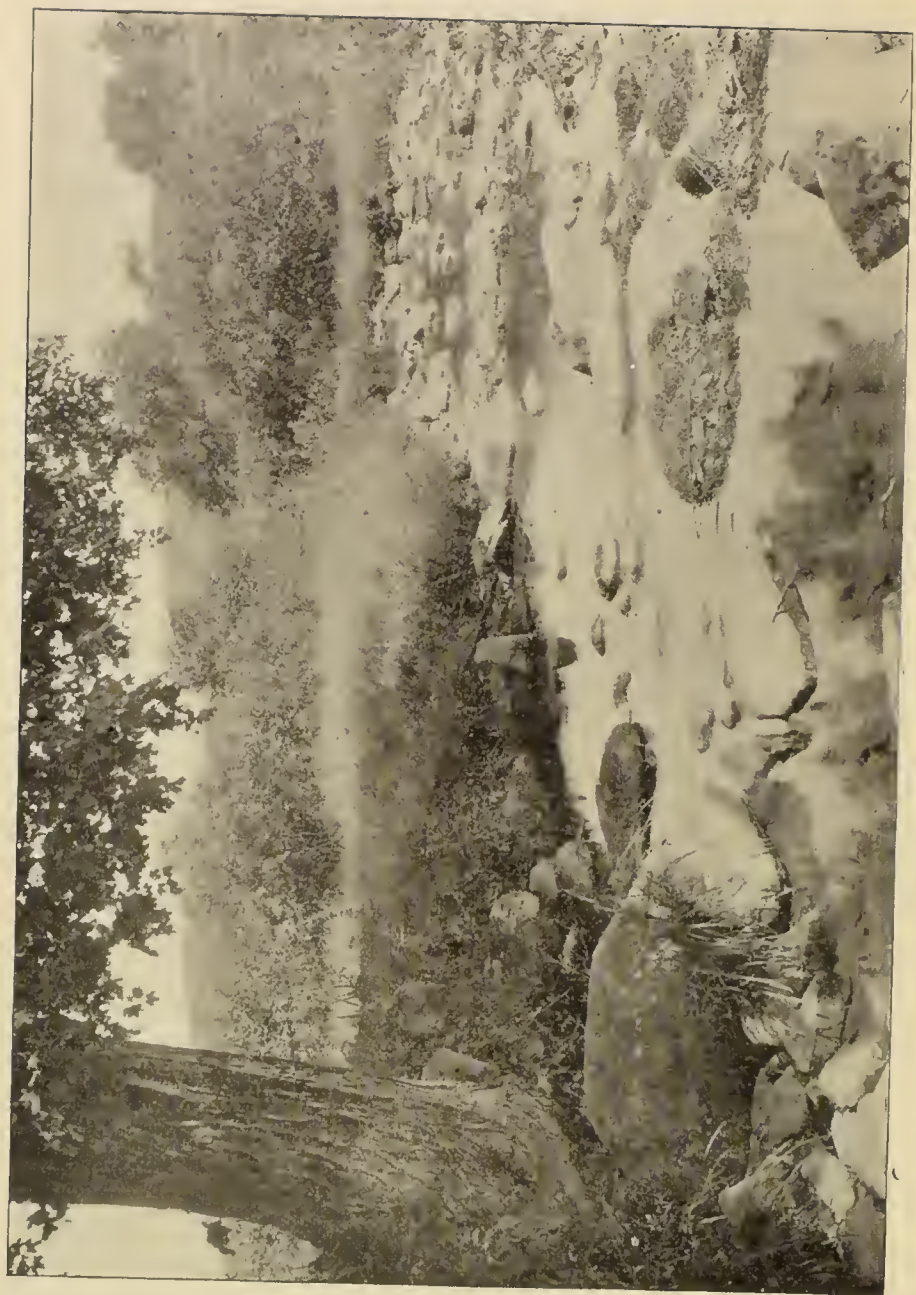


FIG. 2. The brook in Queensboro Valley.



FIG. 3. Cedar Pond, showing islands formed by rafts of floating bogs at the north end.



FIG. 4. Cedar Pond, showing large floating island of bog at the south end.



FIG. 5. Partial view of the Kanahwaake Chain of Lakes. Little Long Pond to the right.

as it furnishes a large water surface and miles of wooded shore margins.

The Forest. The entire area under consideration is densely forested (Fig. 1). For a general characterization of the region, I abbreviate almost literally from Moon ("The Highlands of the Hudson Forest Reservation", Forest, Fish and Game Commission, Fifteenth Annual Report, 1910, pp. 103-121), as follows: The forest is almost entirely of a hardwood type; in a few instances conifers, noticeably hemlock, are to be found. Old fields and orchards have grown up to a tangle of gray birch, cedar, alder, maple, etc. The entire area can be considered as of sprout origin. The forest canopy is ragged as a rule. Owing to a lack of sufficient cover and the thin, hot soil, humus is very slight in amount. About one inch would be the average depth. The soil cover consists, for the most part, of grass, ferns, blueberry bushes and sweet fern. The forest composition is indicated by percentages as follows: Chestnut, 35; maple, 11; red oak, 8; black oak, 7; chestnut oak, 6; white oak, 5; hickory, 8; black birch, 4; tulip, 3; ash, 3; basswood, 3; locust, 2; miscellaneous, 5. Chestnut was formerly by far the most important species, but the blight has killed most of these trees. On some of the slopes of medium elevation it formed as high as seventy per cent. of the stand. It is most commonly found with the red and white oaks in the draws and swales. Along the brooks and ponds, basswood, tulip, sycamore, beech and black birch are found, mixed with chestnuts and oaks. Toward the upper slopes chestnut-oak and hickory become prominent, while on the extreme tops the scrub oak forms a dense thicket scarcely breast-high.

SUGGESTIONS FOR BIRD STUDY IN THE PALISADES INTER-STATE PARK

How to Study Birds in the Field. Where to find the birds is an important question. Birds prefer the margins of openings in the forest rather than the interior of dense timber. The edges of woods along trails, roads, streams and lakes are frequented by the birds in their various activities; and quiet walks in such places,

with eyes open for bird movement, color and form in the shrubbery and trees, and with ears alert for call-note, song, or chirp, will generally disclose the presence of birds not far away. Instead of moving rapidly in quest of birds, it is better to choose a seat in a quiet spot in the edge of a wood or thicket or within sight of a tree visited by birds active in the neighborhood; under such quiet circumstances the birds will come and go without alarm, affording better opportunities to study them than if the observer were thrashing through the bushes or walking hurriedly along the trail or road.

In my personal methods of field study, I am guided chiefly by the ear rather than by the eye. Whenever I hear the chirp of a bird or a call-note or song, I seek to get a definite impression of the sound so fixed upon my mind that I can recognize it again; then, and not until then, do I press forward to obtain a glimpse of the bird. Often I have heard the singing or call-note of a particular bird for several days or even weeks, guided solely by sound, until eventually the author of the notes revealed himself to me in form, color and movement, and uttered the familiar sounds while under close observation.

In beginning the study of birds in the field, it is more profitable to give definite attention to any bird or bird-sound before the mind, rather than to distract the attention by trying to include all the birds within sight or hearing. Frequently in field study with others, while I have been calling attention to the singing of a particular bird at hand, another song has come to the ear and some one would ask immediately regarding the author of the intruding song without yet having obtained a definite impression of the one then under observation. In a locality populous with birds, several kinds new to beginners may be singing or active within range of hearing or vision; under such conditions, study one bird definitely, excluding the others temporarily, and giving fixed attention to notes, form, color, actions and peculiarities of the one first attracting the notice by its call, song or movements. After this bird has been given its share of attention, and it has passed from the range of observation by eye and ear, then another may be studied in similar definite manner. Upon hearing or seeing a bird claiming observation, do not push forward to get a better view; stand

silently to listen and look, or move forward with quietness and caution, approaching in a way not to disturb the bird into a hasty flight from the spot. If the bird moves away deliberately, follow carefully for further observation, and with due care the observation may be thus prolonged to one's satisfaction.

The nesting season, including the period of care of young in the nest and on the wing, is pre-eminently the time for satisfactory bird study. Frequently I have been asked, "How do you find the nest so quickly?" An instance occurred this spring, when I was visiting in Syracuse on my way to the Park. I went with Dr. C. C. Adams to his garden lot, in the edge of the town, and while he was attending to his asparagus bed I located a Song Sparrow's nest in a corner of the lot. He asked me how I found it so quickly; I explained that, upon our arrival, I heard the male sparrow singing in the scrubby growth at the rear of the lot; I noticed the female sparrow carrying food in her mouth, in the vicinity of a brush pile in the margin of the shrubbery; and I knew that this sparrow frequently chooses a brush pile as the site for its nest. In this case, the singing of the male in the vicinity of the nest, the female carrying food, and the available site at hand, led me direct to the nest. In most instances, when the female is sitting on her nest, and hence not active in the locality, the singing range of the male may serve as a fair indication of the location of the nest. In my mention of the Black-throated Blue Warbler (p. 74), it is stated that I found the nest after careful observation of the range of the male in his singing movements; after deciding upon the approximate center of his range, it then became a matter of close search in the low sprouts for the site of the nest.

The key to all satisfactory bird study is quiet, close observation of the bird's notes, actions and movements, resulting in a knowledge or acquaintance with the bird's habits and private life, so to speak;— its haunts, its food preferences, its choice of nesting sites, and its favorite habitat in any locality, whether forest, thicket, or open land. Not all of these items can be learned in a single outing, nor in one season, though the nesting and later feeding period will afford many opportunities for valuable observations of bird habits and behavior. Later in the summer, the birds as a rule

become less noticeable; their singing season ebbs and fails, and their voices are heard otherwise to less advantage for observation. In the heated midday hours of July and August few bird voices can be heard and the vegetation seems devoid of bird life. The spring and early summer, however, are crowded with opportunities for bird study; then one need merely go afield, and in some quiet spot, in the margin of grove or clearing or swamp, with patient eye and ear give attention to the signs of life in bush or shrub or tree, and look or listen as circumstances offer inducements. In this preliminary field study, learn to associate with each bird its leading song or call-note, with such mental impression of it as will bring the bird into mind whenever and wherever the song or call is heard; this is an important and requisite step in one's acquiring a knowledge of the birds of any region. Get the song or call fixed in mind as you make the mental picture of the bird's form and coloration, or any leading features which will aid you to learn about the bird in your references to descriptions. For instance, as I stand in this angle of the trail up Bear Mountain, my attention is attracted by a strange bird song in the trees nearby though beyond my vision. The song, as I try to write it in my note-book, sounds like "Zee zee zee zee, ze-e-e", the first part drawled out noticeably. I note in my book that a strange little bird is singing in this peculiar measure, and I can remember the songster as my "ze-e-e-e" bird, referring to the peculiar drawl of the first portion of the song. Frequently I hear it, but as I move out to get a view the bird moves away also beyond my sight, and I resume my former station. Presently I hear the song near by, and I congratulate myself that my "ze-e-e-e" bird is coming near again. Patiently I wait, and soon a little bird flits into the saplings near me, in full view, singing "zee zee zee zee, ze-e-e-e", and I barely get a glimpse of the black throat, yellow crown and yellow wing marks, when lo, the bird is gone; but I have enough, for when I get home and refer to my books, I find that only one bird can answer to the song and description, the Golden-winged Warbler. Thus I have gained a start and can study the bird to better advantage another day.

The note book habit is essential to progress in bird study, as it is in other lines of study. Annotations of the songs of the birds, their call-notes, their colors, their feeding habits, their preferences in vegetational associations,—these are necessary to the attainment of an intimate and satisfactory knowledge of even the very common species. It may seem strange when I suggest that the knowledge of the name of the bird is not necessary in these introductory observations, yet it can be readily seen that these annotations may lead to the discovery of the bird's name in due time, upon reference to authorities; then the annotations can be grouped under the desired heading as fundamental knowledge of the bird under consideration. When nests are found, the note book should be used for comments regarding the nesting site, the general character of the surroundings, the particular location of the nest, the actions of the owners near their home, etc. In the examination of any nest found, the bird student should avoid pulling down the branches or surrounding vegetation in a way to endanger it or its contents, or the protecting foliage. While the nest is in use by the owners, all study of it and of the parents should be made with due consideration of the results of disturbing the wildwood home. By no means reach up and feel into the nest, if its location is above your reach of vision; but if possible climb up into a tree at one side, or use other careful ways of examining the contents of the nest. Then make full and satisfactory notes of what you see and hear, for these notes may serve, in case the birds are strangers to you, in determining the name of the owners of the nest when you refer to your authorities.

Regarding references to the birds of the Palisades Interstate Park region, I may say that it is not within the purpose of this handbook to include the usual list of references or a bibliography, since this is reserved for a fuller report of my observations. Beginners in bird study, however, will find that Hoffmann's "A Guide to the Birds of New England and Eastern New York", 1904, is a helpful and authoritative book applicable to the birds of the region, and contains very satisfactory hints regarding identification afield.

In offering this introductory guide on the birds of the Palisades Interstate Park, I trust it will not be regarded as a technical treatise.

tise but that it will serve as an aid for campers, visitors and tourists, for boy and girl scouts, for nature lovers of any and every degree, in acquiring a greater knowledge of the bird life in the Park, as a part of the great out-of-doors given for man's recreation, pleasure and inspiration.

Bear Mountain Station as a Bird Resort. The grounds around the railroad station and boat landing at Bear Mountain have been described in general as a favorite place for many of the birds of the locality, and there these birds can be studied to advantage. These grounds lie between the river bank and the road skirting the Inn lawn, and Hessian Lake. The eastern portion of the grounds, or the right-hand side as the observer stands facing the river, there extends a shallow ravine up a rocky ridge, the latter forming the boundary of the grounds along the road toward the east. This ravine and low rock knoll, with the second growth trees and the tangled undergrowth, forms a fine covert for bird activities. Just within the road boundary along the grounds, there is a small zone of shrubby embankment, thick with brambles and hardwood saplings, forming an admirable shelter for nesting birds. For the bird student who has only a limited time at the Inn, I recommend the railroad station grounds as the best spot for close observation of the birds of the bush and woodland margin. These station grounds perhaps attract a larger proportion of nesting birds to the acre than any other locality of the Bear Mountain and Harriman Park region. Taking my observations in chronological order, I made satisfactory notes on the station grounds regarding the Hooded Warbler, singing over the premises and nesting in the ravine; Robin, singing, nesting and feeding young; Brown Thrasher, singing, nesting and feeding young; Catbird, singing, nesting and feeding young; Chestnut-sided Warbler, singing, nesting and feeding young; Yellow-throated Vireo, singing up and down the ravine and rock knoll; Wood Pewee, active in the open areas of the grounds, calling from its lookouts and hawking about the margins for flying insects; Black and White Warbler, singing and feeding young; Wood Thrush, singing and evidently nesting; Red-eyed Vireo, singing and nesting; Redstart, singing and feeding young;

Towhee, singing and working in the shrubbery; Chipping Sparrow, singing, nesting and feeding young; Indigo Bunting, singing, nesting and feeding young; Golden-winged Warbler, singing and gleaning in the trees and saplings; and many others whose presence might be mentioned in this connection.

The Base of Bear Mountain. The base of Bear Mountain has been defined as the portion of bushy and wooded hillside immediately above the roadway leading from the office building of the Inn grounds toward the interior of the Park. The central spot of this basal area under consideration might be marked by the point where the trail up the mountain begins, designated by a small signboard marked with the legend, "To the Top of Bear Mountain". Below this designated point, on the left as one follows the trail, a ravine formed by a narrow watercourse comes down from the southeast. On the right, above the watercourse, the hillside is thick-set with laurel, purple-flowering raspberry, blackberry, witch hazel and viburnum, with clumps of sapling maple, chestnut, oaks and hickories, under a ragged canopy of characteristic hardwood trees (Fig. 6). From the sign, "To the Top of Bear Mountain", as a center, the activities of most of the birds of the Bear Mountain locality can be studied by merely standing observant with watchful eyes and keen ears; mentally I characterized this spot as "Warbler Point" (Fig. 7), for there I made close observations concerning the Golden-winged Warbler, Chestnut-sided Warbler, Yellow-breasted Chat, Hooded Warbler, Worm-eating Warbler, besides others more common and better known. Taking my notes in chronological order, I made observations on this basal hillside as follows: Indigo Bunting, singing, nesting and feeding young; Towhee, singing, nesting and feeding young; Red-eyed Vireo, singing, nesting and feeding young; Chestnut-sided Warbler, singing, nesting and feeding young; Maryland Yellow-throat, singing and feeding young; Hooded Warbler, singing and nesting; Oven-bird, singing and nesting; Ruby-throated Hummingbird, active among the flowering shrubs; Yellow-breasted Chat, singing and nesting in the laurel; Golden-winged Warbler, singing and active in the trees and saplings; Worm-eating Warbler, singing, nesting and feeding



FIG. 6. The open trail at the base of Bear Mountain; a favorite singing site for birds.



FIG. 7. "Warbler Point", at the base of Bear Mountain; a favorable place for birds.

young; Redstart, singing and feeding young; Black and White Warbler, singing and feeding young; Cat-bird, singing, nesting and feeding young; Crow, a family in morning confabulations up the ravine; Louisiana Water-thrush, singing and feeding along the little cascades of the ravine; Brown Thrasher, singing and nesting; and others coming and going in their activities in the vicinity of this basal hillside.

The Southeast Entrance and Marsh. The eastern entrance to the Inn grounds is the beginning of an embanked roadway which diverges from the main road along the marsh and river shore. The Inn entrance, therefore, is the central point of the connection between the marsh, the river shore road, the outlying portion of the mountain base, and the southeastern outlying part of the Inn grounds between the lawn and the river. The diversity of environment around the "Entrance to Bear Mountain Inn" makes it a very satisfactory center for observation of the birds. The road leading southward from the Inn entrance skirts the mountain's base along the marsh, and a short distance south of the entrance a dashing brook comes down a narrow ravine from a considerable amphitheatre on the hillside, meeting the marsh at the place where the road from Iona Island station meets the main road just described. The hillside above the brook is heavily wooded and tangled with bushes, but otherwise in the vicinity of the entrance the woods are broken, with scattered open areas of shrubbery and sapling thickets. Among the trees prominent in casual observation are aspens, oaks, chestnut (blighted), hemlock, birches, maples, tulip tree, young pine and fir (probably planted), white ash, and several hickories. The undergrowth is composed chiefly of blackberry, sumach, sweet fern, purple flowering raspberry, dogwood, witch hazel, sassafras, fire cherry, and saplings of aspens, birches, maples, and most of the native hardwoods. Along the roads leading to and from near the Inn entrance can be seen evening primrose, mullein, toadflax, and other common tramp weeds. Later in the season goldenrods show plentifully, with ripening pokeberry and elderberry. Wild grape is an important factor in the tangles of shrubbery and saplings. Taking my notes in chronological order

regarding this entrance resort, I made observations of the Indigo Bunting, singing and feeding young; Redstart, singing and feeding young; Song Sparrow, singing and active along the marsh; Towhee, singing, calling and caring for young; Phoebe, near the mouth of the brook; Red-eyed Vireo, singing and nesting; Chestnut-sided Warbler, singing and nesting and feeding young; Blue Jay, active along the hillside; Maryland Yellowthroat, singing, nesting and feeding young along the marsh; Black-billed Cuckoo, gleaning food; Least Flycatcher, calling and feeding; Crested Flycatcher, noisy and active; Yellow Warbler, singing and gleaning food; Veery, or Wilson Thrush, singing up the ravine of the brook; Wood Thrush, singing; Robin, singing, nesting and feeding young; Chipping Sparrow, singing and feeding young; Scarlet Tanager, singing in the tree-tops; Crow, working on the hillside; Catbird, singing and feeding; Red-winged Blackbird, active in the marsh and borders; Swamp Sparrow, singing in the marsh; Green Heron, frequenting the marsh; Long-billed Marsh Wren, singing and nesting in the marsh; Ruby-throated Hummingbird, feeding at flowering plants; Baltimore Oriole, singing and nesting; Brown Thrasher, singing and nesting; Kingbird, calling and feeding; Blue-winged Warbler, singing; Golden-winged Warbler, singing; Flicker, noisy and active; Goldfinch, in flight-song and feeding; Rose-breasted Grosbeak, singing and feeding young; Starling, on the river-bank; Yellow-throated Vireo, singing; Cedar Waxwing, active in mating and nesting; Downy Woodpecker, hunting food; and Spotted Sandpiper, on the river-bank.

Bear Mountain Trail and Crest. The base of Bear Mountain, which has been described somewhat in detail in a preceding section, is naturally included here, for the trail up the hill begins at the roadway skirting the mountain's base. The trail ascends by a series of zigzags, of easy grades, up the southeastern slope, as a firm and clear path through woods in every way characteristic of the uniform Highlands forest. At a point about two-thirds of the way up the mountain, a little brook comes down the hillside alongside an angle of the trail, forming an attractive margin for birds at that point. The upper crest of the mountain is covered by a

rather scrubby growth of chestnut-oak, maple, scrub oaks, birch, scrub pine, with laurel everywhere, huckleberry, and other native ground cover. Taking my observations in order, I noted on various occasions along the trail and on the mountain crest, the Oven-bird, singing at all localities, and even more numerous toward the crest; Hooded Warbler, singing well up the mountain; Redstart, singing to the top; Red-eyed Vireo, singing to the top; Towhee, calling and active to the top; Chestnut-sided Warbler, singing and active in all bushy openings; Worm-eating Warbler, singing and feeding young to the top; Wood Pewee, calling partially up the mountain; Scarlet Tanager, singing on the mountain crest; Ruffed Grouse, in the maple and birch thickets on the crest; Flicker, calling on the upper slopes; Crow, active on the lower slopes; Black and White Warbler, singing and feeding young partially up the hill; Downy Woodpecker, at various localities near the trail.

Doodletown Valley. After leaving the Inn grounds, the road winds westward around the southern base of the mountain, with rugged wooded hillside on the right and the densely wooded amphitheatre on the left below, to what is locally known as Doodletown Valley. This portion of the road, though in no wise different in general characteristics from those already described, affords excellent facilities for roadside study of the birds of the region (Figs. 8, 9). Taking my observations in order, I made notes here regarding the Indigo Bunting, singing and feeding; Towhee, in the bushy margins; House Wren, in the old orchards; Red-eyed Vireo, singing in the woodlands; Chestnut-sided Warbler, singing and nesting in the shrubbery margins; Blue Jay, calling in the forest edges; Maryland Yellowthroat, active in the bushy margins; Hooded Warbler, singing in the openings; Robin, singing and nesting in the roadside sumachs; Scarlet Tanager, singing in the woodland margins; Broad-winged Hawk, in soaring flight; Chickadee, in the old orchards; Black and White Warbler, singing near the roadside; Worm-eating Warbler, singing back in the scrub; Black-billed Cuckoo, in the old orchards; Flicker, near the old orchards; Goldfinch, in flight-song, and feeding on roadside seeds; Downy



FIG. 8. Roadway around the base of Bear Mountain to Doodletown Valley. Anthony's Nose in the background. A good locality for the roadside study of birds.



FIG. 9. Another view along the roadway at the base of Bear Mountain, affording a view into the tree tops.

Woodpecker, near old orchards; and many others of the birds of the locality, in passing observations.

The Kanahwauke Chain of Lakes. These lakes are located in the central portion of the western half of the Park, about twelve miles from Bear Mountain Inn (Fig. 33). The lakes occupy broad troughs in irregular valleys, surrounded by forested mountains of the Highlands type. Entering the neighborhood via the road from Bear Mountain Inn, the visitor first skirts a part of one of the Kanahwauke lakes (Fig. 5), the road passing along its shore until the bridge is reached, at which point this lake connects with the foot of Little Long Pond and a third lake of recent construction. This trio of lakelets, encompassed by mountains forested down to the shores, makes an attractive resort for the birds of the Park interior, furnishing a diversity of margins for birds of varying preferences (Figs. 5, 10). Taking my observations in chrono-



FIG. 10. Johnson's swamp at east end of Little Long Pond, showing abundance of swamp vegetation.

logical order, here I made notes concerning the Barn Swallow, quartering over the water; Spotted Sandpiper, on open shore lines; House Wren, singing, nesting near the buildings; Brown Thrasher, nesting and singing; Catbird, singing and nesting; Cedar Waxwing, active in the fruit-bearing shrubbery; Song Sparrow, singing and nesting; Red-eyed Vireo, singing and nesting; Indigo Bunting, singing; Scarlet Tanager, singing in broken canopy of the woods; Crow, calling on the hillsides; Red-start, singing and feeding in the margins; Phoebe, active near the bridges; Least Flycatcher, in the bushy openings; Flicker, active in the margins; Blue Jay, calling along the lower woods; Maryland Yellow-throat, in the bushy margins; Towhee, in bushy openings; Chimney Swift, overhead; Red-winged Blackbird, in marshy lake shores; Crested Flycatcher, calling and active; Downy Woodpecker, in open margins; Goldfinch, in flight-song and feeding; Wood Thrush, in hillside woodlands; Wood Pewee, in lake-shore open woodlands; Chipping Sparrow, nesting in camp locations; Robin, common everywhere; Green Heron, feeding in the lake-end marshes; Kingbird, nesting near the lake shores; Veery, or Wilson's Thrush, in the birch swamps around the lakes; Kingfisher, active along lake shores; Black and White Warbler, in broken shore margins; Rose-breasted Grosbeak, singing and feeding young; Baltimore Oriole, nesting and feeding young; Black Duck, in the lake-end marshes; Bluebird, along the lake shore; Yellow Warbler, feeding; Bank Swallow, Cliff Swallow, Tree Swallow, flocking along the lake shore; Chestnut-sided Warbler, in broken road margins; and Broad-winged Hawk, in soaring flight.

Little Long Pond. This pond lies between the Guest House and the others of the Kanahwauke chain of lakes (Fig. 5), along the southern base of Hemlock Hill, a forested ridge of rugged aspect rising to five hundred feet above the pond level (Fig. 11). The main motor road between Bear Mountain and Tuxedo runs along the pond shore (Fig. 10) between the pond and the mountain, making the road an excellent ground for observation of bird activities (Fig. 12), as the heavy woods of the hillside borders the road on the right and the bushy margin of the pond extends along



FIG. 11. Looking over the east end of Little Long Pond toward Hemlock Hill.



FIG. 12. The Bear Mountain-Tuxedo, or Seven Lakes Drive, along the shore of Little Long Pond. A favorable place for bird study.

the road on the left, going toward Tuxedo. Starting in about a quarter of a mile east of the Guest House, a trail leads along the eastern side of the pond, emerging from the woods near the bridge over Kanahwauke Lake and meeting the main motor road there. Since these lakes are the centers of many camps of Boy Scouts, I here suggest that an interesting trip for bird study would be around Little Long Pond, with the trail over Hemlock Hill; or around Little Long Pond alone; or the west shore of the pond with Hemlock Hill (Figs. 11, 13). Beginning with the marked trail as it strikes into the woods on the eastern side of the pond, observations are suggested as follows: Oven-bird, singing and nesting; Black and White Warbler, singing and feeding young; Veery, or Wilson's Thrush, singing and nesting in the birch-fern swamps contiguous to the lake shore; Downy Woodpecker, gleaning in the swamp-woods; Ruffed Grouse, feeding in the sapling coverts; Robin, nesting along the trail; Song Sparrow, bushy water margins; Cedar Waxwing, roadside and lake-shore shrubbery; Brown Thrasher, nesting in the trail-side shrubbery; Scarlet Tanager, singing in exposed treetops; Spotted Sandpiper, active along shore; Red-winged Blackbird, nesting and active in the marshy ends of the pond; Maryland Yellow-throat, singing and nesting in pond-shore bushes; Catbird, singing and nesting in lake-shore shrubbery; Red-eyed Vireo, singing and nesting in the broken margins; Chestnut-sided Warbler, in bushes under broken canopy; Black Duck, feeding in the marsh grass; Redstart, singing and feeding in road and shore margins; Towhee, in undergrowth along trail and shore; Baltimore Oriole, singing in tall trees of roadside; Barn Swallow, Bank Swallow, Cliff Swallow, pond shores near bridge; Green Heron, marshy pond shore; Redstart, broken swamp woods and margins; Indigo Bunting, hillside bushes along road; House Wren, near pond-shore buildings; Kingbird, nesting near bridge; Flicker, Blue Jay and Crow, calling along hillside above road; Rose-breasted Grosbeak, feeding in fruit-bearing shrubbery; Bluebird, casual near the bridge; Chickadee, along trail and on Hemlock Hill; Worm-eating Warbler, feeding young on Hemlock Hill. The trail up the Hill, beginning at the brook above the junction of the Johnstown road with the Tuxedo Drive, I estimated to be about a mile



FIG. 13. Open area near top of Hemloek Hill, or mountain, showing picturesque distorted trees and the bare rock. Virgin vegetation.



FIG. 14. Another view of the Seven Lakes Drive, between the Guest House and Carr Pond. A favorite resort for brush birds.

long, leading gradually from one wooded level to another, in a succession of little glens typical of the region. In an ascent on June 15, I concluded that from the beginning of the trail at the brook, to the summit (Fig. 13), there were three families of Worm-eating Warblers, four families of Black and White Warblers, four pairs of Oven-birds, one of Water-thrushes near the brook at its beginning, and two families of Red-eyed Vireos.

Carr Pond as a Bird Resort. Carr Pond, or Lake Sta-ha-he, is near the Tuxedo end of the Park (Fig. 15), about three miles beyond Little Long Pond, by way of the Seven Lakes Drive (Fig. 14). It borders the Ramapo Hills district, and is the central feature of a richly diversified locality, with rugged hills, deep ravines and gullies, and terraced hillsides. The forest is typical of the Highlands region, except that immediately around the shores of Carr Pond hemlock and beech flourish in proportions more noticeable than elsewhere in the sections of the Park already described. A number of the standard Park camps are located on the shores of this pond, and the road leads down from the main motor drive past the various camp sites, affording a fine woods margin for the observation of the birds of the locality. This road continues to the upper end of the artificial extension of the pond, and from there a trail continues around the pond, making the shore continuously accessible for field study of the birds associated with the lake-shore woods. My notes of this locality are incomplete, since I did not begin there until after the nesting season was over with most of the birds, but they give the following suggestions: Song Sparrow, singing and feeding young in the bushy water margins; Maryland Yellowthroat, singing in the bushy water margins; Spotted Sandpiper, nesting in sprouts near the pond shore; Robin, nesting at the camp cabins and elsewhere; Wood Thrush, in the pond-shore woodlands; Kingfisher, working along the shores; Chickadee, gleaning in the trees of the camps; Scarlet Tanager, singing in tall trees; Oven-bird, in the hillside laurels; Red-eyed Vireo, singing in the larger trees; Downy Woodpecker, anywhere in the woods; Crow, hillside woods; Green Heron, fishing along shore; Red-winged Blackbird, in shore-side



FIG. 15. Lake Stahahe, or Carr Pond, a natural lake enlarged.

vegetation; Kingbird, in low bushes near the pond shore; Cedar Waxwing, near the water margins; Indigo Bunting, feeding young in fruit-bearing bushes; White-breasted Nuthatch, gleaning with young in pond-shore woods; Worm-eating Warbler, feeding young on the rock ledges facing the camps; Blue Jay and Crow, hill-sides near pond; Wood Pewee, calling in nearby woodlands; Hooded Warbler, singing near the camps; Chestnut-sided Warbler, singing near the camps; Red-shouldered Hawk, in soaring flight; Baltimore Oriole, its nesting season now over, calling along the swamp woods margins; Black and White Warbler, feeding young near the camps; Redstart, feeding young in pond-shore woodlands; Chipping Sparrow, singing and nesting near the camps; Broad-winged Hawk, soaring over hillside woods.

Summit Lake. This lake is located in the north-western quarter of the region under consideration, on the road from Highland Falls to Arden. The locality has less of the wildwood aspect and more of the domestic features in its vegetation than elsewhere in the region, and shows more effects of the touch of cultivation. A casual survey of the trees included the black locust, arbor vitæ, several species of oaks, butternut, maples, chestnut, dogwood, beech, hickories, tulip tree, linden or basswood, elm, fir, tamarack, buck-eye, silver maple, blue beech, black cherry, with saplings of alder, birch, aspen, sassafras, witch hazel, and shrubs of sweet fern, laurel, huckleberry, wild grape, elderberry, etc. My observations are quite incomplete for this locality, as it was not until August 3 that I visited there, with notes as follows: Red-eyed Vireo, in subdued songs; Song Sparrow, feeding young; Towhee, singing in scrub growth near the lake shore; Goldfinch, in flight-song and nesting activities; Indigo Bunting, singing; Barn Swallow, a colony at the camp barn; Chipping Sparrow, feeding young; Kingbird, margin of garden; Robin, active in the fruit shrubbery; Field Sparrow, in the open bushy areas; Red-winged Blackbird, in the lake-shore vegetation; Black-billed Cuckoo, in the camp woodlands; House Wren, scolding with young in the shrubbery; Least Flycatcher, adults with young lately a-wing; Orchard Oriole, scolding in margin of open garden area; Crow, calling in wood-

lands; Crested Flycatcher, in tall trees of margins; Broad-winged Hawk, calling in soaring flight; Chickadee, gleaning in lake-shore woodlands. These introductory observations would indicate that the bird life of this locality is similar to that of the Park in general, and that the birds mentioned in other connections might be expected to occur also in this locality.

The observations around the Summit Lake camp in 1918 were, as stated, rather limited, and further detailed observations were made in 1919, showing that in general the bird life of the locality is quite uniform in variety with that of the Park in general. On June 16, with fair weather, blue sky, and ideal conditions, the following notes were made on the Summit Lake camp premises: Song Sparrow, abundant, singing and nesting; Cedar Waxwing, active in the tree-tops; Phoebe, calling near the old buildings; Chipping Sparrow, nesting in the yard; Red-eyed Vireo, singing and nesting in the dooryard trees; Goldfinch, active in the woods margins; Scarlet Tanager, singing vigorously; Black and White Warbler, singing along the margins; Oven-bird, in vigorous songs; Yellow-breasted Chat, whistling and calling in the basal hillside shrubbery; Chestnut-sided Warbler, in vigorous songs; Indigo Bunting, conspicuous in song; Blue Jay, active along the woods margins; Veery, calling in the swamp fern marshes; Towhee, common, singing and calling; Hooded Warbler, frequent vigorous songs; Ruffed Grouse, two females seen, each with flying chicks; Maryland Yellow-throat, singing in swamp bushes; Crow, a family in noisy caucus; Robin, as usual; Field Sparrow, singing in open bushy lots; Wood Pewee, calling along the lake shore; Redstart, singing in damp woods; Ruby-throated Hummingbird, active in open woods; Rose-breasted Grosbeak, in full song; Wood Thrush, in full song near the lake; Barn Swallow, performing evolutions over the meadows; Red-winged Blackbird, active in the swamp meadows; Flicker, active in the marginal trees; Golden-winged Warbler, singing in the woods margins; Least Flycatcher, active in the camp trees; Bluebird, near the old buildings; Kingbird, active in the meadows; Downy Woodpecker, in the woods margins; Chickadee, near the trails and roads; Whip-poor-will, calling in the evening.

THE BIRDS OF THE VICINITY OF BEAR MOUNTAIN

Description of the Region. Bear Mountain is a conspicuous landmark of the Hudson Highlands, occupying a commanding site on the west shore of the Hudson, at the apex of a triangle formed by imaginary lines joining it with Iona Island and Fort Montgomery, the river constituting the base line. Across the river opposite Bear Mountain lies Anthony's Nose, a rugged, iron-gray headland. Between Bear Mountain and the river is a leveled area, of artificial construction (Fig. 1), and a natural depression occupied by Hessian Lake. Between Bear Mountain and Iona Island there extends a large marsh of cat-tails and swamp grasses. The mountain, with the adjacent river shore line, the landward portion of the marsh, the leveled area, and Hessian Lake shore, comprise the Bear Mountain locality of the region under consideration.

This mountain is a fair example of the Park heights in general, especially of those exceeding twelve hundred feet in altitude, and it may be regarded as a type in its mass, its physical contour, its rocky ledges and steep ravines, and its forest covering. It attains an altitude of 1314 feet, though its crest has no dominating summit, being principally a lengthened forest ridge of outcropping rock, a common kind of mountain formation in the Highlands. Along its base above the level lawn and lake are numerous trails which intersect the main trail for climbing the mountain. The trail for the ascent is well graduated in easy zigzags, firm of footing, and clear of obstructions. It begins above the road near the eastern end of the office building, and leads upward on the eastern slope of the mountain to a view well worth the hour spent in making a leisurely ascent.

There are two general avenues of entrance to the eastern end of this section of the Park, one by way of Iona Island, the other by the railroad station and boat landing grounds. The approach via Iona Island leads across more than a quarter of a mile of marsh thick set with cat-tails, reeds, and grasses, and then continues along an embanked roadway on the base of the mountain. Below the roadway, sloping down to the river water margin, is a zone of second growth and underbrush thicket, of varying width. This

zone of trees and thicket encircles the mountain's base below the roadway along the entire frontage of the mountain, rising as a background of the boat landing grounds also, and forms a very attractive covert for bird activities. This lower zone of vegetation is really a continuation of the mountain's wooded base, separated from the upper hillside by the terraced embankment of the Park thoroughfare. The landing station grounds consist of the open area leading between natural wooded rock ridges, and the background zone of trees and bushes below the Inn lawn.

Between Bear Mountain and the river, contiguous to the lawn at the rear of the Inn, is Hessian Lake, a beautiful mountain pond of about three miles in circumference. The slopes surrounding it are forested down to the water's edge, and its shores form a continuous sheltered margin frequented by the birds of the adjacent woods (Fig. 16).



FIG. 16. Hessian Lake, at Bear Mountain, showing the surrounding forest.

The Forest of the Region. The forest is of the hardwood type characteristic of the region. The chestnut has been dominant, though now but very few mature trees are alive, owing to a deadly blight which prevailed a few years ago. The chestnut-oak is quite prominent, seeming to rank in numbers next to the chestnut. Other oaks are common, and several species of hickory. Near the eastern entrance to the Inn grounds, the two aspens, *Populus tremuloides* and *grandidentata*, are noticeable, chiefly in the young stages. The hemlock seems numerous enough to have relative dominance, especially along the base of the mountain above the embanked roadway near the office building and the basal portions of the mountain. Walnut and butternut are common, with birches, dogwood, and occasional young white pines. Among the noticeable shrubs of the entrance roadside are laurels, blackberry, sunach, sweet fern, purple raspberry, sassafras, witch hazel, huckleberry, and wild grape. Nearer the water and in the ravines the maples are prominent, with beech, tulip tree, ash, and linden. Fire cherry, birches, and aspens form thickets where cuttings have made way for them.

List of the Birds of the Vicinity of Bear Mountain

1. ROBIN. *Planesticus migratorius migratorius* (Linn.)

The Robin prefers the associations of human habitations. It nests among the buildings, selecting horizontal beams near corners of cabins, and sites in the margins of roads, trails, and clearings. There was a Robin's nest on a rafter under the eaves in a corner of the men's dormitory at Bear Mountain Inn. I found many nests of the Robin throughout the Park during the season. On June 29 I examined a nest on the boat landing grounds, along the road almost under the high bridge crossing the grounds to the Inn premises. This nest was on horizontal wild grape branches among saplings, about six feet from the ground, and was remarkable for the amount of white cordage used in its foundation and outer wall. The general characteristics of this familiar bird are too well known to warrant further description in this account.

2. VEERY, OR WILSON'S THRUSH. *Hylocichla fuscescens fuscescens* (Steph.)

The Veery is not well known, having a shy and retiring disposition. Its singing is a choice feature of the swamp woods where it resides. At Bear Mountain it seems to limit its resorts to the ravines south and east of the entrance to the Inn premises. The Veery can be distinguished from the other thrushes by the uniform tawny brown of its upper parts; in comparison, the Wood Thrush has the head and shoulders more brightly marked with reddish brown than the other upper parts. The song of the Veery can be easily identified by its repeated vibratory effect, dying away after the manner of the tones of a taut wire set in vibration.

3. WOOD THRUSH. *Hylocichla mustelina* (Gmel.)

The Wood Thrush is a common though not well-known summer resident of the Bear Mountain locality, as well as other sections of the Park. Its nesting sites are confined more to the woods than in the case of the Robin, though it is a regular dweller in park-like surroundings, especially where hard maples abound in the vicinity of water. At Highland Falls I noted a nest of a Robin and a Wood Thrush almost side by side in a little secluded nook along the busy road leading up from the railroad station to the main street of the town. In the small, rocky ravine overrun with vines, the Robin and Wood Thrush had chosen almost identical sites, both being on horizontal crotches of long bending saplings amid clustering vines. Both nests were about fifteen feet from the ground, and the sites were about twenty feet apart. The Robin sat on her nest facing the road, while the Wood Thrush sat facing the shrubbery back of the dark nook. In outward appearance the two nests greatly resembled each other, and my first thought was that two thrushes had selected sites unusually close together.

The Wood Thrush can be identified by the brighter reddish brown of the head and shoulders in comparison with the other upper parts. Its singing is quite different from that of the Veery, consisting of repeated ringing phrases, suggesting to me the general expression "war-dle-ee", the ending being lengthened and resonant in quality.

4. CHICKADEE. *Penthestes atricapillus atricapillus* (Linn.)

The Chickadee is a familiar bird of remarkably social and confiding nature, being one of the regular beneficiaries of the winter window sill and suet block offerings. In summer its social traits are not so manifest as in winter, for in the warmer season, after rearing its broods, it resorts more to the deep woods than to the gardens, orchards and dooryards. When it is wandering through the woods in late summer, it can usually be attracted to the observer by a whistled imitation of its plaintive "phee-wee" call, of which the first syllable is considerably drawn out. Its general color is whitish gray, with black on top of the head and throat.

5. LONG-BILLED MARSH WREN. *Telmatodytes palustris palustris* (Wils.)

The Long-billed Marsh Wren is a common, though not well-known resident of the cat-tail marshes of Iona Island in the vicinity of Bear Mountain. Its peculiar singing can be heard almost ceaselessly from the coverts of the swamp, but as the songster takes advantage of the deep vegetation it is difficult to get more than momentary glimpses of the diminutive skulker. The song is a rather harsh overflow of volubility, uttered from the top of a cat-tail stem, and as the author gives expression to his emotion he sidles down the stem into the enveloping mass of grasses, well hidden from view. The nest is a hollow mass of cat-tail and rush leaves, in form and size resembling a cocoanut, with an irregular orifice in the side for entrance and egress, and the site is generally near the top of the selected tuft of cat-tail. This wren is blackish brown, with the back spotted with white, a white line over the eye, and whitish underparts.

6. HOUSE WREN. *Troglodytes ædon ædon* (Vieill.)

The House Wren is one of the familiar birds of the locality, for its preference for human associations leads it to disclose its presence in its favorite haunts. One or more pairs had formed an attachment for the rear quarters of the Inn building, and their bubbling songs frequently drifted into the spacious dining rooms.

the voluble roundelays being always very acceptable to appreciative ears. The House Wren is brownish above, with the wings and tail faintly barred with black, and grayish below.

7. BROWN THRASHER. *Toxostoma rufum* (Linn.)

This species is commonly mentioned as one of the thrushes, but it has no relationship with this family, being closely related to the wrens. It can be readily distinguished from the true thrushes by its long pendant tail and its labored manner of flight. Its song is quite different from the productions of any true thrush, for it consists of a long series of varied phrases and expressions. The bird is better known than its relationship, however, and as it generally frequents the shrubbery near human habitations, where its songs are an enjoyable feature for bird lovers, this species is a general favorite. I found it nesting in the thickets of the boat landing grounds and near the Inn building, where it added its voice to the morning and evening choruses of bird music.

8. CATBIRD. *Dumetella carolinensis* (Linn.)

The Catbird is well known by its peculiar cat-like scolding note, though not all who know its call-note are familiar with its remarkable productions as a songster. Repeatedly, as it has uttered its brilliant recitals screened by convenient shrubbery, I have been asked what bird it was singing with such effect. The Catbird is easily identified by its uniform slaty gray color, except blackish on the top of the head and on the tail. I found it one of the common birds in the Bear Mountain locality, nesting in the shrubbery near the buildings, singing spiritedly throughout the breeding season.

9. AMERICAN REDSTART. *Setophaga ruticilla* (Linn.)

The Redstart is one of the common birds of the Bear Mountain locality. It is a very handsome warbler, with showy colors. The male has the head, throat, and upper parts black; the breast and sides are reddish orange, while the belly is white. The wings and tail are marked with salmon-red, these last markings showing conspicuously as the male flutters about the foliage of the trees in gleaning its insect fare. The female has less showy attire, with

the black replaced by gray and the orange by yellow. The male is a persistent songster in the nesting season, and the female also sings, though with less spirit and persistency. The singing of the female is more noticeable after the nesting duties are concluded and when she is leading the juveniles in the beginning of their independent career.

10. HOODED WARBLER. *Wilsonia citrina* (Bodd.)

This handsome warbler is known only by the interested bird student, though it is one of the commonest birds of the Bear Mountain locality and throughout the entire Park. Its prevailing color is yellow, with black so arranged on the head and throat as to suggest a hood, leaving the forehead and cheeks bright yellow. It frequents mostly the ravines and sloping gullies, and in such favorite spots its plaintive notes can be heard, ending in a characteristic expression of emotion. The song generally opens with several notes resembling the beginning of the Field Sparrow's song, almost invariably ending with a phrase suggesting to me the utterance "see-weety-it" or "see-weety-you," enunciated with considerable force and spirit.

On June 3 I found a nest of the Hooded Warbler on the boat landing and railroad station grounds of the Inn, in a shallow open ravine with scattered blackberry bushes, near where a male sang regularly with nuptial vigor. The nest was made in a small fork of blackberry, set against two parallel stems, about thirty inches from the ground. It was made outwardly of coarse weed bark and strippings, and lined with fine grasses, built rather deep and with thick walls. In the nest were four eggs, which later produced a brood that was raised successfully.

11. YELLOW-BREASTED CHAT. *Icteria virens virens* (Linn.)

The Yellow-breasted Chat is another common bird not well known to ordinary observers of bird life. At Bear Mountain it lives in the laurel thickets at the base of the mountain. It is the largest of the warbler group, with brownish olive upper parts, the distinguishing markings being bright yellow of the throat and breast. The face is lined with black and white, and the belly is white. The

Chat is a mocking warbler, and owing to the character of its noisy imitations the hearer usually refers the calls to the species imitated and does not suspect the presence of the Chat. It utters fair imitations of the Baltimore Oriole's cackling scolding, the Flicker's calls, and the notes of other birds resident in the locality.

On June 8 I found a nest of the Yellow-breasted Chat in the laurels at the base of Bear Mountain, in the shrubby angle where the trail starts up the mountain. The site was a low, thickset, densely flowering laurel shrub, in upright forks under the main leaf canopy, about two feet from the ground. When disturbed from the nest the female scolded me vigorously, saying "scamp" in very forcible manner. There were four helpless young in the nest.

12. MARYLAND YELLOW-THROAT. *Geothlypis trichas trichas* (Linn.)

The Maryland Yellow-throat is a very common species of the bushes and shrubbery, with a noticeable preference for the vicinity of water. It frequents the borders of swamps and marshes and the bushes of the pond shores. The male can always be known by the band of black across the forehead and eyes, with a border of ashy gray; both males and females have the throat and breast bright yellow. The male utters a forcible ringing song suggesting to my mind the phrase "witch-er-y, witch-er-y", or "weech-er-y", often repeated.

13. LOUISIANA WATER-THRUSH. *Seiurus motacilla* (Vieill.)

The Water-thrush is a common frequenter of the little stream-sides, where the water dashes over the stones and gurgles from rock to rock. Its song is a series of loud ringing "twit" notes. It can be identified by its habit of teetering its body in wagging its tail as it walks, even when on branches of trees. This Water-thrush has grayish brown upper parts, a white line over the eye, and an unspotted throat.

14. OVEN-BIRD. *Seiurus aurocapillus* (Linn.)

The Oven-bird frequents the dry open woods everywhere in the locality and throughout the Park, from the bases of the hills to



FIG. 17. Site of Oven-Bird's nest.



FIG. 18. Nest of Chestnut-sided Warbler, from near Bear Mountain.

their shrubby summits. Its favorite resorts are in timber where dead leaves are fairly exposed, with scattered fallen dead branches and a sparse growth of hardwood sprouts. I estimated that there was a singing male Oven-bird to every hundred yards of the trail up Bear Mountain. The Oven-Bird has brownish upper parts, a dull orange crown bordered with black, and spotted breast and sides.

On May 27 I found a nest of the Oven-bird on the slope above the office building near the Inn (Fig. 17). It was concealed amongst the dead leaves around a fallen branch. It was made of coarse grasses, arched overhead, and the entrance opening was floored with a large spreading dead leaf, as a sort of doormat. A brood of four was produced in this nest.

15. CHESTNUT-SIDED WARBLER. *Dendroica pennsylvanica* (Linn.)

This warbler is one of the common residents of the shrubbery throughout the Inn locality and everywhere in the Park domain. It is confiding in its disposition, of unsuspecting nature, and not averse to carrying on its business regardless of close observation of a quiet kind. It is a handsome little warbler, with conspicuous markings, having the top of the head yellow, sides of the throat black, and a chestnut stripe along the sides, partially concealed by the folded wings, which have yellowish bars. The song has a characteristic ending easily identified after close attention. The general song I annotate as follows: "Sweet sweet sweet sweet, see wee chew", with the second note of the ending, the syllable "wee", made emphatic.

On May 29 I found a nest of the Chestnut-sided Warbler along the road near the southeast entrance to the Inn grounds. It was in the shrubbery below the parapet, near the margin of the undergrowth. The site was in a very slender sprout, about three feet from the ground, where a slender creeping vine crossed a weak fork of the sprout (Fig. 18). The nest is constructed almost wholly of narrow dried grasses, with a scant amount of weed bark, woven rather loosely together, and lined with fine brown grasses and some horsehair. This nest produced a brood of four in due time.

16. YELLOW WARBLER. *Dendroica aestiva aestiva* (Gmel.)

The Yellow Warbler did not seem to be common at the Inn locality, as I observed it only once during the season there, near the entrance on the eastern side. This warbler may be recognized by its entire yellow color, with the breast and sides streaked with reddish brown.

17. GOLDEN-WINGED WARBLER. *Vermivora chrysoptera* (Linn.)

The Golden-winged Warbler is one of the common birds of the Bear Mountain locality. Its markings contain a variety of colors, but it carries three distinguishing features,—the yellow crown, black throat, and yellow wing patch, an unmistakable combination. The song of this warbler is also unmistakable when once known, consisting of the following arrangement: “Zee, dee dee dee,” with the first note drawled and lengthened; sometimes the opening note is followed by only two notes as “zee, dee dee.” The activities of the Golden-winged Warbler were most noticeable along the base of the mountain near the upper road leading from the office building into the interior of the Park (Fig. 6).

18. BLUE-WINGED WARBLER. *Vermivora pinus* (Linn.)

The Blue-winged Warbler somewhat resembles the Golden-winged Warbler in appearance, but it lacks the black throat in the trio of marks which distinguish the latter warbler. Its resorts are somewhat different also, for it seems to prefer more open bushy spots or the edges of woods bordering bushy clearings. The song of the Blue-winged Warbler is also very characteristic, being rather the reverse of the Golden-wing's production. I annotated the song as consisting of the syllables “zeee, deee,” the first drawled out and the latter burred or trilled. The song is weaker than that of the Golden-winged Warbler, being almost grasshopper-like, suggesting the weak expressions of one of the small sparrows. At Bear Mountain the Blue-winged Warbler was most frequently noted near the eastern entrance to the grounds, in the borders of the depression between the lawn and the river.

19. WORM-EATING WARBLER. *Helmitheros vermivorus* (Gmel.)

The Worm-eating Warbler is not well known, but it is one of the common birds of the Bear Mountain locality and the Park in general. Its colors are not striking, and because its song so closely resembles that of the Chipping Sparrow its presence is easily overlooked where the familiar little sparrow abounds. The warbler, however, does not frequent the places favored by the sparrow, for it prefers the ravine slopes above the base of the mountain, where it sings along the bases of the rock terraces, and hides its nest in the tufted vegetation and mosses of the ledges.

20. BLACK AND WHITE WARBLER. *Mniotilta varia* (Linn.)

This interesting little Warbler is a common summer resident of the Bear Mountain locality and the Park in general. It is observed most frequently in the dry woods, where the broken canopy permits a growth of laurels and other shrubbery, with frequent small water-margins. It can be readily identified by its peculiar markings, which consist of black and white streaks. The singing male generally selects a bare branch, shifting his station over a limited area and uttering a few songs at each resting-place. The full song may be suggested as follows: "Weese weese weese weese, eesel eesel, weese weese." Frequently the "cesel" portions are omitted, and the number of the "weese" notes may vary, but the general character of the song is quite uniform.

21. YELLOW-THROATED VIREO. *Lanivireo flavifrons* (Vicill.)

This vireo was observed only in the ravine and on the rock ridge south of the boat landing and railroad station of Bear Mountain Inn. It is more restless in its singing activities than the Red-eyed Vireo, traversing the limits of its song area from time to time as it utters its rich phrases of melody. In its singing it frequently utters a call closely resembling the scolding of the Yellow-breasted Chat. The Yellow-throated Vireo sings in more open and exposed positions than the Red-eyed, shifting its stations more actively, and frequently interspersing the Chat-like scolding with the regular songs. Moreover, phrases of two notes are more com-

mon in its singing than in the performance of the Red-eyed Vireo, and the notes of the Yellow-throated seem to excel the other's in force and spirit. The Yellow-throated Vireo appears to prefer a slightly higher average range of stations in the trees for its singing activities as compared with the Red-eyed. Its distinguishing mark is the bright yellow of its throat and breast.

22. RED-EYED VIREO. *Vireosylva olivacea* (Linn.)

The Red-eyed Vireo was observed at all places throughout the Park. Its singing is heard persistently during the entire summer season, and can be heard both in the vicinity of the buildings and on the higher parts of the hillsides. The nest is always situated in a fork of an outer twig, from which the firm structure is pendent, and usually from three to six feet from the ground. For instance, I examined a nest on June 3 in a small oak, at the outer part of a drooping branch, and about two feet from the corner of a small storage building. The fork selected for the site was about five feet from the ground. This nest had three eggs, which came to successful issue in due time. The distinctive marking of the Red-eyed Vireo is the white line over the eye, bordered with a black line above the white. In its song activities it is very leisurely, frequently singing for many minutes in a limited quarter of a tree, and manifesting no impulse to change to another tree unless disturbed.

23. CEDAR WAXWING. *Bombycilla cedrorum* Vieill.

The Cedar Waxwing, the so-called "Cherry bird" of the orchards in the fruit season, is common at the Bear Mountain locality and throughout the Park. It has no song to disclose its presence, but its weak lisping or sibilant note is enough to distinguish the handsome author of the call. Its colors are a deep cinnamon-lilac on the head and throat, with yellowish under parts, and tail tipped with yellow; the other parts are grayish brown; there is a distinguishing line of black from the bill through the eye. In late May the waxwings were still in small flocks, but along in June and early July they are mostly in pairs engaged in their nesting activities.

24. BARN SWALLOW. *Hirundo erythrogastra* Bodd.

The Barn Swallow was observed only at Hessian Lake in the Bear Mountain locality, where it was coursing over the water in quest of its insect fare. This swallow is distinguished by its deeply forked tail, a feature revealed at times as it turns in its aerial maneuvers. Its prominent colors are the chestnut of the forehead, throat and upper breast; the purplish blue of the upper parts; and the salmon-whitish under parts below the breast.

25. SCARLET TANAGER. *Piranga erythromelas* Vieill.

The Scarlet Tanager is one of the brilliantly colored birds of the region, but not so generally known as its handsome colors and full-voiced song might seem to warrant. Its entire plumage is bright scarlet, except the jet black wings and tail. As if to show these rich colors to fullest advantage, the bird has a trait of selecting exposed positions in the full sunlight to utter its songs, frequently in the crowning spire of a tall hemlock, or the bare top of a dead tree. The song is so much like that of the Robin that only the practiced ear can distinguish the differences.

26. INDIGO BUNTING. *Passerina cyanea* (Linn.)

The Indigo Bunting is common in the neighborhood of Bear Mountain and also elsewhere in the Park. It is a handsome little bird, quite properly called "Indigo bird" because of the deep indigo color which marks its entire plumage. It is a frequenter of the busy trails and the shrubbery of the broken woods, along the roadsides, stream-sides, and cleared margins of the forest. Its song is difficult to represent, but is one of the accompaniments of the heated season, its song period being prolonged into late summer.

27. ROSE-BREADED GROSBEAK. *Zamelodia ludoviciana* (Linn.)

The Rose-breasted Grosbeak, particularly the male, is one of the bird-beauties of the hardwood forest. It is noticeable because of its size, being nearly as large as the Robin. Its head, throat, wings and tail are black, the two latter being spotted with white; and the breast is rose-red, a feature which suggests the name of this species.

Its large, thick-based bill is another prominent feature by which the bird may be identified. Its song is a rich, full-voiced, melodious warble suggesting both the notes of the Robin and the Baltimore Oriole. The favorite resorts of the Grosbeak are the broken woods of maples, oaks, and other hardwoods over thickets of fire cherry, sumach, elder, and other fruit-bearing shrubs and trees.

28. TOWHEE. *Pipilo erythrophthalmus erythrophthalmus* (Linn.)

The Towhee is common in the Bear Mountain locality as a frequenter of the bushes and shrubbery along the roads, watercourses and ravines, wherever the ragged forest canopy admits of exposed growths of bushes. Clearings of any kind, grown over with sprouts and shrubs, are favorite haunts of the Towhee. It has been quite properly given the popular name of "Ground robin," both because it spends so much of its time on the ground scratching in the dead leaves, and because in size and markings it somewhat resembles the Robin. Its upper parts, with head, throat, and breast, are black, the wings and tail being spotted somewhat with white; the flanks are chestnut, and the belly is white. It is rather shy and wary while uttering its songs, diving down into the bushes when aware of observation.

29. SWAMP SPARROW. *Melospiza georgiana* (Lath.)

The Swamp Sparrow was noted only in the extensive marsh between the Inn grounds entrance and Iona Island, and there it was represented by a fair number of singing males. In coloration the Swamp Sparrow is very similar to the Chipping Sparrow, and its song closely resembles that of the latter, a trille louder, perhaps, and a degree sweeter in tone. From a station near the top of a stem of cat-tail, this sparrow sings persistently when undisturbed, though it is shy of observation and quickly changes its station to avoid the observer.

30. SONG SPARROW. *Melospiza melodia melodia* (Wils.)

The Song Sparrow is a common resident of the Bear Mountain locality, and its song is one of the productions heard persistently until late summer or even early fall. Common as is this sparrow,

it is not well known, for it should have an acquaintanceship as extensive as that of the Robin, Bluebird, and House Wren. It frequents bushes and shrubbery, especially along the margins of river, lake and brook, and it is not averse to the garden and orchard shrubs. It can be identified by its uniform streaked coat, with a prominent blackish spot on the middle breast. Like most of the sparrows, the Song Sparrow is disposed to elude observation, seeking the shelter of the bushy coverts when alarmed. It can always be studied along the bushy shores of swamp or lake.

31. FIELD SPARROW. *Spizella pusilla pusilla* (Wils.)

This interesting little sparrow is a frequenter of the open bushy tracts, clearings with low scattered bushes, or bare hillsides and meadows affording scattered clumps of shrubs. Its singing is a plaintive utterance, beginning with several similar notes and running into a hurried trill of similar tones. This relative of the Chipping Sparrow much resembles the latter, both having an unspotted breast, but the reddish brown bill of the Field Sparrow is a distinguishing mark, together with its preference for the more open bushy spots.

32. CHIPPING SPARROW. *Spizella passerina passerina* (Bech.)

The Chipping Sparrow is one of the common and familiar birds of the Bear Mountain locality. It frequents the margins of the woods, wherever open and scattered shrubs are interspersed with sapling and small tree growth, especially in artificial park-like spots supplied with small evergreens, particularly hemlock, fir, and cedar. Its favorite nesting sites are the tops of the small evergreens, either isolated or in the edge of a thicket of fire cherry, sumach, aspen, birch, maple or other clustered sapling growth. The Chipping Sparrow can be distinguished from the Field Sparrow by its black bill, and the black line through the eye bordered by a white line above. The song of the Chipping Sparrow is quite different from that of its relative, consisting of a series of uniform notes resembling the syllable "chip". The nest is generally composed of a small amount of fine dried grass with a considerable inner wall

of horsehair, from which feature this sparrow has been popularly styled the Hair-bird.

33. GOLDFINCH. *Astragalinus tristis tristis* (Linn.)

The Goldfinch is a common resident of the Bear Mountain locality. Its presence is disclosed by its songs and plaintive call-notes in late spring and summer, as its nuptial season is somewhat later than that of the summer residents which are more migratory in habit. The male Goldfinch is a handsome little fellow, with lemon-yellow plumage marked with black on the top of the head, wings and tail. The favorite fare of the Goldfinch is the seeds of composite flowers; it can be seen clinging to the heads of thistle, and feeding on the ripened heads of dandelion. Ripening birch seeds afford the Goldfinch choice food, and in searching for fruit-bearing plants and seeds the birds, usually in pairs, can be seen swinging overhead in billowy flight, uttering the familiar "chick-er-ee" calls. The Goldfinch also uses a plaintive call-note resembling the syllable "pee", by which it can be easily identified. The nesting season of the Goldfinch generally is delayed until July.

34. PURPLE GRACKLE. *Quiscalus quiscula* (Linn.)

The Purple Grackle is not common in the interior of the Park, and at Bear Mountain was noted only near the river and in the lower cultivated districts.

35. BALTIMORE ORIOLE. *Icterus galbula* (Linn.)

The Baltimore Oriole is one of the common birds of the Bear Mountain locality. It prefers the tall trees of the river bank, lake shore, and lawn, and margins where isolated trees of its preference abound. The tulip tree, maple and cottonwood are favorite selections as sites for its pendant nest. The Baltimore Oriole is so handsomely marked with striking colors, and its singing so rich and full-voiced, that this bird is commonly known and a general favorite. Its upper parts are chiefly black, with the lower back and under parts, except throat, reddish orange. The Oriole is noted for its pensile or hanging nest, made of vegetable fibers and shreds, suspended near the extremity of a branch of a large tree.

36. RED-WINGED BLACKBIRD. *Agelaius phoeniceus phoeniceus*
(Linn.)

Wherever there are swampy spots of stagnant water supporting the button-bush and clumps of sprouts, the Red-winged Blackbird makes itself at home. It is a blackbird with scarlet marking on the bend of the wing, showing prominently in flight, the scarlet patch being bordered by buffy white. The male only has this showy coloration, the female being everywhere streaked with gray and brown, with buff ground color on the breast. The song notes of the male can be suggested by the syllables "o-ka-lee", with the last syllable finely drawn out.

37. STARLING. *Sturnus vulgaris* (Linn.)

Like the English Sparrow, the Starling is a species introduced into America from Europe. It has become common in the parks in the vicinity of New York City, and can be observed at Bear Mountain Inn, frequenting the river shores and the margins of Hessian Lake. It closely resembles a blackbird, especially the Cowbird or an undersized Purple Grackle at a distance, but its yellow bill is a certain mark to establish its identity.

38. CROW. *Corvus brachyrhynchos brachyrhynchos* Brehm

The Crow is a regular and familiar resident of the Bear Mountain locality and throughout the Park. It prefers the tall trees of the river banks and the heavy woods of the mountain's base, generally keeping well out of harm's way as it forages for its daily fare. A family of crows lived in the wooded ravine near the inner entrance to the Inn grounds, and their noisy confabulations enlivened the early mornings along that portion of the mountain's base.

39. BLUE JAY. *Cyanocitta cristata cristata* (Linn.)

The Blue Jay is a well-known resident of the Bear Mountain locality. Its large size, its harsh, screaming calls, and its frequent disturbances with other birds, bring it into notice wherever it lives. Its showy colors, bright blue on wings and tail, and grayish blue on other upper parts, with black collar under the grayish throat,

and the conspicuous crest, render the Blue Jay a striking member of the avian society. It has a bad reputation, however, from its propensity to violate the homes of smaller birds, and there is usually a great outcry from nesting birds when a Blue Jay appears in their vicinity. The Jay frequents the broken margins of the woods along the river shore, lakes, and basal ravines of the hillsides, wherever oak woods abound.

40. LEAST FLYCATCHER. *Empidonax minimus* (W. M. & S. F. Baird)

This little flycatcher is common in the Bear Mountain locality. It frequents the broken woodlands where there are open spots amid shrubs interspersed with hardwood trees of medium size, cleared margins of lakes and streams, and hillsides with scattered trees and bushes. Its call is usually translated as "che-*bec*", accented on the ending syllable, but I am frank to say that my personal impressions of the call always make the opening syllable more emphatic to me. The small Flycatchers are difficult to distinguish one from another except by close comparisons with the birds in hand, their varying habits serving as the best guides to the identity of the species in question.

41. WOOD PEWEE. *Myiochanes virens* (Linn.)

The Wood Pewee is common in the Bear Mountain locality, frequenting the broken woods of the boat landing grounds, the margins of the lake, and the openings of the forest along the roadway at the base of the mountain. Like all the flycatchers, it chooses a station on a bare or dead branch, from which it sallies out in its quest of insect food, alighting again at a similar station to watch for flying insects. The call of the Wood Pewee is a plaintive "pee-a-wee", announcing its presence in the neighborhood to which it limits its activities, and giving animation to the otherwise silent woods in late summer until well into August, when perhaps only it and the Red-eyed Vireo have not been silenced.

42. PHOEBE. *Sayornis phæbe* (Lath.)

The Phoebe can be seen and heard in the vicinity of the out-buildings, bridges, and cabins near water throughout the Bear

Mountain locality. It resembles the Wood Pewee, but can be readily distinguished from the latter by the different call, consisting of the syllables "phee-wee" uttered in nervous, emphatic manner, generally with the accent on the leading syllable. It constructs a nest of mud, decorated with moss and lined with hair, on a horizontal beam or rafter, in the angle of a cornice, or under protecting boards or framework on bridges over running water.

43. CRESTED FLYCATCHER. *Myiarchus crinitus* (Linn.)

The Crested Flycatcher is a common bird of the region, though not well known, despite its harsh, noisy calls and its activity in open surroundings. It is the largest of the flycatchers of this locality, and its markings make it prominent. Its upper parts are dark brown, the tail with a decided reddish tinge in flight; the throat and breast are ashy; the especial distinguishing color is the sulphur-yellow of the belly, together with more noticeable crest than marks any other of the flycatchers here. It frequents the broken margins of the woods along the river, lake, and mountain base, preferring tall trees with bare or dead branches in the top.

44. KINGBIRD. *Tyrannus tyrannus* (Linn.)

The Kingbird is a well-known summer resident of the Bear Mountain locality. It can be identified by its partially concealed crest, the blackish upper parts, white of the tip of the tail, and grayish under parts, together with its clamorous calls, its pugnacious disposition, and its flycatcher manner of sitting in an exposed station, on a telephone wire or bare tree-top, waiting to sally forth after a passing insect, or to give angry chase to a hawk or crow.

45. RUBY-THROATED HUMMINGBIRD. *Archilochus colubris* (Linn.)

This hummingbird is a common summer resident of the Bear Mountain district. Because of its diminutive body, the showy metallic colors of the male, and general unmistakable characteristics and habits, the hummingbird is well-known and an object of special interest. The Ruby-throated species, the only hummingbird belonging to our eastern avifauna, may be known by the ruby-red color of its throat, and the bright green of the upper

parts. The female lacks the brilliant throat marks, but as a hummingbird she is easily identified. On May 25 I watched a female hummingbird shaping the foundation of her nest. She had chosen a site on a dead twig drooping below a spray of green leaves, in the lowest branches of a young oak tree on a rocky wooded slope near Iona Island station. In several of her visits to the nest she did not appear to carry material, but would perch on the edge of the little downy mass or in it to press it into shape. No male was seen while I watched her movements.

46. CHIMNEY SWIFT. *Chatura pelagica* (Linn.)

The Chimney Swift is the leading aerial navigator of the region, flying here and there over the open areas and above the woods in its tireless quest for winged insects. It is not really a swallow, and can easily be distinguished from the swallows by its stubby, cigar-shaped tail, and the submarine form of its body, and its uniform very dark brown plumage. In flight it utters a loud chattering, chipping series of short notes, easy to recognize.

47. WHIP-POOR-WILL. *Antrostomus vociferus vociferus* (Wils.)

It was ten o'clock on a clear moonlight evening, May 24, when I first walked up the gradient leading to Bear Mountain Inn from Iona Island. I paused to read the words, "Entrance to Bear Mountain Inn", and at that moment there came across the little lawn-plain a familiar call, "whip-poor-will", oft-repeated, as a kindly welcome and an earnest of good ornithological things to come, wafted as an added element of charm to my first evening walk at Bear Mountain. This evening voice, heard on various occasions during my stay at the Inn, comprised all my knowledge of the Whip-poor-will in that locality, but elsewhere in the Park it was my fortune to experience a closer intimacy with this interesting bird, as noted under the comments in Chapter IV of this report.

48. FLICKER; NORTHERN FLICKER. *Colaptes auratus luteus*
Bangs

The Flicker is the common woodpecker of the region. Its size makes it a prominent feature in the bird life of the locality,

together with its noisy calls, its showy colors, and its familiar habits. The golden yellow color of the under side of the wings and tail, and the white rump patch which shows prominently in flight, render this woodpecker unmistakable. It frequents the broken woods of the locality, spending much of its time on the ground, where it searches for ants, a favorite part of its varied diet.

49. DOWNY WOODPECKER. *Dryobates pubescens medianus*
(Swains.)

The Downy Woodpecker is a regular resident of the Park region, and fairly common around Bear Mountain. It is unmistakable as a woodpecker, but in appearance it resembles the Hairy Woodpecker, though the latter is noticeably larger. The Downy generally announces its presence near the observer by a sharp call-note "pleek", uttered when it arrives at a selected foraging station, commonly in the lower portion of a tree or in the upper strata of the shrubbery and saplings.

50. HAIRY WOODPECKER. *Dryobates villosus villosus* (Linn.)

The Hairy Woodpecker is observed regularly in the Bear Mountain locality, though it is not so common as the Downy. In coloration the Hairy resembles the Downy, its call-note is similar but louder and more forcible, and its actions and movements are much like those of its smaller relative. It frequents the same localities as the Downy, but in general it seeks a higher range of vegetation for its activities, and surroundings with more of the wildwood aspect.

51. BELTED KINGFISHER. *Ceryle alcyon* (Linn.)

The Kingfisher is common in the Bear Mountain locality, where it frequents the river banks, lake shores, and stream sides. It is noticeable on account of its large size, its harsh calls, and the conspicuous crest. Its upper parts are grayish blue; its lower parts are whitish, with a bluish gray band across the breast. The female has chestnut on breast and sides instead of the bluish gray of the male. The Kingfisher may be seen perched on some bare vantage-point along the water margin, from which it sallies out over the

water, hovering perhaps over an expected victim below, and then making a plunge in pursuit of finny prey.

52. BLACK-BILLED CUCKOO. *Coccyzus erythrophthalmus* (Wils.)

The Black-billed Cuckoo is one of the common birds of the Bear Mountain locality. On May 27 I observed a specimen of this cuckoo at close range, as it perched in a small tree by the roadway into the Inn grounds. It was swallowing a caterpillar when first seen, and it sat quietly during further observation. This cuckoo can be readily identified by the red circle around the eye, besides the full black bill. The calls and song notes of this cuckoo are so similar to those of the Yellow-billed species that only the expert bird student can distinguish the differences and be certain regarding the authorship of the call.

53. YELLOW-BILLED CUCKOO. *Coccyzus americanus americanus* (Linn.)

This cuckoo is not nearly so common at Bear Mountain and elsewhere in the Park as the Black-billed species. The two are so similar in appearance that it requires experienced observation to distinguish one from the other. The Yellow-billed Cuckoo has the lower mandible of the bill yellow, whereas the bill of the other species is all black. The Yellow-billed species has the three outer tail feathers prominently marked with large white terminal spots, while the Black-billed species has only small white tips on all except the inner pair of tail feathers. The Yellow-billed Cuckoo, besides the differences mentioned to distinguish it from the Black-billed species, shows in flight an area of wing-marking of a decided cinnamon tinge.

54. AMERICAN OSPREY. *Pandion haliaëtus carolinensis* (Gmel.)

The Osprey, or Fish Hawk, is apparently not common in the Bear Mountain locality, and only once I observed it hawking above the river. In appearance it somewhat resembles a large hawk or a small edition of an eagle. It can readily be identified by its grayish brown upper parts, with head, neck and under parts white. no hawk or eagle having similar markings.

55. BALD EAGLE. *Haliaeetus leucocephalus leucocephalus* (Linn.)

A pair of Bald Eagles, in immature plumage, were frequently observed at Bear Mountain, generally as they were in flight between Anthony's Nose and Dunderberg. On several occasions a fine adult, with splendid white head and tail, was seen flying over the river in the locality. On August 2, as I was leaving Highland Falls station on the West Shore railroad, I saw this majestic bird flying slowly down the Hudson river, its white head and tail showing with snowy clearness in the sunlight as it coursed to and fro above the water. A half hour later, after I had arrived at the Park and was on the Inn grounds, the stately bird came flapping along the river around Anthony's Nose. It is to be hoped that no untimely event will end the association of this splendid bird with the Hudson river at Bear Mountain.

56. BROAD-WINGED HAWK. *Buteo platypterus* (Vieill.)

The Broad-winged Hawk was the only Buteo that came under my observation in the Bear Mountain locality. On several occasions two of these hawks were seen soaring over the basin opening into Doodletown Valley. The cry of this hawk resembles the call-note of the Wood Pewee, wilder and more intensified. Aside from its cry, this hawk has no distinctive markings which aid in its identification by beginners in bird study. Its upper parts are dark brown, and the under parts are brownish, spotted with white.

57. RUFFED GROUSE. *Bonasa umbellus umbellus* (Linn.)

The Ruffed Grouse still lingers in the woods of the Bear Mountain locality, but it is not numerously represented. I found it only on the top of Bear Mountain, and there saw only solitary individuals, lurking in the maple and birch swamps on the crest of the mountain.

58. SPOTTED SANDPIPER. *Actitis macularia* (Linn.)

The Spotted Sandpiper is common in the Bear Mountain section, frequenting the river banks and lake shores. It can be known by its stilt-like legs and slender neck, with a body about the size of

the English Sparrow's. It has a noticeable characteristic of teetering its body up and down, as if likely to fall forward but catching itself in time. This sandpiper can also be recognized by its loud, plaintive call-notes, resembling the syllables "pceet weet" accented somewhat on the first syllable. The Spotted Sandpiper has light brown upper parts, whitish under parts, and over all it is marked with indistinct blackish spots.

59. GREEN HERON. *Butorides virescens virescens* (Linn.)

The little Green Heron was observed regularly at the marsh between Iona Island station and Bear Mountain. Generally two birds were seen, and I inferred that a pair had a home in the vicinity of the marsh. The greenish hue of the upper parts, with the greenish black of the crown, serve to distinguish this heron at a distance. In flight it might be taken for a crow, but careful discrimination will show its different appearance in form and manner. When perched in a favorite station, generally the dead top of a small tree in the marsh, the peculiar humped position of the Green Heron is a characteristic assisting identification, for its elongated neck is not apparent when the bird is thus perched.

60. HERRING GULL. *Larus argentatus* Pont.

Without being over-positive regarding the accuracy of identification I noted, June 1, a specimen of this gull flying along the marsh toward the river, near the southeast entrance to Bear Mountain Inn. The bird was in the grayish white plumage, and was doubtless a young one of the year ranging abroad on an independent foraging trip, as there was no evidence that a family or colony of this gull lived in the neighborhood.

THE BIRDS OF THE VICINITY OF THE GUEST HOUSE

Description of the Guest House Region. The Guest House and its environment make it a most attractive center of bird activity. It is located on the road to Johnstown, about an eighth of a mile from the junction of that road with the Bear Mountain-Tuxedo Drive (Seven Lakes). The house is situated on a rocky



FIG. 19. The approach to the Guest House, showing open character of the forest. A favorable site for bird study.



FIG. 20. Opening through the forest from the Guest House to Little Long Pond, with portion of Hemlock Hill in the background.

knoll, with an attractive dooryard in front along the highway (Fig. 19), and a scrub-growth hillside back of it sloping down to the head of Little Long Pond, one of the Kanahwauke Chain of Lakes (Fig. 20). On the western side of the lot (Fig. 21), which comprises about five acres, a wet weather stream course supports a growth of native trees, and along the remainder of its way to the pond and brooklet feeds a swamp thicket of undergrowth of representative composition. The Guest House premises as a whole comprise three bits of attractive bird habitats, the front dooryard (Fig. 22) with the adjacent open ravine, the dry upper portion of the knoll below the house, and the swamp thicket at the foot of the knoll overhanging the lake. The three are so closely associated in the small area that each is a part of the others and its value is inseparable from the whole.

The neighboring features reinforce the attractiveness of the Guest House locality as a bird resort. On the north, in almost impending nearness, looms the rock-terraeed, forested face of Hemlock Hill, meeting the Tuxedo Drive at the edge of Little Long Pond, and rearing its wooded ledges five hundred feet above the water, or about thirteen hundred feet above the Hudson tide level. At the rear of the Guest House lot, the head of Little Long Pond offers a desirable margin for swamp and water birds. The Pond is one of a group of three splendid lakelets occupying a broad irregular trough formed by magnificent wooded mountains. In fact, the Guest House lot is an ideal location at the head of a beautiful valley, and hence merely an incidental bit of a region especially attractive to birds.

Vegetational Features. The front dooryard of the Guest House premises, surrounded as it is by the diversified forest, mountain, and water features of the general habitat, has the additional attractions of ornamental and orchard trees, placed with artistic wild-wood effect. Furthermore, several native trees growing on the house site have been left standing through orifices in the front and rear porches of the building. Among the trees contributing to this delightful bird resort are black cherry, apple, chestnut-oak, small red cedars, white oaks, pignut hickory, walnut, sugar



FIG. 21. The lawn at the Guest House, looking to the East, showing wooded surroundings.



FIG. 22. The open lawn about the Guest House.

maple, red maple, shagbark hickory, blue beech, black oaks, chestnut, and birches. A fine white ash occupies a commanding site on the crest of the front-yard knoll, while on the right margin of the yard a fine tulip tree is dominant and a sturdy maple holds commanding sway on the left hand margin. The wet-weather brook grove at the right of the dooryard contains an irregular open growth of tulip trees, birches, maples, oaks, and hickories, with no undergrowth except sprouts of the parent trees. The overtopping ledges of the knoll at the rear and east side of the house are overgrown with huckleberry, sumach, bramble, woodbine, and wild grape, while the dry edges of the knoll back of the house support a scrub growth of oaks, hickories, maples, birch, and hemlock, with undergrowth of sassafras, huckleberry, witch hazel, laurel, sumach and sweet fern, besides saplings and sprouts of the native hardwoods. In the swamp thicket between the house and the pond shore are tulip trees, birches, alders, willows, maples, dogwood, aspens, basswood, sumach, wild grape, and fire cherry. The shore line of the pond is thick-set with buttonbush, alder, birch, and maple saplings, almost isolating a swamp-grass and cat-tail marsh of small extent which adjoins the premises as an additional factor of influence in the bird life of the locality. On neighboring premises are bits of meadow and garden, with berry patches and orchard trees, all so near that the sounds of the calls and songs of the birds therein form an essential part in the Guest House environment.

An examination of the environment near the Guest House shows that the forest encompassing Little Long Pond includes the following trees: walnut, butternut, shag-bark hickory, cottonwood (*Populus*), sugar maple, beech, white ash, birches, chestnut-oak in large percentage of occurrence, linden or basswood, tulip tree, chestnut (blighted or dead), sassafras, silver or white maple, red maple, black cherry, fire cherry, hemlock, white oak, black oak, aspens, buckeye (in small proportion), red cedar, paper or canoe birch, black birch, and various hickories. These species are listed in the order of their occurrence in a trip around the Pond, beginning along the western end and going toward Kanahwauke bridge, returning along the trail on the eastern shore of the Pond. With these trees the following shrubs and vines are associated: sumach,

alder, wild grape, blackberry, raspberry, purple-flowering raspberry, witch hazel and striped maple, mixed everywhere with saplings of the native trees. The general ground cover consists of aralia, laurel, swamp fern, huckleberry, sweet fern, and young growth of everything forming the forest canopy and shrubby undergrowth.

List of the Birds of the Vicinity of the Guest House

In the following list, common birds which have been described rather fully in the preceding chapter will be mentioned only briefly, to avoid repetition; and only such comments will be given here as will more fully describe species mentioned briefly in the preceding list. It is intended that these two chapters shall constitute an introduction to the summer birds of the Palisades Interstate Park.

1. BLUEBIRD. *Sialia sialis sialis* (Linn.)

The Bluebird is apparently not common in the Park. My first notice of it was at Blauvelt, June 21, beyond the limits of the region described in this report, where a family was observed working around the building of the military training grounds, and occasionally their subdued warbles were heard. On July 31 an adult Bluebird and two others were seen at Kanahwauke Lake, on the telephone wire. One of the juveniles uttered a short warble in a quiet, plaintive tone. On August 1 I found Bluebirds frequenting an old pasture hillside near Johnstown, outside of the Park property.

2. ROBIN. *Planesticus migratorius migratorius* (Linn.)

The Robin is common everywhere in the Guest House neighborhood. At the camps on the various ponds and lakes it nests in familiar places, often on beams of porches, corners of cabins regularly in use, or any site it fancies along trails, roads, or near out-buildings. On June 13 I found a Robin's nest in the edge of the woods near the Guest House garage. It was made in a hollow of the fork of a dead chestnut tree, about four feet from the ground,

an ample and firm-based site. On June 18 I examined a nest of the Robin in a small hemlock tree in the margin of a small open fern patch east of the Guest House. The little tree was standing alone, and the nest was about four feet from the ground near the top of the seven-foot hemlock, on horizontal forks of a radiating branch, and about six inches from the central shaft of the tree. A pair of Robins nested in a medium-sized oak tree near the dining cabin of the Guest House. In all localities of the neighborhood Robin music was a pleasant feature of the summer season, particularly in the morning chorus and in the performances of specially gifted songsters after sunset.

3. VEERY; WILSON'S THRUSH. *Hylocichla fuscescens fuscescens* (Steph.)

The Veery is more common around the lakes of the Kanawauke group than at Bear Mountain. The swamp shores of the ponds afford this retiring bird the covert it desires, and its song and call-notes are frequently heard issuing from the thicket. Moist depressions in the woods, overgrown with birch and swamp fern, are favored resorts of the Veery. East of the Guest House the trail around Little Long Pond crosses a small birch-fern swamp, and from thence the evening songs of the Veery can be heard on the Guest House premises. On July 2 I visited this little swamp, and there the Veery was singing and scolding. An old nest was located on a little mossy mound surrounded by swamp weeds. The mound was formed by humus or decayed sticks. The nest was made of coarse weed stems, dead leaves, and decaying swamp litter. It had thick walls buttressed to nearly a foot across the foundation, and was lined with soft dead leaves. The mound was in open growth of large swamp fern, near the narrowest part of sluggish running water in the area.

4. WOOD THRUSH. *Hylocichla mustelina* (Gmel.)

The Wood Thrush is represented in the Guest House locality in about the same proportion as at Bear Mountain.

5. CHICKADEE. *Penthestes atricapillus atricapillus* (Linn.)

The Chickadee is the same familiar, confiding member of the bird association at the Guest House as at Bear Mountain, and its habits are everywhere the same. It can always be identified by its grayish attire, with top of head and throat black, and by its clinging attitudes among the twigs and smaller branches as it searches for hidden insect eggs and larvæ.

6. WHITE-BREASTED NUTHATCH. *Sitta carolinensis carolinensis* (Lath.)

The White-breasted Nuthatch was observed by me only at Carr Pond, in the Guest House neighborhood. On July 10 an adult and a young bird were feeding quietly and contentedly in a second-growth oak, and both frequently uttered the characteristic "yank" call-note. This nuthatch can be recognized by its bluish gray upper parts, marked on crown and back of neck by black; by its habit of clinging to the trunk and large branches of trees; and by its peculiar call-note represented by the syllable "yank" uttered with a decided nasal effect.

7. HOUSE WREN. *Troglodytes ædon ædon* (Vieill.)

The House Wren is one of the common and familiar birds of the Guest House neighborhood. A pair of Wrens had a nest in a cavity at the end of a broken branch of an apple tree in the front dooryard of the lot, and the singing of these diminutive birds, with their energetic scolding at times and their persistent activity, made them prominent members of the avian association.

8. BROWN THRASHER. *Toxostoma rufum* (Linn.)

The Brown Thrasher is common in the shrubbery near the cabins on the lakes of the Kanahwauke group. While this bird is somewhat shy and retiring, skulking in the coverts it chooses as its resorts, it does not get far from human associations and manifests a preference for clearings and cultivated areas, rather than the primeval wildwood. On July 9 I found a nest of the Brown Thrasher along the road, in full exposure, near the east shore of

the new pond of the Kanahwauke group. The site was a fallen branch among sapling stems, about six feet from the ground. No surrounding foliage protected the structure from observation from the open road only several feet away. There were four or five hatched young in this nest. When disturbed at such visitations to their nest, the parent birds utter a queer scolding note resembling a harsh smacking noise.

9. CATBIRD. *Dumetella carolinensis* (Linn.)

The Catbird is very common in the Guest House neighborhood. It frequents the shrubbery of the lake shores, nesting in the bushy tangles, feeding on the ripening fruits of the summer, and uttering its sweet songs in subdued manner as the season advances and ebbs, lurking in the thickets where it can give itself to its melodious crooning without observation. The Catbird is one of the most gifted of our native songsters, as well as the author of a harsh cat-like call.

10. AMERICAN REDSTART. *Setophaga ruticilla* (Linn.)

The Redstart is one of the common birds of the Guest House neighborhood. On June 12 I found a nest of the Redstart in the top of an apple tree alongside the stone wall near the garage at the Guest House. It was in an upright fork, about twelve feet from the ground. I found the nest by watching the female as she made repeated trips to the tree in working on the nest. Later I examined this nest, after it had been deserted, and found two eggs in it, the owner having probably been frightened from the place by parties passing along the road trying to knock green apples from the tree. Previous to this I had not known an instance of a Redstart choosing a site for a nest in a domesticated fruit tree, hence I mention it here. Another nest of the Redstart on the Guest House lot was in a young blue beech (*Carpinus*), in the grove on the west side of the front yard. The site was typical, in an upright fork of a small branch and the main stem, about ten feet from the ground. The nest is a snug little structure, fitting firmly in the fork, and made of grayish bark strippings, with a lining of finer grasses and horsehair (Fig. 23).

11. HOODED WARBLER. *Wilsonia citrina* (Bodd.)

The Hooded Warbler is common in the Guest House locality, as its characteristic singing was heard throughout the vicinity day after day. On my first day at the Guest House I made note of a male Hooded Warbler singing with force and persistency in the shrubbery between the House and the Pond, and its favorite station appeared to be one of the large trees immediately back of the little dining cabin. This was on June 9, and thereafter the singing



FIG. 23. Nest of Redstart, from near Guest House.

of this songster was noticeable for a month as a part of the chorus from the scrub growth at the rear of the Guest House lot.

12. MARYLAND YELLOW-THROAT. *Geothlypis trichas trichas* (Linn.)

The Yellow-throat is common everywhere along the shores of the ponds wherever low bushes are in the vicinity of water. On June 14 I examined a nest of the Maryland Yellow-throat (Fig. 24),

made in a large tussock of grass in water along the edge of Little Long Pond, near the Guest House boat landing. The nest was placed in the middle of the base of the thick growth of tussock stems, open above but completely surrounded by the heavy grasses. There were young in the nest, and the female was hovering them when I intruded upon her home. When leaving the nest she slipped mouse-like between the stems and flitted to neighboring vegetation in the water before taking wing. This nest (Fig. 25) was made outwardly of dead leaf fragments, coarse grass stems, and dried grass leaves. Smaller dead grasses were used for the interior. It had thick walls, loosely woven, with much loosely attached material.

13. LOUISIANA WATER-THRUSH. *Seiurus motacilla* (Vieill.)

The Water-thrush is common in the Guest House neighborhood, in association with the little brooks that hurry down over the rocks to the lakes and ponds. A pair of Water-thrushes frequented the little brook in the western portion of the front lot, until it dried up in early July. The Water-thrush resembles its relative, the Oven-bird, but the peculiar habit of the former in teetering its body as it walks aids in distinguishing it from the Oven-bird. The two, however, are not associated in the same resorts; the Oven-bird chooses the dry woodlands, while the Water-thrush prefers the near vicinity of dashing brooks and seldom leaves the immediate stream-sides.

14. OVEN-BIRD. *Seiurus aurocapillus* (Linn.)

The Oven-bird is very common in the Guest House neighborhood. It frequents the dry hillsides, where there is comparatively little green undergrowth and where the exposed ground is strewn with dead leaves, with scattered laurel of low growth interspersed with low sprouts. The gently sloping wooded knoll across from the Guest House in front is a typical haunt of the Oven-bird, and there its notes were heard ringing out with vigor and persistency. The song stations of the Oven-bird are generally the branches on the lower part of the large trees, with the result that on the slopes ahead the song appears to be uttered while the bird is on the ground. It is well for the observer, in seeking to get a glimpse



FIG. 24. Site of nest of Maryland Yellow-throat, in the tussock of grass near the center.



FIG. 25. Detail of the tussock of grass in which the Maryland Yellow-throat nested.

of a singing Oven-bird, to look among the branches in the lower half of the tree ahead in a line with the apparent source of the song. The song is a crescendo rendering of the words "teacher, teacher, teacher, teacher, teach," each expression ringing out with greater force and spirit than the preceding until the end. The distinctive markings of the Oven-bird are the orange crown, bordered by black. The upper parts are dark brown, and the under parts are whitish, spotted with black.

15. CHESTNUT-SIDED WARBLER. *Dendroica pennsylvanica* (Linn.)

The Chestnut-sided Warbler is very common in the Guest House locality, where its habits are quite characteristic, as described in the previous chapter. On June 9 I noted that this warbler was active in the shrubbery near the Guest House, and there regularly a male came into the trees at the rear porch, singing and gleaning with the unconcern of a Chipping Sparrow.

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

The finding of this warbler nesting near the Guest House was a most unexpected incident of my experience in the Park, as it undoubtedly establishes a record of the Black-throated Blue Warbler's summer occurrence in the Highlands. The male of this warbler can be readily known by its black head, neck, breast, and shoulders, with white under parts and prominent white wing marks, while the other upper parts have a decided bluish tinge. The song of this warbler, also, is characteristic, consisting of a series of notes like "zee zee zee zee, deee," with the last syllable emphatically lengthened.

It was on June 15 when I first found the Black-throated Warbler, in a little ravine near the top of Hemlock Hill, where a level-floored trough extends along the base of a perpendicular rock terrace. The ravine was dry, fairly well lighted by openings in the forest canopy, with a ground cover of laurel, ferns, weeds, and hardwood sprouts. The tall trees in the ravine were yellow poplar, hemlock, beech, oak, chestnut, and maple, with hardwood saplings. The male warbler was singing up and down the ravine, passing above



FIG. 26. Site of nest of Black-throated Blue Warbler, near the top of Hemlock Hill.



FIG. 27. Nest of Black-throated Blue Warbler, exposed to show location, Hemlock Hill.

me in the tree tops and going on, moving rather energetically from one tree to another as he uttered his songs. Selecting what I thought to be the center of his song range, I began to search the shrubbery, and soon my eye caught sight of the nest. It was in chestnut sprouts, at the base of two tall slender oaks (Fig. 26). The nest was fairly well exposed, in a very slender forking chestnut sprout, about eighteen inches from the ground, the slender sprout being supported by a stronger dead sprout. It was a strong nest, with compact walls made outwardly of coarse bark strippings and vegetable fibers, with some coarse loosely hanging bark and skeleton leaf material (Fig. 27). On that day the nest contained two eggs, but no female was seen near it at the time, and only after a half hour's wait did I hear a faint "chip" announcing her presence nearby. On June 18 I visited the place, and there were four eggs in the nest.

The Black-throated Blue Warbler was not seen by me elsewhere in the Park, and this incident of its nesting was exceptional.

17. YELLOW WARBLER. *Dendroica aestiva aestiva* (Gmel.)

The Yellow Warbler did not appear to be any more common in the Guest House neighborhood than at Bear Mountain. In fact, my only note of its occurrence was on June 28, when a specimen was observed at Kanahwauke Lake, among the sapling growth at the roadside near the bridge.

18. GOLDEN-WINGED WARBLER. *Vermivora chrysoptera* (Linn.)

It was at the Guest House that I had opportunity to study advantageously the interesting Golden-winged Warbler. On June 9, my first day of observation, I noted frequently the singing of this warbler in the trees at the rear of the House, and particularly in the bare top of a dead chestnut rising above the shrubbery. On June 12 I located a pair of Golden-winged Warblers feeding young in a nest hidden among swamp ferns in the edge of a little swamp along the road, on the premises immediately adjoining the Guest House lot on the east. After getting a fair idea of the location of the nest, I got down among the ferns, and, parting the soaked vegetation carefully with my hands, I found the nest. It

was set beside the base of a fern clump, low on the ground. When it had served its purpose and the young birds had left it, I collected the nest. It was so constructed in the site among the stems that it had no firmness of walls to give it shape upon being removed. It was made of fragments of dead leaves and bark of shrubs and vines, with a very little bedding of fine grass, all the material being dark brown in color, and almost moist while in place.

On June 14 I made further notes regarding the singing of the male Golden-winged Warbler in the dead chestnut top back of the Guest House, as a favorite vantage point for the utterance of its drawling, wheezy songs, where it sat bathed in the sunshine of the early morning. When thus singing the bird is not disturbed by observation, though it seldom remains long in one station.

19. BLUE-WINGED WARBLER. *Vermivora pinus* (Linn.)

The Blue-winged Warbler occurs in the Guest House neighborhood in about the same proportion of representation as at Bear Mountain. There is a particular piece of broken woods interspersed with shrubbery along the Tuxedo Drive, just beyond the junction of the Johnstown road with it near the Guest House, and I mentally characterized this piece of bushy woodland as the "Warbler Tract," from the prevalence of certain species there, noticeably the Hooded Warbler, the Chestnut-sided Warbler, the Black and White Warbler, the Oven-bird, the Maryland Yellowthroat, the Redstart, the Worm-eating Warbler, and others. On July 9 in this "Warbler Tract" I observed a Blue-winged Warbler working along a little ravine in the place. The Blue-winged Warbler was making frequent trips through the ravine, among the lower branches of the large trees and surrounding saplings. It was easy to identify this warbler by its clear yellow under parts, narrow black line through the eye, and the white of the outer tail feathers frequently made conspicuous by the bird in its gleaning movements, like the Redstart. I was certain that the bird was feeding young in a nest up the ravine, but I did not hear it sing and was unable to locate its nesting place.

20. WORM-EATING WARBLER. *Helmitheros vermivorus* (Gmel.)

The Worm-eating Warbler is common in the Guest House neighborhood, where its characteristics are similar to those of this species mentioned in Chapter III. It was generally observed in the secluded ravines on Hemlock Hill, above Little Long Pond. On July 15, while working near the top of Hemlock Hill, I chanced upon a pair of these warblers having a lot of trouble with their young just out of the nest and able to flutter from one low shrub of laurel to another. The young were of a buffy color, somewhat like the breast of the female. The mother chirped about with fretful nervous movements, uttering a "cheep" somewhat like the alarm-note of the Chipping Sparrow, though more forcible and energetic.

21. BLACK AND WHITE WARBLER. *Mniotilta varia* (Linn.)

This Warbler is very common near the Guest House. On June 11 I noted that a Black and White Warbler was quite active on the knoll across the road in front of the Guest House lot, where there was a partially cleared open area in the scrub growth. This little clearing was particularly favored by the Hooded Warbler, the Chestnut-sided Warbler, the Black and White Warbler, and Ovenbird, and frequently I heard the songs of all four of these species near me at the same time.

22. RED-EYED VIREO. *Vireosylva olivacea* (Linn.)

This vireo is a prominent member of the avian association in the Guest House neighborhood. Its singing was noticeable throughout the day, even in the heated hours when most songsters were silent; and as the summer passed, the singing of this species was prolonged well into August. When at its activities in the trees, the Red-eyed Vireo is rather difficult to see, as it loves the shade in preference to the sunlight; it nests rather low, however, and hence it can be studied to advantage near its home. When disturbed at its nest, the parent birds utter a harsh scolding note resembling the syllable "gway", suggesting a contraction of the words "go away", which is apparently what the birds would like

to say if they could. A nest was found June 17, near the Guest House (Fig. 28).

23. CEDAR WAXWING. *Bombycilla cedrorum* Vieill.

The Waxwing is common in the Guest House neighborhood.



FIG. 28. Nest of Red-eyed Vireo, showing method of construction, near Guest House.

24. BANK SWALLOW. *Riparia riparia* (Linn.)

The Bank Swallow was observed at Kanahwauke Lake, associated with the Barn Swallows in evolutions over the water and perching on the telephone wires, flocking in increasing numbers as the season passed.

25. TREE SWALLOW. *Iridoprocne bicolor* (Vieill.)

The Tree Swallow is not common in the Park, though it may have a more general distribution locally than my observations disclosed. I saw it only on one occasion, August 1, when one speci-

men was seen flocking with the other species at Kanahwauke Lake. The Tree Swallow can be easily distinguished from the other swallows of this region by its greenish blue upper parts, with pure white under parts, its name *bicolor* being peculiarly appropriate for it.

26. BARN SWALLOW. *Hirundo erythrogastra* Bodd.

The Barn Swallow is especially noticeable at Kanahwauke Lake, where it coursed over the water in tireless evolutions. As the season advances and the young are a-wing, these swallows perch on the wires near the water or in the neighborhood of their colony home, forming larger companies as they are joined by others in the progress of the season. The large barn near the Park entrance at Kanahwauke supported the colony in this locality, while other barns in various localities generally attracted groups of this swallow.

27. CLIFF SWALLOW. *Petrochelidon lunifrons lunifrons* (Say)

The Cliff Swallow was not observed by me until August 1, when the growing flocks of swallows brought this species into association with the others at Kanahwauke Lake. I did not observe any colony of the Cliff Swallow during my stay in the Park. This swallow can be known by its dark blue head and back, creamy white forehead, chestnut throat, whitish under parts, and reddish brown rump.

28. SCARLET TANAGER. *Piranga erythromelas* Vieill.

The Scarlet Tanager occurs in the Guest House locality in about the same proportion as at Bear Mountain. My notes regarding it at the Guest House did not add anything of interest to those mentioned in the previous chapter.

29. INDIGO BUNTING. *Passerina cyanea* (Linn.)

The Indigo Bunting is very common in the Guest House neighborhood, associated with the shrubbery of the woods margins and open patches of bushes. On June 20 I found a nest of the Indigo Bunting, disclosed by the anxious chirping of the parent birds

when I was near the place. It was in blackberry sprouts, on the sloping side of a ravine along the Tuxedo Drive beyond the John-sontown branch. The nest was made on oblique or bending stems, about three feet from the ground, partially saddled on a fork of the stem. It was a coarse, bulky structure for a bird so small, made outwardly of soft dead leaves, weed stems and grasses, woven into



FIG. 29. Nest of Indigo Bunting, from a brushy ravine, near Little Long Pond.

thick, compact walls. The lining was of soft, dry grasses (Fig. 29). When found the nest contained young birds about ready to fly.

30. ROSE-BREADED GROSBEEK. *Zamelodia ludoviciana* (Linn.)

The Rose-breasted Grosbeak is represented in the Guest House neighborhood in about the same proportion as at Bear Mountain. My notes regarding it here can add nothing further of value to the account in the previous chapter.

31. TOWHEE. *Pipilo erythrophthalmus erythrophthalmus* (Linn.)

The Towhee is common in all localities in the Guest House neighborhood, wherever there are bushes in open areas, along the shrubbery of roads bordering broken woods, and basal hillsides with bushy spots under the ragged forest canopy.

32. SONG SPARROW. *Melospiza melodia melodia* (Wils.)

The Song Sparrow is one of the common birds of the Guest House neighborhood. On my first day at the Guest House, June 9, I noted this sparrow as common in the shrubbery in all moist parts of the premises; and at the end of my stay in the second week of August, it was still carrying on the activities of the nesting season, feeding young in the bushy margins, and uttering occasional songs. On July 9 I found the nest of a Song Sparrow in the bushy clearing near the cabin of the Boy Scouts headquarters at Kanahwanke Lake. It was in a clump of sprouts, about four and one-half feet from the ground, a site somewhat above the average selected by this sparrow. This nest was in upright forks, and in structure was somewhat unusual also in the amount of coarse weed stems, long pieces being bent clumsily around for the walls, and left extending out mostly all in one direction, the effect resembling the handle of a ladle. The inner part of this nest was made of soft grasses and horsehair. Coarse leaf fragments, bark and grasses were used for the base of the nest. There were two eggs in the nest on July 9.

33. FIELD SPARROW. *Spizella pusilla pusilla* (Wils.)

The Field Sparrow is common in the Guest House neighborhood, in the open shrubby margins of the woods, on cleared hillsides with scattered bushes, and in old pastures. Its singing in a little open area east of the House could frequently be heard on the Guest House premises. While this sparrow resembles its relative, the Chipping Sparrow, its singing is so different that it is unmistakable after close attention.

34. CHIPPING SPARROW. *Spizella passerina passerina* (Bech.)

The Chipping Sparrow is one of the familiar birds of the Guest House locality. Among my first notes at the Guest House, June 9,

was the mention of a pair of Chipping Sparrows feeding helpless young in their nest in a small cedar in the dooryard, alongside the path from the front porch to the dining cabin.

35. GOLDFINCH. *Astragalinus tristis tristis* (Linn.)

The Goldfinch is one of the common birds in the Guest House neighborhood, showing its usual habits in its late summer activities.

36. BALTIMORE ORIOLE. *Icterus galbula* (Linn.)

This oriole is very common in the Guest House neighborhood. On June 11 I noted that a pair of orioles were feeding young in a nest in the large tulip tree in the margin of the west side of the front dooryard. The site was about two-thirds up the height of the tree, at the extreme end of a drooping branch nearly alone, the nest being hidden somewhat by a spray of leaves at the extremity of the otherwise almost bare limb. The female bird was a jealous guardian of the home, darting angrily at every bird chancing to visit that part of the tree. Early one morning this nest was found by a pair of crows, and after a fierce defense by the owners, the marauders succeeded in carrying off the helpless young.

37. RED-WINGED BLACKBIRD. *Agelaius phoeniceus phoeniceus* (Linn.)

The Red-winged Blackbird is everywhere associated with the little marshes at the ends of the lakes, and with the vegetation growing in the water where new ponds and lakes have been made. The small marsh at the head of Little Long Pond was tenanted by a number of families of Red-wings, and their loud whistles and call-notes were heard every day until the drying up of the contributing brooklet late in July. On June 19 I examined several nests of Red-winged Blackbirds in the little grassy marsh mentioned. Most of the nests were in low shrubs in shallow water. One nest was in a small clump of buttonbush sprouts about two feet higher than the water, and was constructed about a foot above the water, the material being coarse grass stems lined with finer grasses. This nest contained three eggs. Another nest was also in a buttonbush, where sparse stems grew against a tussock of

grass. This nest was similar in construction to the other, and also held three eggs. A third nest was in the midst of a tuft of swamp grass, made in the uniform style of structure, and also contained three eggs.

38. CROW. *Corvus brachyrhynchos brachyrhynchos* Brehm

The Crow is common in the Guest House neighborhood, frequenting the basal portions of the mountains near the ravines. The general habits of the Crow are characteristic everywhere. The plundering of a nest of the Baltimore Oriole in the Guest House yard has been mentioned as an example of the predatory tendencies of the Crow in the nesting season.

39. BLUE JAY. *Cyanocitta cristata cristata* (Linn.)

The Blue Jay is common in the Guest House neighborhood, and is noticeable chiefly along the hillsides on the upper slopes of the mountains, and along the water-courses. The habits of the Blue Jay are characteristic in all localities where it occurs.

40. LEAST FLYCATCHER. *Empidonax minimus* (W. M. & S. F. Baird)

The Least Flycatcher is common in the Guest House neighborhood, frequenting the margins of the woods and the open hillsides supporting scattered clumps of bush and saplings interspersed with second-growth hardwood trees. Its call-notes are emphatic and its movements energetic; its flycatcher relationship is manifested by the flipping of its tail when perched. On June 12 I noticed a female flycatcher at work on a nest in a tree at the rear of the garage at the Guest House. The site was an upright fork on a slender oblique branch, about fifteen feet from the ground. The builder worked by sticking the material low on the outside of the structure, and then pulling the material up and around in place, thus building from the base upward on the exterior. On June 13 the female again worked on the nest. As the walls arose, she would sit or stand in the nest, reach down on the outside, and pull the fibrous materials up into place, thus weaving them together, and shaping the nest to her form on the interior to proper curve and

height. On the evening of June 17 I noted that this nest seemed to be fully completed but apparently not yet in use, and later examination disclosed the fact that it was never used.

41. WOOD PEWEE. *Myiochanes virens* (Linn.)

The Wood Pewee is about as common in the Guest House neighborhood as at Bear Mountain. My notes concerning it in the Park interior added nothing of special interest relative to its habits, which are characteristic in all localities of its range.

42. PHOEBE. *Sayornis phæbe* (Lath.)

The Phœbe is common in the Guest House neighborhood, attaching itself to the vicinity of the boathouses, bridges, and other buildings near water. A pair of Phœbes had a nest in the Guest House boathouse, on a sloping piece of rafter under a squared timber in the framework.

43. CRESTED FLYCATCHER. *Myiarchus crinitus* (Linn.)

The Crested Flycatcher is about as common in the Guest House neighborhood as at Bear Mountain. The general habits of this flycatcher are characteristic in all localities.

44. KINGBIRD. *Tyrannus tyrannus* (Linn.)

The Kingbird is common in the Guest House neighborhood, frequenting the broken margins of the woods, with preference for the lake shores. At Kanahwauke Lake a pair of Kingbirds had a nest in the top of an old apple tree on an open shrubby point of lake-margin near the bridge, and the owners were working out from the sumach shrubs near the water around the edge of the point.

45. RUBY-THROATED HUMMINGBIRD. *Archilochus colubris* (Linn.)

The Hummingbird is as common in the Guest House neighborhood as at Bear Mountain. There is nothing to be added to the comments concerning it given in Chapter III.

46. CHIMNEY SWIFT. *Chatura pelagica* (Linn.)

The Chimney Swift is common in the Guest House neighborhood, where it is noticeable in its aerial activities, as everywhere throughout its range.

47. WHIP-POOR-WILL. *Antrostomus vociferus vociferus* (Wils.)

As in my experience at Bear Mountain, so at the Guest House, my first notes of the bird life there were concerning the Whip-poor-will. A large bare rock near the bay window of the Guest House living-room was a favorite station for a male Whip-poor-will (Fig. 30), and here nightly he visited the rock at about nine o'clock, to utter a series of calls. This favorite rock was immediately below the window of my bed-chamber, and as the Whip-poor-will made regular morning visits also, I was enabled to make many observations of its actions in uttering its well-known calls. In the evening the calls did not generally begin until the other songsters had concluded their late performances, and about 8:50 the Whip-poor-will began to utter its notes, continuing at intervals until about midnight, when it became silent until the usual morning performance.

In the mornings the Whip-poor-wills became active about the time there was barely light enough for observation of nearby objects. I stationed myself at the window of my bed-chamber, opera glasses in hand. The male Whip-poor-will would alight on the rock, utter an introductory "clunk" and then a series of calls, each separated by a low "chuck" note. Frequently the female alighted at his side, and then he uttered a guttural chatter sounding like "gah gah gah", and tarried only a few moments, both darting away for the conclusion of their morning activities.

On the morning of June 14, while exploring the rocky knoll south of the garage, I ran across a female Whip-poor-will among the low laurel shrubs. She fluttered up weakly, half scrambling over the nearby laurels, and frequently stopping to face me with half-outspread wings, uttering a mournful, guttural "qui qui quic" and similar cries. Knowing that such actions meant a nest in the neighborhood, I made careful search, and after diligent



FIG. 30. The "Whip-poor-will Rock" at the Guest House. The bare area was visited nightly by the Whip-poor-will.



FIG. 31. Young Whip-poor-wills, in the down, found in woods near the Guest House.

scrutiny of the ground cover I spied a brownish yellow chick drowsily blinking on the dead leaves (Fig. 31). Another chick was crouching on dead leaves about a yard from the first. On June 15 I went to the place again, in the afternoon. The female fluttered out of the same little area, but had moved about twenty feet from the place used the day before in hovering her young. From the fact that I had found the two young about a yard apart the day before, it was my thought that the mother bird had followed the chicks instead of moving them, which this bird has been reported as doing when disturbed in its nesting.

48. NORTHERN FLICKER. *Colaptes auratus luteus* Bangs

The Flicker is common in the Guest House neighborhood, where its habits are characteristic, not suggesting further comment here.

49. DOWNY WOODPECKER. *Dryobates pubescens medianus* (Swains.)

The Downy Woodpecker is common in the Guest House neighborhood, though my notes do not warrant further mention of it here.

50. HAIRY WOODPECKER. *Dryobates villosus villosus* (Linn.)

The Hairy Woodpecker occurs regularly in the Guest House neighborhood. The comments concerning it in the preceding chapter apply equally regarding it here.

51. BELTED KINGFISHER. *Ceryle alcyon* (Linn.)

The Kingfisher is common in the Guest House neighborhood. Nothing further can be given here regarding its habits and characteristics.

52. BLACK-BILLED CUCKOO. *Coccyzus erythrophthalmus* (Wils.)

The Black-billed Cuckoo occurs in the Guest House neighborhood in about the same proportion as at Bear Mountain, and no comment is warranted more than that given in the preceding chapter.

53. YELLOW-BILLED CUCKOO. *Coccyzus americanus americanus*
(Linn.)

The Yellow-billed Cuckoo, according to my observation, does not occur so commonly throughout the Park region as the Black-billed species. On June 13 I noted that a Yellow-billed Cuckoo was working low in the shrubbery on the ridge south of the Guest House premises. When disturbed the bird perched rather low behind sprouts ahead, and uttered a guttural scolding, resembling the word "eur-ul-la," emphasizing the middle syllable. This cuckoo can be recognized by the bright cinnamon wing areas in flight, and the yellow lower mandible when near enough for the color to be seen clearly.

54. BROAD-WINGED HAWK. *Buteo platypterus* (Vicill.)

The Broad-winged Hawk, common in the neighborhood of the Guest House, was seen frequently in soaring flight over the wooded hills. The sharp pewee-like cry of this hawk, quite different from the cries of the other Buteos, aids in its identification. It lacks the bright chestnut-red shoulder marking of *Buteo lineatus lineatus*, which occurs less commonly in the same region; and it also lacks the bright reddish brown tinge on the upper side of the tail, which characterizes *Buteo borealis borealis*. On August 1 I noticed a Broad-winged Hawk soaring low above Kanahwauke Lake, uttering its "pee-ee" calls, and it was followed by swallows to a considerable height, the smaller birds flying around and above the hawk though not appearing to strike at it. The hawk retreated higher and farther, crying out occasionally with fretful energy until well beyond the range of the swallows.

55. RED-SHOULDERED HAWK. *Buteo lineatus lineatus* (Gmel.)

The Red-shouldered Hawk is not common in the Park region, according to my observation. I saw it only once, on July 15, when a mature bird was soaring in low flight above the hill on the west side of Carr Pond, its reddish-brown shoulder color and reddish-brown under parts showing in the clear sunlight as the bird careened in its irregular spiral ascent. It uttered no cry; indeed,



FIG. 32. Nest and eggs of Spotted Sandpiper, on the shore of Carr Pond.
(Photo by A. W. Abrams.)

no cries of the Buteos were heard by me in the Park during the season, except the peculiar whistle of the Broad-winged Hawk. (See p. 89.)

56. RUFFED GROUSE. *Bonasa umbellus umbellus* (Linn.)

The Ruffed Grouse was apparently more common in the Guest House neighborhood than at Bear Mountain. On June 15 I ran across a female grouse with several flying chicks in the edge of the woods near the garage of the Guest House. When disturbed the mother bird began a whining noise similar to a puppy's, and ran ahead through the low shrubs, seeking to mislead me until her chicks had sought safety in short flights into the scrub. My observations during the season indicated that the grouse is only sparsely represented in the Park.

57. SPOTTED SANDPIPER. *Actitis macularia* (Linn.)

The Spotted Sandpiper occurs regularly throughout the Guest House neighborhood, frequenting suitable places on the lake shores. On July 20 I found a nest of a Spotted Sandpiper in the cleared margin of the extension to Carr Pond (Fig. 32). It was among low sprouts and stubs of shrubs, about three feet from the track of an old road and about twenty feet from the water's edge. The road was used daily by numbers of boys, and the sitting female was forced to leave her nest many times during the day at the approach of persons walking along the old path. The site was between sprout clumps, with surrounding grasses and low weeds, the nest being thus in open view to searching observation. It was made of coarse fragments of grass and weed stems, in a depression so that the brim of the nest was flush with the general level. There were four eggs in the nest, remarkably large for the size of the parent bird, so placed that their small ends pointed together in the middle of the depression. On July 27 I noted that the female sandpiper was caring for four little ones on the water margin near the site of the deserted nest. The young instinctively leave the nest soon after they are hatched, and thereafter are cared for by the mother outside.

58. AMERICAN WOODCOCK. *Philohela minor* (Gmel.)

My finding a little family of Woodcock on the Guest House premises was one of the pleasant experiences of my season in the Park. On June 10 I chanced on an adult Woodcock and three young just beginning to fly, in a little area of ferns and swamp just below the rim of the knoll bordering the lot on the east side. The adult fluttered out of the low shrubs as if injured, alighting in the open ferns near by, where she fluttered about and gradually drew nearer. One by one the juveniles fluttered up and dropped into the covert bordering the spot where they were flushed. The place was not more than a hundred feet from the traveled road to Johnsonstown, and only about fifty feet from the front door of the Guest House.

On the evening of June 25, while sitting in the bay window of the Guest House watching for the coming of the Whip-poor-will to his favorite rook, a Woodcock was seen on the ground, grubbing along a narrow strip of exposed soil where a section of water pipe had been unearthed that day by workmen. The half-grown Woodcock tilted forward its compact body to probe for worms, elevating and expanding its short tail with each bending movement. The bird followed the straight line its full length, stopping to probe at suitable places. When he arrived at the end of the sodless line, near the bay window, he flew away over the yard toward the little swale where the family made its headquarters during the day. Through the remainder of the summer one or another of these birds was occasionally flushed in some part of the lot near the Guest House.

59. GREEN HERON. *Butorides virescens virescens* (Linn.)

The Green Heron is common in the Guest House neighborhood, on the shores of the lakes and ponds. A pair of these herons had headquarters in the woods margin of Little Long Pond near the boat landing of the Guest House, and the hoarse squawk characteristic of this little heron was heard regularly on the Guest House premises. The Green Heron is a member of the marsh association, living with the Red-winged Blackbird, Black Duck, and Maryland

Yellow-throat on the swampy margin where trees and bushes meet the swamp grass and buttonbush.

60. GREAT BLUE HERON. *Ardea herodias herodias* Linn.

This stately heron was not observed during the nesting season proper, and it is not probable that it breeds in the Palisades Interstate Park region. One of the characteristics of this species, however, is to wander from its heronries after the nesting duties are concluded, and thereafter to live singly or in pairs on secluded marshes and lake shores. About the middle of July it was reported to me by Dr. A. W. Abrams, of the State Department of Education, that he observed a Great Blue Heron on Cedar Pond. On the evening of July 21 a Great Blue Heron flew over the Guest House premises about sunset. It was flying rather low, with its legs and feet projecting backward, and if its wings had not been steadily flapping it would have been easy to understand how the modern aeroplane was conceived. This heron carries its long neck bow-shaped, with protruding beak, and thus travels forward with impressive movement.

61. BLACK DUCK. *Anas rubripes* Brewst.

The Black Duck is common in the grassy swamp-ends of Little Long Pond and elsewhere in the Guest House neighborhood. A pair nested in the marshy foot of Little Long Pond, and in due time representatives of this family were seen throughout the season, feeding in the scattered swamp grass. This duck may be known by its black crown, with light brown head, neck and throat, and prevailing dark brown color of the plumage in general. The Black Duck is about the size of the Mallard.

SUPPLEMENTARY NOTES

Notes on Park Birds in 1919. In addition to the foregoing records for the summer season of 1918, the following notes are given as a result of observations made by the writer beginning June 6 and ending July 31, 1919. The observations in 1919 were made from the same two centers as those mentioned in the 1918 records, the Bear Mountain region and the Guest House near the Kanahwauke Lakes. The season of 1919 differed somewhat from that of 1918 in that it was much drier during the spring months. This may be partly accounted for by the abnormally light snowfall in the preceding winter. Conditions otherwise were similar in these two seasons. Further detailed observations during 1919 gave several additional records worthy of mention; hence these supplementary notes.

1. CANADIAN WARBLER. *Wilsonia canadensis* (Linn.)

On July 3, 1919, the handsome Canadian Warbler was met with for the first time in my Park observations, along the dark hemlock swamp woods by the site of Dam No. 9, near the Harriman estate. A male was singing a song new to my Palisades repertoire of bird music, with an effect like "chip, chippery, ehippery, chippery, chee-teh-chee." Presently a male and a female were both chirping anxiously near me, and the former came quite close, so that I could distinguish his bluish gray upper parts, clear yellow throat, the markings across the breast with the black "neeklae" effect, the yellow under parts, and the black cheek mark. Apparently several males were singing along the trail at that place, and I have no hesitation in recording the Canadian Warbler as one of the nesting birds of the Harriman section of the Park.

2. YELLOW-BREASTED CHAT. *Icteria virens virens* (Linn.)

In 1919 the Yellow-breasted Chat was found to be more generally distributed throughout the Park than the 1918 records indicated. On June 27, 1919, a male Chat was singing and calling in the swamp thickets along the main road near the base of Tom Jones Mountain, near the Guest House. This songster was repro-

ducing the whistle of Bob-white, Flicker calls, Robin squeakings, and uttering a variety of peculiar notes. The Yellow-breasted Chat was also noted at Summit Lake.

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

On June 28, 1919, along the trail near Kanahwauke Lake, the Black-throated Green Warbler was seen and identified by Mr. E. J. Sawyer and myself. A male, a female, and a flying juvenile were observed repeatedly at close range. The female flitted about in the lower foliage of the trees near at hand, chirping anxiously, with food in her mouth, while the male chirped and flitted in the tree branches farther away and finally disappeared with the youngster both were attending. The female remained chirping nearby, leading us to fancy that a nest was in the vicinity. Later the male returned with his charge, affording us opportunity to study the little family more in detail. The Black-throated Green Warbler can be known by the yellow cheeks and forehead, with heavy black on throat, upper breast and sides, the white of the belly making a sharp wedge up into the black of the throat. It is safe to say that this warbler is a nesting bird of the Harriman section of the Park.

4. NASHVILLE WARBLER. *Vermivora rubricapilla rubricapilla* (Wils.)

This warbler was first seen on July 28, in the Bear Mountain region, on the old Queensboro road. A male and female were observed, both feeding active young recently from the nest. Both birds were examined attentively at close range, and also the chirping young. The female discontinued her feeding work temporarily and remained near me, uttering a sibilant chirping, while the male kept on in attendance of the young, coming near at intervals with less anxious chirps as he waited on the impatient young from time to time. This warbler can be known by the ashy gray on top of head, and the bright yellow under parts; the female resembles the female Yellow-throat, but when the males are near by the differences in color markings are quite obvious. This record indicates that the Nashville Warbler is a summer resident of the Bear Mountain region of the Park.

5. ROUGH-WINGED SWALLOW. *Stelgidopteryx serripennis* (Aud.)

The Rough-winged Swallow was first pointed out to me at Kanahwauke Lake by Mr. E. J. Sawyer, where a pair were spending the summer, associating with other swallows. Later it was observed at Bear Mountain, along the river-front, and at places in the Park interior. This swallow is no doubt more common in the Park than my records indicate, for I overlooked its presence in 1918. The Rough-winged Swallow can be identified by its dark brown upper parts, with throat and breast uniform brownish gray, and belly whitish. It lacks the dark breast band which characterizes the Bank Swallow, and its twittering call is quite distinctive.

6. PURPLE MARTIN. *Progne subis subis* (Linn.)

The Purple Martin seems not to have any established residence in the Park domain, no colonies being seen in either 1918 or 1919. Individuals were seen only in association with swallows at Kanahwauke Lake in the flocking season in late summer. It is likely that martin boxes placed at Bear Mountain Inn, Kanahwauke Lakes, Cedar Pond, and Summit Lake Camp might attract these desirable birds for summer residence.

7. SLATE-COLORED JUNCO. *Junco hyemalis hyemalis* (Linn.)

The surprise of the season of 1919 was the finding of a Slate-colored Junco spending the summer near the Guest House, on the Kanahwauke Lakes. A male Junco was seen June 17, associating with a particular pair of nesting Field Sparrows, and thereafter it was noted regularly throughout the season until I left the Park on July 31. The Junco was alone, and persisted in attaching itself to the Field Sparrows in a manner that made it rather annoying for its associates. Particularly when they were carrying food for their young in the nest, and also when the young became active for themselves after leaving the nest, the adult sparrows were followed closely by the Junco. At times it separated itself from its chosen companions and sang its plaintive trills, or gleaned for itself in the Junco manner, but the chirping of the sparrows was generally the stimulus for it to fly again to their company. Why this Junco

should linger alone in a locality considerably south of its regular summer home was a puzzle to us, as it appeared perfectly normal in its activities except for its persistence in following the sparrows in their details of home-keeping. After the Field Sparrows had concluded their nesting activities, the Junco moved into the Guest House premises and attached itself to a pair of late-nesting Chipping Sparrows, seeking association with them in the same manner as with the Field Sparrows, singing frequently but moving lonesomely from one song station to another when not with its associates.

8. BRONZED GRACKLE. *Quiscalus quiscula aeneus* Ridgw.

The Grackle is not common in the Park interior, and in the season of 1919 it was seen only at Carr Pond, near the western border of the Harriman section. This specimen was identified by Prof. T. L. Hankinson.

9. COWBIRD. *Molothrus ater ater* (Bodd.)

The Cowbird is not common in the Park interior. In 1919 it was seen only occasionally, at Bear Mountain and in the Kanawauke Lake district.

10. NORTHERN PILEATED WOODPECKER. *Phlœotomus pileatus abieticola* (Bangs)

On July 7, 1919, this fine large woodpecker was found in the dark hemlock timber near Island Pond, where the Park domain borders the Harriman estate. It was recognized in uttering its loud Flicker-like calls, and by its heavy drumming. I spent considerable time in stalking this wary forester, and succeeded in getting almost under it, when it flew away up the wooded hillside uttering the characteristic loud cackling call, "cac cac cac." Only one bird was seen at this time. Specimens of its work were seen here and there in this portion of the Park and in the Harriman timber in the neighborhood of Cranberry Pond.

11. DUCK HAWK. *Falco peregrinus anatum* Bonap.

It appears that the Duck Hawk is likely to be seen at any time in the Bear Mountain region, though I failed to note its presence in 1918. On June 13, 1919, while on the crest of Bear Mountain, I saw a Duck Hawk as it sailed downward into close view in front of me, followed by two Crows. The Hawk uttered no cry, and the Crows did not persist in following it. The specimen was apparently an adult female. The Duck Hawk can generally be identified in flight by its angular, elongated wings, while the black "mustache" markings are quite distinctive when the bird is near enough for these to be seen.

12. BALD EAGLE. *Haliaeetus leucocephalus leucocephalus* (Linn.)

On July 23, 1919, after a protracted rainy period, an adult Bald Eagle in brownish plumage, with showy white head and tail, visited Cedar Pond, in the Park interior. The Eagle loitered along the pond shore in several places, and foraged on the margin of one of the bog islands, evidently hard pressed for food and seeking dead fish on which to make an overdue meal.

13. RED-SHOULDERED HAWK. *Buteo lineatus lineatus* (Gmel.)

A nest of the Red-shouldered Hawk was found near the Guest House, in the margin of a swamp-fern and alder swamp, on the southern base of Tom Jones Mountain. The nest was in a triple crotch of a dead, bare chestnut tree, about thirty feet from the ground. The nest was made altogether of coarse, dry sticks and twigs. On June 19 there were two young looking over the rim of the nest or standing on the inner edge, squalling lustily as I approached the place. Presently an adult came near, and upon seeing me she began squalling vigorously, "kee-yuh," at which the young dropped back out of sight and remained silent most of the time I waited near by. One of the youngsters was much more feathered than the other, and noticeably larger. For about two weeks the young hawks remained in the nest, finally leaving it with a great amount of squalling and outcries by both adults and juveniles. This nest was not far away from a farmhouse where the

owner kept guard over his barnyard with a gun, shooting at Crows and woodchucks, but he seemed not to know of the existence of this hawk family on his premises, as his poultry was never threatened by the adult harriers. This hawk has reddish brown showing on the bend of the wing and under parts, the latter somewhat streaky. It can always be known by its loud, Blue Jay-like calls, resembling the syllables "kee-yuh," uttered most frequently in the neighborhood of its nest. Its occurrence seems to be restricted to special localities in the Park, preferably limited swamp margins.

14. COOPER'S HAWK. *Accipiter cooperi* (Bonap.)

A Cooper's Hawk was seen frequently at Cedar Pond. On July 12 it was startled from a low perch near the pond shore, and beginning just above the tree-tops, it began to ascend, making four or five wing-beats, then sailing onward, then the wing-beats again, thus rising and soaring in the upper air. My two seasons' observations led me to conclude that the Cooper's Hawk is uncommon and of local occurrence.

15. TURKEY VULTURE. *Cathartes aura septentrionalis* Wied

The Turkey Vulture was seen frequently during the season of 1919, soaring over the woodlands of the Park in various localities, chiefly in the Cedar Pond neighborhood, the Ramapo valleys, and the portions of the Park near Arden.

16. MOURNING DOVE. *Zenaidura macroura carolinensis* (Linn.)

On July 11, 1919, I saw a Mourning Dove in the Bear Mountain region, on the old Queensboro road, near the Forest of Dean mine. It was sunning itself in the road, and flew up ahead at our approach. While common in all the surrounding agricultural districts, the Mourning Dove does not appear to be a regular inhabitant of the Park proper.

17. BLACK-CROWNED NIGHT HERON. *Nycticorax nycticorax naevius* (Bodd.)

On July 22, 1919, two of these herons appeared at Cedar Pond, in company with a single Great Blue Heron, fishing along the

margins of the bog islands, and thereafter for several days they were noted at various places on the pond shore. Both of these Night Herons were apparently juveniles in the brown phase of plumage and showed nothing of the brighter colors of the adults. In short flights these herons make four or five flappings with the wings, then sail ahead on wide-spread pinions, then repeat the series of wing-beats.

Notes on Birds of Localities Adjacent to the Park. On June 21, 1918. I made observations concerning the bird life from Kanahwaque Lakes to Blauvelt, via St. John's, Willow Grove, Thiells, Haverstraw, Conger's, and Nyack. No birds not otherwise mentioned were seen on the trip, except the Purple Grackle, observed along the open district from Willow Grove school to Haverstraw; and the Meadowlark, in the neighborhood of Willow Grove school and Thiells, on open meadow and farm lands. The Bluebird was observed at the Military Training camp, near Blauvelt, in the edges of the adjacent woodlands.

On May 25 and 26, and also on June 6, I made observations at Highland Falls, five miles north of Bear Mountain, on the wooded ridge between the main street of the town and the railroad station. The leading trees on the ridge and subjacent to it were casually noted as follows: white ash, linden or basswood, black locust, in blossom, tree of heaven, chestnut-oak, arbor vitæ sparingly, white pine, paper birch, hemlock, several oaks, and yellow poplar, with ivy, woodbine, wild grape, elder and alder. Across the road, south of the wooded ridge under consideration, there is a large private park with a good proportion of planted ornamental trees. The road from the main street descends at a sharp grade between the ridge and the Park, around the end of the ridge, which stands as a perpendicular wall facing the railroad. A little brook filters down from the street near the abrupt end of the ridge, affording an attractive bathing place for the birds of the ridge, the wildwood nature of the sylvan ridge having been left almost intact. Birds there were noticed as follows: Wood Thrush, singing and nesting; Scarlet Tanager, singing; Red-eyed Vireo, singing and nesting; Redstart, singing in the locust blossoms; Baltimore Oriole, singing;

Indigo Bunting, singing; Ruby-throated Hummingbird, active in the loeust blossoms; Chipping Sparrow, singing; Catbird, singing; Flicker, calling on the ridge; Song Sparrow, in bushy edges of the ridge; Purple Grackle, active in the trees; Rose-breasted Grosbeak, singing; Wood Pewee, calling and hawking; Black-billed Cuckoo, hunting low in the trees; Chestnut-sided Warbler, singing; Robin, singing; Least Flycatcher, active in the upper story of saplings; Chimney Swift, overhead; Crow, calling nearby; Nighthawk, in evening flight; Downy Woodpecker, working on tree trunks; Crested Flycatcher, in noisy calls; Blue Jay, calling on the ridge; Cedar Waxwing, flock of about twenty; Fish Crow, working along shore; Goldfinch, in spring flight songs; White-breasted Nuthatch, working on the ridge; House Wren, singing on the main street margin; Maryland Yellow-throat, singing near the brook; Black and White Warbler, singing and bathing; Bald Eagle, an adult in fine mature plumage, flying over the river.

The summer birds observed in the Park during the past two seasons comprise 88 species. The following 20 additional species are mentioned in Hoffmann's "Guide to the Birds of New England and Eastern New York" (1904) as inhabiting the region of the lower Hudson Valley:

Short-billed Marsh Wren, a somewhat rare and local summer resident throughout southern and central New England and New York.

Carolina Wren, a rather common summer resident of the eastern slope of the Palisades.

Kentucky Warbler, a rather common, though local summer resident of the lower Hudson Valley as far north as Sing Sing.

Warbling Vireo, rather common summer resident of the lower Hudson Valley.

Cardinal, permanent resident of the lower Hudson Valley as far north as Hastings.

Grasshopper Sparrow, common summer resident of the lower Hudson Valley.

Vesper Sparrow, common summer resident.

Green-crested Flycatcher, a locally common summer resident in the lower Hudson Valley as far north as Sing Sing.

Great Horned Owl, permanent resident.

Screech Owl, common permanent resident.

Barred Owl, permanent resident.

Long-eared Owl, uncommon permanent resident.

Sparrow Hawk, summer resident, nowhere common.

Red-tailed Hawk, breeds throughout the Hudson Valley.

Sharp-shinned Hawk, common permanent resident of the lower Hudson Valley.

Marsh Hawk, summer resident.

Bob-white, common in the lower Hudson Valley.

Florida Gallinule, rare summer resident.

Carolina Rail, common summer resident.

Virginia Rail, summer resident.

Therefore there are at least 108 kinds of birds whose breeding home includes this general region, and that one may expect to find in the Palisades Park. Probably other observers have noted additional species. There is always the possibility of interesting discoveries, which adds greatly to the allurements of bird study in the field.

INDEX

- ACCIPITER COOPERI, 99.
 Actitis macularia, 61, 91.
 Agelaius phœniceus phœniceus, 55, 83.
 Anas rubripes, 93.
 Antrostonus vociferus vociferus, 58, 86.
 Archilochus colubris, 57, 85.
 Ardea herodias herodias, 93.
 Astragalinus tristis tristis, 54, 83.

 BEAR MOUNTAIN, 23, 26, 38.
 Bear Mountain Station, 22.
 Bird Notes, Bear Mountain, 23, 27.
 Bear Mountain Station, 22.
 Carr Pond, 34.
 Doodletown Valley, road to, 27.
 Hemlock Hill, 32.
 Highland Falls, 100.
 Iona Island entrance, 26.
 Kanalhauke Lakes, 30.
 Little Long Pond, 32.
 Summit Lake, 36, 37.
 Birds, annotated lists, 40, 67, 94.
 Hoffman's Guide to birds, 21, 101.
 localities, favorable, 22, 23, 25, 26, 29, 30, 34, 36, 38, 64, 100.
 methods of study, 17.
 nesting, 19, 21.
 note book for, 21.
 outside of Park, 100, 101.
 songs, 21.
 Blackbird, Red-winged, 26, 30, 32, 34, 36, 37, 55, 83, 92.
 Bluebird, 30, 32, 37, 53, 67, 100.
 Bob-white, 95, 102.
 Bombycilla cedrorum, 50, 79.
 Bonasa umbellus umbellus, 61, 91.
 Bunting, Indigo, 23, 26, 27, 30, 32, 36, 37, 51, 80, 101.
 Buteo platypterus, 61, 89.
 lineatus lineatus, 89, 98.
 Butorides virescens virescens, 62, 92.

 CARDINAL, 101.
 Carr Pond, 34.
 Catbird, 22, 25, 26, 30, 32, 43, 70, 101.
 Cathartes aura septentrionalis, 99.

 Ceryle alcyon, 59, 88.
 Chatura pelagica, 58, 86.
 Chat, Yellow-breasted, 23, 37, 44, 49, 94.
 Chickadee, 27, 32, 34, 37, 42, 69.
 Coccyzus erythrophthalmus, 60, 88.
 americanus americanus, 60, 89.
 Colaptes auratus luteus, 58, 88.
 Corvus brachyrhynchos brachyrhynchos, 55, 84.
 Cowbird, 97.
 Crow, 25, 26, 27, 30, 32, 34, 36, 37, 55, 84, 98, 101.
 Crow, Fish, 101.
 Cuckoo, Black-billed, 26, 27, 36, 60, 88, 101.
 Yellow-billed, 60, 89.
 Cyanocitta cristata cristata, 55, 84.

 DENDROICA PENNSYLVANICA, 47, 74.
 æstiva æstiva, 48, 76.
 cærulescens cærulescens, 74.
 virens, 94.
 Dove, Mourning, 99.
 Dryobates pubescens medianus, 59, 88.
 villosus, 59, 88.
 Duck, Black, 30, 32, 92, 93.
 Dumetella carolinensis, 43, 70.

 EAGLE, BALD, 61, 98, 101.
 Empidonax minimus, 56, 84. .

 FALCO PEREGRINUS ANATUM, 98.
 Flicker, 26, 27, 30, 32, 37, 44, 58, 88, 95, 97, 101.
 Flycatcher, Crested, 26, 30, 37, 57, 85, 101.
 Green-crested, 101.
 Least, 26, 30, 36, 37, 56, 84, 101.
 Forest, Bear Mountain, 23, 27, 40.
 Carr Pond, 34.
 Guest House, 64.
 Highland Falls, 100.
 Little Long Pond, 66.
 Park, 17, 40.
 southeast entrance, 25.
 Summit Lake, 36.

- GALLINULE, FLORIDA, 102.
Geothlypis trichas trichas, 45, 71.
 Goldfinch, 26, 27, 30, 36, 37, 54, 83, 101.
 Grackle, Bronzed, 97.
 Purple, 54, 55, 100, 101.
 Grosbeak, Rose-breasted, 26, 30, 32, 37, 51, 81, 101.
 Grouse, Ruffed, 27, 32, 37, 61, 91.
 Guest House, 62.
 Gull, Herring, 62.
- HALLIETUS LEUCOCEPHALUS LEUCOCEPHALUS, 61, 98.
 Hawk, Broad-winged, 27, 30, 36, 37, 61, 89.
 Cooper's, 99.
 Duck, 98.
 Marsh, 102.
 Red-shouldered, 36, 89, 98.
 Red-tailed, 102.
 Sharp-shinned, 102.
 Sparrow, 102.
Helminthos vermivorus, 49, 78.
 Hemlock Hill, 30.
 Heron, Black-crowned Night, 99.
 Great Blue, 93, 99.
 Green, 30, 32, 34, 62, 92.
 Highland Falls, 100.
Hirundo erythrogastra, 51, 80.
 Hummingbird, Ruby-throated, 23, 26, 37, 57, 85, 101.
Hyleicichla fuscescens fuscescens, 41, 68.
 mustelina, 41, 68.
- ICTERIA VIRENS VIRENS, 44, 94.
Icterus galbula, 54, 83.
 Inn grounds, 23.
 Iona Island, 25.
Iridoprocne bicolor, 79.
- JAY, BLUE, 26, 27, 30, 32, 36, 37, 55, 84, 101.
Junco hyemalis hyemalis, 96.
Junco, Slate-colored, 96.
- KANAWHAUKE LAKES, 29.
 Kingbird, 26, 30, 32, 36, 37, 57, 85.
 Kingfisher, Belted, 30, 34, 59, 88.
- LANIVIREO FLAVIFRONS, 49.
Larus argentatus, 62.
 Little Long Pond, 30, 66.
- MARTIN, PURPLE, 96.
 Meadowlark, 100.
Melospiza georgiana, 52.
 melodia melodia, 52, 82.
Mniotilta varia, 49, 78.
Molothrus ater ater, 97.
Myiarchus crinitus, 57, 85.
Myiochanes virens, 56, 85.
- NIGHTHAWK, 101.
 Nuthatch, White-breasted, 36, 69, 101.
Nycticorax nycticorax naevius, 99.
- ORIOLE, BALTIMORE, 26, 30, 32, 36, 45, 52, 54, 83, 84, 100.
 Orchard, 36.
 Osprey, 60.
 Ovenbird, 23, 27, 32, 34, 37, 45, 47, 72, 74, 77, 78.
 Owl, Barred, 102.
 Great Horned, 101.
 Long-eared, 102.
 Screech, 101.
- PANDION HALLIÆTUS CAROLINENSIS, 60.
 Park, approaches to, 10, 38.
 boundaries of, 12.
 forest, 17.
 lakes and streams, 13.
 mountains, 12, 30, 38.
 topography, 12, 22, 25, 27, 30, 34, 38, 64, 100.
Passerina cyanea, 51, 80.
Penthestes atricapillus atricapillus, 42, 69.
Petrochelidon lunifrons lunifrons, 80.
 Pewee, Wood, 22, 27, 30, 36, 37, 56, 57, 61, 85, 101.
 Philohela minor, 92.
Phœotomus pileatus abieticola, 97.
 Phœbe, 26, 30, 37, 56, 85.
Pipilo erythrophthalmus erythrophthalmus, 52, 82.
 Piranga erythromelas, 51, 80.
Planesticus migratorius migratorius, 40, 67.
Progne subis subis, 96.
- QUISCALUS QUISCULA, 54.
 quiscula æneus, 97.

- RAIL, CAROLINA, 102.
 Virginia, 102.
 Redstart, 22, 25, 26, 27, 30, 32, 36,
 37, 43, 70, 77, 100.
 Riparia riparia, 79.
 Robin, 22, 26, 27, 30, 32, 34, 36, 37,
 40, 51, 52, 53, 67, 95, 101.
 SANDPIPER, SPOTTED, 26, 30, 32, 34,
 61, 91.
 Sayornis phœbe, 56, 85.
 Seiurus motacilla, 45, 72.
 aurocapillus, 45, 72.
 Setophaga ruticilla, 43, 70.
 Sialia sialis sialis, 67.
 Sitta carolinensis carolinensis, 69.
 Sparrow, Chipping, 23, 26, 30, 36,
 37, 49, 52, 53, 78, 82, 101.
 English, 55.
 Field, 36, 37, 44, 53, 82.
 Grasshopper, 101.
 Song, 19, 26, 30, 32, 34, 36, 37, 52,
 82, 101.
 Swamp, 26, 52.
 Vesper, 101.
 Spizella pusilla pusilla, 53, 82.
 passerina passerina, 53, 82.
 Starling, 26, 55.
 Stelgidopteryx serripennis, 96.
 Sturnus vulgaris, 55.
 Summit Lake, 36.
 Swallow, Bank, 30, 32, 80.
 Barn, 30, 32, 36, 37, 51, 79, 80.
 Cliff, 30, 32, 80.
 Rough-winged, 96.
 Tree, 30, 79.
 Swift, Chimney, 30, 58, 86, 101.
 Tanager, SCARLET, 26, 27, 30, 32,
 34, 37, 51, 80, 100.
 Telmatodytes palustris palustris, 42.
 Thrasher, Brown, 22, 25, 26, 30, 32,
 43, 69.
 Thrush, Wilson's (see Veery).
 Wood, 22, 26, 30, 34, 37, 41, 68,
 100.
 Towhee, 22, 23, 26, 27, 30, 32, 36, 37,
 52, 82.
 Toxostoma rufum, 43, 69.
 Troglodytes ædon ædon, 42, 69.
 Tyrannus tyrannus, 57, 85.
 VEERY, 26, 30, 32, 37, 41, 68.
 Vermivora chrysoptera, 48, 76.
 pinus, 48, 77.
 rubricapilla rubricapilla, 95.
 Vireo, Red-eyed, 22, 23, 26, 27, 30,
 32, 34, 36, 37, 49, 50, 78, 100.
 Warbling, 101.
 Yellow-throated, 22, 26, 49, 50.
 Vireosylva olivacea, 50, 78.
 Vulture, Turkey, 99.
 WARBLER, BLACK AND WHITE, 22, 25,
 27, 30, 32, 34, 36, 37, 49, 77, 78,
 101.
 Black-throated Blue, 19, 74, 76.
 Black-throated Green, 95.
 Blue-winged, 26, 48, 77.
 Canadian, 94.
 Chestnut-sided, 22, 23, 26, 27, 30,
 32, 36, 37, 47, 74, 77, 78, 101.
 Golden-winged, 20, 23, 26, 37, 48,
 76.
 Hooded, 22, 23, 27, 36, 37, 44, 71,
 77, 78.
 Kentucky, 101.
 Nashville, 95.
 Worm-eating, 23, 27, 32, 34, 36,
 49, 77, 78.
 Yellow, 26, 30, 48, 76.
 Water-thrush, Louisiana, 25, 34, 45,
 72.
 Waxwing, Cedar, 26, 30, 32, 36, 37,
 50, 79, 101.
 Whip-poor-will, 37, 58, 86, 92.
 Wilsonia citrina, 44, 71.
 canadensis, 94.
 Woodcock, 92.
 Woodpecker, Downy, 26, 27, 30, 32,
 34, 37, 59, 88, 101.
 Hairy, 59, 88.
 Northern Pileated, 97.
 Wren, Carolina, 101.
 House, 27, 30, 32, 36, 42, 53, 69,
 101.
 Long-billed Marsh, 26, 42.
 Short-billed Marsh, 101.
 YELLOWTHROAT, MARYLAND, 23, 26,
 27, 30, 32, 34, 37, 45, 71, 77, 92,
 95, 101.
 ZAMELODIA LUDOVICIANA, 51, 81.
 Zenaidura macroura carolinensis, 99.

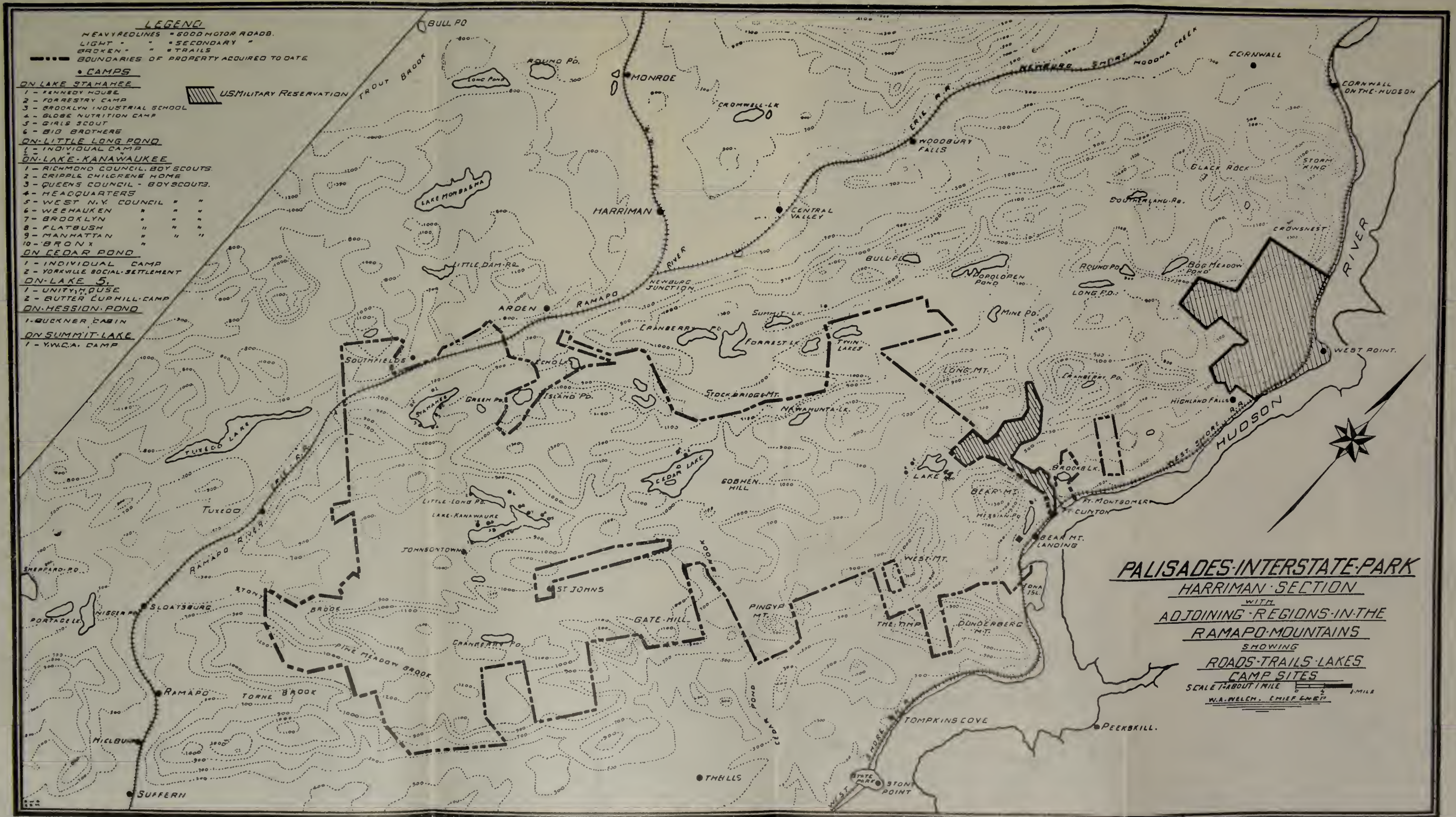
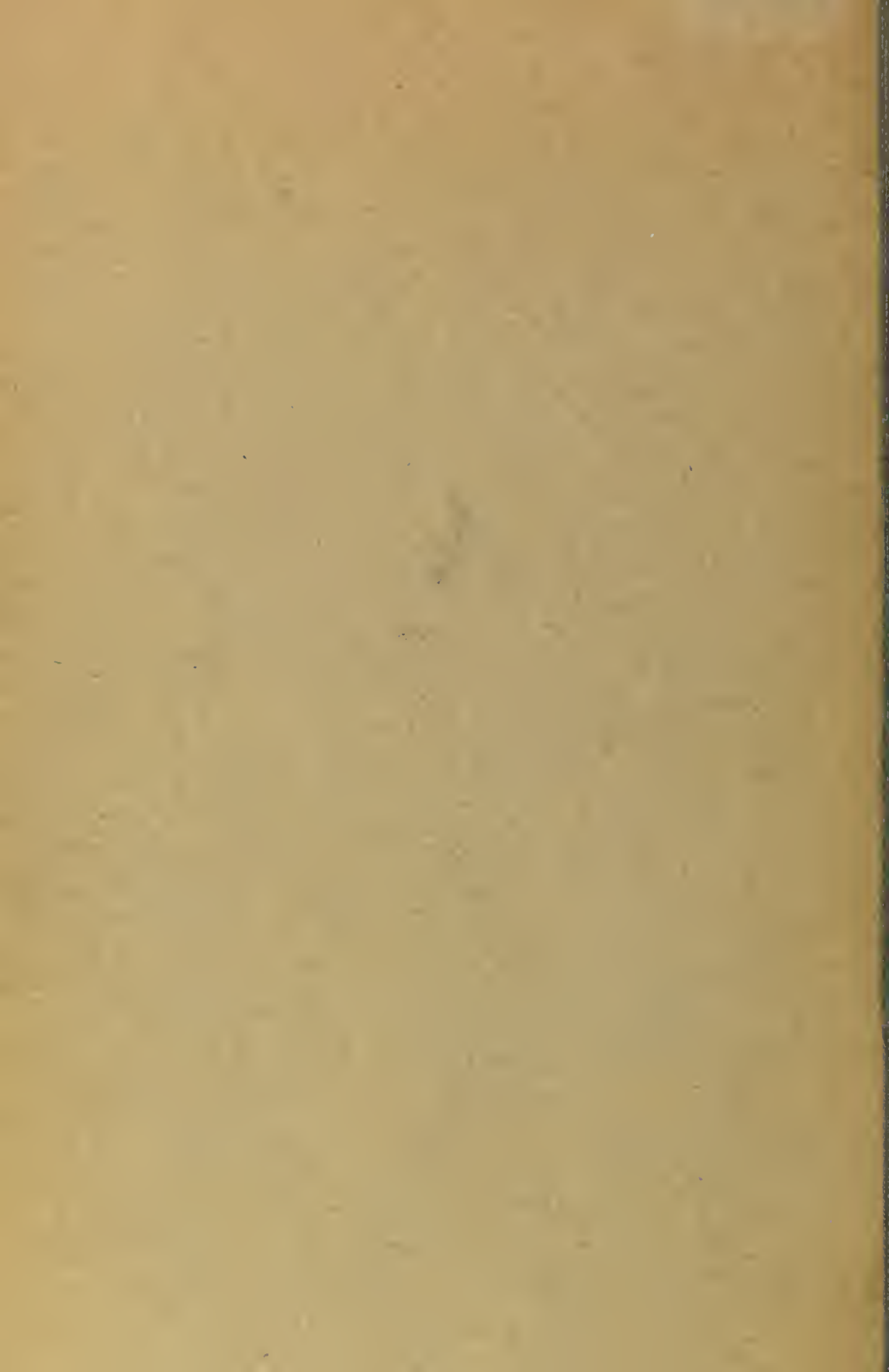
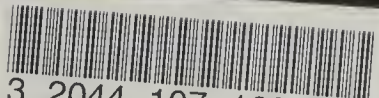


FIG. 33, Map of the Bear Mountain and Harriman Park section of the Palisades Interstate Park



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