THE AMERICAN WOODCOCK IN NEW YORK*

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The American woodcock is fairly common in New York State, but it is not a familiar bird to most people. Many dyed-in-the-wool bird watchers never have seen the secretive timber-doodle, and broods often are reared near habitations without the residents' knowledge.

Our woodcock (*Philohela minor*), like its European counterpart (*Scolopax rusticola*), is classed as a shorebird along with the snipes, plovers, sandpipers, and their allies, because of structural peculiarities which these birds have in common. Plump, long-billed, and with the eyes set high on the sides of the head, the woodcock presents a rather odd appearance. The general buff-brown effect of the plumage coloration blends perfectly with the ground cover. A female sitting on her nest in plain sight can be extremely difficult to spot, and the same is true for a bird which has fallen to a hunter's gun in heavy cover. In short, this is one of Nature's masterpieces of protective coloration.

No attempt will be made here to describe the woodcock in detail. Excellent descriptions can be found in any of several ornithological works covering the eastern United States, and one look at a good photograph or painting would be worth more than any word picture I might prepare. Suffice to say that the female is larger and heavier than the male, with the average weights running just under eight ounces and slightly over six ounces, respectively. Similarly, the female's bill usually is longer (average two and three-fourths inches) than the male's (two and one-half inches).

Woodcock are migratory, and spend only six or seven months of each year with us. The most important breeding grounds are in southeastern Canada and the northeastern part of the United States. The largest concentrations of breeding woodcock in this country probably occur in eastern Maine. The winter concentrations are in the South Atlantic and Gulf Coast States, especially Louisiana.

Woodcock breed in all regions of New York State, and probably in every county, with the possible exception of those making up greater New York City. Some areas, such as the Tug Hill country in Oneida and Oswego Counties north and west of Camden, have large expanses of excellent habitat. Here the birds find moist, poorly drained soil, abandoned agricultural land grown up to weeds, alders, and other shrubs, and an abundant supply of earthworms. Surprisingly, woodcock are not uncommon in the Adirondacks, where they favor the alder cover in the more open valleys. Apparently, silting has resulted in a reduction of the natural acidity of the soil to a point where worms can thrive.

Spring Migration

The first migrants reach the southern counties of New York in early March, and the central and northern sections by mid-March or early April.

* Based chiefly on information secured under Pittman-Robertson Research Projects 53-R and 81-R, conducted by the Bureau of Game, New York State Conservation Department.

The earliest arrival on record in Conservation Department files is March 1, 1952, at Boice Hill, Dutchess County (reported by Michael Rodak). Our earliest record for the Adirondack region is March 26, 1950, at Piseco Lake (reported by Robert Christie). Pettingill (1936) gave March 14 as the earliest record for Ithaca, and March 9 as the average earliest date for "southern New York". Ordinarily, most of the migrants arrive a week or two later than the vanguard.

Weather has a considerable effect on migration, of course. For instance, I do not know of any woodcock seen or heard in central Albany County until the first week in April, 1958, whereas they commonly reach the vicinity of Voorheesville between March 15 and March 22. There can be little doubt that the deep snow and generally disagreeable weather tended to hold the birds farther south last spring. On the other hand, snow does not always deter these travelers. On the occasion of Christie's Piseco Lake observation snow still lay deep in the forest, and the only bare ground was along stream and lake banks.

Aside from woodcock which nest in the State, most of the migrants crossing upstate New York breed in Ontario and Quebec. Actually, little is known concerning migration routes across New York. Although several hundred woodcock have been banded on the winter concentration areas in Louisiana, through the use of hand nets and spotlights, comparatively few have been banded in our State. More accurate plotting of migration lanes will be delayed until many more band returns are available for study.

Courtship

The most interesting detail of woodcock life history, in my opinion, is the courtship performance of the male. This has been described many times in the writings of naturalists, but a surprising number of people never have witnessed it. From the time he arrives from the South until about June 1 the male goes through this ritual daily at dusk and dawn, and occasionally during the night. He selects a "singing-ground" not far from his diurnal haunts, — sometimes in an open field, orchard, or lawn, but often in a small open clearing in brushy cover. Shortly after sunset he flies to the singing-ground, the time of arrival being determined by the amount of light — about five minutes after sunset on a cloudy evening, perhaps 20 minutes later if the sky is clear. After arriving at the singing-ground the male walks about in an uneasy manner, pausing at intervals to give a loud call. This is difficult to describe, but most accounts interpret it as "peent". It is a buzzing, nasal sounding call and has been compared with the flight note of the nighthawk. It is repeated at intervals of a few seconds, and almost invariably is preceded by a low, gurgling note. The latter sound ordinarily cannot be heard unless the observer is quite close to the bird.

The peenting continues for several minutes until, with a whistle of wings, the woodcock takes off in a wide sweep on his first flight of the evening. The spiral climb to a height of perhaps 200 feet is accompanied by a trilling noise produced by the wings. At the top of the ascent, and during the first part of the descent, a pleasing vocal song is uttered. Less than a minute after leaving the ground the bird has zig-zagged steeply down to earth at the same spot, and has resumed the peenting note. The interval until the next flight may be from two to several minutes, and a dozen or more

flights may be made during the performance period of an hour or less.

The purpose of the courtship activities is to attract the female, and occasionally she may be seen, near dark, flying in low to the edge of the singing-ground clearing. It is at this time that mating takes place, although this is not often observed, because of the poor light conditions.

It is possible to get quite close to the performing male by approaching the singing-ground while the bird is aloft. The approach should be made in stages, the observer covering himself at the base of a small evergreen or clump of bushes just before the male drops back to earth, then advancing as soon as he is well up on the next flight. Once hidden within a few feet of the singing-ground, it is a rare thrill to see the bird flutter down and resume the "took-o-PEENT" calls at close range. If the advance is made too rapidly, or while it is still quite light, the male may take alarm and shift his landing spot, or discontinue his romantic activities for the evening.

Although the males occasionally shift their singing-grounds, or use two or more interchangeably, it is generally safe to assume that each male has but one singing-ground. This fact is turned to advantage by he U. S. Fish and Wildlife Service in conducting the annual woodcock "census". This is carried out by Service personnel and cooperators, and consists of counts of singing male woodcock on selected routes in most of the north-central and north-eastern states, as well as in the eastern Canadian provinces. The routes usually extend for several miles each along roads in good woodcock habitat, and are covered each year during late April or early May. Observers use automobiles, and stop at specified intervals to listen. The year-to-year comparison between counts permits biologists to detect major changes in population level before determining the length of the fall hunting season and the allowable bag limit. In New York, about 20 routes have been covered each spring since 1948.

Nesting

The females nest soon after arrival from the South. Early nesting records for New York include the following: a nest containing three eggs near Endicott, Broome County, March 30, 1952, found by John Freundorfer; three eggs, Baldwinsville, Onondaga County, April 8, 1952, by Colin Bursey; four eggs, Cold River, Hamilton County, April 8, 1953, by Edward Maunton; and four eggs, near Williamstown, Oswego Couny, April 12, 1952, by Brainard Hilton.

The nesting season extends through April and May, and a few clutches of eggs are hatched in June. The latest nest that has come to my attention in recent years was found on Grand Island, Erie County, on June 7, 1952, by Mary Diringer.

The earliest hatching date in Conservation Department records is April 21, and the latest is June 29. In central New York, a majority of broods are hatched during the last week of April and the first 10 days in May, in most years.

The nest, a mere depression in dead leaves or grass, may be in any of a variety of locations. The female may select a site in an old field, in brushy cover along a woods edge, in a plantation, a tangle of berry bushes, or along a roadside. In any event, the nests are so inconspicuous that about the only chance of finding one is to flush the female from it by accident.

Four eggs constitute the normal clutch, although occasionally only three are laid, particularly late in the season. Pettingill cited a few instances of clutches containing five eggs, but these are rare. The eggs have a ground color of pinkish buff, and usually are marked with spots or mottling. The latter are of various shades of brown or lavendar, and tend to be clustered at he larger end of the eggs. Bent (1927) describes the shape of the eggs as "ovate to rounded ovate". In size, an egg commonly measures about an inch and a half long by an inch and an eighth in diameter at the larger end.

Once egg laying is begun, one egg is laid a day, as a rule, and incubation starts as soon as the fourth egg is laid. The incubation period varies slightly, but in a majority of cases the eggs hatch in 21 days. Thus, if a nest is found containing two eggs, it is fairly safe to predict that the chicks will be out about 23 days later, particularly if re-checks reveal that the third and fourth eggs appeared in the nest on schedule.

The incubating female does not flush from the nest unless approached quite closely, apparently depending on its protective coloration to avoid detection. During the later stages of incubation it often is possible to touch the bird without flushing her.

Woodcock nests frequently are subject to destruction by predators or the elements. Three of 25 nests which I studied were deserted because of heavy rains and resultant high water. Six of the remaining nests were broken up by predators, principally crows. Other enemies which have been known to destroy eggs or kill adult woodcock include house cats, hawks, and snakes.

Chicks

The chicks are precocial, and are active almost as soon as they emerge from the shells. The female broods the newly hatched young in the nest for a few hours, then leads them away, stopping from time to time to feed or brood them. For the first day or two, if undisturbed, the family remains within a few yards of the nest site and can be located by careful search. By taking advantage of this fact, and with the aid of a trained dog, I was able to band 47 chicks during the period 1950-1952. Although I had located a few of the nests, most of them had been reported to me by cooperators.

The chicks develop rapidly and can make short flights when a little over two weeks old. By the end of the third week they are nearly full-grown, and can fly nearly as well as the adults.

Food

Woodcock secure most of their food by probing in soft soil, and subsist chiefly on earthworms, centipedes, larvae, and other lower forms of animal life. Small seeds often have been found in woodcock stomachs, but it is not clear whether these were taken as food or ingested accidently while probing for worms.

The bill is peculiarly adapted to the use to which it is put. The distal third of the mandible is movable and very sensitive, enabling the birds to locate and grasp food beneath the surface of the ground.

Although woodcock do most of their feeding during the evening and at night, they frequently have been known to feed during the daylight hours.

Several years ago some well-intentioned person spotted four woodcock chicks crossing a road in the Adirondacks and, assuming that the mother had been killed, turned them over to the Conservation Department. The

chicks were placed in my care, and with the assistance of my family I succeeded in rearing them to flying age, at which time they were banded and released. During their period in captivity I acquired considerable insight into the task confronting a mother woodcock. The chicks quickly learned to accept worms dangled before them, and the number of worms that they consumed was astonishing. We were kept busy replenishing the food supply, and although we enjoyed watching them "grow up" we noticed that we had considerably more spare time after the chicks were liberated.

Summer and Fall Cover

Woodcock are particularly difficult to locate during summer. This is the molting period, and the birds seem to seek heavy cover. Dry weather often forces them to move to low-lying areas such as alderbeds and stream courses, in order to find soil moist enough for probing. However, unless conditions are unusual the summer haunts ordinarily are not far from the nesting and breeding areas.

During fall the birds continue to frequent alder, willow, and similar damp cover, but frequently are flushed by hunters on upland hillsides, in clumps of aspen and birch, among hazelnut bushes, or beneath hawthorn or wild apple trees.

The Fall Migration

The time of the fall migration is a subject of endless disucssion and disagreement among woodcock hunters. The question actually has two parts: when do the local birds start south, and when do the flights from farther north usually come through. The matter may never be settled with any exactness since the southward migration, even more than that in spring, depends upon the weather.

Woodcock commonly move about somewhat, perhaps even moving northward, before the actual departure for the south. This has led casual observers to conclude that the migration has started, since they could not find birds in the usual covers. In years when early, severe storms or frosts occur in September in Canada and northern New York, flights may appear overnight in central New York covers. Conversely, if the weather holds warm the migration is likely to be gradual and virtually imperceptible, with woodcock present upstate into early November. But in most years the bulk of the migrants pass through New York during October.

Occasionally, a few woodcock spend the winter with us, although this is unusual except on Long Island. I have reliable information that several spent the winters of 1949-1950 and 1950-1951 along the north shore of Long Island near Baiting Hollow, and along the Carmans River.

Management

Because woodcock are game birds, numerous studies have been undertaken by federal and state game agencies in the hope of evolving management procedures calculated to improve hunting success. Some of the earlier experiments involved the creation of small, artificial openings in woodland or other heavy cover, in order to provide more singing-grounds and attract breeding birds. This method was used with some success in eastern Maine. In many areas, however, singing-grounds are not scarce and, at best, artificial clearings merely tend to redistribute the woodcock already present.

Certain measures designed to improve fall habitat appear to have prac-

tical value. These include the thinning of over-mature or overly thick covers, thus making them more attractive as stop-over resting and feeding areas for migrants. Brush-killing sprays and pasturing are some of the other methods employed.

One federal refuge, The Moosehorn in Washington County, Maine, was set aside some twenty years ago to protect the local concentrations of breeding-woodcock.

Present Status

Woodcock appear to be able to "hold their own" in spite of hunting and natural losses. An occasional severe winter in the deep south results in heavy losses, and hot, dry weather during the hatching and rearing seasons can sharply curtail the year's increase. However, hunting regulations usually are altered if such conditions are widespread enough to be of significance. Aside from the elements ,the worst threat to woodcock is not hunting, but destruction of habitat due to house building, swamp drainage, and similar activities of man.

Literature Cited

Bent, A. C. 1927. Life histories of North American shorebirds. (Part 1) U. S. Nat. Mus. Bull. 142, U. S. Gov't. Ptg. Off., Wash., D. C.

Mendall, H. L. and C. M. Aldous. 1943 The ecology and management of the American woodcock. Contrib. Maine Coop. Wildlife Res. Unit, Orono.

Pettingill, O. S., Jr. 1936. The American woodcock. Mem. Boston Soc. Nat. Hist. 9: 169-391.

BIBLIOGRAPHY OF NEW YORK STATE ORNITHOLOGY — 1957

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No bibliography can be entirely complete, I suppose, but the usefulness of any such work is directly related to its completeness. Your bibliography committee will welcome, therefore, any contribution of references which may have been missed, and for next year, of any articles which may be published in a place where they are likely to be missed. Up to the present time, we have made little or no effort to secure and include articles published in local journals of the various clubs. In 1958, I should like to rectify this omission, if publications chairmen of the clubs will send me copies or citations of pertinent articles.

In a further effort to make the bibliography more valuable to the local club, I have included in parentheses after each citation the county from which the observation came, if this information is available and not implicit in the title. In cases where the species of bird mentioned is not included in the title, this information is also added. Such additions are used only where less than five species are mentioned in the article.

Allen, Arthur A. Louis Agassiz Fuertes. Kingbird 7:40-41.

Almendinger, W. A. Census grid on Beaver Meadow Wildlife Refuge. Kingbird 6:115.

Amstutz, Agnes. A Clay-colored Sparrow in the Adirondacks. Kingbird 6:117.

Anonymous. Grouse on skewer. N. Y. S. Conservationist 11(3):34. (Clinton county).

Anonymous. Patriarch. N. Y. S. Conservationist 11(6):39. (Genesee County, Ring-necked Pheasant).

Belknap, John B. The Red-headed Woodpecker in northern New York. Kingbird 7:87-88. (Lewis, Jefferson, St. Lawrence counties).