

GENERAL NOTES

Notes on movements, territory, and habitat of wintering Saw-whet Owls.—The Saw-whet Owl (*Aegolius acadicus*) occurs locally in relatively large numbers within its winter range. Nevertheless there are few published data concerning the movements, habitat requirements, and territorial behavior of these wintering birds. The discovery of small groups of Saw-whet Owls on the Edwin S. George Reserve, Livingston County, Michigan, enabled us to obtain information on these topics during the winters of 1955–56 and 1956–57. We should like to acknowledge the assistance of the following persons who helped us search for owls on several occasions: Laurence C. Binford, Gerald L. Brody, Evan B. Hazard, Robert L. Kirby, Paul Slud, and Dale A. Zimmerman.

The owls were found in a small, open planting of 36 young red pines (*Pinus resinosa*) in an upland field, and in an 82-acre tamarack (*Larix laricina*) bog, which was broken at intervals by ponds and elevated “islands” of oak-hickory woods (Fig. 1).

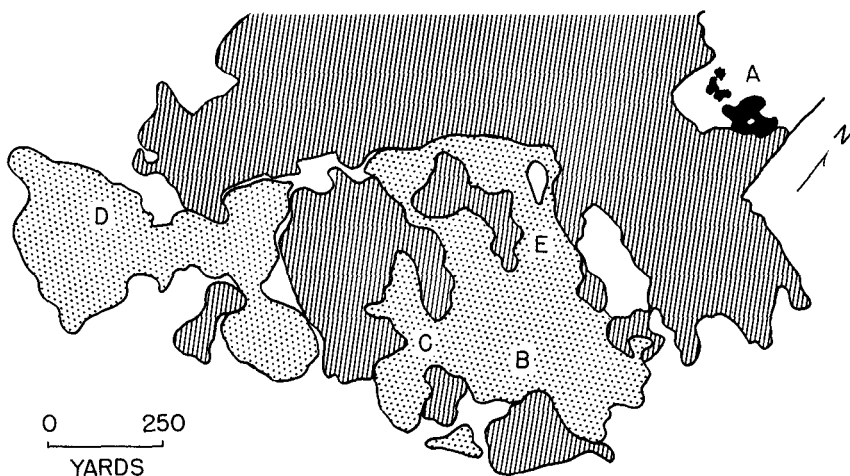


FIG. 1. Map showing areas (A, B, C, D and E) where Saw-whet Owls were found. Stipple represents tamarack bog; crosshatching indicates hardwoods; black represents a red pine planting; white areas represent upland or wet field.

We located owls by walking systematically through the bog, each person 30 to 40 feet from the next. The owls usually perched within a foot of the trunk on a horizontal branch of a bare tamarack. We undoubtedly overlooked owls on a few occasions, but the apparent absence of an owl was probably real in most cases. In the pine planting we carefully searched each tree, and were quite certain of an owl's absence when no bird was found. The fact that an owl had been in a particular tree was often revealed by pellets, excreta, or feathers on the branches. We marked some of the roost trees with strips of cloth for later identification.

The owls were caught by hand, flushed into a Japanese mist net, or flushed into a long-handled net. Each bird captured was banded with a U.S. Fish and Wildlife Service band, and the tips of the tail feathers were painted with red, blue, or white airplane dope. Several of the birds were too wary to permit capture.

Since owls were found in only a few circumscribed areas within the tamarack bog and surrounding upland, these areas will be designated by letters as follows: A represents the red pine planting; B, C, D, and E represent areas within the tamarack bog. The dates and locations of all birds are given in Figs. 2 and 3. Each small circle indicates an unsuccessful attempt to find birds in a particular area, whereas the presence of a bird is indicated by a number. Numbers 1 through 16 refer to individuals found on different days, or in different areas on the same day. Birds are numbered consecutively as found. An underlined numeral represents a bird which was caught, banded, and painted; the same underlined number always represents the same individual. Numbers not underlined represent birds which were not caught, and therefore could not be re-identified. (It should be noted that two different numbers, if not underlined, may or may not represent the same individual, and that the same uncertainty exists where a number not underlined precedes an underlined one.)

Winter of 1955-56 (Fig. 2).—During this winter we banded six birds. Numerals 1, 4 and perhaps 2 may represent a single owl since owl 1 (January 7) was perched in the same tree as owl 4 (January 22). Owls 3, 8, and 10 were banded but were not observed a second time. At least four owls occupied the tamarack bog and pine planting in January. Of these, owls 4 and 5 were found in three of the five areas between January 18 and February 12, but after that time each was found in only one of the areas. Owl 7 was first captured in area D, and, although it was banded and released near area A, it was subsequently found twice in its original area. During February and March each bird

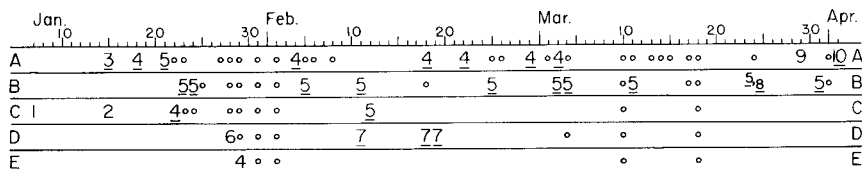


FIG. 2. Dates and locations of Saw-whet Owls, 1955-56.

apparently favored a particular area for roosting (owl 5 even perched on the same branch intermittently for almost a month), but judging from our failure to find owls on certain days, it appears that no bird restricted itself entirely to one area.

Winter of 1956-57 (Fig. 3).—We banded only two owls this winter, failing to catch others on four occasions because of their wariness. One of the latter (owl 12) was found on December 8 in the same tree used by owl 5 the previous winter. Since we found that, even with a bird in the hand, a band could be hidden by the tarsal feathers, we were unable to determine if this was, in fact, owl 5. No banded owl from the previous winter was recaptured. Owl 14 (January 5) was found in the same tree used by owl 15 (January 12), and the two numbers may represent one individual. Owl 15, found in area D, was released after banding in area A, but unlike owl 7 of the winter before, it apparently did not return to area D. Owl 16 was found in area D a month later. Owl 11, observed only three times during a three-month period, appeared each time in a different area. Each of these areas had been used regularly by owls during the previous winter.

Our data on movements of Saw-whet Owls are meager, but they clearly demonstrate that one cannot safely assume that owls found on several occasions in one area represent a single individual. A wintering Saw-whet Owl may roost primarily in a single area for

several months, or it may range over a considerable area (about 100 acres in our study), utilizing a number of roosting sites during a winter. Reimann (1940. *Auk*, 57: 254) states, "... it appears that the Saw-whet Owl, on its winter habitat, is constantly wandering from one locality to another." Our data suggest that wintering Saw-whet Owls are somewhat more stable. The three owls (8, 9, and 10) which appeared in areas A and B in late March and early April (1956) may have been migrants, although owl 5 had not yet abandoned its winter roost on March 31.

Owls 15 and 16 were unusually wary. In trying to catch these birds we flushed them many times in succession. Each time a bird was flushed, it flew from 40 to over 100 feet. The direction of flight was not always the same; in general the bird flew progressively farther from its original perch. When owl 15 had reached a point about 230 yards from its initial perch, however, it doubled back, and eventually perched near its original roost tree. Further pursuit caused it to repeat the circuit, during which it sometimes perched in the same trees used the first time, or in trees marked with droppings from previous roosting. Owl 16 behaved in a similar manner, but twice flew circuits which took it about 350 yards from its original roost tree. The bird eventually flew to this tree and retrieved a decapitated mouse which it had left on a branch. It flew to a nearby tree, carrying the mouse in its talons. We flushed it again but did not see it thereafter. These observations suggest that each owl knew intimately a particular part of a larger section of suitable habitat, and utilized several trees within this part for roosting. We do not know whether or not each bird defended its roosting area from other Saw-whet Owls. The fact that we found only one owl per area per day implies that the birds maintained small territories. The only exception occurred in area B on March 24, 1956, when owls 5 and 8 were perched 50 yards apart.

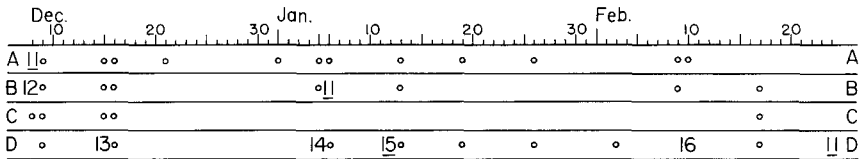


FIG. 3. Dates and locations of Saw-whet Owls, 1956-57.

Several facts indicate that areas A, B, and D constituted especially favorable roosting habitat for Saw-whet Owls. First, one bird utilized all three areas during one winter; second, six different birds used area A, four used B, and four used D during the two winters; third, owls were seldom found away from these areas, although we searched the entire tamarack bog a number of times; and fourth, during the second winter two unbanded owls were caught in these areas, suggesting that different owls chose the same sites independently.

Area D consisted of tamaracks 15 to 25 feet (mostly about 20 feet) in height. The trees were rather uniformly spaced about six feet apart. Their trunks were essentially free of branches from the ground to a height of approximately six feet. The chief associates of the tamaracks in this area were poison sumac (*Rhus vernix*) and bog birch (*Betula pumila*), both of which averaged four feet in height. Hence there was a zone about two feet in depth which was more or less free of branches. When flushed, Saw-whet Owls swooped down from their perches (which averaged seven feet from the ground) and flew through this relatively open space. In area B the tamaracks were taller and the shrub associates sparser than in area D; here the natural pruning of low branches again left an

open zone. Most other parts of the bog contained either very small, widely spaced tamaracks associated with poison sumac, or large trees (30 to 40 feet tall) with an almost impenetrable understory of high-bush blueberry (*Vaccinium corymbosum*) and poison sumac. The red pine planting (area A) differed in structure from areas B and D in its lack of a shrub layer, the presence of foliage, and the presence of dense branches extending down to the ground. The trees, 11 to 24 feet high, occurred in small clumps, separated by areas of grass. An adjacent stand of closely planted, taller red pines was never utilized by Saw-whet Owls to our knowledge.

Of the 82 acres of tamarack bog available, only two small sections (B and D) consistently harbored Saw-whet Owls. These areas were characterized by rather small trees and a relatively open zone allowing easy access or escape by flight below the tops of the trees. An easy approach or escape was also possible in the red pine plantation. The choice of small trees, vines, or bushes for winter roosting has been repeatedly mentioned in the literature. Perhaps selection has favored birds using small roost trees through their consequent isolation from the larger owls and hawks.—RUSSELL E. MUMFORD AND RICHARD L. ZUST, *Museum of Zoology, University of Michigan, Ann Arbor, Michigan, October 23, 1957.*

Sex ratios of wintering scaups in Long Island Sound.—A study of scaup ducks wintering in the Connecticut waters of Long Island Sound was conducted during the winters of 1952-53 and 1953-54. Whenever possible during the study, sex ratios of observed birds were recorded. Additional scaup sex ratio data were also obtained from hunter bags and trapped birds in Connecticut from 1952 to 1954, and from hunter bags in Rhode Island during the 1954-55 season.

The data were obtained with funds supplied by the Connecticut State Board of Fisheries and Game under Federal Aid to Wildlife Restoration Project W-7-R and The Rhode Island Division of Fish and Game under Federal Aid to Wildlife Restoration Project W-18-R. The sex ratios for the birds taken in Long Island were supplied by Donald Foley of the New York Conservation Department.

Both the Greater Scaup (*Aythya marila*) and the Lesser Scaup (*Aythya affinis*) occur in southern New England, but, since most of the sex ratio data were obtained by field observations which precluded any positive identification of the species, the data cannot be applied to the particular species. However, hunter bag checks indicate that the wintering scaup population in the area concerned consists of 80 to 90 per cent Greater Scaup.

A total of 10,460 birds were sexed by field observation. However, due to the fact that male scaup are often still in immature plumage during the fall, only 9,611 birds observed from January to spring were considered to give a reliable sex ratio. Table 1 summarizes the field observations.

In addition to the field observations, a sample of 113 Greater Scaup collected during the months of October, November, and December in Connecticut had a sex ratio of 109 males to 100 females, and 57 Greater Scaup trapped or collected during January and February in Connecticut showed a ratio of 111 males to 100 females. During the 1954-55 season 62 winter-killed Greater Scaup inspected in Rhode Island indicated a sex ratio of 130 males for every 100 females. Two hundred and eighty-nine Greater Scaup examined on Long Island from 1949 to 1956 showed a ratio of 175 males to 100 females, but 96 Lesser Scaup checked in the same area had a sex ratio of 50 males to 100 females.

Munro (1941. *Canad. Jour. Res.*, Sect. D., 19:113-138) reported that males dominated in wintering flocks of Greater Scaup in British Columbia at ratios of six or seven males to every female. Munro (*op. cit.*) also stated that spring populations of Lesser Scaup