

BANDING NOTES ON THE SNOWY OWL

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The following table is a summary of the banding data on fourteen Snowy Owls (*Nyctea scandiaca*) trapped and released on Long Island or in New York City during the winters of 1963-64 and 1964-65.

Band No.	Age	Sex	Date Banded	Location	Weight	Wing Chord
568-15051	—	M	1/12/64	Jones Beach		420 mm
568-15052	—	F	3/14/64	Jones Beach	4 lbs 4 oz	440 "
568-15053	Imm	F	11/26/64	Jones Beach	4 lbs 2 oz	453 "
568-15054	Ad	F	11/28/64	Jones Beach	4 lbs 11 oz	440 "
568-15055	Ad	M	11/28/64	Cedar Beach	3 lbs 4 oz	421 "
568-15056	Ad	M	12/20/64	Jones Beach	3 lbs 12 oz	410 "
568-15057	Imm	M	12/20/64	Jones Beach	3 lbs 11 oz	390 "
568-15058	Ad	M	12/25/64	Jones Beach	3 lbs 15 oz	430 "
568-15059	Ad	M	1/3/65	Bronx Co.	3 lbs 12 oz	412 "
568-15060	Imm	M	1/9/65	Jones Beach	3 lbs 0 oz	412 "
568-15061	Ad	F	2/13/65	Tiana Beach	4 lbs 11½ oz	442 "
568-15062	Imm	M	3/6/65	Water Mill	3 lbs 0 oz	395 "
568-15063	Ad	F	3/13/65	Orient Point	5 lbs 6 oz	435 "
568-15064	Imm	F	3/22/65	Kennedy Airpt	5 lbs 3 oz	444 "

Ageing and Sexing the Owls

In the writer's experience, attempts to age and sex the birds through binoculars met with a minimum of success. The best criterion of sex in the Snowy Owl is size, the poorest field character. Examination of specimens at the American Museum of Natural History and check of published measurements indicate there is very little overlap between the sexes, females being considerably larger than males. Many erroneous field identifications of sex are based on the darkness of the plumage. Local field observers have been heard to identify dark-plumaged Snowy Owls as females; others claim they are immatures. Similarly, light owls are variously called males or adults. Females average darker than males, but there is considerable overlap in this character. The largest owl banded (24" in length), # 568-15063, was an extremely light bird and some males banded were darker. However, the very dark birds are always females and a white owl is invariably a male. Between the extremes, field identification of sex by plumage is not possible. In the hand, a wing chord of 430 mm and a weight of four pounds seemed a dividing line between the sexes. In combination with plumage characters, it was felt that a high degree of accuracy was achieved when using these criteria for sexing the owls. In a larger sample there would undoubtedly be owls that could not be safely sexed.

The plumage of owls of the year averages darker than adult birds of the same sex, but this is of scant value in the field because of the overlap between males and females. In determining the age of the owls two criteria were used. The first was noted in Bent's *Life Histories of North*

American Birds of Prey: "Early in the season, at least, and perhaps later, there is more or less of the drab juvenal down concealed under the feathers, especially around the neck in birds of the year." On one occasion the writer tentatively identified an owl as an immature male in the field, when noting two dark spots on either side of the neck. This was later confirmed in the hand, the ruff of dark feathers mentioned by Bent being quite pronounced. Two immature owls banded in March still retained this character and there was 100% correlation with the second criterion of age used, the fault bars in the tail. The rectrices of young birds, developing as they do all at once, often exhibit these structural defects that appear as transparent areas across the feathers. Diet deficiency is generally believed to be the most logical explanation for this condition. The adult bird replaces its tail feathers individually and is also better able to provide for itself. This character has been noted in a number of other species by the writer, and by others as well. It is a mark that does not appear in any field manual, nor is it mentioned in plumage descriptions; but it is often present and is a *guide* to the age of a bird, though not diagnostic. Since the young Snowy Owl retains its tail until the following summer, the presence of fault bars is taken as an indication that there has been only one generation of feathers. Frances Hamerstrom (personal communication), banding the Snowy Owl in Wisconsin, has used this criterion on a much larger sample, obtaining a 1:1 ratio between adults and immatures.

Discussion of 1964-65 Banding

A major purpose of banding the owls is to determine mortality on the wintering areas, there being a widely held notion that owls coming south in flight years do not return to their northern breeding grounds, succumbing to gunners or disease. During the winter of '64-'65 the owls were also color marked blue on different portions of the wings and tail, along with an area code on left cheek or right cheek. This distinctive pattern would permit sight identifications of individual owls, thus providing a more accurate census technique, a method of determining daily movements and winter ranges, wider movements along the coast, and hopefully, the routes ultimately followed on the return trip north. Unfortunately, the dyes employed did not live up to expectations and on a few owls the colors ran, obscuring the distinctive patterns. In addition, the pigments faded badly and by the end of the winter the blue was visible only at extremely close range. However, of twelve color-marked birds nine were seen after banding.

Last winter, as has usually been the case, the owls concentrated along the coast in greatest numbers during November and December. On two different occasions only darkness prevented the capture of three owls in one day. Eight different owls were identified in the vicinity of Jones Beach State Park where they were present every month through March,

though becoming scarcer as the winter progressed. One critic of the banding operation attributed this decline in numbers to the trapping, weighing and measuring procedures which "chased" the owls from the area. This anthropomorphic view is not substantiated by any of the data presented below. It should also be noted that several Regional Editors in the May 1965 *Kingbird* mentioned similar declines in reports as the season progressed.

A drive by Jeep the entire length of the Fire Island National Seashore on December 29 failed to turn up a single owl. At day's end as our party approached Moriches Inlet we heard another theory for their scarcity. We inquired of a group taking a Christmas Count whether they had seen any owls, and one fellow, mistaking us for hunters, told us that some of our "friends" had undoubtedly done the owls in. As early as October 12 owls were reported in that area and this chap was terribly disgruntled about missing them on his count ten weeks later. The owls spend the winter hundreds of miles south of the arctic home where they are nowhere permanently abundant. We should hardly expect them to spend the entire winter in one restricted area.

The owls banded on Long Island were accounted for before and after capture as follows. It should be noted that birds were often identified before the banding date on the basis of plumage characters, favorite perches, reaction to the traps and other characteristic actions.

1. Owls seen at location other than the banding site.

- #054 First seen Jones Beach, Nov. 11; banded Nov. 28, seen there Nov. 29 and at Gilgo Beach, 5 miles east, Dec. 6.
- #055 Banded Nov. 28 Cedar Beach. Seen 1 mile west at Gilgo Beach Dec. 6. Seen on the beach at Great Kills, Staten Island Dec. 19 (L. Mills at al), 30 miles from the banding site.
- #058 First seen Jones Beach area Nov. 14, captured there Dec. 25. On Jan. 1 reported 55 miles east at Tiana Beach (Mrs. R. Maynard). Present there a few days thereafter (L. Wilcox).
- #061 Banded Tiana Beach Feb. 13. On Mar. 6 was at Sagaponack Lake, 10 miles east, and on Mar. 28 was back at Tiana Beach about ½ mile east of the banding location. When flushed it returned to the exact perch from which it was originally captured.

An unidentified owl with blue on its wing was reported from Jamaica Bay Sanctuary in mid-February (fide H. Johnson).

2. Owls not seen elsewhere that returned to the banding site.

- #053 First seen Jones Beach Nov. 11. Banded there Nov. 26 and remained there through Dec. 28. Not seen again until Mar. 6 when it was perched on a light pole a few yards from the banding site.

#060 First seen Gilgo Beach Nov. 28 and again on Dec. 6. Moved to Jones Beach Dec. 19 where it was banded Jan. 9. Not reported again at that location until Feb. 27 and 28.

3. Owls subsequently reported only where banded.

#056 First seen Jones Beach Nov. 7. Banded there Dec. 20 and remained through Jan. 3 (G. Coheleach).

#057 Banded Jones Beach Dec. 7, seen there until Jan. 2.

#059 Seen in the Bronx Dec. 14, banded there Jan. 3, present at least through Jan. 14 (D. Cooper).

4. Owls not reported again.

#062 and #063 Banded on eastern Long Island, an area not covered regularly during trapping operations. Owls were subsequently seen by others in locations where these two were banded but no definite identification.

#064 Removed to Jones Beach from Kennedy Airport where an owl had been killed earlier by aircraft.

Due to the failure of the dyes, the tracing of color-marked owls was sketchy despite the great number of observers in the area. However, it was not just the dyes but the owls themselves that seemed to fade away after their initial concentration along the coastline. Those subsequently reported from other locations evidently moved along the barrier beach and the dunes and marshes immediately behind it, for none were seen more than half a mile from the ocean. It is probable that others moved to interior points on Long Island where they were not sought out by birders. On the basis of this small sample, it would seem that the owls are not apt to spend the winter in a limited area. Further banding and color marking may demonstrate that the actions of #061 and #053 moving in and out of a favored hunting area within a radius of ten to twenty miles are most typical of the winter range of the owls. One deterrent to trapping more individuals was the difficulty in locating the owls after receiving a report on their presence in an area. On a number of occasions, an intensive search the following day failed to locate the owl. Yet when present they repeatedly used the same perches, especially as evening approached. The wider swings of #055 and #058 emphasize the deficiencies in census techniques. Without color marking it would be impossible to know that the owl seen at Jones Beach one weekend was the same one seen the next weekend at Tiana Beach. Similarly, the two or three owls at Jones Beach reported by observers actually numbered eight.

There have been reports of Snowy Owls shot on Long Island in each of the last two winters and others that came to grief by airplanes and automobiles, but there have been as yet no recoveries of banded birds. Despite their apparent reduction in numbers as winter progressed, no

evidence can be presented to indicate that the species suffered significant losses due to hunting, disease or misfortune. The mobility of the population seems to account for the departure from favored birding areas by January and it is more than likely that the bulk of the Long Island wintering population *does* return to the breeding grounds.

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SHRUB AND TREE CROP

Fall and Winter 1965-66

<i>Regions</i>	<i>Adiron- dacks</i> 5,6	<i>Ontario Lake Plain</i> 2,5,6	<i>Western Allegheny Plateau</i> 1	<i>Eastern Allegheny Plateau</i> 3,4	<i>Long Island</i> 10
White Pine.....	P-F,P		F	P,F	
Pitch Pine.....					
Larch.....	G,G			-,G	
White Spruce.....	P-F,G			-,G	
Black Spruce.....	P-F,G				
Red Spruce.....	P-F,-			-,F	
Balsam.....	P-F,P				
Hemlock.....			G	F,G	
Arbor Vitae.....				-,G	
Red Cedar.....		F,F,G		-,F	G
Bayberry.....					F
Ironwood (<i>Ostrya</i>).....			F	-,G	
Blue Beech (<i>Carpinus</i>).....			F	-,G	
Grey Birch.....	G,G		-		
Yellow Birch.....	- -	- -	G	-,F	
White Birch.....	G,G			-,G	
American Beech.....	F,G	F,-,-	F	P,G	
White Oak.....		F,-,-	F	P,G	F
Red Oak.....			F	G,G	
Cucumber Tree.....			G		
Mountain Ash.....	G,G		-	-,G	
Thornapple.....		G,G,F	F	G,G	
Wild Black Cherry.....	G,P		P	P,G	
Box Elder.....		G,G,P	F	F,G	
Sugar Maple.....			F	F,G	
Grey Dogwood.....		G,F,G	-	F,G	
Red Osier Dogwood.....		F,F,G	-		
White Ash.....			P	G,F	
Black-berried Elder.....		G,G,G	G	-,G	

The wild shrub and tree seed crop over most of the State, as judged by 7 reporters in 7 different regions, was fair to good in spite of the drought (reports from Regions 7, 8, and 9 were not received).