

OVERWINTERING AND NESTING OF THE LONG-EARED OWL AT MUTTONTOWN PARK AND PRESERVE, EAST NORWICH, LONG ISLAND

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SUMMARY

In the winter of 1976-1977, a family group of five Long-eared Owls overwintered in Muttontown Preserve.

This report follows this family group, the departure of last year's young, and the commencement of nesting by two adult owls on April 21, 1977. Two young owls were successfully raised.

An analysis was made of 330 winter pellets and 35 summer pellets, and the findings are included in this report.

THE OVERWINTERING OF THE LONG-EARED OWL

On December 12, 1976, while walking through a conifer stand in Muttontown Park and Preserve, I discovered five Long-eared Owls roosting in a Scotch Pine (*Pinus sylvestris*). This roost was used by these five for most of the period from December 12, 1976 to April 21, 1977.

The roost tree was a Scotch Pine approximately 45 feet tall, with a diameter at breast height of 17 inches. This particular tree was light-starved due to the denseness of the conifer stand, creating a mass of contorted and tangled branches at the top of the tree. This, plus the color of the tree bark, made ideal conditions for the Long-eared Owls to camouflage themselves.

NOTES ON BEHAVIOR

The winter of 1976-1977 was a harsh one in the Preserve. From the end of December to the middle of February, there was a cover of snow over most of the fields, which probably made hunting somewhat difficult for the owls. When checking the roost during this time, I observed that on several occasions the owls had dispersed to different areas of the Preserve, probably to hunt over a wider territory with less competition for food. However, when the snow melted between storms and hunting became easier, the owls returned to the Scotch Pine roost. If undisturbed by the weather or man, I think that these owls would use one roost tree for the entire winter, as some books suggest.

On each visit to the roost area, I took note of the positions of the

owls in the tree. Whenever there were five birds in the tree, the same branches were used as perches. Although the birds were not banded to distinguish them, it would appear that each owl returned to the same perch in the roost after a night's hunting.

On all occasions when I observed the owls, I never saw them to be in a hiding pose such as is mentioned by other observers. They sat in a normal position, without constricting their feathers, and just stared at me. Possibly they were secure in the ideal camouflage conditions provided by the roost tree, or they may have become accustomed to my presence.

Although the five owls in the winter roost were quite probably a family group from the preceding year, this could have been proved only by banding them. Assuming, however, that they were a family group, it appeared that the young birds were gradually being pushed out of the roost area as the breeding season approached.

On March 12, 1977, there were four Long-ears in the roost, but for the first time, their pellets were found under other trees within the conifer stand, as if the young were being weaned from the family group and beginning to roost on their own. This is apparently what happened, because on March 23, there were only two owls in the roost. I searched the other conifer stands in the vicinity, but could not locate any of the three young owls.

The male and female owls, which can be told apart by the paler coloration of the male's plumage, remained together in the roost tree until April 19, when only the male could be seen at the roost. During the period between March 23 and April 19, the male and female had always occupied the same separate perches in the roost tree.

THE NESTING OF THE LONG-EARED OWL

On April 21, 1977, I discovered an old stick nest in a White Pine (*Pinus strobus*), 60 feet from the winter roost tree. I looked at this tree from all angles but did not observe any sign of the female on the nest; as a last resort, I kicked the base of the tree twice, and the bird flew off the nest. The male was in the winter roost the entire time.

The nest was located 43.6 feet from the ground in a White Pine with a breast height diameter of 11 inches. The tree was in a five-acre woodlot of mixed White Pine, Scotch Pine, and Norway Spruce, all of approximately the same age.

The nest itself was probably an old crow's nest that had partially broken down. During the first seven days on the nest, the female

and/or the male totally rebuilt the broken section, or approximately one-fourth of the nest size. The repair work was strong enough to last until the young were about three weeks old.

The nest tree was located 300 yards from the nearest human habitation, and 100 yards from a lightly used road. A well-used bridle trail runs alongside the woodlot about 25 yards from the nest tree. Despite the nearness of the nest to these possible sources of disturbance, there seemed to be no effect on the nesting success of the owls. As far as I know, there was no direct intrusion into the woods other than my weekly visits.

Concerning sources of water, the nest was 200 yards from a normally wet meadow, 1/2 mile from a vernal pond, and one mile from a large Red Maple swamp.

The Long-eared Owls had several suitable hunting grounds. In the section of the Preserve where the nest was situated, roughly 150 of the total 275 acres consist of fields and meadows. One 10-acre field is adjacent to the nest-tree conifer stand; another of about 65 acres is 1/2 mile away. Four additional fields are within hunting range.

BEHAVIOR DURING NESTING

For the first 21 to 24 days of the nesting period from April 21 to May 14, corresponding closely to the incubation time, the male remained in the old winter roost. On each of the five occasions when I visited the nest to check for pellets and other debris, the male seemed very alert and watched my actions intently. At no time, though, did he make a sound or display any hostility.

On May 14, the male changed his roost to a White Pine right next to the nest and on a branch level with it. The eggs should have hatched at about this same time, so perhaps this move was to better observe the newly born young owls. The male seemed upset during the three times I was in the area, but did not fly away. Again there was no hostile behavior other than bristling of feathers. At this time, the male must have regurgitated pellets while out hunting or at the old winter roost, as there were no pellets or other signs of his presence below the roost close to the nest. The new roost was maintained for 14 days. After this, the male returned briefly to the old roost, then again changed his habits. Although I was sure he was within the area, I never found a new permanent roost, if indeed there was one.

Once the young owls were out of the nest, the male became exceedingly secretive. The only sightings I had of him were of his leaving the opposite end of the grove as I entered. He would always

head away from the area the young were in, as if to divert attention from them. His roost changed frequently, but would always be within sight of the young, about 150 yards away.

During the nesting period, the female owl was very secretive, sitting quite low and tight in the nest. While sitting, the female seemed to be practically torpid and not easily disturbed. I wondered if she were still in the nest, and it took a few jarring blows to the base of the tree to get her to fly. Even after leaving the nest, she appeared groggy, and did not fly very far. There was no hostile or aggressive behavior other than a strong annoyed glare. There were none of the spectacular defensive displays that some other observers have reported (*i.e.* Bent, pp. 161-3). The female kept up this secretive behavior throughout the nesting period, but as the young owls grew, she sat higher in the nest, making her more visible.

Despite her sluggish daytime behavior, I believe the female came off the nest to regurgitate her pellets, and possibly to hunt. This was evident from the definite lack of pellets or the remains of prey items in or around the nest. It could be assumed from this that the male may share in the brooding and care of the young.

The female stayed in the nest with the two young birds until the repair work gave way and the nest collapsed. The two young birds, now three weeks old, were spilled out of the nest and onto the ground. After this, the female remained close to the young, roosting within 20 to 40 feet of them. Whenever I entered the area, she would fly away as soon as I got within 20 yards. The only indication of hostility was a call of annoyance, a "wuk-wuk-wuk" uttered once. At this stage, the female was noticeably less secretive than the male.

The young owls' behavior changed noticeably with age. When they first fell from the nest at the age of three weeks, apparently unharmed, they were easily approached, and would freeze into a hiding pose. For shelter, they scrambled up into a snag of dead and falling Red Cedar (*Juniperus virginiana*), or ran for the thickest cover available. On one occasion, one of the owls ran directly at me, but, realizing I was there, froze until I left the area.

The young birds quickly learned to climb high into the trees. I observed both birds at the approximate age of six weeks, now almost adult in size, some 40 feet up in a Black Locust (*Robinia pseudoacacia*). At this age, they would sit in a hiding pose on a limb for a few minutes, but soon grew restless and walked or flew clumsily to another tree.

By the age of roughly 7½ weeks, both young birds were flying,

although still rather awkwardly. They now flew off to the other end of the grove as soon as I entered it. My observations stopped at this point, as it became increasingly difficult to keep track of any of the Long-eared Owls, young or adult.

CONCLUSION

Although this is the first recorded nesting of the Long-eared Owl on Long Island since 1944, and in Nassau County since 1939 (Bull, 1964 and 1974), I feel that this species has nested sporadically on Long Island within the past 40 years. This opinion is based on the fairly regular occurrence of Long-eared Owls overwintering in several local regions. At Muttontown Preserve in particular, this owl has previously been observed well into the breeding season. However, owing to its extremely secretive nature, and the widespread popular belief that this species is strictly migratory and only a winter resident, the possibility of its nesting on Long Island has largely been discounted, as have any reports of sightings in the spring or summer. Perhaps with the discovery of this nesting pair, other naturalists will be encouraged to find out more about the ecology of this overlooked woodland owl, on Long Island as well as in other areas of the state.

COMPARISON OF WINTER AND SUMMER PELLETS

A fully definitive comparison of the winter and summer diets of this pair of Long-eared Owls was hampered by the lack of a large number of summer pellets available for analysis. However, based on the similarity of the percentages obtained for the winter and the summer, it is safe to assume that the Meadow Vole (*Microtus pennsylvanicus*) is the main prey item for Long-eared Owls in this region. The Short-tailed Shrew is second by a far lower percentage. Birds make up a similar portion of the diet.

In the case of rodents, only the skull was used for identification, by dental formula and skull characteristics. This meant that if no skull was found in a particular pellet, the bones were not identified. In the case of birds, the skull, lower mandible, and humeri were used for identification. Pellets obviously containing birds, where these bones were not present, were listed as "Unidentified" bird species. Since I was unable to obtain a book on identification of bird bones, these were identified by Mr. Otto Heck from his own knowledge of the subject of owl pellets.

The conclusion that can be drawn from the pellets of the Muttontown Long-eared Owls is that the Meadow Vole is the main food of this field-hunting bird, all year long. Even in the summer months,

when the Short-tailed Shrew seems to increase slightly in percentage, voles still make up between 85 to 90% of the diet.

Birds seem to be a significant factor in the owls' year-round diet, remaining at more or less a constant percent throughout the year. The results show that one in every 21.6 pellets contained a bird during the winter, while of the 35 summer pellets examined, one was a bird. The winter analysis also included species such as Deer Mouse (*Peromyscus leucopus*), Least Shrew (*Cryptotis parva*), and Norway Rat (*Rattus norvegicus*). These species could also be a portion of the summer diet, but this was unsubstantiated by the few available pellets.

The fact that the Meadow Vole makes up 85 to 90% of the diet of the Long-eared Owl agrees with a study done by the Craigheads in Superior Township, Wastenaw County, Michigan, in 1942. The winter data showed 88.6% of their diet to be *Microtus*, and the summer diet of the same year contained a slightly lower 79.4%.

WINTER PELLET ANALYSIS

The following analysis is based on a family group of five Long-eared Owls, for the winter of 1976-77, from December 12, 1976 until the nest was located on April 21, 1977.

While there was a conservative estimate of over 500 pellets below the roost tree, only 330 of these were examined. In all, 303 prey items were identified.

Species	No. found	% of diet
Meadow Vole		
(<i>Microtus pennsylvanicus</i>)	273	90%
Short-tailed Shrew		
(<i>Blarina brevicauda</i>)	8	2.6%
Deer Mouse		
(<i>Peromyscus leucopus</i>)	4	1.3%
Least Shrew		
(<i>Cryptotis parva</i>)	1	.0033%
Norway Rat		
(<i>Rattus norvegicus</i>)	1	.0033%
Birds:	14	4.6%
Sparrow (species ?) — 3		
Cardinal — 1		
Starling — 1		
Am. Robin — 1		
Unidentified — 8		

SUMMER PELLET ANALYSIS

This analysis is based on the small number of pellets I was able to obtain during the nesting season. Pellets were exceedingly hard to find for several reasons. The ground cover under the male's roost was largely poison ivy, as it was in most of the conifer stand in which the owls stayed. Although the base of the nest tree was free of poison ivy for the most part, there were never any pellets in the immediate vicinity of the nest itself.

The following figures are the result of 35 obviously fresh pellets found in the grove during the nesting period.

Species	No. found	% of diet
Meadow Vole		
(<i>Microtus pennsylvanicus</i>)	30	85%
Short-tailed Shrew		
(<i>Blarina brevicauda</i>)	4	11.4%
Starling		
(<i>Sturnus vulgaris</i>)	1	2%

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