SOME OBSERVATIONS ON THE FEEDING AND NESTING BEHAVIOR OF GREAT HORNED OWLS

by Alan E. Strauss

The following observations of a nest of Great Horned Owls *(Bubo virginianus)* established in a hollow cavity in an oak tree at Swan Point Cemetery in Providence, Rhode Island, were made between February and April of 1986 when the nest site was visited almost every day for about two months. The site was also occupied during 1987 and 1988. Great Horned Owls are the second most common and widely distributed owl in Rhode Island (Ferren 1980, page 1). These large ear-tufted owls are most common in the interior of Rhode Island but also breed regularly in coastal sections (Ruecker Wildlife Refuge publication).

Owl pellets were collected and field notes were recorded regarding roosting locations as well as kill sites and the location of prey remains. Changes in feeding behavior based upon the amount, type, and size of pellets were noted during the season. When the young were born, their behavior was observed as well as that of the adult owls.

Nesting behavior. The owl nest, located in the southeast end of the cemetery, has been utilized by Great Horned Owls for at least five years. A large cavity exists in an oak tree about twenty-five feet from the ground. When the female first entered the tree, she could only be detected by her ear tufts and the top of her head; binoculars were needed to view the owl at this time. The nest site was first visited on February 20, 1986. At this time the female owl could be seen sitting far down and to the right in the tree cavity. Great Horned Owls usually nest by late February and prefer areas that have eastern white pines *(Pinus strobus)* and standing water (Petersen n.d.).

On March 7 the owl was first seen moving and sitting up high and to the left in the cavity; binoculars were not necessary. The position of the owl can be interpreted as a sign of when the young were first hatched; after their birth she was forced up high on the nest and to the left in the tree cavity.

Great Horned Owls add very little material to the nest cavity, which is cleared and lined with breast and down feathers. Typically the clutch contains from one to three coarsely textured dull white eggs (Peterson 1975: 98). Incubation takes from twenty-eight to thirty-five days and is mostly accomplished by the female while the male provides food.

Beginning on March 9 the male owl was seen in various locations throughout the cemetery. The female remained rather still on the nest. On March 11 she was seen sitting extremely high up on the nest, and she was observed moving her head and shifting position. On this date the first young owl, covered

in off-white down, was seen stretching a wing, which appeared to be about six inches long. A dramatic increase in droppings and pellets throughout the area was also observed during the next several days.

Prior to March 14, all of the owl pellets, droppings, and bone remains were found at some distance from the nest tree. My interpretation was that the owls periodically cleaned the nest site, removing any signs that the tree contained a nest, perhaps as protection from raccoons, which occasionally raid the nests and eat the eggs or young. On the fourteenth of March, bird bones with skin and ligaments on them were found adjacent to the nest tree. At this time the young owl was beginning to attain a brown tone to its feathers. Two days later, it was confirmed that there were at least two young in the nest.

On March 18 two young owls were observed, one light gray in color, the other light brown. The adult bird was pushed up very high and to the left. There was still room in the cavity for the young to hide behind the female, which they sometimes did as they shifted position in the nest. The baby owls had large heads with dish-shaped faces and resembled "abominable snowmen." They would occasionally open their large beaks as if yawning. They also began bobbing their heads up and down, a sign that they were trying to focus and were at least fourteen days old (Tim Rumage, personal communication).

Two days later, March 20, some light brown banding and speckling was observed on the wings of one of the young owls. One bird became more curious and edged its way to the front of the tree cavity. This bird would often shake its head, stretch its wings, lift a foot, and sway its head back and forth while watching me. On the twenty-third, the first owl pellet was found directly under the nest tree. The female at this time was nearly crowded out of the nest, and she sat so high that the tops of her legs and the barring on her chest could be seen.

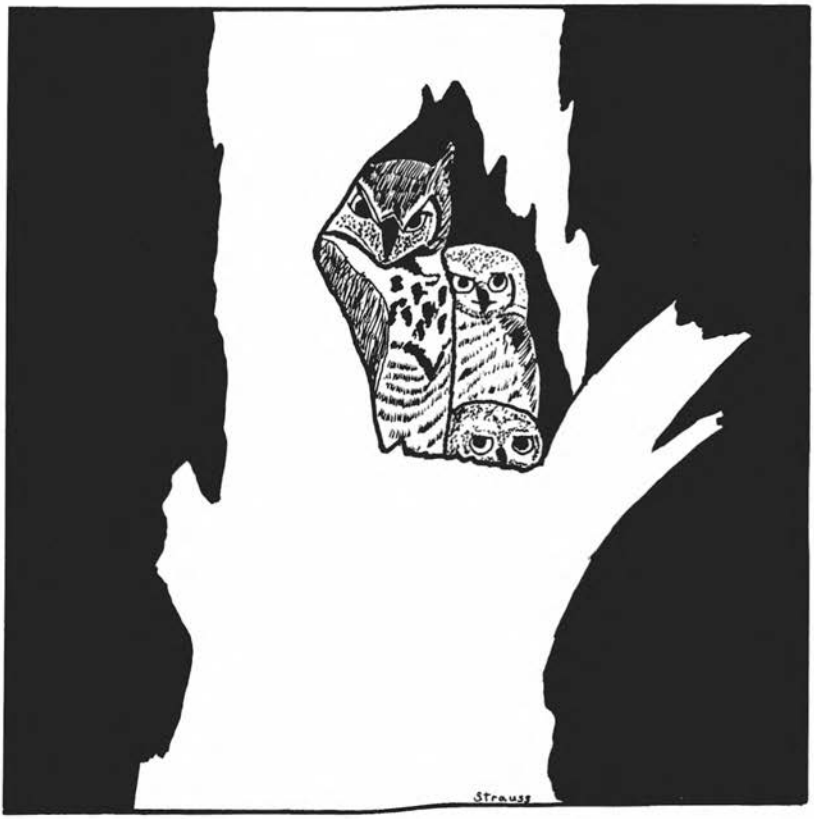
On March 24 the young owls constantly shifted around in the nest and were seen preening, fidgeting, and stepping on each other. One sat up against the female's breast, which forced her chest feathers up. One youngster had brown tones on its back, a light gray head, and a pale brown face with white lines where the bib would be. A day later, definite brown barring, especially on the end of the wing, was observed on one of the young birds.

Four days later (March 29) both the male and female were seen in the hemlock trees adjacent to the nest site between 2:00 and 4:30 P.M., leaving the young unattended for the first time. The female was attacked by several crows and a Red-tailed Hawk, which she fought with in the air for a brief period. It was also confirmed at this time that there were three young in the nest.

The following day, one of the young had a little white bib, dark brown around the eyes, and the beginning of ear tufts. The next day, black eyebrows and a black line around the facial disk could be seen. By April 2 the adult owls

left the nest much more frequently, and the young perched at the very front of the tree cavity.

During the first two weeks of April, the adult owls sat in the conifer trees within view of the nest site and occasionally perched together on the same limb. On April 11 one of the young sat on a branch outside of the cavity for the first time. Numerous droppings were found around the base of the tree and on the branches. On April 13 at 6:30 P.M., two young owls were perched on branches; the male bird sat in a nearby tree. At 7:00 P.M., the young began to cry for food, making a sound similar to that of the call of a Red-tailed Hawk. The male owl flew to the nest tree, saw me, clattered its beak, and made a two-toned alarm call that sounded like a hoarse cough, which was repeated for several minutes while the young hopped up and down on the branches, flapped their wings frantically, and continued to cry. The adult bird was constantly moving its head around, and I left so as not to disturb the birds further.



The next morning, April 14, all three young owls were sitting in the branches. Apparently young owls first leave the safety of the tree cavity at night. Pellet pieces and droppings continued to build up at the base and on the branches of the nest tree during the second week of April, apparently indicating that the young "branchers" were spending considerable time out of the tree hollow at night. On April 14 only two young owls were found on the branches of the nest tree. However, all three were seen during a night visit on that same date. They were not crying that night as they had done previously.

The nest area was visited for the next week until April 21, and the two adults were sometimes seen in the conifers throughout the area during this time.

Feeding habits. The first signs of the presence of owls at Swan Point Cemetery were pellets and droppings or "whitewash." In February the owls utilized half a dozen roosting trees, usually oaks but also two large conifers. The pellets were often whole, from two to five inches in length, and covered with a shiny coating, probably mucous, when fresh. On February 14 a rabbit's foot was found and on the twenty-eighth a pellet with several bird feathers in it. A "kill spot" was discovered on the same date. This consisted of two clusters (ten and twelve inches in diameter) of Mourning Dove feathers and corn kernels.

During the first week of March various pieces of squirrel and rabbit fur were found throughout the nesting area. One roost near the nest cavity appeared to have been used almost every night. On March 11 a dramatic increase in pellets and droppings occurred, coinciding with the displacement of the female to the left side of the nest and probably signaling the hatching of the young owls. On March 14 several pieces of pellets and regurgitated clumps of feathers were found as were bird bones, small bird feet, scattered feathers, and a pigeon carcass, innards, and feathers. In the second week of March most of the pellets contained bird feathers, beaks, feet, and seed. People had been leaving bird seed under one of the large conifers to attract songbirds. Numerous droppings and pellets were found under these trees. The seed in the pellets led me to believe that the owls were hunting the small birds attracted by the bird seed.

During the third week of March, starling and flicker feathers and body parts and a portion of a grackle were found. On March 17 feathers and blood on the ground indicated a kill. Pellets, somewhat smaller than previously, were recovered from beneath the nest tree during this week. By the end of March, bird bones, skulls, backbones, and leg bones appeared in the pellets, which also contained rabbit and squirrel remains.

On April 4 a squirrel foot was found with numerous rodent jaws, fur, and bird feet. On April 16 a starling carcass and on the twenty-first a dead rabbit hanging in a tree were found.

The pellets and the food remains suggest that at first the adult owls ate rabbits and squirrels, the latter being the most common prey item. It appears that

once the young were born the owls began to feed on birds, either because they were easier for the young to eat or because the rodent supply was diminishing. Great Horned Owls also eat mice, skunks, amphibians, and reptiles, as well as other birds, including smaller owls (Rumage 1980: 2). Various small rodent jaws were recovered from the pellets in Swan Point Cemetery. When the young owls were born, the number of pellets increased, and the size changed. Previous to the birth of the young, the pellets were whole and large; after their birth, the pellets were about half the size of the earlier ones or in small pieces. Although pellets were scattered around the nest tree throughout an area eight hundred feet in diameter, several oak trees and two large hemlocks were used as consistent roosts.

Conclusions. This study taught me that careful observations of nesting Great Horned Owls on a regular basis can be very rewarding. Observations of the adult owls' behavior provided clues as to when the young were born and their feeding habits. Studying the young owls provided data on the physical and behavioral development of wild owls. I hope that people who view these nesting owls in the future will treat with respect these valuable wild predators, will learn about them, and will not adversely affect the tradition of their using the Swan Point nesting oak.

References

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