SELECTIONS FROM A BIRDER'S NOTEBOOK:

ON THE GREAT HORNED OWL

Joseph F. Kenneally, Jr., Bedford

It looked like a long walk, particularly since it had to be done in hip boots. The banks and flood plain of the Town River were inundated with the run-off of melted snow and spring rain in that month of March, 1949. The Hockamock Swamp looked more like a pond or a small lake than a freshwater wetland. Route 24 was not even on the drawing board, and the power lines with their steel towers were still years from installation. Our trek was to take us along the southern perimeter of the flood plain, through stands of red maple, thick underbrush and small parcels of grassy marsh bordering swollen tributary streams.

Our aim of achieving maximum concealment and maximum silence proved to be largely unattainable. At times we seemed to move through the secondary growth with the ease and grace of a herd of cattle -- only noisier. Progress across the several tributary streams was hesitant, owing to their springtime depth and muddy bottoms. (None of us carried waterproof binoculars.) Each emergence from the trees into one of these small estuaries would invariably result in the noisy exit of Black Ducks, Pintails and Green-winged Teal from the nearby river.

Finally, Ray Seamens called a halt. Through a break in the trees we had a fair view down the river. A small peninsula (at that moment an island) jutted into the floodplain on the south side of the river. Ray pointed to a stand of white pines on the high ground about two hundred yards ahead. The nest wasn't hard to detect, for the platform of sticks could be seen with the naked eye. A binocular view revealed the cat-like "ears" or "horns" of Bubo virginianus, the Great Horned Owl. Even in that first spring of birding I had managed better views of life birds, but that fact did not diminish this moment.

We detoured to the left deeper into the woods and pressed on farther upstream toward the nest tree. As we closed the distance, the big bird stepped from the nest, dropped down the far side of the pine, and sailed off the island. We crossed the last stretch of flooded marsh and went ashore. This particular location must have been thought strategic by the early inhabitants of the region, for many Indian artifacts were to be found there. It was the search for these the previous week that had brought Ray here to his chance encounter with nesting Horned Owls.

A somewhat rigorous climb to the nest revealed its contents: three eggs and remnants of prey animals, such as Black Ducks, crows and jays, as well as some other unidentified edibles. The eggs had undoubtedly been laid in a staggered fashion, and, since incubation in owls begins with the laying of the first egg, they would hatch on different days, thereby assuring a size discrepancy in the young. The largest would eat first and as often as inclined, since the parent birds feed the first available and most insistent mouth. If game was abundant, and if the hunting territory was well-stocked enough to support multiple young, the parent birds would be able to provide more than enough prey to satisfy the largest owlet. With sated appetite, the senior clutch member might then hang back allowing a smaller, hungrier nestmate to get to the head of the line. If hunting was poor, the largest owlet would seldom be satisfied, and, since there is no inclination to share during hard times, the lesser young would weaken or starve, only to be themselves devoured by a larger brother or sister.

The end result is obvious. A hunting territory with abundant game can support multiple fledglings; a depleted territory cannot. The young owl most fit to survive receives every opportunity to succeed. If conditions allow, some of the less fit may also succeed.

I descended from the tree, and we prepared to leave. Suddenly our attention was directed to the west end of the island by the excited clamor of a large flock of crows. We maneuvered for a view in time to see a large Horned Owl glide up to a bare branch on the skeleton of a large tree protruding from the water over the flooded river bank. I assumed it was the female, and I well remember the piercing gaze she directed at us. The ear-like feather tufts were moved about by the light winds as she abruptly snapped her head from our party of three toward a scolding crow which was venturing too close. An adult Red-tailed Hawk with the reddest of tails sailed in and lighted above, joining in the vocal harassment of the owl. Moments later the memorable scene was terminated. The owl flew off with her entourage in tow, and we began our long retreat.

Our Hockamock association of Great Horned Owl and Red-tailed Hawk was hardly coincidental. The Horned Owl appropriates the old nests of the red-tail and other larger hawks, and it has even been known to displace them from newly constructed nests. Construction of its own nest by the Horned Owl is not known to occur. The species will use ledges on the faces of cliffs to rear its young, but in New England he who seeks the home of Bubo had best look to the white pines. A grove of these trees may contain a number of old hawk nests, and it becomes a matter of determing which, if any, is in current use. Egg-laying is often under way by late February, and early March is a reasonable time to begin the search.

The search itself is as much a matter of looking downward as of looking upward. An accumulation of regurgitated owl pellets under one of these nests is an indication of occupancy. The presence of feathers or down clinging to the nest rim further heightens suspicion. The pellets are castings containing the indigestible components of animal prey consumed by the owl. Such prey is swallowed whole, and during the following eight hours or so the digestive system of the owl absorbs the nutrients from the ingested animal. The disarticulated bony skeleton and the feathers or fur remain in the ventriculus, where it is compacted into pellet form. After remaining here for several hours more, a four-minute long regurgitation process begins, and the casting is expelled through the mouth. Owl pellets contain significant amounts of calcified material, such as bone. The more acidic gastric juices in the stomach of a hawk will dissolve most, if not all, ingested bone so that little or none will be found in a hawk pellet.

Since Horned Owls tend to leave the nest upon the approach of an observer, confirmation of nesting may require a climb to view the eggs, or a distant vantage point from which the returning parent bird might be seen. It was after such a confirmation of nesting had been made a few years ago by friends of mine, that a decision was made to observe and photograph Horned Owls virtually from their threshold. The discovered nest, a little more than forty feet from the ground, contained one young bird, which appeared to be about three weeks old. Our method of approach was simple -- back-breaking, but simple. Steel frames of construction staging were hauled to the nest site in a wet, somewhat swampy woodland. Twenty feet from the nest a forty-five foot tower was built on cement block footings, plumbed, levelled with jacks, and guyed with eight nylon or dacron lines. At the forty-foot level a wooden platform was fixed, and on the platform the blind, a modified pup tent, was erected and secured.

During this construction period (and on every other occasion when I have been near Horned Owl nests), the adults were very retiring and for the most part were neither seen nor heard from. Because of their lack of aggressiveness, it has been my preference to enter the blind when the adult birds were away from the nest at the daytime roost. Arrival was before sunset, and departure was delayed until dawn. Since personal in-blind experience has been with nests containing well-advanced young, the adults did not spend the days at the nest, but apparently roosted at some distance from it.

A fair amount of gear was packed and hauled up on nylon lines, not the least important of which was a sleeping bag in which to take refuge from the significant cold of the early spring night. Ten hours of confinement in a small blind in the cold pretty well demolishes this writer's ability to generate body heat. Thus, although I acknowledge the merits of the snow-mobile cover-all suit, I remain convinced that, for me, the solution is total immersion in a down sleeping bag. Even at that, bends and sharp angles in body position are to be avoided religiously; the bend or angle soon becomes disturbingly cold.

My recollection is that I have never experienced any activity at the nest for an hour or more after darkness. More often the first call by the parent does not occur until nearly midnight. The young owl would begin its hunger call usually within the first two hours of darkness. This grating call has a hissing quality, but not like the "escaping steam" I have heard from young Barn Owls. The voice of juvenal Horned Owls seems to possess a gravelly or churring overtone to it that is different from that of the Barn Owl.

Sooner or later the reply of the adult is heard. So far as I know, it has not been described in any of the literature. The short, explosive, horn-like toot of the adult replying to the young owl is utterly different from the hooting with which birders are familiar. The call resembles the tight, whistling, "seal-bark" cough of a croupy child. Under different circumstances, I would probably have identified the originator as a Long-eared Owl, for among its reported sounds are some described as "sneeze-like, a slurred 'whee-you,' snarling, the whine of a young puppy." The above call, ascribed to the adult, has been heard only in response to the hunger plea of the young. Sometimes it was given from a distance; at other times the bird was within twenty yards of the

blind.

As the adult drew near, the calls of the young owl accelerated and were accompanied by much restless body activity and movement about the nest. The gaze of the young owl was fixed upward, obviously on the parent bird. Despite the scant twenty feet from blind to nest, the paucity of light in a pine grove and the dark plumage of the adult owl provided a margin of error in determining just where the parent was with the young. To decide whether the ideal composition for a photograph is now in effect bordered on the impossible. Despite the use of battery-powered spotlights to cut the darkness, it still was pretty much a case of hitting the shutter-release and hoping for the best.

The photographs obtained were of the adult and young, or of the young owl alone when we "missed." The prey shown in my photographs is avian in all cases -- decapitated passerines. (The adults find the brains of the prey a delicacy and consume them before delivering the rest of the animal to the young.) I recall on one occasion, having triggered the strobe lights on the adult, I switched on a flashlight in time to see a towhee disappear down the gullet of the young owl in about the time it would take a human to down an aspirin tablet. The fact that the adults are not needed to tear up the food for young owls shortens their stay at the nest. Photographic opportunities are correspondingly limited.

The number of visits by adults to the nest per night is quite variable. There are nights when the young are apparently not fed at all. During the most productive full-night session personally experienced, there were five feeding visits. Feeding frequency might well increase proportionately with the size of the young, but it is also true that larger young can handle larger game. I have been told that one large rabbit delivered in the early evening can mean the rest of the night off for the parent. Needless to say, scarcity of food would also limit the nest-side appearance of the parent birds.

Our adult owls, extraordinary hunters as a species, probably ranged over a two- or three-square mile territory. They are known to perch near clearings or roadways to await victims. The strike begins with a shallow, silent dive and terminates with the impact of the owl's body against the prey. The enormously powerful talons, which tighten their grip automatically as the legs of the bird flex, dispatch most small animals quickly. Payne and Drury have demonstrated the auditory capabilities of owls in such hunting sorties. The nocturnal species especially have well-developed facial discs feathered with stiff, bristle-like filo-plumes. These specialized feathers seem to function in sound-gathering and make the face of the owl something of a parabolic reflector. The ears themselves are not symmetrical bilaterally: they differ slightly in their anatomical location and structure. Whatever the particular specific discrepancy, the result is a minute lag in sound reception on one side as compared with the other. This phenomenon allows a triangulation fix on the sound source so that the hunting stoop of nocturnal owls has proven devastatingly accurate, even in the total absence of light.

Despite the commonly acknowledged prowess of owls with respect to night vision, one investigator, H. L. Stoddard, has expressed the view that Horned Owls see only slightly better at night than humans. His observations indicate much hunting activity of this species on moonlit nights, whereas on dark nights most activity occurred at dusk or dawn. In further studies at the site of T.V. tower kills of migrating passerines, Stoddard noted that light- or white-breasted birds lying on the ground with the breast upward were readily found and eaten by marauding Horned Owls. Dark birds with dark back uppermost were apparently not found by the owls.

Our observations from the blind continued into early May, with three different people using the tower as opportunity allowed. What proved to be the last night was my own. Some calling between the young owl and the adult had occurred well before midnight, but the adult had not come. In the pre-dawn hours the restless young one had left the nest and worked its way out of the nest to the tip of the nest branch. It did occur to me that the owlet had taken itself out of my camera-strobe light range, thereby shooting down my photography hopes, temporarily at least. Footing and progress seemed precarious and uncertain out there when suddenly it happened. A moment of frantic thrashing and beating of undeveloped wings preceded the awareness that the young owl had fallen through the small terminal branches and was clinging somewhere below the main branch. Just as quickly, the owlet was gone. I emerged quickly from the pup tent and shined a flashlight to the ground. The young owl was about twenty-five feet from the nest tree, moving away from the nest-site with a comically long-legged stride and a purposeful, almost slow motion gait. It was obviously uninjured.

Young Horned Owls leave the nest in the fifth or sixth week of life despite the fact that

they are not capable of flight until the ninth or tenth week. It is also known that the young of Horned Owls may leave the nest as early as the end of the fourth week. They are adept climbers, using their developing talons to good advantage; one observer has commented that a hand-reared young captive readily used its beak as well in climbing. Apparently a sloping branch or a downed limb is all that is needed for an ambulatory owlet to begin its journey to a new treetop. Hunger calls reveal its location to the parent birds who continue to provide food until the fall of the year.

The young owls seldom move more than twenty miles from their place of hatching. They do, however, leave the territory of the parent birds, moving out in all directions.

Young Great Horned Owls at nest, photo by Herman Weissberg, Manchester

Massachusetts Breeding Bird Atlas Project - 1974-1978

The 1974 Season

Deborah V. Howard, M.A.S.

The 1974 breeding season marked the first year of the Massachusetts Breeding Bird Atlas Project. This project is designed to map the breeding distribution of Massachusetts' birds during the five-year period from 1974 through 1978. It is jointly sponsored by the Massachusetts Division of Fisheries and Game and by the Massachusetts Audubon Society. Using a grid based on U.S. Geological Survey maps ("topo" maps), we hope to place a worker in each of the 989 blocks in the state to record which species breed there.

During 1974 we were able to obtain some coverage in 437 blocks, or just under half of the total. In some of these blocks only a few breeding species were reported, but many blocks had 40-50 confirmed. The total number of different kinds of breeding birds in each block will vary, of course, with available habitat, but an average suburban or rural block will probably contain around 60-70 breeding species. Each block, 1/6 of a "topo" map, contains about 10 square miles, measuring just over three miles on each side. While this may seem like a large territory to cover, once a species is known to breed in the block no further information on it is needed for the entire five-year period. In practical terms, this means that the conspicuous birds in each block can rapidly be confirmed as breeders; remaining breeding seasons can thus be used to search out the more elusive and rarer species.

As a result of interest in the Atlas project, two new species were added to the state's list of breeding birds: the Glossy Ibis, found nesting on Clark's Island in Plymouth-Duxbury Bay, and the Cattle Egret, found in a mixed heron colony on House Island off Manchester. The only Little Blue Heron recorded as nesting in Massachusetts was also found on Clark's Island, as was one of the two confirmed Great Egrets (the other was in Westport).