

## EARLY NESTING OF GREAT HORNED OWLS IN THE BRONX, NYC

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On 27 Dec 1998, the day of the 1998 Bronx/Westchester CBC, I found the female of a pair of Great Horned Owls (*Bubo virginianus*) sitting in a large stick nest. Subsequent visits in the coming weeks found her continually in the nest, and three chicks were eventually fledged successfully. Although it is difficult to ascertain exactly when the eggs were laid, this is certainly a very early nesting date for the species in New York State.

### THE NEST

While scouting locations for the 1998 Bronx/Westchester Christmas Bird Count two weeks previous to the event, I found a pair of Great Horned Owls roosting in a small stand of white pines alongside the Van Cortlandt Golf Course. These pines are in a very narrow and strip of mainly deciduous woods between the golf course and the Mosholu Parkway Extension and is very difficult to access. I saw one owl first, and then heard it and another owl calling to each other. I could not locate the other bird, but the response calls seemed to be coming from a large stick nest in a nearby pine tree. The owl I first saw was smaller and darker than its mate, which I saw some days later, so it seems likely that it was the male, and his mate was in the nest. The nest was unusually large and sturdy, perhaps three feet across in diameter, and may well have been constructed by a Red-tailed Hawk, which are seen in the park year round, but to date have not been confirmed as breeding. Great Horned Owls in Van Cortlandt more commonly use crow or squirrel nests in their breeding attempts. I have observed several such attempts in the past eight years, some successful and some not.

The nest was wedged very securely at the top of the snapped off trunk of a white pine, roughly 60 feet off the ground, held in place by the boughs which radiate in all directions immediately beneath it.. The boughs over and around the nest offered both partial concealment and shelter from the elements. Other than the noise from the nearby highway on the east, and passing golfers on the west, it was clearly a desirable urban location for this species to breed, and I had observed a Great Horned apparently incubating in it two years previous to this. However, that attempt seemed to have been abandoned early on. Unlike other nests I have seen used by Great Horned, which nests generally fall to pieces dur-

ing or shortly after their use by the owls, this nest seems able to withstand the wear and tear of usage by these large birds, and is still in useable condition as of this writing (Nov 99).

On subsequent visits, I saw both birds roosting close together on the nest tree, but not in the nest itself. Two days before the count, I found them roosting together right over the nest. On the day of the count itself, 27 Dec 1998, the male was roosting in a nearby pine. After close study of the nest, which was deep enough for even the very large female to conceal herself, I was just barely able to see the telltale ear tufts sticking up. I did not see her out of the nest again until 31 Jan, when I saw her fly off at dusk.

## INCUBATION

Great Horned Owls are regular nesters in Van Cortlandt Park, and early nesting there seems to be the norm rather than the exception. The species normally nests early in the year, generally starting soonest in warmer climate zones. Late December is a common starting date in the Carolinas, but the earliest egg date recorded in New York State is 28 Jan (Bull 1974). Bent 1961, gives a range of egg dates from 18 Jan to 8 May for "New York and New England", without specifying further. In 1993, I and Leonard Abramson found a pair nesting on Vault Hill in Van Cortlandt Park, on 14 Jan. There was little doubt they had started before that date. This unsuccessful nesting attempt was reported in *The Kingbird* Vol 44(4), by David S. Künstler. All of the nesting attempts I have witnessed in Van Cortlandt have gotten underway before the early date 28 Jan noted above.

The exciting aspect of this nesting attempt for me was that I had never found an owl nesting site before incubation had actually begun. While the large crow population in the park is often helpful in locating owls, my experience is that the owls which breed successfully usually manage to avoid sustained harassment by corvids. For example, the owls on Vault Hill in 1993 showed distinct signs of agitation when harassed by crows, and the male in particular was easily frightened and inclined to fly off. The size difference between these two birds being considerable, we were able to determine that the male of this pair sometimes incubated, so this behavior of leaving the nest was probably most undesirable in terms of successful reproduction. Another factor in the nearly continuous and withering harassment this pair experienced was that they were using a crow nest in an important crow nesting area. The activity of the local crows helped us find the owl nest, but may also have played a role in the failure of that attempt. When faced with a determined and experienced pair of Great Horned Owls, crows seem ready to give up when their badgering fails to produce the desired effect. This is good for the owls, but makes finding their nests far trickier for curious humans, and that's a plus for the owls as well.

None of the breeding Great Horned pairs I have seen in Van Cortlandt have ever returned to the same spot to nest the next year, most likely because they would always destroy the nest they "borrowed" in the course of using it.

Once Great Horned females start to lay, they begin incubation immediately, and rarely if ever leave the nest until the chicks are several days old. Thus, while I could not be completely sure that this female had, in fact, laid her eggs on 27 Dec, I could at least be sure she had not started sitting in earnest more than two days before that time, though she clearly had her eye on this site for some weeks previous.

According to a study quoted by Johnsgard (1988), female Great Horned Owls rarely roost near the nest they select more than two weeks before they are ready to start laying. My own observations in Van Cortlandt, and those of the other birders I have spoken to, would tend to confirm this. Regrettably, I was unable to visit the nest as regularly as I would have wished. It was nearly impossible to see more than the female's ear tufts when viewing the nest from inside the woods or from the golf course--also, the golf course does not exactly welcome incursions by curious birders when the clientele is playing, even though it is located in a public park, so my observations were not as thorough or frequent as I would have wished.

On 31 Jan 1999, Yolanda Garcia and I were watching the nest at dusk, and saw the female fly from the nest shortly after sunset, joining her nearby mate. It was impossible to see whether or not the nest had any chicks in it. On 20 Feb, Leonard Abramson and I decided to take the slight risk of observing the nest tree from the edge of the Mosholu Parkway Extension. This afforded a much better view of the nest, since the highway is at the top of a slope rising east of the nest, and much more nearly level with it. When the female flew from the nest at sunset, we were able to see one small white fluffy chick pop up and look around. This was a very exciting moment, since we had no previous confirmation of young. The chick only had its head up briefly, and the depth of the nest made it impossible to be sure this was the sole occupant.

## NESTLINGS

Alex Pirko, another Van Cortlandt birder, told me he saw three chicks in the nest on 2 Mar 1999 while using the same highway observation point. On 13 Mar 1999, I used my spotting scope to confirm this report. Leonard Abramson, who has watched and photographed nesting Great Horned Owls in Van Cortlandt for many years, remembered only one previous instance, in 1989, of seeing so large a brood. Subsequent observations were done during the day, since the chicks were getting large enough to be seen when the female was still on the nest. The male would generally be standing guard in a nearby pine. I



never saw the male in the nest, though I have seen at least one male Great Horned apparently incubating , and that was during the unsuccessful attempt reported in *The Kingbird* article previously mentioned.

I will now make the wholly unscientific comment that there is nothing in the world more gentle than the eyes of a Great Horned female in a nest, surrounded by her growing young and much different from the expression she would have when, in her estimation, we were too close to said young. I made every attempt to keep my distance during this sensitive period, using my scope from the highway. The lovely views of the nest compensated for the frequent honking of motorists as they sped by.

## FLEDGING

It was reported to me on 26 Mar that one owlet had been found sitting on a rock some 100 feet north of the nest tree. The chick was approached closely, and the birders in question photographed it doing a threat display. On 27 Mar, two of the owlets were sitting on a limb above the nest, and a third, presumably the one found on the rock which obviously made the first trial flight, was perched on some vines about 20 feet off the ground, well north of the nest tree. We approached this chick closely on several occasions, taking care not to alarm it unduly. It observed us warily, but made no attempt to fly away.

By Good Friday, 2 Apr 1999, the young and both adults had left the stand of pines and were roosting in bare deciduous trees several hundred feet north of the nest. On 4 Apr 1999, all three chicks demonstrated the ability for sustained, although clumsy, flight while changing position in reaction to crow harassment and human presence. We continued to see them, with greater and greater difficulty, until early in May. At one point, the chick which had first left the nest was found far north of the other two, with the male keeping a close eye on it. We once observed what might be interpreted as distraction behavior by the male, when the owlet was being bothered by crows. The male flew off for no apparent reason, perhaps intentionally , drawing the crows' attention away from the youngster. The owl family continued to be found further and further north in the strip of woods, increasingly dispersed, until the spring foliage eventually made it impossible to relocate them. The parents were generally nearby, though the male disappeared towards the end of this period.

## OBSERVATIONS AROUND THE NEST TREE

Once the owl family had moved north of the nest tree, and the danger of disrupting their breeding cycle (or getting our scalps perforated) was no longer present, Leonard Abramson and myself investigated the area around the nest tree. We found numerous pellets, as well as the hind leg of a cottontail rabbit. Two

other birders reported finding the severed head of a crow. We collected a large number of pellets, and Clare Flemming, of the American Museum of Natural History's Mammalogy Dept., was kind enough to examine the skulls we extracted from them. She identified all of them as *Rattus norvegicus*, except for one which she thought might be a closely related species of rat. This jibes nicely with media reports of a major recent increase in New York City's rat population, and provides one possible explanation for the size of the brood the owls reared. I had found some fairly large carcasses near Great Horned Owl roosts in the past. I once found the half-eaten body of an adult raccoon beneath the roost of a particularly formidable looking female, myself staring somewhat awestruck at the talon punctures in its back, while she glared grandly down at me from above. As I mentioned, Great Horned Owls had been previously found roosting in the same part of the park where the subject pair had nested. During these previous winters, I had discovered the body of a Red-tailed Hawk near the roost, as well as the severed neck of a Canada Goose. In spite of all this circumstantial evidence, it is clear that the overwhelming bulk of the nesting owls' diet was composed of rats, in this case.

## DISCUSSION

If it can be safely concluded that the female had laid her eggs on or near 27 Dec 1998, this would certainly be one of the earliest, if not the earliest recorded nesting date for Great Horned Owl in New York State. The date is more typical of the southern states, and it seems likely that the increasingly temperate winters southern New York has experienced in recent years, combined with the noticeably warmer temperatures in the five boroughs, may be at least one cause of this phenomenon. Another might be the greatly increased food supply, due to NYC's aforementioned rat infestation. Some studies have indicated that an abundant food supply can lead to the female laying 3-4 weeks earlier than usual (Johnsgard 1988). The fact that the female flew off the nest on 31 Jan would correspond closely with the incubation period of 30-37 days (33 mean), (Houston, Smith, Rohner 1998). Female Great Horned Owls usually brood continuously until the chicks are several days old, at which time they may start leaving at night to seek food.

The sticking point here is that all the sources I have read say that Great Horned chicks begin to "branch" at around six weeks of age, often sooner. If the first chick hatched on, let's say 29 Jan, it should have started leaving the nest for surrounding branches on or around 12 Mar, instead of two weeks later. Eight weeks is a very late date for "branching", though the lack of constant observation during this period makes it possible that some brief sorties occurred days earlier, but probably not two weeks earlier.

Since no chick was seen before 20 Feb, and we didn't discover the highway vantage point until around that time, some doubt must remain as to when the female laid her eggs. Did the female exhibit abnormal behavior in terms of starting to sit continuously in the nest well before she was ready to lay? Did she lay her eggs and then delay incubation for over two weeks? Or was her leaving the nest at dusk on 31 Jan somehow not indicative, as we thought, that the eggs had hatched?

Or did the large size of the nest, and the potentially dangerous surroundings such as the busy highway on one side and active golf course on the other, encourage the chicks to remain where they were, and/or cause the parent owls to discourage "branching" until the chicks had reached a greater degree of maturation? There is little doubt that some atypical nesting behavior was at work here, and I can only regret that my schedule, combined with difficult viewing conditions, made more detailed observation impossible. Still, the latest possible egg date would be mid-January, and probably much earlier than that, based on the first date the female was observed within the nest.

When Bull listed 28 Jan as the earliest egg date, eastern Great Horned Owls were still considered to be mainly denizens of remote wilderness areas. As Salzman (1998) points out, this species was mistakenly believed to favor deep forest habitats, because those were the only habitats where they were not relentlessly shot and trapped as livestock killers. As persecution has diminished, they have moved into suburban and even urban habitats with equanimity, and have probably adapted their breeding behavior to take best advantage of these new environments. This provides further confirmation of the Great Horned Owl's reputation for resilience and adaptability, and offers new opportunity to those who would like to develop a more intimate knowledge of their behavior.

## POSTSCRIPT

On 12 Nov 1999, Alex Pirko e-mailed me a picture he had taken with his digital camera the previous day of a pair of Great Horned Owls he had found roosting 100-150 yards from the previous years' nest site. I have since visited the area several times and not seen any owls, and there is currently no sign of activity near the nest. Though I firmly believe that there are always Great Horned Owls somewhere in Van Cortlandt Park, I have located none in December of 1999. If there is a nest, I can't find it, and the crows are offering no clues. I hope that in the future I will have another opportunity to observe this and other breeding owl pairs, and add to the observations I have shared here.

## ACKNOWLEDGMENTS

I would like to thank all the people who helped in the observation of the nest site, particularly Leonard Abramson, Alex Pirko, and Yolanda Garcia, who also brought the skulls to the AMNH for analysis. Special thanks to Clare Flemming of the AMNH Mammalogy Department, for taking the time to look at the rodent skulls we found, and to Marie Winn for getting me in touch with her.

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