THE STONE BRIDGE NIGHTHAWK WATCH 2017 SEASON

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In late August of 2017 the Four Harbors Audubon Society, a Long Island-based chapter of the National Audubon Society, established the "Stone Bridge Nighthawk Watch" in Frank Melville Park in Setauket, Suffolk County, New York. The overall purpose of the nighthawk watch, which will become an annual event, is to document the number of Common Nighthawks (*Chordeiles minor*) observed during their south-bound migration. It is hoped that by providing supplemental data to other information on the species, such as that collected by the New York State Breeding Bird Atlas, the annual nationwide Breeding Bird Survey, and other local nighthawk watches, a clearer and more complete picture regarding the status and trends of nighthawk populations can be obtained.

The Stone Bridge Nighthawk Watch was conducted in the early evening, running to dusk each night, and encompassed 40 days of observation, beginning 27 August 2017 and ending 6 October 2017. It was staffed primarily by Patrice Domeischel and the author, but nearly a dozen other individuals regularly participated. Data tallied at the Watch each day included the number of nighthawks seen, the number of minutes of observation, and general notes on the weather. Results for the season were as follows:

2,046 nighthawks seen
3,984 minutes of observation
0.511 birds per minute

The highest daily total was on 8 September 2017 when 573 nighthawks were observed, including a single "kettle" of birds containing 144 birds. The second highest total was 307 the day before. When broken down into 5-day blocks it is clear that the prime time for nighthawk movement at the Watch was during the first half of September:

August 27-September 1	64 birds
September 2-6	341 birds
September 7-11	954 birds
September 12-16	389 birds
September 17-21	118 birds
September 22-26	145 birds
September 27-October 1	17 birds
October 2-6	16 birds

Specifically, during the 15 days from 1-15 September, 1,672 nighthawks were observed, 81.7% of the observed total over just 37.5% of the 40-day survey. Thus, slightly more than four-fifths of the observed birds were seen during a block of days that represented slightly more than one-third of the watch days.

The idea of establishing the Common Nighthawk Watch was born out of an experience the autumn before when several local birders, including Carl Safina, the noted author and conservationist, noticed numerous nighthawks feeding on the prolific insect hatch that had occurred over the north pond in the park. Carl informed me of their presence and I hurriedly went down to observe the birds, thoroughly enjoying their distinctive flight behavior as they fed on the wing. I went back the next five nights to watch nighthawks, observing a total of 60 birds on 6 October 2016, which I made a mental note of. During one of these visits I was welcomed by a nighthawk which, after feeding over the pond moments before, decided to land and rest on the top of the stone bridge a mere 12 feet away; it stayed for several minutes until a couple walking by with a dog scared it off. This enlightening experience led to the realization that we could take advantage of the productivity of the site to establish a more formal seasonal census of the species.

Why the Setauket site, situated at the southern end of Conscience Bay, is a productive site to observe and count nighthawks is based on three factors. The first is the open setting around the site. The presence of the two ponds with the stone bridge in between ensures panoramic views of the area. These ponds are linear and with the southern edge of Conscience Bay directly to the north provide an unobstructed view for nearly half a mile in a north-south direction. Second, the ponds themselves attract nighthawks, drawn to the productive hatch of aquatic insects, such as midges, emerging from the ponds. Lastly, based on eBird reports and many years of personal observation, nighthawks, after crossing over Long Island Sound, appear to migrate westward on Long Island predominantly across the Island's northern portion, rather than traversing the Island and proceeding west along the south shore. The Stone Bridge site is strategically positioned to intercept these westward moving birds. The late Jim Clinton, Sr. used a similar strategy to monitor migrating Common Nighthawks at Wading River, and efforts are underway to find his data for comparison with the Stone Bridge surveys (S. Mitra, pers. comm.).

Common Nighthawk populations are in trouble, declining at a considerable rate, a trend made clear by comparing block occupancy in the last two New York State Breeding Bird Atlases (Sibley 1988, Medler 2008):

Status	1980-85	2000-2005
Possible	262	89
Probable	170	41
Confirmed	45	8
Total Blocks	477	138

In the 1985 Atlas, there were 477 blocks that contained possible, probable, or confirmed breeding Common Nighthawks; this declined to 138 blocks in 2005, a 71% decline. Perhaps more alarmingly, breeding was confirmed in only eight of the 138 blocks in the state.

Although it is not known with certainty what factors are contributing to the species' rapid decline, both as a breeder in New York State and nationwide, one factor has been strongly implicated: a decrease in the abundance of aerial insects due to widespread pesticide use. Loss of aerial insects from extensive pesticide use has been identified as a major contributing factor for the decline in a number of bird species, such as swallows, swifts, and flycatchers, which are dependent upon aerial insects and likely plays a factor in the decline of nighthawk populations which depend upon the same food source (Brigham et al. 2011). A likely additional contributing factor is a reduction in the amount and quality of suitable breeding habitat which includes, for urban nighthawk populations, a conversion of the gravel roofs they prefer to utilize for nesting to other unsuitable roofing substrates (Brigham et al. 2011).

We made another interesting observation during the 40 days of counting nighthawks. A number of mature oak trees grow on the hillside on the west side of the north pond, a fact well-known to the resident Blue Jay (*Cyanocitta cristata*) population. Every day of the watch we observed Blue Jays flying west to east with acorns in their bills. They would often land in a tree on the east side of the north or south pond and appear to be scouting for competitors before flying off to cache the acorn. Moments later they could be seen, with empty bills, flying back to the oaks flanking the western hillside to secure more acorns. This experience illustrated the well documented finding that Blue Jays play an important role in forest regeneration. Indeed, their acorn caching habit, often involving placing acorns miles away from the source tree, is thought to be the main driver behind the northward re-establishment of the eastern deciduous forest following the most recent glacial advance, about 20,000 years before present.

LITERATURE CITED

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