18 August 2010
American Kestrel Nest Survey NYC - Issue #18 (2010)

Our last issue of 2010 features Gene Miller completing his reporting on the Bath Avenue Kestrels of Brooklyn. We also have reports of Kestrels from Park Slope, Brooklyn (Andy Bernick PhD); and a Patricia Essler report of a kestrel catching a fish in Arizona…a first for us. Patricia previously (2007) observed a Bronx kestrel catching a bat during the day at the New York Botanical Garden.

We also provide some outside kestrel literature as inclusions here: a spectacular migration flight of kestrels at Cape May, New Jersey in early October 1970 (p.7); and how in hot conditions, artificial clay pots with openings may be better for nesting kestrels than wooden boxes (p.8).

We also include a recently published article (from *Winging It*, the Newsletter of the American Birding Association) that summarizes our results from watching NYC’s Kestrels during the last decade or so. See the story with mucho colour photos beginning on page 9.
Hi Robert,

I believe that the last of the Kestrel chicks has fledged. Today was a hot day with some haze in the sky, but the conditions were not too bad considering the summer we have been experiencing in New York City. I arrived at the Bath Ave. site at 8:40 AM and stayed until 10:15 AM. It was very quiet when I arrived. There was nothing to be viewed at the corbel opening the entire stay. This was the first time, from all my visits, that no Kestrels appeared at the opening, leading me to believe that all the chicks have fledged. I finally spotted a female Kestrel chick perched on a TV antenna at 9:49 AM. She remained perched on the antenna until 10:02 AM when she flew away. I drove around the neighborhood, trying to locate another of her favorite locations, but had no luck finding her.

Eugene Miller

Figure 1. Janet Bachant’s famous bird feeder on her small window/terrace on West 86th street (20th floor or so). This location is about one block west of Central Park. If you look closely you can see two young kestrels waiting for House Finches to show up. They still have to learn to be a bit more secretive... It is also at this location where an adult male kestrel learned to surprise groups of House Finches that would get trapped in the small space of the terrace or bash themselves against the glass trying to escape- becoming an easy meal for the male kestrel. Photo by Janet’s husband who is a casual photographer...
From: Andy Bernick PhD  
Subject: Brooklyn: Kestrel activity in Park Slope, 6-7 August 2010  
Date: 9 Aug (Monday afternoon)

Greetings Bob,

I was in Park Slope [Brooklyn] at 3:30pm on Friday 6 August 2010 and saw/heard three American Kestrels (2 adults, 1 juv) vocalizing, flying around, and temporarily perching on the main steeple of the Old First Reformed Church at the corner of 7th Ave and Carroll St.

At 7:15am the next morning (7 Aug), I saw/heard three kestrels (2 adults, 1 juv) around the main steeple of the Memorial Presbyterian Church at 7th Ave and St. Johns Place. I didnt see any potential nest sites on either church or any nearby building -- they didnt return to any particular spot while I was watching them.

I didn't take any photos of these encounters.

Take care,

Andy

Figures 2 and 3 (next page). The last time Gene Miller found young ones at the Bath Ave. [Brooklyn] nest was on 27 July – these two young ones fledged a day or two later. See p.4 (next page) for a photo of a fledgling taken on 27 July – the first fledgling to leave that nest. All Brooklyn photos © 2010 by Gene Miller.
Hi Bob,

Just arrived home from a visit to Phoenix to see the grandchildren. Hot, but fun! While I was there I did some bird watching. Three of us saw something very unusual involving a Kestrel that I thought you should know. We were standing behind the Tempe Marketplace which overlooks a riparian area watching egrets, herons and a wonderful American Bittern. Suddenly a male kestrel flew by us, circled back and dove into a pool of water directly below us and "caught" a minnow. While we stood there with our mouths open he held his shut and flew away with his catch. I saw the whole thing thru my binoculars. WOW! Is this common with Kestrels?

Weather permitting, hope to see you on Monday evening for the owl walk in Central Park.

Patricia

After doing some research in the John Smallwood and David Bird species profile of the American Kestrel (Birds of North America), we learned that yes, kestrels occasionally do catch small fish.

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Hi Robert,

It appears that the Bath Ave. Kestrel season is over for this year. I arrived at the nest location at 8:00AM and stayed until 10:00 AM. There were no sightings at the corbel opening, or at any of the numerous perching stations. This is the first time this season that I returned home with no Kestrel photos; either the Kestrel family has widely dispersed after the fledging of the chicks, or they have migrated to their winter location. It thus seems that at least this Kestrel family doesn't stay in place over winter. I will further check the location, as we move into Fall, to affirm this conclusion.

Eugene Miller

Figures 4 (above) and 5 (next page). Female Bath Avenue fledging stretching wings on August 11, 2010...on Page 6, she is seen launching off into the wild blue yonder. Photos by Gene Miller.
Hi Robert,

I just read your wonderful article in the ABA newsletter "Winging It" [see page 9]. It was an excellent documentation of the situation in New York city and proved to be very informative. It really hit home when I read your words, "starlings learn to avoid a "red" zone near the kestrel nest. Kestrels shape starling behavior so well that we have seen both species nesting within approx. 20 feet of each other." As I mentioned in my earlier E-Mail of today, I didn't view any Kestrels in the location of the Bath Ave. site. Just to pass the time, I took some photos of European Starlings that appear to have a nest about 20 feet from the Kestrel corbel/nest. I took photos of the starlings at their nest opening and at various perch locations that were previously used by the Kestrels, and am sending them to you. It would thus appear that the starlings, who were not viewed when the Kestrels were present, have taken over the nearby location AFTER THE EXIT OF THE KESTRELS. This would add further support that the Kestrels have left their nest site. However, I am puzzled by your report which seems to be somewhat contradictory. In the first sentence from your article that I quoted, you state that the starlings avoid the "red" zone near the Kestrels. In the second sentence quoted, you state that starlings have been seen within 20 feet of the Kestrel location. Please clarify.

Eugene Miller

We have watched female kestrels chase starlings away from the immediate vicinity of the kestrel nest hole. However, starlings still have to get to their nest cavity nearby (sometimes, but not always, about 20 feet away)...so the starlings learn to take a route that does not cross in front of or too near the kestrel nest hole. If the starling gets too close, the female kestrel flies in and chases the starling away...after a while, the starling learns where it is ok to pass and where it is not...And yes, I agree 100% that kestrels can keep starlings from nesting on a cornice altogether. On the other hand, there are some folks who have documentation that starlings outcompete kestrels directly (chasing kestrels) or indirectly (just sitting in a nest cavity and not leaving) for nest sites in eastern and western Pennsylvania. Again, we bet it is a mix of both: kestrels win sometimes and starlings on other occasions....More study is needed especially looking at first time kestrel nesters compared to older kestrels. We bet first time nesting female kestrels are the ones who have the most trouble with starlings at suitable nest sites.
Spectacular hawk flight at Cape May Point, New Jersey on 16 October 1970 (EXCERPT).- After the passage of a moderate cold front through Cape May on 4, 5, and 6 October, 1970; the center of high pressure responsible for it lingered off the coast till 15 October. This caused for nine days a flow of air from a generally southern and eastern direction whose western boundary extended along a stationary front from the Gulf near New Orleans in a northeastern direction west of the Alleghenies and along the St. Lawrence to its Gulf. It is possible that these continuous southerly winds acted as a temporary brake on the fall bird migration. A high pressure center moving south from Canada centered about Kansas on 14 October. Its northwesterly winds extended to the Alleghenies on a front that reached from the St. Lawrence valley almost to the Gulf of Mexico. As it moved eastward this wide swath of strong northwesterly wind swept large numbers of migrating birds toward the coast. About 15:00 on 15 October, the arrival of this front in the Cape May area was heralded by thunderstorms and heavy rain which continued throughout the night until about 09:00 the next morning, tapering off in intermittent showers about 11:00. The northwest wind, which registered 25 to 30 miles per hour with occasional gusts up to 50 on a local wind gauge, continued throughout the day.

About 08:30 I was alerted by a neighbor, J. d’Arcy Northwood, to the fact that despite the driving rain many hawks were on the wing. So I made my way about a quarter-mile to the Cape May Point State Park, where I met Alfred Nicholson at 09:00. We took up a station about 100 yards east of the lighthouse, which gave us an unobstructed view to the north and east over the marshes, to the south over the beach and the ocean, and an open area to the west for 100 yards with low trees and small buildings in the background.

Flying in a westerly direction as they came down the coast in a wide swath, the hawks veered toward the north as they approached the tip of the Cape May peninsula. Our first problem was to come up with a means of approximating the number of Sparrow Hawks (Falco sparverius) rapidly passing by. We finally decided that using the lighthouse as a reference point, as though it were 12 on a watch lying horizontally in front of us, we would together scan the area using our binoculars in a clockwise direction from 12 through 1, 2 and 3 back to 12, the lighthouse. After several trials we arrived at an estimate of 100 birds seen in one sweep around. We then calculated that it took about one minute for the 100 in sight at a given moment to be replaced by a succeeding 100. We checked this method of counting several times in the course of the morning and arrived at approximately the same figures. The flight continued with undiminished intensity for three hours giving us about 6000 Sparrow Hawks per hour until noon. Then the numbers dropped to about 65 per minute making it about 4000 in the hour from 12:00 to 13:00. Numbers continued to drop as we recorded 2000 hawks from 13:00 to 14:00, 700 from 14:00 to 15:00, 100 from 15:00 to 16:00, and 75 from 16:00 to 17:00. The total for the day was about 25,000 Sparrow Hawks.

So engrossed were we with the numbers of Sparrow Hawks that the recording of only three Pigeon Hawks (F. columbarius) suggests that some of this species were overlooked. Other hawks recorded were: Sharp-shinned (Accipiter striatus) 613, Coopers (A. cooperii) 6, Red-tailed (Buteo jamaicensis) 7, Red-shouldered (B. lineatus) 4, Marsh (Circus cyaneus) 82, Osprey (Pandion haliaetus) 14, and Peregrine (F. peregrinus) 4. Our total for the day was approximately 25,600. This estimate is conservative particularly in view of the fact that birds flying before 09:00 are not included. We also noted four Turkey Vultures (Cathartes aura), 15 flocks of Canada Geese (Branta canadensis) with 50 to 250 in each flock, several flocks of Robins (Turdus migratorius), one of about a thousand birds in such a compact mass that it seemed to bounce along in a gusty wind like a ball, a flock of 13 Great Blue Herons (Ardea herodius), and overwhelming numbers of small passerines mostly sparrows and warblers.- ERNEST A. CHOATE, Cape May Point, New Jersey 08212, 20 December 1971.

Auk (September 1972) Vol. 84, No. 3: 340-341.
Determining the Effectiveness of Conservation Measures: A case study with Lesser Kestrels (*Falco naumanni*) by Catry, I; Franco, AMA; Sutherland, WJ. 2010.

Identifying the effectiveness and constraints of conservation interventions is crucial to maximize conservation success in a changing planet threatened by human activities. Dramatic declines (c.95%) in lesser kestrel populations led to its classification as a globally threatened species and the start of conservation actions across its European breeding range. Lack of nest-sites was identified as one of the main causes of population decline in Portugal. Consequently, a large conservation programme providing different types of artificial nest-sites was implemented alongside a monitoring scheme to evaluate their effectiveness and cost-benefit. In 10 years, the lesser kestrel population increased from 155–158 to 527–552 pairs, 50% currently breeding in artificial nests. Provisioning of artificial nests increased colony size, reduced predation rate and interspecific competition, resulting in overall increased breeding success and population size. *However, in 2008, unusual high temperatures registered during the chick rearing period caused high chick mortality and severe weight loss in broods from wooden nest boxes. Other types of artificial nests provided (e.g. cavities in walls or clay pot nests) performed better. These high temperature mortality events stressed the importance of monitoring conservation interventions. The future of lesser kestrels is highly dependent on artificial nests, so these should be cost-effective and designed to account for potential high temperature events during the breeding season.*

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**Figure 6 (above).** Adult female Nankeen Kestrel – also called the Australian Kestrel – occurs in New Guinea as well as “down under.” It is a rare visitor (stray) to New Zealand. It is one of 14 species of kestrel in the world – a group of small falcons, many of whom nest close to people. For the last decade we have been studying urban American Kestrels in New York City – the only species found in the new world (Americas).

---- Deborah Allen and Robert DeCandido, PhD (the Bronx)
Every birder needs a problem to solve. Often that means mastering subtle field marks to add another tick to one’s life list. By comparison, our problem was relatively simple: we wanted to discover something new to science about birds. Not so easy in a place with eight million people, and home to some of the finest observers in birding history: Frank Chapman, Ludlow Griscom, Ernest Mayr, and Roger Tory Peterson to name a few.

When an American Kestrel pair took up residence near our home in the Bronx, we watched them for fun at first, but then wanted to know more. Thumbing through research in the scientific literature, we realized that almost nothing was known about urban kestrels. We had our problem, and it bothered us sorely.

Our first challenge was to find a sufficient number of kestrel pairs to study, but where were they? We looked in city parks with no luck. Occasionally, we saw a kestrel hunting an abandoned landfill, but outside of the migration season, these urban kestrels were rare in city parks. Christmas Counts from each of the five boroughs told the same story: local birders were not seeing them in the meadows, salt marshes or even baseball fields of city parks—indeed any of the 30,000 acres of natural area in the city. We even went so far as to place nest boxes on an abandoned landfill in the Bronx...nothing! We might as well have been looking for alligators in the city’s sewer system.

One day we struck pay dirt. We met a man whose job entailed walking along city streets. His name was Jim O’Brien, and he knew the locations of a few kestrel nests on Manhattan Island. He also provided a philoso-
and fields. For example, on Broadway, we remember seeing a female kestrel swoop down from her perch to snatch a House Sparrow feeding on crumbs in front of Zabar’s. It was a busy Saturday morning in May, and shoppers were out in number. But this female had to provide food to her growing family too. Later, a few blocks south on 68th Street we watched another pair working as a team to drive off a Red-tailed Hawk that ventured too close to their nest; north near 86th Street and Amsterdam Avenue, one of our kestrel spies reported that a male kestrel had discovered a concentration of House Finches at her bird feeder on the 20th floor. He was making frequent visits, especially in rainy weather. That kestrel had learned to burst into a feeding flock. At least one would bash itself into the glass—to become a stunned and easy meal for his family.

After we compiled a database of the reports we received, and then investigated ourselves, a picture began to emerge. There are about 60-100 pairs throughout the five boroughs, and we estimate 25 pairs on Manhattan Island alone. This is the largest population of nesting kestrels in New York State. Kestrels are the most common nesting raptor in NYC—yet we know little about their ecology here. We believe most of our adults are resident year-round, while young of the year disperse. Of the latter, one was even found (dead) in Florida in 2005. How is the NYC population doing compared to other urban populations? We don’t know—ours is the first extensive study of urban kestrels in North America.

According to our research, the critical factor for urban kestrels is availability of suitable nest sites. In NYC more than 95% of kestrel nests are in the metal cornice of a late 19th century building. Kestrel nests average about 60 feet above street level, with the highest being about 125 feet and the lowest approximately 40 feet high. Kestrels have been nesting in these city cornices since at least 1916, when the first published account of a pair in Brooklyn appeared in the magazine, *Bird-Lore*. This was very good news for us because some raptor professionals believed that NYC kestrels might be a “population sink”—in other words, taking away breeders that would otherwise do better elsewhere. We now had evidence that NYC kestrels were a self-sustaining population of long-standing merit and worthy of scientific investigation.

We do worry about what the future will bring to nesting kestrels in Gotham. Many of the smaller 19th century buildings with cornices have been replaced by skyscrapers, especially in Manhattan. Alternately, landlords are taught that anything living in a cornice cannot be good—it can only die or cause disturbance resulting in complaints from tenants. So we have watched a number of cornices used by kestrels for their nests be filled in, restored, or in many cases, removed entirely. Long-term, the loss of these critical nests sites will certainly have a negative effect on the population here.

The cornice nest sites offer several advantages versus “natural” cavities in trees, or even the occasional nest box in a city park. On city streets, mammalian predators such as raccoons or gray squirrels are unable to climb into a nest cavity on a building. European Starlings and Rock Doves, species that also nest in building cavities, are no match for an agile kestrel. We have watched on many occasions as a female kestrel chased starlings away from the immediate area of her nest site. After several such pursuits, starlings learn to avoid a “red” zone near the
kestrel nest. Kestrels shape starling behavior so well that we have seen both species nesting within approx. 20 feet of each other. However, kestrels will raid the nest of these neighbor starlings (and House Sparrows) for their young, making kestrels the allies of every landlord in New York City.

Many of the metal cornice nests face east. We believe that after a cold spring evening, the nest warms up quickly in the morning sunshine. Later in the day, the overhang of the cornice shields the nest from the direct rays of the hot afternoon sun. This temperature moderation allows the female to leave the nest to hunt nearby. Also, urban kestrels begin nesting earlier in the year than their rural counterparts at similar latitudes. Pairs often nest close to a small community garden or “pocket park.” This allows the female to watch her growing brood from a prominent perch, while also scouting for House Sparrows feeding on the ground in these small green spaces, or nesting on nearby buildings. Throughout the city, sparrows comprise the bulk of the food taken by kestrels. Other prey items include small birds during spring and autumn migration, and the occasional roach, dragonfly or small rodent.

In May 2008 we received a report from a kestrel spy in Queens that his falcons were eating lizards. We were stunned—there are no native lizards on city streets. In late spring 2009, similar reports came in from the Upper East Side of Manhattan, then the West Side, and from Brooklyn. NYC kestrels had discovered several discrete populations of non-native Italian wall lizards (Podarcis sicula campestris). According to Dr. Russell Burke of Hofstra University, who studies the herpetofauna of the region, these observations were the first in North America to document bird predation on these lizards.

More recently our investigations have led us away from the streets and into the laboratory. Working with Dr. Chad Seewagen of the Wildlife Conservation Society, Bobby and Cathy Horvath who re-hab many injured raptors in New York City, and Dr. Dan Cristol of the College of William and Mary, we are collecting breast feathers from young kestrels that end up on the ground, and are sent to raptor re-hab. About 15-25 young kestrels are received by Bobby and Cathy each year. This gives us a wonderful opportunity to test for toxicants such as lead and mercury. And we are teaming up with researchers at the Hawk Mountain Sanctuary to compare levels of toxicants in New York City with those in rural Pennsylvania.

From farther afield, we regularly receive information about kestrels from different parts of North America, as well as from several cities in Europe and Asia. In Berlin, there are over 300 pairs of the Eurasian Kestrel (Falco tinunculus), nesting within city limits—most in nest boxes on buildings. In Israel, Drs. Motti Charter and Yossi Leshem have published on the nesting ecology of urban versus rural kestrels from Tel Aviv to the Negev. Here in North America, we receive reports from kestrel banders and nest box monitors from the high desert of Oregon to California all the way east to Pennsylvania and Massa-
The Falcon that Nests on Broadway

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A request for information prospectus was posted in 14 languages in every ethnic neighborhood in NYC. © Robert DeCandido and Deborah Allen

American Kestrel nest inside building cornice at East 57th Street, 4 June '09. © Robert DeCandido and Deborah Allen
Female delivers food to the entrance of a cornice nest. © Robert DeCandido and Deborah Allen

American Kestrel nest location at the corner of 11th Street and St. Nicholas Ave. in Manhattan. 2 May ’08. © Robert DeCandido and Deborah Allen
The Falcon that Nests on Broadway

Continued

Male American Kestrel at entrance to cornice nest. © Robert DeCandido and Deborah Allen

Cornice nest at W 80th Street and Broadway. 16 May '09. © Robert DeCandido and Deborah Allen
American Kestrel nest in a building cornice on the Upper West Side. 8 June '09. © Robert DeCandido and Deborah Allen

Fledgling waiting to be fed. © Robert DeCandido and Deborah Allen