

Ravens Nesting on the Wellesley College Science Center

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In October 2013, we first noticed the presence of Common Ravens (*Corvus corax*) on the Wellesley College campus, Wellesley, Massachusetts. Their unmistakable, guttural croak emerged from the patch of woods behind the Science Center and they occasionally sailed by with distinct wedge-shaped tails spread wide. In early March 2014, we were excited to learn that we had a breeding pair of ravens on campus. We saw them near the Science Center breaking sticks off the trees with their thick bills in order to construct their nest. They chose a remarkable nest site: inside one of the third-floor fire escape routes. The fire escapes have a glass roof and sides so the nest was protected from the elements. In addition, although ravens are not known for living in close contact with people (Heinrich 1999), the particular fire escape stairway that the birds chose is the one closest to the main entrance of the Science Center. Wellesley students are always walking in and out a mere three stories below the nest site.

Ravens have nested on the power plant in Sandwich, Massachusetts, but to our knowledge this is the first raven nest in such close proximity to humans. However, this



new nest fits with the dramatic increase in the number of ravens in Massachusetts, as shown by the *Massachusetts Breeding Bird Atlas 2*. During *Atlas 1* sampling, no blocks had confirmed nesting ravens; during *Atlas 2*, an astonishing 62 blocks had confirmed nesting ravens. The *Atlas 2* data also show that ravens become less common as one moves east across the state. As their range continues to expand, we may see more nests in suburban and urban areas, like the Wellesley College nest.

Location of Common Raven nest on fire escape of Wellesley College Science Center, Wellesley, MA. (Photo courtesy of philip.greenspun.com.)

To take advantage of this unique opportunity, we installed a [webcam](#) in the fire escape so we could watch the ravens at their nest in real time and record the video for future study. The pair returned to the nest after the camera was installed and did not seem to be bothered by it. By this point, the female had been incubating two eggs for about four days. The average clutch size for ravens is 5.4 eggs (Boarman and Heinrich 1999). Due to the Wellesley pair's unusual nest site and small clutch size, they are likely to be a young pair. The raven's nesting location and the webcam afforded us the unique opportunity to watch them at night. The exterior lights on the Science Center illuminated the nest location, so it was never completely dark. Despite this, the ravens woke up and went to sleep in sync with the natural lighting. During the night, the male would perch on the edge of the nest, tuck his bill under his wing, and sleep without many interruptions. The female was more prone to shifting in the nest during the night.

Toward the end of the incubation period, the male moved his sleeping position to the first step of the fire escape. Throughout incubation, the male fed the female bits of unidentifiable food that were passed from the male's gular pouch into her beak. The female would often call loudly and flutter her wings, begging to be fed as the male approached the nest.

The first egg hatched around 9:30 pm on April 12th. The mother ate the eggshell, which is an excellent source of calcium. We were surprised that the egg hatched in the evening because this meant that the nestling was not fed until the following morning. The nestling was visibly weak during the first two days of its life, barely able to raise its head to be fed. We wondered if the artificial lighting near the science center might have affected hatching time. Artificial light is known to affect the physiology and behavior of breeding birds (Kempnaers et al. 2010), but we are unaware of any study of the effects of artificial light on the timing of hatching. The second egg was probably infertile, as it did not hatch. Stiehl (1985) reports that one egg from a raven's clutch usually does not hatch. Around 7:15 am on April 17th, the female rolled the second egg, pecked at it, and then consumed it.

The single chick was naked and uncoordinated, but it grew rapidly with the undivided attention of two parents. All kinds of food items were brought to the nest. The ravens were seen prowling around the dumpsters at a nearby Wellesley College dining hall, and a raven was observed eating a roadkilled rabbit a mile away from the Science Center. As the chick grew and spring progressed, the parents frequently were seen bringing the eggs of smaller birds to the nest; other diet items included a mouse, a vole, a frog, and a nestling songbird, indicating that the ravens are very effective predators.

The behavior of the ravens witnessed beyond the view of the webcam also yielded interesting observations. On one occasion, a Red-tailed Hawk chased one of the adults across the meadow in front of the Science Center. Both birds landed in the trees at the edge of the meadow, then the raven started chasing the Red-tailed Hawk. Crows also chased the ravens, as did mobs of songbirds while the ravens moved systematically—presumably foraging—through trees in the nearby arboretum. An unexpected behavior exhibited by the ravens was their attacks on their reflections in the glass windows of the Science Center near the nest. These were most frequent at the time of nest building and egg laying, but continued less frequently throughout the period of nesting. The male, in particular, was seen flying at the glass and banging on it with his wings and bill. According to Heinrich (1999), ravens do not recognize themselves in a reflected



Female Common Raven incubating two eggs in a fire escape at the Wellesley College Science Center, Wellesley, MA. (Photo courtesy of Kenny Freundlich.)



Female Common Raven and 15-day-old chick, Wellesley College Science Center, Wellesley, MA. (Photo courtesy of Kenny Freundlich.)

image; consequently we assume that these attacks represented territorial behavior. We wondered if the seeming presence of other ravens, i.e., their reflection in the glass, might have provided social encouragement to choose this nest location. The use of social information in assessing and selecting breeding habitat is well known in other species of songbirds (Symkowiak 2013).

As the chick grew older, its coordination improved and it was able to stand up and exhibit classic begging behavior. As it grew feathers, we watched it start to preen itself; one of the adults was also observed preening it. On May 18th, the chick spent a large amount of time standing on the edge of the nest and then, around 7:50 pm, slowly backed off the edge of the nest to join the adults in standing on the fire escape platform. However, the next day the chick returned to the nest. Its feathers had not yet grown enough to allow flight, but it practiced by standing on the rim of the nest and flapping vigorously. It also spent time exploring—pecking at sticks in the nest and at the glass, posts, and bolts nearby. We wondered how its behavior might have differed if it had grown up with multiple nest mates. Fledging finally occurred on May 29th. The chick left the nest around 6 am and was later observed walking along the second-floor fire escape balcony, indicating it had moved down a floor. In an amusing coincidence, Wellesley College's commencement exercises took place the next day, bringing a close to the academic year as well as to the raven pair's successful nesting attempt. 🦉

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