

# 4th Update on the Shenandoah Valley Raptor Study Area

June 6, 2023

## Statistics to date

We, and several volunteers, have been banding kestrel chicks like crazy these past 3 weeks! As of the 6th of June, we've banded: 235 young kestrels in 49 nest boxes – which is an average of 4.8 nestlings per box which exceeds the SVRSA long-term average of 4.2 nestlings per box. However, later nests produce fewer kestrels so that high average will be coming down before the season is finished. At present, there are 16 more occupied boxes yet to band.



This classic “basket o babies” photo by Maddie Moore.

There may also be a few late nesters and/or 1<sup>st</sup> nest failures with 2<sup>nd</sup> nest attempts that we haven't yet documented. As the season wears on, we check unoccupied boxes at longer intervals. In April we check all boxes for eggs every 18 days but this interval between unoccupied box checks gradually lengthens into a month by the time we hit July. In the 15-year history of the SVRSA, the latest documented clutch was initiated on July 2nd.

This year there were 6 eggs in a SVRSA box that all hatched and survived to banding age! There is also another 6-egg clutch this year, and we expected it fail because the female is not behaving properly. Nearly every time we drove to Kbox96 to capture her, she wasn't inside incubating the eggs! She is one of the few breeding females we haven't caught this year. Despite her flightiness, we checked her box yesterday and discovered that 5 of 6 eggs had hatched! The last egg may hatch as well.

Recently we banded a nest box with a "larger than normal" age discrepancy in 5 kestrel nestlings. Four out of 5 chicks were at the same stage of development (19 days old, see chick on the left side of photo) but the last "runt" appeared to be 5-6 days younger (right side of photo below).





This was likely due to the female laying her first 4 eggs and beginning to incubate - then she laid a 5<sup>th</sup> egg several days later. Or it could be “egg dumping” which is when a different female kestrel puts her egg into another’s clutch, a form of interspecific parasitism.

While we were parking under at least 2 of our nest boxes that were scheduled for banding, we saw kestrel faces at the hole looking out at us. They quickly dropped back down into the box which told us they were nestlings (not an adult who probably would have flown away). Sorry, no photo because these curious nestlings looking outside don’t stay there long enough as we are approaching.

Sweet revenge! Adult starling in breeding condition (yellow beak) head and neck found in a kestrel box. It appears that kestrels ate the rest of the starling.



Surprisingly kestrels are having success in half of the 4 low boxes.



One of 2 fence-mounted boxes with kestrels who've hatched eggs! Of our 4 experimental fence boxes, 100% of have had adult female kestrels inside! We caught a female kestrel in a low box with no eggs, in another low box we caught a female with one egg which was later found cracked in half, but the other 2



low boxes have full clutches of eggs that are both beginning to hatch! This result is unexpected - but potentially a boon for kestrel enthusiasts who wish to have nest boxes without the necessity of climbing a ladder. We'll report on the success or failure of these 2 low boxes after we band chicks and determine if the young have fledged. A cliffhanger for the last SVRSA update!

KBOX14 is mounted on a fence at roadside and has a full clutch of 5 kestrel eggs. By early June the grass is tall as the box and the chicks were hatching. We argued about whether or not we should weed whack in front of the low boxes so the kestrels would have easier access when feeding chicks. Since we were driving home with the weed-whacker, we stopped and checked inside, found that 3 of 5 eggs had just hatched, and proceeded to clear a path through the tall grass. Not sure whether VDOT would have ever gotten around to it...



Tall grass in front of KBOX14 before weed-whacking.



Hatching kestrels in fence mounted KBOX14. Cutting the tall grass in front of the box will likely increase their chances of success, as we believe that it is easier for the parents to fly in with food. Before anyone says it - yes, we know we are influencing this data with our intervention.



Failed boxes happen...



This large downy chick looks alive but is most sincerely dead. The largest survived the longest 18 days post-hatch before eventually dying in the box. There are 2 younger siblings of different ages decomposing in the corner. One egg never even hatched, and the other 1 egg disappeared. We presume this is the result of one parent's demise with the remaining parent trying but failing to raise the young by him or herself. Apologies to Ariel who climbed the ladder and exclaimed that she could not "unsee" this grisly sight. Sometimes nature isn't pretty.



One of our most productive boxes was depredated by a black rat snake just a day or two ago. Of the five 20-day old nestlings, 4 were found dead in the box. Two had saliva covering their heads and wings, clear evidence that a large snake tried to swallow them, killing them in the process. Finding the chicks were too large, the snake spit them out. Then it kept trying to swallow each chick in turn, resulting in 4 of 5 chicks being killed. After examining the photo below, we realized that each chick's body had progressively less saliva matting their feathers. At that point either the snake was scared off by the parent kestrels – or it ran out of saliva and left the box still hungry.



It appears that the snake began with the smallest male, moved the next male and finished trying each of the larger females.





It was too grim to end our discussion of kestrels on the failures – which are thankfully rare. Above is Ariel holding/cuddling a recently banded chick while its nestmates are being tagged. She had a big grin on her face which is a shame that you can't see it.

## Other species in the SVRSA

Barn owls have plenty of food! Rats! Most of our barn owls are into catching voles but this pair is slaughtering the rats on the farm. The landowner should be grateful for these unpaid flying vermin killers.







Young barn owl displaying a mouse-catching foot which encircles the rodent with a ring of talons. Photo by Maddie Moore.



While Jill banded 5 young barn owls in an unused silo, the parent owl was watching from above. Photo by Maddie Moore.



Female tree swallow head-on. They are fearless when defending their young. We banded 6 half-grown tree swallows and placed them back in their nest box, went to sit in the truck to make notes and, while we were parked 4' away the mother swallow went inside the box to check on her babies and Lance trapped her! So, all the young and mother banded on the same day.



If you look closely, you can see the rictal bristles at the base of her beak. They are modified feathers that are like stiff hairs; common among insectivorous birds, probable function is to assist in capturing and holding insects. Another hypothesis is that they protect the eyes.



Adult female Eastern bluebird captured incubating eggs in a nest box. Now she is marked for life. Photo by Maddie Moore.





A vacant kestrel box was recently usurped by bluebirds who had to make umpteen trips to bring in all this large amount of grass to make their nest in this vastly oversized cavity.

Bald eagles are expanding into the SVRSA in their desperation for a place to find someplace to breed, as everything east of SVRSA is becoming saturated with bald eagle nests. We really enjoy watching them right up until the leaves come out and obscure the nest. This year we know of 3 bald eagle nests in the SVRSA but there are probably more.

### A shout out to our help – thanks to you all

We are still missing Tim who is out for the season (red shirted after heart surgery). And Ben, who has a newborn. Fortunately, several other folks have stepped up: Robert Gettleman, Ariel Derby, Steve Maxwell, Sieren Ernst, Corine Hagan, Maddie and Coleen Moore.





Ariel at box, Steve holding bucket and Jill stabilizing the ladder.



Maddie Moore and her mother Coleen came out one drizzly day recently. There was just enough mist coming down to not cancel so we plowed on with banding since the ladies drove a long way to the SVRSA. In heavier bursts of actual rain, Jill banded some of the older nestlings while still inside the box so they could be kept drier. The hayfields had not been mowed and we all got soaking wet wading through tall grass to boxes to band young kestrels. Maddie had also come out to help us band a whopping number of young kestrels a week earlier; thank you for your help and great photos.



Maddie on the ladder during her first visit to the SVRSA.





Coleen holds basket of young kestrels covered with towel to keep them dry while Jill bands each one.



In a recent memo to all bird banders, the USGS wrote:

“If you discuss or share your banding projects to any public platform or social media, please indicate all banding, marking, and sampling is being conducted under a federally authorized Bird Banding Permit issued by the U.S. Geological Survey.”

Also, bird banders are required to obtain a bird banding permit from their state wildlife department.

As always, you can go to our Research Gate page to read any of our published papers: [ResearchGate](#)

Feel free to forward to friends and let them know we will add them to our email list if they contact us: Lance & Jill Morrow [saltlick2003@gmail.com](mailto:saltlick2003@gmail.com)

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