## 2nd Update on the Shenandoah Valley Raptor Study Area April 27, 2025

## Currently in the Study Area ...

April is our busiest month, as most kestrels have already started laying eggs in our 91 kestrel boxes and we are attempting to capture all those breeding females during their month-long incubation. As you can see from the graph below, most kestrels have initiated their first clutch of eggs by this last week of April. (This graph represents when kestrels began laying eggs in the study area over 17 years aggregated data. The large red arrow indicates the current date.) There is still plenty of time for kestrels to lay eggs in May and June, although these are mostly second nest attempts made after failure of first nesting attempts. Over the years, we have documented an overall failure rate of 20% on average in the SVRSA. This means that 80% of kestrel nest attempts result in success, which we define as at least one chick that survives to banding age (2-3 weeks old). The remaining 20% of nest attempts are failures, usually due to destruction or abandonment of eggs prior to hatching. This year - so far - we have found only 1 kestrel nest failure (abandonment of 5 eggs), but we expect to find more as the season progresses.



At this moment we have 64 boxes with kestrel occupancy (at least 1 kestrel egg in the box), which translates to 70% kestrel occupancy. It is below our long-term occupancy rate but there are still a couple of months to go. Three boxes have been usurped by fox squirrels (3.3%), which leaves 24 "vacant" boxes. However, these boxes are not truly vacant; most have evidence of starlings building a nest. We expect several nest boxes that are currently empty will get the late nesting kestrels and second nest attempts.



Five kestrel eggs in a nest box is what we like to see! It is the median number of eggs for the first kestrel clutch, clutches laid later in the season tend to be smaller. We've a total of 273 kestrel eggs documented in the SVRSA – but that number changes every day (in both directions). We have managed to capture 45 breeding females and 7 males in nest boxes. So, our hope is to catch the rest of females plus as many male kestrels as we can. The males are in the box pretending to incubate eggs while the female is off taking a break, on average we encounter a male in a nest box 15% of the time.

On April  $23^{rd}$  we found our first kestrel eggs in the midst of hatching. From this one scrap of data, we can backdate approximately when the female laid the first egg. We begin by converting the date into an ordinal day which is the number of days since January  $1^{st}$ . April  $23^{rd}$  happens to be the  $113^{rd}$  day of the year. Next, we backdate (subtract) 30 days for incubation and the 9 days it took her to complete the clutch of 5 eggs (at a laying rate of 1 every other day). That equation is: day 113 - 30 - 9 = day 74 (which puts her clutch initiation date on March  $15^{th}$ ). We ignore leap days in leap years – in case you were wondering.

Since the first 2025 update, we have had several new volunteers to help us: Chad, Sasha, Michael, and Bethanie – and we appreciate your help! Tim Rocke has helped us the most over a period of 8 years – thanks Tim!!! It is so nice to have someone plug the boxes, climb the ladder, and take & share some great photos. Between April 13<sup>th</sup> and 24<sup>th</sup>, we made 9 trips into the study area to check 109 boxes (some boxes needed multiple visits) and we captured 41 females and 7 male kestrels. Got behind schedule due to a week of cold weather when we didn't go out at all because it is protocol to not disturb birds when temperatures are below 55 degrees.



Here's a photo of our new volunteer, Chad, releasing a kestrel. We were tending to a kestrel box near his house and noticed Chad had a mini dachshund and we knew he'd be a good guy. When he stopped to see the kestrel that we'd just pulled out of a box – he was hooked!

On Easter Sunday another new volunteer, Sasha, came out and was darned good at sneaking up on kestrel boxes. With Sasha's help we caught 8 kestrels in boxes that day.





Sasha also took a nice photo of Jill holding a male kestrel.

So far in the study area, we have captured about 70% of the breeding female kestrels in our boxes. About a third are unbanded and the rest have bands that were placed previously on either nestling kestrels or adults that bred in our boxes previously. Plus we have captured 4 banded female kestrels that came from somewhere else (foreign recaptures): one each in Page County, Madison County, Rockingham County, Virginia, and one from Centre County Pennsylvania! We have not had a foreign recapture of a breeding **male** kestrel! Probably because we catch much fewer males than females. Will run an analysis of this question after the season is over.

The female from PA bred in our box as a yearling in 2023, then again in the same box in 2024. However, the box had to be removed in early 2025 due to imminent home construction so she had to choose a different box this spring. We are glad she stayed within the study area.



Bethanie Hall and Michael Cohn holding a calm female kestrel. After Lance laid the kestrel on her back in Michael's palm she lounged for a minute or two while we took photos before he gently tossed her into the air and she flew off, vocally cursing us. Michael built us nest boxes, delivered them and installed some earlier this spring. We appreciate you and your goals.

Bethanie and Michael are with the organization <u>Soldiers2Scientists</u> and they came to help us before attending the re-opening of a kestrel nest box program and bioblitz at the Manassas Battlefield Park in northern Virginia. Our friend, Corine Hagan, was also instrumental in installing/refurbishing 25 kestrel nest boxes on the battlefield grounds. It will be interesting to see how this urban kestrel population, once established, compares to the SVRSA which is much more rural/agricultural.



Bethanie plugging a kestrel box so we can connect the endoscopic camera monitor and look inside without climbing a ladder. Most of the time we can clearly see the kestrel and her eggs, but some birds are able to hide from view by shrinking back into a corner!

Barn Owls are breeding too



Sasha took this photo of hatching barn owls and eggs with a cell phone in a dark silo. Looks like the chicks have plenty of voles to eat, as there are at least 2 dead ones visible. Note the eggshell halves lying about. The adults sometimes eat them, sometimes trample them, and sometimes remove them from the silo. We will return in about 3 weeks to band these nestlings, by which time all should be hatched and able to run around the bottom of this abandoned silo - evading capture. This year we know of just 2 other barn owl sites with eggs. We are behind because our intrepid silo climber had surgery recently, so he hasn't been available to climb and check our nest boxes near the top of several silos. Jason, we miss you – get well soon!



Here is Sasha's photo looking up at the metal top of a silo with an adult barn owl (probably a female) looking down on us while we count her eggs and chicks. Notice all the holes that were shot in the metal top by people trying to kill pigeons or racoons in their silo. We hope they were NOT shooting at barn owls although it is not a guarantee they didn't used to.

## Eastern Screech Owls in our nest box

Last year we made a concerted effort to get more screech owls in the study area, so we installed over a dozen boxes in what we thought was good habitat. These owls will use the same size box as kestrels but seem to like nesting boxes near water. Last year only 1 screech owl box was occupied near a small pond. This year the same box is being used by a screech owl who was incubating 5 eggs when we found her in mid-April. Here's Lance holding her after we gave her a shiny new bird band. We returned her to the box as she was squinting horribly in the bright sun.





She refused to open her eyes during banding and photography. This is a red phase Eastern Screech owl. They are common and almost everyone has heard their weird calls that sounds like a whinnying pony that occasionally shrieks. This species has two colors, called morphs (or "phases" if you are old): red or gray.



Last year's breeding screech owl was a gray morph.

## Until next time ...



Left

to right: Jill, Michael Cohn, and Lance walking back to the truck 24 April 2025. Photo credit to Bethanie Hall. In a recent memo to all bird banders in North America, 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."

If you are deeply interested in our work, go to our Research Gate page to read any of our published papers, photos and other items: <u>ResearchGate</u>

Feel free to forward to friends and let them know we will add them to our email list if they contact us: <u>saltlick2003@gmail.com</u>

Lance & Jill Morrow