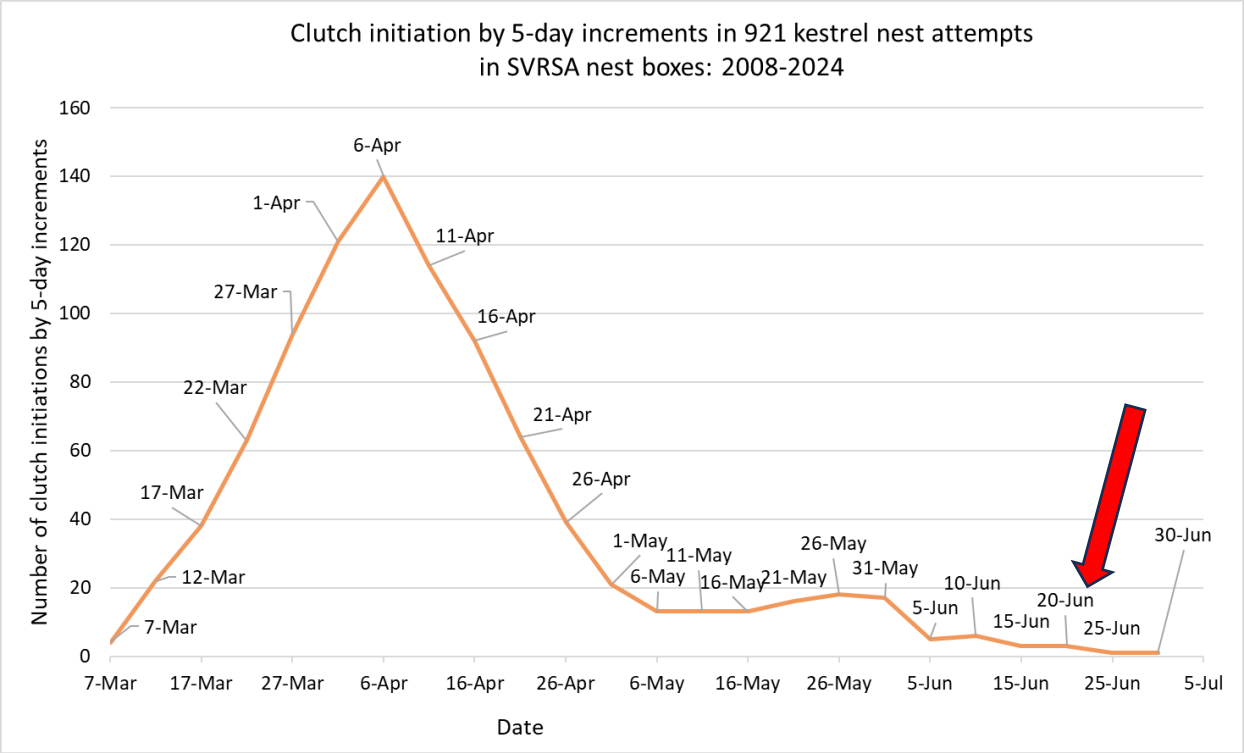
4th Update on the Shenandoah Valley Raptor Study Area June 22, 2025

Currently in the Study Area …

By this time, the vast majority of kestrels in our study area have laid eggs.



Those eggs have already hatched, chicks have been banded, and most have fledged. Only the stragglers' nests remain, mostly birds whose first clutches failed are incubating smaller clutches of eggs (4 on average).

We have just completed the busiest time of the season for banding nestlings; to date, we've banded 235 kestrel chicks in 59 boxes. As of 21 June, there remains just 9 kestrel-occupied boxes with chicks to be banded (**if** the chicks hatch & survive to 16 days of age). And, this year, survival of these late kestrel nests shouldn't be taken for granted. Lately, we have been documenting more nest failures than new nest attempts. This is typical for the late kestrel season, but it is still a bit depressing.

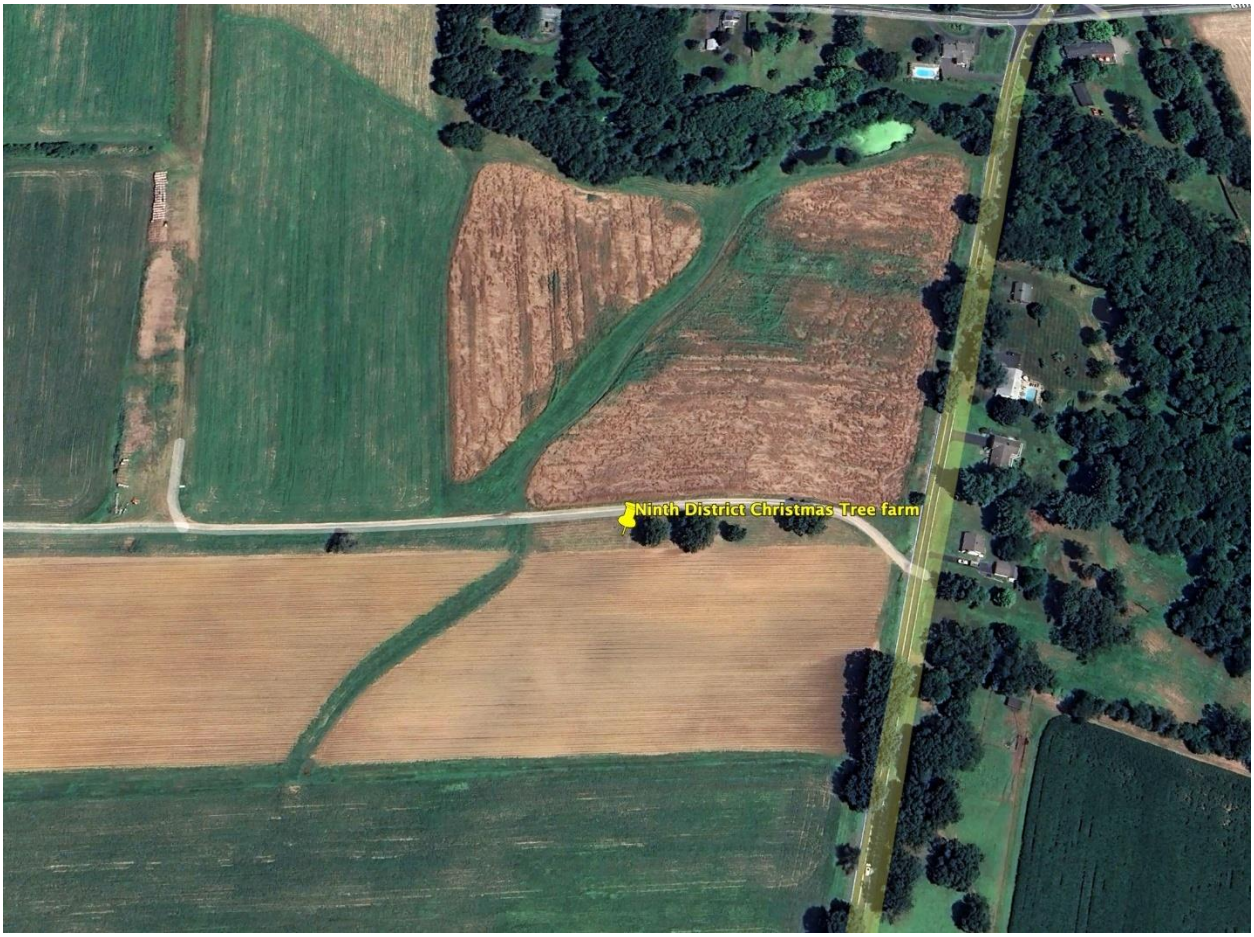
A very full black rat snake in a kestrel box that had been occupied by starlings. The white eye is just an artifact of the LED light of the endoscope. We rechecked the box and it was still unoccupied weeks later. The adult starlings were probably deterred from renesting due to fear of the depredating snake.

Our Virginia kestrel is recaptured in Connecticut

On June 10th we received an email from fellow kestrel bander, Tom Sayers, who runs the Northeast Connecticut Kestrel Project. He caught our banded one year old male kestrel in one of his kestrel nest boxes near Sommers, CT.

Tom Sayers at his CT nest box where he caught our banded bird. When he reported the band number to Bird Banding Lab, he was told the bird had been banded as a chick on 5/24/2024 about 4.5 miles from New Market VA and then emailed us to see if he was ours. This kestrel, after fledging from our nest box # 438, ended up over 400 miles northeast and is breeding as a yearling.

Here is the photo Tom sent of our “grandbabies” in his box.



The habitat in Connecticut is similar to ours, here’s a photo with the nest box marked.

Here is Lance standing next to this male kestrel's natal box, one of our experimental boxes placed at about 8' from the ground. The "common wisdom" is that kestrel boxes should be placed 10-15' from the ground but we have been installing them lower as we get older and more cautious about climbing ladders. Tom mentioned that he too has been lowering his nest boxes. He says his kestrels accept and use the lowered nest boxes just as well as when they were higher. With our limited experience with low boxes in our study area, we concur.

As many of you know, all bird banders permitted to handle and band birds under the auspices of the Federal Bird Banding Lab and Virginia's Department of Wildlife Resources. In the current administration's view, scientific research is superfluous and should not be supported by the US government. There have been calls for cutting the budget, thus eliminating, for Bird Banding Lab. Although the cost of maintaining this agency is incredibly small, we may soon lose it. Please read this insightful article about the ornithological research programs we are about to lose:

Trump vs. Birds: Proposed Budget Eliminates Critical Research Programs • The Revelator

If you are ready to "drill down" on the status of birds in America, here's the executive summary:

"This 2025 edition of the State of the Birds report is a status assessment of the health of the nation's bird populations, delivered to the American people by scientists from U.S. bird conservation groups.

The report's Executive Summary highlights three key takeaways that together point the way forward for the conservation of our nation's priceless ecological resources:

- Sobering evidence that **America's birds continue to decline** across the board.
- Despite ample evidence that **conservation can work**, the status quo approach to conservation is not turning bird populations around.
- What's needed now is **policy that implements proven conservation measures** that help birds, habitats, and people."

Here's the link to the 2025 edition of the State of the Birds report: State of the Birds 2025

And, spoiler alert, it is not uplifting.

The week Lance went crazy

Last week, the study area was pummeled with bad weather. Wind blew at gale force levels and, when it wasn't blowing, it was hot - punctuated with nearly daily thunderstorms. During the first few days of this poor weather, while on our way to an unrelated errand, we checked a few kestrels and a few more bluebird and tree swallow nests in our 60-some bluebird boxes.

A female Eastern Bluebird in the hand. She was captured on eggs in a box not far from an active kestrel box. We are experimenting with distances to see how far away passerines will nest from a kestrel nest.

The first swallow boxes we checked had dead chicks that we supposed had starved to death. Then we found dead kestrel nestlings and expired bluebirds also. After we found some very small clutches and several chicks that appear to have starved to death in boxes, we became concerned about the high rate of nesting failures. Normally, there are 5 or 6 tree swallow chicks per nest attempt – but, for the first time, we came upon a box with just a single chick. Same situation for bluebirds, 5 is the norm but several boxes have had failures with either unhatched eggs or entire clutches of half-grown chicks who died in the boxes. Anyone can see why; there are very few insects! According to Reuters, "As human activities rapidly transform the planet, the global insect population is declining at an unprecedented rate of up to 2% per year."

So… in between storms, Lance wanted to go see damage to the rest of the study area, but Jill kept him from climbing the ladder due to the presence of lightning, rain, and/or gusting wind. That's when the endoscope comes in handy so you can quickly check the nest box contents.

Tim checking a box with the endoscope.

We've also found boxes with dead (possibly starved) kestrels alongside some skinny siblings who probably won't make it due to lack of food. Kestrels are more generalist predators than bluebirds and tree swallows who almost exclusively eat insects. Kestrels can catch birds and rodents, plus they take other bird's chicks to feed their own. In summary, kestrels are doing slightly better than the small insect eating birds this season, but they are not as productive as last year - which was not as productive as the year before. It appears the study area probably hit its peak for kestrel productivity a few years ago and is now on the downside. We'll create a graph once this banding season is complete for our final report probably will come out in July.

In addition to starvation, at least one box of young kestrels had died from exposure. Sometimes storms come from the northeast and the wind blows rain into box through the entrance hole, getting them wet then chilled, potentially killing them. The weather has a profound impact on all wildlife, so it is difficult to disentangle the effects of rain and cool temperatures from the other factors that influence bird reproduction.

The 1st day of summer was sunny and warm, so we went out to assess the SVRSA. While approaching the first box we were going to check to see whether the banded kestrel chicks actually fledged out of their box, Jill spotted smoke – and then fire licking about 20' high. There were several fire trucks present to supervise the (planned?) burning of the building.

This 100-yard-long derelict poultry house was probably filled with barn swallow nests. It broke our hearts to see the adult swallows fleeing the flames, saving themselves but forced to abandon their chicks and eggs to the fire. We've noticing a decline in barn swallow nests within the study area. Most likely this is due to the ongoing plunge in insects which impacts most insect-eating bird species. The kestrel box itself was not a concern, as the banded chicks had left already and it is located 100 yards from the fire.

Liam

Liam is our long-time friend and fellow falconer who is also an award-winning environmental teacher (recently retired from Loudoun County school system) [Liam McGranaghan receives the Presidential Innovation Award for Environmental Educators - Loudoun Wildlife Conservancy].

He will probably be embarrassed that we posted a link, but that's tough. Too bad all teachers aren't as good. Another skill Liam has is nature photography so we asked if he would share some favorite photos. Laura, Liam's wife, is also an excellent photographer and naturalist who's contributed hers as well. Enjoy.

In late May we (Liam, Lance and Tim from left to right) were heartened to see some Common Nighthawks (*Chordeiles minori*) in the study area. Jill got this photo of Liam getting some photos of them.

There are apparently enough insects for the nighthawks to survive. Hope there are enough for nighthawks to reproduce here too.

Here’s the lovely photo was taken by Liam McGranaghan on 20 May, 2025. It is from Radars Church Road over an open area of grass with a small creek (not certain of its name but it comes out of Cold Spring Pond). We have a kestrel box nearby so we regularly drive that road and this is the first time in 2 years we’ve seen nighthawks. They used to be common at this site. Perhaps not coincidentally, it is near where we documented the last breeding shrikes in Rockingham County. Liam and Laura helped with that also. We published some of their photos and observations in a paper on our Research Gate page if anyone is interested in reading about it.

After watching the nighthawks catching insects in midair, we saw a display flight where the males dive straight at the ground then swoop up just to impress the lady hawks. The wonderful online library “Birds of the World” hosted by Cornell Laboratory of Ornithology has this to say about Common Nighthawks: ”*Recent (albeit limited) Breeding Bird Survey data suggest a substantial decline in numbers of this species, perhaps owing to increased predation, indiscriminate use of pesticides leading to lowered insect numbers, or habitat loss. It has been listed as Threatened in Canada…”*

With Liam and Tim’s help, we checked some barn owl breeding sites. Liam got a nice photo of a female barn owl we flushed from a silo.

Here she is perched, just waiting for us to leave so she can return to this abandoned silo to wait out the daylight hours until hunting time (dusk).

Below are some more of the McGranaghan's photos, in no particular order…

Young kestrels about 11 days after hatching. They are old enough to be banded but not old enough to have their gender recorded.

Tim and Jill inspecting kestrels from one of our 4 low nest boxes. These are almost too young to band.

Male kestrel with freshly caught vole. Note the thick grass cover which is where voles thrive. A short tail distinguishes a vole from a mouse.

Liam calls this “young male on the run”. Laura is holding the umbrella while Liam is banding young kestrels in Mark Causey’s nest box in Northern Virginia on a hot day.

Loggerhead shrike - insects make up a large portion of their diet. No insects = no strikes. Hedgerow vegetation is also critical for raising young (as it is with many species of bird) without it shrikes can't raise their young. This nesting pair was found by Lance and Jill Morrow in Rockingham County. Unfortunately the field was brush-hogged later in the year and the strikes never returned.

A spider impaled on a thorn by loggerhead shrike.

Liam’s caption: 3 young redtails in our neighbors yard. We had to tell them not to stare at mom while she was incubating and not to mow for long under the nest tree. Somehow mom pulled it off but the hawk never renested there again.

Liam’s caption: Chickadee nesting in our yard. We maintain it for wildlife by not mowing it like a golf course. Chickadees require about 5000 caterpillars to raise one brood of chicks, so watching them raise their young was a validation of our efforts to promote wildlife.

Meadow at Banshee.

Ambush bug - small and powerful insect predators often overlooked on native meadow wildflowers. Flies, bees and butterflies are all on the menu. Usually camouflaged to match the color of the flower; this one stood out by being white.

Acorn weevil- observed on the forest floor at our banding site one early fall day. Laura and I had never seen one and were tickled by its comical looks.

Banding barn owls with Jason

Our volunteer climber, Jason, emailed us exactly at the right time this season to tell us his back surgery was healed enough to climb silos so we can band young owlets from our boxes installed high in abandoned silos. Initially, we were too naïve to know it was **not** necessary to install barn owl boxes at the tops of silos. Barn owls, we later figured out, will nest on the floor of a silo if the bottom openings are closed up to deter predators. Prior to Jason's date with us, we pre-scouted (without climbing) silos to find any that might be occupied this year. We base occupancy on presence of a barn owl or other signs like molted barn owl feathers, whitewash (white bird poo) and owl pellets (regurgitated indigestible bits of bone and hair). Jason showed up right on time (we really appreciate punctuality) with his climbing gear on June 7th and then we put him to the test! It was a warm and humid late spring day. In spite of sweating like crazy, Jason climbed 5 silos before he decided that he had had enough of this "whole body" exercise. We were successful in banding 6 barn owl chicks in 2 boxes plus Jason found a late clutch of 6 barn owl eggs.

Here is Jason climbing up the chute of a silo to access the box near the top. It is not an easy task and takes a fair amount of time and skill – thank you again Jason.

Jason snapped this photo showing 4 young barn owls in the nest box we placed at the top of a silo. Actually Liam placed this box many years ago. Now that he's older, he refuses to climb silos for us. These chicks are about 3 weeks old (on average) which is the best time to band them.

Jason’s cell phone image looking down the inside wall of the silo. There are 6 barn owl eggs and some molted owl feathers atop the unused old silage that looks like brown mulch. This silo has the perfect situation: silo that is no longer used/ disturbed, about half full of old silage, has an owl-sized opening at the top, and bottom doors are all closed.

Jason' sudden appearance surprised this racoon napping in our owl box (Jason was also surprised). Someone had left the bottom door of the silo open, and the racoon probably climbed up the same way Jason did. There had been a pair of barn owls at the site on May 20th, so we think the racoon had himself a nice snack of barn owl eggs or young chicks. The pair of barn owls might renest after the racoon leaves. Time will tell.

Kestrels out of the box - fledglings

Unfortunately, we don't have time to observe our fledgling kestrels. We're always busy running around checking boxes and banding other chicks. At our nest box in the southwest part of the SVRSA we noticed a brand-new house across the road from the box. Lance went over to introduce himself, gave the homeowner (Hunter) our card, and explained what we were doing. A few weeks later we received some amazing photos from Hunter. The fledgling kestrels were hanging around on his fenceposts, preening and begging for food from the parent kestrels. Below are some photos sent to us from Hunter – thanks, we appreciate it.

You can see the bands on their legs and the white spots of natal down on their feathers, especially on the top of the head of the lower right bird.

Whenever the fledglings aren't waiting for their parents to bring them food, they spend a lot of time preening. This male has been preening and is in the process of removing a bit of down from his beak using a talon. All of any fledgling's feathers are new and each feather must be prepared properly for flight. Birds use their beaks and feet to organize each feather's barbules while coating them with oils from their uropygial gland (located at the top of the tail). Sorry, I don't have any photos of a uropygial gland; just Google it.

The scientific literature indicates that fledgling American kestrels are dependent on their parents for 1-3 weeks after leaving their natal box or cavity. At first, the parents bring the food and deliver it to the youngsters. But, after a week or two, it is the other way around; chicks have to go to the parents for food. Thanks again to Hunter for having a keen interest in kestrels, and for taking the time to send us photos and videos.

That's all the news for now folks. We'll send out one last update after the last bird has been banded. We are scheduled to band about 2 boxes per week until we finish in late July. Thanks to everyone for your help, support, great photos, and continued interest.

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: ResearchGate

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

Lance & Jill Morrow