

FINAL 2020 Report on  
the Shenandoah Valley Raptor Study Area  
August 16, 2020

### Kestrels had a particularly good year in the SVRSA

We've been monitoring our kestrel nest boxes since 2008 and this year we have had the highest % of boxes occupied by kestrels! Even though there are fewer boxes this year (80) compared to last year (86), our kestrel production was better this year! All told, nearly 300 young kestrels were produced in SVRSA boxes in 2020, our best year to date. We'd like to think that our years of experience with managing nest boxes has had positive results. But it is ultimately up to the birds and the things they eat and the weather.





However, not every single one of the boxes is doing well. Last week we visited a couple boxes expecting to band a load of kestrel chicks, only to find some had died after hatching. The photo above shows a nest that had 5 eggs; all 5 hatched but only 4 chicks survived past 2 weeks (the chick on his side is not sleeping, he is dead). Only 6% of kestrels that are hatched in our boxes fail to survive to banding age. The scientific term for this is “brood reduction”.

The photo below shows results of a nest box in which none of chicks survived past 2 weeks. We attribute this complete nest failure to the death of a parent, leading to starvation of all the young in the box – it is sad, but it is part of nature. If it were a matter of low food supply, the strongest and most aggressive 2 or 3 chicks usually survive.



Over the past 13 years, on average, 3/4 of all nest attempts in our boxes succeeded in the SVRSA. Conversely, the remaining 1/4 are failures. In 2020, 17% of the nest attempts ended in failure, so it was a good year - relatively speaking. Most nest failures we've documented occur in the egg stage. Without cameras in boxes we can only assume eggs disappear from boxes due to starlings or predators removing/eating kestrel eggs. Sometimes we find an entire clutch of cold eggs in the box; apparently abandoned. Many times, the same breeding kestrels show up in a different box on a new clutch of eggs.

On a lighter note, a friend sculpted this kestrel box as a gift to us. Thank you, Pumpkin! If anyone would like to ask about her other artwork, or commission a unique piece here is her website:  
<https://www.raptorhill.com/> She also offers falconry experiences.





## 2020 has been a good year for barn owls too

Way back in 2009 (when we were young and ambitious), we took it upon ourselves to survey for barn owls in and around the SVRSA. We concentrated on checking abandoned silos which proved to have a lot of barn owls!

Silos are the perfect place for these “flying mouse traps” because the interiors offer a darkened and relatively undisturbed sanctuary, silos are usually situated near good rodent producing habitat, and some silos offer a nice cushiony bed of abandoned silage. We, with Liam McGranaghan, wrote a paper on our findings that appeared in Virginia Birds with Liam’s photo of an owl flying out of a silo on the cover. The paper is on our Research Gate page:

[https://www.researchgate.net/publication/281870538\\_2009\\_Barn\\_Owl\\_Census\\_for\\_the\\_Northern\\_Shepherd\\_Valley](https://www.researchgate.net/publication/281870538_2009_Barn_Owl_Census_for_the_Northern_Shepherd_Valley)



The photo above was taken by Lance 10 years ago and shows two barn owls inside a silo at their nest site. The curved inner wall of this tile silo is streaked with decades of white owl poop dribbling down. The roof of this silo is square, but the silo itself is round which creates 4 dry protected corners for the barn owls to lay eggs and raise young. However, square topped silos in the study area are rare. Usually silos are topped with round metal tops leaving no flat places for barn owls to lay eggs except in the bottom. Fortunately, many abandoned silos have old silage coating the floor at, or above, ground level. If the abandoned silage is more than 4’ deep, barn owls will excavate nest caves in the silage, as shown in the photo below.



Here is a synopsis of what we found in 2009: 41 silos in the SVRSA had barn owls roosting or nesting and, that year was our most prolific for banding: 104 barn owls. Fast-forward to 2020 – when we are no longer willing to climb up silos and are lacking volunteers’ help (due to COVID-19), so our barn owl research is limited to those nesting on the ground. To date this year, we’ve banded just 16 barn owls. However, this past week we passed up banding at least 9 barn owls because they were too old and we did not wish to chase them around, potentially injuring themselves trying to escape us.



Here is an example of a barn owl that is almost too young to band. The foot needs to be large enough so the band cannot slip off (note the shiny new band on the owl's left leg). Thanks to Nanette Mickle who took this wonderful photo years ago while helping us out with the study area.

Not all silos are equally attractive to barn owls, however. We have checked several silos annually and found some consistently have nesting barn owls, while other silos never have nesting barn owls. In particular, there is one reliable old silo made of fired (ceramic?) red tile that owls nest every single year and where we have banded a total of 49 barn owls since 2009! Sometimes barn owls do a second clutch and we have missed banding them because we were vacationing out of state in the fall. We suspect local barn owls might breed year-round if the weather is mild (as they do in the tropics).

At any rate, in late June, we went to a silo south of New Market and discovered 4 young owls at ground level clustered together on the far wall of the silo. They appeared to be at the appropriate age/size for banding, so we opened and set aside the access door and both of us clambered in. It is embarrassing to admit, but it is awkward for us to get through those silo access doors (approximately 2' wide by 3' tall). You can see the doors in the photo below and compare the openings to the relative size of Jill standing next to it. Lance has never been very limber, but, since his back surgery last year, he is even stiffer. Note the owl poop ("whitewash") on the ground and overturned trough. These signs: whitewash and/or owl pellets are an excellent signs indicating an active barn owl site.





Anyhow, once we were inside the silo, we approached the pile of baby barn owls from different directions hoping they would cower down together so we could catch them for banding. The oldest owlet made 2 flapping hops between us. This effort propelled him out through the open door into the barnyard. Lance hurried over, squeezed through the door, and chased the escapee about 100 yards before wearing him out and catching him by hand on the ground.

The photos below are Lance shortly after catching the owl. It was surprising that a barn owl with this much fluffy white down could actually (almost) fly! The next photo below that one was shot from below, showing Jill banding him before we put him back into the silo and resealed the door. He wasn't ready for to be out in the world just yet. And, since we did not want a repeat of what just happened, we left his siblings unbanded.







In the next silo we had 4 baby barn owls who were clustered around a long-dead adult male barn owl. The adult owl appeared to have been winter-killed (probably starved when too much snow covered his hunting fields, or it was too cold). We invited the landowners, who happened to be out in their yard when we drove up, to come help and they were excited to come with us into the silo to band “their” owls. That was fun but we didn’t get any photos.

## Avian Neighbors

The photo below shows how close kestrels and barn owls will nest. This year there was a barn owl nest in the silo that produced 5 nestlings at the same time kestrels produced 4 babies the nest box on the pole! There are 2 other kestrel nest boxes within a half-mile, producing another 6 young kestrels – all at the same time this spring. It is not too surprising, since both species eat field mice (voles). The diurnal kestrel takes the “day shift”, hunting from dawn to dusk while the strictly nocturnal barn owl takes over at night. The voles don’t get a break!



## Status of Other Wildlife in SVRSA

Folks are sounding alarms that we are losing wildlife in this, and most other, areas. For instance, 15 years ago we had several box turtles living in our yard but this year we have only seen one. She was munching on some cantaloupe rinds we’d put out for the chickens. As recently as 5 years ago, we had starlings nesting in the nooks and crannies of our house. But for the past 2 years there have been NO starlings nesting here! Not that we love starlings (a non-native species), but they are an indicator species whose declines are telling us things are not okay. Same can be said of toads, bats, chimney swifts, milk snakes and other previously common local wildlife that is becoming scarce. At least kestrels and barn owls are doing well in the Shenandoah Valley – for now.

Lance & Jill Morrow