

2nd Update on the Shenandoah Valley Raptor Study Area April 8, 2022

Winter recaptures of SVRSA kestrels by Zig, Bob & Alan

This winter we wanted to have a trap-a-thon to get as many folks as possible to go out to catch & band wintering kestrels – but we called it off due to Covid since people would be in vehicles with people outside of their bubble. Our own trapping efforts this winter were pathetic, but Alan Williams, Bob Dean and Zig Ziegenfus went out in February and trapped 2 kestrels that were previously banded in the SVRSA plus 4 wild ones in and outside of our study area. One of the recaptured banded kestrels was a female that we'd banded as a baby in KBOX 46 on Orchard Road on 6/2/2020. She is 2 years old this spring. Last year we caught her as a breeding adult in KBOX 165 on Woodland Church Road. This box is very close to Tide Spring Road where Alan, Bob and Zig caught her wintering in Feb 2022, so we expect she'll be using that same box again this year! Produced 5 babies during 2021 despite the box losing its lid in a windstorm! Her natal box is 7.2 miles SSW of her breeding box.

The other Zig, Bob, Alan recapture was a female that we banded as a baby in KBOX 25B on Cold Spring Road on 5/25/2019. She now 3 years old. Last year and the year before, we caught her as a breeding adult in KBOX 2 on Shaver Mill Road. Zig, Bob and Alan trapped her wintering near KBOX 2, so we expect she'll be using it again this year! Produced 4 babies during 2020 (as a 1 year old) and 5 in 2021 as a 2 year old. Her natal and breeding boxes are 10.7 miles apart.

Maybe next winter we can get together interested kestrel banders for a trap-a-thon. At the end we'll have a post-trapping party at a restaurant to compare results.

Nest attempts this spring (in spite of poor weather and our 55° limitation)

This year we installed an endoscope camera on our nest box plug so we can see what is inside without having to climb the ladder and open the top! And, we are trying to keep up with the Jones. After fiddling around with it at different heights from the bedding, we finally worked out the kinks in getting a photo that is in focus. The problem is the camera doesn't have a wide angle lens so we can't see the entire contents of the box. The photo below shows the camera hovering over 2 eggs.





This is from the endoscope. At least we can see an egg and a banded female in this photo!



The only other issue is that bright sunlight makes it almost impossible to see the monitor, so Jill has to cover her head and the monitor with a dark towel.

Thanks, Tim, for this photo. Note the black camera cord attached to our plug.

Our rule of thumb is to not disturb nest boxes unless the air temperature is at least 55°. We do not want the eggs to chill if the female is captured and decides to stay out of the box for longer than usual. This year has been unusually unpredictable and unseasonable with rain, wind and cold spring weather so we have only been out twice to capture kestrels breeding in boxes. So far, we have checked a total of 33 boxes out of 87 total (38%). Of these 33 boxes we found:

1 squirrel occupied (see baby photos below) (3%)

13 unoccupied boxes (39%)

19 kestrel occupied boxes (58%)

We have captured 14 females: 2 without bands (i.e., wild birds); 3 known-age bird (babies banded in our boxes from previous years), and 9 previously wild birds that have a history of breeding in our boxes.

Thus far we have captured 2 breeding males: 1 unbanded (wild bird) and 1 is a previously known breeder.

From these recaptures, we are learning a lot! Eventually we will be able to answer questions like how many fledglings survive and turn into breeders (termed “recruitment”); how long do breeders live and, what factors into their lifetime production. Another burning question we are working on is why some boxes produce nestlings that survive and come back to breed in the study area while other boxes produce babies that fledge but none are ever recaptured (either they died or emigrated out of the SRVSA, or they are still around but not breeding in boxes). Alan and Zig have also captured some kestrels that we banded within the SVRSA but who went over the Blue Ridge Mountains to breed in their nest boxes.

As we stated previously, we are excited to get the results of another year from John Spahr and Patti Reum’s nest boxes in Highland County to see if we exchange kestrels.

Last year we caught a female kestrel on 2 eggs and noticed that she had a giant hard scab in the area of her brood patch (photo below). Only one of the 2 eggs hatched and fledged. This year we recaptured her in the same box on 4 eggs. When we looked up her band number we immediately checked her belly – it had healed and appeared normal.



Cute *Sciurus niger* babies

As usual, a few of our kestrel nest boxes are usurped by fox squirrels this year. So far there are 2 boxes with squirrels nesting inside. Yesterday we opened a box and found two babies about one month old. This is the first time we've had a black one fox squirrel! Usually they look like the orange/gray one on the right.



After getting a few quick photos (while the babies were shrieking for their mother in a high pitched cry like a bird), Jill replaced them in the grass-filled box and watched them pull their disappearing act.



As soon as they hit the nest, both babies wriggled which caused them to sink into the grassy nest until they were virtually invisible – took 2-3 seconds. Note the bit of plastic sheeting incorporated into the nest. Going, going, gone!

This behavior explains why male kestrels who are investigating a nest box that is occupied by squirrels can see that it looks okay to enter. This is also how a squirrel nest looks when we open a box with squirrels inside. We've learned to proceed cautiously lest the mother squirrel is hidden under the grass. She will bolt out of the box once she smells you and a squirrel jumping into your face can give you a heart attack - which is why Lance asks other people go up the ladder to check! Once the male kestrel hops inside the box, the mother squirrel can kill the kestrel with a surprise attack either from the depths of the nest or she may come from the field once her babies start screaming. They do fear people though. Over these 15 years of kestrel research, we have observed dead male kestrels in at least 3 squirrel occupied boxes and, after examining their injuries, we strongly suspect they were killed by squirrels protecting their young.

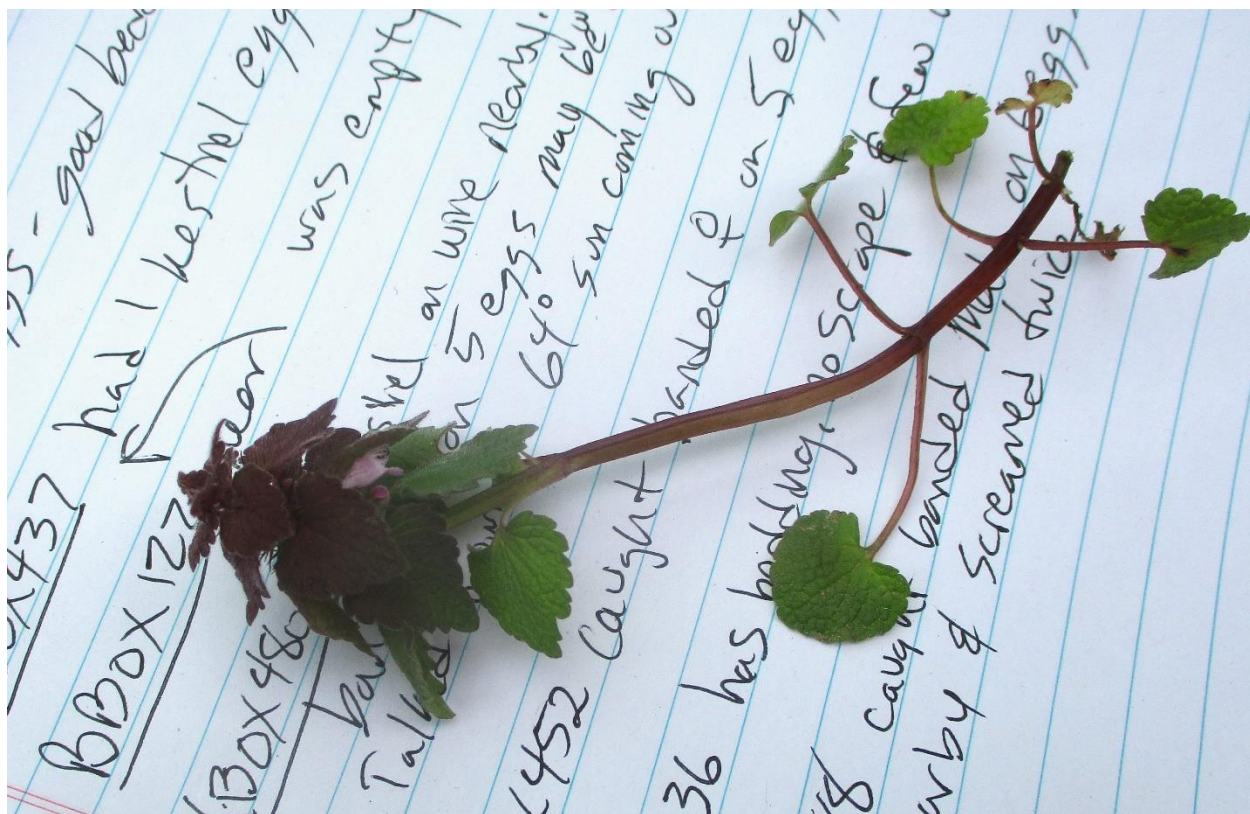
Starlings using kestrel nest boxes

Thus far in 2022, we have NO kestrel boxes with starlings. Our average kestrel clutch initiation date is April 6 (n=608) while the starlings average is April 21 (n=11). Starlings in each local region attempt to nest simultaneously but nest failures are common and renesting ensues so the earliest starlings are laying eggs at the same time as our kestrels. Although we have not compiled all our data, we figure that either the starling population in our area is decreasing so we are having fewer starling–kestrel conflicts over nest boxes. Or, kestrels are actively defending their boxes and breeding territories year round. Perhaps climate change is causing our kestrels to become less migratory? Recent GPS tracking studies on kestrels are ongoing at the Clifton Institute in Warrenton Virginia. For further info see:

[American Kestrel Nesting Habitat - YouTube](#)



This is a typical kestrel nest box after it has been used by starlings. Note the dried grass and various greens have been brought into the box by starlings.



Lamium purpureum, known as red or purple dead-nettle, is commonly found among the greens added to starling occupied boxes. According to our source (Wikipedia): “The essential oil is characterized by its high contents of germacrene-D which is produced in a number of plant species and known for its antimicrobial and insecticidal properties.” To put it another way – this plant, which is in the mint family, really stinks.

Where starlings learn to use dead-nettles is something we are working on but, please keep in mind, both probably were imported into America from Europe at the same time and the behavior of adding these plant sprigs may have been already well established.

Anyone who is interested in reading any of our papers, go to our Research Gate page: [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