

**Streaked Horned Lark Internship Report
Willamette Valley National Wildlife Refuge Complex**

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Thank you to the Audubon Society of Corvallis and the Friends of the Willamette Valley National Wildlife Refuge Complex and for funding me as this year's streaked horned lark intern. As my internship comes to a close, I am extremely grateful to have held this position. Coming into this internship, I hoped to gain hands-on field work experience and a better understanding of what direction within wildlife biology I wanted to pursue in the coming years and in graduate school. This internship has solidified my passion for wildlife conservation and I hope to continue pursuing positions relating to bird conservation.



Banded, male streaked horned lark at William L. Finley NWR. Visible color bands are teal and orange.

I arrived at William L. Finley National Wildlife Refuge (NWR) in late April, excited to take on streaked horned lark nest monitoring. Initially, the plan was to focus on nest searching at Ankeny NWR and Finley NWR, but the breeding pair surveys done in April showed only 1 to 2 pairs of larks at both refuges. Thus, our nest searching efforts shifted to Baskett Slough NWR, which has consistently had the highest population of larks across the refuges. The breeding pair survey done in mid-May showed 33 pairs at Baskett Slough NWR.

Interestingly, during a mid-May survey at Finley NWR, I encountered a banded male lark. It took me about 5 hours to finally capture a clear photo with all the legs bands visible. The male lark was traced back to Herbert Farm, located about 10 miles north of Finley NWR. The male lark had been banded as a nestling last July 2020. It was interesting to find out the history of the lark and great to see that he had survived his first winter and was potentially searching for a breeding territory with his mate.

The streaked horned lark is a ground-nesting bird; the breeding season in Oregon runs from late April into August. Streaked horned larks are able to reneest multiple times during the nesting season. I jumped right into nest searching at Baskett Slough NWR in early May. On our first nest searching day, I went out with Brian Root, the Refuge Biologist, to train on protocol of nest searching. Within 20 minutes, we had located our first nest being built by a female lark! We took the GPS points, photos, and marked the nest to begin monitoring. The next weeks consisted of nest checking and searching every day at Baskett Slough NWR. Although waking up at 3am, coupled with the hour commute to Baskett Slough NWR was hard to adjust to, being out in the field as the sun rose up from the hills was an unbeatable way to start the day. Not to mention, the lark songs that greeted me when I walked into the field.



Female streaked horned lark sitting on her nest. The nest was built in an elk track.

Most of our nest searching time was spent in the fields nearest to the Baskett Slough office complex. These fields have historically supported the most larks. However, we searched in any field that there was good habitat and I found several nests on the north side of the refuge. Watching a female gather nesting material--grass, fluff, a mound of dirt--was exciting but also the most critical moments for locating the exact location of their nest. Oftentimes, the birds would disappear behind a patch of grass and then come back empty-beaked which signified a nest in the area. The most challenging aspect was ascertaining the exact mound of grass that the lark disappeared behind. Miniscule details like how a specific frond was bent was sometimes the only way to differentiate different mounds. Then, after walking to that mound of grass, if we were lucky, the nest would be right there! Other times, we had to carefully search around. I remember the feeling of exhilaration when I found my first nest by myself!

From then on, nest searching wasn't as daunting a task. Some days I would find 3 nests and other days I would find none at all. I reminded myself that with patience, careful observation, and meticulous searching, nests could be found. We ended this season with 21 active nests found.

After finding nests, I would check the nests on Monday, Wednesday and Friday. Usually, the female lark would be lingering nearby or nowhere to be seen. A few times, I came upon the female incubating her eggs on the nest! Once the eggs had hatched, I enjoyed observing the nestlings grow over their 9-day stay in the nest. It surprised me how quickly they grew and by the 7th and 8th day, they seemed to be spilling out of the nest. They always seemed to be content, waiting for their next meal to be brought to them. Once they left the nest, I would look out for fledglings in the field and occasionally I would spot them, still waiting on their next meal



8 day old nestlings in a nest at William L. Finley NWR.

or trying to forage themselves. It was nice to think that next year, these fledglings would return to raise their own young.

Once per month, we also conducted breeding pair surveys across all three refuges. This gave us insight on the number of larks, where the larks were, and helped us find some more targets for nest searching.



A streaked horned lark fledgling at Baskett Slough NWR.

During the last breeding pair surveys in August, I observed flocks of 10 to 20 larks flying, chirping, and looking for good foraging spots with their young. A flock of larks, usually consisting of multiple family groups, usually signifies the end of a nesting season and the coming of autumn. The larks will continue flocking with other bird species and fly around the Willamette Valley during the winter months. Seeing these flocks also signaled the ending of my time at the Willamette Valley NWRC.

At Baskett Slough NWR, out of 21 active nests, 5 were successful, which is about a 25% raw nest success. Of the failed nests, 12 were depredated. 2 of the 12 were found disturbed; the nest cup was overturned. The other nests showed no sign of disturbance. Because lark nests are on the ground, any opportunistic predator will consume the eggs or chicks. Potential predators include raptors, crows, ravens, and mammalian predators such as raccoons, skunks, and coyotes, all of which are commonly found on the Refuge. Compared to last year's nest success rate of 67% across 18 nests, this year's success rate is lower. However, it is similar to 2019's nest success rate of 33% across 21 nests. It is difficult to pinpoint what could be causing the fluctuations in yearly nest success rates. Factors could include weather patterns, predator-prey cycles, and physiology. Interestingly, 2 nests were found at Finley NWR during breeding pair surveys and both were successful. We did not nest search at Ankeny NWR, but a couple fledglings were seen in the August breeding pair survey which is a good sign. From the breeding pair surveys, across all three refuges, there were about 43 lark pairs hanging around.

During my time here, I also participated in endangered plant surveys, Fender's blue butterfly egg counts, and setting up bat detectors. This internship was my first real full-time position with field work on the agenda every day. I am so grateful to have gotten to immerse myself in bird observation and field work at a National Wildlife Refuge.

All in all, I am very thankful to have had the opportunity to work at the Willamette Valley National Wildlife Refuge Complex. My experience here has provided me with a wealth of knowledge on wildlife biology that I will continue to use in the future. I hope to continue working in wildlife conservation.



Male streaked horned lark.