

WILD TURKEY ECOLOGY

IN WESTERN NEBRASKA



SCHOOL OF NATURAL RESOURCES



Wild turkeys are an important and popular game species. However, there have been declines in wild turkey populations across Nebraska as well as in many other areas of the US. The causes behind these declines are largely unknown, and information on basic wild turkey biology and ecology in Nebraska is not available. This lack of knowledge makes it difficult to know how to address the issue of declining populations. Therefore, we need to learn more in order to inform management strategies for wild turkey populations in Nebraska.

Our wild turkey research project aims to provide Nebraska Game and Parks Commission (NGPC) with actionable science to inform management decisions in an effort to reverse the current decline in turkey populations. Specifically, our objectives are to:

- Evaluate nest and brood survival
- Determine how wild turkeys are using the land and what vegetation types they are choosing
- Examine how the connectivity of habitat patches affects turkeys, specifically their genetics
- Evaluate survival of hens and toms
- Describe paternity of offspring to inform mating preferences
- Relate gobbling activity to nesting activity and hunting seasons



YEAR THREE FIELD SEASON

In the third field season, our team captured and GPS tagged 91 wild turkeys and banded an additional 132 wild turkeys in western Nebraska. Team members monitored these birds through the spring and summer to collect data on nest success, brood survival and genetic material from nests to understand parentage in our sampled populations. The team also continued to collect vegetation data at nest and brood roosting locations to improve our understanding of what vegetation features turkeys select for in the study areas. We again re-deployed 60 acoustic recording units to monitor the timing of gobbling activity. This information will help biologists and land managers understand the relationship between the time of peak gobbling activity and nest initiation.

INITIAL FINDINGS

- Nest initiation was relatively high in both regions. In the Northwest, 81% of adult females initiated at least one nest, and 85% of adult females initiated a nest in the Southwest. These values align with patterns observed in other studies across the wild turkey range.
- Brood success at 28 days was notably higher in the NW (92%) compared to the SW (20%). Average clutch size also varied, with 8.5 eggs per nest in the NW and 6.9 eggs in the SW.



**91 FEMALES
TAGGED**

*56 additional banded

**MALES
BANDED 76**



**79 TOTAL
NEST ATTEMPTS**



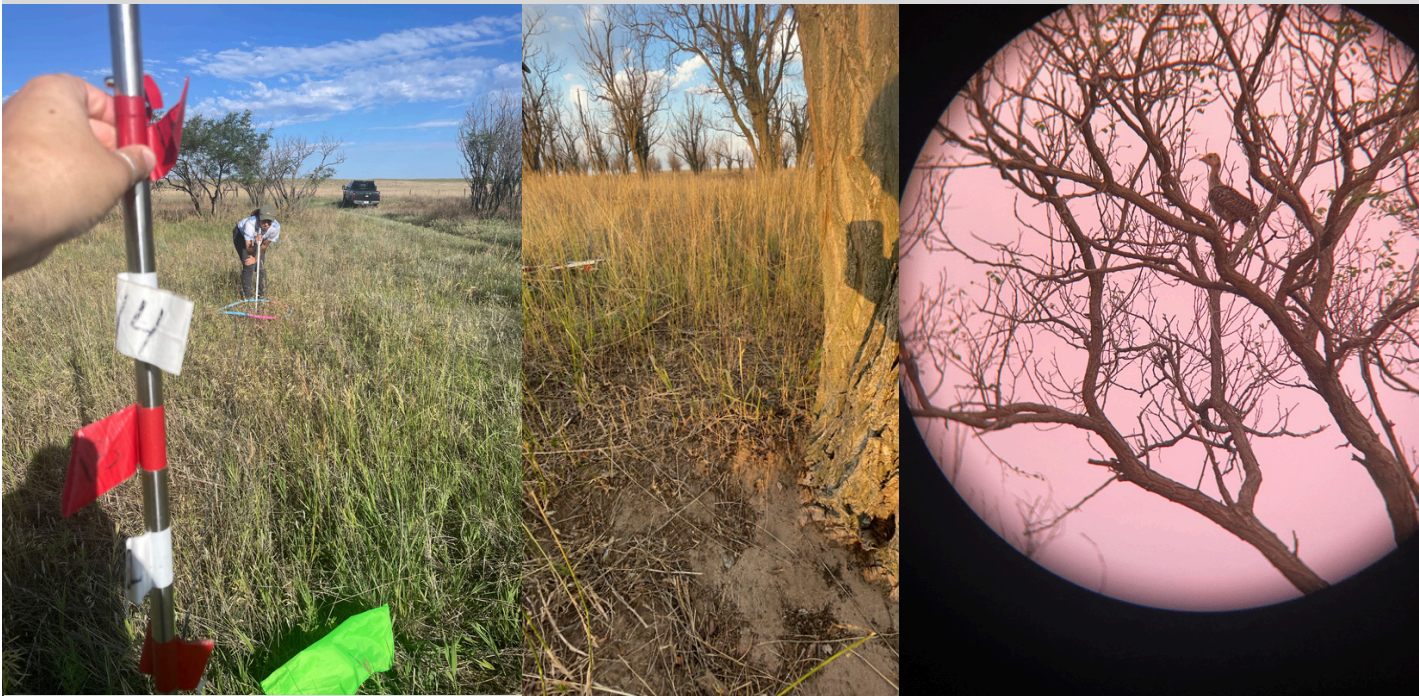
**ACOUSTIC
RECORDING
UNITS DEPLOYED 60**



STORIES FROM THE FIELD

Trees are an important safety strategy for turkeys and poults alike. However, one hen in the Southwest study region, despite being capable of flight, successfully raised her brood completely on the ground for the second year in a row. Typically, the hen and poults start roosting in trees around 15 days after the poults hatch, but this hen continued to roost on the ground until 30 days after hatching and has successfully raised both of her broods to at least 30 days post-hatch.

SUCCESSFUL GROUND NESTING OF A SOUTHWEST HEN



From left to right: vegetation around the roost site, the roost site, and one of the ground nesting hen's young in a tree after the family group was flushed to determine flight capabilities



Thank you to all the landowners who have worked with our team over the past three years to make this research possible. After the research team completes the analysis and finalizes the project, we will send out a report outlining the findings of the project overall. Visit www.awesmlab.unl.edu/research to read our previous season reports.

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