

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 and harvest rates of toms
- Describe paternity of offspring to inform mating preferences
- Relate gobbling activity to nesting activity and hunting seasons



YEAR ONE FIELD SEASON

From January to March of 2023, our team captured and GPS tagged 89 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 collected vegetation data at nest and brood roosting locations to improve our understanding of what vegetation features turkeys select for in the study areas. We also 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.



64 FEMALE
TAGGED

MALES 25
TAGGED

INITIAL FINDINGS

From January to March of 2023, our team captured and GPS tagged 89 wild turkeys (64 females and 25 males) in western Nebraska.

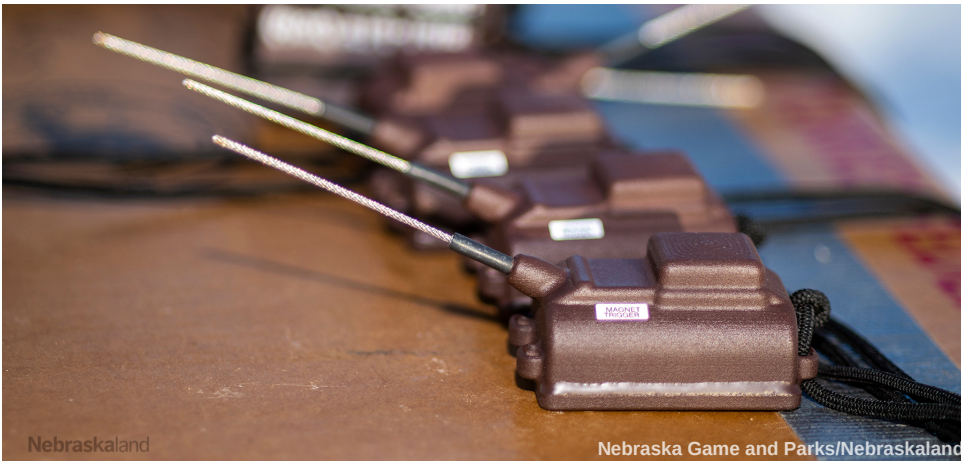
- We observed greater first nest success in the NW (50% success; 10 out of 20 nests) compared to the SW with 20% success (3 out of 15 nests). This is one year of data and is subject to change with additional data.
- The median start date for the first nest attempt was May 10th in the Northwest and May 3rd in the Southwest.
- Preliminary findings from year one suggest that, overall, many of the birds are moving much greater distances than expected.



44 TOTAL
NEST ATTEMPTS

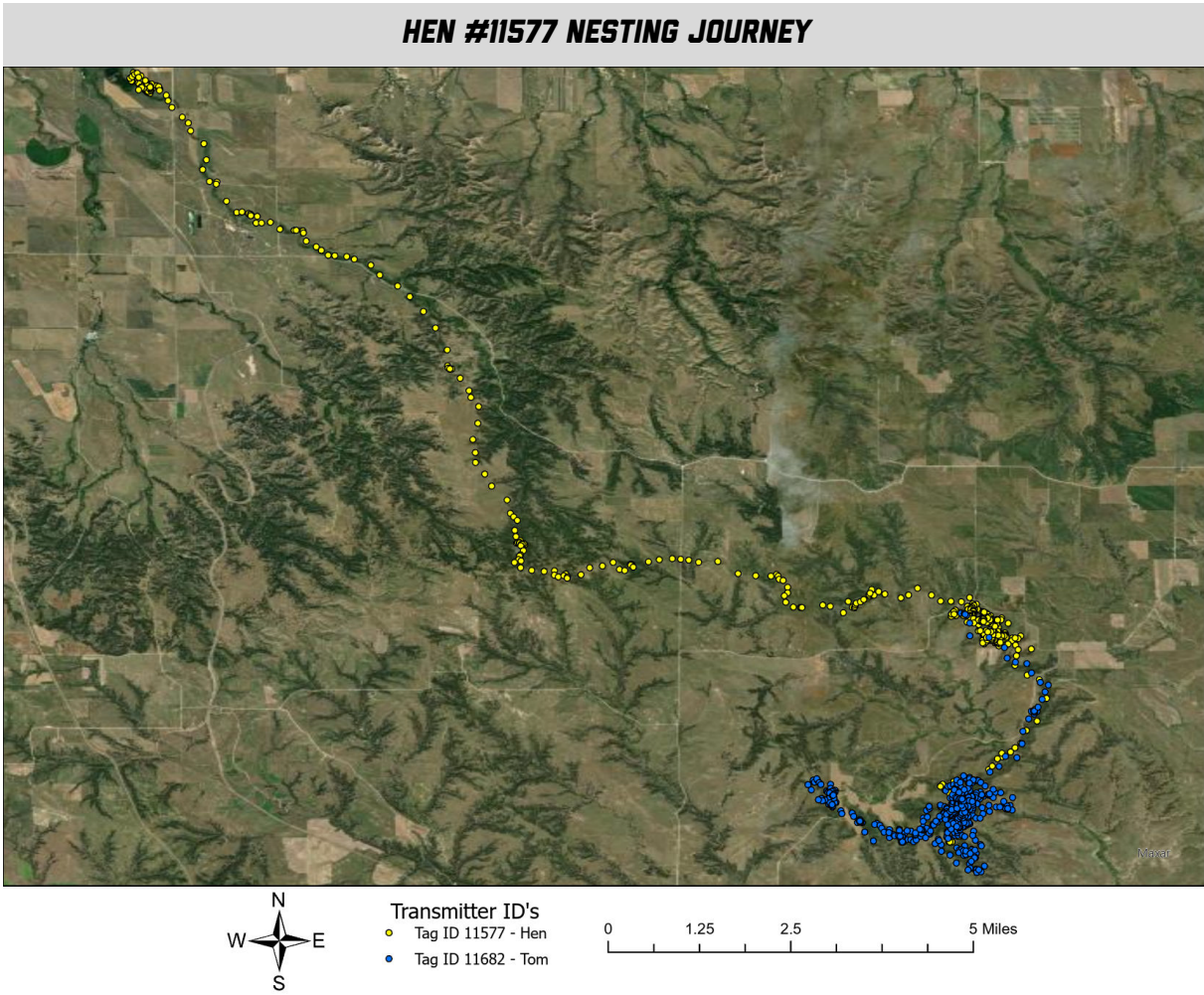


ACOUSTIC 60
RECORDING
UNITS DEPLOYED



STORIES FROM THE FIELD

One of the tagged hens, #11577 (in yellow), traveled roughly 13 miles from where she was captured. She was initially trapped in the area of the top left of the map and in March and April traveled to another property where she met #11682, a tom (in blue), and they spent some time together. Afterwards, she nested in that area. Unfortunately, #11577 did not have a successful nest.





During 2023, nest survival ranged from 38-46% between the two study areas with brood survival less than 33% across the same areas. This data is preliminary and is subject to change with the addition of 2024 and 2025 nesting and brood-rearing seasons. Looking ahead to 2024, our team plans to capture and GPS tag 40 females in each study area and monitor nests and broods. We will also collect genetic samples, gobbling data and vegetation data to continue to improve our understanding of wild turkeys in western Nebraska.

THE RESEARCH TEAM



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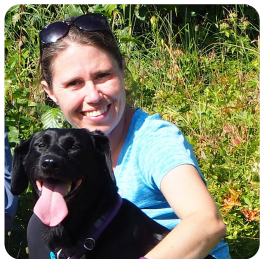
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