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ESTABLISHING CONSTRUCTED ROOSTS FOR WILD TURKEYS

by William P. Kuvlesky, Jr.

The wild turkey is a unique and important component of the wildlife community in South Texas. Like all wildlife species, wild turkeys have important habitat requirements, and among the more important habitat requirements for wild turkeys is roosting habitat.

Editor's Note: Dr. William Kuvlesky, Jr. is a Research Scientist at CKWRI and Assistant Dean of the Dick and Mary Lewis Kleberg College of Agriculture, Natural Resources and Human Sciences at Texas A&M University-Kingsville.

In South Texas, large mature trees, such as live oak and hackberry, are the most common trees that provide critical roosting habitat. Unfortunately, many of these large trees have died throughout the region due largely to the recent 5-year drought. Natural roosts may now be a limiting factor, and the consequences of this may lead to a decrease in the survival of wild turkeys and/or wild turkeys may simply abandon areas where natural roosts have died. Consequently, wild turkey populations in South Texas may begin to decline as natural roosting habitat declines.

However, wild turkeys have been known to use man-made structures as roosts where natural roosts are limited or unavailable. It is common to see turkeys roosting on power lines or transmission towers throughout South Texas where natural roosting habitat is limited. Moreover, we have helped a few landowners design and locate sites for constructed roosts on their ranches over the past decade; turkeys began using some of them shortly after they were constructed.

For turkeys to use constructed roosts, it is necessary to place the roosts within the appropriate habitat and having the proper roost design. Our knowledge of wild turkey natural history and ecology enabled us to establish some roosts in locations where they will use them, but in reality this was simply guesswork without additional information.

Research is needed to determine where to best locate constructed roosts so that there would be a high

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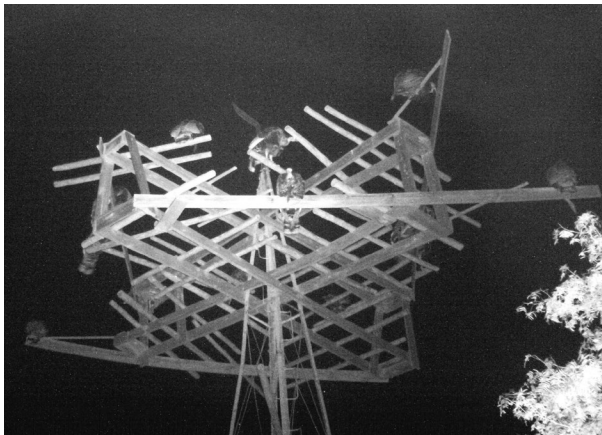
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By The Numbers

- 0.3 average weight in ounces (8 gm) of a northern pygmy mouse
(The Mammals of Texas, W.B. Davis and D.J. Schmidly, Texas Parks and Wildlife)
- 14 number of rows of scales found on a South Texas blind snake
(Texas Snakes: A Field Guide, J.R. Dixon and J.E. Werler, University of Texas Press)
- 8 to 13 range of eggs laid per clutch by a single female mottled duck
(Ducks, Geese and Swans of North America, F.C. Bellrose, Stackpole Books)

likelihood of turkeys using these structures. Therefore, we initiated a project in 2014 with the objectives of determining (1) where to place wild turkey constructed roosts on South Texas landscapes in areas where natural roosts are limited and (2) what roost design is favored by wild turkeys.

Field work began during the summer of 2014 on 8 ranches that have 87 constructed roosts. We also



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A nighttime photo of a constructed roost in South Texas being occupied by wild turkeys. This demonstrates that given the necessary features, wild turkeys will use these types of artificial roosts.

enlisted another 5 cooperators who wanted constructed roosts established on their ranches.

Field work involved collecting data about the vegetation communities within a quarter of a mile of each constructed roost. This included specific data about habitat composition within each vegetation community, and the distance from a

roost to the nearest feeder or source of water. We compared these data between constructed roosts that were used by wild turkeys and those that were not used in order to isolate factors that are associated with turkey use of constructed roosts.

Our results are very preliminary and are associated with turkey use of constructed roosts during summer, but no particular plant community features were apparent that seem to influence wild turkey use of constructed roosts. Moreover, the area of the structure placed at the top of a utility pole seemed to be an important determinant of wild turkey use. Structures with larger areas (minimum of 60 square yards) were important features of used roosts, whereas unused roosts had structures that were smaller (23–47 square yards).

Our project will continue for the next 2 years to determine what habitat and structural features related to artificial roosts are preferred by wild turkeys on a seasonal basis. The wild turkey constructed roost study is being funded by the Encino Lodge, Mr. Renato Ramirez (El Veleno Ranch), Mr. Ricardo Ramirez (Airport Ranch), Mr. Luis Jaime Gonzales, Mr. Daniel Crisp, Mr. Jose Guevara (Rancho La Roca), and Mr. Charlie Hoffman (Hoffman H30 Ranch). ~

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CKWRI NEWS

Researchers and Students Shine at the TCTWS Meeting

At the recent Texas Chapter of The Wildlife Society (TCTWS) meeting in Corpus Christi, Texas, CKWRI researchers and students made a major impact. Of the 199 presentations, 65 (33%) were authored by TAMUK/CKWRI undergraduate students, graduate students, and researchers. Also, several of our students were honored in the various competitions held at the meeting.

Ana Krainyk, Ph.D. student working with Dr. Bart Ballard, placed 2nd in the prestigious Clar-



Courtesy Trey Barron

Ph.D. student Ana Krainyk receiving the 2nd Place Award in the Clarence Cottam Competition from Dr. David Hewitt, 2014 President of the TCTWS.

ence Cottam Competition. We also had winners in the graduate and undergraduate Poster Presentation Competition. Cord Eversole, Ph.D.



Courtesy Trey Barron

Ph.D. student Cord Eversole receiving the 1st Place Award in the Graduate Student Poster Presentation Competition from Dr. David Hewitt, 2014 President of the TCTWS.



Courtesy Trey Barron

M.S. student **Caroline Ward** receiving the 2nd Place Award in the Graduate Student Poster Presentation Competition from **Dr. David Hewitt**, 2014 President of the TCTWS.

student working with **Dr. Scott Henke**, placed 1st and **Caroline Ward**, M.S. student working with **Dr. Randy DeYoung**, placed 2nd. **Katelyn Allred**, undergraduate student working with **Dr. Timothy Fulbright**, placed 1st in the Undergraduate Student Poster Competition.

In addition, the TAMUK Plant ID Team received 2nd Place in the Plant ID Contest in which CKWRI researchers **Drs. Poncho Ortega**



Courtesy Trey Barron

Representatives from the TAMUK Plant ID team receiving the 2nd Place Award in the Plant ID Contest from **Dr. David Hewitt**, 2014 President of the TCTWS.

and **Timothy Fulbright** are faculty advisors of the team. Rounding out the awards was the TAMUK Wildlife Society, which won the Student Chapter of the Year Award. **Dr. Scott Henke** serves as the mentor for this campus organization. ~

SLOW AND STEADY PRESERVES THEIR PLACE

by *Andrew Tri and Ross Couvillon*

The Texas tortoise, known to scientists as *Gopherus berlandieri*, is our only native tortoise species in Texas. These reptiles are the smallest of 5 North American tortoises and live in brush country habitats. They are endemic to South Texas, occurring in an area south of a line that connects Del Rio to Rockport.

They eat all sorts of native forbs, grasses, and succulents. They particularly enjoy prickly pear and often have purple stains around their mouth when the tunas are ripe.

A popular fable that children learn is “The Tortoise and the Hare.” It is true that the tortoise’s life cycle is slow and steady. They can live up to 40 years and aren’t sexually mature until age 10. This slow pace is typical for tortoises, but also makes them vulnerable to threats such as human-caused mortality, habitat loss, and habitat fragmentation.

Texas tortoises exist only in a fraction of their former range because of a variety of threats related to human activities. The Texas legislature in the late 1960s designated them as threatened, primarily because of widespread and intense collection for the pet trade. Despite this protection, Texas tortoises have

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continued to decline, likely because of agriculture, urbanization, and an aging brush community. They still persist in many places in South Texas, especially the Rio Grande Plains, but they may be crushed by heavy equipment, burned in high intensity fires (made more intense with the high fuel loads of invasive grasses), or eaten by raccoons whose population is artificially high because of supplemental feeding for deer. However, habitat loss and fragmentation are the most severe of these threats.

Texas tortoises are tolerant to a wide variety of habitats, but thrive



© Timothy Fulbright

A Texas tortoise plods along a sendero on a South Texas ranch. Private landowners provide a refuge for this smallest of all North American tortoises.

under “Goldilocks” conditions—not too brushy, not too sparse. In some areas, specifically the Lower Rio Grande Valley of Texas, native thornscrub removal reduced tortoise abundance and distribution. Agricultural producers removed this native vegetation with chains and root plows. Tortoises avoid large, open areas such as those created by root-plowing. Some estimates

Did You Know?

Bobwhites prefer to eat seeds with a hard seed coat. (Texas Bobwhites: A Guide to Their Foods and Habitat Management, J.A. Larson, T.E. Fulbright, L.A. Brennan, F. Hernández, and F.C. Bryant, University of Texas Press)

The family Chelydridae (snapping turtles) has only 2 species: the alligator snapping turtle and the common snapping turtle. (Guide and Reference to the Crocodylians, Turtles, and Lizards of Eastern and Central North America North of Mexico, R.D. Bartlett and P.P. Bartlett, University Press of Florida)

indicate that less than 5% of native brush communities remain in the Lower Rio Grande Valley.

Fortunately, many South Texas landowners provide a haven for Texas tortoises. Large blocks of private land serve as refuges for tortoises. Quail management can provide habitat for tortoises by ensuring a variety of brush interspersed with native forbs and grasses.

Texas tortoises also coexist with cattle ranching. Research on the Chaparral Wildlife Management Area in La Salle and Dimmit counties indicates that moderate grazing had no effect on tortoise survival, abundance, or growth rates.

One of the most limiting factors in managing the Texas tortoise is our lack of knowledge about them. There has been some research on the Chaparral Wildlife Management Area, Laguna Atascosa National Wildlife Refuge, and private properties in Cameron County, but we are still missing some critical information. For example, we don't know

Advisory Board

The Advisory Board of the Caesar Kleberg Wildlife Research Institute provides leadership in all aspects of our work. We are indebted to them for their commitment to CKWRI and its mission.

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the year-to-year variation in survival and habitat use of Texas tortoises on private lands in South Texas;



© David Hewitt

This Texas tortoise's shell shows signs of age. They can live up to 40 years; however, they often don't live that long because of roadway mortality and other risks.

however, the CKWRI has initiated a study to answer some of these important questions.

The CKWRI project will assess Texas tortoise habitat use and movements during their active season (April–October). Ross Couvillon, a Ph.D. student working with Dr. Lenny Brennan, hopes to learn how tortoises use an area managed for wildlife, particularly quail. Tortoises will be tracked for 2 years, and Ross will learn about their survival, reproduction, nesting, and habitat use.

Many species have variable life history strategies across their range, and Texas tortoises are no exception. No tortoise research has been conducted near the new study site, so this research will help fill in the gaps in our understanding of Texas tortoises in the Rio Grande Plains. ~

What Do They Eat?

Brown-headed cowbirds eat insects and seeds from wild and cultivated plants. (Handbook of Birds of the World, Vol. 16, del Hoyo et al., Lynx Edicions)

Eastern cottontails are herbivores, feeding on various grasses and forbs, and will forage on bark and twigs of bushes and small trees. (The Mammals of Texas, W.B. Davis and D.J. Schmidly, Texas Parks and Wildlife)

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