

SOUTH TEXAS WILDLIFE



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THE SOUTH TEXAS WILD TURKEY PROJECT

by William P. Kuvlesky, Jr.,
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Alison Menefee

The South Texas Wild Turkey Project has been ongoing for the past 5 years. Initially, our research

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started with looking at how constructed (man-made) wild turkey roosts could be used to improve wild turkey habitat on areas where natural roosts (mature live oak and hackberry trees) are limited.

Prior to starting our research program, we had occasionally helped landowners with providing roost designs and advice on where to place constructed roosts on their properties, and we determined that wild turkeys would indeed use many of them. However, our advice was guesswork based on our knowledge of wild turkey ecology in South Texas. We explained this to landowners and emphasized that we really needed to conduct

research to determine where to place roosts on South Texas landscapes and determine a roost design that increased the probability that wild turkeys would use them. Therefore, 5 years ago a group of landowners and Las Huellas (a non-government organization from Brownsville, Texas) agreed to support a Master of Science (M.S.) student whose research project would be to determine what roost design was preferred by wild turkeys, as well as where roosts should be located on a landscape that would encourage wild turkeys to use them.

We identified almost 70 constructed roosts on a number of South Texas ranches and obtained permission from the landowners to include them in our research project. Thus far, the funds provided by our sponsors have funded 2 M.S. projects. We have learned that constructed roosts need to be as tall, if not taller, than the surrounding brush and have a very stable platform on top that

This Issue

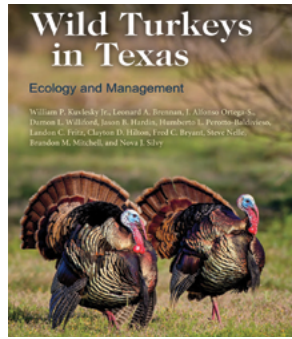
Wild Turkey Project.....	1
By The Numbers.....	2
CKWRI News.....	2
Did You Know?.....	3
Drones for Field Research.....	3
What Do They Eat?.....	4
Advisory Board.....	4

provides as many roosting opportunities as possible to accommodate a significant percentage of the large winter flocks. In fact, a cluster of 3 roosts located in the same area is preferred. In addition, we have determined that during winter wild turkeys preferred constructed roosts that were located in landscapes characterized by large patches of woody vegetation. However, during the breeding season, constructed roosts located in landscapes characterized by smaller but more numerous patches of brush located in a grassland were preferred by wild turkeys.

Our results make sense from a wild turkey ecology perspective because during winter turkeys are in large flocks and want landscapes that provide substantial areas of woody protection from predators and bad weather. In contrast, during the breeding season, large areas of open grassland are required for wild turkey breeding, nesting, and poult rearing. We plan to continue to conduct research on more aspects of wild turkey landscape ecology if our funding support continues.

In addition to the research we have conducted, we also have been working with the Texas Parks and Wildlife Department to translocate wild turkeys from ranches where they are abundant to ranches where their populations are limited or in one case, absent. We have been doing this every winter for 5 years and have translocated almost 300 wild turkeys. In almost every case, our translocations have been successful in bolstering wild turkey populations on ranches where they were released.

Finally, when one considers that wild turkeys are such an iconic



A new book on wild turkeys in Texas will be available this summer from the Texas A&M University Press.

gamebird in Texas, and are familiar to many Texans living or visiting wild turkey country during the spring, we found it strange that books have been written about white-tailed deer in Texas and several about quail, but not a single book has been published about wild turkeys in Texas. This is in spite of the fact that Texas supports the largest wild turkey population in the United States and harbors 3 of the 5 subspecies of wild turkeys found in North America. Therefore, 4 years ago, at the urging of our private landowner supporters here in South Texas and the editor of the Texas A&M University Press, we agreed to produce a book about wild turkeys in Texas.

The result of our efforts “Wild Turkeys in Texas: Ecology and Management” will be published by the Texas A&M University Press during summer 2020. Content includes Natural History, Restoration, Behavior, Habitat Requirements, and Management. One of the unique chapters is titled “Working with Private Landowners,” which we hope will prove useful to those wanting to assess private lands. Our hope is that this book provides a comprehensive source of information to anyone interested in wild turkeys. ~

CKWRI NEWS

Student Awarded at the Subtropical Agriculture and Environments Society Meeting

At the recent Subtropical Agriculture and Environments Society (SAES) annual meeting held in Weslaco, Texas February 7th, **Shea Diehl**, was awarded 1st place in the undergraduate student poster presentation. Her presentation was titled “Changes in Agricultural Land Cover in the Texas Panhandle: 2004–2019,” and was co-authored by graduate student **Justin Wied** and Caesar Kleberg Wildlife Research Institute (CKWRI) researchers **Drs. Timothy Fulbright, Randy DeYoung, and Humberto Perotto-Baldivieso, and Dr. Warren Conway** (Texas Tech).



Photo courtesy of Dr. Madhura Kunta
Shea Diehl (left) was awarded 1st place for her poster presentation from SAES president **Dr. Michelle Garcia**.

Students and Researchers Recognized at the Texas Chapter of The Wildlife Society Meeting

Students and CKWRI research scientists were stars at the 56th annual meeting of the Texas Chapter of The Wildlife Society held February 13–15 in Corpus Christi, Texas. Overall, 25 of 79 (32%) scientific oral presentations and 36 of 100 (36%) scientific poster presentations were made by CKWRI research scientists, graduate students, and undergraduate students involved in studies at the CKWRI.

At the awards ceremony, M.S. student **Megan Granger** received

By The Numbers

- 2 typical number of eggs found in the clutch of the common pauraque (<https://txtbba.tamu.edu/species-accounts/common-pauraque/>)
- 18 estimated number of nonnative mammal species (exotics and feral species) found in Texas (The Mammals of Texas, 7th Edition, D.J. Schmidly and R.D. Bradley, 1994, 2004, 2016, University of Texas Press)

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Megan Granger received the *Outstanding Undergraduate Student Award* from TCTWS president Tyler Campbell.

the *Outstanding Undergraduate Student Award*. Megan also took 1st place in the graduate poster competition and M.S. student **Austin Killam** placed 3rd. In addition, Ph.D. student **Nicole Traub** received the *National Wild Turkey Federation Scholarship*. M.S. student **Alexandria DiMaggio** and Ph.D. student **Jason Lombardi** placed 2nd and 3rd, respectively, in the prestigious Cottam competition; 3 of the 7 Cottam presentations (43%) were by our students. **Shyla Rabe** and contributors from *South Texas Natives* earned the *Outstanding Electronic Media Award*.

CKWRI researchers **Drs. Leonard Brennan, Bart Ballard, William Kuvlesky, Jr., Damon Wiliford** (now with Texas Parks and Wildlife), and **Eric Grahmann** (now with Bass Properties) in collaboration with **Stephen DeMaso** (U.S. Fish and Wildlife Service Gulf Coast Joint Venture) received the *Outstanding Book Award* for “The Upland and Webless

the *Outstanding Undergraduate Student Award*. Megan also took 1st place in the graduate poster competition and M.S. student **Austin Killam** placed 3rd. In addition, Ph.D. student **Nicole Traub** received the *National Wild Turkey Federation Scholarship* from TCTWS president Tyler Campbell.



Nicole Traub received the *National Wild Turkey Federation Scholarship* from TCTWS president Tyler Campbell.

Did You Know?

Although mourning doves typically nest in trees and tall shrubs, they also nest on the ground.

The scientific name of the western diamondback rattlesnake is *Crotalus atrox*. The Latin word *atrox* means savage, fierce, or cruel. (A.H. Price, *Poisonous Snakes of Texas*, 1998, Texas Parks and Wildlife Press)

Migratory Game Birds of Texas.” **Drs. Randy DeYoung, Timothy Fulbright, Humberto Perotto-Baldivieso, and David Hewitt** received the

Popular Article Award for “Using Genetic Tools to Guide Management of Chronic Wasting Disease in



Dr. Mike Tewes (right) received the *Educator of the Year Award* and the *Outstanding Technical Publication Award* from TCTWS president Tyler Campbell.

Texas Mule Deer.” In addition, **Dr. Mike Tewes** received the *Educator of the Year Award* and the *Outstanding Technical Publication Award* for “Conservation Status of the Endangered Ocelot in the United States—A 35-year perspective.”

The TAMUK plant ID team, under the direction of our graduate student **Rider Combs**, placed 2nd and undergraduate student **Kye Johnston** placed 2nd in the individual competition. We congratulate our faculty, staff, and students in representing the CKWRI and being recognized by their professional societies for their hard work. ~

Editor’s Note: award photos are courtesy of the Texas Chapter of The Wildlife Society.

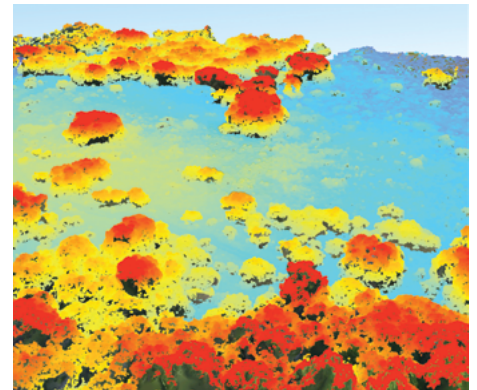


Dr. Randy DeYoung (right) received the *Popular Article Award* from TCTWS president Tyler Campbell.

DRONES AND TREE CANOPY HEIGHTS IN TEXAS

by Michael T. Page, Humberto Perotto-Baldivieso, and Alfonso Ortega-Santos

Drones (often referred to as unmanned aerial vehicles) are remotely controlled robotic vehicles that have grown in popularity over the last few decades. The development of these remote sensing platforms with very high spatial and temporal resolution provides opportunities to gather new information from the field and new insights



A 3D representation of tree canopy height made possible using drones.

into our natural world. The development of these aerial systems also revolutionized how we can acquire, process, and analyze spatial data.

Drones allow managers the ability to fly over rangelands and monitor the spread and growth of invasive and problematic species such as

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honey mesquite. Mesquite is one of the most invasive species in Texas and within the southwestern United States. This native-invader has proven to be problematic to many ranchers and landowners within its range because of its adaptability and rate of spread into areas where it was not prevalent beforehand. Due to mesquite's ability to reestablish and spread throughout the landscape, it is essential for rangeland managers to be able to monitor mesquite growth and expansion on a frequent basis.

We conducted a study in 2 ecoregions, Cross Timbers and the South Texas Plains, to evaluate the feasibility of using drones for assessing mesquite expansion and canopy height. Field work was performed to locate individual mesquites, record individual canopy height, and mark their location with a GPS unit. We flew a drone at 2 altitudes: 150 feet and 300 feet above ground level and used photogrammetry software to create 2D images and 3D models

Advisory Board

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

Chad Auler Gus T. Canales T. Dan Friedkin Henry R. Hamman Jeff Hildebrand Karen Hunke	David W. Killam (<i>Chair</i>) Mason D. King Chris C. Kleberg Tio Kleberg C. Berdon Lawrence Tim Leach Kenneth E. Leonard	Ellen B. Randall Barry Coates Roberts Stuart W. Stedman Ben F. Vaughan, III Bryan Wagner Charles A. Williams
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Emeriti: A.C. "Dick" Jones, IV and James A. McAllen



A 3D model of a landscape in North Texas.

that could be used for digital height estimation of the mesquite plants.

The 2D images help identify mesquite and other shrub and tree species in the landscape. The 3D models were used to collect vertical measurements and volumes of the modeled mesquite trees. Our results indicate that the vertical measurement of the 3D models and the field data are very similar.

Based on our findings, the use of drones could be expanded to other tree/shrub species allowing us to measure height and canopy cover. In addition, these kinds of analyses can be applied to landscape assessment of vegetation to examine thermal landscapes (critical for bobwhites and ocelots) and identify roost sites based on canopy height (important for wild turkeys). Drones are proving to be a useful tool in habitat evaluations and their usefulness will continue to expand in scope. ~

What Do They Eat?

Ground skinks consume small insects, spiders, and other arthropods. (<https://nativetexas.weebly.com/ground-skink.html>)

Aningas are mainly piscivorous, but may consume "...crayfish, amphibians, snakes, lizards, mollusks, leeches, and aquatic insects." (<https://birdsna.org/Species-Account/bna/species/anhing/foodhabits>)

Consider giving a donation to the CKWRI



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