

SOUTH TEXAS WILDLIFE



A publication of the Caesar Kleberg Wildlife Research Institute
at Texas A&M University-Kingsville

Winter 2016
Volume 20, No. 4



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Telemetry was used to find nesting bobwhites to assess distances between first and second nests.

CAN BOBWHITES LEARN FROM PAST NEST FAILURES?

by Fidel Hernández, Bill Lutz,
and Eric Grahmann

Northern bobwhites have a tremendous capacity for reproduction. Their clutch size can range from about 12 to 15 eggs, and they may nest up to 4 times in a single nesting season. Biologists believe

Editor's Note: Dr. Fidel Hernández is Deputy Director at the CKWRI and is the Alfred C. Glassell, Jr., Endowed Professor for Quail Research, Mr. Bill Lutz is a CKWRI graduate student at Texas A&M University-Kingsville, and Dr. Eric Grahmann is a CKWRI Research Assistant Professor at Texas A&M University-Kingsville.

that this high reproductive capacity is an adaptation to offset the high nest depredation rates that the species endures. For example, in any given attempt, the likelihood of a nest being depredated is about 70%.

Given these high nest-depredation rates and the multiple-nesting behavior of bobwhites, biologists often have wondered if bobwhites are capable of learning and altering their nest-site selection in subsequent nesting attempts. That is, if the first nest of a bobwhite was depredated, would the hen (1) travel farther to renest and (2) place the nest in denser vegetation? Bill Lutz, one of our M.S. graduate students,

made this topic the subject of his thesis inquiry.

To help answer these questions, we used datasets from 5 studies in South Texas spanning multiple years. These studies included the South Texas Quail Research Project that was conducted in Brooks County (2000–2008), the dissertation research conducted by Eric Grahmann in La Salle County (2009–2011), and 3 thesis research projects conducted by graduate students in Goliad (Patrick Clark), Real (Josh Pearson), and Zavala (Bill Lutz) counties (2014–2015).

For all 5 projects, we trapped bobwhites during February of each year and monitored them using radio telemetry methods during the nesting season (April–August). We obtained GPS coordinates for each nest location, noted the fate of the nest, and recorded the number of nesting attempts (first, second, third, or fourth). We also measured 4 vegetation features at each nest site:

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By The Numbers

9 toad species in the taxonomic family Bufonidae that are found in Texas (A field guide to Texas Reptiles and Amphibians, R.D. Bartlett and P.P. Bartlett, Gulf Publishing Co.)

14,000,000 approximate acres covering the distributional range of the pronghorn within Texas (tpwd.texas.gov/landwater/land/habitats/trans_pecos/big_game/pronghorn/)

nesting-substrate volume, bunchgrass density, radius of complete visual obstruction, and percentage of herbaceous cover.

Five hundred and seventy-three bobwhite nests were monitored

during the 5 studies. We found bobwhites nested in a wide variety of substrates across the study sites.

The most common bobwhite nesting substrates were

seacoast bluestem (24% of nests), buffelgrass (10% of nests), brownseed paspalum (9% of nests),

Old World bluestems (7% of nests), purple threeawn (7% of nests), and pink pappusgrass (4% of nests). However, these data are heavily skewed toward the South Texas Quail Research Project because of the long-term nature of this particular study, which yielded many nests (7 years, 417 nests) compared to the other studies in La Salle County (3 years, 95 nests), Zavala County (2 years, 52 nests), Goliad County (2 years, 6 nests), and Real County (2 years, 3 nests).

Regarding our research inquiry, we documented that bobwhite nest success tended to increase from first nests (34%) to renests (47%). Interestingly, however, there was no difference in most vegetation characteristics between first nests and

subsequent nests. For example, nesting substrate volume was statistically similar between first nests (3.2 ft³) and second nests (2.6 ft³) for hens suffering nest loss during their first nesting attempt. Bunchgrass density

also was similar between first nests (283 bunchgrasses per acre) and second nests (283 bunchgrasses per acre).

An interesting finding that we documented in our research is that bobwhites whose first nest was depredated moved about 60 yards

farther to renest (184 yards), compared to bobwhites whose first nest was successful (124 yards). Thus, bobwhites did not appear to alter their nest-site selection for subsequent nests if their first nest was depredated, but they did appear to move farther to renest after experiencing a nest depredation.

The lack of major changes in vegetation characteristics between first and subsequent nests may be a result of bobwhites not exhibiting learning behavior, or a failure on our part to monitor other biologically relevant variables. For example, environmental factors such as air turbulence, air flow, and humidity can influence a predator's ability to detect a nest using olfactory cues. It is possible that the structural



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Good nesting cover is an important component of bobwhite habitat. In this study, most vegetation characteristics did not differ between successful and unsuccessful renests.

attributes did not differ between nesting attempts, but that the olfactory environment did.

Unfortunately, such characteristics are difficult to measure, and we did not quantify them. Perhaps this is a lead that could be followed by our next graduate student. ~

CKWRI NEWS

Fred Bryant Named 2016 Texas Outdoorsman of the Year*

In October, **Dr. Fred Bryant** was honored as the *2016 Texas Outdoorsman of the Year* by the Texas Wildlife Association Foundation. The ballroom at the San Antonio Country Club was filled with more than 100 close friends, family, and conservationists who gathered to commemorate Bryant's induction into the distinguished group known as "Outdoorsmen."

Fred Bryant is regarded as a giant in the conservation world and is a personal hero to countless outdoorsmen. He also is known as an educator, a researcher, a leader, a promoter of others, a fund-raiser, a husband, a father, a friend, and a man of faith. It is his unique skills that set him apart and has allowed him to be



Fred and Janis Bryant (center) surrounded by their family (L-R) son Coy and his wife Niki, daughter Lisa, Clint's wife Donna, and son Clint at Fred's reception for being selected as the 2016 Texas Outdoorsman of the Year by the Texas Wildlife Association Foundation.

* Content edited and condensed from full article found on <http://www.ckwri.tamuk.edu/news-events/bryant-named-2016-texas-outdoorsman-year>. Full article is courtesy of the Texas Wildlife Association Foundation.

a tremendous asset to the CKWRI, and making the Institute the largest of its kind in the world.

Institute Receives Major Funding

The CKWRI has received a \$16.5 million gift from the Caesar Kleberg Foundation for Wildlife Conservation. From this generous gift, \$7.7 million will go toward the CKWRI Fred Bryant General Endowment, \$7.5 million for general support to the CKWRI, and \$1.3 million will go to support the Tio and Janell Kleberg Wildlife Research Park through year 2020.

We are thankful for the many years of financial support provided by the Caesar Kleberg Foundation for Wildlife Conservation, which has helped make the CKWRI what it is today, and aids in continuing our work well into the future.

Tio Kleberg and Fred Bryant Honored*

The Texas Parks and Wildlife Foundation has selected **Stephen J. “Tio” Kleberg** and **Dr. Fred C. Bryant** to be inducted in the *2017 Texas Conservation Hall of Fame*. They are being honored for their individual achievements and their work together at the CKWRI.

Tio is a member of the King Ranch Board of Directors and a member of the legendary King Ranch family. He is a trustee of the Caesar Kleberg Foundation for Wildlife Conservation. He also serves as 1st Vice Chairman of the TAMUK Foundation and is a member of the CKWRI Advisory Board. Fred served for 20 years as the Leroy G. Denman, Jr. Endowed Director (see following article regarding Fred’s changing role at the CKWRI) and has garnered numerous awards for

* Content edited and condensed from full article found on <http://www.ckwri.tamuk.edu/news-events/bryant-and-kleberg-be-inducted-2017-texas-conservation-hall-fame>, courtesy of TAMUK.



Tio Kleberg (left) and Fred Bryant will be inducted into the 2017 Texas Conservation Hall of Fame by the Texas Parks and Wildlife Foundation.

his service to the profession across his illustrious career.

Both Tio and Fred will be honored at the Texas Conservation Hall of Fame dinner and concert, which will be held at the Moody Theatre in Austin on April 6th. Congratulations to both of these individuals for being recognized for their outstanding contributions to wildlife conservation. ~

END OF 2016

by Fred Bryant

As of November 1st, 2016, I transferred from full time Executive Director to half time Development Director at the CKWRI. This transition did not come easy or without a tremendous amount of thought and planning. I should also mention that the Science and Operations Teams here have been very engaged in this process, supportive of my new adventure, and happy for me and my wife, Janis, to start spending some of that new-found time with our kids and grand kids. When we looked at the ticking clock of life and realized I would be 80 in 11 years, it

made me realize that spending quality time with my family was going to be even more important. Hence, my decision.

I am very fortunate that there is still a place for me to stay involved with the Institute, the place where I accepted my “dream job” on July 1st, 1996, and the place where there are no better people in the world to work with. There is, quite frankly, no better wildlife research program in the country, and we owe it all to you—our Advisory Board, our Endowment Donors, our Caesar Kleberg Partners, our Sustaining Contributors, and our landowners and their ranch managers. South Texas is such a special place because of the people like you who care so much about our wildlife and the habitat that drives one of the most diverse systems in the United States.

As I look back on 2016, I see a year that was amazing. We had our best year ever in research grants and contracts (\$3.3 million), donations (\$1.4 million), and the corpus of our endowment grew by just over \$3 million. We graduated 22 outstanding M.S. (18) and Ph.D. (4) students since September 2014, not counting December 2016. When I tell people “we write the wildlife books,” I don’t lie. We have 7 books in preparation (wild turkeys, waterfowl, ocelots, upland game, biostatistics, the wildlife profession, and a biography of Caesar Kleberg). Most of these will come out in 2017. Dr. Duane Leach wrote the book about Caesar Kleberg’s life, but because Duane is a giant in our eyes and a Trustee of the Caesar Kleberg Foundation for Wildlife Conservation, we proudly count him as being on “our team” at the Institute.

Did You Know?

In 2012, chronic wasting disease was found in free-ranging mule deer in an isolated area of West Texas. (tpwd.texas.gov/huntwild/wild/diseases/cwd/)

The chachalaca’s distributional range in Texas includes Cameron, Hidalgo, Starr, and Willacy counties. (tpwd.texas.gov/landwater/land/habitats/southtx_plain/upland_birds/chachalaca.phtml)

Visit our web page at
<http://www.ckwri.tamuk.edu>



The bronze statue of Caesar Kleberg near the entrance of the Wildlife Center.

We held our 35th Anniversary Gala on April 6th, 2016. And, thanks to the Caesar Kleberg Foundation, we now boast a life-size statue of Caesar Kleberg beside the sidewalk leading into the Caesar Kleberg Wildlife Center.

I could go on and on, but I want to close with an introduction of our new Executive Director, Dr. David G. Hewitt. Dave and I arrived at the Institute on the same day, July 1st, 1996. Dave came in as a new Assistant Professor who was to focus on big game ecology and nutrition. As most of you know, Dave went on to become the *Stuart W. Stedman Endowed Chair in White-tailed Deer Research* in September 2006, and has

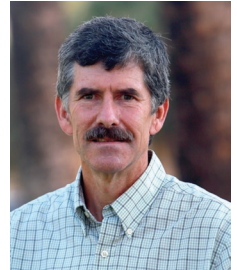
Advisory Board

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.

Chad Auler Gus T. Canales T. Dan Friedkin Henry R. Hamman George C. "Tim" Hixon Karen Hunke A. C. "Dick" Jones, IV	David W. Killam <i>(Chairman)</i> Chris C. Kleberg Tio Kleberg C. Berdon Lawrence Kenneth E. Leonard James A. McAllen	Ellen B. Randall Barry Coates Roberts Stuart W. Stedman Ben F. Vaughan, III Bryan Wagner Charles A. Williams
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led our Deer Program ever since. He is trusted by all the scientists, staff, and students at the Institute because he is a man of high integrity and character, he gets things done instead of just talking about it, he promotes the accomplishments of others instead of himself, he is a family man, and a man of faith. In addition, there was a lot of hope among you, our supporters, that someone from within the Institute would be the next Executive Director. There were many reasons for this, first and foremost of which was our unique culture—the South Texas culture

and the culture of the Institute from the staff to Board to donors to graduate students to the land-owners to the ranch managers. An outsider coming in from some other geographic region, would take a long time to catch up on who we are, what we do, and where we live.



Dr. David Hewitt assumed the Executive Director position at the CKWRI on January 1st, 2017.

We are excited and exceedingly grateful that Dave Hewitt will be our Executive Director at the Institute. The CKWRI deserves nothing less than the best in leadership, and Dave is the one to lead us into the future. ~

What Do They Eat?

The plains blind snake feeds on adult termites, their eggs and larvae as well as eggs and larvae of ants. (Texas Snakes: Identification, Distribution, and Natural History, J.E. Werler and J.R. Dixon, University of Texas Press)

Orange-crowned warblers focus on eating insects, but also are known to eat berries and fruits and visit bird feeders during winter. (Handbook of Birds of the World, Vol. 15, del Hoyo et al., Lynx Edicions)

Consider giving a tax-deductible donation to CKWRI

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