

A Publication of the Caesar Kleberg Wildlife Research Institute

## CAESAR KLEBERG WILDLIFE RESEARCH INSTITUTE

TEXAS A&M UNIVERSITY - KINGSVILLE®

# CAESAR KLEBERG Vacks

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### Learn More About CKWRI

*The Caesar Kleberg Wildlife Research Institute at* Texas A&M University-Kingsville is a Master's and *Ph.D. Program and is the leading wildlife research* organization in Texas and one of the finest in the nation. *Established in 1981 by a grant from the Caesar Kleberg* Foundation for Wildlife Conservation, its mission is *to provide science-based information for enhancing the* conservation and management of Texas wildlife.



www.ckwri.tamuk.edu

*Caesar Kleberg Wildlife Research Institute* Texas A&M University-Kingsville 700 University Blvd., MSC 218 *Kingsville*, *Texas* 78363 (361) 593-3922

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The Faces of Conservation

The Caesar Kleberg Wildlife Research Institute's mission is to provide science-based information for enhancing the conservation and management of Texas wildlife. Even though this mission is clearly focused on wildlife, the Institute must have people dedicated to working on behalf of wildlife and its habitat.

The people in the forefront of CKWRI's mission are the students and faculty. In this issue we highlight two alumni, Drs. Louis and Patricia Harveson, who earned graduate degrees from CKWRI, then took their skills, knowledge, and the CKWRI model to West Texas. Over the past 17 years, they revolutionized wildlife research in West Texas. Talk about a conservation impact!

Alec Ritzell was a hard-working student whose sunny disposition made everyone he met smile. He passed from cancer 5 years ago and his passing hit many of us hard. Alec's family, with the help of Fidel Hernandez, Alec's major advisor, established an endowed scholarship in Alec's name that supports graduate students at CKWRI. This year, the Carl B. & Florence E. King Foundation made a significant donation to Alec's endowment, extending his impact on wildlife students far into the future.

CKWRI faculty are pillars of conservation in Texas. Tim Fulbright studied rangelands and wildlife at the Institute for over 40 years. In 2001, Poncho Ortega joined the Institute and started a research program that involved interactions between wildlife and livestock. Tim and Poncho collaborated on research projects. They wrote books, mentored graduate students, and shared their management experience with local landowners. Over a combined 60 years of professional activity, they left a huge footprint on conservation in Texas and across North America.

Conservation in Texas is not possible without the land stewards who manage our rangelands and wildlife. CKWRI's advisory board represents this constituency. Ken Leonard has served on CKWRI's advisory board and supported the Institute for 30 years. He has recently become an emeritus advisory board member and we are deeply appreciative of Ken for all he has done for CKWRI and conservation in Texas. His passion for wildlife, habitat, and ranching has kept CKWRI focused on issues of concern for Texas landowners.

There are many other faces supporting CKWRI's conservation mission. The Institute has an amazing support staff, an All-Star development team, and invaluable research partners at various agencies, universities, and foundations that help CKWRI fulfill its mission.

Enjoy this issue of Tracks magazine and while you are reading it, think of the vast crowd of faces that make conservation happen.

All the best,

1/il Hunt

Dr. David Hewitt Leroy G. Denman, Jr. Endowed Director of Wildlife Research

## FROM THE DIRECTOR







This idea was still percolating three years later, but it was daunting to know where to begin a project of this magnitude. I was at a meeting of the American Association of Zoo Veterinarians where Dr. Bill Swanson, the world's foremost authority on reproduction in small cats, described a relatively new field procedure for extracting and storing semen from small cats. Light bulb moment! We could collect semen from wild ocelots and use it to inseminate ocelots in zoos, and those babies could become part of a breeding-and-release program. How hard could it be, and what would it take to get there? Two more years were spent brainstorming about a breeding-and-release program and then CKWRI's Dr. Mike Tewes delivered his State of the Ocelot Address at a Faculty Lectureship. During this talk, Dr. Tewes spelled out the successes and challenges in ocelot conservation over the previous 30 years, and challenged all of us to do something, and to do it now.

I took Dr. Tewes' advice to heart and reached out to Dr. Debra Miller at the University of Tennessee -Knoxville (UTK). Dr. Miller had a proven record of successfully combining wildlife conservation and veterinary medicine and knew a talented veterinary student with an interest in wildlife conservation. This student, Ashley Reeves (now the Research Veterinarian for East Foundation), enrolled in UTK's combined DVM/PhD program and would go on to characterize semen from wild ocelots and assess the feasibility of utilizing assisted reproductive techniques in this species. Throughout her PhD project and since, Dr. Reeves has refined semen-collecting techniques in the field. She continues to work with Dr. Swanson at The Lindner Center for Conservation and Research of Endangered Wildlife (CREW) at the Cincinnati Zoo to determine which methods of saving semen and which assisted reproductive techniques will be most likely to produce kittens.

CKWRI Ocelot Conservation Facility renderings provided by CLK Architects & Associates

But little of this work would be applicable without knowing more about the ocelots' genetics, health status, interactions with other animals, habitat requirements, and most importantly, having a place for reintroduction. Enter RecoverTexasOcelots.org, a multi-institutional partnership that was largely the brainchild of Dr. Roel Lopez and graduate student Lindsay Martinez (now Research Coordinator at East Foundation) at Texas A&M's Natural Resources Institute. This collaboration of academic institutions (including CKWRI/Texas A&M University-Kingsville), the U.S. Fish and Wildlife Service (USFWS), Texas Parks and Wildlife Department, and the East Foundation used Working Groups to answer many of the aforementioned questions about ocelots in southern Texas. These answers paved the way for the USFWS to grant a Safe Harbor Agreement to the East Foundation to facilitate reintroduction onto one of their ranches that historically housed ocelots.

Now we just needed a place to make ocelots! The Captive Propagation Working Group designed an Ocelot Conservation Facility which, at nearly 30,000 square feet, includes quarantine space, indoor/outdoor housing for up to 16 ocelots (including birthing dens), a lab for assisted reproductive techniques, a surgical suite (artificial insemination is a surgical procedure), a "Wilding Hub" where young ocelots will learn to hunt and to engage in other natural behaviors, offices, and working space for graduate students and visiting scientists. The Facility will also serve as a base of operations for ongoing ocelot fieldwork which provides handson training opportunities for undergraduate students in Range and Wildlife Sciences. In October 2024, we broke ground for the Ocelot Conservation

Facility at the Caesar Kleberg Wildlife Center in

Kingsville. Construction of the Facility is a unique partnership between the CKWRI/Texas A&M University-Kingsville and East Foundation that is supported by private donors with strong interest in the conservation of wildlife in southern Texas.

It is rewarding to see all the pieces coming together. Dr. Reeves continues to collect semen in the field in anticipation of its use at the Ocelot Conservation Facility. Paperwork and dialogue have been initiated that will facilitate importation of semen or ocelots, or both, from Mexico should we have the opportunity. The Captive Propagation Working Group continues to meet, and the Standard Operating Procedures for the Ocelot Conservation Facility are in review by TAMUK's Institutional Animal Care and Use Committee. Seeing all these talented people (many who are not listed here) come together with so much purpose and passion for wildlife conservation has been inspiring. Stay tuned as more good things are yet to come! **\*** 

# A PICTURESQUE BEGINNING TO LARGE MAMMAL RESEARCH IN THE **Texas Hill Country**

by Miranda Hopper, Bailey Kleeberg, Levi Heffelfinger, and Michael Cherry

Very year, thousands of people flock to the Texas Hill Country to enjoy its picturesque beauty. From rolling hills, open grasslands, starry skies, and crystal-clear waters lined by magnificent cypress trees, the Hill Country is a popular destination for all kinds of outdoor recreationists. For those who call the Hill Country home, however, it is more than just a quiet escape where cell phone service is spotty.

The Hill Country is unique compared to the rest of Texas because of its oak and juniper savannas, deep canyons, towering limestone bluffs, and meandering rivers. The scenic region, though, is not without its challenges. This fragile ecosystem also has thin, rocky soils and rugged terrain that is highly susceptible to erosion, along with a variable climate prone to drought. Additionally, this region is facing many difficulties, such as development, fragmentation, and ecosystem disruption caused by invasive plants and animals. Texans in the Hill Country see and appreciate the beauty and uniqueness of this landscape and want to see it protected.

This past year, generosity and dedication from private landowners allowed the Caesar Kleberg Wildlife Research Institute to develop and launch the Henry Hamman Program for Hill Country Conservation and Management. This research program is dedicated to understanding the ecology of the Hill Country, and using the knowledge acquired to conserve the region's natural resources, including water, soils, vegetation, and wildlife. One of our first projects under this program aims to establish a long-term large mammal monitoring effort using game cameras. Our primary goal is to investigate the relative population size and distribution of various large mammal species across the Hill Country. With the establishment of these long-term sites spread out across the Hill Country, we can track changes in species distribution and abundance over time. This effort will become increasingly important as invasive species, such as aoudad and wild pigs, or predators, such as mountain lions and black bears, expand their range throughout the region. Not only will we be able to assess these long-term changes in large mammal communities, but we can also use this data to connect information about these populations to landscape characteristics, such as juniper management, elevation, and human recreation.

CKWRI graduate student, Miranda Hopper, deploying a game camera on one of sixteen properties collaborating with the large mammal monitoring project within the Henry Hamman Program for Hill Country Conservation and Management. Photo Credit: James Harrington.













Game cameras captured photos of a variety of animals including red deer, gray foxes, aoudad, axis deer, ringtails, white-tailed deer and coyotes (and more not pictured here).







We hope that this study will allow us to provide critical, science-based information about large mammals to landowners, so that they can make decisions about how to best manage their property to meet their specific needs.

With these objectives in mind, we set out to deploy game cameras across the Hill Country. We began in September 2024 with 56 cameras and the support of landowners across ten different properties, based primarily in Leakey but with properties stretching from as far west as Brackettville and as far east as Austin. Of the properties included, some were behind high fences, while some were low-fenced properties. In our first week of camera deployments, we made sure to meet with the landowners to explore their property with them, learn what made their property special, and hear what issues were most important to them. Nearly two months later, we anxiously returned to check our cameras for the very first time. Anyone who has used game cameras knows that checking the first batch of photos is as daunting as it is exciting. We had no shortage of photos to

CKWRI graduate students, Miranda Hopper and Kevin Lovasik, deploying a game camera on one of sixteen properties collaborating with the large mammal monitoring project within the Henry Hamman Program for Hill Country Conservation and Management. Photo Credit: Dakota Moberg.

scroll through, but every singular detection of an animal made the hundreds of pictures of simply grass blowing in the wind worth it. After the first check, we had just over 10,000 photos of wildlife. Of those, approximately 50% were white-tailed deer. The next most commonly detected species was feral hogs at 18.6%. Other species that made appearances were aoudad (5.3%), elk (2.7%), axis deer (2.1%), and red deer (1.4%). Additionally, our cameras allowed us to capture a host of smaller mammals, including coyotes (1.8%), gray foxes (1.3%), raccoons (1.1%), porcupines (0.1%), and bobcats (0.1%). Perhaps one of the more exciting finds was our detection of ringtails (0.6%), who were frequent night-time visitors in front of our cameras. Lastly, though they appeared to be few and far in between, we were also thrilled to capture photos of javelina, a native species that has anecdotally been declining in the region.

This early stage of the project is just the beginning. Today, we have 134 cameras deployed across 16 properties with more expansion underway. We are curious to see what other elusive critters our cameras will find, and we are looking forward to sharing all of our findings over the next few years with the landowners who made this work possible. Perhaps just as exciting as photographing a new species for the region, is the opportunity to continue to explore the Hill Country and meet the wonderful people who call it home. Over the past few months, we have been enthusiastically welcomed by all our partnering landowners, from morning cups of coffee to afternoon rides on the UTV. Every person has shared a piece of their home with us. With each visit, we understand a little more why people come from all over to visit this very place, and we become even more dedicated to the conservation of the unrivaled Texas Hill Country. 🗥

# NAVIGATING THE FRAGMENTED THORNSCRUB: Insights from the Movements of the Chestnut-Bellied Scaled Quail

by Evan P. Tanner, Katherine A. Travis, Caleb M. McKinney, Levi D. Sweeten, Maydeliz Ramos-Gonzalez, Ashley M. Tanner, and John McLaughlin

Native Tamaulipan thornscrub which makes up the core of the chestnut-bellied scaled quail's habitat requirements. Photo by: Levi Sweeten

nyone that has spent enough time in Kingsville, the city CKWRI calls home, Likely shares the common experience getting stopped by the freight train that cuts through the center of town, grinding to a halt as adjustments are made before it moves onto its next voyage. Since 1904, such train activity has been a vital part of the city's history and economic development. Over 120 years later, Kingsville still sees no fewer than four freight trains per day. Many citizens patiently wait, knowing eventually the train will move on and their pathway will open back up. However, others (including a few in this article's author list) hear the train horn and elect to take a gamble, changing their planned path and driving down alternate routes in hopes of getting around the train so-as to avoid any perceived delays. Often, this decision has one driving down roads in Kingsville they rarely, if ever, use because those roads are so tangential to their normal routes to resources they need. A path to the grocery store is typically short, uneventful, and systematic; that is, until there is a novel "barrier" (such as a parked train) in the usual path to this critical "resource." The train barrier completely alters the way someone might behave, the way they navigate their environment, and often causes them to select for "features" (such as side streets or frontage roads) in their environment that they normally would not.

Just as novel features and barriers alter the way humans move within their environment, similar changes to a landscape influence how animals navigate their habitat. It's not enough to just understand what resources an animal may use throughout their lives (i.e., food or water resources), we must also seek to understand how they access (or move to) those resources. This realm of research gave rise to the field of movement ecology, or the study of how and why animals move in relation to their environment. This information forms a pillar of sound habitat management, as animal movement affects critical aspects of ecosystem processes (i.e., pollination, seed dispersal, etc.) and protecting movement pathways ensures the persistence of healthy and viable populations.

Though concepts and theory behind movement ecology have existed for decades, advances in technology within the field of wildlife research have allowed us to gain unprecedented knowledge on factors influencing animal movement. Where we once relied on make-shift, yet creative, solutions such as thread-trailing devices affixed to the carapace (the shell) of turtles (think of a turtle slowly unraveling a ball of yarn as it walks), we now use devices such as GPS transmitters to track movements. These devices get smaller, lighter, and more powerful every year, allowing wildlife researchers to gain new knowledge on movement characteristics of many of the smaller wildlife species that were not included in the early studies that used large models of GPS transmitters years ago. Within the past decade, GPS technology has advanced to allow such transmitters to be deployed on quail species in North America. Where we once relied on habitat use information from a single point or a few points per day, we now have information on marked birds being collected at much finer time intervals (i.e., minutes to hours).

A chestnut-bellied scaled quail with a GPS transmitter and leg band. Data from these transmitters provides CKWRI with information on movement characteristics of this species within South Texas. Photo credit: Levi Sweeten.



This allows us to gain insight into how quail move on the landscape and what causes them to move in such ways; information that has largely been missing from the "state of quail science".

Such ideas were the genesis for a large collaborative research project between the Caesar Kleberg Wildlife Research Institute, Texas Parks and Wildlife Department, and the Borderlands Research Institute focused on gaining insight into the movement ecology and subsequently managing for habitat connectivity of the chestnut-bellied scaled quail (Callipepla squamata castanogastris) in South Texas. Unlike other subspecies of the scaled quail that inhabit open grasslands with intermixed shrubs, the chestnut-bellied scaled quail requires dense, diverse shrub communities characteristic of the Tamaulipan thornscrub within South Texas and northern Mexico. This subspecies has experienced significant population declines over recent decades with initial evidence suggesting that habitat connectivity may be a driving factor of such declines.

For a subspecies that requires a significant shrub component for its habitat requirements (also known as a "shrub obligate species"), one would think that this bird should be doing fine. After all, South Texas is known for growing shrubs better than almost any other region in North America. However, we are learning through studying the movement ecology of the chestnut-bellied scaled quail that not all shrubs are made equally. Many land management practices common to the South Texas brush country (i.e., brush sculpting) that benefit many target species of wildlife and livestock may come at a cost to these shrub obligate species. One of the key components of dense, diverse Tamaulipan thornscrub habitat is an understory with sparse forbs and grasses (10-25%), and plenty of bare ground for quail to run (>70%). As most scaled quail hunters know, these birds don't like to hold like their bobwhite cousins, preferring instead to lead hunters on a foot race before finally flushing if necessary. Losing or altering this sparse, understory structure can severely impede the scaled quail's mobility within their daily lives. Moreover, previous research from CKWRI's Dr. Tim Fulbright highlighted how this subspecies responds negatively to non-native, invasive grasses now common in the South Texas rangelands.

It's a combination of these factors that may be driving the loss of habitat connectivity for the chestnut-bellied scaled quail by impeding or altering their movement patterns. Brush sculpting treatments in undisturbed, native Tamaulipan thornscrub typically result in irreversible changes to the structure of the community, including replacing the once sparse understory with dense, non-native grasses. The reasons, or mechanisms, of why this happens are still not 100% clear, but early evidence suggests that the prevalence of non-native grasses may be a driving factor. Once such a disturbance occurs, many areas grow back not as a complex native, thornscrub system, but as a simplified shrub community (primarily honey mesquite and huisache) with a dominant non-native grass understory component (known as an "alternative stable state"). Considering that many of these non-native grasses



A "quail's eye view." Areas of undisturbed Tamaulipan thornscrub provide chestnut -bellied scaled quail with ideal understory conditions to facilitate movement (limited herbaceous cover and high amounts of bare ground; left panel). Disturbed shrub communities invaded by non-native grasses (right panel) can restrict movement options for these birds. Photo credit: Kat Travis.



*Estimates of herbaceous biomass derived from the Rangeland Analysis Platform (https://rangelands.app/) reflect past brush management practices. Legacy effects of brush strips cleared and non-native grass plantings can be seen through increased herbaceous biomass estimates (left panel). Conversely, uncleared thornscrub communities (right panel) lack such signals.* 

were initially introduced to South Texas more than 50 years ago to provide increased livestock forage production in semiarid conditions, it's easy to see why the prevalence of these grasses would cause problems for a species that requires high amounts of bare ground to run. What's more, even though the shrub community is vastly simplified, the amount of shrub cover (as estimated through vegetation monitoring techniques) may not differ from undisturbed thornscrub, even though it's functionality may have changed for chestnut-bellied scaled quail entirely. Again, not all shrubs and not all wildlife cover are created equally.

Since January 2022, researchers at CKWRI have deployed >150 GPS transmitters on chestnut-bellied scaled quail across two private ranches in South Texas to get a better understanding of their movement ecology. This work has resulted in thousands of movement "tracks," or mapped animal routes, from birds allowing us to estimate how changes in the vegetation community across these rangelands are impacting their ability to navigate the fragmented thornscrub. Our results re-emphasize trends from previous work that thornscrub is critical for this species' movement. Conversely, when faced with disturbed habitat, or areas in an "alternative stable state" such as a mesquite woodland, their probability of moving through that area decreased by ~1.5 times relative to areas with intact thornscrub. What's more is when these areas were also dominated with a high

herbaceous understory indicative of non-native grasses, the probability of using these areas to move decreased ~3 times.

A significant amount of research now highlights the fact that the loss of these thornscrub communities is causing serious issues for populations of chestnut-bellied scaled quail. Future work on this project will use this movement information to develop regional connectivity models to help prioritize areas of greatest management need within the 19 counties of South Texas where this subspecies occurs. However, critically assessing brush management practices may be the first step towards conserving the remaining habitat that exists for this species. Shrub communities that come back post-disturbance often no longer reflect the diverse shrub community that once existed. Moreover, restoration projects for thornscrub have met minimal success and can often be expensive to implement. As Drs. Tim Fulbright and Poncho Ortega once wrote in White-Tailed Deer Habitat: Ecology and Management on Rangelands: "Deciding to apply brush management is extremely serious because of its long-term implications...It is the philosophy of the authors that habitat manipulation by mechanical and chemical means is appropriate *only* in habitats previously degraded by human use." This principle endures to this day when it comes to considerations for the chestnut-bellied scaled quail.

# BRANCHING OUT THE CHANGING LANDSCAPE OF THE TEXAS HILL COUNTRY

by Dakota R. Moberg, Ashley M. Tanner, Evan P. Tanner, Sandra Rideout-Hanzak, Fidel Hernandez, and Anthony D. Falk

The Texas Hill Country is part of the Edwards Plateau ecoregion, a fragile ecosystem that is undergoing significant ecological and land use changes. Anthropogenic activity such as urban expansion has profoundly altered the region's landscape. As large ranches and open spaces are increasingly subdivided for residential and commercial development, wildlife corridors are disrupted, hydrological processes altered, and ecosystem resiliency weakened. Changes in land use and management have also played a major role in reshaping the landscape of the Texas Hill Country. Additionally, the suppression of natural fire regimes, coupled with overgrazing and soil disturbance, has created conditions that favor Ashe juniper.

The rapid spread of woody plants into historically open grasslands has been ongoing for over a century. Fire suppression, overgrazing, and climate change have all contributed to conditions that favor the expansion of trees at the expense of native grasses. While Ashe juniper, sometimes referred to as cedar, is a native species, its historical distribution and abundance remain widely debated and controversial. Many researchers suggest that Ashe juniper was historically confined to riparian areas, canyons, and isolated pockets in the landscape, where natural disturbances kept it in check. Others argue that it was more widespread within this region. Regardless of its past extent, anthropogenic influences have significantly altered its current distribution, allowing it to expand beyond what many consider its historic range.

Figure 1. An open understory stand of Ashe juniper that has been managed to promote herbaceous growth. Photo credit: Dakota Moberg

hat comes to mind when you think of the Texas Hill Country? Maybe it's the limestone bluffs, winding rivers, or the explosion of bluebonnets each spring. The land is rugged yet resilient, shaped by droughts, floods, and the quiet persistence of time. And whether you see it as a

> nuisance or staple of the landscape, one thing is certain - Ashe juniper has become a part of the identity of this region.



*Figure 2. A closed canopy stand of Ashe juniper with a dense understory. Photo credit: Dakota Moberg* 

As humans suppressed fire and intensified grazing practices, Ashe juniper was able to spread and form dense thickets. This proliferation presents several challenges: thick cedar stands can reduce herbaceous plant biodiversity, limit forage availability, and alter other key ecosystem functions (such as groundwater recharge). On the other hand, Ashe juniper provides critical habitat for species like the endangered golden-cheeked warbler, demonstrating the complexity of its role within the region. Given these competing ecological and management concerns, a broad approach is needed to consider how land management influences and may support multiple ecosystem functions.

Ecosystem multifunctionality refers to the many functions and services an ecosystem offers simultaneously. Healthy ecosystems provide services such as nutrient cycling, soil fertility, water retention, and biodiversity. However, when management efforts focus too heavily on a single function, other critical processes may be overlooked. For example, widespread removal of Ashe juniper to encourage the growth of other desirable species may lead to unintended consequences, such as increased soil erosion. If not properly managed, Ashe juniper can also quickly return to cleared areas, often more aggressively than before. While removal may benefit some land uses, a singular focus on one aspect can disrupt broader ecosystem functions. A balanced approach that considers multiple ecosystem processes is essential for maintaining long-term health and resilience of this unique ecoregion.



Figure 3. A steep canyon wall typical of the Texas Hill Country, historically considered a natural boundary for Ashe juniper expansion. Photo credit: Dakota Moberg



Figure 4. A conceptual diagram adapted from Garland et al. (2020), illustrating the components that make up ecosystem multifunctionality.

Understanding the ecological effects of Ashe juniper is only part of the equation. The role of social perceptions and ideas about land management decisions is equally important. Land use and conservation strategies are influenced by our cultural values, economic priorities, and previous land management practices. Our perceptions drive our management actions in ways that don't always align with ecological best practices or anticipated results. Identifying and understanding these influences allows us to develop land management approaches that are both ecologically and socially appropriate.

The goal is not to label Ashe juniper as a villain, but to develop a nuanced understanding of its role in the ecosystem. Through the Henry Hamman Program for Hill Country Conservation and Management, we aim to integrate soil science and plant ecology to bridge the gap between social perceptions of Ashe juniper and conserving ecosystem multifunctionality. By providing essential data to inform land management practices, we hope to ensure the Texas Hill Country remains a resilient and multifunctional landscape for generations to come.

### INTERESTED IN SUPPORTING RESEARCH IN THE HILL COUNTRY?



Scan the QR code and select Henry Hamman Program for Hill Country Conservation in the "Designate donation to a specific program" dropdown box.

### A DYNAMIC DUO RETIRES ——*Tim Fulbright and Poncho Ortega*—

by Lorie A. Woodard

After 67 years of combined, exemplary service to CKWRI, its students and partners, Dr. Tim Fulbright and Dr. Alfonso "Poncho" Ortega retired. Fulbright and Ortega, who both served as professors and research scientists, joined the institute in 1982 and 2001, respectively.

"In cattle breeding, an F-1 cross is a productive hybrid," said Dr. Fred Bryant, who served as CKWRI's Executive Director from 1996 until his retirement in 2016 and now focuses on development. "When it comes to range science and wildlife, they, like me, are F-1s. As scientists, they were fascinated by the intersection of range management and wildlife because they understood that was where applied research could be most impactful for ranchers."

#### DR. TIM FULBRIGHT

Fulbright's Texas heritage stretches back to 1842, when his great-great-great grandfather arrived in what became Red River County and settled in a community now known as Fulbright. Although Fulbright was reared in Abilene, he spent a lot of time learning about plants, cattle and wildlife alongside several of his great uncles who ranched in the Texas Panhandle.

"I grew up loving to hunt and fish," said Fulbright, who recently celebrated his 70th birthday by climbing four, 14,000-feet peaks near his Colorado home over a long weekend with his daughter. "From the time I was five years old, I knew what I wanted to do."

In pursuit of his passion, he earned his bachelor's and master's degrees in wildlife biology at Abilene Christian University. Then, he struck out for Colorado State University to complete his Ph.D. in range ecology.

He married his wife, Venie, the week before starting his doctoral program, so they spent their early married life in the Centennial State. Fulbright hoped to stay there, but no one was hiring.

Fortuitously, as it turns out, then-Texas A&I University was. In 1981, Dr. Charlie DeYoung offered Fulbright a job which he accepted fully intending to "be back in Colorado in a few years." During his first year at the university, he taught full-time, discovered his preference for research, in the process. The combination of teaching without any formal training and scrabbling together "Individually and collectively, they brought energy, vision, curiosity, a sense of humor and a desire to serve landowners to every project they touched."

The inability to see the imaginary line that some professionals and universities drew between wildlife and range management became a hallmark of the Institute's work. Although the dynamic duo arrived at the Institute almost 20 years apart, they quickly became colleagues and friends. Among their collaborative efforts, they produced the first and second editions of *White-tailed Deer Habitat Ecology and Management on Rangelands* in English and Spanish. While the volumes influenced land managers on both sides of the Rio Grande, they also reflected the men's shared ranching roots and love of wildlife.

research funding made the first few years challenging. Over time, things changed including the visibility, reputation and reach of CKWRI. He joined the Institute full-time in 1999, becoming the Meadows Professor in Semiarid Land Ecology in 2000.

#### "It is amazing how

everything changed over the years," Fulbright said. "It transformed from a place where I would've considered going elsewhere to a place where if I had been elsewhere, I would've wanted to be there." According to Fulbright, one thing made the Institute an appealing place to spend his entire career was the administration and Advisory Board's support of wide-ranging research. Because he wasn't confined to a single species or topic, he was able to indulge his lifelong curiosity about the natural world that was awakened by walking alongside his dad reading the landscape, following tracks and identifying scat.

"A lot of universities want you to focus on their program areas, but at CKWRI we were encouraged to investigate what we wanted, even if it was out of the box, as long as it had application for land managers," Fulbright said. "I appreciated that freedom to explore wildlife and range ecology without having to choose. Texas A&M-Kingsville is a small university, but I was able to accomplish a lot of professional goals...the same goals that I would've set at a larger school."

The opportunity to contribute to both disciplines allowed him to achieve many unique things. For instance, he

#### DR. ALFONSO "PONCHO" ORTEGA

Ortega, whose father died before he was born, grew up on a ranch in northern Mexico under the watchful eye of his grandfather. As the oldest grandson, he was giver responsibilities ranging from checking water availability for cattle and feeding horses to fixing fence and row cropping Knowing how difficult a career in ranching can be, his grandfather pushed Ortega to be a bank president and put him on the path to a technical accounting career. When his grandfather passed away before Ortega completed his bachelor's degree, the young man followed his passion and graduated from the University of Tamaulipas with a degre in agronomy and an emphasis in animal science. Next, he earned his master's in animal science at the Universidad Antonio Narro in Saltillo, Mexico.

After three years working as a researcher in Mexico, Ortega completed his Ph.D. at the University of Florida, where he investigated grazing management. Upon returning to Mexico, he resumed his research role—and had his ah-ha moment regarding the interrelationship between well-managed grazing and wildlife. In one of his studies, Ortega was evaluating the tolerance of creeping bundleflower, a native legume, to cattle grazing. As he examine the 10-acre study plot, he noticed he routinely flushed several coveys of quail and soon creeping bundleflower was popping up all over the experiment station.

"Those observations made me think that creeping bundleflower had potential in a wildlife food plot, but I knew nothing about wildlife," Ortega said. "That's what prompted me to get into the field—and eventually got me in contact with Dr. Fred Bryant and CKWRI."

His interest in gaining hands-on wildlife experience led him to a series of summer projects at CKWRI, including working as a consultant at King Ranch where he develope four Merrill grazing systems with Bryant. In 2001, Fulbrig emailed Ortega notifying him of a full-time position focusing on wildlife/cattle interactions.

"I received the offer at the end of July, moved to Kingsville in August and started teaching September 1," Ortega said. "It wasn't a lot of time, but I got it done."

Because of Ortega's stellar reputation and expansive network in Mexico, he was a natural ambassador for the Institute and leading CKWRI's research and outreach proje across the border.



served as associate editor of the Journal of Range Management, Journal of Wildlife Management and The Wildlife Society Bulletin, the primary journals in both disciplines. Looking back on his career, he said, "I hope the research I did spawned new ideas that will improve our ability to conserve rangelands and wildlife. Ever since I was a kid, that's all ever wanted to do."

n or ;. t	Along with Dr. Raul Valdez from New Mexico State University, Ortega co-authored <i>Wildlife Ecology and</i> <i>Management in Mexico</i> in both English and Spanish.
d ee	"This is the most comprehensive book published about Mexican wildlife since Aldo Leopold published <i>Wildlife</i> of Mexico in 1959, the year I was born," Ortega said.
l,	As a lifelong rancher, Ortega's classes and his research were informed by experience and practical application. His rancher-first focus fit naturally with the Institute's mission and the Advisory Board's guiding philosophy.
d -	"The most special characteristic of CKWRI has been its unwavering focus on applied research," said Ortega, who was the second Hispanic to serve as the National President of the Society of Range Management and recently received its prestigious W. R. Chapline Land Stewardship Award. "Many problems and paradigms in habitat management have been solved or changed because of the practical approach of the team that was continually shaped by the Advisory Board."
d	As he looks back on his academic career, Ortega hopes that his research has demonstrated that applied science and the management of cattle and wildlife operations can work hand in glove. Good practitioners can put the research to work on the landscape and then help scientists identify the next questions that need to be answered.
2 2	Even in retirement, Ortega continues to work balancing the needs of livestock and wildlife every day. He and his son lease and operate five ranches encompassing 30,000 acres and Ortega consults on five additional ranches totaling about 300,000 acres.
cts	"I'm very proud of the impact that CKWRI and its team has on South Texas—and any contributions I might have made," said Ortega, who never quit ranching during his scientific career. "I used to keep two full-time jobs, now I just have one."



### DONOR SPOTLIGHT: Ken Leonard

by Lorie A. Woodward

or 29 years as a member of the Caesar Kleberg Wildlife Research Institute's Advisory Board, Ken Leonard of San Antonio helped ensure that the research conducted by CKWRI scientists was relevant and applicable for ranchers.

"Because of my background in the cattle business, I represented the viewpoint of the livestock industry," said Leonard, whose family businesses included L&H Packing, the nation's largest cow processor, and Surlean Foods, a specialty company that provided beef to fast food giants including

Taco Bell, Whataburger and other national chains. interested in wildlife and ecosystems."

He continued, "I knew the two were not mutually exclusive and that as ranchers began diversifying income streams with wildlife, they needed practical information that would allow them to succeed. If CKWRI was going to be impactful, the team would need to conduct research that could be applied on ranches and not just written up in iournals."

*Pictured: Ken Leonard and his youngest son, Hayden Butler* 

Leonard was one of the first people Dr. Fred Bryant tapped as an advisor when he joined CKWRI in 1996. Leonard was not only a respected leader in the cattle industry, but a lifelong friend. In fact, the two men had known one another since they were four years old and been raised almost as brothers because their parents were close friends.



Early on, Bryant honed his roping skills using Leonard as his practice dummy.

"I asked Kenny to join the Advisory Committee to give the Institute the stature it deserved in both the livestock and wildlife industry," Bryant said. "We needed people like Kenny who could support our efforts by 'friend raising."

He continued, "When leaders see other leaders that they admire contributing to a cause then they want to be part, too. A strong board with members who were all committed to the science of livestock and wildlife reflected what we wanted CKWRI to be."

Leonard agreed to serve not only to assist Bryant but because he was drawn to the Institute's mission and the people who were already guiding forces on the board. Through the cattle business, Leonard had long-term working relationships and friendships with Tio Kleberg, Jim McAllen and others. He knew what they stood for and valued.

"While the people were obviously important, the mission appealed to me because of my love of the land, the livestock and the wildlife," Leonard said. "I see an interconnected whole that benefits from a preponderance of stewardship,

especially through the interrelationship of livestock and wildlife."

Trust and honest communication were one bonus of two lifelong friends working together. According to Leonard, he never hesitated to share his observations or offer suggestions for new initiatives. He recalled discussing the need for CKWRI to expand its outreach

efforts beyond the scientific community.

"When we arrived, the scientists were doing a lot of great research, but quite frankly no one in the livestock or wildlife industry or the general public knew much about the Institute or what it was contributing," Leonard said. "The best research in the world wouldn't improve anything if no one except scientists knew about it, so I challenged Fred and his team to broaden their reach."

Leonard also was an early advocate for the Texas Native Seed Program. Through failed attempts to re-establish native grasses on his own ranch using seed acquired from out-ofstate sources, he recognized the necessity of having seed sources adapted to local conditions. For rangeland restoration to become a reality, land managers needed germination rates in the 70 percent to 90 percent range, instead of the abysmal 10 percent range that his plantings had accomplished.

"I told Fred, 'We need to do something to get seeds propagated here, so we can replant oil and gas senderos, roadways, plots and pastures," Leonard said. "It just made sense to provide land managers with the tools necessary to recreate the habitat and range that could better sustain wildlife and livestock."



*Pictured*: Top - Ken and his son, Clayton Leonard Middle - Neal, Megan, Collins, and Crew Leonard Bottom - Ken Leonard

Not one to just provide lip service to good ideas, Leonard and his family have made annual gifts to the Texas Native Seed program that has now expanded and provides seeds for ecoregions across Texas. In addition, they endowed the A.E. Leonard Family Native Plant Garden at the Wildlife Center. They have also supported research projects examining the relationship between wildlife and livestock as well as providing endowed scholarships for both undergraduate and graduate students.

While Leonard has transitioned to emeritus status, he doesn't see his family's involvement ending with him. He hopes that one of his sons will join the board in the future and continue the family's active support of CKWRI's mission.

"I've had a good long run, but it's time for the next generation to bring their ideas and energy," Leonard said. "I've enjoyed the people that I've worked alongside and have benefited from watching new information unfold and be applied to the landscape in ways that make it better for animals and people." 💣

### **INSTITUTE NEWS**

THE CARL B. & FLORENCE E. KING FOUNDATION AWARDED \$150,000 TO THE ALEC D. RITZELL MEMORIAL FUND FOR WILDLIFE RESEARCH AND EDUCATION

Alec D. Ritzell, a CKWRI graduate student pursuing his Master's degree, passed away in March 2020 after a battle against brain cancer. He was a steadfast student, committed to his education and research. His joy and passion for wildlife and his research were ever-present, and subsequently lifted the spirits of all those around him. To honor his memory, the Alec D. Ritzell Memorial Fund for Wildlife Research and Education was created.

When determining what the Alec D. Ritzell Memorial Fund was going to support, the family opted for a way to support three broad experiences that influenced Alec during his time at CKWRI and helped him find his path in life and pursue his passions. These experiences were education (undergraduate and graduate), his exposure to a unique experience that broadened his horizons (a Noble Research Institute internship), and his involvement in undergraduate research that sparked an interest in graduate school. Thus, the fund will be a wonderful tribute to offer annual support to our students in these three broad areas that had impacted Alec so much.



We are pleased to announce that the Carl B. & Florence E. King Foundation has awarded \$150,000.00 to the Alec D. Ritzell Memorial Fund for Wildlife Research and *Education*. This grant will support students through scholarships, undergraduate research employment, and allow for unique educational experiences such as conferences or special workshops. We are so grateful to the Carl B. & Florence E. King Foundation for seeing the value of investing in our students and for honoring Alec's memory.

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### **ALUMNI** Spotlight: The Harvesons

### Louis A. HARVESON

CKWRI Class of 1995 & 1997, Associate Provost of Research and Development, Regents' Professor, Dan Allen Hughes, Jr., Endowed Director of Borderlands Research Institute, Sul Ross State University

### What is your background with the Institute?

While wrapping up my Bachelor's at Texas Tech University, one of my undergraduate advisors, Dr. Fred Bryant, highly encouraged that I look at positions with CKWRI. After a call with Dr. Bryant, myself, and Dr. Fred S. Guthery, I was offered a position to study bobwhite quail nutrition. During my Master's I truly fell in love with the brush country and coastal prairies. With the encouragement of my girlfriend and fellow graduate student (later to be my wife, Patricia Moody Harveson), I applied for a doctoral position under Dr. Mike Tewes studying mountain lion ecology in South Texas. The project was one of the first in the new Joint Doctoral Program between TAMUK and Texas A&M University. Over the course of 4 years, we were able to catch 20+ mountain lions along the Nueces River near Cotulla and Freer. Compared to today's technology, ours was very rudimentary requiring old school radio-telemetry triangulation. The long-range movements by the radioed mountain lions necessitated 2 aerial telemetry flights per week. One of the greatest

accomplishments of the South Texas Mountain Lion Project was the access and engagement we were able to have with the private landowners. In total we had access to 50+ different ranches for our study...I'm still friends with many of the landowners today. For me, the project really helped codify my appreciation for private land stewardship in Texas!

#### What are you doing now?

I have been a faculty member and researcher at Sul Ross State University since I graduated TAMUK...27+ years ago. My job has changed over time, serving as Departmental Chair for 7 years, serving as Director of the Borderlands Research Institute since 2007, and now also serving as Associate Provost of Research and Development. I still have an active research program, but most of my time is spent facilitating and enhancing research of our faculty at the Institute and Sul Ross.

#### How does your time at CKWRI continue to affect you today?

The public-private partnership that the Caesar Kleberg Wildlife Research Institute embodies is unique. Although there are research institutes focusing on natural resources across the country, none are quite like the CKWRI. Drs. Charles DeYoung, Sam Beasom, Fred Bryant, and David Hewitt have pioneered, sustained, and fortified a



model that warranted replication! As a fan of the CKWRI model, my colleagues and I started developing the idea of replicating the CKWRI in west Texas. Before we launched the Borderlands Research Institute in 2007, I consulted with my long-time friend and mentor, Dr. Fred Bryant. His encouragement and support were unmatched. In fact, when I



pitched the concept of the Borderlands Research Institute to my President at SRSU, Dr. Bryant was in the room and helped support our proposal. Today, the Borderlands Research Institute has been operational for over 17 years and continues to grow annually. We are the leading authority in Texas on species like desert mule deer, pronghorn, desert bighorn sheep, elk, scaled quail, black bear, and a suite of other desert-dwelling species. Using CKWRI as our model, we have engaged landowners, conservation partners, and funders to develop an Institute that assists landowners and managers of west Texas in managing the natural resources they have been entrusted with. The relationship between CKWRI and BRI is ever-intertwined. In addition to being our inspiration, we have been collaborating with faculty at CKWRI for over 20 years. Our faculty commonly coauthor proposals together, serve on graduate committees at one another's university, and we have sent dozens upon dozens of students back and forth for graduate degrees. I can not think of an organization that has had more impact on my development as a wildlife professional as the Caesar Kleberg Wildlife Research Institute!

#### What is your background with the Institute?

After graduating with a BS degree in Biology at Tarleton State University, I MOODY wasn't sure what was next. At the time, I considered several paths including vet school and environmental law, but I was most interested in the HARVESON conservation of wild felids. I enrolled at TAMUK as a non-thesis master's CKWRI Class of 1996, student and worked as a technician on a variety of projects preparing rumen Retired, former James A. "Buddy samples for a white-tailed deer food habits study, measuring reproductive and Davidson Endowed Professor of condition indices for collared peccaries and feral hogs, and conducting Conservation Biology with vegetation transects and nesting surveys for passerines at the Welder Wildlife Borderlands Research Refuge. Luckily, Dr. Tewes offered me the opportunity to study ocelots, which was Institute a dream come true. This led to an internship at the USDA Remote Sensing Research Station in Weslaco, where I learned to use GIS as a tool for evaluating habitat selection by ocelots and bobcats.



What are you doing now? For 15 years I worked as a professor and research scientist with Borderlands Research Institute at Sul Ross State University where I focused on carnivore research. I loved teaching and mentoring students and the research we were able to conduct in West Texas. I retired three years ago and am spending my time publishing my research, advocating for wildlife policy changes that promote conservation, and co-writing a book on Texas mountain lions. I'm also an artist and fill my days painting wildlife, spending time in nature, and gardening.

#### How does your time at CKWRI continue to affect you today?

The faculty at CKWRI, especially Dr. Tewes, taught me so much and inspired me to pursue a PhD at TAMU and a career as a professor and research scientist in carnivore ecology. I am deeply grateful for the opportunities and training from the Institute and hope I provided similar support to the students I mentored. During my time at CKWRI, I learned that conservation involves not only wildlife research but also collaborating with biologists, landowners, and policy makers to advocate for necessary social, biological, and policy actions to preserve species and their habitats. And I can't forget to mention that while in Kingsville, I was delighted to meet my best friend and husband, Louis Harveson, who was also a graduate student at CKWRI. Together, we are raising a family and sharing our unique journeys in our conservation careers.

# Patricia



Caesar Kleberg Wildlife Research Institute 700 University Blvd. MSC 218 Kingsville, Texas 78363

# DONATE TODAY

The Caesar Kleberg Wildlife Research Institute, a nonprofit organization, depends on charitable donations to support its work. By making a tax deductible contribution to the Institute, you will help us continue to provide science-based information for enhancing the conservation and management of Texas wildlife. Please consider making a gift today.

Learn more about how you can make a difference for the wildlife of Texas by visiting www.ckwri.tamuk.edu.