

CAESAR KLEBERG Tracks

===== *A Publication of the Caesar Kleberg Wildlife Research Institute* =====



CAESAR  KLEBERG
WILDLIFE RESEARCH INSTITUTE
===== TEXAS A&M UNIVERSITY - KINGSVILLE® =====

CAESAR KLEBERG Tracks

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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.



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www.ckwri.tamuk.edu



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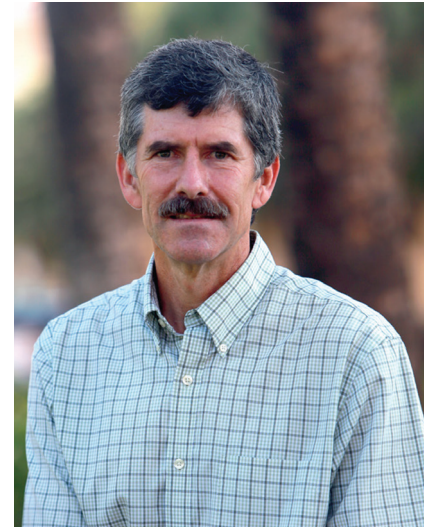


FROM THE DIRECTOR

I bet everyone has a pasture they enjoy watching, whether it be on their own property, on a hunting lease, at a state park, or adjacent to a public road. This pasture changes with the seasons and from one year to the next. There are some plant species, whether they be oaks, bull mesquites, or prickly pears that are stalwarts and that provide food, cover, and shade for wildlife reliably year after year.

The pasture likely has grasses whose abundance changes seasonally and from year to year, but those grasses are usually present in some amount every year and provide additional food and cover. Then there are forbs which grow during spring, summer, and autumn when it is wet. Forbs disappear during drought. When they are available, forbs enable all wildlife to flourish.

Just like the natural world, every successful organization balances continuity and change. Organizations thrive when they have long-serving members who know what makes the organization tick and who can draw on history in making decisions. Just as important, all vibrant organizations have new members, or members in new positions, who bring novel ideas and insights, ensuring the organization is nimble in a changing world.



The Caesar Kleberg Wildlife Research Institute is a successful organization. The Institute has faculty and staff who have worked for CKWRI from 1 year to 4 decades. Fidel Hernandez is a bull mesquite with 25 years of service to CKWRI. Fidel is breathing fresh life into the Institute by taking on a new role as the Sue and Radcliffe Killam Chair for Wildlife, Livestock, and Habitat interactions. We expect a bumper forb crop over the next 12 months as we fill positions in statistics and quantitative ecology, wildlife disease, and wildlife veterinary medicine. We will also be filling endowed chair positions in rangeland restoration research and quail research.

Our advisory board similarly has people who have served from 1 to 34 years (and 41 years for emeritus member Jim McAllen). Our 21 advisory board members bring a remarkable 289 years of cumulative experience advising the Institute. Like our faculty, the Institute's advisory board will experience a change this autumn. For the last 10 years, the advisory board has been chaired by David Killam. Many great things have happened under David's leadership and he has decided it is time for him to pass the torch. See page 22 for David's letter describing his tenure as Chair and his commitment to continue to support CKWRI. Tim Leach has graciously agreed to serve the Institute as chair of the advisory board. Tim has shared his insights in advising the Institute for several years and has quietly supported CKWRI in many ways. I look forward to working with him in his new role.

Those of you who watch a favorite pasture in South Texas know that good summer rains are transformative. South Texas has its ever-present brush, trees, and cactus. This summer, pastures in South Texas have grown more grass than in many years. And, the best indicator of all, forbs have been bountiful. The Institute has also been showered with blessings, with a diverse and dynamic advisory board and with the best faculty, staff, and students to be found anywhere in the country.

All the best,

A handwritten signature in black ink, appearing to read "David Hewitt". The signature is fluid and cursive.

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

THE NORTH TEXAS RESEARCH PROGRAM OF CKWRI: AN OVERVIEW AND FUTURE DIRECTIONS

by Levi Heffelfinger and Bailey Kleeberg

The Caesar Kleberg Wildlife Research Institute (CKWRI) has a long-standing history of providing applicable, science-based management recommendations to landowners, wildlife managers, and agency biologists throughout South Texas and beyond. As CKWRI continues to grow, so have the Institute's partnerships and scope of the research. For example, over the past 10-15 years the Institute has aided wildlife stakeholders in regions outside of South Texas. With that, came exciting new partners, like Texas Tech University, Borderland Research Institute at Sul Ross State University, and many land managers including

Texas Parks and Wildlife Department (TPWD) and private landowners. Along with these new partners, CKWRI has also started studying new critters, as well as pronghorn, cackling geese, mule deer, and scaled quail, across the northern and vast western regions of the Lone Star State.

With this exciting growth and expansion came the need for better regional representation of CKWRI. Thus, the North Texas Research Program of CKWRI was born. In 2021, a CKWRI alumni and new research scientist for the Institute, Dr. Levi Heffelfinger, moved to Lubbock, TX to break ground on a CKWRI remote research unit.



*One of the first bull elk collared as part of ongoing research within the North Texas Research Program.
Photo by: Dr. Levi Heffelfinger*

What was the goal? To 1) establish CKWRI representation near target areas like North Texas, the Panhandle, and the Trans-Pecos, 2) continue building and fostering relationships with wildlife research and management partners in these areas, and 3) conduct research and provide valuable wildlife management recommendations to these areas of Texas. Over the past 4 years, Dr. Levi Heffelfinger transitioned to a new role as Director of the North Texas Research Program and Assistant Professor. During that time, he also secured office space in Lubbock and hired a full-time Research and Administrative Associate for the program, Bailey Kleeberg, along with 6 graduate students (4 Ph.D. and 2 M.S.), all conducting research in North and West Texas.

When you picture the Texas Panhandle, folks often think of large, flat, expanses. However, this High Plains ecoregion of the Texas Panhandle supports many diverse areas, like rolling prairies, mixed grasslands, and canyon breaks. While North Texas is quite different from the Panhandle, it too is unique with rolling hills containing rivers and floodplains dotted with hardwood and juniper trees. The Trans-Pecos region is a stark contrast to the Panhandle and North Texas as it contains mountain ranges and wooded mountain slopes amidst a harsh Chihuahuan desert environment.

What is common across these diverse regions? All three regions represent the edge and intersection of many wildlife species' range, like white-tailed deer, mule deer, elk, pronghorn, desert bighorn sheep to name a few

— and that's just the large mammals. Understanding what impacts wildlife at the edge of their range is important because these populations tend to be more sensitive to changes. Also, these areas are faced with a variety of challenges that we know little about relative to wildlife management, such as shifting agricultural practices, frequent drought, energy development, increasing urbanization, and shifting landowner values; among many more.

To help address the needs of land managers in these regions of Texas, the North Texas Research Program, alongside a host of collaborators, have come together and developed a variety of projects to fill these gaps in knowledge. Here, we highlight a few of the ongoing projects out of CKWRI's northern program. A critically important project that just got started, situated in both the Panhandle and Trans-Pecos regions, is seeking to identify how movement and interaction between elk and deer may influence the spread of Chronic Wasting Disease (CWD). We have one Ph.D. and one M.S. student tracking elk, mule deer, and white-tailed deer in the Panhandle and mule deer in the Trans-Pecos, with the goal of helping TPWD identify the best way to manage species in these areas where CWD has been

detected. Another project looking at the interactions of large mammals is beginning at Matador Wildlife Management Area (WMA). The Matador WMA project has one Ph.D. student investigating how different treatments of juniper, prickly pear, and mesquite may impact behavior of mule deer and white-tailed deer, and how they interact with each other.



Inaugural ribbon cutting for the North Texas Research Program office in Lubbock, Texas. Pictured (l-r): Chris Kleberg, Calvin Ellis, Dr. David Hewitt, Dr. Levi Heffelfinger, Bailey Kleeberg, Miranda Hopper, Ashlyn Halseth-Ellis. Picture by Dr. Louis Harveson

The North Texas Research Program has been lucky to study species in multiple places along their range's edge. An ongoing project on mule deer in Oklahoma is researching factors influencing deer population metrics, especially adult and fawn survival. This collaborative project has two Ph.D. students, one from CKWRI, tracking adult deer throughout the year, and fawns during the summer. CKWRI's previous mule deer work in the Texas Panhandle collected similar data which means the combination of these projects allows the North Texas Research Program to examine mule deer from the Texas/New Mexico border all the way around the species' edge to the Oklahoma/Kansas border. Pronghorn is another species that we are fortunate to have vigorous information on along the species' edge in Texas. Currently, there is a project in Oklahoma, with one Ph.D. and one M.S. student, looking at pronghorn movement, adult survival, and fawn survival. This, along with CKWRI's previous and current pronghorn work in the Texas Panhandle, allows us to evaluate large-scale responses to fences, cropland, and roadways. These projects out of the North Texas Research Program continue adding information to a long-standing warehouse of mule deer and pronghorn data on the southeastern edge of their ranges.

What might be even more exciting for CKWRI, than the new research the North Texas Research Program is performing? The new and continued collaborations with partners spanning the realms of state, federal, private, academic and non-government conservation

organizations. For instance, in the past couple years, the North Texas Research Program has collaborated or developed relationships with academic groups like Oklahoma State University, Texas Tech University, Sul Ross State University, and New Mexico State University. Further, state partnerships have been strengthened with TPWD,



Levi Heffelfinger



Members of the North Texas Research Program with a bull elk captured in the Texas Panhandle as part of the ongoing CWD Project. Photo by S.S. Gray

New Mexico Game and Fish, and Oklahoma Department of Wildlife Conservation; and even at the federal level with Bureau of Land Management and National Park Service. Lastly, CKWRI's northern program has expanded its network with private landowners, and established relationships with conservation organizations like the Rocky Mountain Elk Foundation, Mule Deer Foundation, Sitka Gear, Houston Safari Club, Dallas Safari Club, and more. Perhaps the most impactful aspect is the deep level of trust that has been developed. For instance, the elk and deer movement study and Matador WMA study were internally funded by TPWD, but the North Texas Research Program got the call to lead the research efforts.

With all of this short-term success through the North Texas Research Program, where do we go from here? Our goal is to establish this program as a long-term success story. First, we want to continue developing research that directly aids land managers in questions they need answered. One idea would be to assess drivers of antler growth patterns in the Rolling Plains and Cross Timbers region of Texas. We are open to any and all ideas that serve all those who love wildlife. Second, is long-term support for the program. Office space rent, personnel, research supplies, and traveling the vast landscapes of northern and western Texas are not cheap. We are currently seeking partners and supporters to help continue this upward trajectory for one of the most exciting programmatic developments in CKWRI's 44-year history. 🙏

CKWRI SEEKS PARTNERS TO GROW THE NORTH TEXAS RESEARCH PROGRAM

Based in Lubbock, TX, CKWRI has expanded its presence to northern Texas where research is needed to manage large mammals, game birds, and the myriad of other species that live in the region. Within and beyond the Texas border, the southwest deserts and southern Great Plains offer abundant wildlife resources, including many iconic species. These species face regulatory and policy issues that require applied research to inform management decisions, such as shifting agriculture, increased energy development, diminishing groundwater resources, and the emergence of wildlife diseases. Further, this remote research unit offers a regional contact for nearby research partners and wildlife managers, spanning from Dallas to Amarillo to El Paso, in hopes of enhancing wildlife management outreach and collaboration. The ***North Texas Research Program*** of CKWRI is strategically and geographically equipped to meet these needs in northern Texas and beyond.

INAUGURAL PROJECTS

Elk and Deer Movement Ecology Influences on Chronic Wasting Disease Spread: This project is looking at elk, mule deer, and white-tailed deer movement, survival and population estimates in the Panhandle and Trans-Pecos Regions of Texas. Additionally, these data will be used to predict chronic wasting disease dynamics in these regions.

Pronghorn Movement and Demography in the Texas Panhandle and Western Oklahoma: These projects are studying how roads, fences, and cropland may influence pronghorn movement and survival in the Oklahoma and Texas Panhandles.

Movement, Abundance, and Demography of Mule Deer at the Geographic Range Extent: These projects are investigating adult and fawn mule deer movement and survival throughout western Oklahoma and the Texas Panhandle.

Impacts of Pinyon-Juniper Fuel Reduction Treatments on Mammals in Grass Valley, Utah: This project is evaluating how different sage brush and juniper treatments may influence wildlife distribution and interactions.

White-tailed Deer Interactions with Nonnative Ungulates and Historic Brush Management in the Texas Hill Country: This project is exploring habitat use and interactions of white-tailed deer and other nonnatives in the Hill Country region.

HOW TO HELP

Our biggest need at this stage of program development is operating funds. Operating funds can be provided by gift designations through the following giving programs (complete benefits of each opportunity can be found on our website). If you would like to make a contribution to this important work, scan the QR code below. Please specify “***North Texas Research Program***” to be sure your gift is directed to support our northern efforts.

- Named Endowment Opportunities starting at \$100,000
- Caesar Kleberg Patron: \$5,000 or greater in a single year
- Caesar Kleberg Friend: up to \$4,999 in a single year
- Caesar Kleberg Partner (Annual Gift): \$5,000+



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Levi Heffelfinger

SITE FIDELITY *in Birds*

by Bart Ballard

Every spring and fall across North America, billions of birds begin their migratory journeys to arrive on their breeding or wintering areas. For some of these individuals, this will be their first time arriving on newfound territories; for others, they may have visited these seasonal homelands every year since they first hatched. For those that return continuously to the same territories year after year, we label them as being philopatric, or as having high rates of site fidelity. Thanks to GPS data collected by CKWRI researchers over the years, we are able to inspect and document instances of site fidelity with more accuracy than ever, especially in two of our study species: Cackling Geese (*Branta hutchinsii*) and Reddish Egrets (*Egretta rufescens*).

Site fidelity – the tendency for an individual to return to previously visited breeding or wintering areas – is exhibited in some way by hundreds of species of birds across the country. Popular examples include Bald Eagles reusing the same nests for up to 35 years, or Whooping Cranes faithfully returning for decades to the same exact wintering territory on the Texas coast. However, other species of birds show little site fidelity and are highly nomadic – varying their seasonal movements depending on many factors that influence resource availability. Species like Snow Bunting and Common Redpoll are highly irruptive and have even been known to move hundreds of miles in the depths of winter in order to find new foraging locations. Whether species are nomadic or show high levels of site fidelity to their breeding and wintering home ranges help us shape conservation in unique ways. But how do we determine what species have high rates of site fidelity?

A pair of cackling geese foraging at an urban capture site in Fort Morgan, Colorado



Many historical studies on bird movements and migrations rely on classical field methods of identifying known individuals; from leg bands, neck collars, wing tags, etc., old-school studies relied on decades of resighting of individuals in the field. However, these methodologies come up short in truly understanding philopatry. With modernization and miniaturization of tracking devices that use satellite or cell-phone network technology, we are now able to determine an individual's daily movements with more precision than previously available. This individual-level data allows researchers to determine exactly when, where, and what species are occurring at specific sites across the world. With the onset of these technological advancements, we have turned what would have previously been sparse resighting dots into rich movement tapestries with our study subjects.

With our Cackling Goose research, we have noted that many individuals return to the previous year's breeding sites. The female shown in *Figure 1* was banded in Lubbock, Texas during winter in 2023. In summer 2023, it migrated over 2,500 miles north to the arctic where it appeared to nest on a small depression on Victoria Island, Nunavut, Canada. This female returned to the exact same nest site in 2024 after another 5,000-mile round trip visit to its wintering area in the Texas panhandle. Though her tracking device stopped transmitting in the spring of 2025, its offspring will likely continue to visit the Texas panhandle

in winter and breed on Victoria Island in summer, continuing a journey up and down North America, as Cackling Geese have done for millions of years.

Similarly, many species have a strong tendency to overwinter in the same areas throughout their lifespans. The Reddish Egret, a charismatic wading bird of the Texas coast's mudflats and

sandy beaches, has been documented returning to the same wintering territory across consecutive years. The Reddish Egret shown in *Figure 2* was banded on the nest as an adult in the Laguna Madre in 2010. In the following 2 years, it conducted an over 600-mile nonstop flight across the Gulf of Mexico to winter in Mexico's Laguna de Términos. This bird made multiple migrations from the Texas coast to return to the same tiny area with exact precision. Following its south-of-the-border trips, it nested in the upper Laguna Madre for the remainder of its GPS transmission period. Although the device stopped transmitting over a decade ago, 24 new GPS-GSM units have been attached to Reddish Egrets as part of a new,

federally funded cooperative project that CKWRI is a collaborator on.

Having observed such remarkable precision in their return to exact sites, you might be wondering how birds manage to navigate "home." Via relocation studies, researchers have confirmed that at least some species have true homing instincts, able to return to a specific site after

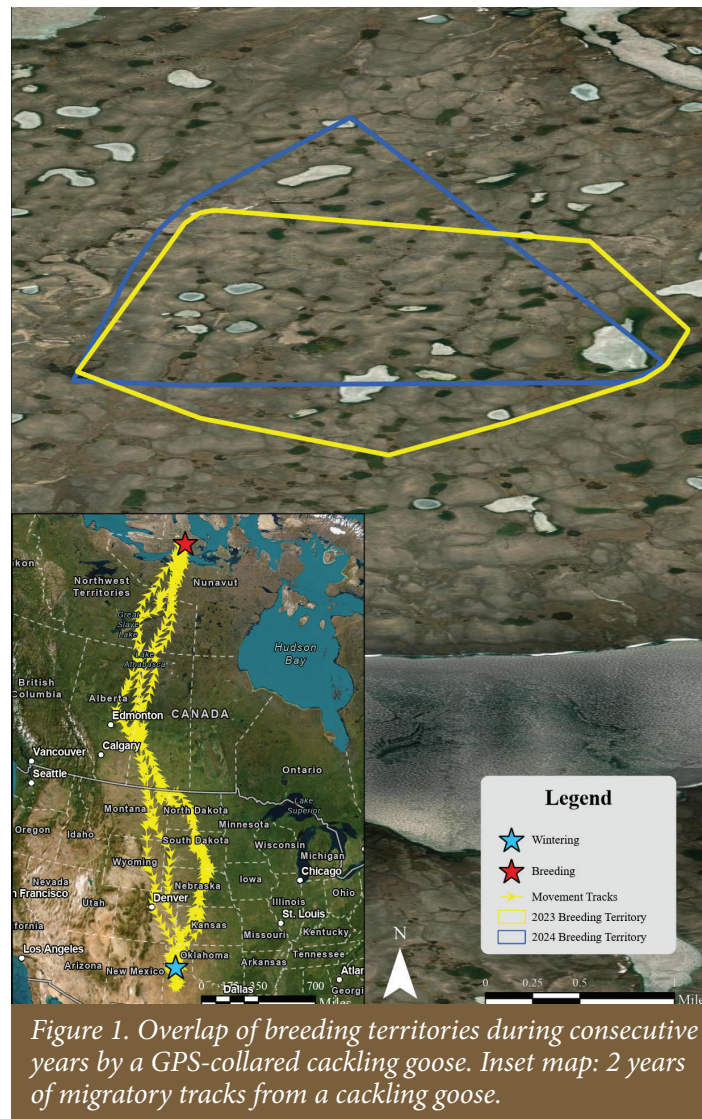
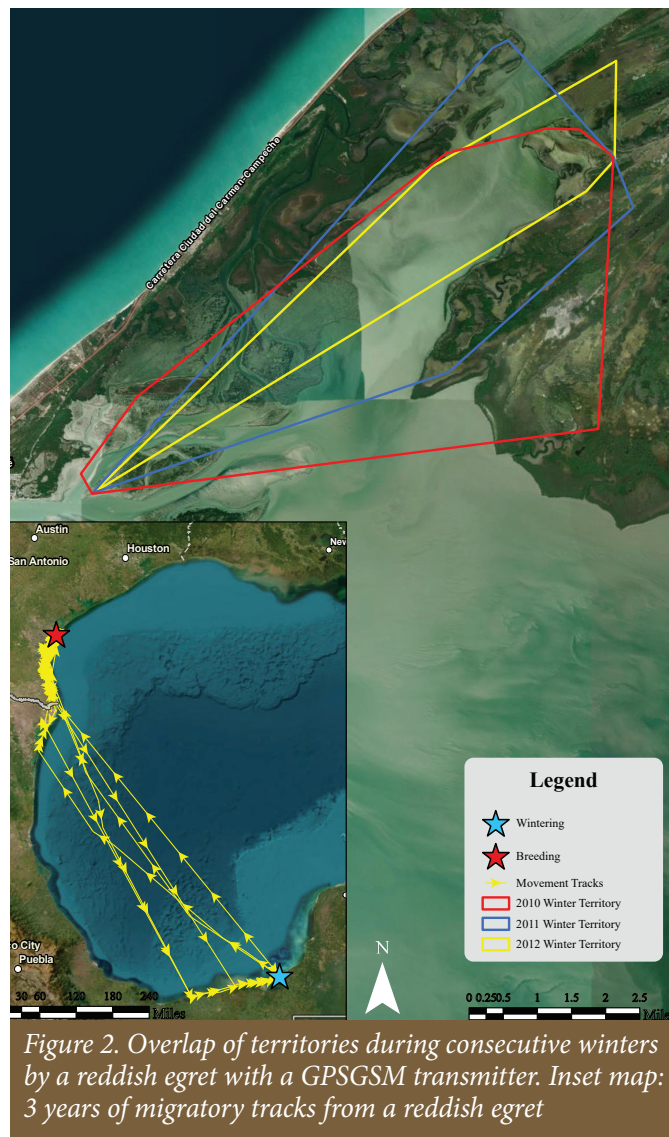


Figure 1. Overlap of breeding territories during consecutive years by a GPS-collared cackling goose. Inset map: 2 years of migratory tracks from a cackling goose.

researchers have captured them and purposefully released them thousands of miles away, in some studies. Several theories currently exist, though the complete understanding of avian navigation has yet to be reached. Some studies have shown that birds orient themselves based on the position of the sun and the time of day; others have shown that birds develop a mental imprint of the north-south orientation of the stars of the night sky; another has shown that birds have a sort of geomagnetic “compass” that allows them to infer cardinal direction based on the earth’s magnetic field. While we still continue to fully grasp the magic behind bird migration, we have been able to further prove birds’ abilities to migrate to exact pinpoints with waterfowl and waterbird tracking studies, allowing us to help inform conservation efforts.



With the predictability of certain species to return to specific sites, ecologists are able to determine the most important sites to allocate conservation efforts. As we can see in our Cackling Goose example, its annual return (along with many dozens of GPS-tagged geese) to Victoria Island tells us that the island is probably important for our Texas-wintering Cackling Geese. Similarly, we are better able to understand that declines of Reddish Egrets in Texas could be linked to overarching issues with wintering areas across the border that some egrets are continuously faithful to. While the complete role that site fidelity plays in the puzzle of global bird declines has yet to be fully understood, we have

hopes that our commitment to understanding avian movement patterns will assist in reversing declines that many species are currently facing.

Looking to the future, it is clear that the continued use of new bird tracking technologies to study patterns in bird movements will further allow us to fully comprehend the importance of certain breeding and wintering sites. While remote download GPS units are still too large to be attached to smaller birds, like songbirds or hummingbirds, technological advancements have these miniaturizations nearly within grasp. With global bird populations declining at an alarming rate, it is clearer than ever that GPS-based studies will be on the forefront of applied, conservation-forward science. 🐦

An adult Reddish Egret (right) with 4 nestlings in a breeding waterbird colony in the Laguna Madre, Texas





RABBIT HEMORRHAGIC DISEASE VIRUS EMERGENCE AND THE FATE OF THE DAVIS MOUNTAIN COTTONTAIL

by Alynn M. Martin

Have you ever wondered how diseases originate? In the case of many major human diseases, such as smallpox and polio, we may not think about their origins and spread since they have been present for thousands of years. But new pathogens—bacteria, fungi, prions, and viruses that cause disease—are constantly evolving and emerging. We witnessed this with the emergence and global spread of SARS-CoV-2 in 2019. The impact of new pathogens can be devastating across diverse populations and demographic groups. Domestic and wild animals are not exempt from this threat, and with the help of international trade and movement of animals and their products, animal pathogens can spread quickly.

Rabbit hemorrhagic disease is a severe and often fatal illness of rabbits, hares, and potentially pika (collectively called lagomorphs) caused by rabbit hemorrhagic disease viruses (RHDVs). In the 1970's and 1980's, classical RHDV (also called RHDV1) emerged in Europe and spread rapidly with the movement of commercial and pet rabbits. By the end of the 1980's, RHDV had a global distribution, with infections documented in North America, northern Africa, other parts of Europe, and Asia. Since its emergence, RHDV is estimated to have caused the deaths of more than 250 million wild and domestic rabbits.

Figure 1. A Davis Mountain cottontail rabbit with a collar equipped with geospatial positioning system (GPS) technology.

In 2010, a second strain, RHDV2, emerged in France. This strain differs from RHDV1 in that it infects a broader range of species and can cause disease in young animals (2–3 weeks old). It also spread rapidly, with the first detection in North America in 2016 in domestic rabbits in Canada. In 2018, the first U.S. case was observed in a domestic rabbit in Ohio, and the first case in wild rabbits and hares in the U.S. occurred in New Mexico in 2020. Since then, the disease has spread through wild populations across several states in the U.S. and Mexico (*Figure 2*).

With RHDV2 causing severe disease and spreading quickly, there is concern for the persistence and health of lagomorph populations. Rabbits and hares

play important roles in maintaining ecosystem health, supporting predators such as raptors, carnivores, and reptiles; promoting nutrient cycling through their droppings; and influencing plant community structure through selective grazing. In some systems, burrows constructed by lagomorphs provide shelter for other animals, including insects, reptiles, and small mammals. A decline in lagomorph populations could have ecosystem-wide effects, influencing predator populations, vegetation dynamics, and even soil health. Further, in the western U.S., there are vulnerable and unique subspecies of rabbits and hares, some with ranges so limited that a single disease outbreak could have lasting consequences.

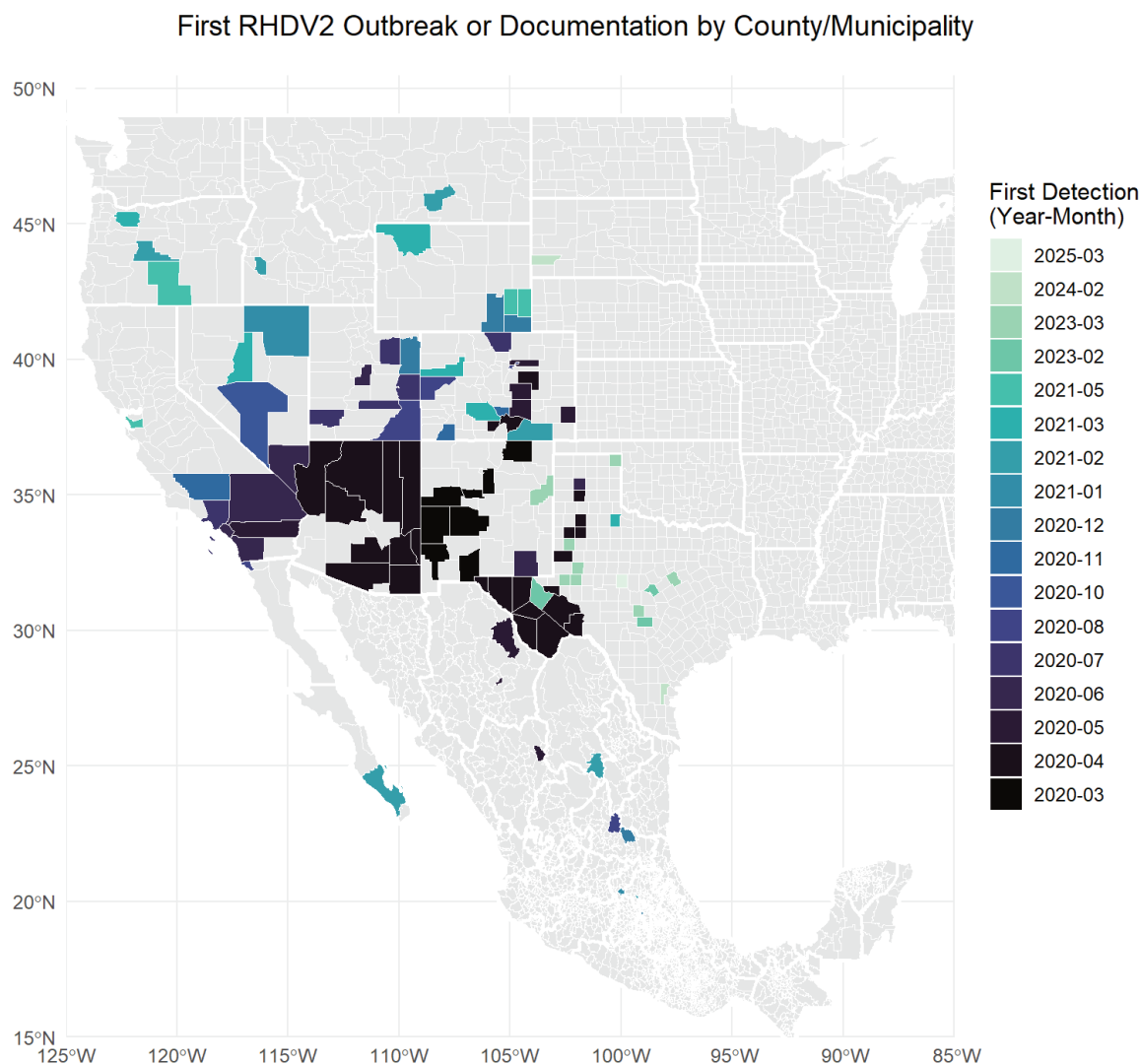


Figure 2. The spread of RHDV2 through the western United States and Mexico by county and municipality.



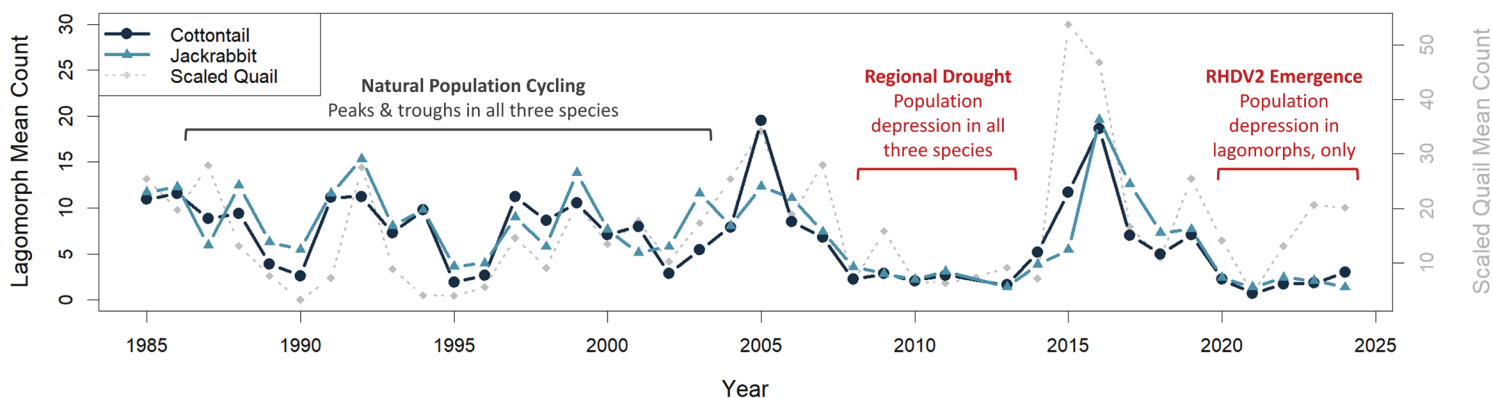
Figure 3. Distribution of the Davis Mountain cottontail rabbit (green). It currently occurs in montane regions of western Texas and southeastern New Mexico (United States) and northern Coahuila (Mexico).

These concerns are especially relevant in Texas, where five species of lagomorphs occur: four rabbits—swamp rabbits, desert cottontails, eastern cottontails, and Davis Mountain cottontails—and one hare (the black-tailed jackrabbit, a true hare despite its common name). In west Texas, some of the last remaining populations of the Davis Mountain cottontail (DMCR) persist (Figure 3). This species is restricted to montane regions of west Texas, the Guadalupe Mountains of New Mexico, and the Sierra de la Madera of Coahuila, Mexico, at elevations above 6,000 feet. The International Union for Conservation of Nature lists the DMCR as vulnerable, but it has no conservation status within the U.S. Little is known about its ecology or whether populations could persist after an RHDV2 outbreak.

Annual transect surveys suggest that lagomorph populations in west Texas follow cyclical patterns, with peaks and troughs every few years. However, after RHDV2 was first detected in west Texas counties, both rabbit and hare populations appear to have collapsed (Figure 4). Landholders in the Davis Mountains report that rabbits “disappeared” from the landscape around 2020 and are only recently starting to reappear. This raises the questions: what is the current status of the Davis Mountain cottontail, and how can we safeguard them—and other wild lagomorphs—from future RHDV2 outbreaks?

In May 2025, we launched a two-year monitoring program for Davis Mountain cottontails in the Davis Mountains and surrounding areas. Our goals are to better understand their ecology, including habitat use, diet, breeding season, and behavior, and to estimate population size within this portion of their range. To achieve this, we are trapping and equipping rabbits with GPS-enabled collars to track movement and space use (Figures 1 on pg. 12 and 5 on pg. 15) and conducting transect surveys to assess abundance and behavior. These data will feed into a population viability analysis to estimate the risk of population loss during disease outbreaks.

Figure 4. Average annual counts of cottontails (dark blue), jackrabbits (light blue), and scaled quail (grey) from the Trans-Pecos region of Texas from 1985–2024. The abundance decline following 2020 may be due to weather factors, but other boom and bust desert species (scaled quail) have responded following the early 2020s drought, suggesting RHDV2 may be driving rabbit and hare abundances down.



Understanding the risk of RHDV2 outbreaks on Davis Mountain cottontail populations is important, but, you may be wondering, is there anything else that can be done to protect wild rabbits and hares from RHDV2? The short answer is yes— but more information is needed. There is currently an emergency-use vaccine approved for domestic rabbits, but its safety and effectiveness in wild rabbits remain untested. We are now evaluating this vaccine in captive eastern cottontails (*Figure 6*) to assess its potential as a conservation tool for mitigating RHDV2 impacts in wild populations. These trials are set to start this fall.

The rapid emergence and spread of RHDV2 show how quickly a new pathogen can reshape ecosystems and threaten species we know little about. In just a few years, it has swept through wild and domestic lagomorph populations, leaving lasting gaps in places where rabbits and hares are keystone species. The Davis Mountain cottontail is one of many that could be quietly lost without targeted research and intervention. Our work—from tracking wild individuals to testing potential vaccines—marks important progress in understanding and protecting these animals. By paying attention to species that are often overlooked, we not only preserve their place on the landscape but also strengthen the resilience of the ecosystems they help sustain. 🐾

Acknowledgements: Co-primary investigators, Scott Henke, Sandra Rideout-Hanzak, and Clay Hilton; graduate students, Hannah Shapiro and Cole Wzientek; funding agency, Texas Parks and Wildlife Department; private landholders in Fort Davis and the Davis Mountains

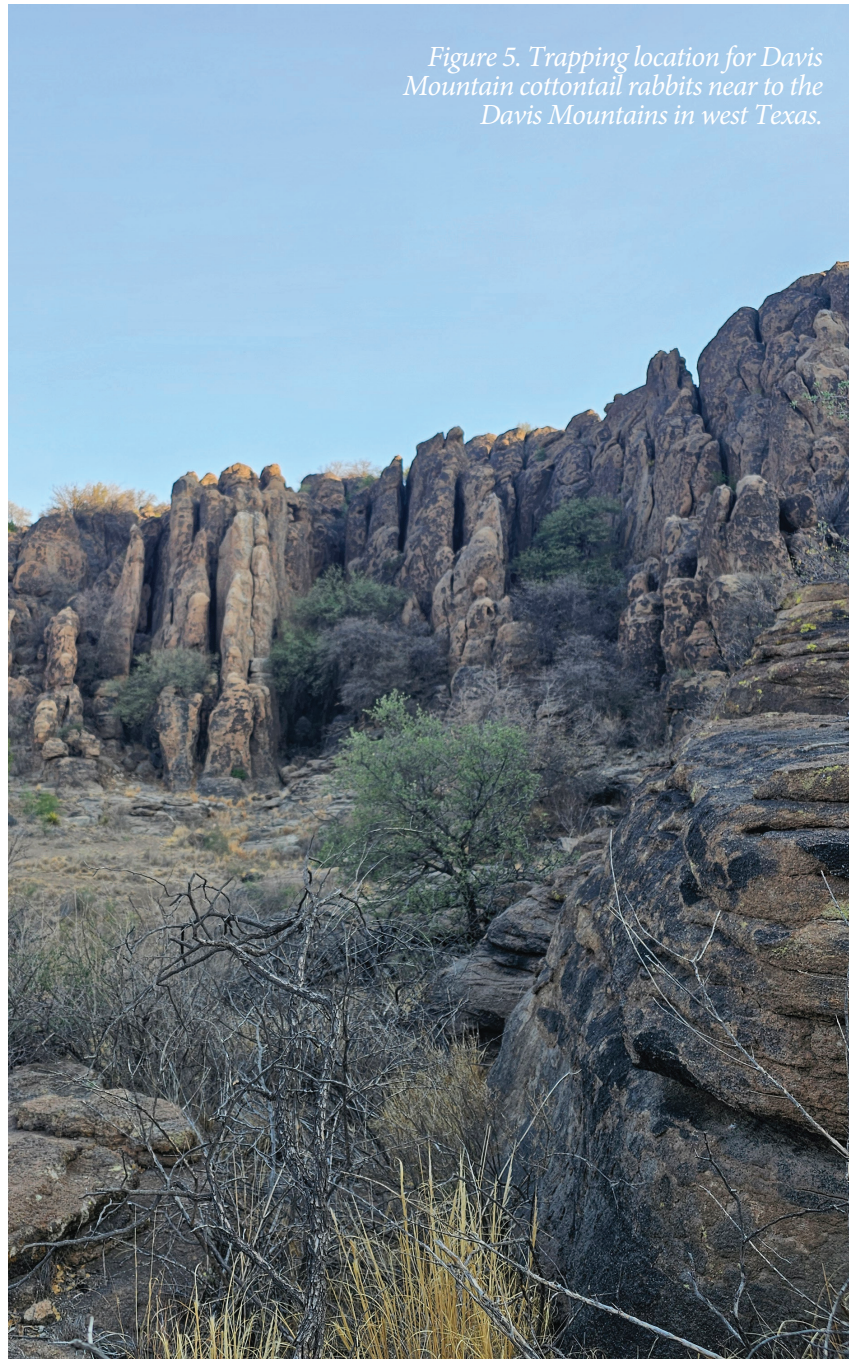


Figure 5. Trapping location for Davis Mountain cottontail rabbits near to the Davis Mountains in west Texas.



Figure 6. Captive eastern cottontail rabbits that will be enrolled in the RHDV2 vaccine trial in the fall of 2025.

The Native CLASSROOM

by Meghan Peoples Kanute, Anthony Falk, Colin Shackelford, and John Wilt

The Texas Native Seed Program (TNS) is a proud partner of restoration projects in Texas. By collaborating with organizations with similar goals, we can refine techniques and trial seed releases in new environments. This strategy helps develop best practices while increasing the success of restoration efforts throughout the state.

Dallas College (DC) approached the Central Texas Project region (CTP) of TNS to help guide the conversion of large swaths of maintained acreage back to native grassland. DC encompasses seven unique campuses across the Dallas area, together representing an urban land holding of 1,400 acres. Mountain View (MV) campus in southwest Dallas, was the first site selected by DC to trial restoration. Neil Kaufman, the Assistant Director of Sustainability

in facilities, and prairie restoration Project Manager John Wilt, met with the TNS team to evaluate locations and determine goals.

“The intent behind the project is maintenance,” Kaufman says, “the administration is looking for low-cost solutions to vast expanses of open land. What do we do with all this land instead of mowing or cattle? Let’s do a prairie. There’s huge potential.” Kaufman is also looking forward to the educational benefits, he anticipates many classroom outdoor interactions. “Part of the mission of Dallas College is to make education accessible by having campuses throughout the city. We can make these pockets of nature available in a similar way, allowing the community to interface with native habitat.”



Dallas College Mountain View campus before restoration.

GRASS

VARIETY	SPECIES	% OF MIX
<i>Ok Select Germplasm</i>	<i>Little Bluestem</i>	15%
<i>Lometa</i>	<i>Indiangrass</i>	10%
<i>Guadalupe Germplasm</i>	<i>White Tridens</i>	10%
<i>Haskell</i>	<i>Sideoats Grama</i>	15%
<i>Blackwell</i>	<i>Switchgrass</i>	6%
<i>Earl</i>	<i>Big Bluestem</i>	6%
<i>Burnet Germplasm</i>	<i>Hooded Windmill</i>	5%
<i>Santiago Germplasm</i>	<i>Silver Bluestem</i>	2%
<i>Van Horn</i>	<i>Green Sprangletop</i>	5%
<i>Taylor Germplasm</i>	<i>Sand Dropseed</i>	6%
<i>Texoka</i>	<i>Buffalograss</i>	5%
<i>Catarina Blend</i>	<i>Plains Bristlegrass</i>	5%
<i>Cibolo Germplasm</i>	<i>Little Barley</i>	5%
<i>Lavaca Germplasm</i>	<i>Canada Wildrye</i>	5%

FORB

VARIETY	SPECIES	% OF MIX
<i>Sabine</i>	<i>Illinois Bundleflower</i>	2%
<i>Comanche</i>	<i>Partridge Pea</i>	2%
<i>VNS</i>	<i>Greenthread</i>	2%
<i>VNS</i>	<i>Lemon Beebalm</i>	2%
<i>VNS</i>	<i>Mealy Blue Sage</i>	2%

Table 1. Seed Mix for Mountain View Campus

The location selected is a two-acre section on the edge of MV campus, adjacent to the construction of the Trinidad Garza Early College High School. To fulfill the goal of connecting inner city students to the outdoor world, school amenities will include gathering areas, walking trails, food gardens, and the two-acre natural site. The prairie restoration will provide an outdoor classroom, inviting the students and community to engage in the value of native habitat.

Previously, the site was a neglected native area, invaded by Chinese privet, and used as dumping grounds by campus maintenance crews. Extensive work was contracted to remove and mulch privet using a forestry machine. The resulting two-acre wasteland was eight to ten inches deep in mulch

and ready to be revegetated. (see photo on page 16) TNS designed a seed mix of early, mid, and late successional grasses for full coverage, and also included a handful of additional forbs for pollinators (Table 1). The CTP team surveyed the surrounding area to inspire species selections. Baseline data found eight native grass species and twelve forbs existing in the area. Species native to the site included in the seed mix were sideoats grama, silver bluestem, dropseed, white tridens, lemon beebalm, and greenthread. Additional forbs selected for pollinators were mealy blue sage, 'Sabine' Illinois bundleflower, and 'Comanche' partridge pea. Commercially available TNS plant releases found in the mix included, 'Burnet germplasm' hooded windmill grass, 'Taylor germplasm' sand dropseed, and 'Cibolo germplasm' little barley.



Dallas College Mountain View campus before restoration.

Along with forestry mulching, TNS recommended the site be prepared with three applications of Glyphosate over the annual growing season to ensure weedy growth of non-desirable species was suppressed. Following these applications, the site was seeded using a no-till seed drill in March 2025.

The TNS team returned to survey the project in June 2025. The seeding was successful, coinciding with ample rainfall and building on a diverse native seed bank (*above photos*). Seeded grasses that germinated included, ‘Earl’ big bluestem, ‘Ok Select’ little bluestem, ‘Van Horn’ green sprangletop, ‘Catarina’ plains bristlegrass, and ‘Blackwell’ switchgrass. Seeded ‘Sabine’ Illinois bundleflower, mealy blue sage, and lemon beebalm joined naturally occurring American basket flower, diamond flower, and Indian blanket to

fill in between grasses. ‘Comanche’ partridge pea and ‘Guadalupe’ white tridens colonized areas of deep mulch, helping to repair soil health.

After three months, seeded species made up 27% of surveyed plants in step counts, and 31% of surveyed species in twenty quadrants. In step-surveys, native grass diversity was increased one to two hundred percent from native species present. The most successful seeded species included ‘Sabine’ Illinois bundleflower, mealy blue sage, green thread, and ‘Earl’ big bluestem (*see photo on page 19*). Dominance by flowering species and volunteer native species is common for restoration seeding projects during the first year. While the occurrence of later successional species like big bluestem are promising signs of site development in the future.

Ongoing seasonal surveys will inform management decisions to support an optimal plant community. Currently, efforts are underway to combat a large patch of Johnsongrass, and woodland pressure from invasive Chinese pistache and Chinese privet regrowth. TNS recommends the treatment of these species with target herbicide control along with mechanical removal. These treatments will help guide the restoration project to a long-term stable plant community.

The project manager of prairie restoration at Dallas College, Master Naturalist John Wilt, comments on the results of the seeding project, “Meghan and the Texas Native Seed folks have been extremely helpful in my work rehabilitating prairie areas on the campuses of Dallas College. The team has guided me from the basics of preparation to their actual no-till seed drilling. The results of their work have been remarkable.”

The project site at Mountain View is now a vibrant place of refuge for pollinators, wildlife, and students to escape the city and discover native habitat. The Dallas College team looks forward to partnering with Texas Native Seeds to achieve restoration success on additional campuses next year. 🌱



Meghan Peoples Kanute, native flowering species thriving in recently restored grassland at Dallas College's Mountain View campus.

INTERESTED IN SUPPORTING NATIVE PLANT RESTORATION EFFORTS IN TEXAS?

The Texas Native Seed Program is a donation and grant supported program. Therefore, we rely heavily on the generous contributions of concerned landowners, businesses, charitable organizations, native plant enthusiasts, and supporters of Texas conservation efforts to meet the financial requirements of the project. If you would like to support the efforts of this proven program that works daily to provide restoration and conservation tools and techniques for all of Texas, please scan the QR code or go to www.ckwri.tamuk.edu.



DONOR SPOTLIGHT:

Frank Yturria Family

Anyone who knows anything about the conservation work on the endangered ocelot knows the name Frank Yturria. Some might even consider him the Father of Ocelot Conservation.

Yturria, a lifelong conservationist, rancher and philanthropist, was the patriarch of the legendary San Francisco Ranch until his passing in 2018 at the age of 95. He spent a lifetime loving the land and learning from it.

When touring guests through his ranch, Yturria tended to focus first on the sea of grass replaced by what was once brush-infested pastures. Yet, in the next minute he was proudly pointing to an area of virgin Tamaulipan thorn scrub which he designated some years back as an ocelot reserve.

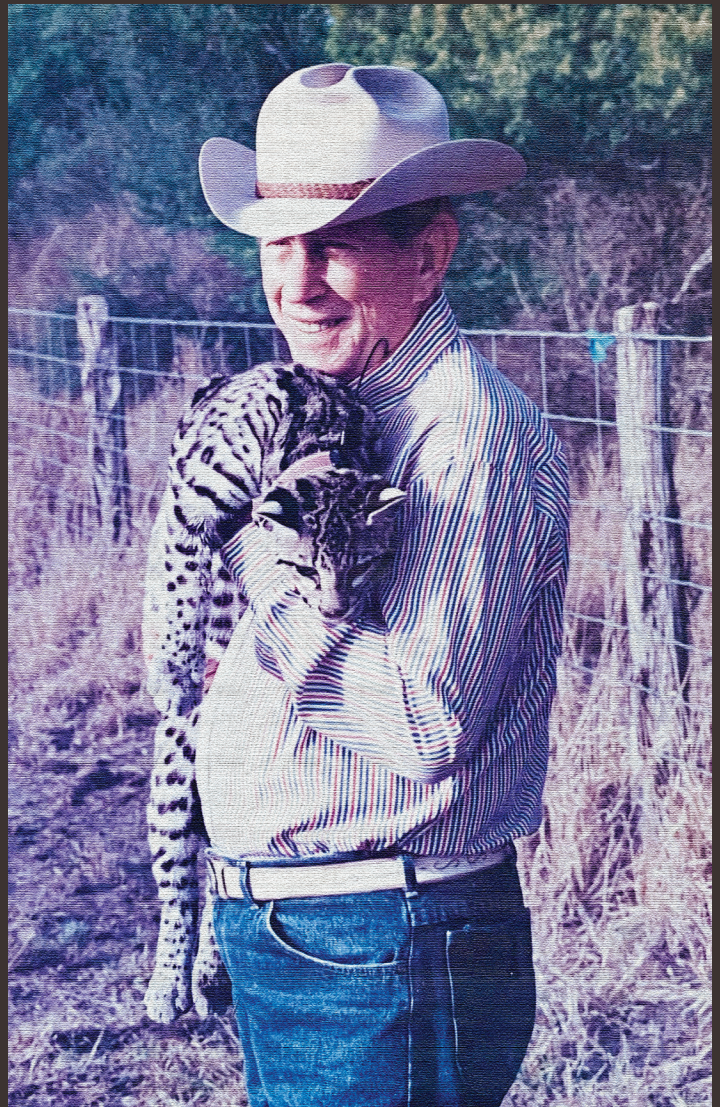
In his eyes it was not about what was being given up, but rather what was being gained. That single, initial step of preserving that little bit of habitat enabled Yturria to play a significant role in preserving the last remaining viable population of ocelots on private lands.

Research on the endangered cat began on the Yturria ranch in 1983 by Dr. Mike Tewes, a research scientist at the Caesar Kleberg Wildlife Research Institute in Kingsville. At one point, Tewes had as many as 11 ocelots collared on the Yturria Ranch.

Two years later working with the U.S. Fish and Wildlife Service, Yturria set aside the initial 620 acres of native brush as an ocelot reserve. It was the nation's first conservation easement for the endangered feline. Additional easements held by the Nature Conservancy were added later. All together the ocelot reserve on the Yturria Ranch encompasses some 2,200 acres.

Though a staunch advocate of private property rights, Yturria felt confident that he could balance those rights with the needs of those who were studying and trying to protect the endangered cat.

It wasn't necessarily easy. Early on some of the neighboring ranches felt this endangered species would ultimately endanger their way of life and dictate the way they could manage and operate their own properties.



Pictured: Frank Yturria

In the end though, Yturria brought a lot of those ranchers onboard to help protect and preserve the habitat that the elusive cat needs to survive.

Today, Yturria's grandson, George Farish, the triple great-grandson of Francisco Yturria, serves as the family's keeper of the land, so designated by his grandfather. Farish had an extremely close relationship with his grandfather.

Though raised in Houston, the Rio Grande Valley has always been his second home. It was here that he grew into a man at the feet of his grandfather spending every chance available to learn not just about the ranching legacy that was almost as old as the state itself, but also about how to steward the land that his grandfather so clearly loved.

[*"There was nothing more important than FAMILY"*]

From his grandfather, Farish learned first and foremost the importance of family and family history. “There was nothing more important than family,” George says of his grandfather. “He instilled not only the importance of maintaining a strong nuclear family, but also the importance of really knowing and understanding where one comes from.”

As his grandfather would say, to understand family is to understand one’s roots. To that end he would often take George to cemeteries where he would regale him in ancestral stories always making the point to connect why those stories were important to *his* story.

“I would never have learned that from anyone else in my extended family or in school,” he points out. “I learned that from my granddad.” His grandfather also instilled in him a strong worth ethic. While the family ranch has always been a place to enjoy, Farish learned at an early age to love the work that the land required.

For the better part of eight years, after Farish completed his college degree, the two worked side by side on the ranch and on other entrepreneurial interests primarily in the real estate industry.

Those last eight years with his grandfather prepared Farish well for the transition that was to come. Today, with the help of a good team of dedicated employees he’s carrying forth the family’s conservation-minded ranching legacy.

Like his grandfather, Farish is a believer in research. The structure of the easements established decades ago provided a combination of cash consideration and an in-kind donation. Farish is proud that his grandfather allocated a significant portion of those proceeds to establish the Frank Yturria Endowed Chair in Wild Cat Studies at the Caesar Kleberg Wildlife Research Institute and Texas A&M University-Kingsville.

“It was a very forward-looking thing to do, and I think he’d be pleased with the progress being made,” says Farish. Yturria understood that to really help the ocelot it required a synthesis of a lot of skills – political, financial and scientific skills.

“He was a master at leveraging his rolodex to make sure that the right players were coming together in support of this broader mission,” Farish says of his grandfather.

Today in addition to research, through public-private partnerships, the Yturria family is working to restore more of the landscape back to its original state prior to the introduction of farming. It is a long, arduous and ongoing process years in the making.

It entails controlling invasive grasses, changing the monoculture stands of brush that came in after the lands were disturbed and transplanting native thornscrub seedlings. The saplings are labor intensive, and they’re experimenting with a seed-based approach to attempt to cover more ground with the same number of resources.

Farish is also a big believer in utilizing technology for conservation purposes. With advancing drone technology, he’s hopeful that one day soon, herbicide applications can be applied with drones in a very targeted and cost-efficient way. He’s also exploring the use of virtual fencing, another evolving technology, to better protect ocelot habitat.

“It’s good to recognize how the old, tried and true methods work, but it’s also good to have an open mind about new ways and utilizing good discernment to strike the right balance,” says Farish.

Besides the ocelot’s habitat issue there is concern about genetic diversity. To that end, construction on a multi-million-dollar state of the art CKWRI Ocelot Conservation Facility is underway. The CKWRI Ocelot Research Conservation Facility, on the Texas A&M University-Kingsville campus, will enable researchers to facilitate needed genetic diversity through the introduction of genetics from ocelots in Mexico and other appropriate sources. “This genetics facility could be a real game changer for the preservation of the ocelot.”

Farish considers the family’s conservation partners and the team at the CKWRI kindred spirits.

“This is a team sport, and we all have to work together to leverage each other’s talents, resources and connections in support of this goal,” Farish concludes. 🙏



Pictured (l-r): Frank Yturria, former Texas governor, Rick Perry, and George Farish



FROM THE CHAIRMAN

Dear Friends of the Institute,

After 10 years of serving as Chairman of the Advisory Board, I will be stepping down this fall. It has been an honor and a privilege to serve as Board Chair for such a renowned research institute.

During this time, I have witnessed the numerous accomplishments of our research professionals and students from a front row seat. This research has produced advancements which directly benefit wildlife and their varied habitats. Our stellar graduates have learned valuable skills which they employ in their work across this nation, while carrying the appreciation for land stewardship that the Institute instills in our students. Through these graduates, the Institute's impact is felt nationally, and we are very proud of their contributions and their ability to shape wildlife and conservation issues now and in the future.

As I reflect on my time as Chair, I want to highlight a few of the Institute's accomplishments. CKWRI has always been a respected voice on wildlife issues and habitat in this state. During my time as Chair, the Institute's growth has been incredible to witness. As the number of scientists increased, our reach has extended beyond South Texas, and our influence has also grown. I am proud to see the Institute deployed throughout the state, and I am especially excited about our North Texas expansion and our recent launch of the *Henry Hamman Program for the Hill Country Conservation and Management*. However, this was only achieved by coupling scientific acumen with private and state partnerships. These partnerships are the foundation upon which the Institute does its work. We are honored to work on behalf of Texas landowners and to do so not only with the landowners themselves but with dedicated state agencies such as Texas Parks and Wildlife Department and Texas Department of Transportation.

Another example of these partnerships is the seminal deer research done on the Comanche and Faith ranches which analyzed the relationship between deer and habitat in a highly variable environment. The Comanche Ranch Culling Study addressed the critical question of culling with comprehensive research at a meaningful scale; both are recommended reading for anyone interested in deer management. The Institute is well known for its bobwhite research, and recently the Quail Associates 2.0 program, another long-term study of this species, has been well received by quail enthusiasts. At the same time, CKWRI has begun studies on the less recognized scaled quail. More work needs to be done here. Landowners have opened their gates and welcomed Institute students and scientists studying livestock grazing, and today we have a better understanding of the role proper grazing practices play in promoting better wildlife habitat. Our Texas Native Seeds Program is now statewide and continuing to expand. We have studied invasive grasses, studied the effects of fire on rangeland, and we continue work on fever tick, CWD, and the screwworm fly which is advancing north through Mexico. These are just a few examples of current projects, but what they share in common is Landowner support. The CKWRI Ocelot Conservation Facility is something I am truly excited about as it represents just how passionate landowners are about wildlife. This new facility represents over 40 years of ocelot research conducted by CKWRI and its partners, and will be a milestone along the path to ocelot recovery.

The Institute is in great financial health. Our endowments continue to grow. We added a research center, 3 endowed chairs, and several new endowments that benefit our students and increase CKWRI's research capacity. We have had record years in attracting research funding from private, state, and federal sources, increasing the Institute's ability to serve land stewards across Texas.

None of these accomplishments and advancements would have been possible without your support. I would like to acknowledge the Advisory Board Members. I have served on many different boards, and none of them have been as united and supportive as this board. I truly have enjoyed serving with you, and look forward to continue serving on the board and supporting the Institute.

I am excited to introduce our new Advisory Board Chair, Tim Leach. Tim is a highly respected business leader with deep ties to Texas. Tim joined the Advisory Board in 2017 and has been personally involved in many of the Institute's programs and projects. Tim, as a long-serving Board Member, will be a great Chair, and we will be here to support him.

Once again, I want to thank all the benefactors of the Institute for your steadfast support, the faculty and staff for their stellar dedication, and of course the students for helping us maintain our strong reputation for producing the finest wildlife professionals in the nation.

Sincerely,

David Killam

ALUMNI

Spotlight

**Michael
RADER**

CKWRI Class of 2006
Associate Professor
University of Wisconsin
Stevens Point, Wisconsin

What is your background with the Institute?

Dr. Lenny Brennan hired me in January 2002 to be a graduate research assistant on a Ph.D. project identifying predators of bobwhite nests and investigating the influence of nest predation on bobwhite population ecology in southern Texas. I thought Lenny took quite a chance on me considering I was coming from Halifax, Nova Scotia, and didn't know much about South Texas, other than my parents lived outside of San Antonio. I learned the Encino Division of the King Ranch was a whole other world and what a unique experience it was! Wildlife like nowhere else and I really feel fortunate to have been part of it. I also shake my head at what was state of the art technology at the time; I changed video tapes and heavy marine deep cycle batteries for remote cameras at bobwhite nests every 48 hours. Now I could have digital footage for weeks with much cheaper cameras running on AA batteries!

What are you doing now?

I have been a professor in the College of Natural Resources at the University of Wisconsin-Stevens Point (UWSP) since 2016. My primary focus is directing and teaching in the Conservation Law Enforcement undergraduate program, though I do teach some more general and graduate courses as well. After leaving CKWRI, I worked in law enforcement in the Wisconsin Department of Natural Resources for about ten years. My Ph.D. background and real-world experience as a game warden were perfect preparation for my current position. I teach for the fall and spring semesters and then coordinate student internships and teach at our summer field school in the summer. I really enjoy and appreciate the freedom and autonomy UWSP has given me to develop new courses and steer the Conservation Law Enforcement major into the future.

Mike Rader during his time with the Institute.



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

I miss good Mexican food and breakfast tacos! More seriously, I worked with some top-notch graduate students while at CKWRI and learned from professors who were true professionals in their field. Many are enjoying great success and I happen to bump into a few at conferences from time to time.



I think what sticks with me today are the great friendships I made, the ecological and scientific background I obtained at the Institute, and the ability to work independently and problem-solve in a challenging field environment. I try to pass these things on to my current students and encourage them to go different places and try new things in pursuing their natural resources careers. I also taught my first college class at Texas A&M-Kingsville under the tutelage of Dr. Bill Kuvlesky who, unfortunately, I learned recently passed away. I consider myself a jack-of-all-trades and master of none, but being a generalist has allowed me to follow the path I have. The Institute was a major stepping stone on that path!

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

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.**

