

CAESAR KLEBERG Tracks

A Publication of the Caesar Kleberg Wildlife Research Institute



CAESAR KLEBERG
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TEXAS A&M UNIVERSITY - KINGSVILLE

CAESAR KLEBERG *Tracks*

Volume 6 | Issue 1 | Spring 2021

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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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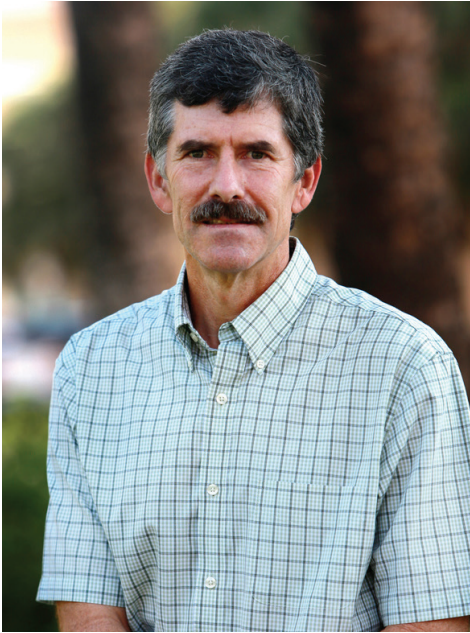
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Cover Photo by Larry Ditto

Magazine Design and Layout by Gina Cavazos

From the Director



The Promise of Spring

Spring is such a wonderful season. For me, it is a season in which expectations are fulfilled and therefore a season in which trust is rewarded. We trust warm weather and more sun are on their way. We trust (or at least strongly hope) that rains will come. We trust wild flowers will come up and grass will grow. We expect quail to start nesting and deer fawns to not be far behind. We say good-bye to sandhill cranes and lark buntings and hello to scissor-tailed flycatchers and a host of migrating warblers.

The trust I have for the promise of spring pales against the trust shown by the plants and wildlife. For them, the changing of the seasons is a matter of life and death. Plants invest their stored resources to grow new leaves and produce flowers. Migrating birds trust that there will be nesting sites and food when they arrive. Quail and turkey lay eggs not

knowing if conditions will be right 3-4 weeks later when their chicks hatch. Sometimes the trust of plants and animals is tested. The Valentine's Day cold snap made it clear that there is a cost in pushing the trust too far.

I had an experience in mid-March that made me realize I am part of the seasonal cycle of trust. Perhaps because of February's frosty weather, I was a couple weeks behind putting up my purple martin houses. I had not noticed any martins around but decided on a pleasant evening in early March that it was time to put up the houses. To my surprise, within 5 minutes of completing this task, I heard purple martin calls and saw 10 martins climbing in and out of the nesting gourds, chattering loudly. Their excitement brought a smile to my face.

My hope is that CKWRI, just like the promise of spring, fulfills your expectations. We want you to reliably find the information and expertise you need when you visit CKWRI, just as purple martins find nesting houses and food when they arrive in my back yard. This edition of Tracks magazine has information that will help you enjoy your time outdoors more. You can also find information on our website (www.ckwri.tamuk.edu) and through our social media accounts. We are thrilled every time we have the opportunity to interact with you. It brings a smile to our face.



Purple Martin. Photo by David Hewitt

All the best,

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



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Learn more about the Institute by visiting www.ckwri.tamuk.edu



*Figure 2. Characteristic growth form of whitebrush flower spikes.
Photo by Dr. Ashley Tanner*

When A Native Becomes Invasive: Whitebrush Management Strategies For South Texas

by Evan P. Tanner, Katie J. Pennartz, Megan K. Clayton, and Anthony D. Falk

Woody plant encroachment is impacting most rangeland around the world. The invasion of woody plants has resulted in a fundamental shift from grass-dominated to woody-dominated landscapes. Historically, grassland systems were maintained through long-term (i.e., herbivory) and short-term disturbances (i.e., fire). However, alterations to or the removal of these disturbances have facilitated a progressively altered landscape in which woody plant encroachment is now the norm.

Drive a few miles through the rangelands of rural Texas and this phenomenon will be hard to miss, with impacts felt in most regions of the state. For instance, in Figure 1, long-term data indicates that the percent of woody cover has been increasing across three different ecoregions of Texas: the Balcones Canyonlands (red), the Northern Nueces Alluvial Plains (blue), and the Coastland Sand Plain (green). Though these regions have different rates of woody plant encroachment, the story is still the same: trees and shrubs are encroaching at the expense of herbaceous vegetation.

Within the South Texas brush country ecoregion, shrub diversity is a defining characteristic of the landscape. It's one of the reasons researchers at the Caesar Kleberg Wildlife Research Institute (CKWRI) fondly call South Texas the “Last Great Habitat”. There are roughly 281 species of woody plants and subshrubs found in South Texas, which provide crucial elements to habitat for many wildlife species, ranging from food resources to escape and thermal cover. However, many native woody plant species have increased in density within many areas of South Texas and beyond, becoming local invaders and the target of many brush management practices common across Texas ranches.

Whitebrush (*Aloysia gratissima*), also known as beebush, is a native shrub found across Central, West, and South Texas rangelands. This shrub species can be desirable or highly undesirable, depending on plant density and management goals for the property. As its secondary nickname suggests, beebush is an important plant species for pollinators, and more specifically bees, which utilize this plant's numerous flower spikes (Figure 2) to produce honey that is popular among apiarists.

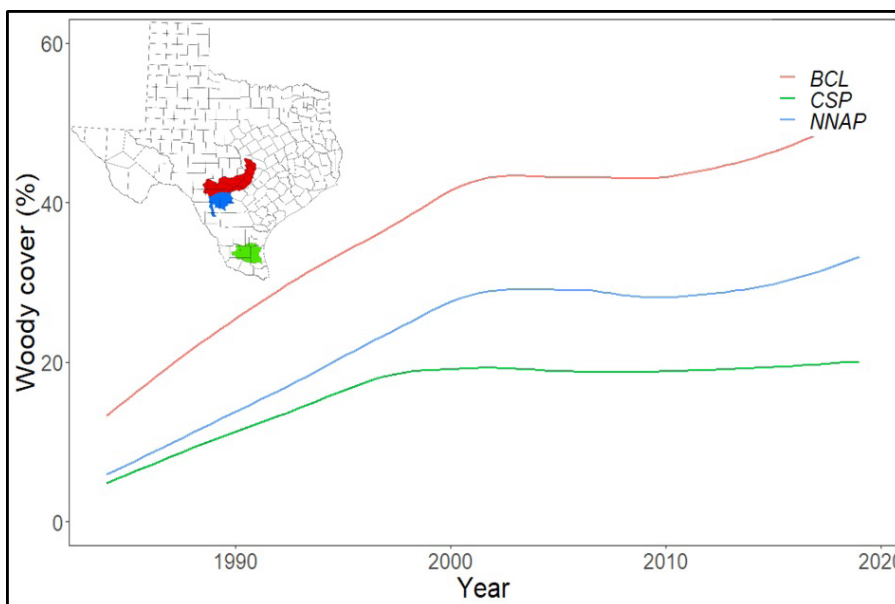


Figure 1. Percent increase in woody cover from 1984-2019 across three ecoregions of Texas: the Balcones Canyonlands (BCL; red), the Northern Nueces Alluvial Plains (NNAP; blue), and the Coastland Sand Plain (CSP; green). Ecoregions are pictured in the inset map and colors are coordinated between the map and the graph. Woody cover trend data were provided through the Rangelands Analysis Platform (<https://rangelands.app/>).

However, whitebrush can also become locally invasive (Figure 3) and is generally a low quality browse for desirable wildlife such as white-tailed deer (*Odocoileus virginianus*), often making it the target of intensive brush management strategies.

Mechanical treatments such as aerating, roller chopping, or heavy discing are common approaches to controlling whitebrush. Though often a short-term solution, aerating and roller chopping generally do not result in the removal (or mortality) of whitebrush individuals from a treated area. This is because the root crown of whitebrush, where roots and primary stems meet, has resprouting capabilities. This area, also called the bur, has the ability to develop larger canopies after stem removal treatments. In fact, it has been documented that regrowth of an individual whitebrush's canopy following stem removal tech-

niques can be up to 154% larger than an undisturbed individual. Moreover, compared to undisturbed individuals, the number of primary stems per plant will increase by up to 4 times following treatments that only cut stems to just above ground level. Simply stated, roller-chopped whitebrush will resprout with a vengeance. However, because whitebrush is shallow rooted and unable to resprout from root tissue below the root crown, practices such as heavy discing, root plowing, or grubbing may be more effective in long-term removal of individuals.

Chemical treatments are another option for controlling whitebrush populations on rangelands (Figure 4). Effective herbicides are limited, further creating whitebrush monocultures where aerial herbicide applications were previously applied.

Figure 3. At this ranch in Frio County, Texas, whitebrush has become locally invasive and has reduced both shrub and herbaceous plant diversity available for wildlife. In the foreground, whitebrush tagged with pink flagging indicate plants that have been selected for experimental herbicide treatments associated with our research.





Historically, soil applied herbicides have provided the most success, but can also negatively impact desirable brush and tree species in the area and are thought to be more effective on coarse soils where chemicals can more easily move down into the soil profile after rainfall. One challenge with foliar applied herbicide success arises from the phenological traits of whitebrush: it is drought deciduous. This means that during periods of low water availability, leaves quickly dry up and are shed. As an alternative, researchers at CKWRI have teamed up with Texas A&M AgriLife Extension Service who has been investigating dormant season applications of herbicides (Figure 4) to potentially identify herbicide use during seasons when plant leaf condition is not as variable. In 2020, a new herbicide was approved for use in rangelands called Invora, a Bayer CropSciences product. Individual plant foliar treatments at 1.5% are highly effective in controlling whitebrush and broadcast application research has been underway.

In order to better understand whitebrush, research is needed related to the basic ecology, particularly with regard to its reproductive abilities. Current research at CKWRI in collaboration with Texas A&M AgriLife Extension Service and Texas Natives Seeds is seeking to quantify basic ecological characteristics

Figure 4. Researchers at the Caesar Kleberg Wildlife Research Institute and Texas A&M AgriLife Extension Service apply herbicide to experimental plots at a ranch in Webb County, Texas in October, 2020. Both individual plant treatments (A) and broadcast spray treatments (B) are being assessed.

of this species, such as documenting the percentage of pure live seed on an annual basis, under what conditions do viable seeds initiate germination, and how long seeds stay viable in the seed bank. These investigations will help managers better understand the potential longevity of successful treatments once mature whitebrush is killed and removed from a site.

As with many plant species throughout Texas, whitebrush offers unique challenges to rangeland management when it becomes locally invasive. Though native and desirable in a mixed brush community, monoculture stands of whitebrush can decrease the habitat quality (i.e., diverse plant structure, cover, and food availability, etc.) for many popular game species in Texas. Limited treatment options for ranch managers are available. Managers are encouraged to reach out to local range and wildlife extension specialists to explore what treatments may be most suitable for addressing whitebrush invasions. 🌱





Bird Abundance on East Foundation Ranches: A Twelve-year Perspective

*by Delanie E. Slifka, Leonard A. Brennan,
April A. T. Conkey, and Tyler C. Campbell*

Aldo Leopold, an important visionary in our profession, began many of his days by observing and recording the dawn chorus of birds on his property near Baraboo, Wisconsin. His notes were so detailed that in 2012, wildlife biologists used them to create a bird song "soundscape" of Leopold's property at that time (<https://www.aldoleopold.org/post/aldo-leopolds-field-notes-score-lost-soundscape/>). Much has changed on the landscape in rural Wisconsin since the 1940s when Leopold recorded his observations. The changes in the number and kinds of birds around Leopold's Sauk County shack (the famed sand county) have changed tremendously over the decades. However, we only know this because of the meticulous observations made by Leopold that were recorded in his journals. Observations like Leopold's are vital to understanding the dynamics and changes of our ecosystems. Since birds are easily monitored, they are an ideal taxa to study in order to understand the long-term dynamics and changes of an ecosystem.

*Northern Bobwhite Quail on El Sauz.
Photo by Javier Huerta*



Painted Bunting on San Antonio Viejo.
Photo by Javier Huerta

Texas is home to an incredibly diverse array of bird populations. More than over 650 bird species have been recorded in Texas, approximately half of which are migratory species. Large ranches in South Texas, such as the ranches owned by the East Foundation, help preserve expansive continuous tracts of land that are critical to the survival of birds during migration. Many private landowners understand the value of documenting trends and managing for non-game birds on their property; however, few long-term bird studies exist from the ranchlands of South Texas. Short-term research studies of three to five years are common, because they are often the product of a three-year grant cycle and follow the time period for graduate students to complete theses or dissertations. However, these relatively short-term studies have the potential to provide a partial or perhaps even misleading picture of things. For example, if we only had data from a short period of time when a population was low, we might infer that the population is always low and therefore potentially make inappropriate management recommendations. Long-term data sets of ten years or longer are relatively rare, yet such data can provide unique insights into population dynamics and processes. Most importantly, a long-term data set allows us to see the lows, highs, and in-betweens of the trends of a population through time.

To document and monitor South Texas bird populations over time, we have conducted surveys for 12 years on three ranches owned by the East Foundation: San Antonio Viejo, El Sauz, and Santa Rosa. San Antonio Viejo is the largest of the three ranches totaling 149,839 acres. It is located southwest of Hebbronville in Jim Hogg County and is dominated by mesquite (*Prosopis glandulosa*), other brush, and large expanses of native grasses. San Antonio Viejo is home to more than 100 bird species. Species are clustered into four categories: resident, summer breeder, winter resident, and migrant. The following are the most abundant bird species on San Antonio Viejo for each of these categories. First, the most abundant resident species is pyrrhuloxia (*Cardinalis sinuatus*). Second, the most abundant summer breeder is painted bunting (*Passerina ciris*). Third, the most abundant winter resident is orange-crowned warbler (*Leiothlypis celata*). Lastly, the most abundant migrant is the ruby-throated hummingbird (*Archilochus colubris*).

El Sauz is the next largest ranch totaling 27,143 acres. Located west of Port Mansfield in Willacy County along the South Texas coast, it contains a diverse mix of oak mottes, Gulf cordgrass (*Spartina spartinae*), other brush and grass-



Northern Bobwhite Quail on Santa Rosa.
Photo by Javier Huerta

es, and sand dunes. Due to its proximity to the coast more than 140 bird species have been documented at El Sauz. The following are the most abundant bird species on El Sauz for each of the categories. First, the most abundant resident species is olive sparrow (*Arremonops rufivirgatus*). Second, the most abundant summer breeder is brown-crested flycatcher (*Myiarchus tyrannulus*). Third, the most abundant winter resident is eastern phoebe (*Sayornis phoebe*). Lastly, the most abundant migrant is the Baltimore oriole (*Icterus galbula*). Santa Rosa is the smallest ranch sampled totaling around 18,643 acres. It is located southeast of Riviera in Kenedy County and is dominated by oak mottes that have been invaded by Guinea grass (*Megathyrsus maximus*). Despite being

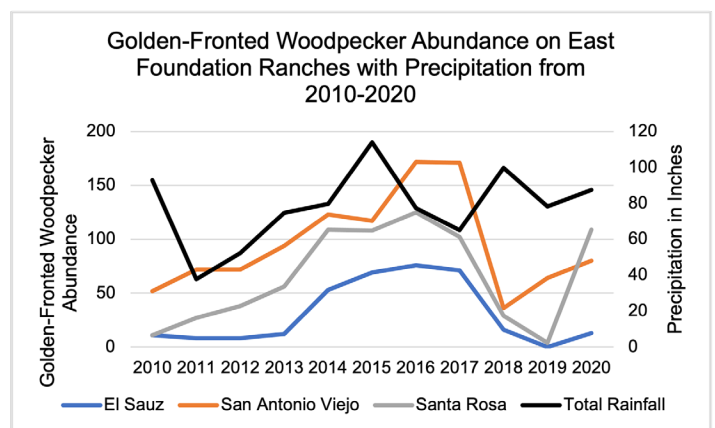
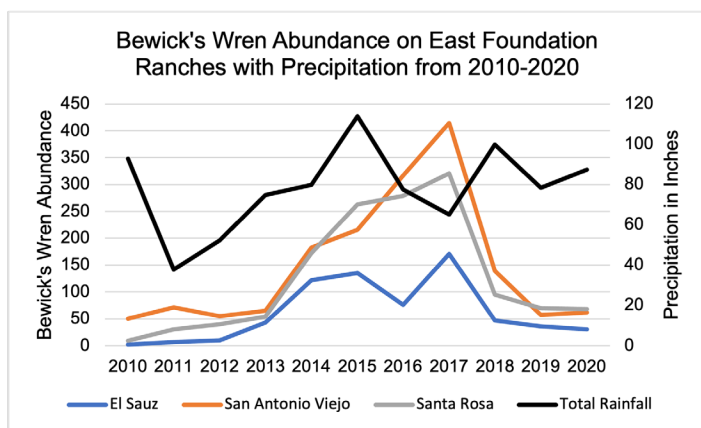
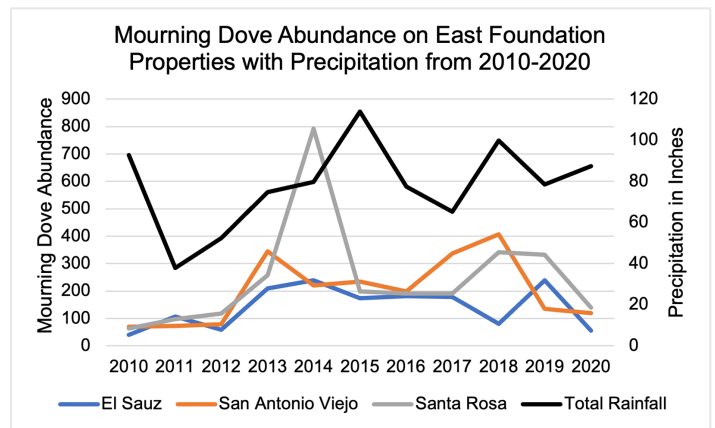
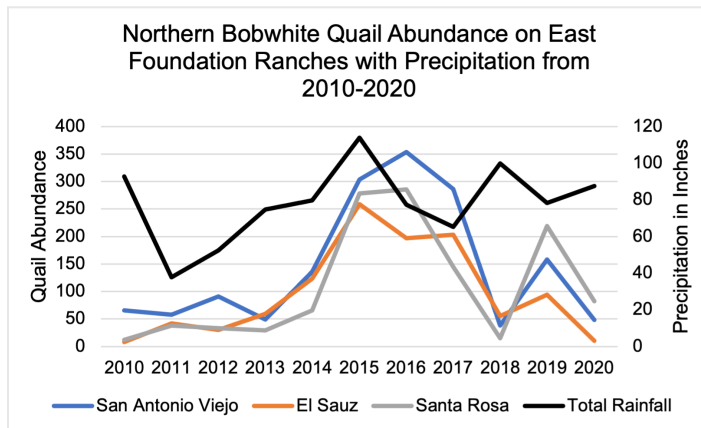
the smallest of the three ranches where we counted birds Santa Rosa has more than 75 bird species present. The following are the most abundant bird species on Santa Rosa for each of the categories. First, the most abundant resident species is Bewick's wren (*Thryomanes bewickii*). Second, the most abundant summer breeder is scissor-tailed flycatcher (*Tyrannus forficatus*). Third, the most abundant winter resident is sandhill crane (*Antigone canadensis*). Lastly, the most abundant migrant is summer tanager (*Piranga rubra*).

Our surveys were conducted in two ways. The first was through the use of transects. We walked a transect line (each of which was approximately a third of a mile long) and recorded all the birds seen or heard. The second method we used was a series of point counts. We stopped at designated points and recorded all the birds we saw or heard in a three-minute period. Because the amount of rainfall is known to affect the amount of vegetation and, in turn, affect the abundance of bird species like northern bobwhite quail (*Colinus virginianus*), we looked for trends in bird abundance (the number of individuals of a species) and annual rainfall.

Nathan Young (left) and Javier Huerta (right) look and listen for birds in the early morning on San Antonio Viejo. Photo by Delanie Slifka



The graphs below show the abundance trends over 12 years for northern bobwhite quail, mourning dove (*Zenaida macroura*), Bewick's wren, and golden-fronted woodpecker (*Melanerpes aurifrons*) populations in relationship to annual rainfall. These species were selected for this article because they represent four of the nine functional groups used for analysis. Northern bobwhite quail represent our grassland obligate group, mourning doves represent our ground foraging group, Bewick's wren represent our small shrub-tree foliage foraging group, and golden-fronted woodpeckers represent our woodpecker group.



In general, the abundance trends for all of the species presented in this article are similar across all three ranches, despite the differences in vegetation and land management across the landscape. With the exception of mourning doves, we observed that when a bird population on one ranch increased, a similar increase was seen in the populations on the same species of the other ranches. The same trend appeared to happen during years of population decreases.

More specifically, however, if you examine the two rainfall peaks in 2015 and 2018, you will notice that these species all also responded somewhat differently. Both northern bobwhite and golden-fronted woodpeckers had surges in abundance during the year directly following the peak rainfall event. The peak for both northern bobwhite and golden-fronted woodpecker abundance was greater following the rainfall event in 2015 than it was following the rainfall event in 2018. Before the rainfall peak in 2015 there were approximately three years of increasing rainfall, as opposed to time before the 2018 peak, where there was only one year of increasing rainfall. Bewick's wren populations exhibited a time lag after the initial rainfall peak. Their abundance peaked one to two years after the initial peak in 2016 and then underwent a drastic crash in 2018 after a 40-inch decrease in rainfall from the previous year. The wren population apparently began to stabilize in 2020, and if rainfall continues to be stable or increase, then Bewick's wren abundance should follow. Northern bobwhites, golden-fronted woodpeckers, and Bewick's wrens all seemed to have a strong relationship between their

year-to-year abundance and annual rainfall. Mourning dove abundance, in contrast, appeared to have a more moderate response to annual rainfall than these three species.

How might the soundscape of the bird life on the East Ranches change over time? We may not know unless we follow Leopold's example. Populations, regardless of taxa, will naturally fluctuate over time. Long-term monitoring studies on private lands allows us to better understand patterns in natural fluctuations, potentially avoid knee-jerk reactions to population dips, and make better management decisions. On East Foundation ranches, land management practices differ among properties, yet land bird abundance for many species seems to follow similar trends despite these differences. The presence of large, unfragmented tracts of landscape dominated by mostly native rangeland vegetation, obviously has a major influence on these dynamics. In such a landscape context, rainfall can be a tremendously important predictor when examining factors responsible for patterns of bird population abundance. This seems to especially be the case in South Texas. ↓



*Scissor-Tailed Flycatcher on a fence at Santa Rosa.
Photo by Javier Huerta*

We are extremely fortunate and thankful to work collaboratively (DD, LAB, AATC; Caesar Kleberg Wildlife Research Institute, TCC; East Foundation). The data used in this article was collected by numerous people. Tom Langshied started the study in 2010. Maia Lipshutz and Janel Ortiz continued the study, used different years of the data for their respective M.S. and Ph.D. projects, and were helped by many undergraduate and graduate survey technicians. Drs. Humberto Perotto and Fidel Hernández, along with numerous other CKWRI faculty served on graduate student committees and offered important insight and guidance over the years. The Elizabeth Huth Coates Charitable Foundation and CKWRI Advisory Board Member Barry Coats Roberts provided support that initiated this project, and the East Foundation continued this support.

INSTITUTE NEWS

CKWRI students and faculty were outstanding at the 2021 Texas Chapter of the Wildlife Society annual meeting, bringing home a total of 13 awards!

OUTSTANDING ELECTRONIC MEDIA
CKWRI Online Publications

OUTSTANDING BOOK
Lenny Brennan for Quantitative Analysis in Wildlife Science

HONORARY LIFE MEMBER
Tim Fulbright

SCHOLARSHIPS
Eve Schrader - Charly McTee Scholarship

OUTSTANDING SCIENCE ARTICLE
Charlie DeYoung, Tim Fulbright, David Hewitt, and David Wester for Linking White-tailed Deer Density, Nutrition, and Vegetation in a Stochastic Environment

CLARENCE COTTOM GRADUATE PRESENTATIONS AWARD
*Levi Heffelfinger – 1st Place
Kristyn Stewart – 3rd Place*

OUTSTANDING UNDERGRAD STUDENT
TAMUK – John Herrschberger

OUTSTANDING UNDERGRAD POSTERS
*Dakota Moberg – 1st Place
Tenley Housler – 2nd Place
Lori Massey – 3rd Place*

PHOTOGRAPHY CONTEST
(Judged by CKWRI's Brian Loflin)
*Levi Heffelfinger – 2nd Place (Scenery Category)
Emily Bishop – 2nd Place (Art Category)*



Movement Patterns and Behavior of Nilgai Antelope: Implications for Management of Cattle Fever Ticks in South Texas

by Kathryn M. Sliwa, Randy W. DeYoung, Jeremy A. Baumgardt,
J. Alfonso Ortega-Santos, David G. Hewitt, John A. Goolsby,
and Adalberto A. Pérez de León

During the 19th century, a disease known as “Texas fever” devastated livestock producers in the Midwest any time a trail drive brought cattle north of the Texas border. Local cattle began dying soon after exposure to seemingly healthy cattle from Texas, and producers struggled for an answer. It was not until the late 1800’s that scientists discovered that ticks on the Texas cattle were responsible for transmitting the mysterious disease. Texas fever is now known as bovine babesiosis, after the babesia parasite that causes the disease, and is transmitted by 2 species of ticks colloquially named cattle fever ticks. The ticks were brought to North America during the 1500’s by the Spaniards who brought livestock to the New World. Over time, these ticks spread across the Southeastern U.S. up to the Mason-Dixon line, and to parts of California.

In 1906, the US created the Cattle Fever Tick Eradication Program to eliminate cattle fever ticks from the country. Producers were required to either treat cattle with acaricides or to leave pastures vacant of livestock for up to 9 months. Cattle fever ticks are a 1-host tick, and complete their life cycle on one animal. Therefore, if the hosts are removed, the ticks cannot persist for more than a few months. By the 1950’s, cattle fever ticks were eliminated from most of the US, and the program established a permanent quarantine zone along the Texas-Mexico border to prevent re-invasion of the ticks from Mexico. Within the quarantine zone, cattle are routinely checked and infected premises must treat livestock until the ticks are eliminated.

Wildlife can interfere with tick eradication operations by providing the ticks an alternative host. Although the ticks prefer cattle, white-tailed deer are a suitable alternative host for cattle fever ticks when cattle are not available. Exotic hoofstock, such as nilgai antelope, are another potential host for ticks in the Texas-Mexico border region. Nilgai are native to India, Pakistan, and Nepal, and were introduced to South Texas rangelands as early as the 1930’s.



Current estimates report over 30,000 nilgai in South Texas and parts of northern Mexico. Nilgai are more closely related to cattle than deer, and provide an alternative host for ticks. Nilgai are wary, highly valued by hunters, and can be hunted year-round. However, the presence of nilgai can greatly complicate tick eradication efforts. White-tailed deer can be treated by feeding Ivermectin-treated corn, but nilgai do not respond to bait, so there are currently no methods to treat nilgai. Nilgai have the capability to travel considerable distances and tend to have larger home

ranges than deer. The combination of long-distance movements and large home range sizes of nilgai can be greater than the average property size of 618–14,826 ac in South Texas. Due to the limited amount of information on the behavior and movements of nilgai, more research is needed to better understand this species.

To learn more about this unique species, we partnered with the USDA-ARS to capture and attach satellite GPS radio-collars to nilgai across 4 private



*A nilgai being released after capture.
Photo by Brian Loflin*



A close up of a cattle fever tick found on a captured nilgai in Cameron County, TX. Photo by Brian Loflin

properties in Cameron County, Texas. This modern technology would be inconceivable during the trail drive era, but gave us detailed insights into nilgai movements and behavior. The radio-collars collected a GPS location every hour during March 2019 to September 2020. Using the locations from the first year of deployment, we analyzed the movement behaviors of 30 individual nilgai. Our goals were to estimate home range sizes of nilgai, and better understand movements, activity patterns and space use of individual nilgai.

We estimated home range sizes for each nilgai each month, season, and during the entire year. Males typically had larger home ranges than females during the fall and winter. However, we observed high variation in home range sizes among individuals: females, 1,465 ac (range: 259–3,818); males, 2,315 ac (range: 546–3,959). In addition to a nilgai's area of occupancy, it is important to understand how much ground a nilgai can cover. On

average, nilgai traveled a cumulative distance of 1.9 mi and 2.2 mi per day, for females and males respectively. These daily movements fit within a diameter of 0.74 mi for females and 0.9 mi for males. We combined these 2 metrics to better understand nilgai space use. Males always had greater space use than females, with the highest rates during prime breeding months. Nilgai were most active during dawn and dusk, with more activity occurring at night than during the day. On average, female nilgai traveled 137.8 yd/hr while males traveled 166.2 yd/hr.

We classified nilgai movement patterns into 4 behaviors: resident, use of seasonal ranges, nomadic behavior, and dispersal. Resident nilgai displayed overlapping seasonal ranges with some periods of exploratory movements outside of their home ranges. Nilgai that appeared to have separate seasonal ranges spent most of the summer and winter

The ear of a tagged nilgai before tick collection.
Photo by Kathryn Sliwa





Trail cameras capture collared nilgai in South Texas.

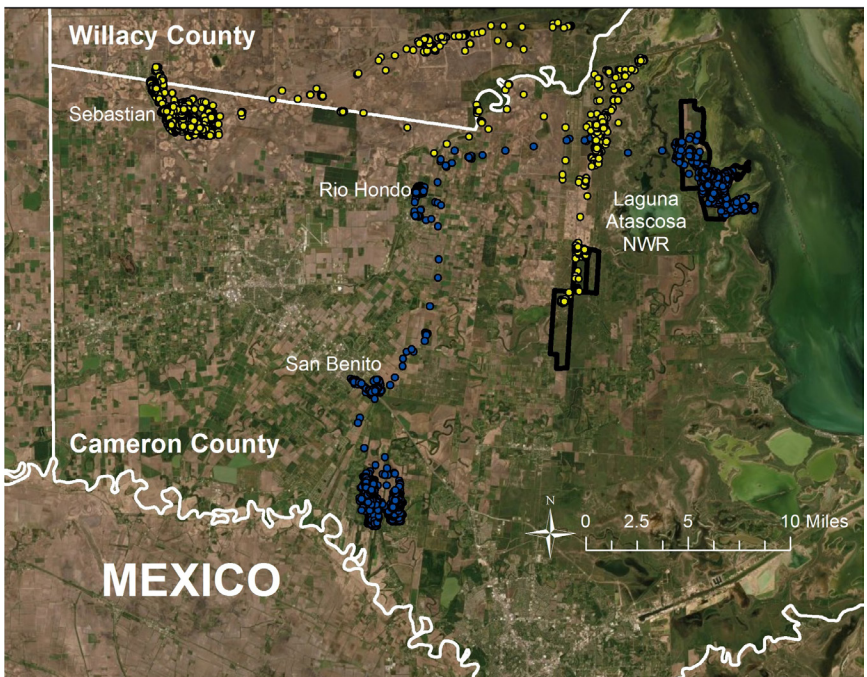
in different areas. Nomadic nilgai had unpredictable or irregular movements regardless of the season. Nilgai that dispersed left their home range or point of origin without returning for the duration of the year.

about 112 mi in under 2 months before settling down. The other young female traveled roughly 40 mi and made 2 month-long stops before settling into a new home range. Dispersal behavior is not common for females, and may result from the social structure of nilgai, where males are territorial.

We observed movement patterns consistent with resident behavior (17/30), use of seasonal ranges (7/30), nomadic behavior (4/30), and dispersal (2/30). Over half of the nilgai in this study exhibited movement representative of resident behavior, however non-resident nilgai appear to pose the greatest risk of moving cattle fever ticks across ranches throughout South Texas. Resident nilgai had a maximum yearly distance of 3–8.3 mi, whereas non-resident nilgai traveled 4.3–25 mi. Both nilgai that dispersed were young

Our research indicates that nilgai are a challenging target for cattle fever tick treatment due to their large

space use and unpredictable movements. With expanding populations, the presence of nilgai in South Texas poses a threat to U.S. cattle herds by increasing the risk of new tick outbreaks. Understanding host movement strategies is an important aspect in disease management. By keeping the U.S. free of cattle fever ticks the cattle industry saves billions of dollars annually. Our



Locations for the 2 young female nilgai that dispersed between 01 April 2019 and 31 March 2020.

females, and each traveled roughly 25 mi from their capture location as the crow flies. Each disperser had a unique movement phase; one female traveled

ongoing research is positioned to better understand the role nilgai have in the ecosystem of South Texas and in the management of cattle fever ticks. 🦌



Donor Spotlight: *Jess Yell Womack, II*

by *Caroline McAllister*

In August 2005, the family of Jess Yell Womack, II created a Fellowship to honor his memory and passion for wetland conservation and restoration. For those that knew Jess, or “Big Jess” as he was affectionately called, he was a man who was dedicated to his family, the land and always had a twinkle in his eye. He was adored by his family and friends, and when his family collectively visited about how to honor his legacy, his wife Lou and their four children unanimously knew that creating a Fellowship at Caesar Kleberg Wildlife Research Institute in the field of wetlands and wetland bird research was a perfect fit, and something that Jess had been interested in for years prior to his unexpected passing.

Jess’ ancestors included a pioneering ranching family from Victoria County who were instrumental in bringing Brahma cattle to Texas during the 19th century, and his love of the land was instilled from an early age. Jess’ great-grandfather started the family’s ranch by putting it together in the 1870’s.

In 1989, the family ranch was partitioned, and Jess and Lou received the wetlands piece, which no one else in the extended family was interested in. This section of the ranch was viewed as a treasure by the Womack family and full of opportunity to restore the land to its prior glory. These wetlands had been created by levees that had been constructed generations before by oxen, all of which had broken and caused extensive flooding along the rivers resulting in the wetlands that exist today.

Jess and Lou shared the desire to restore the land and also leave it in better condition than when they found it. For years, they focused on methods to restore the wetlands and were one of the first to sign up for the Wetland Reserve Program when it was established by George H. Bush in 1991. It remains the largest wetland conservation easement West of the Mississippi. Their four children and now their children all share a love of the land and a sense of responsibility to take care of this special piece of Texas. The entire family is active in the management of the ranch, and their approach is one that has resulted in tremendous success. The ranch hosts over 300 bird species and supports alligators, turkey and white-tailed deer. The family actively manages the deer and hog populations and enjoys hosting an annual youth hunt conducted by the Texas Youth Hunting Program. Controlled burns and herbicides are used as part of the relentless battle against invasive species.

Jess was full of memorable quotes and anecdotes, and one that he often used was “I hope my ship comes in before my dock rots”. Thankfully, Jess was able to see the success of his family’s efforts and in 2003, the Womack family was awarded the honor of being named 'Land Steward of the Year' by the State of Texas as recognition of their dedication to the restoration and preservation of the wetlands. Jess’ love for the wetlands and the species these special lands support lives on today through the Jess Y. Womack, II Fellowship in Wetlands and Wetlands Bird Research. 🐾



Supporting Wildlife Conservation through PHOTOGRAPHY

by Brian Loflin and David Hewitt

Nothing stirs emotions, motivates action, or promotes understanding like a picture. These impacts make photography a powerful medium when used to support wildlife conservation. Wildlife students and professionals can be far more effective in conserving wildlife if they have high-quality photographs. For example, pictures can document habitat conditions, the results of management projects, wildlife on a ranch, research outcomes, and unusual observations. Who better to take those photos than the wildlife biologists who are outside every day studying and managing wildlife?

The use of photography by wildlife biologists is only one way in which photography contributes to wildlife conservation. An even broader impact comes from the millions of people in the United States who

enjoy nature photography and therefore are advocates for wildlife and the habitat that supports wildlife. Whether with cell phones or camera packages worth thousands of dollars, people across the United States are motivated to share their outdoor experiences through photography.

For these reasons, wildlife students need an understanding of nature photography, just as they must understand hunting and its central place in our model of wildlife conservation. Dr. Sandy Hurwitz made this connection years ago and during summer 2017, decided to act on his beliefs. That summer, he approached the Caesar Kleberg Wildlife Research Institute at Texas A&M University-Kingsville as a trustee of the Frederick J. Bremner Charitable Trust. Dr. Fred Bremner, professor emeritus of psychology



Photo by Ben Masters

at San Antonio's Trinity University, was a specialist in the relationship between the brain and behavior. He had an unbounded love for wildlife and the environment. He established the trust to continue his life's work in promoting these passions.

Dr. Hurwitz said, "The trust was charged in finding a home for this donation in the center of a robust educational environment that can make a difference in habitat understanding and outdoor utilization. We believe that TAMUK is the perfect home for this program, and we want to make TAMUK the unquestioned world leader in Wildlife Photography and Eco Tourism. As an educator and mentor, Dr. Bremner would be exceptionally thrilled with this new program."

The donation from the Frederick J. Bremner Charitable Trust enabled the establishment of a program in wildlife photography at TAMUK. The program purchased ten professional camera kits, 500 mm telephoto lenses, electronic flashes, six computer workstations, a printer, and software to support photography classes. The donation also provided additional funds to support the program over a number of years.

Housed within the Rangeland and Wildlife Science department at TAMUK, the Wildlife Photography Program provides students in the Bachelors, Masters, and Doctorate programs an additional avenue to enhance their professional career through biological and wildlife photography. The purpose of the grant is to educate current and future TAMUK students to serve the fast-growing needs of the millions of people in Texas and globally who are traveling to enjoy and photograph wildlife and nature.

Tasked with the program's inception, organization, and promotion, Brian Loflin, a long-time published professional wildlife and science photographer and educator, has been teaching classes since the program's launch. Loflin previously taught photography at The University of Texas at Austin and University of California-Riverside for sixteen years.

During spring 2018, the program began with a single class, Introduction to Wildlife Photography. Today,



Live animal photography in the controlled environment of the laboratory provides accurate, true-to-life living specimen images.



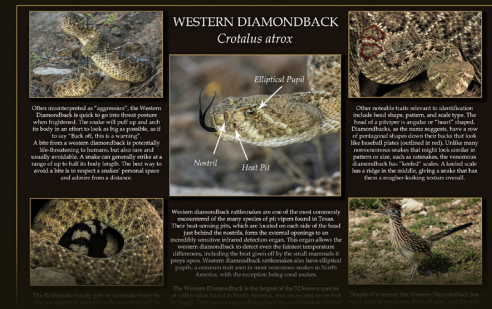
the program has six classes in biological and wildlife photography. Classes include lecture, photography in the field and the laboratory, and training in the computer lab for processing images with the latest Adobe photography software. The program furnishes professional digital cameras and accessories for student use. This academic program is the only one of its kind within a university setting in the United States. Students can earn a Certificate in Wildlife Photography by completing four courses or a Minor by completing all six courses. Range and Wildlife Management graduates with a science photography competence possess additional qualifications and advantages. These skills will help make them more effective wildlife managers and scientists and give them a background to establish a business in nature photography, should their careers take them down that path.



Camera kits include 10 professional Nikon digital cameras, a complete set of lenses and accessories.



Photography lab and class area created exclusively for wildlife science photography is complete and in use.



Student posters reflect the many skills and competency of advanced Wildlife Photography students.



Students in a field exercise practice first-hand photographic skills, processes, and procedures learned in the classroom.



Accurate lab photography of specimens is a critical skill in support of the biological and wildlife sciences.



Wildlife Photography Certificates were awarded in 2020. (l-r) Brian Loflin, Elisabeth Campbell, Caroline Gouldin, and Alex Meza.

CKWRI alum, Dr. Chase Currie, described the value of wildlife photography in his work. “As a wildlife biologist, we have the unique opportunity to spend a lot of time outside in wild places. We have more opportunities to photograph neat and unusual things. For me, photography is most important in my work of photographic monitoring

of plots and giving professional presentations. I learned photography the hard way-- by trial and error. If I had a series of classes I would have been able to produce better pictures than I can now and be a better manager through creating better images as a tool to market our line of Beefmaster cattle, and our hunting and conservation business.” 📷

ENDOWMENT NEWS

We are honored to announce the creation of the **Laurie and Duane Leach Avian Research Endowment**. This endowment was established by the Caesar Kleberg Foundation for Wildlife Conservation in memory of Laurie, who was an avid bird enthusiast. The endowment honors both Laurie and Duane for their shared passion for conservation.

We would also like to give a tremendous thank you to Frances and Peter Swenson for contributing additional funds, and therefore converting their Fellowship endowment into the **Frances and Peter Swenson Endowed Chair in Rangeland and Restoration Research**. An endowed Chair is the highest level of prestige in the academic and science community, and it is an honor to have these funds to support rangeland and restoration research efforts.



ALUMNI

Spotlight

Steve K. WINDELS

CKWRI Class of 1999,
Research Wildlife Biologist,
Voyageurs National Park/
U.S. National Park Service,
International Falls, MN

What is your background with the Institute?

I was Dave Hewitt's first graduate student at CKWRI when I showed up on campus in August 1996, nearly 25 years ago! I started pursuing international conservation when I was an undergraduate at the University of Minnesota and was excited for the opportunity Dave offered to me to work on a project in Mexico. I studied the impacts of habitat management on game and non-game species on a private ranch, Campo Santa Maria, in Nuevo Leon. My focus was on white-tailed deer nutrition in response to management. I also was able to design a side project to study small mammal communities, which is still one of the highlights of my time at CKWRI.

What are you doing now?

Since 2003, I have been a Research Wildlife Biologist at Voyageurs National Park. I am responsible for monitoring, management, and applied research for the park's wildlife resources. As North American beavers are fundamental to the ecological and culture fabric of the park, my focus since 2004 has been on studying beaver ecology and maintaining a long running study on beavers coined BVR: Beavers. Voyageurs.Research. I have also had the privilege to work on a variety of other species including gray wolves, moose, muskrats, Canada lynx, bald eagles, cormorants, and even a fish or two like lake sturgeon. I've also had the opportunity to continue to work on international conservation efforts through the U.S. Department of Interior in places like Tanzania, Oman, Scandinavia, and elsewhere.



Steve Windels during his time with the Institute at Campo Santa Maria in Nuevo Leon, Mexico.

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

While at CKWRI, I worked in arid environments in northern Mexico and now I work in boreal forests on the northern U.S. border with the National Park Service. Despite the dramatic differences between the two biomes, the broad training in applied wildlife science that I received at CKWRI influences my work on a daily basis. The specific training in wildlife nutrition that I received under Dave's mentorship frequently works its way into my current position. Recently, I completed some feeding trials of muskrats in enclosures to test preferences for native versus invasive species and when I needed advice on how to design the study, Dave was happy to take my calls just like he has always done before. The friendships and relationships with colleagues that I made during my time at the Institute are still meaningful today, and I look forward to seeing them all at annual scientific meetings and conferences.



Steve Windels (right) receiving the National Park Service's Director's Award for Natural Resource Research in 2014 from then NPS Director Jon Jarvis (left) in Washington, D.C.

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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/giving.



Photo by Zachary Pearson