

**Ranching 6****Education 8****Science 11**

FROM THE CEO NEAL WILKINS

MONITORING PRODUCTIVITY

In his 1961 book *The Indians of Texas: From Prehistoric to Modern Times*, anthropologist W.W. Newcomb, Jr. describes the harsh conditions faced by the Coahuiltecan of South Texas – “Men had to rely mostly on plant food to live here. And the uses to which the aborigines put various cacti, mesquite beans, nuts, sotol, agave, and other plants are the heart and soul of the Coahuiltecan of south Texas.” Newcomb continues “...in difficult habitats, such as the semi-deserts of south Texas, external influences which might stimulate cultural change are apt to be minimal. Outsiders are not attracted to such regions and its inhabitants are not likely to have surplus products to trade.”

Newcomb’s description paints a picture of a harsh and unproductive region. Yet in the eyes of the native Coahuiltecan – who knew of no other land – South Texas might have appeared as a paradise. Newcomb acknowledges this as he concluded “...for those who were wise to the possibilities of this land and catholic in their tastes, this was a livable and occasionally

bountiful region.” One interpretation of his reference to “catholic in their tastes” is that one would be narrow-minded not to discover periodic abundance in such a region. In other words, South Texas has an inherent productive capacity which modern ranchers are now unlocking.



Today, South Texas stands out as one of the nation’s **most** productive regions for native wildlife, biodiversity, and livestock production. Ranching has become the principal land use, and many ranchers now capitalize on the productive capacity of the region. Ranch management has increased livestock productivity and wildlife management has enhanced wildlife

Continued on Page 3



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ABOUT US

East Foundation promotes the advancement of land stewardship through ranching, science, and education.

We manage more than 217,000 acres of native South Texas rangeland, operated as six separate ranches in Jim Hogg, Kenedy, Starr, and Willacy counties. Our land is a working laboratory where scientists and managers work together to address issues important to wildlife management, rangeland health, and ranch productivity. We ensure that ranching and wildlife management work together to conserve healthy rangelands.

East Foundation was established with a bequest from the estate of Robert East in 2007. In pursuit of our mission, we use our resources to build future leaders through programs that introduce students to private land stewardship. We invest in future professionals through internships, graduate fellowships, and close engagements with university programs.

We care for our land and are always exploring more efficient ways to get things done and are continuously guided by our values to conserve the land and resources.

We do what's right for the land and the life that depends on it.

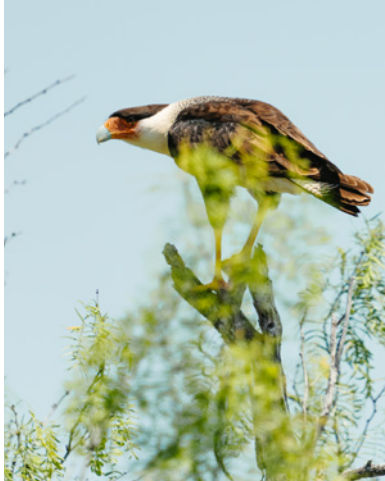
populations for many species. While we can acknowledge that some species have declined (or been lost) due to reduced habitat and other reasons, we still have amazing productive capacity across millions of acres of native rangeland. Further capitalizing on this productive capacity remains a challenge.

Monitoring productivity – a long-term average of annual production – is more important than at any time in our past. Stabilizing productivity at a level that approaches the land's productive capacity is key to sustainability of rangelands and contributes to ranch profitability. We gauge changes in productivity for resources we care about by accurately measuring changes in production over time. Trends in productivity give us insight into the consequences of our management decisions.

We invest a lot of effort in monitoring this productivity. We focus our monitoring on the impacts of our management decisions, and how measures of productivity change over time with soil type, rainfall patterns, grazing, prescribed fire, and other factors. We take a “catholic” view of productivity – forage production, vegetation composition, forage utilization, cattle weaning weights, bobwhite quail densities, white-tailed deer fawning rates, carbon sequestration, small mammal populations, bird abundance and diversity are all parts of the equation we consider when assessing the productivity of our native rangelands.

Later in this edition of our newsletter, our Research Scientist, Andrea Montalvo, describes our wildlife and rangeland monitoring programs. For over ten years we have invested in the measurement of wildlife and rangeland response to changing conditions – some changing conditions stem from management decisions while others are simply natural variability due to weather or disturbances outside our control. Some conditions that create change simply remain unknown to us.

Andrea's article points out several of the present and future benefits from our monitoring program. The six-word summary is “we count things across the ranch” – but we do it in a way that leads us to making better decisions. Because changes in wildlife populations or rangeland conditions are important events, we focus our monitoring efforts on gaining insight into what drives changes in the things we measure. This gives us the ammunition to design controlled experiments that can isolate the influence of different grazing




systems, prescribed fire regimes, or vegetation management on those things that are important measures of productivity. We also use our monitoring data to advise our cattle stocking rates – see Garrett Stribling's article on the following pages.

As another example, after several years of development, our ranch management team now has reliable methods for monitoring relevant trends in our cattle herd. This includes individual animal records

of productivity and performance. We can now make better management decisions for herd improvement and production efficiency, connecting outcomes back to past management decisions on breeding, culling, grazing, nutrition, and animal health protocols. This gives our managers insight into enhancing cattle productivity that is simply not possible otherwise.

Without monitoring, experienced ranch and wildlife managers often rely on the observations they accumulate over time to help them make decisions for implementing grazing, pasture deferment, prescribed fire, brush control, feeding, predator control, harvest, and other actions. Regardless of their talent and experience, the unknown and unanticipated always catch up to even the most talented managers. Moreover, when they ultimately leave, their knowledge goes with them.

Data required for monitoring long-term trends in productivity on rangelands is sometimes difficult to acquire. The task is often challenging and expensive, but it is important that we find better ways to efficiently monitor long-term trends in range and wildlife resources. We are working toward methods for controlling costs, gaining efficiency, and increasing accuracy in our monitoring programs. These advancements will require us to adopt new technologies, develop better monitoring systems, and train future ranch and wildlife managers who can take over when we leave.

The Coahuiltecan disappeared from South Texas prior to 1800. But the land endured in much the same condition it was in when they made their living from cacti, mesquite beans, sotol, and the occasional white-tailed deer or javelina. While they likely had a different view of landownership than we do now, their day-to-day reliance upon the land must have prompted in them an acute awareness of the importance of productivity. Taking a broad view of productivity allows us to evaluate the consequences of management decisions, fostering both land stewardship and sustainable ranch management. 



OUR PEOPLE

Just as the East Foundation mission drives our organizational focus, our people are the boots on the ground who work diligently to promote land stewardship through our ranching operations, science-focused research, and informative educational programs. Below are highlights on the foundation's recent hires and program alumni.



MARISSA RUIZ

EMPLOYEE PROFILE

Marissa Ruiz was born and raised in San Antonio, Texas. She comes from a large family and feels lucky to have great parents and so many siblings to look up to.

As Administrative Coordinator, Marissa is

responsible for supporting the Chief Science Officer, Jason Sawyer, by managing calendars, planning travel, coordinating meetings with internal and external partners, and special project support. She works with the science team by communicating across departments and helping to streamline processes. In addition, she works with Chief of Staff Cindy Pavlicek to coordinate and prepare for meetings, staff events, and maintain office efficiency.

Marissa has a B.A. in Psychology of Organizations & Development from the University of the Incarnate Word. Before joining us at East Foundation, Marissa worked as an insurance third-party administrator. Over her 30-year career, she has gained valuable experience working in various fields, such as clinical and pharmaceutical

research, mortgage and property tax, and healthcare insurance.

In her free time, Marissa enjoys gardening, hunting for vintage and antique items and reading. We're lucky to have someone as versatile and resourceful as Marissa on our team.



AARON FOLEY


ALUMNI PROFILE

Aaron was raised in rural western New York, where he became an avid outdoorsman. After receiving a bachelor's degree from SUNY Cobleskill, he went west to work with the Idaho Department of Fish and Game and the University of Nevada-Reno as a sage grouse technician. He wanted to further his

education and headed south to earn a master's degree in Wildlife Management at Texas A&M University-Kingsville, where he investigated the effects of density and nutrition on reproductive success of white-tailed

deer. He stayed on to earn a Ph.D. in Wildlife Science by evaluating movement patterns of male white-tailed deer during the breeding season. After graduation, Aaron joined the U.S. Geological Survey in Bozeman, Montana, to evaluate the role of winter supplemental feeding programs on elk recruitment rates. He then returned to Texas A&M-Kingsville's Caesar Kleberg Wildlife Research Institute (CKWRI) as a post-doctorate working with East Foundation.

While with East Foundation, Aaron assisted with conducting helicopter surveys and deer captures across four ranches. Aaron also worked on a variety of projects including quantifying environmental factors influencing deer morphology, evaluating the use of mark-recapture distance sampling via helicopter surveys, and describing movement patterns of nilgai as it relates to cattle fever tick management. Aaron's experience working with East Foundation was especially meaningful for several reasons. First, the folks at East Foundation made work enjoyable because of the shared missions. Second, access to East lands, where recreational hunting is conducted at low volume and only for research, management, and education purposes, offered valuable insight into the dynamics of largely unmanaged ranchlands.

Currently, Aaron is an Assistant Professor of Research with CKWRI and the Chief Wildlife Biologist for the King Ranch. Both of his positions fortunately allow the continuation of collaboration with East Foundation to use the best science to address management decisions. 



PROUD PARTNER



Witte Museum Deepens Commitment to Youth Land Stewardship through East Foundation Partnership

Since its launch in 2019, the Land Stewardship Ambassadors program, a partnership between the Witte Museum and East Foundation, has created a unique opportunity for high school students across Bexar, Cameron, and Webb counties to explore the many benefits of informed land management and immersive, community centered learning.

Anchored in the Witte's mission to inspire people to shape the future of Texas through transformative experiences in nature, science, and culture, the Museum serves as the home base for the Bexar County cohort. Students convene at the Witte each week for dynamic sessions led by conservation professionals, policy experts, and land stewards. Through this interdisciplinary approach, students learn more about ecological systems, sustainable practices, and the human dimensions of conservation.

In these sessions, students engage with topics such as wildlife management, watershed stewardship, the economics of natural resource management, and the human and political dimensions of land stewardship. The program culminates with capstone experiences, including an overnight weekend at San Antonio Viejo, followed by public presentations of what students have learned. Students who graduated from the program receive a \$400 stipend to further their education in land stewardship. Many use those funds to apply for colleges and universities to pursue careers in land and wildlife management.

By combining its world class exhibitions, educational leadership, and regional reach, the partnership between the Witte Museum and East Foundation inspires participants for a future of lifelong learning. Many students who complete this unique program go on to study conservation-related fields in higher education and all program graduates are better prepared to become informed leaders in Texas conservation.



FROM THE RANCH

GARRETT STRIBLING

Ranches are living, constantly changing environments that are home to many distinct species, both plant and animal. As land stewards, we are entrusted with the care of these resources, and it is our job to ensure that the land remains and improves its productivity over time. On East Foundation ranches, we strive to adapt our management for the betterment of the land, which is why we continuously consider carrying capacity.

According to Webster's dictionary, carrying capacity is the maximum population that an area will support without undergoing deterioration. It seems straightforward, but determining carrying capacity is complicated in native range environments. We tend to think about carrying capacity as a measure of range productivity and we spend a lot of effort trying to determine what that value is.






In the Coloraditas Grazing Research and Demonstration Area, we clip portions (collect vegetation samples) of each pasture every year. These clippings are weighed and analyzed to estimate pounds of forage produced per acre. We then use this data to set our stocking rates for each grazing treatment. We also utilize a program available through the USDA Agricultural Research Service called Rangeland Analysis Platform (RAP). This platform uses remote sensing data to calculate forage accumulation in sixteen-day intervals and gives a percentage cover value for grasses, forbs, and woody cover across the landscape. These tools help us look at changes in our carrying capacity over time and influence how we stock our pastures each year.

On the cattle side, if we can increase the carrying capacity of the ranches through brush management, prescribed fire, and our grazing practices, this would allow us to run more cattle without degrading the resource. Our cattle operations also improve the landscape for all

these species by harvesting species of grasses that are not preferred by wildlife and promoting the return of other forage varieties through grazing to a state that is beneficial for wildlife. We want to efficiently utilize our resources for the benefit of all species. If we meet our goal of rangeland improvement through better management, an outcome of that is an increase in carrying capacity. Running more cattle allows us to dilute our fixed costs and increase our profitability. Profit equals economic sustainability, keeping working land in production and habitats intact.

Cattle are not the only species on the landscape. We have many other mammals, reptiles, and birds that inhabit our ranches and depend on rangeland resources for survival. So, when we think about carrying capacity, it is not just cattle that we are concerned with but all species. Improving the rangeland is our main goal and one of the best metrics we have to evaluate our success is increasing carrying capacity. 



Education INSIGHTS

— ♦ — **RANCH.** — ♦ —
RANGELANDS.
RESPONSIBILITY.

By Masi Mejia



East Foundation's and the Witte Museum's Land Stewardship Ambassador program is shaping the next generation of land stewards who will go on to increase awareness of land stewardship and promote civic engagement. Over 10 immersive weeks, high school students in Bexar, Cameron, and Webb counties explore topics like wildlife management, the water cycle, economics, history, policy and advocacy, and public speaking. This gives students a greater understanding of the challenges and rewards of keeping Texas ranchlands productive and thriving for generations to come.

This course is reading and writing intensive and includes both classroom instruction and place-based learning along with mentorship. Students see firsthand how land stewards make decisions that balance production, ecological health, wildlife, and the financial bottom line. Students learn from professionals who highlight the different thought processes and skills associated with finding solutions to natural resources challenges. By connecting classroom concepts to real-world experiences, the program builds skills in critical thinking, problem solving, and leadership.

The impact of the Land Stewardship Ambassador program extends far beyond the 10-week experience. Many alumni go on to pursue higher education and careers in agricultural and natural resources fields. Other students go on to apply their knowledge in broader civic, environmental, and business roles. The most recent class that graduated this past May noted that they gained confidence in public speaking and research which is preparing them for college and beyond. Additionally, 40 of the 43 graduates also reported pursuing a career in agriculture/natural resources or incorporating land stewardship and sustainable principles in their future profession. One former student noted: "Although my career does not relate to land stewardship, I can still find creative ways to correlate land stewardship with physical therapy...such as choosing environmentally friendly products or advocating for green clinic designs." Brissia Cuevas from the Webb County Cohort.

By constructing a course that incorporates the many facets of land stewardship, East Foundation and the Witte Museum's program cultivates leaders who understand both the practical and ethical responsibilities of land stewardship. Students leave with more than the knowledge – they develop a sense of purpose, community, and the tools to make meaningful contributions to Texas' rangelands. The Land Stewardship Ambassador program not only prepares the next generation of conservation leaders but also ensures the value of sustainability, productivity, and civic responsibility so that the Lone Star State can continue to thrive. ◇





MEASURING RATES OF CHANGE

Monitoring programs designed to measure rates of change and assess management decisions on wildlife populations and habitat are essential to wildlife research. Rather than testing a hypothesis (a specific question or prediction), these studies are designed to take inventory (count) and monitor (track over time) changes in species abundance. Studies like this often assess planned activities like harvest regulations, wind farm development, or highway construction; or unplanned disturbances such as weather events, drought, or wildfire. A prime example of a long-term monitoring project is the Breeding Bird Survey (BBS) initiated in 1966 to track trends in North American bird populations. This study has shown that while continental populations of most species have remained relatively stable since 1966, many have experienced significant regional and species-specific declines. Faced with the challenge of surveying 217,000 acres of diverse rangeland, we had to answer a fundamental question: How and where do you begin?

In 2014, Texas A&M University and East Foundation implemented a large-scale inventory and monitoring program focused on birds (songbirds, raptors, night jays), small mammals (mice, rats), bats, amphibians and reptiles, and vegetation. Due to their large size and geographic diversity, East Foundation's San Antonio Viejo and El Sauz ranches showcase a wide range of wildlife and wildlife habitat, with the additional benefit of sampling across a region with widely variable annual precipitation.

The first stage of this program focused on how to effectively and efficiently track the abundance of species over large acreages. Researchers produced several publications on designing and implementing bird (including raptors), small mammal, bat, and amphibian and reptile monitoring programs on East Foundation lands. Having initially developed an inventory across multiple species, we scaled down monitoring in the second stage to focus on songbirds and small mammals. This stage allowed insight into



how we can use data from the monitoring study to assess changes in small mammal and bird abundance due to prescribed fire and grazing.

Since we monitor at a large scale, this program requires a labor intensive on-the-ground data collection effort from 10 to 14 field technicians working from late January to mid-July. Over the 10-year program, East Foundation and Texas A&M have hired close to 100 technicians (all with at least a BS degree) and eight graduate students (MS and PhD candidates) to make the project work. As funding allowed, we also provided hands-on opportunities for undergraduate students to participate. Graduate students were given flexibility in data use and project design, resulting in several publications using the monitoring data (referenced below). This program served as an excellent training ground for young scientists to learn valuable animal handling skills, bird identification by sight and sound, and practical field knowledge. This included a notable publication documenting a rare case of albinism in white-footed mice, discovered by our technician crew in 2021.

The third stage of our monitoring program begins this coming year, once again in conjunction with our partners at Texas A&M University. We aim to evaluate new methods that integrate technology and utilize fewer field technicians to monitor key bird and small mammal species across broader landscapes more accurately. These data will help to identify emerging research needs and guide hypothesis-driven projects in those areas.

In a world where ecosystems are continually reshaped by climate and human activity, long-term monitoring remains a cornerstone of our science program — to generate long-term knowledge to inform conservation and management.

Graduate Student and Partner Publications

Baumgardt, J.A., M.L. Morrison, L.A. Brennan, T.A. Campbell. 2019a. Developing rigorous monitoring programs: power and sample size evaluations of a robust method for monitoring bird assemblages. *Journal of Fish and Wildlife Management* (10)2: 480-491.

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Baumgardt, J. A., M. L. Morrison, L. A. Brennan, H. T. Davis, R. R. Fern, J. M. Szewczak, and T. A. Campbell. 2022. Monitoring occupancy of bats with acoustic data: power and sample size recommendations. *Western North American Naturalist*, 82:1.

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Hardin, F.O., S. Leivers, J. K. Grace, Z. Hancock, T. Campbell, B. Pierce, and M.L. Morrison. 2021. Secondhand homes: The multilayered influence of woodpeckers as ecosystem engineers. *Ecology and Evolution* 11(11425-11439): <https://doi.org/10.1002/ece3.7932>

Pence, A.R., C.M. Kiel, A. Montalvo, B.L. Pierce, L.A. Brennan, and M.L. Morrison. 2024. Food niche responses in southern Texas small mammal communities. *Southwestern Naturalist* 67:216–223. (East Foundation Manuscript 084)

Ziolkowski Jr., D.J., Lutmerding, M., English, W.B., Aponte, V.I., and Hudson, M-A.R., 2023, North American Breeding Bird Survey Dataset 1966 - 2022: *U.S. Geological Survey data release*, <https://doi.org/10.5066/P9GS9K64>.



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