

**DECEMBER 2023**

**We promote the advancement of land stewardship through ranching, science, and education.**



## FROM THE CEO

# Value of Rangelands

NEAL WILKINS

We are pretty good at talking amongst ourselves about what it takes to maintain healthy rangelands and provide quality wildlife habitats. In the long run, healthy rangelands rely on the interactions between grazing, drought, and fire. These are major physical factors that shape the composition and biological productivity of our native rangelands. In turn, the species composition and biological productivity have a major influence

on wildlife diversity, soil health, and livestock productivity. From a scientific perspective, we are very focused on the interactive effects of grazing, drought, and fire, because it matters for the future of rangeland ecosystems. But do our arguments for the value of healthy native rangelands fall on deaf ears when our state's population of 30 million is crammed into urban areas where native rangelands are largely out-of-sight and out-of-mind?

## A CASE IN POINT

The winter storm of February 2021 put the entirety of Texas into disaster mode. At its peak, the power outage put nearly 10 million people in the dark, many without any heat or ability to cook. The freeze lasted over a week and over 200 lives were lost. As part of the response, the state's Public Utilities Commission (PUC) identified the need for new transmission lines throughout South Texas.



Without putting the values of rangelands into context, it would be all too easy to discount the impacts and make poor decisions in routing the transmission lines needed to secure our state power grid. Without proper routing, a transmission line can threaten the natural values of native rangelands.



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*Rangelands con't.*

Fast-forward to the present, and we are now dealing with specific routes for hundreds of miles of new transmission lines to be built throughout South Texas. These are 345-kilovolt lines with 150 ft cleared rights-of-ways, each linking a series of substations to the statewide grid. These will be constructed primarily across private lands – and because this is South Texas – they will primarily be built across native rangelands. Once the PUC selects a specific route, they try to purchase the easement – failing that, they have the power of condemnation (eminent domain) to take the property with a local court deciding the “value.”

At East Foundation, we have worked for the last several months to make the case for more reasonable routing decisions for dozens of miles of proposed transmission easements that would permanently impact the “value” of our native rangelands. Impeding ranch operations, fragmenting important habitats, impacting wetlands, and creating corridors for illegal travel are just a few of the issues we are addressing through testimony and formal proceedings.

In the process of arguing the relative merits of different routing decisions, we have learned that we need to better express the “value” of these rangelands. And these “values” that we hold must counter-balance the metrics used by engineers – heavily weighted on constructability costs, total distance, and the easy-to-count elements like the number of habitable structures in the vicinity.

As a general principle, we have concluded that, when possible, these transmission lines should be located along pre-existing corridors such as

highways, pipelines, and existing transmission lines.

### A PRIMER ON VALUE

Here are a few basic points we ought to highlight when making the case for the overall value of rangelands.

Grazing lands account for over 100 million acres of Texas – the bulk of which are native rangelands. This makes native rangelands the largest component of our state’s 140 million acres of farms, ranches, and forestlands. Using the 2023 median price per acre reported by the Texas A&M Real Estate Center (\$4,625), we could value all the rural land in Texas at **\$647.5 billion**. If we were to consider this in terms of corporate value – a market capitalization – “All the Land in Texas, Inc.” would rank as the most valuable corporation in Texas (beating ExxonMobil). It would also rank as the 10<sup>th</sup> largest corporation in the world – just behind Tesla.



© Knox Kronenberg

Native rangelands are the largest landcover type in Texas. As such, they represent enormous value to the state’s economy.

Wildlife management and conservation have long been a focus for our rangelands. Establishing the value of wildlife to our economy is a tough exercise – what is wildlife worth to the state’s economy? One approach to this question is to look at the volume of economic activities related to hunting.

Rangelands con't.

Determining this “economic output” is exactly what researchers at Texas A&M did in a recent study on the statewide impact of white-tailed deer hunting.<sup>1</sup> The biggest volume of deer hunting occurs across our state’s native rangelands. For the 2022-23 hunting season, the Texas A&M survey showed that the state’s 554,900 white-tailed deer hunters spent \$2.7 billion directly on deer hunting, ultimately contributing to \$4.6 billion in economic output. When the operational expenditures of hunters that were also landowners were considered, they found an additional \$5 billion in economic output.

Altogether, the total annual economic impact of deer hunting just last season was **\$9.6 billion**. This is just for white-tailed deer hunting! Imagine what this figure might be if it included quail, wild turkey, pronghorn, waterfowl, and small game. Add to that the value of non-hunting wildlife activities and the economic value swells.

Wildlife aside, the most traditional and time-honored use of rangelands is for cattle ranching. Our state’s rangelands support 12.5 million beef cattle, making Texas the largest cattle producer in the nation, with over **\$10 billion in annual receipts**.

Perhaps the most difficult resources to value are the “Ecosystem Services” provided by these working lands. These are some of the public services of private lands including water, biodiversity, erosion control, flood mitigation, air quality, and carbon storage. Another recent study from Texas A&M has valued this collection of services at about \$629/acre annually.<sup>3</sup>

Many of these services are hard to capture and sell and mostly go unnoticed. But they are valuable contributions, and much of that

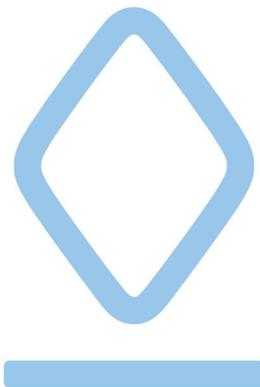
value can be attributed to native rangelands. Altogether, these ecosystem services were valued at over **\$89 billion annually**.

When it the comes to the idea of land stewardship and conserving native rangelands it is vitally important for us to understand the physical factors that drive long-term productivity – grazing, drought, and fire. It is just as important for us to understand the economic, social and policy factors that drive the future stewardship of rangelands. And we should remain prepared to express that “value” in many ways.

<sup>1</sup> Texas A&M University Department of Rangeland, Wildlife and Fisheries Management and Texas A&M Natural Resources Institute. 2023. Economic values of white-tailed deer in Texas: 2022 Survey- Part I and II. College Station, TX.

<sup>2</sup> Of the 2,800 landowners in the Texas A&M survey, 95% responded that they had a native free-ranging deer herd. This confirms that the economic values derived from deer hunting largely rely on extensively managed lands – mainly rangelands.

<sup>3</sup> Putman, A., R. Lopez, L. Smith, J. Uzquiano, A. Lund, D. Anderson, J. Gan, C. Ellis, J. Roberts, C. Kneuper, L. Ziehr and C. Ross. 2022. Texas ecosystem services: A statewide assessment. Texas A&M Natural Resources Institute, Research Report Number 2022- 1. College Station, Texas, USA.



## Upcoming Events

DECEMBER 6

Investment Committee Meeting in San Antonio, Texas

JANUARY 16

Board of Directors Meeting in Hebbbronville, Texas

FEBRUARY 13

San Antonio Livestock Exposition (SALE) Wildlife Seminar in San Antonio, Texas

FEBRUARY 21-23

Texas Chapter of the Wildlife Society in Houston, Texas

FEBRUARY 26 - MARCH 1

Behind the Gates at El Sauz Ranch

# Innovation for Stewardship - Addressing the Dilemma of Management in Rangeland Systems

JASON SAWYER

*The Innovator's Dilemma* by Clayton Christensen (1997) describes a challenging business problem – well established products (ideas, approaches) that meet the demands of established customers prevent their producers from making dramatic changes – it is too costly, too risky, or too alienating. This is often viewed as ‘entrenchment’ – and can allow a new approach to be ignored, and ultimately the innovative product takes the market away from the established incumbent that was unable to change.

Of course, this perspective usually comes from hindsight ... in the moment, the ‘proven solution’ is pretty difficult to reject. If something has ‘always worked’ then changing to a less-proven or less-refined solution can seem irrational. That is, until conditions change around you, and the ‘tried and true’ is no longer the optimal solution.

Managers in rangeland grazing systems can be faced with a similar dilemma. Established grazing strategies – even long-term, continuous overstocking is a strategy – that have seemed effective can be difficult to change. New approaches may impose costs for infrastructure development, reduced revenue from reduced headcount, or require costly inventory liquidation and replacement. Because these costs are real, and the benefits of a potential new system unproven, the risks can seem larger than the rewards of innovation in grazing management.

Rangeland systems are characterized by variability – rainfall, temperature, and productivity can vary substantially from year to year (Fig. 1). Static grazing strategies, even at conservative stocking rates, will eventually crash as a result of this variability (see [Management Bulletin #3](#)). And even though we can characterize this risk (see [Management Bulletin #7](#)), it can be difficult to innovate grazing strategies, because benefits of a new strategy can be incremental at first, hard to observe, and perceived risk of change is high.

Christiansen suggests that the solution to the Innovator's Dilemma is purposeful experimentation in a small part of a company. At East Foundation, we have dedicated a unit of the San Antonio Viejo Ranch, the Coloraditas Grazing Research and Demonstration Area, to be the ‘internal incubator’ for innovation in grazing strategies for our ranches.

Putting science to work, we construct experiments in this unit that let us compare strategies and

identify approaches that might better meet our objectives for land stewardship, livestock production, and wildlife management. We are currently evaluating an approach to ‘quantitative adaptive management’ where data drives our decision-making on annual stocking rates, in both continuously grazed and a purposefully designed deferred rotation system.

As we collect data from these systems, we can incrementally improve the new strategy and define benefits, and then translate this learning to the management of grazing units across the rest of our operations. Using the ‘management by experiment’ mindset, we test new approaches and avoid the entrenchment of the tried – but not always – true.

Ultimately, successful innovation in grazing management will protect and improve our soils, increase our carrying capacity for livestock and wildlife, and enhance the resilience of these systems to disturbances and variability inherent to ranching in South Texas.

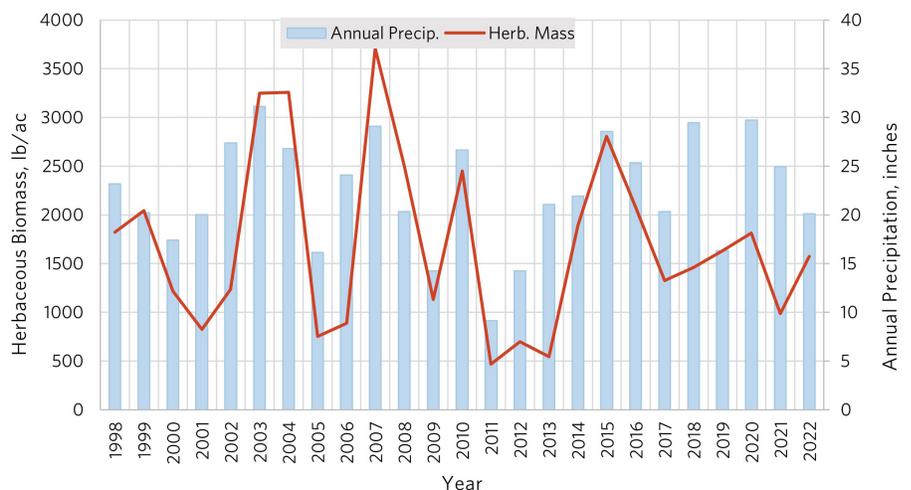


Figure 1. Herbaceous biomass and annual precipitation 1998 – 2022 in the Coloraditas Pasture, San Antonio Viejo Ranch, indicating the high variation in annual carrying capacity.

## FROM THE RANCH

# Sustainable Cattle Production Systems

GARRETT STRIBLING

Texas has 140,000 square miles of ranchland and the largest cattle herd in the nation. This land is a rich part of our heritage and a huge economic driver for the state. It has been shaped by weather patterns, fire, and grazing into the landscape we utilize today. This vital resource has provided a livelihood for generations of ranching families.

Keeping ranches intact provides critical habitat for wildlife, with few examples better than what we have here in South Texas. The vast tracts of land were originally put together years ago for the purpose of cattle ranching. At the time, wildlife was abundant across most of the state, so the focus was on the cattle business.

In good years, ranches would expand, putting more land under their management. This economic driver of the cattle business shaped our landscapes. These ranches provide essential wildlife habitat and over time, game species have become an additional economic driver for landowners.

Ranchers were some of the first to implement and champion wildlife conservation practices. Wildlife species have co-existed with cattle since the Spanish first introduced them. Cattle grazing across the landscape impacts the species diversity of plants as cattle utilize lower-quality forages that wildlife species will not, hoof action creates micro disturbances, and cattle can spread seeds through manure and trampling.

At East Foundation, we utilize rotational grazing across our ownership. This allows us to provide cattle with access to the highest

quality forage available when their nutrient requirements are the highest, including calving and early lactation. When cattle leave a pasture, it won't be grazed again for months or even a year, depending on the herd and weather conditions. This rest period allows for recovery of grasses as well as forbs preferred by multiple wildlife species.

We also utilize cattle where we have more invasive species of grass to open country and allow native species of grasses and forbs a chance to become established. Cattle are one of the many management tools available to ranchers to improve their land resource for both increased cattle production and improvement of wildlife habitat.

Sustainable cattle production systems built the landscapes that we now utilize. From economic drivers of the business to the actual grazing and hoof action of the cattle themselves, they have left an imprint on the culture and history of our state. The landowners that run these systems to build and grow their ownership serve as the framework for wildlife conservation.

Wildlife species thrive on unfragmented rangelands, and these rangelands can remain intact because of the opportunities they hold for both cattle production and wildlife conservation.

## EMPLOYEE PROFILE



AIDAN TAUTGES

Aidan Tautges was born and grew up in Merrill, Wisconsin, and attended the University of Wisconsin-Madison. As our Lead Wildlife Technician, Aidan leads the team that traps quail, prepares for harvest season, accompanies hunters to collect data, tracks coveys via radio telemetry, and surveys quail. He enjoys participating in helicopter surveys, learning from the cattle team and science team, and working with quail because he loves birds.

Before he worked for the Foundation, Aidan worked with Madison Audubon helping manage Wisconsin prairies and control invasive species. After graduating with his bachelor's degree, he worked in the North Dakota prairie pothole region and assisted a PhD student in his research in meadowlark nesting habitat. He banded meadowlarks, identified their nests, and monitored the nests throughout the nesting season. Last winter, Aidan worked with us as a Quail Research Technician, and we're glad he's continuing his work with us.

In his free time, he likes to read, travel, play basketball, and photograph wildlife.

## ALUMNI PROFILE



MATHEW KRAMM

Mathew Kramm was born and raised in Texas, calling San Antonio home. Mathew was raised in a military family that promoted hard work, honesty, and service to others. Mathew has carried these core values with him throughout his academic career.

Mathew obtained his B.S. in public health from the University of Texas at San Antonio, with aspirations of studying infectious diseases. Mathew furthered his studies by attending Texas A&M University and was the recipient of the Louis Stokes Alliance for Minority Participation Fellowship (LSAMP).

He graduated from Texas A&M with a M.S. in Wildlife and Fisheries Sciences, researching the use of ivermectin in supplemental feed for white-tailed deer to mitigate cattle fever ticks. Mathew conducted his thesis field research on the East Foundation's El Sauz Ranch near Port Mansfield, Texas.

During his 15 months working with the East Foundation, he collected data on ivermectin use and baiting trap methodologies in various types of rangelands. Mathew developed many

skills related to field research and collaborated with many research professionals while at the Foundation. Mathew credits his time at East Foundation for promoting his passion for research in wildlife and rangelands.

Mathew is currently in the final year of his Doctor of Public Health (DrPH) in the Epidemiology & Biostatistics department at Texas A&M University's School of Public Health. Mathew has blended the nexus of human and animal health through his time at Texas A&M University and East Foundation.

### **In his own words:**

"My entire goal entering graduate school was to attempt to understand the animal and human health aspect of infectious disease, and how both strata coexist. I believe you cannot fully understand human health without a solid foundational knowledge of animal and environmental health relationships. East Foundation provided that critical foundation and put my academic aspirations in motion.

While at East Foundation, I developed as a researcher and met my current academic advisor. I made many memories while studying at the East Foundation and had the unique privilege of researching with my father while pursuing my M.S. degree. I am forever grateful to East Foundation, faculty, and staff for providing the resources and allowing me to continue my education."

## PARTNER SPOTLIGHT

# Makena Capital Management

JOSEPH MAGHER

Makena Capital Management (Makena) is a global investment management firm based in Menlo Park, California. The senior executives that successfully managed the Stanford University endowment in the early 2000s launched Makena in 2006 to provide the investment expertise and scale of the large endowment model, including access to premier investment managers, to smaller and medium-sized endowments and foundations. Currently Makena manages approximately \$18 billion in assets on behalf of over forty-five endowments and foundations as well as ultra-high net worth families and other institutions.

In 2015, the East Foundation selected Makena as one of its endowment investment managers. After working closely for over two years, Makena evolved into the Foundation's Outsourced Chief Investment Officer (OCIO), assuming fiduciary responsibility for the entirety of East's endowment portfolio. After an extensive evaluation process to assess our needs and objectives, Makena constructed a portfolio designed to meet the Foundation's long-term investment goals.

The Makena team visits the East Foundation in San Antonio regularly to provide updates to the Investment Committee and ensure its goals are met. Over the years, they have enjoyed conducting meetings at the San Antonio Viejo and El Sauz ranches, observing students in action at Behind the Gates, and sponsoring special program initiatives for East Foundation. Makena looks forward to continuing to help support the Foundation's initiatives for years to come.

## RAINFALL REPORT

# Modoki El Niño?

TODD SNELGROVE

The weather forecasters got it right back in August. As predicted, most of South Texas remained dry through September with only isolated patches of significant rainfall. With the onset of fall, forecasters predicted a shift to a cool and wet El Niño weather pattern. October and November were kind to us with widespread rain and cooler temperatures across the region. Our Jim Hogg and Starr County ranches received 5 to 10 inches while our Kenedy and Willacy County ranches received 7 to 11 inches.

Does this mean we can expect classic El Niño conditions through the winter?

That has been a hotly debated topic in the weather forecasting world.

The El Niño Southern Oscillation (ENSO) arises from a complex interaction of a variety of climate systems. During a typical El Niño, trade winds weaken, and warm waters are pushed back across the Pacific along the equator to the west coast of the Americas.

Over the last couple of months, sea surface temperatures in this region have cooled and the Multivariate ENSO index, a measure of intensity, has decreased leading some meteorologists to think the El Niño is weakening or reverting to neutral conditions. Considering the

Pacific Decadal Oscillation is in a negative phase, others think this is an indication of a Modoki El Niño. “Modoki” is a Japanese word that means “similar but different.” So, what does this mean for our South Texas winter?

Obviously, global climate patterns and their impact on regional weather are extremely complicated. To simplify the process meteorologists, analyze similar weather patterns from the past—called analogs. Based on these analogs, the current forecast for South Texas is a cold, damp winter. Similar to, but different than, the cool, wet winters a typical El Niño brings.

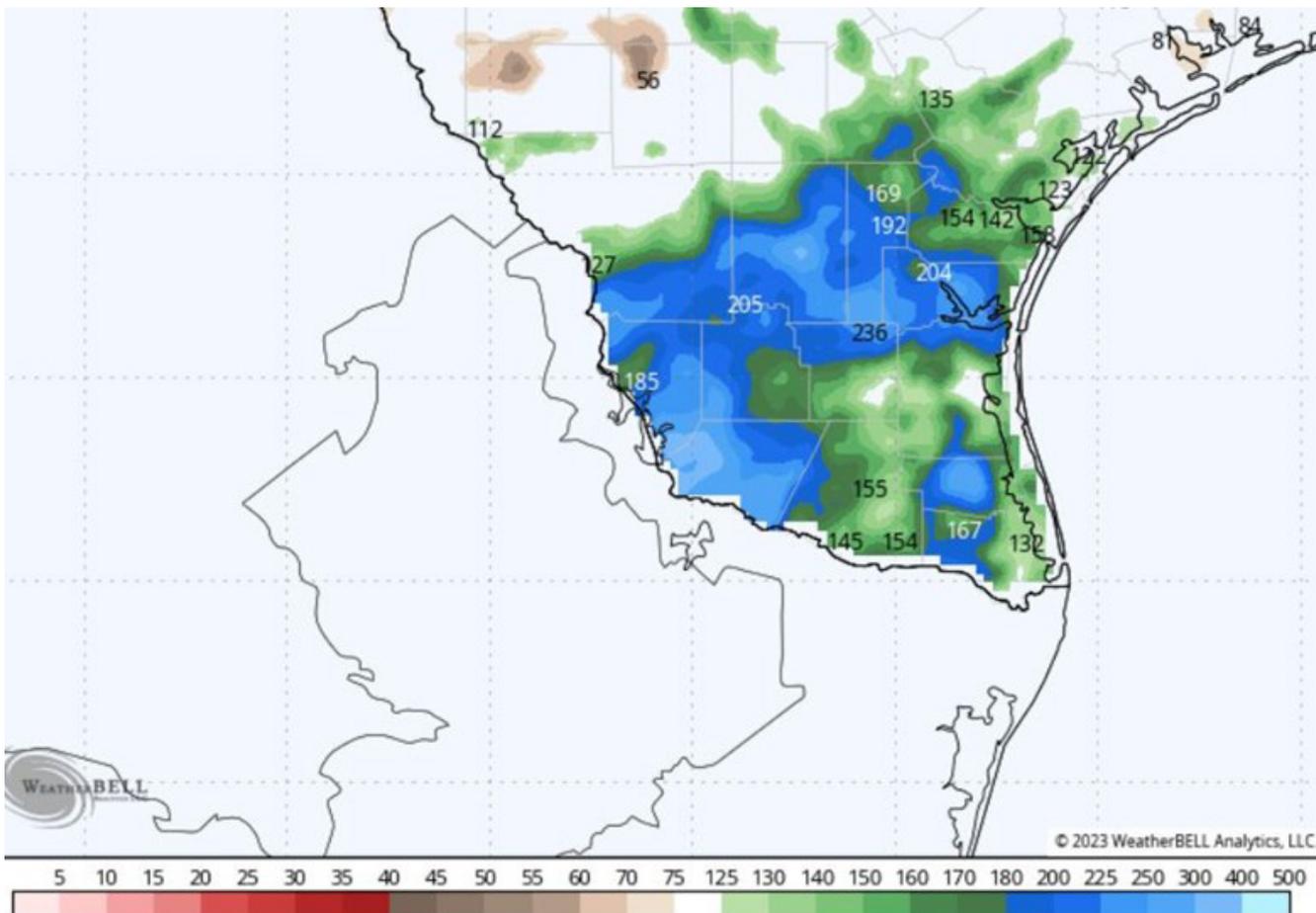


Figure 1. 60-Day precipitation anomaly (Percent of Normal) for deep South Texas as of November 27, 2023.



 **East**  
FOUNDATION

200 Concord Plaza Drive  
Suite 410  
San Antonio, Texas 78216



[eastfoundation.net](http://eastfoundation.net)