



# **FEBRUARY 2020**

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

## FROM THE CEO

# **Deer & Drought**

**NEAL WILKINS** 

This weekend I finally read an extensive research monograph that had been in the stacks on my desk for several months. The title - Linking white-tailed deer density, nutrition, and vegetation in a stochasitic environment – let me know that I had to be in the right mood for this read. The work was done by some of our state's top wildlife scientists at the Caesar Kleberg Wildlife Research Institute at Texas A&M University - Kingsville. These scientists tied together the results of several experiments they conducted over a nine-year period across the Comanche and Faith ranches in Dimmit County - this is in the semiarid brush country of South Texas, and is known for some of the best white-tailed deer habitat in the state.

Before pointing out a few of the interesting findings from this work, we need to unpack what is meant by a "stochastic environment." In this case, it simply means the place has a highly variable rainfall pattern that is not easily predictable. Or to otherwise state it, the area has frequent dry spells, periodic

droughts, and a few wetter years in between – none of which can be reliably predicted.

While the officials at the National Oceanic and Atmospheric Administration (NOAA) can get a little detailed on the various levels and definitions of drought (actually making a distinction among meteorological, hydrological, agricultural, and socioeconomic droughts), I find it useful to use the definition from Elmer Kelton in his classic story, *The Time it Never Rained*:

"Drouth by Texas definition is a period of severely deficient moisture that laps over from one year into another. Often it is of two to three years' duration. Anything shorter, though it may seem serious, is termed a dry spell, as if more annoyance than hardship."

With that out of the way, let's talk about some of what these scientists learned. In one experiment, they compared the detailed diets of deer at high vs low densities – a deer per five acres versus a deer per 19 acres.

This was over nine years, spanning both dry and wet periods. For the part of the study I will talk about here, the deer depended entirely on natural vegetation – so they got no supplemental feed.

When comparing deer diets in the high vs low density situations, they found very little difference. But when comparing deer diets in drought versus wet years, they found substantial differences. Most notably, during wet years, deer relied less on the browse of woody shrubs, preferring instead to forage on the more abundant forbs available in wetter years. The consequence was a 30 to 50% increase in protein intake during all but the summer months of wet years. They also found that the protein content in deer diets during dry years was generally inadequate for supporting fawn production, and could only meet maintenance requirements (i.e., just enough to survive).

During dry years, deer were mainly subsisting on thorny shrubs, cactus flowers, mesquite beans, and cactus fruits. This gave these animals enough energy to survive, but not



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enough protein to reproduce. Does were only able to get the extra nutrient requirements they needed for late-term pregnancy from the sporadic growth of forbs in wet years. This explains much of why fawn crops are so sporadic in parts of South Texas.



Does and their fawns on the San Antonio Viejo Ranch.

After nine years, the vegetation remained similar regardless of deer density, a result that is counter to what would be expected in other parts of this species' range. Throughout much of North America, we expect that high deer densities over a relatively long period would create competition for preferred forage and finally cause degraded habitat, poor body conditions, and so on. In other words, deer density ultimately influences the quality of deer diets through competition and habitat change.

This study suggests that, in the native rangelands of South Texas, it is fluctuations in annual rainfall, rather than deer density, that influence the quality of deer diets and available forage. And further, the impact of drought likely sways a deer herd's age structure due to sporadic reproduction. The obvious conclusion is that white-tailed deer in this part of South Texas are limited by drought, and they are not likely to benefit from population reductions (i.e., heavy harvest pressure) as a drought management response. This is because the plants preferred as deer forage are not likely to increase when the deer population is reduced. This

is counter to what is generally experienced as the benefits of deer population management for the habitat quality for white-tailed deer in most other parts of its range.

Above, I describe only a small part of the findings from this work note that I did reword some of the findings, and tried not to stretch the interpretations beyond where they should apply. There was a significant part of this study that addresses the implications of artificial feeding - I didn't describe that there, but it is as just interesting, so you may choose to read the original work yourself. If you do, keep your eyes open for this simple take-home message: Native rangelands are shaped by climatic conditions, and this means that individual species of wildlife and plants adapt such that they behave differently under different systems. In other words, just because you know something about deer in one place, doesn't mean you know the same thing about them everywhere.

You can access the full publication here: <a href="https://wildlife.onlinelibrary.wiley.com/doi/full/10.1002/wmon.1040">https://wildlife.onlinelibrary.wiley.com/doi/full/10.1002/wmon.1040</a>

## **COWS & DROUGHT**

Scientists and managers with the East Foundation recently wrote a paper that will soon be out in the publication Rangelands. Cattle ranching in the "Wild Horse Desert" - stocking rate, rainfall, and forage responses is a chronicle of the lessons learned in the establishment of a large grazing experiment on the East Foundation's San Antonio Viejo Ranch. The theme of recurring drought being an overriding influence again takes center stage. In this case, the idea of establishing consistent cattle stocking rates was shown to be unrealistic due to the influence of drought. Through a drought, there was simply not enough quality forage to support the nutritional requirements for reproduction. Sound familiar?

## PROJECT PROFILE

# Life in the Thornscrub: Movement Ecology of the Reticulate Collared Lizard

TYLER CAMPRELL

Reticulate collared lizards are state listed as threatened in Texas. The species' geographic range is limited to mostly private lands in the Tamualipan biotic province of South Texas and adjacent Mexico.

and 2017 and observed 47 individuals.

Captured 28 individuals by hand under rocks, by noose during peaks of activity, and by pitfall

trap in one instance.

- Fitted 18
  adult lizards
  (13 males
  and five
  females) with
  a harness
  containing
  a VHF
  transmitter
  and GPS
  transmitter.
- Monitored movements, activity, home ranges, and microhabitat use of 14 harnessed adult lizards (10 males and four females).

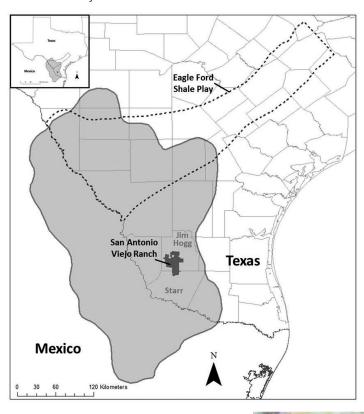
- No home range overlap occurred among females.
- Lizards used day and night microhabitats with a gravel substrate and scattered boulders that were covered by a short overstory of woody plants and cacti, rather than more heavily vegetated sites with dense grasses and forbs.

# What this means:

- Reticulate collared lizard populations are stable because large ranches within South Texas have restricted development. Ranching practices within the region have remained largely unchanged for decades where this lizard is known to occur.
- Populations of reticulate collared lizards on the San Antonio Viejo Ranch were robust over the three-year study showing all signs of recruitment and health.
- The active foraging style and associated movement, home
  - range, and territoriality traits of reticulate collared lizards suggest that the effects of energy-driven habitat loss and fragmentation needs further research.
  - The stewardship of private ranches is critical to the sustainability of this large, charismatic, and mobile lizard.

Partners: Biodiversity
Research and Teaching
Collections, Department of
Wildlife and Fisheries Sciences,
and Natural Resources Institute at
Texas A&M University.

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Map of current reticulate collared lizard distribution (gray) in Texas and Mexico.

Key conservation concerns for the species are expanded gas and oil extraction and exotic grasses, such as buffelgrass. Information on reticulate collared lizard movement, home range size, and microhabitat use are needed to identify conservation priorities and enhance engagement with private landowners, who are the primary stewards of this species.

# What we did:

 Conducted driving and walking surveys on the San Antonio
 Viejo Ranch during 2015, 2016,



Example of telemetry harness attached to reticulate collared lizard on the San Antonio Viejo Ranch.

# What we found:

 Male reticulate collared lizards moved longer distances and maintained larger home ranges and core areas than females.

## RANCHER RESOURCES

# 2020—Another Year, Another Drought?

## TODD SNEIGROVE

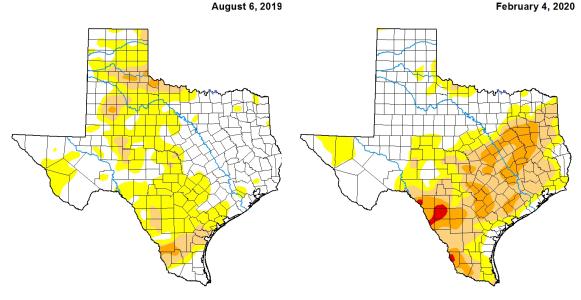
A while back I stumbled across a quote from the early 1900's attributed to Isaac Monroe. the chief meteorologist at the Galveston office of the U.S. Weather Bureau from 1889 to 1901 who went on to become an early pioneer in hurricane and flood forecasting. Cline said. "Texas is a land of eternal drought interrupted occasionally by biblical floods."

I was reminded of this earlier this week while on the Santa Rosa Ranch finalizing plans for our next round of prescribed fires, right-of-way maintenance, and fencebuilding.

On the surface spring is well under way. A recent round of grey, drizzly weather has provided a little surface moisture and made for wet boots. Huisache and blackbrush are blooming, winter forbs are abundant, and the warm season grasses are starting to wake up—the land looks good. Taking a closer look, I turned over a shovel full of dirt and noticed there was not much subsoil moisture.

May 7, 2019

November 5, 2019



The lagunas that this time last year covered hundreds of acres with several feet of water and were home to thousands of over-wintering ducks are just about dried up. The "biblical" floods of 2018 gave way to drier conditions in 2019. Our coastal ranches; the El Sauz and Santa Rosa, held strong with timely rains while the San Antonio Viejo further west began flirting with the drought that

covers most of south Texas in late spring and was fully engaged by the fall of 2019. Based on the last two years it appears Isaac Monroe's assessment still rings true a century later.

Wild swings in south Texas weather conditions are not unprecedented—in fact they are normal. A quick analysis of rainfall records for the San Antonio Viejo in Jim Hogg

county over the last 50 years yields some interesting insights:

- Annual rainfall ranges from a low of 8.6 inches to a high of 37.7 inches
- Normal annual rainfall is 21.7 inches while the median, or midpoint of the frequency distribution is lower at 21.1 inches
- 60% of the time we are below our nine-month running average of rainfall
- On the other end of the spectrum, one in 10 years we receive 1.5 times our normal rainfall
- In one out of every 20 years, we receive nearly double our normal rainfall marked by flood events of 15 inches or more.

What does this mean for the rancher and rangeland manager?

It may mean a change in mindset. The first step is embracing the fact that "below normal" rainfall is indeed the norm. This change in mindset enables us to take the next step: proactively managing for drought rather than reacting to the next drought. This problem is not a new one.

At East Foundation our team of managers and scientists is working on solving this problem by focusing on those factors that threaten the productivity of native rangelands. A significant component of this is evaluating sustainable stocking

rates and innovative grazing systems and answering questions important to landowners—are these systems sustainable? Is it economically viable? Do they promote rangeland health? What is their impact on important game species like bobwhite quail and white-tailed deer? By focusing on these types of questions we make them relevant and increase the likelihood of other landowners adopting new practices.



Productive rangelands at El Sauz Ranch create ideal conditions for white-tailed deer.

The long-term weather forecast for south Texas is uncertain. Some predict improvements in drought conditions and others warn of the onset of a La Niña that could deepen the existing drought—the facts are no one knows. I do know this—East Foundation and its team of science-minded land stewards will continue working on those problems most important to landowners ensuring ranching and wildlife conservation are sustainable for generations to come.

# **Upcoming Events**

#### MARCH 6

CKWRI Deer Research Meeting

#### MARCH 17

Investment Committee Meeting in San Antonio.

#### MARCH 23-2

Professional Advisors Meeting at the El Sauz Ranch.

#### MARCH 24-25

Board of Directors Meeting in Port Mansfield

#### MARCH 26-29

Cattle Raisers Convention and Expo in Fort Worth. East Foundation will be represented and staff a booth at the event.

## APRIL 15

Texas Tech Chapter of The Wildlife Society meeting ir Lubbock.

#### APRIL 25

Harvey Weil Sportsman Conservationist Award Ceremony at the Welder Wildlife Foundation Refuge, outside of Sinton.







# ANDREA MONTALVO

Andrea is originally from the coastal town of Winthrop, Massachusetts. She gained an admiration for the outdoors on the coasts and in the forests throughout New England. After she spent her freshman year majoring in Communications at Boston University, she realized she wanted to pursue a career in wildlife. She completed a B.S. at the University of Vermont, where she majored in Wildlife and Fisheries Science. During her time in college and briefly after, Andrea worked in Vermont and Massachusetts on environmental education and land stewardship and conservation.

Andrea moved to South Texas for an internship in wildlife management and stayed to pursue two graduate degrees. Andrea completed an M.S. in Range and Wildlife Management and a Ph.D. in Wildlife Science at the Caesar Kleberg Wildlife Research Institute (CKWRI) at Texas A&M University-Kingsville. Andrea's Master's research was focused on a large-scale survey and assessment of helminth infections in Northern Bobwhites in the Rolling Plains. Andrea's Ph.D. work with the East Foundation centered around a large-scale, long-term,

cattle grazing demonstration. Throughout the experiment, Andrea was in charge of monitoring bobwhite density and distribution as well as the vegetation in response to grazing treatment and time. As an employee of the East Foundation, Andrea continues to monitor these variables through time and works with other East Foundation graduate students, technicians, and interns on various aspects of the ranch's research program. Andrea married her husband Wayo in 2018 and lives in Hebbronville, Texas.

#### In her own words:

"Completing my graduate project with and on the East Foundation allowed me to figure out the type of research I was interested in conducting. I immersed myself in rangeland monitoring and plant identification, which gave me a better understanding of range response to grazing practices. As I graduate student, I worked with students and technicians that helped me better understand the ecosystem I had been living in for the past six years. I was able to attend a workshop on population estimation in Scotland to help provide the Foundation with more precise density and abundance estimates when monitoring wildlife populations. My experience with technology, field sampling, and management of my own research and data significantly improved throughout my four years as an East Foundation graduate student.

I am proud to work for the East Foundation and hope to help advance the understanding of the role working lands play in range and wildlife conservation."

## RANCH REPORT

# **Continuing Cattle Education**

GILLY RIDIAS

The new year brings new goals. January through July is the busiest time of year for cattle workings. January and February have been dedicated to working our fall cow herd. We're branding calves and pulling bulls off fall cows. These baby calves will be turned back with their mother to continue to grow until they are weaned in late April or early May.

January and February are typically our driest months. Fortunately, we have managed our pastures in a way that we have sufficient forage available for the cattle. Cattle conditions are good, and we hope for a rainy spring and the potential of green grass. During the spring we will ship stocker cattle, sort replacement heifers, perform a soundness evaluation of bulls, wean fall calves, and brand spring calves.

The East Foundation invests a lot of time working cattle and managing our cattle herd. We are constantly committed to continuing education of our staff on the latest cattle handling equipment, inventory management systems, and animal health protocols. For example, we send Foundation staff to the National Cattlemen's Beef Association convention in San Antonio and the Texas and Southwestern Cattle Raisers convention. Both organizations provide educational programs that benefit livestock producers and enable our staff to make better informed decisions with the management and animal husbandry of our cattle herd.

Because safety and security of our cattle herd is of the utmost importance to the East Foundation, our entire ranch staff goes through Beef Quality Assurance (BQA) training.

"Beef Quality Assurance is a nationally coordinated, state implemented program that provides systematic information to U.S. beef producers and beef consumers of how common-sense husbandry techniques can be coupled with accepted scientific knowledge to raise cattle under optimum management and environmental conditions. BQA guidelines are designed to make certain all beef consumers can take pride in what they purchase – and can trust and have confidence in the entire beef industry."

There are three key points of Beef Quality Assurance:

- Empowering people because producers can make a difference.
- Taking responsibility because it's our job, not someone else's.
- Working together because product safety and wholesomeness is everyone's business.

As part of this initiative, all of our ranches staff will attend a BQA education event at our Casa Rojo facility on the San Antonio Viejo Ranch on April 1st. Education never stops and the managers and scientists at East Foundation are constantly striving to develop better methods in cattle management and continue to focus on proper care and treatment of all our animals.

# EMPLOYEE PROFILE



MOLLI FOXLEY

Molli was born in Omaha,
Nebraska. She's moved around
quite a bit, and although Texas
is the sixth state she's lived in,
she's enjoying the wide-open
spaces. Before coming to the
East Foundation, Molli lived in
Louisiana while working on her
bachelor's degree in Animal
Science at Louisiana State
University. While at LSU, she
worked with their Beef Unit.

At the Foundation, Molli is the Assistant Livestock Manager. She splits her time working cattle and assisting with cattle education. Molli cares for the northern portion of San Antonio Viejo and Coloraditas. She participates in all cattle workings and assists with herd health purchasing and protocols and cattle inventory. She assists the education team with field lessons and Behind the Gates, where she creates new curriculum to teach children the importance of ranching and its positive effects on us and our environment.

Molli enjoys working at the Foundation because she gets to do what she loves every day. Although cattle work has not always been her passion, it's something she wants to do for the rest of her life.

## RAINFALL REPORT

# **Cross Your Fingers for April Showers**

# ALLIE BIEDENHARN

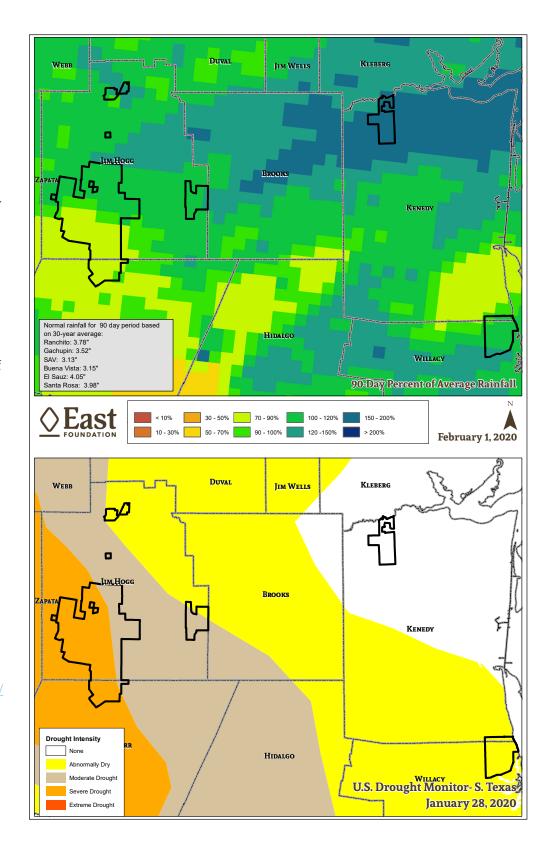
Punxsutawney Phil did not see his shadow this year, predicting an early spring. Can we start the rumor that if the south Texas Chupacabra sees his shadow, we will have a rainy spring?

Knowing how quickly rangeland conditions can deteriorate, we use the 90-day percent of normal rainfall as an indicator of short-term drought conditions.

Even though the majority of the San Antonio Viejo Ranch received 75-115% of average rainfall over the past three months, drought still remains a concern with the majority of the ranch classified as Severe Drought by the United States Drought Monitor.

On a happier note, El Sauz and Santa Rosa ranches have received average to almost double the average rainfall over the past three months. El Sauz continues to be in abnormally dry conditions while Santa Rosa is clear of any drought.

For more information on drought and other weather events or to view information specific to your part of the state please visit: <a href="http://climatexas.tamu.edu/drought\_maps/index.html">http://climatexas.tamu.edu/drought\_maps/index.html</a>.



## FIELD OPERATIONS FILE

# **New Construction and New Students**

CHRIS HUFF AND TREY DYER

## INFRASTRUCTURE

Construction is coming along on the new El Sauz Headquarters building. When complete, the building will have two 1,200 sq. ft. living areas, as well as a 1,200 sq. ft. shop. One living area will be dedicated to researchers who are performing work on the property. It will have three bedrooms, four bathrooms and sleep 12 people. The other 1,200 sq. ft. living area will be for East Foundation's ranch personnel. The shop area will have two restrooms that can be used by our educators when conducting field lessons at El Sauz.



Research students and East Foundation Ranches employees can utilize the new El Sauz Headquarters for housing.



16-foot covered wings will allow for keeping equipment and vehicles out of the rain.

Having a shop on-site will help the Foundation to better maintain its equipment and vehicles that reside at El Sauz. Additionally, each side of the building will have a 16-foot covered wing allowing for out-of-the-weather parking of equipment and vehicles.

As of this article, the building has been erected and framing, plumbing, electrical and HVAC have all been completed. Having a headquarters building at El Sauz will help the Foundation maximize flexibility to respond to emerging opportunities and more effectively conduct research and deliver

education programs.

# INTRODUCTION TO RANCH AND SAFETY RULES

We believe that the greatest assets that we have on our properties are our employees and guests, which includes our researchers. In an effort to keep these people safe, each time we receive a new group of researchers onto our properties, our staff provides them with a thorough introduction to our ranch and safety rules.

Our Research Scientist, Andrea Montalvo, welcomes the researchers and begins the introduction presentation by going over the general rules and guidelines for the new researchers. It includes the following:

- Ranch Rules and Assumption of Risk Forms
- Access Rules
- · Firearms Policy and Rules

This is followed by our Service Manager, Jason Haynes, providing the researchers with rules regarding vehicle maintenance and safety and bunkhouse rules. The rules include the following:

- · Vehicle and XUV Speed Limits
- Driving Hazards
- · Vehicle and XUV Maintenance
- Bunkhouse and Trailer Rules
- Garbage Disposal

Matt Robinson, our Security Manager, provides the researchers with the following Ranch Safety information:

- Emergency Contact Information (phone numbers, Halo flights and sites)
- Hazards (snakes, bees, brush, heat, UDAs, old structures and wells)
- Zero Tolerance on Drugs and Underage or Excessive Drinking
- Domestic Animals

# **SECURITY REPORT**

# The Balance of Luck

## MATT ROBINSON

Methods and areas of smuggling are constantly changing. Buena Vista and Ranchito have always been the most active, but the methods have changed. Instead of dropping undocumented folks off somewhere south and letting them walk through the ranch country to be picked up north of the checkpoints, they are being driven through in vehicles. We have had a number of incidents in which our fences have been cut or just driven over on Ranchito around a quarter mile from my house.

The smugglers seldom use roads. They cut through, driving over and through the thick brush. A few have been caught, but many have gotten away. It just makes you appreciate the dedicated Border Patrol agents that have to deal with these criminal smuggling rings day in and day out.

We have hosted a couple of law enforcement activities at San Antonio Viejo in the last couple of months. Texas Highway Patrol held an overnight area meeting.

Game Wardens used our facilities to house around 12 officers during a border operation.



It's a packed house at the San Antonio Viejo Lodge!

We really enjoy having these folks around and getting to know them better. It has really enhanced our security and enlarged the team helping protect our people and assets directly and indirectly. Here's an example I call *The Balance of Luck*.

I was patrolling the south end of San Antonio Viejo for illegal peyote harvesters and trespassers. DPS Sgt. Jose Garcia called and asked if we could meet.

Meeting with Sgt. Garcia took me away from what I intended on doing that afternoon, but I made the drive through the ranch and met him at the Pollo Loco gate on 649. This turned out to be luck balanced toward the good guys, because it took me to the proper area. We visited and then went our separate ways.

Since it was too far and too late to return to peyote country, I patrolled the perimeter fence in my very quiet Honda UTV in the Guerra area. As I was driving down the fence line cutting sign, a high powered rifle was discharged so close it made me jump. The shot was fired from the fence line approximately 30-50

yards ahead of me. I assumed it was a hunter on the neighbor's property that had just shot something on their property. I continued to the location where the shot was fired and out of the corner of my eye saw two men laying and crab-crawling behind a cactus trying to hide from me.

I stopped and said, "Hey, guys. How are you doing?" They just kept trying to hide. I said, "C'mon guys. I can see you. I am only 10 feet away."

As they got up, I was still thinking they shot at something on their side. I asked, "What did ya'll shoot?"

They replied, "We didn't shoot!" and kept repeating it adamantly. I walked a little further and looked down a sendero in our property. I saw a buck deer laying approximately 50 yards away, that they had just shot.

I pointed at it and said, "That deer would disagree with you about not shooting." (Balance tilts to the good guys.)

I told them, "I would need to see some ID." They were on the other side of our perimeter high fence. They started gathering their things and walking away. I repeated the need for their identification.

Long story short: They ran off. I got no ID. (Balance tilted to the bad guys.) I did not pursue because I was unsure of what my credentials allowed. I know what I can do now and that will not happen again!!! I probably will pull a muscle climbing the fence, but they will know an angry and mean old man is after them. I called a number of game wardens who were responding but were all guite a ways off.

So, while I was waiting for them to arrive, I decided to go take care of the poached deer. I turned to walk down the sendero, but there was no deer. There was a scuffed mark where it had lain, but not a drop of blood, hair, or anything. It had gotten up and run off. That luck balance was shifting the wrong way.

So, I returned to the fence where they shot. I could see through the

fence where they left good footprints and a 270-shell casing that would be helpful as evidence. Only problem was, their cows thought that I was there to feed them and were trampling all of the footprints. I also heard a vehicle start up and speed away on FM 649. I assumed they made it back to their vehicle and were leaving the area in a hurry.

Game Wardens, Carlos Maldonado, Chuck Daugherty and Eric Cooper showed up and started working the case. It turned out that two Border Patrol agents, Darren Garza and Carlos Sanchez were in the area watching for smuggling activity. The agents saw a truck leave the area in a very rapid manner and noticed its description. (Luck shifting back to the good guys).

From their surveillance position, they noticed the wardens arrive. Agent Garza called Warden Maldonado to see what was going on and was able to relay the truck description to Carlos. This information was relayed to Game Wardens Dennis Gazaway and Matt Maloney, which caused them to set

up south of the area to intercept the vehicle.

I wasn't with Carlos and the other wardens from this point on, but here is what was relayed to me: They found out who the landowner was, called him, found out he had a son and got the son's name. Through Carlos' CSI contacts and Chuck Daughtery's Facebook forensics, they were able to find out that the son had a truck matching the description given to them by Border Patrol Agent Garza. Wardens Michael Patrick and Jared Lewis patrolled to the address on the truck registration in Rio Grande City attempting to locate the truck and the suspects.

Eventually after a number of hours of investigation and interviews, they found the son and the shooter that was with him. With the help of Game Warden Captains Mark Vela and Javier Fuentes, and Game Warden Clint Graham, they had the complete story and video confessions from the two men by midnight.

The shooter had stashed the gun in the brush as he ran from the scene. Game Warden dog handlers, Derek Nalls and Royce Ilse, backed up by Game Warden Kyle Hendley performed an article search with their two dogs to find the gun and equipment left behind. The dogs did great and found everything. It took a lot of different things to make this case happen. The balance of luck came into play, but the dedication, persistence, professionalism, and teamwork between law enforcement agencies tipped the scale to the side of the good guys.

Many other security issues happened since the last newsletter. Here are a couple.

The security manager drove through a sinkhole. They are hard to see!

There was a bad rollover wreck on FM 186 causing fence damage at El Sauz.

Lastly, even the "domestic animals" on this ranch have attitude. A researcher was bitten by one of the ranch horses. Be careful of all animals on the properties.