

DESERT TRACKS

BORDERLANDS
RESEARCH ♦ INSTITUTE

CONSERVING THE LAST FRONTIER

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Cattle Grazing: A Tool to Promote Pronghorn Habitat

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Pronghorn once roamed the grasslands of North America among bison. American bison exhibited a high-intensity/low-frequency grazing pattern, moving into an area in high numbers and traveling to a new range after a short time. Pronghorn evolved and adapted to coexist with bison. Currently, the bison's grazing role in grassland ecosystems has been replaced by livestock, primarily cattle.

This study evaluated three cattle grazing regimes in relation to forbs. We measured differences in forb biomass production, protein levels, and energy values across continuous, rotational, and non-grazed systems on Dixon Water Foundation's Mimms Ranch, near Marfa, Texas.

The continuously grazed pasture encompassed 2,121 acres, accommodating 30 head of cattle year-round. The rotationally grazed portion of the ranch was composed of 34 pastures averaging 258 acres each, which were grazed by 180–190 head of cattle for two weeks, allowing pastures about 16 months of rest before being grazed again. Additionally, we sampled from 16 non-grazed 1-acre pastures scattered throughout the property.

For pronghorn, the ideal situation is to have an abundance of high-quality forbs. Results from our study revealed differences in how often productive patches of high-quality forbs occur between the three systems. In 2018, non-grazed areas produced the most patches of forbs with high nutrition and biomass. In 2019, the rotational system produced the

highest frequency of quality forage for pronghorn. The continuous system produced the lowest frequency of quality forage in both years. Precipitation on the ranch in 2018 was about nine inches, with a majority occurring between May and September. In 2019, about ten inches of precipitation was received evenly throughout the year.


This could mean that during years of late and low rainfall, rest from grazing promotes forb production. By contrast, in years of higher rainfall when precipitation is received evenly throughout the year, rotational grazing may be a better option for forb production. These findings provide crucial information for improving pronghorn habitat through cattle grazing in the Trans-Pecos.



Above: Cattle and pronghorn can both thrive on a well-managed landscape. At top: About 85% of a pronghorn's diet is forbs (non-woody, non-grasslike flowering plants, as seen here). Photos by Cullom Simpson.

Due to COVID-19, Sul Ross State University has cancelled all activities on campus through August 2020, including the Trans-Pecos Wildlife Conference that was scheduled for August 6-8.

We have postponed this event until summer 2021. Please stay tuned for more information.



From the Director – Resiliency in the Desert

Resiliency is defined as the “ability of an animal to withstand or recover quickly from difficult conditions.” The flora and fauna of the Chihuahuan Desert are well versed in resiliency; it is what defines their survival.

Similarly, the students, staff, and faculty of the Institute are also resilient. With the onset of COVID-19, BRI has adapted our operations to follow social distancing guidelines. BRI offices are still operational, but we are conducting all business remotely. Office phones have been forwarded to personal cell phones. Our mail service and email correspondence is still fully operational. And we have all learned

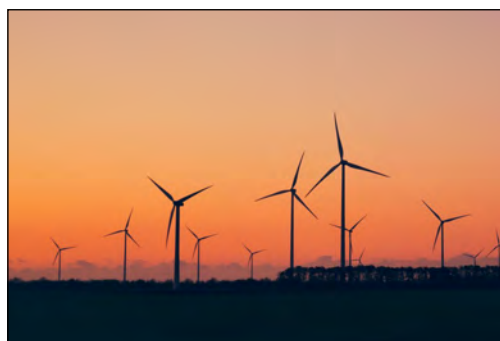
new techniques to meet, discuss, and interact using Zoom, Skype, and other means.

Our outreach activities will continue, but we have postponed several events. While most field activities have been minimized to abide by local travel restrictions, our research team is taking this opportunity to focus on data analysis, summarizing, reporting, and publishing our findings.

Please know that BRI is still here doing what we do best... Conserving the Last Frontier!

–Louis A. Harveson

Energy Seminar Series to Resume in Fall 2020



Approximately 90 community members in the Trans-Pecos area attended the Respect Big Bend Seminar Series on Energy Development at the Espino Conference Center on the evening of Wednesday, January 15th, 2020. This seminar was sponsored by The Cynthia & George Mitchell Foundation, Borderlands Research Institute, Respect Big Bend, Still Water Foundation, Permian Basin Area Foundation, and The Meadows Foundation.

Attendees listened to two presentations, “Origins of the Effort” presented by Marilu Hastings, Vice President, Sustainability Programs for the Cynthia and George

Mitchell Foundation; and “The What, Where and When of Energy Development” presented by Dr. Michael Young, Associate Director, Environmental Research, Bureau of Economic Geology at the University of Texas. Both presentations provided information regarding the vision for the Respect Big Bend effort and what the current outlook is for energy development.

Attendees were able to engage with panelists during a question and answer session. Panelists included speakers Marilu Hastings and Dr. Michael Young, and Respect Big Bend Stakeholder Advisory Group members Mo Morrow and Rainer Judd. Discussions touched on issues like protecting culture and heritage sites, water conservation, gas flaring, and landscape restoration.

Due to COVID-19, the remainder of the spring 2020 seminar series has been postponed. There are plans to renew the seminar series in the fall. For more information please visit respectbigbend.org and bri.sulross.edu.

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The Meadows Foundation Supports BRI with \$100K Grant for Respect Big Bend



The Meadows Foundation is providing a \$100,000 grant to the Borderlands Research Institute (BRI) to support the work of the Respect Big Bend Coalition in West Texas.

Respect Big Bend was launched by the Cynthia and George Mitchell Foundation in 2018 to protect the natural resources and unique communities of the greater Big Bend region through a collaboration based on sound science, community outreach and education, landscape-scale planning, and economic development.

“We’re honored The Meadows Foundation has elected to support the Borderlands Research Institute through this grant award,” said Dr. Louis Harveson, who is the Dan Allen Hughes, Jr., BRI Endowed Director and Regents’ Professor of Wildlife Management at Sul Ross State University. “Through our Stewardship Services program we will be engaging landowners, community members, and industry partners to ascertain their conservation values for the region. Ultimately, we hope to better prepare West Texas communities for energy development through our participation with the Respect Big Bend Coalition.”

BRI is taking a leadership role in coordinating and implementing the outreach and education aspects of the project. BRI is communicating and meeting with stakeholders through a variety of strategies, from private one-on-one meetings to broader community forums.

Find out more about the project at RespectBigBend.org.

Please Welcome Our Newest Employees!

Dr. Justin French is the Big Game Specialist and post-doctoral Research Scientist at BRI. His research focuses on the spatial ecology of pronghorn, mule deer, and bighorn sheep in the Trans-Pecos.

He earned his MS degree from Sul Ross State University in 2015, studying pronghorn foraging ecology, and he completed his PhD in Wildlife and Fisheries Science from Texas A&M University in 2019, focusing on coyote movement ecology.



Dr. Stacey Dewald is an Outreach Specialist and Research Scientist at BRI. Originally from eastern Washington, she obtained her graduate degrees in Agricultural Leadership, Education, and Communications at Texas A&M University.

At the Borderlands Research Institute she helps the team of researchers, students, and partners share their efforts with the public through education and outreach.





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Staff and Students Shine at Statewide Wildlife Meeting



The Borderlands Research Institute was well represented at the annual Texas Chapter of The Wildlife Society meeting this February in Corpus Christi.

Two BRI staff members, ten graduate students, and five undergraduate students presented, and several staff and students were recognized with awards:

- Jacob Locke received the Sam Beasom Memorial Scholarship (top graduate student scholarship).
- Daniel Botello was recognized as the Outstanding SRSU student.

- Multiple BRI students placed in the photography competition.
- Dr. Justin French's work was accepted as one of the prestigious Cottam Award presentations.
- Dr. Louis Harveson was recognized as co-author on the Outstanding Popular Article, *Using Genetic Tools to Guide Management of Chronic Wasting Disease in Texas Mule Deer*.
- Dr. Lalo Gonzalez was accepted into the James G. Teer Conservation Leadership Institute.