

# Desert Tracks

*"Helping conserve the natural resources of the Chihuahuan Desert Borderlands through research, education, & outreach."*



## RESEARCH IN ACTION:

### *Effects of Supplemental Feed on Mature Mule Deer Bucks*

Andy James and Louis A. Harveson

The use of supplemental feed for mule deer herds in the Trans-Pecos is becoming increasingly more common. There are several perceived advantages to incorporating supplemental feed into mule deer management plans such as increasing body mass, improving fawn crops, and increasing deer densities. Despite these apparent advantages, there are still questions regarding how supplemental feed affects how mule deer utilize the landscape.

To address these questions, we conducted a study to determine how the use of supplemental feed affected home range size, daily movement patterns, and habitat use of mule deer. From 2006–2011 GPS radio collars were placed on 40 mature mule deer bucks on supplemental-fed and non-fed ranches near the Apache Mountains in west Texas.

Mule deer on the supplemental-fed ranch had noticeably smaller home ranges (8,500 acres) compared to home ranges on the non-fed ranch (11,000 acres). Seasonally, home ranges were smallest during the fall (Sep–Nov), while home ranges during the winter (Dec–Feb) were about 60% larger.

The use of supplemental feed had varying effects on the use of habitat, slopes, and elevation. Mule deer preferred moderate slopes (5–30%) regardless of the availability of supplemental feed. The use of feeders did better distribute mule deer on habitats that were avoided on the non-fed ranch.



*Although increasingly popular, little information exists on the effects supplemental feed has on desert mule deer movements, home range, density, productivity, and habitat use.*

The most obvious difference between fed and non-fed deer was their daily movement patterns. Deer on the non-fed ranch tended to make their greatest movements during twilight hours with very little movements during the middle of the day. Whereas, deer on the supplemental-fed ranch tended to move more constantly across all hours of the day with only small increases in their movement during the early morning and late afternoon.

The BRI will continue to investigate the effects of supplemental feed on mule deer movements and habitat use in west Texas.

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### *BRI Researchers:*

**Dr. Louis A. Harveson**, Dan Allen Hughes, Jr., Endowed Director and Professor of Wildlife Management  
• *Specialization:* Big Game Ecology and Management

**Dr. Patricia Moody Harveson**, Associate Professor of Conservation Biology  
• *Specialization:* Carnivore Ecology and Spatial and Systems Analysis

**Dr. Robert J. Kinucan**, Professor of Range Management  
• *Specialization:* Disturbance Ecology and Population Plant Biology

**Dr. Ryan S. Luna**, Assistant Professor of Wildlife Management  
• *Specialization:* Upland Gamebird Ecology and Management and Wildlife Population Dynamics

**Dr. Bonnie J. Warnock**, Associate Professor of Range Management  
• *Specialization:* Restoration Ecology and Rangeland Hydrology



Thus far, most of the Chihuahuan Desert Borderlands have experienced moderate to favorable rainfall, which is the first step to recovering from the oppressive drought.

## *From the Director—“An Optimistic Forecast”*

**W**ith a wet winter and spring, wildlife populations throughout the Chihuahuan Desert Borderlands have responded favorably. We are pleased to report that many rangelands that have suffered over the last 3+ years are beginning to recover from the drought. Additionally, our studies are documenting good productivity and recruitment with desert bighorn sheep, scaled and Gambel’s quail, pronghorn, desert mule deer, songbirds, and rodent populations.

Nothing promotes optimism in the desert more than rain.

We are also very optimistic about the new additions to the Borderlands Research Institute as we welcome 4 new Advisory Board members and a new faculty member to our research team. Each of them is committed to conservation of the region and will play an important role as we move forward with our mission.

We hope it continues to rain in your part of the world!

—Louis A. Harveson

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## *New Members Join BRI Advisory Board!*

**T**he Borderlands Research Institute is proud to announce 4 new additions to the BRI Advisory Board: Charles Davidson, Parker Johnson, Robert J. Potts, and Kelly R. Thompson. The Advisory Board provides guidance and advisement on the mission, goals, and strategies of the BRI.

Charles Davidson is a partner with Republic Ranches, LLC, which offers ranch real estate services across Texas. Charles is a 4<sup>th</sup> generation Texan active and passionate about rural Texas and wildlife conservation. Charles is active in a variety of conservation activities. He is a Past President of Texas Wildlife Association, a Trustee of Texas Wildlife Association Foundation, and a member of Texas and Southwestern Cattle Raisers Association and TPWDs White-tailed Deer Advisory Committee. Charles has degrees from Washington and Lee University and the University of Texas. Charles and his wife Keli reside in San Antonio with their 3 children. Charles and his family own and operate a ranch in Real County.

Parker Johnson is Senior Vice President of Corporate Operations for Silver Eagle Distributors, the nation’s largest distributor of Anheuser-Busch products. Parker has been in the family Registered Hereford cattle ranching business since childhood. Parker currently manages wildlife habitat and conservation programs at the family ranch in West Texas. Parker is active in serving various charities and conservation organizations. Parker is a former trustee of Texas Wildlife Association Foundation, a member of TPWDs Bighorn Sheep Advisory Committee, Director of the Houston Livestock Show and Rodeo, and Director of Texas Wildlife Association. Parker is also a member of Texas Bighorn Society, Coastal Conservation Association, and Ducks Unlimited. Parker holds a Bachelor of Business Administration in Management from Texas Tech University. Parker and his wife Victoria reside in Houston with their 2 daughters.

Please look for our next newsletter as we introduce Robert Potts and Kelly Thompson.

## *Donor Spotlight: Park Cities Quail Coalition*

**T**he Desert Quail of Texas recently received a big boost when the Park Cities Chapter of Quail Coalition provided a \$25,000 check to the BRI.

The recent donation by Park Cities Chapter of Quail Coalition of \$25,000 represents their first investment in quail research focused on Desert Quail. The Desert Quail Program of the BRI focuses on scaled quail, Gambel's quail, and Montezuma quail of the Chihuahuan Desert Borderlands of Texas, New Mexico, Arizona, and northern Mexico.

The recent gift will be used to support the ongoing efforts of the BRI to better understand the population dynamics and management of scaled quail in west Texas.

In a short amount of time, Park Cities Chapter of Quail Coalition has emerged as one of the most effective quail conservation entities in the country. In 7 years, Park Cities Chapter of Quail Coalition has raised over \$3.5 million for quail research and conservation in Texas! For more information go to <http://www.parkcitiesquail.org/>.

*Please consider making a tax-deductible donation to the Borderlands Research Institute to support our research, outreach, and educational programs.*

## *Dr. Luna Joins BRI to Lead Desert Quail Program*

**P**lease welcome Dr. Ryan Luna to the Borderlands Research Institute! Dr. Luna joined the faculty at SRSU this summer and will be leading the Desert Quail Research Program with the BRI.

In addition to his research duties, Dr. Luna will also be advising students majoring in Wildlife Management within the Department of Natural Resource Management.

Dr. Luna has a broad background where he received his B.S. in Zoology from Texas Tech

University, his M.S. in Biology at University of Texas at San Antonio, and his doctorate in Wildlife Ecology from Texas State University. His doctoral work focused on foraging ecology and physiological adaptations of white-tailed deer. Additionally, Ryan served as a Game Warden in New Mexico for 2 years.

Ryan and his wife, Caroline, have strong ranching backgrounds that span New Mexico and Texas. Ryan and Caroline are now residents of Alpine and have 2 young children.



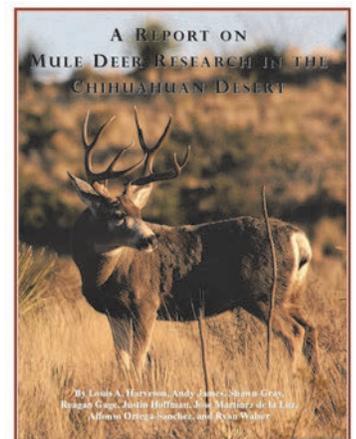
*Dr. Ryan Luna recently joined the faculty at SRSU and the research team of the Borderlands Research Institute as Assistant Professor of Wildlife Management.*

## *Mule Deer Research Report Available Online*

**A**s part of our efforts to provide the most recent scientific information to our constituents, the BRI recently posted a new research report to our website. The report focuses on desert mule deer management and ecology and highlights some of the recent findings regarding survey techniques, habitat management, home ranges and movements, use of feed and water, and res-

toration efforts. The report can be found at <http://ww2.sulross.edu/brinrm/pubs.htm>.

The BRI has also recently launched an antler development study in west Texas. For more information on how you can help advance our understanding of mule deer management, please contact Dr. Louis Harveson at 432.837.8488 or [harveson@sulross.edu](mailto:harveson@sulross.edu).





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## *The British Are Coming: BBC Films BRI Researchers*

**T**he Borderlands Research Institute (BRI) research team recently hosted a production crew from the BBC on their ongoing mountain lion research project in the Davis Mountains. The production team was filming for the “Deadly” series made famous by television celebrity Steve Backshall. “Deadly” is a British wildlife documentary program with a broad television audience aimed principally at children and young people. The show is scheduled to be aired internationally at a later date.

The “Deadly” crew spent 3 days filming including segments on mountain lion kills, checking snares, trail camera pictures of mountain lions foraging, and researchers tracking the mountain lions. Other BRI research projects, including pronghorn and

desert bighorn relocation, as well as the mountain lion research, have been the subjects of documentaries by the Texas Parks and Wildlife Department and the Discovery Channel.



BBC's “Deadly” film crew, featuring Steve Backshall (second from left), recently joined the BRI's mountain lion research project in the Davis Mountains.