

# Desert Tracks

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



## RESEARCH IN ACTION:

### Understanding Mountain Lion-Prey Dynamics

Patricia Moody Harveson, Katie Dennison, Louis A. Harveson

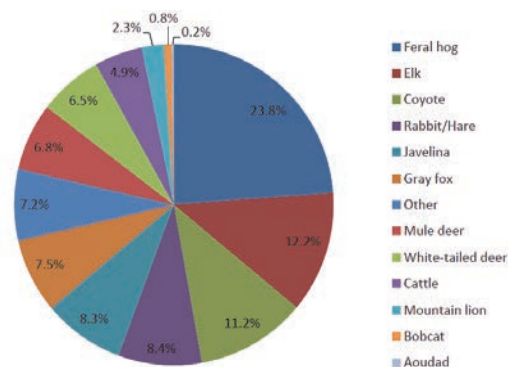
Understanding predator-prey dynamics is one of the most difficult challenges in wildlife management, but also one of the most important. In 2011, we initiated a large-scale study on the ecology of mountain lions in the Davis Mountains of Texas. One of our primary objectives was to evaluate the impact of mountain lion predation on prey populations. For this study we needed reliable information on the diversity, abundance, and distribution of predators and their prey.

To obtain this information, we established 38 camera grids across our study site and deployed 1 pair of remote cameras facing each other in each 9-km<sup>2</sup> grid. Cameras were checked regularly to download photos.

Since Summer 2012, we have downloaded almost 200,000 photographs. Each photo was reviewed on a computer to ascertain if a



By using 76 remote cameras, BRI researchers have been able to identify the (1) distribution of mountain lions and (2) the diversity and abundance of prey species available in the Davis Mountains.



The diversity and abundance of prey species available to mountain lions in the Davis Mountains is robust. This information will be used to determine prey preference by mountain lions.

mountain lion or prey species was visible. Only 14,607 had animals in them and were independent for analysis.

Our data also provides some insights into the distribution of various species. For example, feral hog was the most wide-spread species occurring in 84% of the trap sites. Elk and gray fox had the second highest distribution and were both recorded in 80% of trap sites. Coyote, javelina, and mule deer ranked third in distribution where they each occurred in 66% of camera stations. Incidentally, mountain lions were recorded in 53% of the camera stations—suggesting a broad distribution within our study site.

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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 & Management

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

**Dr. Robert J. Kinucan**, Professor of Range Management  
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**Dr. Ryan S. Luna**, Assistant Professor of Wildlife Management  
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**Mr. Ryan O'Shaughnessy**, Research Scientist  
 • *Specialization:* Pronghorn Ecology & Restoration

**Dr. Bonnie J. Warnock**, Clint Josey Endowed Chair and Professor of Range Management  
 • *Specialization:* Rangeland Ecology & Sustainable Ranch Management

## From the Director—“Honoring John B. Poindexter...”



Dennis Murphree (r) looks on as John Poindexter addresses the crowd of friends at the Coronado Club in Houston, Texas. Much to his surprise, Poindexter was honored by his friends as they established a \$250,000 endowment for the Borderlands Research Institute at Sul Ross State University.

One of the most touching aspects of my role as director is helping patrons honor their friends or loved ones with gifts to the Borderlands Research Institute. It is truly a privilege to be the recipient of such a tribute.

The Borderlands Research Institute recently had such an opportunity as over 70 friends rallied together to honor John Poindexter (long-time friend and BRI Advisory Board member). Spearheaded by Dennis Murphree and Roswell “Sandy” Vaughan, a small group of friends approached the Institute about honoring John with a named endowment. In a short amount of time, the “covert fundraising committee” had raised over \$225,000!

We have been completely overwhelmed by the generosity and love that John’s friends displayed on his behalf. The John B.

Poindexter Endowed Fund for Desert Quail Research has since surpassed \$250,000 in gifts and pledges. If you would like to contribute to the John B. Poindexter Endowment for Desert Quail Research or other endowments, please contact us at 432.837.8225.



Friends of John B. Poindexter have raised over \$250,000 for the BRI. Some of the key players of that effort included (l-r) Nelson Puett (of Nelson Puett Foundation), Roswell “Sandy” Vaughan, John Poindexter, and Dennis Murphree.

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## Wildlife Students Win Awards at State Conference

Sul Ross students received several honors and awards at the 50th Annual Conference of the Texas Chapter of The Wildlife Society (TCTWS) this past spring. Each year, TCTWS recognized an outstanding member of the Sul Ross Range and Wildlife club, and this year’s recipient was Thomas Janke. Janke was also awarded the Sam Beasom Scholarship, a \$1,000 honor for graduate students studying wildlife management.

Several BRI graduate students also won awards for their photography skills: Bobby Allcorn won 1st place in the humor category and 2nd place in the work category, Sky Stevens received 2nd place in the scenery category, and Katie Dennison received 2nd and 3rd place in the remote camera category.

Additionally, the SRSU Wildlife Quiz Bowl Team won 2nd place among 8 other universities across Texas.



BRI graduate student, Thomas Janke (right) was awarded the Sam Beasom Memorial Scholarship by TCTWS President, Dr. Matt Wagner (left).

## *Donor Spotlight: West Texas Chapter of Safari Club*

The West Texas Chapter of Safari Club International (WTCSCI) recently presented \$60,000 to the Borderlands Research Institute. The Midland-Odessa based organization presented \$25,000 for the Desert Bighorn Sheep Restoration Project that is being conducted by the BRI and TPWD. Funds will be used to support the recent translocation in the Sierra Vieja Mountains, where 61 desert bighorn sheep were recently restored.

Additionally, the WTCSCI established the West Texas Chapter of Safari Club International Endowed Scholarship with a gift of \$35,000. The scholarship will benefit wild-life students at Sul Ross in perpetuity.

WTCSCI has been supporting scholarships and funding wildlife research projects for over 15 years including assisting the pronghorn, quail, and mule deer research projects conducted by the Institute.



The West Texas Chapter of SCI recently donated \$60,000 to support scholarships and research projects with the BRI. In attendance were (l-r) Cal Hendricks (VP of WTCSCI), Dr. Louis Harveson (BRI Director), and Matthew Bell (President of WTCSCI).

## *Mountain Lion Research Report Available Online*

The Borderlands Research Institute (BRI) recently posted the *Understanding Mountain Lion-Prey Interactions Research Report* to our website.

The report highlights our efforts to better understand the complex nature of predator-prey dynamics in the Davis Mountains of Texas. The report provides information on the diet, spatial patterns, and prey selection of mountain lions. Working with private

landowners, the research team has caught and collared 18 mountain lions and have documented over 200 kills during the 4 year study.

The latest Mountain Lion Research Report can be found at [http://bri.sulross.edu/pubs\\_reports.html](http://bri.sulross.edu/pubs_reports.html). For more information, please contact Dr. Patricia Moody Harveson ([pharveson@sulross.edu](mailto:pharveson@sulross.edu)) or 432.837.8225.

**Over 90% of our funding comes through private donations!**

**Please consider making a tax-deductible donation to the Borderlands Research Institute.**

## *Introducing Cameron Martin—New SALE Fellow*

The San Antonio Livestock Exposition, Inc. (SALE) has been sponsoring graduate student fellowships at the Borderlands Research Institute since 2010. In fact, SALE is one of the largest contributors to Sul Ross State University (SRSU) donating over \$1,000,000 since the 1980s.

Most recently, SALE has sponsored a graduate student fellowship with the Borderlands Research Institute. The recipient of this year's SALE fellowship is Cameron Martin of

Burleson, Texas. Cameron received his B.S. in Natural Resource Management in 2011 from SRSU.

Cameron is helping Texas Parks and Wildlife Department develop methods for evaluating toxicants (e.g., sodium nitrite) for controlling feral hogs at the Kerr Wildlife Management Area.

The invasive feral hogs cost the U.S. about \$1.5 billion a year including \$800 million in damage to farms nationwide.



Cameron Martin is investigating control methods for feral hogs in the Hill Country. The San Antonio Livestock Exposition, Inc. (SALE) has been supporting James via a graduate student scholarship awarded to the Borderlands Research Institute.





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## *BRI to Co-host Texas Section for Range Management*

**M**ark your calendar for October 7-9, 2014 for the Annual Meeting of the Texas Section of the Society for Range Management. The Borderlands Research Institute is co-hosting the annual meeting with the Natural Resource Conservation Service in Marfa and Alpine, Texas.

The 3-day meeting will include a plenary session focusing on rangeland management along the borderlands, a variety of field trips emphasizing the diversity of rangelands of the region, and a host of contributed papers.

The Plenary Session “*Borderland Conservation: Two Countries, One Cause*” will feature presentations in English and Spanish focusing on conservation strategies and challenges along the Texas-Mexico border.

Additional information about the conference, program, and registration can be found at <http://www.rangelands.org/texas/aminfo.shtml>.



*Save the Date! On October 7-9, 2014, the NRCS and BRI are co-hosting the Annual Conference of the Texas Section—Society of Range Management in Marfa and Alpine, Texas.*