

Desert Tracks

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



RESEARCH IN ACTION:

Combating Woody Encroachment of Western Honey Mesquite Using Sendero® Herbicide

James D. Eddy, Ryan S. Luna, and Dewey Stockbridge (TPWD)

The issues of woody plant encroachment outcompeting native grass populations is a problem in many parts of the Western United States, and the Trans-Pecos region of Texas is no exception. The invasion of woody plants is in large part due to factors such as overgrazing, fire suppression, and various forms of seed distribution. Unfortunately, once woody plant encroachment has taken place, it is quite difficult to reverse. In fact, if left alone the process will continue to degrade grasslands until they are gone.

The focus of this project was to evaluate the effectiveness of Sendero® on western honey mesquite at Elephant Mountain Wildlife Management Area. Two treatments, Sendero® or a mixture of Sendero® and Remedy® Ultra (Dow AgroSciences), were assessed by monitoring vegetation cover, abundance, and composition using line transects, plots, and aerial photography. We also compared individual plant treatment (IPT) versus aerial broadcast.

Canopy reduction of the western honey mesquite one year post-treatment showed the best results coming from the aerial Sendero® Remedy® mix plot with a 99% canopy reduction, followed by the straight Sendero® plot with an estimated reduction of 97%. The IPT plots that contained large mesquites saw some basal resprout and flagged foliar regrowth yielding canopy reductions ranging from 63% to 83%.



Mesquite killed by treatment of Sendero® plus Remedy® Ultra (bottom) next to untreated area (top).

The overall mortality results for the western honey mesquite were highest in the aerial and IPT plots using the Sendero® and Remedy® mixture with results ranging from 60% to 70% mortality. High mortalities might not always be desired since honey mesquite is a native plant that is utilized for forage and cover by a variety of wildlife.

These results are quite promising for those wishing to control western honey mesquite. Cost for aerial application was approximately \$39 per acre for Sendero® and \$44 per acre for the Sendero® Remedy® mix. The IPT treatment cost was \$23 per acre for Sendero® and \$27 per acre for the Sendero® Remedy® mix (excluding labor costs).

For more information about this project, contact us at 432.837.8225 or bri@sulross.edu.

Spring 2017

Volume 10, Issue 1

Editor: Patricia Moody Harveson

Inside this issue:

Research in Action	1
From the Director	2
Cottam Award Winners	2
Donor Spotlight	3
New Board Member: Toby Darden	3
Kinucan as Associate Provost	3
Gambel's Quail Report	4

BRI Researchers:

Dr. Louis A. Harveson, Dan Allen Hughes, Jr., Endowed Director and Professor of Wildlife Management

- Big Game Ecology & Management

Dr. Patricia Moody Harveson, Associate Professor of Conservation Biology

- Population Ecology & Spatial and Systems Analysis

Dr. Robert J. Kinucan, Professor of Range Management

- Disturbance Ecology & Plant Biology

Dr. Ryan S. Luna, Assistant Professor of Wildlife Management

- Upland Gamebird Ecology & Management

Dr. Ryan O'Shaughnessy, Assistant Professor of Agribusiness

- Agribusiness & Wetland Ecology

Dr. Bonnie J. Warnock, Clint Josey Endowed Chair and Professor of Sustainable Ranch Management

- Rangeland Ecology & Sustainable Ranch Management

Dr. Whitney Gann, Research Scientist

- Pronghorn Ecology & Restoration



Zuzu Verk was actively engaged with conservation projects with the Borderlands Research Institute. A scholarship has been established to memorialize Zuzu's passion and energy that she brought to the wildlife profession.

From the Director—“Remembering Zuzu...”

Spirited. Talented. Lovely. Dedicated. Funny. Caring. Alone, none of these words adequately describes the passion and energy that Zuzu Verk portrayed.

Zuzu was an aspiring young wildlife biologist who was committed to conservation. She was pursuing her B.S. in Natural Resource Management at SRSU and worked for BRI as a research technician on the pronghorn restoration project.

All of us at BRI were privileged to have worked with Zuzu and honored to have her as a colleague, student, and friend. We will always remember you, Zuzu!

—Louis A. Harveson



Zuzu Verk (center) poses quickly with her classmates and friends, Nan Nourn (left) and Mark Black (right) during a long night capturing pronghorn fawns. Zuzu was one of a handful of undergraduate students that were selected to participate in BRI's Undergraduate Mentorship Program.

Borderlands Research Institute Advisory Board

Elliott G. Hayne, Chair
San Antonio, TX

J.P. Bryan
Houston, TX

Toby Darden
Fort Worth, TX

Charles Davidson
San Antonio, TX

Will Harte
Fort Davis, TX

Dan Allen Hughes, Jr.
San Antonio, TX

Parker Johnson
Houston, TX

James King
Fort Davis, TX

Bobby McKnight
Fort Davis, TX

John B. Poindexter
Houston, TX

Ruthie Bowman Russell
San Antonio, TX

Allen W. Smith
Austin, TX

Kelly R. Thompson
Fort Worth, TX

Justin B. Yarborough
Austin, TX

BRI Graduate Students Win Big at Wildlife Conference

BRI graduate students took the top 2 places in the Cottam Award for best student presentations at the 53rd Annual Meeting of the Texas Chapter of the Wildlife Society in San Antonio, Texas.

Carlos “Lalo” Gonzalez-Gonzalez won first place for his presentation “Desert bighorn sheep habitat a probability occurrence distribution model at a landscape level.”

Grant Lawrence won second place with his presentation “Evaluation of vomit characteristics in microencapsulated sodium nitrite bait formulation on captive feral pigs.”

The prestigious Clarence Cottam Award recognizes and promotes outstanding student research. Student papers and presentations are judged for their originality and creativity, as well as the quality of methods and conclusions.



BRI graduate student Lalo Gonzales (right) accepts the first place Cottam Award from Chapter President Dr. Randy DeYoung (left) at the Texas Chapter of the Wildlife Society Meeting. Lalo is a PhD student in the cooperative doctoral program between Sul Ross State University and Texas A&M University.

Donor Spotlight: Last Frontier Weekend at CCR

Cibolo Creek Ranch played host to BRI's *First Annual Last Frontier Weekend Celebration*. Participants were treated to a variety of activities, including shooting sports, fine wine and dining, historical tours, wild quail hunts, educational programs, wildlife photography sessions, and the ambience that can only be found at the historic Cibolo Creek Ranch.

The fundraising event was very successful and we thank all those that attended. We are especially grateful of our sponsors: Cibolo Creek Ranch, King Land and Water, the Horizon Foundation, Peggy and Dan Allen Hughes, Jr, and the Shepard Family Foundation!

Contact us to find out more about the upcoming 2018 *Last Frontier Weekend Event!*

Over 90% of our funding comes through private donations!

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

Thomas F. "Toby" Darden Joins BRI Advisory Board

Borderlands Research Institute welcomes two new members, Toby Darden and Will Harte, to its advisory board.

Thomas F. "Toby" Darden (Fort Worth, TX) is CEO and Chairman of Darden Energy Group. Toby has been involved with oil and gas production since 1975, where he specializes in shale oil and gas development. Toby has served in leadership roles in several energy-focused corporations, including Mercury Exploration Company, Quicksilver Resources, Quicksilver Gas Services, Crestwood Midstream, Vermilion Cliffs Partners, and Wolfcamp Water Partners.

Toby received his B.A. in Economics from Tulane University in 1975. Toby has served on a variety of boards, including the Neely School of Business Board of Visitors at TCU, the Cox School of Business/Maguire Energy Institute at SMU, and the Toby and Joanie Darden Family Foundation.

Toby and his wife Joanie own and operate the KC7 Ranch in the Davis Mountains and are proud parents of Grace, Kate, Rachel, Samantha, Lauren, and Jack.

Please look for our next newsletter as we introduce you to Will Harte.



Please be sure to welcome Thomas F. "Toby" Darden of Fort Worth as a new addition to the BRI Advisory Board.

Kinucan Named New Associate Provost for Research

Dr. Rob Kinucan, Dean of the College of Agricultural and Natural Resource Sciences at Sul Ross State University, has been named Associate Provost for Research. Kinucan, a Sul Ross faculty member since 1988 and Dean since 1999, will be Sul Ross' representative on the Texas State University System's research committee. He will also continue to serve as ANRS Dean.

His appointment coincides with Sul Ross' expanded focus on research in its new strategic plan.

Kinucan received a B.S. (1981) in range resources from the University of Idaho; M.S. (1983) in range management from the University of Wyoming; and Ph.D. (1987) in range science from Texas A&M University.



Dr. Robert Kinucan has served SRSU for over 29 years.



Sul Ross State University
P.O. Box C-21
Alpine, TX 79832
432.837.8225
<http://bri.sulross.edu>

Address Service Requested
272003-120473-40-RES

Non-Profit Org.
U.S. Postage
PAID
Alpine, Texas
Permit No. 2

Connect with us:



*Texas State University System
Board of Regents*

Ms. Rossanna Salazar, Chair
Austin, TX

Mr. William F. Scott, Vice Chair
Nederland, TX

Mr. Charlie Amato
San Antonio, TX

Ms. Veronica Muzquiz Edwards
San Antonio, TX

Dr. Jaime R. Garza
San Antonio, TX

Mr. David Montagne
Beaumont, TX

Mr. Vernon Reaser III
Bellaire, TX

Mr. Alan L. Tinsley
Madisonville, TX

Ms. Donna N. Williams
Arlington, TX

Mr. Dylan J. McFarland, Student
Huntsville, TX

Dr. Brian McCall, Chancellor
Austin, TX

Gambel's Quail in Texas: Biology and Management

Dr. Ryan Luna and his team of coauthors from Borderlands Research Institute and Texas Parks & Wildlife (TPWD) have just published a new technical bulletin on Gambel's quail. This publication provides information on the life history and habitat requirements for Gambel's quail in Texas and identifies factors to consider when implementing management regimes.

This research and publication were funded by TPWD, Wexford Cattle Company, LLC., Park Cities Quail, James A. "Buddy" Davidson Charitable Foundation, Quail Unlimited, and Sul Ross State University.

You can download a copy of the report at http://bri.sulross.edu/pubs_reports.html or email bri@sulross.edu to request a printed copy.

