



CONSERVING THE LAST FRONTIER

Winter 2018 | Volume 11, Issue 3

Editor: Julie Rumbelow

Scavenger Ecology of the Davis Mountains, Texas

Michael Stangl (BRI), Patricia Harveson (BRI)

Though typically overlooked in traditional food web networks, carrion provides an essential source of nutrition and energy to an entire suite of species. Indeed, carrion utilization is a fundamental ecological process observed by nearly all terrestrial predators, and thus nearly all terrestrial predators could be considered opportunistic scavengers. A whole network of interactions, spanning species and trophic levels, reverberates out from these carrion deposits, scattered across the landscape.

In the Davis Mountains of Texas, the Borderlands Research Institute is investigating the interactive networks of scavengers surrounding two major sources of carrion: (1) carcass refuse from mountain lion predation events, and (2) invasive feral hog carcasses culled for management purposes.

Mountain lion kill sites, inferred from GPS collar data, were investigated as quickly as possible, and motion-triggered cameras were deployed at the site in an effort to film all visiting and feeding scavenger species. Cameras were also set up at feral hog carcass sites with the same goal. Additionally, hog carcasses were further subdivided into two groups: “open” and “closed” carcasses. The videos filmed by these cameras were then reviewed and analyzed for presence/absence of a species, feeding and visiting times of species, and the expression of a set of behaviors.

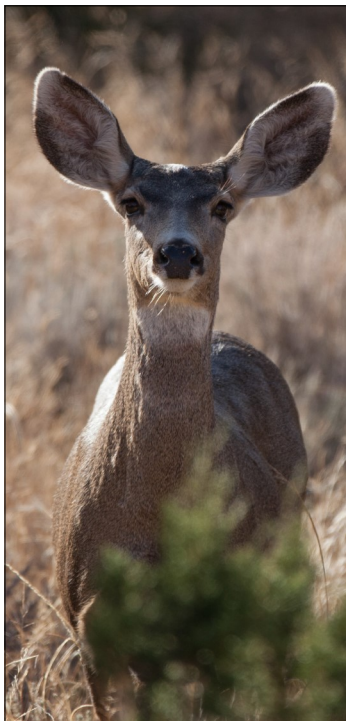
A total of 12 species has been recorded scavenging at mountain lion kill sites, with the spotted skunk being the

most prevalent species, occurring at six of the nine sites investigated. “Open” hog carcasses hosted a greater variety of scavenging species than “closed” hog carcasses did, with eight and five different species documented, respectively. Turkey vultures were the most prevalent species observed at both “open” and “closed” hog carcasses. Rarer species of scavengers, documented at either mountain lion kill sites or hog carcass sites, include black bear, bobcat, golden eagle, and ringtail. Further behavioral analysis seeks to understand the relationships between these species by observing their interactions at these carrion deposits.

The inclusion of carrion and scavengers within our ecological investigations allows us to widen our inquisitive lens. With this and future studies, we hope to capture a more comprehensive understanding of the interactive ecosystem, with particular interest in food web and community ecology.



Here a bobcat caches a hog carcass at one of our monitoring sites.



From the Director – The Key is Asking Good Questions

Appplied research is what we specialize in at the Borderlands Research Institute. Applied research is the process of conducting studies with the purpose of improving management. “What can we do about it?” or “How can we fix it?” are common questions we continually ask ourselves. Good studies start with good questions. Many of the projects we undertake don’t start with *our* questions; they start with *yours*. We rely on you to help us ask the right questions. Landowners, hunters, naturalists, and community members are constantly making observations about the natural world. We have countless projects that we have conducted, are ongoing, or are on our horizon that began with questions that you have asked us.

Good students ask good questions. As we train the next generation of wildlife biologists and land stewards, we are also mentoring our students to ask the right questions. As an educator I’m a huge fan of good questions, whether they be in a classroom or in a pasture. Over the last five years we have developed an innovative program (see story below) that specializes in mentoring students and encouraging them to ask good questions. We are also proud that the Wayne and JoAnn Moore Charitable Foundation has pledged to support our BUMP program.

So, from all of us at the BRI, thank you for asking good questions and supporting our quest for Conserving the Last Frontier!

–Louis A. Harveson

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 S. 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

Dana Nunley
Sabinal, 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

Undergraduate Research Provides a BUMP for Students

In 2014, the Borderlands Research Institute launched a novel mentorship program that allows undergraduates to gain valuable practical experiences in natural resource management by serving as field or lab technicians for the 25+ projects conducted at the institute. Thanks to the initial and continued financial support of the Houston Livestock Show and Rodeo, the BRI Undergraduate Mentorship Program (BUMP) was created and has continued to grow.

Since 2014, 37 undergraduate students from nine colleges have conducted 46 unique research projects. Twenty-eight of the 37 students have been from Sul Ross State University, and the remaining nine students have been from Arizona State University, Texas A&M, Texas A&M Commerce, Texas State, Texas Tech, and the Universidad Autónoma Agraria Antonio Narro. So far 20 of the students who have

participated in the mentorship program have completed their bachelor’s degree. At least 12 (60%) of those 20 students are now enrolled in graduate school, including eight who have been recruited by BRI/Sul Ross. More information about BUMP can be found at bri.sulross.edu.



In the BRI Undergraduate Research Mentorship Program (BUMP), students learn how to conduct research, present their findings, and prepare for graduate school in the field of Natural Resource Management.

Donor Spotlight: Wayne and JoAnn Moore Charitable Foundation

Earlier this year, the Wayne and JoAnn Moore Charitable Foundation reaffirmed their commitment to higher education at Sul Ross State University by pledging a \$100,000 endowment to the Borderlands Research Institute.

The Wayne and JoAnn Moore Endowment Fund will support BRI's Undergraduate Mentorship Program (BUMP). BUMP is a proven method that enables students to reach new levels in their academic potential. The new endowed scholarships will help sustain BUMP to enrich learning experiences for our undergraduates via a novel mentorship program.

"Wayne and JoAnn Moore Charitable Foundation is delighted to support Sul Ross and the Borderlands Research Institute in this manner. Providing mentoring opportunities is a great way to engage and retain students," said James Moore, Executive Director of the Foundation.



The newly created Wayne and JoAnn Moore Endowed Scholarship will help support students participating in BRI's Undergraduate Mentorship Program.

Grassland Bird Project Looking for Volunteers

It is almost that time of the year again when we kick off our grassland bird captures!

The last two years were a huge success thanks to the help of more than 130 volunteers who contributed over 1,500 volunteer hours to bird captures. We have had participants from the birding community, students, and locals from Marfa and Alpine, as well as four students from Autonomous University of Chihuahua (UACH) who completed a short internship with the grassland bird project.

Over the last two years, we caught and radio-tagged more than 140 Baird's and grasshopper sparrows that we followed throughout the winter to obtain information on their winter survival, spatial requirements, and habitat preferences. This year we will attempt to capture and radio-track another 60 birds, and you can be part of it!

Captures are not only fun, you also get the opportunity to see the rare and cryptic Baird's sparrow, and even release it after it has been banded and outfitted with a radio transmitter. You will learn about grassland bird research and conservation in the field, how to capture birds using mist nets, and how birds are banded and monitored for research purposes.

Captures will take place in December, January, and March at the Mimms Ranch in Marfa, TX. If you are interested, please send an email to bri@sulross.edu.

We are registering any and all volunteers, even if it is just for one day. Please join us in the field for a fun and educational outdoor experience!



Join us for an opportunity to see and capture birds like Baird's sparrow, grasshopper sparrow, and savannah sparrow (pictured above).

Borderlands Research Institute
P.O. Box C-21
Alpine, TX 79832
432.837.8225
bri.sulross.edu

Leave a Legacy for the Last Frontier



Texas State University System Board of Regents

Mr. William F. Scott, Chair
Nederland, TX

Mr. David Montagne, Vice Chair
Beaumont, TX

Mr. Charlie Amato
San Antonio, TX

Mr. Garry Crain
The Hills, TX

Dr. Veronica Muzquiz Edwards
San Antonio, TX

Dr. Jaime R. Garza
San Antonio, TX

Mr. Vernon Reaser III
Houston, TX

Ms. Rossanna Salazar
Austin, TX

Mr. Alan Tinsley
Madisonville, TX

Ms. Leanna Mouton, Student
San Marcos, TX

Dr. Brian McCall, Chancellor
Austin, TX

Planned giving often goes by many names: gift planning, estate giving, testamentary giving, legacy giving, or deferred giving. Legacy giving is a way to convey your values through the creation of a gift that will leave a lasting impact on conservation in the Chihuahuan Desert Borderlands. To put it simply, planned giving is a way that you may leave money or assets to the Borderlands Research Institute over a period of time or at the time of your passing.

There are many options to execute your legacy gift, including wills, living trusts, or beneficiary designations on IRAs, 401(k)s, and other investment instruments. You may also establish a fund or bequeath real estate or other types of property. You may place restrictions on your gift so that you will know exactly how it will be used in the future. Your legacy gift can also reduce or eliminate the amount of estate taxes your beneficiaries could owe after your passing.

We know that conserving the last frontier of Texas, and your legacy, is important to you and to future generations. No matter how you choose to give, we can create a plan that is right for you and your values. Your gift will help ensure that our work in land stewardship, conservation, and education continues to advance, and will allow us to provide current scientific information on one of the most ecologically diverse places in the world.

If you have already included the Borderlands Research Institute in a bequest or other planned gift, we hope you will let us know. To request more information or to set up a time to discuss what works best for you and your heirs, please call us at 432-837-8225.



Connect with us:



CONSERVING THE LAST FRONTIER