

DESERT TRACKS



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CONSERVING THE LAST FRONTIER

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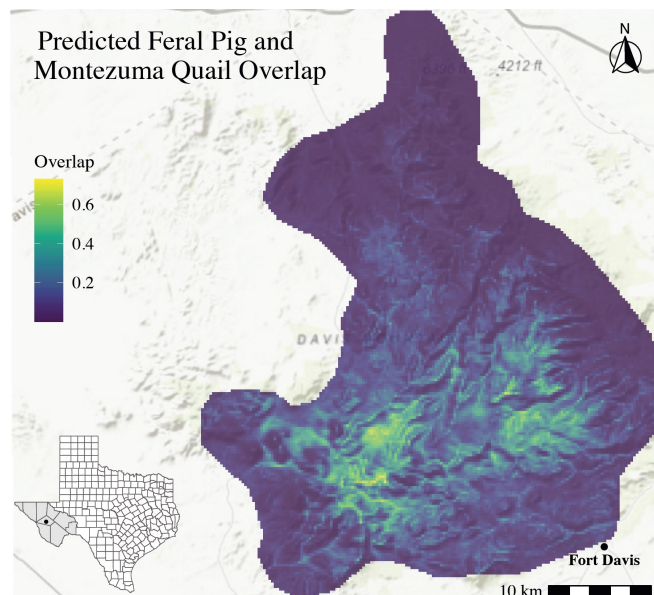
Predicting Habitat Overlap Between Montezuma Quail and Feral Pigs

Maya Vaughn, Ryan S. Luna, and Justin T. French

Montezuma quail are an enigmatic quail species of the montane grasslands and piñon-juniper-oak woodlands of the southwestern United States and much of Mexico. Anecdotal reports suggest Montezuma quail historically had a greater distribution throughout Texas, but due to their cryptic nature and their preference for rugged terrain, this species can be difficult to find and is considered to be the most understudied quail species in the United States. The limited studies conducted on Texas populations show that their restricted range and population declines are attributed to habitat degradation and overgrazing. Because there is such little information on this species, there are unstudied factors that could be affecting West Texas populations, such as the influence of new invasive competitors, like feral pigs.

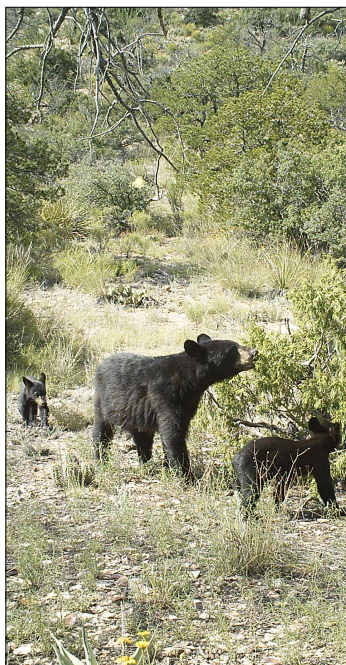
To understand where feral pigs could co-occur with Montezuma quail, we investigated the overlap of Montezuma quail habitat and feral pig presence using indices such as rooting, tracks and scat. Through rooting, feral pigs disturb the soil. This potentially reduces plant cover, alters soil composition, and alters vegetation communities. This could reduce forage resources and groundcover that Montezuma quail utilize for nesting, temperature regulation, and predator avoidance. We recorded the presence of feral pigs in the Davis Mountains Preserve, owned by The Nature Conservancy, and then extrapolated their presence across the entire Davis Mountains range. We estimated a 51% overlap of predicted feral pig presence and predicted Montezuma quail habitat in the mapped region.

Feral pig presence didn't completely overlap with predicted Montezuma quail habitat, but the overlapped areas occurred in critical habitat for Montezuma quail. These are areas that Montezuma quail need when their populations are low and resources are scarce. Further fine-scale research is required to better understand which Montezuma quail resources are being affected by feral pigs and if their foraging niches and habitat selection overlap at any capacity.



Map of predicted overlap between Montezuma quail habitat and feral pig presence in the Davis Mountains, Jeff Davis County, Texas.

Top: A male Montezuma quail in the Davis Mountains. Montezuma quail share some of the same foraging habits as feral pigs, as they both dig for tubers, acorns and insects. Photo courtesy of Michael L. Gray.



From the Director – Conservation and the Power of Storytelling

Since our inception, we have had the good fortune of being featured in numerous news media articles, interviews, and magazine stories. Maybe it’s the charismatic megafauna that we study, maybe it’s the breathtaking views provided by the Borderlands region, or maybe it’s the passionate students and staff at BRI, but one thing is certain: nothing tells our conservation story better than a documentary!

BRI was recently featured in a short documentary as part of H-E-B’s Our Texas, Our Future initiative. This five-part original docuseries celebrates Texas’ beautiful state parks, resilient wildlife, and the Texans who

are helping to conserve and protect them. One of the films, “Second Chance,” directed by Austin Alvarado of Fin and Fur Films, tells the story of the black bear’s natural recolonization into West Texas. The films are available for viewing online at <https://OurTexasOurFuture.com/stories/>.

H-E-B also made a generous donation toward our black bear research project and our graduate student scholarship fundraiser. Thank you, H-E-B, for your commitment to conservation and for helping tell the story of black bears returning to Texas!

–Louis A. Harveson

New Endowment Supports West Texas Big Game Research

BRI is pleased to announce the establishment of a new endowment fund that will support big game research into the future. Earlier this year, John L. Nau, III, made a \$400K gift to honor his daughter and son-in-law, Victoria and Parker Johnson.

Nau was the inaugural recipient of the West Texas Conservationist of the Year award in 2022 and is a longtime supporter of the Borderlands Research Institute. Parker Johnson is also active in conservation circles, and currently serves on the board of both the Borderlands Research Institute and Texas Parks and Wildlife Foundation.

The corpus of the endowment will remain untouched, to grow over time. Earnings from the endowment will be used to support academic salaries and program support for a graduate student focused on big game research at the Borderlands Research Institute.

“We are honored by this gift that will support the important big game research

being conducted by Borderlands Research Institute staff and students,” said Parker Johnson. “It is especially fitting that this gift comes during BRI’s fifteenth anniversary year. In a relatively short amount of time, BRI has become a critical resource for West Texas landowners and land managers.”



The namesakes of the Victoria and Parker Johnson Endowed Fellowship for Big Game Research were honored this year with the establishment of the endowment at Borderlands Research Institute.

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Donors Help Award Over \$122,000 in Student Scholarships

Graduate students are the heroes at BRI. They do much of the heavy lifting on our projects and are our best ambassadors, sharing their conservation inspirations and aspirations with anyone that will listen. With the help of many partners and donors, our students received over \$122,000 worth of scholarships this academic year. Our good friends at the San Antonio Livestock Exposition (S.A.L.E.) led the way with a \$60,000 gift to support four graduate student scholarships. We're also proud to announce that we were able to meet our \$50,000 scholarship fundraising goal! The fundraiser was launched this past summer with a challenge grant from the Permian Basin Area Foundation. All proceeds will go to scholarships for BRI graduate students.

Thanks to our donors, we were able to award scholarships to the following students for the 2023-2024 academic year:

S.A.L.E. Scholarship: Audrey Taulli, Andrew Dotray, Ty Goodwin, and Emily Blumentritt

John B. Poindexter Endowed Fellowship: Caleb Hughes

Wayne and JoAnn Moore Endowed Scholarship: Ty Goodwin and Andrew Dotray

Virginia Matthews Law Scholarship: Caleb Hughes

Franklin and Virginia Law Scholarship: Emily Blumentritt

West Texas Chapter Safari Club International Endowed Scholarship: Elle Sutherland

Alec Ritzell Memorial Undergraduate Scholarship: David Wellborn and Jason Crosby

BRI Undergraduate Neeley Scholarship: Jon Lomas and Eduardo Santoya

BRI 15th Anniversary Scholarship: Hailey Barton, Nicole Dickan, Aaron Ortega Gonzalez, Andres Solorio Pulido, David Tønnessen, Gray Hancock, Audrey Taulli, Andrew Dotray, and Asia Cornelius



Some of the students who received scholarships this year, L to R: Andres Solorio Pulido, Hailey Barton, Nicole Dickan, Gray Hancock, Aaron Ortega Gonzalez, and Audrey Taulli.

Cost Share Opportunities Still Available

There is still significant funding available for landowners through cost share programs with the Center for Land Stewardship and Stakeholder Engagement at BRI.

The Greater Big Bend Conservation Partnership is a cost share program made possible through a grant from the USDA's Natural Resources Conservation Service (NRCS). This program will reimburse approximately half of the overall cost of qualified conservation practices to selected landowners. Eligible activities include grassland restoration via brush management (both mechanical and chemical), riparian restoration, and construction of wildlife friendly fencing. This initiative has no Adjusted Gross Income restriction and is available to landowners in Brewster, Jeff Davis, and Presidio counties of Texas.

Interested landowners can apply through one convenient portal that will remain open year-round. Applicants will be

considered for any open programs.

To learn more about available cost share programs, visit the Land Stewardship section of the BRI website, <https://bri.sulross.edu/land-stewardship/>, or contact BRI Habitat Specialist Jason Crosby at Jason.Crosby@sulross.edu.





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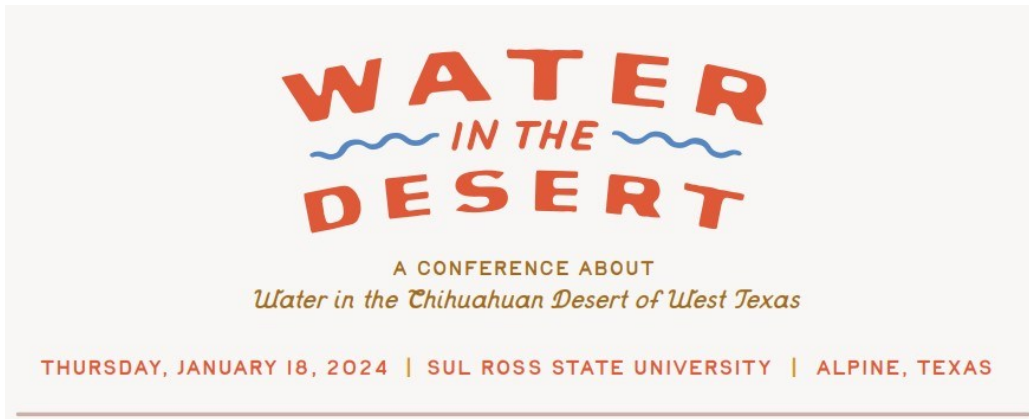
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Water in the Desert, a conference about water in the Chihuahuan Desert of West Texas, will take place at Sul Ross State University on January 18, 2024. This one-day conference will encourage dialogue across multiple disciplines to address one of the desert's most important natural resources. Geologists and hydrologists will share what they have learned about the aquifer systems of the region. Legislative leaders will share insights on water policy, funding opportunities, and water innovation. A landowner discussion will be moderated by James

Oliver, Texas and Southwestern Cattle Raisers Association Director and Chair of the Natural Resources/Wildlife Subcommittee. Other panelists include David Yoskowitz, who is the Executive Director of Texas Parks and Wildlife Department, and Sul Ross State University faculty. Learn about how well-informed land stewardship benefits the hydrologic cycle and be inspired by stories of impactful on-the-ground projects. Register online: <https://bri.sulross.edu/events/water-in-the-desert-2024/>.