

DESERT TRACKS

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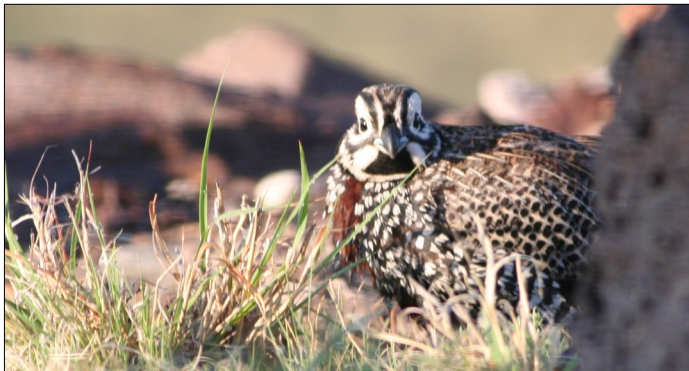
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CONSERVING THE LAST FRONTIER

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The Cryptic Montezuma Quail: Population Characteristics and Preferred Habitat

Elizabeth Oaster and Ryan Luna



Within the southwestern United States there are 4 quail species: Gambel's quail (*Callipepla gambelii*), northern bobwhite quail (*Colinus virginianus*), Montezuma quail (*Cyrtonyx montezumae*), and scaled quail (*Callipepla squamata*). Of these species, the Montezuma quail possesses the most elaborate plumage and cryptic behavior, allowing them to virtually disappear when they crouch and freeze to avoid detection.

Due in part to this superior camouflage, there is limited knowledge about habitat requirements and population characteristics of Montezuma quail. For this reason, Borderlands Research Institute, New Mexico Bureau of Land Management, Park Cities Quail Coalition and National Wild Turkey Federation initiated a study in the Capitan Mountains of New Mexico to gather data on tree canopy cover selection, roost site selection, and population characteristics.

In order to assess these we first had to capture and equip Montezuma quail with GPS/VHF transmitters. The most successful means of capture is to use trained pointing dogs to locate roosting Montezuma quail at night. Once a covey of roosting Montezuma quail were located, researchers used headlamps to disorient the quail and dip nets to capture the birds. Captured individuals were fitted with either a GPS/VHF or VHF backpack transmitter, which allowed researchers to monitor the birds' survival and movements.

Results from this study showed that Montezuma quail utilized areas with 30–69% tree canopy cover. Other characteristics important to habitat selection appear to be the amount of bare ground and shrub density.

In regard to foraging site selection, the most commonly selected tree height was 16 feet, with a range from 5–42 feet. The most commonly selected average distance to closest tree was 33–66 feet, with a range from 6–187 feet.

Lastly, Montezuma quail were found to have an overall male to female ratio of 0.9:1. Quail are unique when compared to most bird species, as they have nearly a 1:1 male to female ratio, and most species have a skewed sex ratio. Overall findings from this study will help landowners and managers better understand Montezuma quail habitat selection and will aid in the management of this species.



Legacy gifts have a lasting impact on our conservation efforts. Contact us to learn how you can leave a legacy for West Texas wildlife.

From the Director – New Looks and Legacy Gifts!

Outreach is an important aspect of our mission. Through outreach we are able to communicate conservation efforts and successes to our varied constituency. In an effort to better communicate with the stewards of the region, we have recently expanded our outreach efforts. This March we launched *Borderlands Bulletin*, an e-newsletter that will be emailed every other month and will complement our *Desert Tracks* newsletter. Please go to our website (bri.sulross.edu) and use the Sign Up button at the top of our home page to ensure you are receiving this latest BRI publication.

We are also excited to share news of two recent legacy gifts that will have a lasting impact for our conservation work in the Borderlands.

To honor their commitment to land stewardship the Nau Foundation recently established the Nau Endowed Chair in Habitat Research and Management. The new position will allow us to bolster our research program, focusing on the many habitat issues of the region.

Similarly, the family of Virginia Matthews Law recently established an endowed scholarship to support graduate students at the Borderlands Research Institute.

We are truly humbled by the Nau and Law families for their commitment to the Borderlands Research Institute.

—Louis A. Harveson

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First Virginia Matthews Law Scholarship is Awarded

A new scholarship has been created at the Borderlands Research Institute at Sul Ross State University by the family of Virginia Matthews Law, whose family has operated a ranch in West Texas for more than one hundred years. The scholarship was created to honor her life and celebrate the family's long history of ranching in Brewster County. Through this endowment and the students it supports, Virginia's legacy will continue to help expand the knowledge of all landowners in West Texas, allowing them to become more effective stewards of their land.

The first scholarship has been awarded to Kaitlyn Williams, a second-year graduate student with the Borderlands Research Institute. In her thesis work, she is examining grassland birds as indicators of grassland health and is exploring how the abundance of bird species responds to grazing pressure.



Virginia Matthews Law, pictured here, operated the family's ranch for 59 years. Her love for West Texas came from a long line of ranchers and land stewards that continues today. (Photo courtesy of her family)

Nau Endowed Chair in Habitat Research and Management

The Borderlands Research Institute is pleased to announce the largest philanthropic gift in its 10-year history. The \$1.5 million gift will fund a new Nau Endowed Chair in Habitat Research and Management at BRI. The Nau Foundation in Houston has pledged \$100,000 to an endowment and \$50,000 for operations annually over the next ten years. The gift is also the largest ever received by Sul Ross State University.

“Endowments are among the most impactful philanthropic gifts that can be made because they provide funding certainty for key faculty positions,” said Dr. Bill Kibler, Sul Ross State University President. “We are extremely grateful to John L. Nau III and the Nau Foundation for this incredibly generous gift. It is a strong show of support for the outstanding reputation of BRI and will help expand the expertise of our faculty by allowing us to hire a national expert focused on habitat research and management for the region.”

Nau is the chief executive officer of Silver Eagle Distributors in Houston, the largest distributor of Anheuser-Busch products in the United States. The Nau family owns a ranch in West Texas and has been actively involved with the BRI for more than 10 years. Family member Parker Johnson currently serves on the BRI Advisory Board.

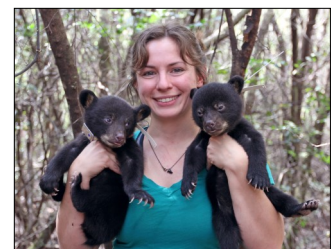
“We’re proud to make this gift to support BRI’s habitat program,” said Johnson. “BRI has been a great asset to our ranch operations, to the landowners of the region, and throughout Texas. Learning more about the habitat that supports thriving wildlife populations will ensure future generations will enjoy the natural resources we have today. Our family believes that supporting the habitat program will have the most impact on future conservation efforts.”



Members of the Nau family, including (left to right) Parker Johnson, Victoria Nau Johnson, John L. Nau III, and Elizabeth Nau Stepanian

Please Welcome Our Newest Research Associates!

Dr. Dana Karelus is a Research Associate with the Borderlands Research Institute Carnivore Research Program. She specializes in carnivore ecology, with a focus on animal movement patterns, space-use and habitat selection, and population ecology and dynamics. Prior to joining BRI, Dana completed her PhD from the University of Florida in interdisciplinary ecology with a focus in wildlife ecology and conservation. Her dissertation was on Florida black bear movement ecology and habitat selection in a fragmented landscape.



Philip Boyd is a Research Associate with the Borderlands Research Institute. He serves as Program Coordinator for the Dos Rios Landscape Conservation Design (LCD), a bi-national cooperative project working to identify and conserve shared resources and values on both sides of the Rio Grande/Rio Bravo border. Philip acquired his MS from Sul Ross State University while serving as a research assistant, field technician, and teaching assistant. His thesis work used simulation modeling to evaluate translocation strategies for the pronghorn restoration effort in far West Texas.





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San Antonio Livestock Exposition Scholars, 2017-2018

Since its inception in 1949, the San Antonio Livestock Exposition (S.A.L.E.) has committed over \$198 million to Texas youth. Thanks to their more than 6,000 dedicated volunteers, the organization is able to support students like our own at the BRI.

This year, four outstanding BRI graduate students received S.A.L.E. fellowships:

—**Michael Stangl** (Austin) is studying the relationship between mountain lion predation and scavengers in the Davis Mountains.

—**Fabiola Baeza** (Presidio) is studying winter habitat of Baird’s and grasshopper sparrows in the Marfa Grasslands.

—**Taylor Daily** (Lubbock) is studying movements, survival, and habitat use of desert bighorn sheep in the Black Gap Wildlife Management Area.

—**Jacob Lampman** (Marion) is studying the influence of agriculture on mule deer in the Texas Panhandle.



This year’s S.A.L.E. scholars, left to right: Michael Stangl, Fabiola Baeza, Taylor Daily, and Jacob Lampman (not pictured)