



Desert Tracks

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

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RESEARCH IN ACTION:

Identifying Potential Black Bear Corridors

by Cherie New and Patricia Moody Harveson

Inside this issue:

<i>Research in Action</i>	1
<i>From the Director</i>	2
<i>Re&W Club Raises Funds for Scholarships</i>	2
<i>Donor Spotlight</i>	3
<i>“Name the Bear” Competition</i>	3
<i>Pronghorn Benefit Dinner</i>	4

Imagine a time when black bears were so numerous in west Texas that hunting teams would set out in the upper mountains and harvest as many as 4-5 bears a day. Those days are not too far in our past. In fact, in the late 1930s over 200 black bears were reported to occur in the Davis Mountains, alone.

Black bears historically inhabited the Davis, Del Norte, Glass, Santiago, Chinati, Guadalupe, Chisos, and Vieja mountain ranges. Since that time, black bears in west Texas have all but disappeared and receded into neighboring mountain ranges in northern Mexico. However, black bears have been staging a comeback since the 1990s and now have a breeding population in Big Bend National Park (BBNP).

To better understand if, how, when, and where black bears will return to their historic habitats, we used computer models to evaluate recolonization scenarios for the Trans-Pecos region.

Using telemetry data from black bears in the BBNP area, we used ecological niche modeling to create a habitat suitability map by identifying habitats (elevation, vegetation types) similar to those used by our radioed bears. Because suitable habitat occurred in isolated patches (upper elevations of prominent mountain ranges), we identified potential corridors connecting the suitable habitats. We then assessed dispersal scenarios based on black bear population dynamics.



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Reproducing female black bears appear to be the limiting factor for expanding black bear populations in the Trans-Pecos. Because females do not disperse at the great distances as do male black bears, the likelihood of black bears recolonizing historic habitats is hindered.

Based on our model, one of the most critical elements was the presence of female black bears and their ability to disperse. Although black bears may occur in various mountain ranges across the Trans-Pecos, most of those sightings have been of males that typically disperse at much larger distances than females.

Populations are not viable without sustaining reproduction, which obviously requires litter-producing females. The importance of female black bears in population recovery can be best demonstrated with the population in BBNP. In BBNP, genetic analysis revealed that the recolonization of black bears to the Chisos Mountains in the 1990s could be tied back to a single

(continued on page 3)

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What's happening with our pronghorn herds? For unknown reasons, pronghorn numbers have reached an all-time low for the Trans-Pecos. Scientists with the Borderlands Research Institute are currently conducting studies to evaluate hypotheses related to drought, predation, reproduction, nutrition, diseases, and genetic variability.

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From the Director—“Going, going, going,...gone?”

Pronghorn are one of the most unique species in North America. They are built for speed, sustaining speeds of 60 mph. They have remarkable physiological adaptations that help them sustain those speeds (blood chemistry, cooling behaviors, oversized lungs and heart). Their entire digestive system has evolved to specialize in consuming small forbs, cacti, and browse. They are the only species represented in their family Antilocapridae. No other species epitomizes the grassland ecosystems of the Chihuahuan Desert more than pronghorn.

As many of you know the pronghorn herds of west Texas have reached an all

time record low, estimated at less than 4,800. Although the drought of the 1990s certainly played a part in their demise, it alone cannot be credited for the record low numbers of pronghorn.

Before we can remedy the decline, we must first identify why pronghorn numbers have plummeted. To that end, the scientists at the Borderland Research Institute have initiated a series of studies to not only identify the cause of the decline, but to remediate it. Working with our landowner constituents, concerned citizens, Texas Parks and Wildlife Department and conservation organizations like the West Texas Chapter of Safari Club International, the

Institute is taking an active role in helping pronghorn populations recover.

You will find in this issue an announcement for a fundraiser specifically for restoring pronghorn. Please consider joining us for that event or by making a donation. We are eternally grateful for your generosity and support.

The pronghorn recovery project is just one example of how the Institute takes a leadership role in solving natural resource problems for the region.

Please join us in our quest of conserving the natural resources of the Chihuahuan Desert Borderlands.

—Louis A. Harveson

SRSU R&W Club Raises Money for Scholarships

The SRSU Range and Wildlife Club has won university, state, and national awards for their commitment to natural resource education and conservation.

That commitment was most recently demonstrated when the Club held a fundraiser to benefit scholarships.

Through a donation from the Justin Cross Family, the Club secured 3 hunting

packages including mule deer-javelina, javelina-turkey, and spring turkey hunts. The hunting packages were then raffled off. The raffle netted over \$2,000 in sales which were generously donated to the Robert P. Cross Memorial Scholarship.

The family of Robert P. Cross established the scholarship at SRSU in 1997 to

provide financial assistance to students seeking degrees in natural resource management or animal science. Since that time, the Cross Scholarship has benefited over a dozen students attending SRSU.

If you would like to find out more about establishing a new scholarship or donating to an existing one, please contact us at 432.837.8488.

Donor Spotlight: West Texas Chapter-Safari Club

The West Texas Chapter of Safari Club International (WTCSCI), a group of sportsmen and wildlife enthusiasts based out of Midland-Odessa, has been a supporter of the wildlife program at SRSU for over a decade. The long relationship began with WTCSCI sponsoring a scholarship for a wildlife

student at SRSU in 1999. In addition to the annual scholarship, WTCSCI has sponsored research projects at SRSU focusing on Montezuma quail, desert bighorns, and mule deer.

Most recently, the Chapter played a pivotal role in securing emergency and sustaining funding for our investigation of the prong-

horn decline. Using items donated by west Texas landowners like hunts and stays on local ranches, the Chapter was able to raise the needed funds for the pronghorn project at their annual banquet.

The next annual banquet for WTCSCI is scheduled for February 19, 2011 in Midland, Texas.



© Dick Saulsbury

Cal Hendricks (R), President of the West Texas Chapter of Safari Club International presents a \$20,000 check to Dr. Louis Harveson (L), Director of the Borderlands Research Institute to support the investigation of the pronghorn decline.

Potential Black Bear Corridors (continued)

(continued from page 1)

pioneering female black bear. That matriarchal female produced several litters of cubs (including other females) and was the basis of the population growth that occurred there. The

current black bear population in BBNP is also thought to be a result of that matriarchal female.

Although we do not anticipate black bear populations ever reaching their former distribution and abundance

throughout the Trans-Pecos, our understanding of their demographics, movements, and habitat relationships will allow landowners and resource managers of west Texas to prepare for the return of the black bear.

Please consider making a tax deductible donation to the Borderlands Research Institute to support our research, outreach, and educational programs.

Alpine Children Compete to Name Black Bear

The Museum of the Big Bend, in cooperation with Texas Parks and Wildlife Department and the Borderlands Research Institute recently held a “Name the Bear” competition. Students from Alpine Elementary, Alpine Montessori, Alpine Christian, and various home schools from the region submitted hand-

drawn pictures of a black bear and a recommended name. Joshua Steele, a fourth grader, was chosen as the winner of the contest with his recommended name of “Big Ben”. The bear was the victim of a car collision in June 2009 just west of Alpine. The Borderlands Research Institute along with other partners

raised the funds so that the bear could be displayed at the Museum for educational purposes. In addition to the bragging rights of naming the bear, Joshua won a stuffed black bear toy, a 1-year subscription to Texas Parks and Wildlife magazine, and a \$50 gift certificate to the Sul Ross State University Bookstore.



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Joshua Steele (R), a fourth grader from Alpine stands with SRSU President Dr. Ricardo Maestas (L) in front of “Big Ben”. The 417-pound bear is prominently displayed at the Museum of the Big Bend.

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Benefit Dinner Set to Support Pronghorn Restoration

Mark your calendar for **Saturday, January 29, 2011 at the Granada Theatre in Alpine, Texas.**

That's when local landowners will be hosting a benefit dinner and dance for pronghorn restoration.

Pronghorn populations in the Trans-Pecos have experienced unprecedented declines and are at an all time low of less than 4,800.

West Texas landowners, civic leaders, Texas Parks and Wildlife biologists, concerned citizens, and researchers with the Borderlands Research Institute

have rallied together to raise money to restock pronghorn to formerly depleted rangelands.

A surplus of 200-300 pronghorn have been identified in the Panhandle, where their populations have been blossoming. The fundraising effort will not only benefit Trans-Pecos pronghorn populations, but will also relieve the pressure of burgeoning populations that are depredating crops in the Panhandle.

All funds and donations from the benefit dinner will be used to cover costs asso-

ciated with restocking and monitoring pronghorn to the Trans-Pecos.

Following dinner, entertainment will be provided by Craig Carter and the Spur of the Moment Band.

For more information about the pronghorn project, where to purchase tickets, or how you can donate to the project go to www.sulross.edu/brinrm/pronghorn.htm or call the Borderlands Research Institute at 432.837.8488.

Join us January 29, 2011 and help us restore pronghorn to the Trans-Pecos!