A publication of the Borderlands Research Institute for Natural Resource Management at Sul Ross State University.

BORDERLANDS RESEARCH INSTITUTE FOR NATURAL RESOURCE MANAGEMENT
SUL·ROSS·STATE·UNIVERSITY
A Member of the Texas State University System

Desert Tracks

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

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Dr. Bonnie J. Warnock
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- *Specialization*: Restoration Ecology and Rangeland Hydrology

RESEARCH IN ACTION:

Effects of Wildfire on Flora & Fauna of the Big Bend

by Bonnie J. Warnock

As scientists, we understand the role of fire as a natural disturbance in the grasslands and woodlands of the Trans-Pecos. We have studied the effects of prescribed fire on plant and animal communities and understand that fire can have positive effects on the ecosystem. However, this knowledge did not alleviate the fear and emotional turmoil that we felt this past spring when wildfires threatened our homes and those of our neighbors.

During the past few months many Trans-Pecos landowners have experienced the same emotions, with many of them losing more than just vegetation to the fires. With no rainfall in the near future, fire danger remains high and there seems to be little hope of recovery for the acres scorched by the recent fires. But there is hope for recovery. Our ecosystems are adapted to fire.

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Researchers with the Borderlands Research Institute are investigating the short and long term impacts that wildfires may have on the habitats and wildlife of the Trans-Pecos.

So what can we expect in the areas that have burned? Perennial grasses can withstand fire with little damage. However, because of the very dry conditions, we will see some perennial grass mortality. But if we get rains during this monsoon season, grass regrowth will be rapid. Fire can increase the health of some species of grasses such as sacaton and can suppresses shrub growth that has taken over many of our grasslands. In low areas and draws we have already seen regrowth of grasses.

Fire also promotes annual forb growth, which is the major source of food for pronghorn and mule deer. Many of our tree and shrub species are sprouters and are not killed by fire. The top of the tree may be killed, but they have the ability to sprout from the roots and quickly regrow. Many of our oaks, madrone, and mesquite will resprout from the roots. Other trees and shrubs, like pinyon pine are not sprouters and can be killed by fire. Recovery will be slow for our pinyon woodlands. To better understand how ecosystems respond to fire, the BRI will be conducting a variety of studies evaluating the impact of the wildfires on vegetation, birds, small mammals, and pronghorn.

There is hope. With some rain, our fragile desert will respond quickly by producing leaves, flowers, and seeds.

From the Director—"How Fragile Our Desert Is..."

There are many things that are out of our control. Unfortunately, weather and natural disasters are some of those. The one-two punch of fires and drought have touched all of our lives.

But as Dr. Warnock points out in her *Research in Action* article, "There is hope." When the rains return, our fragile desert ecosystem will respond in splendor, capitalizing on the precious water by producing leaves, flowers, and seeds.

Fortunately, many of our wildlife species are adapted to such climatic extremes. Many of our birds will wait for the rains before they begin nesting, reptiles will remain underground until temperatures lower, and some of our large mammals will respond by reabsorbing their fetus, still birthing, or even abandoning their young. And, like black bears, some animals will abandon their ranges and make extreme journeys for food and water.

Each species is adapted in their own way to survive the extremes of the desert. Individuals may perish, but populations will persist.

There are some practices that can be implemented to help wildlife survive.

All livestock water sources should be working and readily available for wildlife. This may involve allowing spill over, providing platforms, or building ramps in and out of the troughs to allow wildlife access to the water. We know from our studies that big game (desert sheep, mule deer, and pronghorn) will go to water during all times of the day once it reaches 105°F.

Food consumption is also impaired when water is not available. It is not uncommon for big game species to lose as much as 20% of their body mass annually during lean times.

Fences should be modified to allow for easy passage. Many of the pronghorn and other wildlife that perished in the wildfires were associated with fences. Pronghorn have a very difficult time negotiating net-wire fences as do weakened deer that normally jump fences.

With your help, we will continue to conserve our fragile desert.

—Louis A. Harveson

Student Scholars Acknowledged at Honors Program

During the annual SRSU Honors Convocation, 6 students were acknowledged as outstanding students in Natural Resource Management, including graduate students Laura Loeser (Conservation Biology), Maria Williams (Range Management), and Paula Skrobarczyk (Wildlife Management) and undergraduates Josette Delgado and Justin Hoffman. Each student received "Outstanding Student" awards.

Mark Foreman also received special recognition for his outstanding service.

Justin Hoffman, a senior wildlife management major also received the highest award of the evening: Sul Ross State University's 2011 Man of the Year.

Congratulations to all our award recipients!

Donor Spotlight: Mr. and Mrs. John L. Nau, III

John and Bobbie Nau, through JB Bar Ranch Holdings LTD, have recently donated $125,000 to the Borderlands Research Institute.

As wildlife enthusiasts and avid quail hunters, the Naus have directed their gift towards the BRI's new quail research program. They have sponsored a five year research project titled "Evaluating the effects of habitat management on scaled quail reproduction, density, and survival."

Along with their family, the Naus are owners of the 9-Point Mesa Ranch in Brewster County. John is President and CEO of Silver Eagle Distributors, the largest Anheuser-Busch distributor in the country. John and Bobbie reside in Houston. Their family includes two married daughters and five grandchildren.

The BRI recently launched a region-wide investigation on scaled quail.

Prescribed Burning Association Seeks Members & Funds

It's official. The Trans-Pecos Prescribed Burning Association (TPPBA) just received its 501(c) 3 status. The tax-exempt status was a necessary step to allow the TPPBA to receive donated funds and items and provides liability protection for its members.

TPPBA is currently seeking $20,000 for fire management and suppression equipment including water trailers, hand tools, backpack sprayers, and fire suits.

All equipment will be available to members for conducting prescribed fires and for fire suppression.

In light of the catastrophic fires west Texas has experienced, the importance of fuel management cannot be overstressed. One of the primary purposes of the TPPBA is to manage fuel loads to minimize the impacts of damaging wildfires.

Join us on August 9, 2011 at 5:30 pm in the Range Animal Science Center (room 130) to learn more about the TPPBA.

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

SRSU Marketing Campaign Promotes the Big Bend

Sul Ross State University recently launched a new marketing campaign that embraces the natural wonders of the Big Bend region. The campaign was launched in early April with a series of billboards, posters, videos, and commercials. The campaign focuses on one of the greatest traits of SRSU: its natural setting. The Big Bend is the pinnacle of the Borderlands region and is one of the most majestic and diverse regions of the world. Educational programs at SRSU capitalize on the natural environment by incorporating outdoor learning experiences into academic programs. The research, education, and outreach programs of the Borderlands Research Institute are good examples of outdoor learning at SRSU.

SUL ROSS
THE UNIVERSITY OF THE BIG BEND

New logo and marketing campaign stress the importance of our natural resources and the area we call the Big Bend.

Borderlands Research Institute
for Natural Resource Management

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Drought and Fires Send Black Bears Searching for Food

The recent fires and extended drought have taken a toll on all walks of life, but one species that has received recent attention is the black bear, a rarely seen resident of the Trans-Pecos.

Starting in June 2011, a flurry of black bear sightings were reported in the Alpine-Marathon-Fort Davis area, including sightings in and around towns and residences.

Researchers with the Borderlands Research Institute are especially interested in this increase in black bear activity as we try to understand their movements and recolonization strategies.

Unlike many of the other resident wildlife species, black bears have the capacity to move tremendous distances in response to environmental catastrophes.

The increased black bear activity is almost certainly a response to the extensive habitat loss from wildfires in Mexico and Texas, coupled with the extended drought and extreme heat.

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Black bears, like this one photographed south of Alpine, have been sighted throughout the Trans-Pecos as they search for food and water.

Please report all black bear sightings to Texas Parks and Wildlife Department at 432-837-2051 or 1-800-792-1112.