

Eye on Nature

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Getting Texans Involved

Black-tailed Prairie Dog management and conservation in Texas: the statewide management plan

by Heather Whitlaw

In July 1998 the National Wildlife Federation (NWF) petitioned the U.S. Fish and Wildlife Service (USFWS) to list the black-tailed prairie dog (*Cynomys ludovicianus*) as threatened under the federal Endangered Species Act (ESA) throughout the prairie dog's historic range. The USFWS placed the black-tailed prairie dog on the ESA Candidate List by issuing a "warranted but precluded" finding in February 2000 (USFWS 2000); in March 2002 the Service renewed the Candidate listing priority for another 12 months (USFWS 2002). Black-tailed prairie dogs currently occur in Montana, Wyoming, Colorado, New Mexico, Oklahoma, Texas, Kansas, Nebraska, North Dakota, South Dakota, Canada and Mexico; the species has been extinct in Arizona since 1960. Following the NWF petition, Texas, as a cooperating member of the Interstate Prairie Dog Working Group, agreed to initiate efforts to develop a statewide black-tailed prairie dog management plan as part of the coordinated interstate conservation strategy to manage the species.

The first step in plan development was formation of the Texas Black-tailed Prairie Dog Working Group (TBTPDWG or Working Group). The Working Group was formed in 1999 and consists of diverse stakeholders concerned with conservation and management of the prairie dog in Texas. Working Group members include private landowners, agricultural producer groups, environmental organizations and state and federal agencies. The primary mission of the TBTPDWG is to "Develop and initiate a statewide plan that will conserve the black-tailed prairie dog, while simultaneously protecting personal and property rights."

Over the past 3 years, the Working Group



has worked to produce a plan that addresses the concerns of the many parties interested in this species for a wide variety of reasons. The Texas Black-tailed Prairie Dog Conservation and Management Plan (i.e., the Plan) is currently in draft form. The Plan is designed to be flexible enough to respond to changing conditions in the status of black-tailed prairie dog populations in Texas or within current/future social and economic environments, and to preclude the need for listing under the federal ESA. The Plan emphasizes voluntary actions by private landowners. In time, the TBTPDWG will develop and assist in implementation of the statewide Plan.

The Plan contains biological information and management recommendations for prairie dog conservation and management in

[Continued on Page 3]



**Rare Species: Lesser
Prairie Chicken,**
Page 2

**Region Focus:
High Plains,**
Page 4

**Wildlife Watching:
Brazos Bend State Park,**
Page 6

Hope For Horny Toads,
Page 7

Upcoming Events,
Page 8

**Playa Lakes of the Texas
High Plains,**
Page 9

Wild Stuff,
Page 10

Back Porch,
Page 12



Rare Species

Eye On Nature

Spring, 2003

Texas Parks and Wildlife Department

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Lesser Prairie Chicken update

By Steve DeMaso

A petition to list the lesser prairie-chicken (LPC) as threatened under the Endangered Species Act was submitted to the United States Fish and Wildlife Service USFWS in 1995, and the USFWS issued a "warranted, but precluded" listing for the lesser prairie-chicken in 1998. The status of the LPC will be reviewed annually by the USFWS and formal listing as threatened may result.

Lesser prairie-chicken numbers and their distribution have significantly decreased, since pre-settlement of southwestern prairies. It is hypothesized that cultivation of native rangeland, control of sand sagebrush (*Artemisia filifolia*) and shinny oak (*Quercus havardii*), fragmentation of existing suitable habitat and other human-induced changes to the landscape are responsible for the decline.

Adequate cover is among the greatest factors affecting LPC populations, and the continued loss of shrub/grassland habitat remains the greatest threat to the LPC's future. Preserving these shrub/grassland communities and properly managing rangelands can help landowners augment local LPC populations and populations of other species that rely on similar habitats.

The Wildlife Division staff of TPWD has proposed closure of the statewide LPC hunting season to conserve populations and provide potential brood stock for Texas and other states currently involved in prairie chicken restoration efforts. Currently, there



is a two-day open season for LPCs in eight Panhandle counties. Anyone wishing to provide TPWD with comments regarding the season closure can comment at http://www.tpwd.state.tx.us/involved/pub-hear/local_meetings.htm

The LPC interstate working group has begun work on a "National Lesser Prairie-Chicken Initiative." This initiative will be similar to the "Northern Bobwhite Conservation Initiative" developed by the Southeast Quail Study Group. The Plan will be based on Bird Conservation Regions (BCRs) and have habitat and population goals for each BCR. Hopefully, the initiative will be integrated in with other bird plans, such as Partners in Flight and the Northern Bobwhite Conservation Initiative to provide "wall-to-wall" bird conservation. The initial draft of the initiative should be complete by early fall.

Steve is the Upland Game Bird Program Leader.

Did You Know?

The largest prairie dog colony on record existed in Texas. It measured 100 miles wide, 250 miles long and contained an estimated 400 million prairie dogs.

America's most endangered mammal, the black-footed ferret, depends on black-tailed prairie dog colonies for food and shelter. Mountain plovers and burrowing owls also make prairie dogs colonies their home.

Prairie dogs are active during the day. They spend about one-third of their time feeding, and the remainder of daylight involved in social interactions with other colony members, as well as working on burrows and mounds and responding to alarm calls.

[Black-tailed prairie dog continued]

Texas. It includes a review of the species over its historic range, and specific Goals, Objectives and Strategies designed to promote prairie dog conservation and long-term population sustainability in the state. Components of the Plan include scientific assessment of current conditions, science-based recommendations for conservation and recovery of the species, and identification of realistic management strategies that will result in desired outcomes for all stakeholders. Annual review will provide opportunities to make adjustments with respect to the management needs of prairie dogs and their associated short-grass prairie habitats, in addition to the changing needs and expectations of the public and various agencies responsible for conservation of natural resources in Texas.

Although the Plan is still considered to be a “draft,” it is close to completion and is only lacking the inventory data needed to complete the management strategy. Since 1999, Texas Parks and Wildlife Department (TPWD) has supported the Working Group and its planning mission in the forms of personnel time, administrative support and funding for field research and an aerial map-based inventory of prairie dog towns. The inventory is a statewide count of the total number of acres occupied by prairie dogs at a given time; in other words, it is a snapshot in time that indicates how many occupied acres existed when the inventory was conducted. Inventory data will guide future monitoring efforts, which will be regular and planned censuses of occupied acres at specific sites. The purpose of monitoring is to detect changes in occupied acreage over time.

Much of the strength of the Texas Black-tailed Prairie Dog Conservation and Management Plan lies in its

Goals, Objectives and Strategies. They were identified and agreed upon by the Working Group over 3-years of Plan development. As a result, they address the needs and concerns of many stakeholders. Below is a brief summary of the Plan’s Goals; note that associated with each Goal are a number of Objectives (identification of specific task) and Strategies (identification of how the task will be accomplished) that are too numerous to outline completely here, although I have included a few examples:

Goal 1: Determine the Current Population Size of Black-tailed Prairie Dogs in Texas and Establish a Long-term Monitoring Program

Objective 1: Inventory prairie dog population over the Texas range of the species.

Strategy B: Insure that inventory and data recording methods respect the confidentiality of private landowners.

Strategy D: Establish criteria for determining where prairie dog conservation, management, research and education efforts could be concentrated.

Objective 2: Establish monitoring protocol, timelines and select sites.

Strategy B: Locate monitoring sites strategically throughout the species’ historic range in Texas using the statewide inventory to refine site selection. Sites should be large enough to yield sufficient data, but small enough to be manageable from the perspectives of financial and personnel needs.

Goal 2: Increase Landowner and Public Tolerance of Prairie Dog Presence by Education and Outreach

Objective 1: Develop and implement education and outreach programs that focus on the black-tailed prairie dog and related human health issues, in addition to the structure, function and ecological and economic values of prairie ecosystems.

Goal 3: Develop Management Options and Guidelines That Conserve Prairie Dogs at Long-term Sustainable Levels

Objective 3: Use current incentives and develop new ones to encourage tolerance and conservation of prairie dog populations on private and public lands.

Goal 4: Review and Make Recommendations for Regulatory Changes in the Status of Black-tailed Prairie Dogs

Objective 1: Review statutes to assure that all state laws related to prairie dogs are known.

Objective 2: Evaluate whether the current statutes allow for the effective conservation and management of the species in the state.

Goal 5: Identify research needs and programs to facilitate long-term viability of Black-tailed prairie dogs in Texas

Goal 6: Achieve conservation and management of the black-tailed prairie dog in Texas by implementing the Plan

The Working Group felt it was important to state that implementation of the Plan (i.e., Goal 6) was a necessary component of the planning process. The success of Texas’ statewide prairie dog plan will depend on the implementation abilities of the Working Group and other interested stakeholders. Resolution of the prairie dog situation at the Lubbock Land Application Site (LLAS) is an example of the Plan’s usefulness in promoting partnerships between private and public entities. The statewide Plan and its clearly outlined goals provided a strong foundation upon which the City of Lubbock developed its short-term LLAS prairie dog management plan.

The Plan will be made available for public comment in the near future. We will make every effort to include all interested parties in the process. For more information on the Texas Black-tailed Prairie Dog Conservation and Management Plan please contact Heather Whitlaw at heather.whitlaw@tpwd.state.tx.us or the TPWD Wildlife Diversity Program office in Austin (512) 912-7040.

Heather is the Endangered Resources/Wildlife Diversity Specialist for Wildlife Region 1 working out of Lubbock.



“**T**he Great American Desert.” In 1820, explorer Stephen Long used these words to describe the High Plains—an area of short- and mid-grass prairies at elevations of 600 to 1,500 meters east of the Rocky Mountains. Except for the badland scenes in old Westerns, depicting endless miles of windswept, seemingly barren landscape, the High Plains have been generally overlooked, avoided or misunderstood. Early nineteenth-century descriptions of the High Plains ranged from “rolling green velvet” to “nothing but dirt and prickly pear cactus,” illustrating the immense variability of the landscape.

The area’s inhospitable nature—scarcity of water and trees, dramatic temperature changes, endless wind and harsh climate—deterred all but the hardiest of frontiersmen and homesteaders. Although in many ways a last frontier of modern-American civilization, materials from archeological sites across the High Plains provide evidence of human occupation by nomadic hunter-gatherer peoples dating back to paleo-historic periods.

Looking beyond the apparent emptiness of the landscape, the High Plains ecosystem contains its own unique riches. Grasslands, also known as prairies, occupy more area than any other ecosystem in North America and can be further divided into three groups, tallgrass, midgrass and shortgrass, based on the types of grasses growing in those areas and their response to available rainfall. The eastern boundary of the High Plains is often cited as the 100th meridian but the vegetation boundaries are flexible, varying with topography and weather patterns. Located in the rain shadow of the Rocky Mountains, the semi-arid High Plains is typically shortgrass prairie, with precipitation averaging less than 20 inches per year. (By contrast, the tall-grass prairies of the mid-western states may receive as much as 39 inches of rain per year.)

Prairie landscape is generally flat to rolling plains, with deep, well drained, loam and clay soils, supporting cool-season grasses, forbs and shrubs. Dominant plant species of the

High Plains: yesterday, today and tomorrow

By Vicki Sybert



High Plains are bunch grasses such as blue grama and sod grasses such as buffalo grass and western wheatgrass. Their root systems make up 90 percent of the plant’s mass. Most prairie plants have evolved to be drought- and wind-resistant, and have tough root systems to anchor the soil, and to find and store water and nutrients underground. Herbaceous plants grow less abundantly on the short-grass prairie. They typically have short life cycles growing quickly during times of adequate rainfall. These fast-growing forbs may have beautiful flowers that can quickly transform the prairie into blankets of color and are the dominant food sources for deer and pronghorn antelope.

Many plants of the High Plains are dormant during the extremes of summer heat and winter cold, growing in late spring or early summer and again in the fall. This allows the High Plains to support the many forms of wildlife that eat, nest or hide in the foliage. Despite the semi-arid climate of the region, the shortgrass prairie displays an abundant and diverse array of plants and wildlife. A square meter of short-grass prairie can contain 12 or more plant species. Within this system

the two dominant grasses flourish and support a spectrum of animal life — many of which are endangered, at-risk, rare or declining. Black-footed Ferret, Black-tailed Prairie Dog, Bison, Pronghorn and Swift Fox are just a few examples of species inhabiting short-grass prairies. Prior to the 1800s, the shortgrass prairie teemed with Bison, Gray Wolves, Elk and Grizzly Bears, and has been compared to the density and diversity of mammals found on the African Serengeti.

More than any other ecosystem, grasslands have experienced significant conversion to agricultural land uses. Drawn by the fertility of soils and abundance of land, settlers of the Great Plains took the plow to the prairie to plant corn, wheat and other grains to feed a growing nation. Surface water is scarce in the High Plains. It was not until wells were dug and windmills erected in the late 1800s and early 1900s that underground water sources were available to the newly formed settlements for livestock and irrigation for farmlands. The Ogallala Aquifer, one of the largest aquifer systems in the world, stretches across parts of eight plains states underlying about 174,000 square miles,

20.4 percent of which lies beneath the Texas High Plains.

The loss of native prairie landscape is particularly evident in Texas with 80 percent of the original pre-settlement shortgrass and mixed-grass prairies converted to other land-cover types. Presently, most populations of prairie wildlife exist in scattered, isolated remnants of prairie landscape. The broad scale loss of grasslands has produced dramatic declines in the diversity of plant and animal species. As many as 55 species of prairie wildlife are currently listed under the Endangered Species Act as endangered or threatened.

Birds are perhaps the most enjoyed and closely watched of all wildlife, and prairie grasslands birds are no exception. Historically, the influences of prairie fire, bison grazing and cyclical periods of drought created a geographic mosaic of grasses, prairie wildflowers and other plants that varied in composition, height and density throughout the prairie. This mosaic furnished a variety of habitat that grassland birds used for nesting, feeding and cover. With the advance of human settlement and the conversion of native prairie to cultivated fields, the diversity of the mosaic and abundance of habitat was sharply reduced. Populations of prairie grassland birds declined in the wake of these changes. Affected species include Golden Eagle, Ferruginous Hawk, Prairie Falcon, Burrowing Owl, Long-billed Curlew, Mountain Plover, Cassin's Sparrow, Lark Bunting, Chestnut-collared Longspur, Lesser Prairie Chicken and Scaled Quail, among others.

Native prairie birds inhabit one of four generalized habitats; prairie wetlands and waterways; areas associated with and produced by large grazing animals; less-grazed grasslands with a shrub component; and unique habitat created by Black-tailed Prairie Dog towns. Prairie birds show a steeper, more consistent and more geographically widespread decline than any other group of birds in North America. For some species like the Burrowing Owl, Long-billed Curlew and Mountain Plover, habitat loss associated

with reduction in acreage of Black-tailed Prairie Dog towns is a prime factor for decline. For other prairie grassland birds, lack of habitat diversity, introduction and invasion of non-native grasses, degraded riparian corridors and timing and intensity of grazing may be significant factors.

Decline of black-tailed prairie dog towns throughout the shortgrass prairie has harmed populations of Burrowing Owls who use the burrows for their nests, Mountain Plovers who find suitable nesting grounds among short grasses created by Black-tailed Prairie Dogs, and Ferruginous Hawks who depend highly upon Black-tailed Prairie Dogs for food. Black-tailed Prairie Dogs are at the center of the shortgrass prairie's web of life, with more than 25 species either dependant on or actively using habitat created by prairie dog towns.

Loss and fragmentation of rural lands is accelerating mainly due to the combined influence of weakened agricultural economies and increased demands of large urban populations. Texas leads all other states in loss of rural farming and ranching lands. Conversion of rural land to urban uses in Texas from 1982 to 1997 exceeded 2.6 million acres, the annual rate of conversion from 1992 to 1997 nearly doubled from the previous 10 years.

Conservation opportunities and challenges in the Texas Panhandle require that citizens become wise stewards who balance their agricultural and rangeland needs with restoring prairie ecosystems and associated native wildlife. The requirement of relatively large tracts of shortgrass prairie means that conservation of species such as Swift Foxes and Lesser Prairie Chickens – which require well developed shortgrass or climax mixed-grass habitats, could provide a foundation for the protection of many other species that require less acreage of the habitat. Swift Fox and Lesser Prairie Chicken are broadly appealing species of little controversy, that would serve well as focus species for conservation and management of prairie ecosystems.

Since private lands account for the overwhelming majority of prairie

acreage nationwide, and especially in Texas with 97 percent of all land privately owned, voluntary conservation and restoration efforts by private landowners are critical to successfully restoring a healthy prairie ecosystem and associated wildlife on the High Plains. Current conservation efforts focus on collaboration and partnership between representatives from state and federal agencies, conservation organizations, industry, universities and research institutes and particularly private landowners. Incentive programs provide financial assistance to implement conservation practices described in site-specific wildlife management plans. Education through various outreach and conservation programs and publications is another mechanism to increase public awareness. Ecotourism is quickly becoming a means of both educating the public and compensating landowners for conserving habitat. As we look to the future, the frontier spirit and proud history of the plains survives. This determination is exemplified in the flourishing partnerships and creative solutions being put into practice to insure the conservation success of the High Plains ecological community and the unique medley of species that inhabit this often misunderstood and unappreciated region of our state.

Vicki is a Regional Interpretive Specialist working in Region 1 out of Lubbock.



Wildlife Watching at Brazos Bend State Park

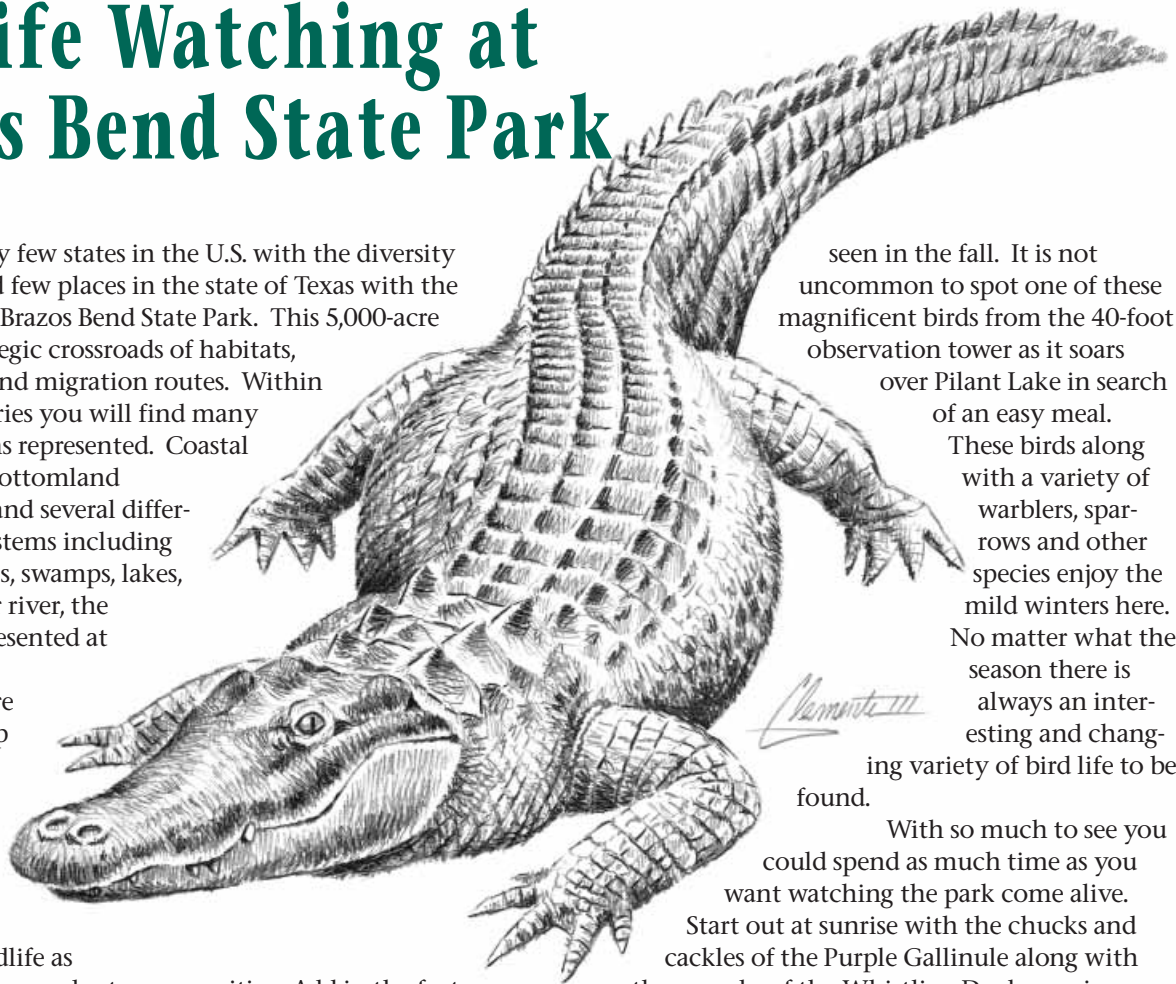
By David Heinicke

There are very few states in the U.S. with the diversity of Texas and few places in the state of Texas with the diversity of Brazos Bend State Park. This 5,000-acre park lies on a strategic crossroads of habitats, vegetation types and migration routes. Within the park's boundaries you will find many distinct ecosystems represented. Coastal Tall grass Prairie, Bottomland Hardwood Forest and several different Aquatic ecosystems including freshwater marshes, swamps, lakes, creeks and a major river, the Brazos, are all represented at the park.

The area where ecosystems overlap is called an Ecotone. Because of the overlapping of ecosystems, ecotones are typically good places to view wildlife as well as discover diverse plant communities. Add in the fact the Brazos Bend is just 40 miles from the Gulf Coast and smack dab in the middle of the central flyway and you have one of the best, most diverse wildlife watching opportunities in Texas.

The most well known resident at the park is probably the American Alligator. Brazos Bend hosts a population of around 300 adult alligators and is probably one of the best places in the state to view these huge reptiles in the wild. The warm days of spring or fall are probably the best for viewing. Temperature extremes, either hot or cold, force these animals into the water where they can be much more difficult to view. Please give the alligators plenty of room if they are near the trail and never feed the alligators. Simply follow the rules of "Alligator Etiquette," given to you as you enter the park, and you and the alligators can have a great day.

With Brazos Bend's location in southeast Texas, its close proximity to the coast and being along the central flyway all make the park a bird watchers delight. The park's bird checklist now totals nearly 300 species. Spring days in April and May welcome warblers, tanagers and orioles, passing through on migration to points north. Summer plays host to a variety of breeding species of birds such as Purple Gallinules, Black-Bellied Whistling Ducks, Painted Buntings, Summer Tanagers, Prothonotary Warblers, Roseate Spoonbills and variety of Herons and Egrets. Fall brings the rush of migrating song birds heading south as well as huge flocks of Ducks, Geese and Sandhill Cranes. Bald Eagles are also



seen in the fall. It is not uncommon to spot one of these magnificent birds from the 40-foot observation tower as it soars over Pilant Lake in search of an easy meal.

These birds along with a variety of warblers, sparrows and other species enjoy the mild winters here. No matter what the season there is always an interesting and changing variety of bird life to be found.

With so much to see you could spend as much time as you want watching the park come alive.

Start out at sunrise with the chucks and cackles of the Purple Gallinule along with the squeaks of the Whistling Ducks passing overhead on 40-Acre Lake. By mid-morning the butterflies are fluttering in abundance in the open meadows around Hale Lake and the alligators are basking on logs and low sunny banks all over the park. The mid day heat brings dragonflies buzzing and darting over basking turtles and Bullfrogs. By sunset the Barred Owls are calling from deep in the forest and Great Horned Owls hoot from perches overlooking grasslands as any of the park's seven species of bats might be patrolling overhead. After dark a deafening chorus of thousands of frogs welcomes the night. This is when the park really comes alive. A flashlight shining over the water will illuminate ruby red pin points of light in the water, these are Alligator eyes. Dusk and dawn are the best time to see many of the parks nearly 35 species of mammals, including Bobcat, River Otter and Coyote.

Other wildlife viewing opportunities can be found nearly anywhere in the park. On weekends check in at the nature center for recent sightings and suggestions on where in the park to visit. Join us for one of our guided bird-watching, butterfly-watching and even dragonfly-watching hikes. For plant and animal checklists, additional park information as well as schedule of interpretive programs and special events check out our Web site at www.bbbspvo.org or better yet come visit Brazos Bend State Park, a nature lover's paradise.

David is park naturalist at Brazos Bend State Park.

HOPE FOR HORNY TOADS



By Lee Ann Linam

Horned lizards are the stuff of Texas legends. Kids have kept them in shoeboxes on the back porch, stuffing them full of big red ants. They've traveled across the country by the boxload to Boy Scout jamborees. Purple and white ones adorn football pennants. One especially famous individual reportedly spent three decades in the cornerstone of the Eastland county courthouse. People love horny toads, but, unfortunately, the legendary horned lizard is now hard to find in many parts of Texas.

Once commonly encountered throughout most of the state, Texas Horned Lizards (the most widespread and familiar of Texas' three horned lizard species) have declined in much of the eastern part of their range. Fingers have been pointed at many culprits – pesticides, urbanization, changes in agriculture, the red imported fire ant and even malaria – but the truth is that no one was systematically watching as horned lizards began slipping away. Now the Texas Parks and Wildlife Department is trying to piece together the puzzle of why our official state reptile declined and how to bring it back. The good news is you may be able to fit in some of the pieces. Read below to find out how to help.

Texas Horned Lizard Watch - Begun in 1997, this monitoring program asks volunteers to adopt a site or their county and report Texas horned lizard sightings, along with habitat data. Data have been submitted by over 200 volunteers from over 200 sites in 144 counties. Their findings

confirm that horned lizards are now rare from the Hill Country eastward; however, our volunteers did identify some bright spots. Horned lizards are still consistently seen in sandy soils of coastal counties and in the counties of the Post Oak Savannah (Figure 1 on the following page). Volunteer data also identified some important correlations. Horned lizards tend to be found where harvester ants (the horned lizards' preferred food source) are present and where red imported fire ants are absent. Texas Horned Lizard Watch is an important source of data about the current status of the species and is gathering valuable baseline information against which to compare future trends. Anyone can get involved! Monitoring packets are available for no cost from TPWD's Wildlife Diversity Branch.

Hometown Horned Toads - In 2001-02 and 2002-03, TPWD sponsored the Hometown Horned Toads essay contest for students. The goal

was for students to use interviews with older adults to gather information about if and when horned lizards might have declined in their community. During 2002, 223 essays were submitted representing data collected from 48 counties. Most essays suggested that horned lizards declined in the 1970s and 1980s. Most respondents believed that the causes of the decline were fire ants, urbanization and/or pesticides. Some students did an especially thorough job of analysis, such as the high school class in Childress who identified increases in roads and traffic and changes in agricultural practices due to the Conservation Reserve Program as the primary contributors to decline in their communities.

Research - Long-term research on Texas horned lizards has been carried on at the Chaparral Wildlife Management Area near Cotulla. Biologists there are studying the effects of land management practices on THL, including burning and rotational grazing. The Chaparral WMA is one of the best public places to try to spot a wild Texas Horned Lizard. Biologists suggest that the best time to visit is during late April or early May. Of course, the goal for many people is to once again have horned lizards on their property; however, additional information is needed about whether or not reintroduction of horned lizards could be successful. Dur-



ing 2002 the Horned Lizard Conservation Society received a grant from the Texas Parks and Wildlife Department to conduct an experimental reintroduction into apparently suitable habitat near Austin. You can support such efforts by getting involved in the Horned Lizard Conservation Society.

For more information on the above programs and how you can get involved contact:

Texas Horned Lizard Watch -
1-800-792-1112 or

www.tpwd.state.tx.us/hornytoads

Hometown Horned Toads -
1-800-792-1112 or

www.tpwd.state.tx.us/htth

Lee Ann is monitoring coordinator with the Texas Nature Trackers Program out of Austin.

Chaparral WMA -
(830) 676-3413 or cwma@vsta.com
Horned Lizard Conservation Society - www.hornedlizards.org

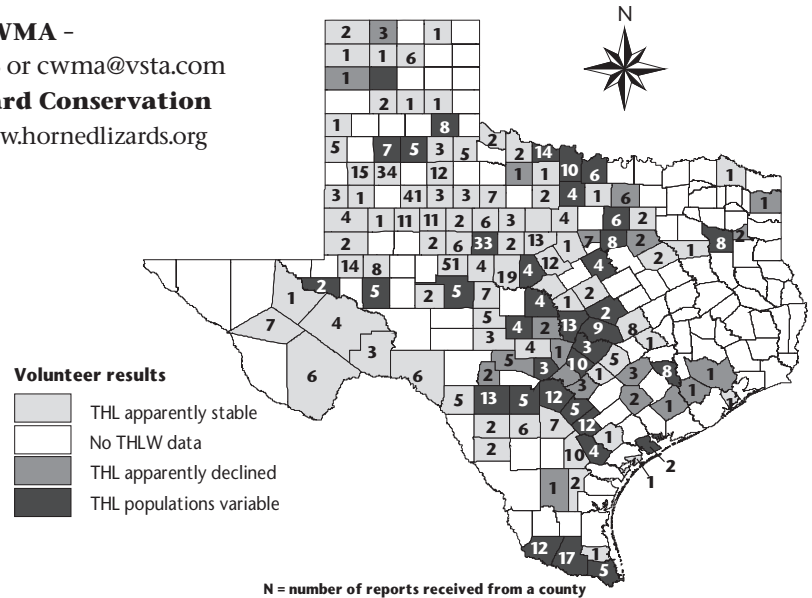


Figure 1. Texas Horned Lizard Prevalence – based on 1997–2002 Texas Horned Lizard Watch results

UPCOMING EVENTS

Master Naturalist Training

The Master Naturalist program fall training will start as early as February 2003. Application periods begin in December. For more information on a chapter near you, contact Michelle Haggerty at (979) 458-2034 or mhaggerty@wfsc.tamu.edu

The Master Naturalist program is a natural resource based volunteer program sponsored statewide by the Texas Parks and Wildlife Department and the Texas Cooperative Extension. Volunteers are offered a minimum of 40 hours training covering basic natural resource management, interpretation and functions of their local ecoregions. In return for that training and to receive certification as a Master Naturalist we ask that volunteers give back a minimum of 40 hours of service in natural resource community projects and seek an additional 8+ hours of advanced training in a natural resource subject of interest to them annually.

Birding Festivals

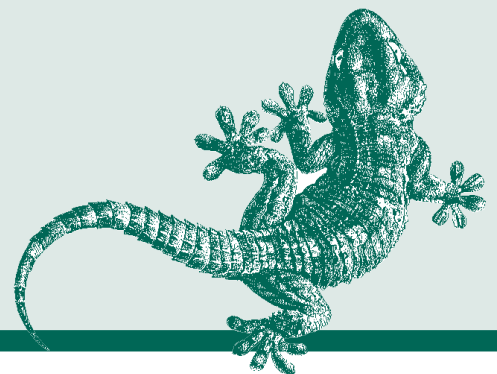
3rd Annual Texas Songbird Festival in Lago Vista	May 2-4
Brownsville International Bird Festival in Brownsville	July 23-27
Davis Mountains Hummingbird Festival in Fort Davis	Aug. 15-18
Xtreme Hummingbird Xtravaganza in Lake Jackson	Sept. 6
Hummer/Bird Celebration in Rockport	Sept. 11-14
Birds of Prey Festival in McKinney	Sept. 13-14
Celebration of Flight in Corpus Christi	Sept. 25-28

Butterfly/Dragonfly Festivals

4th Annual Dragonfly days
in Weslaco May 17-18

Workshops

Hummingbird Workshop in Fredericksburg Nature Center	April 8-10
Hummingbird Workshop in Austin	April 19-20
Wildscapes Workshop in Austin	May 17-18
Hummingbird Workshop in Rio Bravo Nature Center, Eagle Pass	June 1-3
Hummingbird Workshop in Fort Worth	Aug. 30-31



Playa Lakes of the Texas High Plains

By Bill Johnson



Playa lakes are arguably the most significant ecological feature in the Texas High Plains, although covering about two percent of the region's landscape. Playas are shallow, circular-shaped wetlands that are primarily filled by rainfall, although some playas found in cropland settings may also receive water from irrigation runoff. Playas average slightly more than 15 acres in size. Although larger playas may exceed 800 acres, most (around 87 percent) are smaller than 30 acres. Approximately 19,300 playas are found in the Texas High Plains, giving us the highest density of playas in North America.

Compared to other wetlands, playas go through frequent, unpredictable, wet/dry cycles. In wet years they support the production of annual plants, such as smartweeds and millets. These plants produce a tremendous crop of seeds that are favored by dabbling ducks and other seed eating birds. The wet/dry nature of playas, along with their high plant production, means they produce an abundance of invertebrates. This productivity makes playas havens for birds and other wildlife throughout the year.

Playa lakes and birds: During migration periods, playas are often besieged with spectacular numbers of cranes, waterfowl and shorebirds. Playas are vital "refueling points" for shorebirds making their way to wintering areas on the Gulf Coast or south of the U.S. border. Surveys in the early 1990s documented that 30 species of migrating shorebirds used playa lakes, with American Avocets, Lesser Yellowlegs, Long-billed Curlews, Long-billed Dowitchers, Stilt Sandpipers and Wilson's Phalaropes being the most abundant. Most North American dabbling and diving ducks also use playas during migration. Blue-winged Teal, Green-winged Teal, Gadwall and Northern Pintails are common during early autumn. Gadwall and Blue-winged Teal remain long after Mallards and Northern Pintails have departed for their breeding grounds.

The Playa Lakes Region is second only to the Gulf Coast in providing habitat for wintering waterfowl in the Central Flyway. The most conspicuous species during winter are Canada Geese and Snow Geese. Recent estimates suggest that 300,000 geese are found in the Playa Lakes Region. Mallards and Northern Pintails are the

most abundant wintering ducks.

Although important, playa lakes can be a harsh environment for wintering birds. The High Plains is subject to periodic drought and to hard freezes during winter. In a recent January waterfowl survey, it was estimated that more than 90 percent of the available playas (those with water) were frozen. During these extremely cold periods, waterfowl are forced to move to large reservoirs or rivers. Daily flights for ducks and geese foraging in agricultural fields can cover many miles. Waterfowl wintering in the playa region continually move to find suitable wetlands and food. This means the conservation of all playas, and other wetlands, is important.

Playas have a surprising number of nesting shorebirds and waterfowl. American Avocets and Black-necked Stilts are found on most playas, although their numbers vary depending on the amount of water available during spring and summer. Blue-winged Teal and Mallards that nest in the prairie grasses and wheat fields of the High Plains depend on playas as brooding areas for their young. During wet springs and summers, 250,000 waterfowl may be produced on playas.

Playa lakes are threatened: Since the first attempts to raise cattle and crops in the High Plains, playas have been subject to continual threats. Early settlers dug pits in playas to concentrate water and slow evaporation so that livestock would have a watering source during droughts. This practice continues today, although it is not as common as it once was. Most alteration to playas has been the result of farming practices. Estimates suggest approximately 70 percent of playas larger than 10 acres have had pits dug in them to concentrate water for row-water irrigation. This form of irrigation is declining, as modern irrigation practices that rely on groundwater are more efficient. Road construction has also impacted playas. Approximately 10 percent of playas have roads constructed in their basins.

The most insidious threat to playas is an indirect effect of poor farming and grazing practices. Playas

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in croplands have suffered severe sedimentation as a result of soil erosion in adjacent croplands. Playas affected by sedimentation tend to be shallower and lose their capacity to hold water. In rangelands, the problem facing playas is over grazing. Livestock allowed access to playa basins during the growing season often remove many of the seed producing plants that are preferred by waterfowl and other birds.

Playas and the Ogallala: Once the subject of much debate, mounting evidence points to playa lakes as a critical recharge source for the Ogallala aquifer. Playas filter and recharge as much as 95 percent of the water collected in the southern portion of the aquifer. Recharge occurs both through playa basins and along the perimeter of playas. Recharge occurring through playa basins flows downward through large cracks in the clay lining. These cracks eventually swell shut and become impermeable as the clay absorbs water following a rain. Recharge occurring along playa perimeters takes place after rainfall events leave flood-water standing outside the clay-lined basins. Because of their role in recharging the Ogallala, the conservation of playas is as important to humans as it is to wildlife.

Conservation of playas: Several conservation practices benefit playa lakes. The most common is establishment of a native prairie buffer around the perimeter of the playa basin. Grassland buffers slow or halt sedimentation. Their effectiveness largely depends on their size. Larger buffers are more effective at reducing sedimentation. Buffers also provide nesting habitat for grassland birds and forage and cover for other prairie wildlife. Fencing playa basins is another good conservation practice. Fences allow ranchers to limit livestock access to playas during the growing season; this allows plants to establish that are beneficial to wildlife. Removing sediments and filling pits in order to restore playa basins holds promise, but these practices have only been attempted on a few playas and can be expensive.

The U.S. Fish and Wildlife Service, the U.S.D.A. Natural Resources Conservation Service (NRCS) and the Playa Lakes Joint Venture (www.pljv.org) all have cost-share funds available to assist private landowners (and in some cases municipalities) with playa conservation. To find out more or to get technical assistance for playa conservation contact Bill Johnson, Texas Parks and Wildlife Department, P.O. Box 659, Canyon, Texas 79015 (806) 655-3782 or your local NRCS representative.

Bill is a waterfowl biologist out of Canyon.

[Continued from the Back Porch]

10% left in the Panhandle, I think is where one would think the song "Home on the Range" originated, are home to Black-tailed Prairie Dogs, Burrowing Owls, Desert Mule Deer, Swift Fox, Pronghorn Antelope and numerous grassland birds. Any of these critters can be seen on a leisurely drive through the western Panhandle. It is truly a place where the deer and the antelope play.

Have you ever heard someone say "watch that first step, cause it's a doozy?" I think it was first mentioned after the first explorer traveled east in the Panhandle off of the caprock. Traveling east off the High Plains the topography takes a precipitous drop in elevation into the Rolling Plains. Below the escarpment the vegetation is quite different – more brush, more water, more protection from the environment. In 1876 Charlie Goodnight, the veteran Texas cattleman, entered the Palo Duro Canyon by way of an old Comanche Indian Trail to establish the first ranch in this area. During some earlier excursions in this area, Goodnight knew that the canyon, fenced in by the overhanging caprock, was an ideal spot for a ranch as it furnished water and shelter in the winter and the adjacent plains above the caprock provided ideal grazing in the summer.

After graduating college, my first job was a range conservationist for the Soil Conservation Service (now the Natural Resources Conservation Service) in the Rolling Plains. My job took me into those places described by and settled by Goodnight. I was in absolute awe the first time I saw the "canyon." Its steep red sides with streaks of white gyp rock, dotted with red berry juniper made a young man's adventurous mind fill with what could be, has been and are the Palo Duro stories, legends and lore. At the bottom of the canyon and off of most of the caprocks major drainages in the Rolling Plains are riparian areas, actually rivers whose names are as colorful as the land around them, such as the Red River, Prairie Dogtown Fork of the Red River, Salt Fork of the Red River, Canadian River, North, South and Middle Pease Rivers, Salt Fork of the Brazos and the Double Mountain Fork of the Brazos, whose towering cottonwood trees growing in their bottoms likely served as shade for early pioneers and explorers, or at least I'd like to think they did. They now serve as shade for a few cattle, wild hogs and roosting sites for Rio Grande turkey, and nesting sites for Mississippi Kites.

Unlike the High Plains which can be described as an open, grassy plain I describe the Rolling Plains as a mid-grass prairie with a dominant mesquite and cedar over story with scattered farmland. Cotton is king in this country and many

acres of native habitat have been converted to farm this commodity. However, since the advent of the Conservation Reserve Program, a good bit of it has been converted back to grassland which provides habitat to a myriad of grassland species. This is a good thing. Its rolling red plains are home to growing numbers of white-tailed and Mule Deer, Wild Turkey, Quail and Feral Hogs. Because of the mosaic nature of the cropland and rangeland interspersed, wildlife habitat is in good supply. This eco region may be one of the best places to find an abundance of bobwhite quail which seem to be diminishing in other regions of the state. Landowners and producers who have economically benefited from this game bird are actively trying to manage their habitat to at least maintain and/or increase their numbers. And who'd have ever thought you could find turkey in the Panhandle. This eastern part of the state boasts some of the largest flocks of Rio Grande turkey in the state.

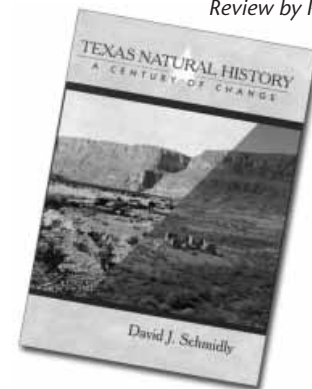
Just below the caprock, just north of Quitaque in Briscoe County is the home of the State Bison Herd. The herd occupies a small portion of Caprock Canyons State Park and is enclosed by what some would call a Jurassic Park fence. Believe me after helping with the annual working of these furry beasts a couple of times, it is needed. These are unique animals in their genetic makeup as well as their history and just being a part of the Panhandle fauna. It is an honor that the Texas Parks and Wildlife Department is the custodian of this resource. Careful management and husbandry of these animals will help ensure that they will be around for years to come and continue to identify them as key species of the southern Great Plains.

As a Regional Director for Wildlife Region 1 which encompasses all of West Texas and the Panhandle I hear from a number of staff working in the Panhandle just how great it is to be working there primarily because of the diversity of wildlife to work with. Tell me, where in Texas can you go that has two species of deer, two species of Quail, Ring-necked Pheasant, Lesser Prairie Chicken, Rio Grande Turkey, Pronghorn Antelope, Bison, Black Bear, Aoudad Sheep and Feral Hogs, Elk on occasion, over 440 bird species including thousands upon thousands of ducks, geese, cranes and other migratory birds and species of concern like Black-tailed Prairie Dogs, Swift Fox, Ferruginous Hawks and the Mountain Plover? Well, the Texas Panhandle of course. If your travels ever take you into this end of the state, slow down, stop, visit and enjoy the country side, the history, the wildlife and the people of the Panhandle. You'll be glad you did.

Ruben is Director of Wildlife Region 1 out of San Angelo.

Book Reviews

Review by Paul Robertson



Schmidly, David J., Robert J. Pots and Andrew Sansom. 2002. *Texas Natural History: A Century of Change*. Texas Tech University Press. ISBN 0-8967246-97-0.

Many Texans care deeply about their natural heritage – the ecosystems and biological diversity of which we are a part – and many worry that we are slowly losing that great natural legacy so gradually that we won't know what we've lost until much of it is gone. Even worse, some fear it will slip away without our even noticing. Imperceptibility is part of the problem, but the lack of historical reference points against which to measure change has hindered our ability to speak intelligently and convincingly to many of those changes.

In his new book, *Texas Natural History: A Century of Change*, David Schmidly uses the published and unpublished records, field notes and photographs from the most thorough survey of Texas ever conducted (1899-1905), plus the work of many other early naturalists, to establish an ecological baseline. As he notes, it is an imperfect baseline because the system has already been impacted substantially by both Native Americans and early colonists. Nonetheless, Schmidly's own personal experience in Texas and his analysis of complex changes builds solid ground upon which to gain the ecological perspective needed to assess both the positives and negatives of change over the last century. This perspective and data will be used to gear up for the work necessary to restore the systems which have been degraded for so long.

Included in the book is an annotated, complete reprinting of Vernon Bailey's long out-of-print *Biological Survey of Texas*, originally published in 1905 as a part of the famous *North American Fauna* series.

This book is a must-read for anyone interested in what it was like, what changed it, and insights as to what those changes have meant to the ecological systems in which we live.

Paul is the Nongame and Rare Species program leader in the Austin offices.



The Back Porch

by Ruben Cantu

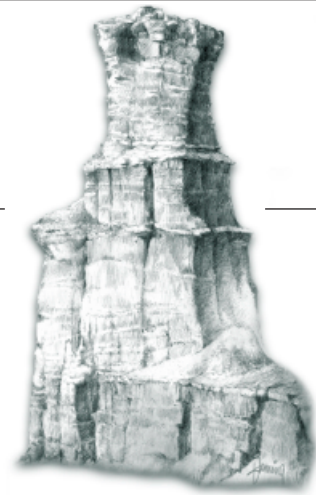
Did you know at one time the Texas Panhandle ranged as far north as Montana? Today the Texas Panhandle extends almost to the Kansas border. It's a lot of country; in fact it is 56 counties and about 43,000,000 acres (60,000 square miles) worth of country. The bottom end of the southern Great Plains of the United States it was once home to millions of bison, pronghorn antelope and miles of prairie dog towns.

I remember daydreaming on a flight from Dallas to Denver, when the pilot announced that we were just over Amarillo. Peering out the window, for the next several minutes I was in awe at the number of playa lakes one could see via the early morning light - they looked to be everywhere. With about 19,000 of them, playa lakes are truly the gems of the Panhandle, esp. when they glitter at you like diamonds from an altitude of 40,000 feet. Hopefully, by the time you've reached this back porch section of Eye on Nature you've read Bill Johnson's piece on Playa Lakes and have a clear understanding of the importance of these small,

sometimes intermittent bodies of water to native wildlife, migratory wildlife and to the recharge of the Ogallala aquifer in the Panhandle region of Texas.

To many folks that have never been there, the Panhandle is often visualized as no more than flat country and farm land. It is to some degree but it is also large ranches, rolling grasslands, steep escarpments and canyons, clear running riparian areas, tall cottonwood trees, an abundance of and diversity of native wildlife and so much more.

Its history is one of Indians, explorers and settlers. Crossing the Panhandle is the Canadian River. This river served as a travel route and dwelling site for native Americans for over 12,000 years and was one of the first waterways within the interior of the U.S. known to early explorers like Coronado in 1541, Josiah Gregg in 1839, Pedro Vial in 1786 and Army Captain R.B. Marcy in 1849. The Plains Indians, primarily the Comanche, hunted buffalo all across the Panhandle and protected their favorite hunting grounds by



maintaining constant warfare against intruders throughout the 19th century until the demise of the buffalo.

The Panhandle of Texas encompasses the High Plains and the Rolling Plains ecological regions. These eco regions are pretty much divided by a north-south line down the center of the Panhandle called the caprock. To the west are the High Plains dominated by a mixture of cropland and short grass prairie. Here you are likely to find the highest concentration of playa lakes and thus migratory waterfowl. The short grass prairies, of which there is only

[Continued on Page 11]

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