Oaks and Prairies Wildlifer

A newsletter for landowners in the Post Oak Savannah and Coastal Prairies Regions of Texas

TEXAS PARKS & WILDLIFE

Fall 2017

District Field Notes

BY DAVID FORRESTER

We were heading into a dry period when this article last came out. July and August turned relatively hot and very dry. But, it was summer in Texas, so I don't think it was something too unusual or had a lingering negative impact. However, it was the first time in probably 2 or 3 years that I began to see pastures look like they really needed some rain. All of this was alleviated when Harvey rolled through. Not the way we would prefer a dry period to be reversed, but reversed it was. A lot of the southern portion of the district received 20 plus inches of rain. There were also areas that received major wind damage and flooding.

We are still trying to get a handle on whether Harvey impacted our wildlife populations negatively. Although the Brazos, San Bernard, and Colorado River basins experience historical flooding, the timing may have been such that fawn survival wasn't as negatively impacted as in past years. These floods occurred late enough in the year that most fawns were up and very mobile, so we think they were able to move out of harm's way. Past flood events we've experienced in May definitely impacted fawn survival in localized areas. We know we lost some deer (even adults), but we don't think it was catastrophic. Survey data we've seen pre and post Harvey are not drastically different. However, there is no doubt that the floods relocated animals and it may take some time for those individuals to move back into formerly flooded country.

There is evidence that our turkey populations may have been negatively impacted. Several of our radio collared hens that we've been monitoring for a district research project experienced mortality during Harvey. Our study area is Lavaca, Jackson, DeWitt, Gonzales, Fayette and Caldwell counties which obviously experienced some of the heavier rain fall during Harvey.

We are currently in the process of hiring a new biologist to replace retired biologist, David Lobpries. So, we should hopefully have a new addition to the district in Fort Bend and Wharton Counties by November 1st. We have a new opening in Victoria, Refugio, and Calhoun Counties as of September 1st.

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District Field Notes, continued

Trey Barron took the Region 4 Diversity Biologist position. He began serving in his new capacity and now covers non-game issues for Region 4. His open biologist position for District 7 is currently posted. We congratulate Mr. Barron on his new position and we're glad that we will be able to continue working with him on non-game species and issues in the district.

I believe we are on the downhill side of dealing with the new Land Management Assistance (LMA) system and getting new and current cooperators set up. The last 3 plus months have been challenging for both the biologists and our cooperators, but I think our staff did a good job in handling issues that people encountered. I think we provided good customer service to our constituents and (hopefully) made things as painless as possible for the public participants. I know we had major and minor issues throughout the sign up process, but I think we are over the hump and the system will prove to be "friendlier" as we move forward. We will probably continue to work with landowners, particularly Co-op or Wildlife Management Association members, well into October, but I believe there is finally light at the end of the tunnel.

After the LMA blitz, biologists are starting to shift gears focusing on hunting season. We want to focus efforts on collecting age and antler data in the original six counties for the antler restriction regulation (Lavaca, Colorado, Fayette, Lee, Washington, and Austin). Biologists in and around those counties will be making themselves available to age and measure your deer, so please make sure that you seek one out if you are lucky enough to harvest an animal. This includes doe because we also want to continue to focus efforts on collecting CWD (Chronic Wasting Disease) samples. You do not need to get an animal measured or sampled immediately. What we need for age and antler data is the lower jaw bone and antlers (of course). Skull plate needs to be attached and intact. We need the head for CWD samples. As long as the head has been kept cool (refrigerated or on ice, not frozen) and has not decayed too much, we can get lymph node samples. So, you can process your animal and then make arrangements to either bring your animal to a biologist or they could possibly come to you. Look for the map of counties and biologists in this newsletter for contact information.

Fall and hunting season is upon us. After Harvey, I think a lot of people will be looking to enjoy time out in the field and woods. Bucks have started showing signs of rutting. We've had several reports of bucks fighting and even collected CWD samples from bucks that died locked up after fighting. Days are getting a bit cooler and leaves will soon start to turn. Probably my favorite time of year, and I encourage you and yours to get out and enjoy the wildlife and habitat on your piece of Texas.

David Forrester is the District 7 Leader in La Grange. He has been with TPWD since 2001 when he started his career as the TPWD wildlife biologist for Fort Bend and Wharton counties. David has a Bachelor of Science in Agricultural Economics and a Bachelor of Science in Wildlife and Fisheries Sciences, both from Texas A&M University, and a Master of Science in Range and Wildlife Management from Texas A&M University-Kingsville.

The Importance of Local Wildlife Management Associations

WRITTEN BY BOBBY EICHLER

Wildlife Management Associations (WMA) are very important to both private landowners and to Texas Parks and Wildlife Department (TPWD). While deer management has traditionally been the sparkplug for many WMA's, many are diversifying and expanding the role of WMA's in local wildlife management.

Wildlife Management Associations serve an important role in wildlife management across the Oak-Prairie Regulatory District. In this district, there are approximately 57 WMA's which cover approximately 1 million acres and are comprised of several thousand landowners.

A major issue in the state of Texas is habitat and land ownership fragmentation. Basically properties are continually being sold are left to heirs and chopped into smaller and smaller parcels. From a wildlife management perspective, it is difficult to manage wildlife populations and habitat on 'smaller' acreage than on large acreage. This is one important aspect of local WMA's.

From a quality deer management standpoint, allowing bucks to mature while keeping the antlerless portion of the herd in check can be difficult to accomplish without cooperation between landowners. Take for example that generally the home-range for a white-tailed deer is 1 square mile, or 640 acres. In many parts of our district there could be 10-20 different property owners within this square mile. Cooperation with neighbors and following WMA buck harvest guidelines are vital to allow bucks to grow and mature. Additionally, cooperation is needed with Texas Parks and Wildlife doe harvest recommendations in order to achieve proper harvest without possible overharvest.

From the view of TPWD, local WMA's allow us to get 'the word out' and to educate many landowners through periodic meetings and newsletters. Most WMA's have at minimum two meetings a year. Often times some topic of wildlife management is presented to large audiences whether it covers bobwhites, native grasses, pollinators, or prescribed fire. In addition to meetings, some outdoor workshops may be offered to focus on certain topics. Lastly, the quarterly newsletter 'Oaks and Prairies Wildlifer' reaches several thousand landowners and is intended to provide wildlife management.

Local WMA's can serve as a critical voice for landowners during the regulatory process of TPWD. As many of you are aware by now, many Texas counties have been placed under antler restrictions so that we can allow bucks to become mature. This regulation would likely not have occurred if it was not for the support of WMA's across the Oak-Prairie District in which this regulation was started as an experiment. We are now 16 seasons into antler regulations in the 6 core counties of Lee, Washington, Fayette, Austin, Colorado, and Lavaca counties.

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The Importance of Local Wildlife Management Associations, continued

So, what is the future of WMA's? Most district staff feel that as the Texas population continues to grow and properties continue to get fragmented, WMA's will have a vital role across the state in wildlife management. Currently the Oak-Prairie District has the highest concentration of WMA's and membership in the state. Parts of the state that will likely have the highest population increase over the next 30 to 40 years will be along the IH-35, IH-45, and IH-10 corridors. These areas will likely see the most demand for WMA's to help fulfill wildlife management activities across the landscape.

Take note of the following research provided by the Texas A&M Natural Resources Institute (Lund et al, 2017).

- State demographer projections indicate continued population growth should be expected over the next 40 years, and could potentially double by 2050. The current Texas population is approximately 25 million.
- State migration scenarios predict the fastest growth from 2010 to 2050 will occur in the suburban ring surrounding large urban counties, including Harris, Dallas, Tarrant, Bexar, and Travis. This projection mirrors population growth trends from 1997 to 2012, where the greatest increases over the 15-year period occurred within an area known as the "Texas Triangle".
- Over the next decade, Texas will experience the largest intergenerational land transfer and potential change in land use to date. Aging rural landowners in Texas will soon transfer working lands to younger generations and first-time landowners. These new landowners may have less experience or connection with the land, lack basic knowledge of agricultural operations and management, or lack the financial capital to maintain the land once inherited.

After reviewing some of the above population changes to Texas, WMA's will likely evolve also with these changes. As landownership changes to younger generations, many of which will not depend on the land for financial stability, land uses and goals will also change. Through the years there has already been a large change in land uses from traditional farming and ranching to more recreational. The days of buying land outright, particularly smaller acreage, and trying to make a profit from traditional practices is likely a thing of the past. With the changing demographics, deer management will likely still be a strong influence but other wildlife goals may include nongame management, native ecosystems and exotic control to name a few.

It is quite evident that WMA's can and will have an important place in wildlife management across the State of Texas far into the future. On occasion, the Oaks and Prairies Wildlifer will run articles about WMA's within the Oak-Prairie District. In this newsletter we will highlight the Goliad County Wildlife Management Association. Our hopes are for WMA's across the district to see what other WMA's are doing and to prosper going forth.

Lund, A.A., L.A. Smith, A.D. Lopez, and R.R. Lopez. 2017. Texas landowner changes and trends. Texas A&M Natural Resources Institute. College Station, TX, USA.

Bobby Eichler is the Technical Guidance Biologist for the Oak Prairie District. He has Bachelor and Master of Science degrees in Forestry both with emphasis in Game Management, from Stephen F. Austin State University. A native of Giddings, Bobby started his TPWD career in East Texas before moving to La Grange in 2007.

A Story of Hope After Hurricane Harvey

WRITTEN BY KELLY NORRID

Although flooding is not a rare occurrence in southeast Texas, Hurricane Harvey took things to a whole new level.

According to Dr. Shane Hubbard of the Cooperative Institute for Meteorological Satellite Studies, nearly 30,000 square miles of south east Texas and far western Louisiana saw at least 20 inches of rain from Harvey. The greater Houston area received upwards of 30 to over 40 inches of rainfall during this tropical downpour. These rainfall totals equate to a mind blowing 24.5 trillion gallons of water, 19 trillion of which fell in the Greater Houston Area.

Houston has earned the nickname the "Bayou City" because of the 800 miles of bayous, creeks and streams that meander their way throughout Harris County. Most of these riparian areas are used by wildlife as home and highways crisscrossing the urban jungle. Although it is difficult to measure the effects Harvey had on the wildlife populations of Houston, it is safe to say that many wildlife populations in the area are accustomed to the periodic flooding and were able to seek higher ground and were minimally impacted by the rising water. Although, there are a couple of species that call the urban jungle of Houston home that are currently being monitored.

Waugh Drive Bridge was home to 300,000 Mexican Free-tailed bats before Hurricane Harvey. Note the center of the bridge was not submerged at the highest floodstage. Photo © Esteban Caro

Many are aware of the state flying mammal, the Mexican Free-tailed bat. Hundreds of thousands of people visit our state capital to witness the flight of the one million plus colony the bats from the Congress Street Bridge on a nightly basis. Houston is also home to large colonies of bats that occupy the hundreds of bridges that cross the bayous and creeks throughout the city. The Houston Area Bat Team have confirmed that no less than 30 bridges across the greater Houston area are home to the Mexican Free-tailed bat. One in particular has become a tourist Mecca itself, the Waugh Street Bridge that crosses Buffalo Bayou in the shadows of the central business district of Houston.

Prior to Hurricane Harvey, the Waugh Street Bridge was home to approximately 250,000 to 300,000 Mexican Free-tailed bats. Normally, the bats roost safely in the spaces between the beams of the bridge high above the water flowing below in Buffalo Bayou. In "typical" flooding events in Houston, the water rises, but not enough to put the bridge in danger of going under. Typically, there is ample space for the bats to remain in the cervices and wait out the storm. Harvey pushed those limits.

During Hurricane Harvey, as the water approached the bottom of the bridge, some of the bats were able to escape and take refuge in the adjacent buildings and parking garages. Others were forced out by the rising bayou and crawled out onto the bridge.

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A Story of Hope After Hurricane Harvey, continued

Around 200 or so of them were rescued and released after the threat had passed but unfortunately, a sizeable section of the bridge was submerged. We estimate that thousands of bats were killed when they tried to ride out the storm.

However, the colony was not a total loss. Photos showed that the center part of the bow-shaped bridge barely stayed above water level, and a large number of the bats that were in the bridge survived. After the water went down a few feet, thousands of bats were witnessed by cheering crowds, emerging to search the skies for insects. As a stream of bats left the bridge, a stream of several thousand other bats joined the main stream. We assume that these bats found temporary shelter elsewhere in the city (perhaps in the skyscrapers of downtown?) because prior to Harvey, this colony emerged in only 1 single stream. The Houston Area Bat Team is surveying the other 29 known bat bridges in Houston, and will report back in the coming months.

Below the surface of the same bayou the Waugh Street bats call home is another wild urbanite of Houston.

In the murky waters of Buffalo and surrounding bayous of Houston lives a critter often called the "dinosaur of the turtle world," *Macrochelys temminckii*. Better known as the alligator snapping turtle, this large, freshwater turtle is right at home in the bayous of the 4th largest city in the nation. For the past year, wildlife biologists with The Turtle Survival Alliance (TSA) has been trapping and monitoring alligator snapping turtles in a section of Buffalo Bayou between downtown Houston and Shepherd Drive.

Not much is known about these elusive turtles but researchers were pleased to find that they are surviving and breeding in very urban habitats. According to Eric Munscher, Director, TSA the team has found the only known urban population of alligator snapping turtles in the U.S. and are pleased to report that the Houston group is "a substantial population." To find out how these animals were affected by the floodwaters, Texas Parks and Wildlife (TPWD) teamed up with the TSA to set up a snapping turtle hotline to report any of the wayward critters that may have been displaced from their habitat. Within 2 hours of making the announcement, the calls started coming in.

75 year old alligator snapping turtle was found by Houston Police Department blocking traffic in downtown Houston. Here he is being measured by TPWD and TSA just prior to being released back into Buffalo Bayou.
Photo © Matt Keyser, KHOU

Most of the initial calls were reports of misidentified red-eared sliders and common snapping turtles. A few calls came in about alligator snapping turtles from other areas of southeast Texas but were released before any data could be collected on them.

In the early morning hours of September 12th, Houston Police reported a large turtle blocking traffic on Memorial Drive near Waugh. The Houston SPCA quickly responded to the scene and whisked the 89lb. alligator snapping turtle to their wildlife center for evaluation. Later that morning, TPWD and TSA were alerted and went to check out the find.

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A Story of Hope After Hurricane Harvey, continued

After dispensing with the obligatory press conference in which the turtle was nicknamed "Harvey," TSA biologists noticed right away that the alligator snapping turtle was part of the ongoing research, and had been previously marked by biologists. Measurements were taken and the turtle was scanned for a passive intergraded transponder or PIT tag. Luckily, this turtle had been captured and tagged by TSA earlier this year so it was known exactly where this turtle lived just 7 months prior. Surprisingly, he had not moved very far, just a few hundred yards downstream.

Followed by cameras and reporters, TPWD and TSA safely returned "Harvey" to his home. TPWD is still encouraging Houston area residents to report displaced alligator snapping turtles so that they can be recruited into the long-term study, and to report sightings of common snapping turtles onto the website iNaturalist.org. We expect to find further evidence that more of these large freshwater turtles are resilient enough to survive (and hopefully thrive) in the highly urbanized landscape of the Houston bayou system, and hopefully to withstand the worst flooding event in the history of the United States.

Introduction to Urban Wildlife Biologist, Kelly Norrid

Growing up in southeast Texas, Kelly spent countless hours exploring his backyard-which just happened to be the creeks and game trails of the Sam Houston National Forest. Using field guides, he taught himself about the plants and animals he was discovering. Kelly decided to channel his love of the outdoors into a career. His diverse background includes participation with wildlife reintroduction programs, plant surveys of Buffalo and White Oak Bayous and rare plant surveys throughout southeast Texas. This background led Kelly to participate in habitat restoration projects throughout the area. This work led Kelly to become proficient in the identification of native plants and the ecology of southeast Texas. In early 2010, Kelly was hired by Texas Parks and Wildlife to be the Natural Resource Specialist for Sheldon Lake State Park and later, Davis Hill State Natural Area. This position saw Kelly overseeing the day to day management of the natural resources of Sheldon Lake and to help lead and manage the habitat restoration efforts for both Sheldon Lake and Davis Hill. In January, 2015, Kelly became part of the Texas Parks and Wildlife, Wildlife Diversity Program by becoming an Urban Wildlife Biologist serving the Greater Houston/Galveston Area.

Plant Profile: Frostweed

WRITTEN BY ZNOBIA WOOTAN, NATIVE AMERICAN SEED

When you begin choosing plants that will attract butterflies it is important to remember that there are two types of food sources that butterflies depend upon; one is a larval food source and the other is a nectar source for the adult butterfly.

Photo © Stephanie Brundage, Lady Bird Johnson Wildflower Center

Frostweed, *Verbesina virginica*, is truly an exceptional nectar source for butterflies. Along with the Liatris species, it is one of the few plants that bloom in late fall, the hottest part of the year, and continue blooming until frost. Pipevine Butterflies, Monarchs and Great Purple Hairstreaks are a few of the many butterflies that love the bountiful nectar of the Frostweed. It has been selected as a monitoring plant by Monarch Watch because of its importance as a nectar source for the Monarch butterfly. The Flowers form a white disc 3-6 inches across providing a mini buffet table for the butterflies. This biennial also known as White Crownbeard ranges in height from 3-6 ft. tall. Last year the plants underneath my largest Live Oak were at least 6ft. tall. This year without any rainfall and no supplemental water this same area has Frostweed that is only 2ft.; maybe it will reach 3ft. by fall. The stem is straight and un-branched until the flower heads appear. Frostweed has large leaves that are a dark green in color and Native Americans would roll them and smoke them in special ceremonies like tobacco. The Native Americans also used different parts of the plant to ease gastrointestinal symptoms mainly as a laxative, and they also believed that it would help the urinary tract and certain eye ailments. It is a stately robust plant and can dominate the area that it is planted in. It seems to love growing under my mature live oaks and pecan trees here in Junction and can be found growing throughout Texas in shade to part shade and in areas that are dry to moist. Its best use is in naturalized landscapes and you will be rewarded in the fall by the butterflies that will flock to it in droves. The first frost is when Frostweed performs a unique trick that is truly a marvel of nature. During the first frost the stem splits and as the sap oozes out of the winged stem it freezes and as it is freezing it curls into fascinating ribbons forming mini ice sculptures. The plant was named Frostweed because of this unique characteristic. Consider adding Frostweed to your habitat. It is a necessary nectar source especially in drought years.

Unique ribbon ice sculptures form during first frost.
Photo © Native American Seed

Beautiful white blooms in fall attract pollinators.
Photo © Native American Seed

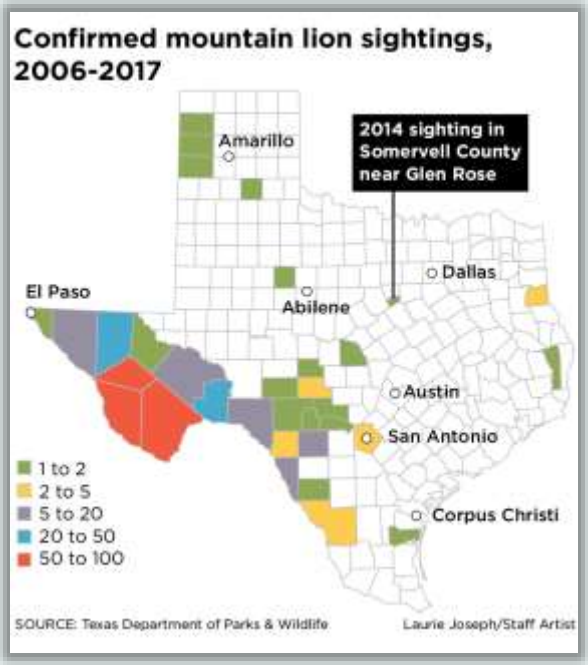
Winged stem of Frostweed.
Photo © Native American Seed

Mountain Lions, Jaguarundis, and Chupacabras...Oh my!

WRITTEN BY LAURA SHERROD

Every year district biologists receive numerous reports of large predator sightings. Sightings include mountain lions, wolves, jaguarundis, black panthers, and chupacabras. While we hate to discount these sightings, most of these turn out to be something else entirely. In the heat of the moment, our eyes and minds can play many tricks on us. Next time you are trying to determine what kind of animal you are looking at, try to remember some of the following tips to aid you in identification.

1. Look for a size reference. When you see that animal across the field, try to match it up with something nearby to make a mental note of height and length. Look at the back of the animal compared to the height of the grass. Many animals look much bigger than they actually are if you start to compare with the habitat or objects nearby. If you catch an animal on a game camera, compare it with pictures of known animals in the same location. I once had a pretty convincing picture of a tan cat with a long tail that was taken with a game camera. The facial features could not be seen, but the body looked like it could possibly be a mountain lion. I then asked the landowner if they had pictures with the same game camera of deer. I was sent one, and it was quickly apparent that the previous picture of the cat was nothing more than a feral house cat due to the size when put into perspective with the deer.
2. Take into account your lighting. Is it dusk, middle of the afternoon, middle of the night? Lower light can play tricks on your eyes making things look darker than they actually are. Depending on the time of day, shadows may also come into play. An animal can look quite different in color under shadows versus being out in the sunlight.
3. Look for tracks. If you can find good tracks, this can be very conclusive of the animal you saw. For example, if you find a track as big as your hand that you think might be a mountain lion, you can look at the pad shape and presence or absence of claw marks. Only canines will leave the claw marks. Most of the “mountain lion tracks” that I have been called to look at end up being the neighbor’s big dog, such as a Great Pyrenees.



Top: Mountain lion (Puma concolor).
Bottom: Distribution of mountain lion sightings
Photos © Texas Parks and Wildlife Department

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Mountain Lions, Jaguarundis, and Chupacabras...Oh my!, continued

4. Think about the rarity of the animal you think you saw. Is our area abundant with big cats, or is it more likely that the glimpse of the animal may have actually been a bobcat, which our area is truly abundant with? Not to say that a big cat would never follow creeks into our district, but they are definitely not as abundant as the calls we receive. Mountain lions generally prefer habitat such as mountains and canyon lands. Their distribution in Texas tends to be in the south and west. With all the hunters, game cameras, and cars in these counties, we should have had a clear picture, hunter harvest, or road-killed mountain lion if they were truly as abundant as we hear about. Similarly, jaguarundis are even rarer, but there are still reports of them in our district. Jaguarundis are an endangered species that have been found in the very southern tip of Texas, but they have not been proven to be around our district. In fact, the jaguarundi calls we get tend to actually be otters, which are actually becoming more and more abundant across our district. It is easy to see how these can be confused – they are both smaller dark mammals, low to the ground, long, and have a thick tail.
5. What about mythological creatures? While there are many rumors about chupacabras and black mountain lions, science says these do not truly exist. Reports of chupacabras typically end up being a coyote, bobcat, or raccoon with mange. An animal without hair looks quite different than its haired counterpart! There is also a lack of scientific evidence that black mountain lions exist. There has never been a black mountain lion captured or killed in North America. There are such things as black jaguars, but their distribution lies in South and Central America. The last known jaguar in Texas was killed in the 1940s.

Top: Jauguarundi
Bottom: Jaguarundi distribution
Photo © Texas Parks and Wildlife Department

6. Try to take a good photo. Almost everyone carries a smart phone with them these days. If the animal pauses long enough, try to take a picture. When taking a picture, do not zoom in, but rather take the picture at normal settings, and zoom in on the computer later. This will help keep the photo from being as pixelated. Try to include size references in the photo, and make a mental note about the time of day you took the picture. All of these can help in trying to figure out what the animal actually was. If you suspect an animal is roaming a certain area, try setting up game cameras along game trails or at nearby water sources.

So whether you are in the deer stand this season or just out enjoying the day, keep these tips in mind. It is helpful to be observant and really pay attention to what you are seeing. If you do have a track you are unsure of or a picture that you need help looking at, your local county biologist is a good source for more insight.

Laura Sherrod is the Wildlife Biologist for Lee and Fayette counties. She grew up in Dripping Springs and graduated from Texas State University with a Bachelor of Arts in Wildlife Biology. Laura was hired by Texas Parks & Wildlife in 2008, where she worked with the Big Game Program until accepting her current biologist position in April 2014. Laura offices in Giddings, and she enjoys helping landowners and wildlife management associations achieve their habitat and wildlife management goals throughout Lee and Fayette counties.

Goliad County Wildlife Management Association

WRITTEN BY DAVID HARRIS, GOLIAD COUNTY WMA

Established in 1993, the Goliad County Wildlife Management Association (GCWMA) was formed to improve and maintain wildlife habitat and wildlife populations in Goliad County. Serving both hunters and non-hunters, GCWMA has educational and technical assistance programs available for a wide variety of interests.

The annual fall meetings present top experts in all areas of wildlife management. Speakers from academic research institutes including Caesar Kleberg Wildlife Research Institute, Noble Foundation, and Texas A&M present the latest results of their research in game management, habitat improvement, and the benefits of cooperative management of our resources.

In addition to our annual banquet we host technical workshops; these are held in the spring and have focused on managing for non-game wildlife including birds and bats, pond management, predator control, and brush management. Technical guidance is also provided for food plot planting and supplementation to enhance nutritional levels for wildlife.

A main concern of our association are the impacts of non-native invasive species such as feral hogs. Damage includes destruction of agriculture crops, fields and livestock feeding and watering facilities. They also destabilize wetland areas and directly compete with wildlife for resources with their destruction of habitat. Finally, feral hogs destroy nests and consume eggs of ground nesting birds such as turkeys and quail. Recognizing the need to control expanding hog populations, GCWMA initiated a program for hog control. The program has included implementing hog bounties and conducting technical workshops on trapping technology and new developments in trap design. GCWMA is now partnering with the San Antonio River Authority and the USDA to control hogs by using a new trap designed by the Noble Foundation. As a result of their efforts, GCWMA has been recognized by the State of Texas as one of the most effective organizations in hog control for three years in a row.

Another concern of the association is declining native grasslands and their associated wildlife species. One particular species of significance to the landowners is Bobwhite Quail. With this in mind we established the Goliad County Quail Coalition. This is a new initiative of the GCWMA working in partnership with Texas Parks and Wildlife Department (TPWD) and the Caesar Kleberg Wildlife Research Institute; the effort focuses on steps that landowners working together can do to improve quail habitat.

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Goliad County Wildlife Management Association, continued

Providing an opportunity for youth to enjoy the benefits of current wildlife management practices is a key objective of GCWMA. Scholarships are awarded annually to students planning to pursue degrees in wildlife and science. Support is also provided for Hunts for Healing, a program benefitting youth and families that have lost a parent that was a First Responder. This annual event is held in January on a private ranch and has gained popularity each year with increased local support and donations. Those who serve this program are TPWD Game Wardens, GCWMA Board Members and other volunteers from the community.

Membership options for the GCWMA include annual Family and Lifetime. If you are interested in joining or have questions on how you can improve your wildlife management practices, please contact our Board President Mike Fishbeck at 210-439-4645, Texas A&M AgriLife Extension Service County Extension Agent Brian Yanta at 361-645-8204 or Texas Parks and Wildlife Biologist Doug Jobes at 361-576-0022.

Above: Speakers are invited the annual fall meeting to inform members about research concerning a variety of wildlife species. Photo © Brian Yanta

Below: Goliad County Landowners meeting for a pond management workshop hosted by the Goliad County WMA. Photo © Brian Yanta

Plant Community Diversity

WRITTEN BY STEPHEN DEISS, USDA-NRCS RANGE MANAGEMENT SPECIALIST

Years ago, I was working on forage inventory for a small ranch in Matagorda County. Many people would describe it as "a mess". It had tall grasses, mid-grasses, short grasses, small shrubs, large shrubs, small trees, larger trees, and even some motts with huge, mature live oaks. Nothing was uniform. The neighbor, in stark contrast, had acres upon acres of trimmed up oak trees with a nice stand of well-kept, manicured Bermudagrass between and beneath them.

A real nice looking place. I'm sure you know where the wildlife action (and overall biotic activity in general) took place. It struck me that I'd take the "messy-looking" place every day, and twice on Sunday! The variance in the plant community provided something for quail and something for deer- the two species in our area which are used to gauge the validity of ecosystem function in relation to wildlife. If it is good for quail and deer, it is likely good for all wildlife. There were woody plants, vines, grasses and forbs of every stripe, and the structure of the landscape provided so many functions - escape cover, roosting sites, and areas for nesting, roosting, bedding, and loafing, as well as an abundance of high quality food, and the list goes on. For those raising livestock, a wide array of plant species allows for a buffer of sorts from the impact of drought. Diverse plant communities exist in a state of dynamic equilibrium, meaning there are minor changes on the composition and amounts, but the changes are not in a wholesale manner. From my observation, the minor shifts are further promoted by rainfall distribution even more than from total rainfall.

So, how does this diversity come about? Is there a way to encourage this phenomenon?

Native landscapes evolved under a regime of fire, grazing, and drought. Two of those factors can be replicated by us as land managers. We can certainly conduct prescribed burning, though the conditions for prescribed burning will be way more specific than the conditions under which nature burned the landscape. We are talking fire occurring after fairly long periods of very dry weather, during extremely low humidity, high winds, and accompanied by thunderstorm activity in warmer months. We don't conduct burns under those extreme conditions, so this tool probably doesn't have the exact impact it had, historically. Prescribed fire does, however, provide a clean slate, allowing for various plants to compete on an even playing field. It is also believed to provide positive impact on seed germination. Before settlement, grazing (by bison) on the landscape was generally very heavy with long periods of rest between grazing on any given piece of ground. We can replicate this to some small degree with planned rotational grazing, allowing for somewhat intense grazing on fields with fairly long rest periods (usually around 90 days, if planned properly) between grazing periods.

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Plant Community Diversity, continued

We don't control drought, but drought also caused shifts in plant communities, favoring more drought tolerant plants (think less leafy and deeper-rooted) tending to establish dominance in a plant community.

So, two things can be manipulated to enhance diversity- application of fire and planned grazing. What about the case of a monoculture of non-native plants? Say a Bermudagrass field. Not exactly the most wildlife-friendly environment. A good first step would be to cease fertilization and weed spray, if regularly done. Then using Aldo Leopold's tools of "fire" and "cow," begin the generally long process toward plant community diversity. A shortcut is to destroy the existing monoculture to the extent possible, and revegetate with a mixture of native species. We have access to more species that are becoming commercially available, as interest in establishment of native plant communities has increased immensely in recent years. In addition, the use of cover crops to prepare the soil for reception of native seed has emerged as a practical approach to help reduce the risk of seeding failure.

If you are interested in finding out how your property may experience greater plant diversity and the benefits derived from it, please contact your TPWD biologists or local USDA-Natural Resources Conservation Service office. We work together, and through field visits, where we can learn your priorities and conduct inventory and assessments, and thus help you work toward making your place what you want it to be.

Well-manicured pastures offer very little, if any, benefit to wildlife. Photo © Stephen Deiss, USDA-NRCS Range Management Specialist

A 'messy-looking' pasture with a diversity of grasses, forbs, and trees will also have a diverse wildlife community. Photo © Stephen Deiss, USDA-NRCS Range Management Specialist

American Badger

WRITTEN BY BRENT PIERCE

The America Badger (*Taxidea taxus*) is a short legged, furry mammal with a long body and pointed head. They are usually brown or black in color and have a very distinctive white stripe running from their nose to their shoulders. Badgers are generally 24-35 inches long and weigh between 8-26 pounds.

Photo © Texas Parks and Wildlife Department

Badgers are known to be excellent excavators. They have long sharp claws for digging dens and hunting other burrowing animals, as well as escaping large predators. Badgers also have a keen sense of smell that aides in the detection of their prey underground. One of the most interesting physical features of the badgers is that they have a third eyelid and thick hairs in their nostrils and ears to protect themselves while digging in the dirt.

Badgers prefer sandy loam soils associated with open grassland prairies that extend from Southern Canada to Norther Mexico. Badgers are predominantly found in the western and Southern regions of Texas. Badgers typically have a home range spanning between one to two square miles, depending upon food and water availability. They will dig numerous dens within their home range during summer and autumn months. Females will dig natal dens, which are a complex set of burrows with connecting tunnels, that provide safety for her young. Most dens are 3 to 6 feet wide and can be 3 to 10 feet deep.

Male badgers become sexually mature at 2 years old and females need to be at least one year old before they can become pregnant. Mating season occurs in July and August, although the embryo is not implanted in the uterus until December due to “embryonic diapause”. The pups will be born in the late spring. They are completely reliant on their mother for survival for the first few weeks, then by eight weeks they are weaned and begin to eat meat. At five to six months old they will leave their mother and set out on their own. On average, a female badger will have three pups per litter and can usually live up to 12 years in the wild.

The badger is predominately a solitary animal spending most of the day underground resting and becoming active at night. Badgers are primarily carnivores devouring anything from earthworms to rattle snakes. However, a large portion of their diet consists mostly of pocket gophers along with other small burrowing mammals. Using its physical stature, a badger will either scoop out its prey with its large claws or burrow itself into the prey’s den cornering the small animal. If cornered, Badgers will put up a fight and are better left alone. Humans are thought to be the badger’s biggest predator. Most are trapped for their fur and others are killed because they can be a nuisance due to their hunting and burrowing behavior. Either way badgers play an important role in the North American ecosystem.

Brent Pierce is the wildlife biologist for Lavaca and Jackson County where he started in March 2016. He graduated from Texas A&M University with a Bachelor of Science in Rangeland Ecology and Management with a wildlife emphasis. Brent comes to us from the private sector where he has worked on private ranches managing habitat for deer and other wildlife species, as well as, guiding hunts and managing populations.

Creating a Bat-Friendly Oasis on Your Property

WRITTEN BY DIANA FOSS

With Halloween just around the corner, October seems like the perfect time to talk about bats…

Let's test your bat knowledge: TRUE OR FALSE

1. Blind as a bat.
2. If I wear a red shirt around a bat, it will bite me to get my blood.
3. The Mexican free-tailed bat is the Texas official "flying mammal."
4. A bat's wing is composed of the arm bones and elongated finger bones enclosed in fleshy membrane, with the thumb remaining free from the wing membrane.
5. A study in the Texas Hill Country determined that Mexican free-tailed bats can save cotton and corn farmers more than $741,000 per year in reduced need for insecticides on their crops.
6. Bat emergences can be viewed on Doppler radar.

Mexican free-tailed bat
Photo © TPWD

Not to brag or anything, but Texas is home to 32 species of bats, more than any other state. The majority of our bat species feed on insects, except two species that we share with Mexico. The Mexican long-tongued bat (*Choeronycteris Mexicana*) and the Mexican long-nosed bat (*Leptonycteris nivalis*) both gather nectar from various cactus flowers along the Rio Grande during the summer months. If you partake of the fruit of the Agave, especially in the form of tequila, then you should give a toast to thank the nectar-feeding bat that pollinated that flower for you.

Who are our "neighborhood bats" you ask? Because of our diverse habitats, we enjoy twelve or more bat species in the Southeast Texas and coastal region. Each species is beautiful and amazingly adapted for a forested world. Dense bottomland hardwood forests of the Pineywoods are home to two of the rarer bat species – the Rafinesque's big-eared bat (*Corynorhinus rafinesquii*) and the Southeastern myotis *(Myotis austroriparius*). Both roost primarily in hollow tree cavities and eat a variety of insects found in boggy forests. The Rafinesque's big-eared bat has been found in some unusual spots as well, including an artificial "haunted house" near Lake Livingston, abandoned buildings, and artificial roosts constructed specifically for them. Tree-lined edges of fields, crop fields, or prairies can be home to the Eastern red bat (*Lasiurus borealis*), Northern yellow bat (*Lasiurus intermedius*), and Seminole bat (*Lasiurus seminolus*). One of our most common bats regionally, the Eastern red bat hangs in the tree canopy. With their rusty red coloration, the bat can look like a dead leaf among the foliage. Female red bats commonly give birth to twins or triplets, up to quintuplets. The little pups cluster together in the canopy with their mother and stick together as a family unit through the summer months. The state-endangered Southern yellow bat lives among the dead palm fronds in Sabal and other palms along the southern Texas coast, from Kingsville south to Brownsville. A close relative, the mustard-colored Northern yellow bat prefers to roost in Spanish moss, but has adapted to using dead palm fronds of the ornamental Mexican fan palms. If your yard or a neighborhood golf course has palm trees, watch at sunset for the yellow bats flying from their spots beneath the brown dead palm leaves.

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Creating a Bat-Friendly Oasis on Your Property, continued

And then there is the Hoary bat (*Lasiurus cinereus*) and the Silver-haired bat (*Lasionycteris noctivagans*). These species tend to fly through our area on their way to higher elevations, although they spend the winters in the warmer southern states. And last but not least, we have our more urban bat species – the Big brown bat (*Eptesicus fuscus*), Evening bat (*Nycticeius humeralis*), Tri-colored bat (*Perimyotis subflavus*), and our state's official "flying mammal" – the Mexican/Brazilian free-tailed bat (*Tadarida braziliensis*). The last four species can roost in more urban structures around water or bayous, such as bridges, parking garages, buildings, square culverts, patio umbrellas, and bat houses, in addition to trees. Additional bat species, such as the cave myotis and pallid bats, show up in the Hill Country as you move farther west.

Have you seen bats on your property? Watch your property around sunset and look for quick flapping bats! As bats power their way across the sky, they are on the hunt for a diverse array of insects – from moths at 10,000 feet to June beetles to centipedes to cockroaches to tiny midges, gnats and perhaps mosquitoes. Larger-bodied bats choose to expend their energy to chase the largest insects. It's an energy expenditure equation. If a bat expends the same amount of effort/energy to fly and capture an insect, the bat prefers a large caloric intake from a larger insect. The smaller bat species, such as Evening bat and Tri-colored bat, do eat smaller insects like gnats and mosquitoes, but dragonflies, toads, lizards, and birds might be more successful as mosquito deterrents. There is no doubt that bats can eat great quantities of insects. I usually estimate that 100,000 bats can eat 1 ton of insects each night. Pretty amazing!

How can I attract bats to my property?

WATER: Bats are attracted to water. If you have a pool in your yard, you might have noticed bats flying over the pool snapping up insects – or dipping down while in flight for a quick mouthful of water. Bats are amazing acrobats! By adding a pond or large livestock water tank to your property, you are also providing a potential source of insect food and water for your local bats. Bats love a long smooth water surface. Because bats turn off their echolocation ability to get a mouthful of water, the trick is to make sure there are no hazards in the water that a bat might run into – and a way for a bat to climb out of the water if it happens to fall in! A piece of plastic netting/mesh draped into the water at the corner usually does the trick.

FOOD: Providing a menu full of insects satisfies most bat diets. Crickets, beetles, true bugs, moths, etc. can be 'bat food'. Using native plant species that attract a wide variety of insects can help. Also avoiding the use of chemical insecticides is beneficial – try organic methods instead.

SHELTER: Trees in all shapes and sizes make great roosts for the canopy-roosting bats! Old dead or dying trees with loose bark and cavities are awesome roosts for just about any bat. If you don't have trees, consider adding a bat house or two (or more) to your property. To make your own bat house, check out the bat house plans provided by Bat Conservation International (BCI) at www.batcon.org. Each bat house should be at least 2 feet tall and 14 inches wide, have a landing area board that extends 3-6 inches past the bottom of the box, with partitions inside spaced exactly ¾ to 1 inch apart. After much research on bat house preferences, BCI suggests the following criteria as a successful location for a bat house: 1) not on a tree, 2) 12-15 feet off the ground, 3) 6-8 hours of direct sunlight, and 4) within ¼ mile from water. Bats like it hot, especially females raising young.

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Creating a Bat-Friendly Oasis on Your Property, continued

Mount the bat house on a post or pole. You can even put two bat houses back to back on one pole. And then just watch for the little acrobats to move in. If you would like bat house plans or location criteria in more depth, feel free to email me – be happy to send them out (diana.foss@tpwd.texas.gov).

Where can I see bats in our area? Bat-watching has become a very popular activity in recent years. Texas has some spectacular viewing opportunities! BCI's Bracken Cave is home to 15-20 million Mexican free-tailed bats during the summer. Various Hill Country state parks have bat colonies for viewing. In the Houston area, Waugh Drive (downtown Houston) and Watonga Street bridge both have large bat colonies. Actually the Houston Area Bat Team catalogued over 30 local bridges and parks with bat colonies, so the southeast region is very "batty." As we re-check and monitor known roosts, we suspect the recent flooding will have impacted bat populations. Some managed to survive by roosting in odd spots, but a big thank you to all the area residents that had compassion and let the bats stay and recover for a while. The bats are "Houston Strong" too. The bat team is always looking for new bat colonies, utilizing Doppler radar images and citizen reports. To report a bat colony, please send me an email. For more information on bat-watching opportunities and locations, please check out our brand new webpage and downloadable booklet at www.tpwd.texas.gov/huntwild/wild/species/bats/bat-watching-sites/.

Answers to the Test Your Bat Knowledge Quiz:

False. Bats have great vision. They're not blind. They do have the added skill of echolocation – sending soundwaves from their mouth (or nose) to detect objects or prey in their path.

False. That's a myth. See answer #1. Bats eat insects around here and avoid people.

True. Our state's official "flying mammal" is the Mexican free-tailed bat.

True.

True. The bats' value was estimated at $741,000 per year, with an upper range limit of $1.7 million.

True. Check out the local National Weather Service Doppler radar around sunset. You can see expanding blobs of color that are bat colonies emerging for the evening.

Diana has worked as an Urban Wildlife Technical Guidance Biologist in the Wildlife Diversity Program, Texas Parks and Wildlife Dept. since 1993. She works with a variety of public and private landowners to manage, conserve and improve large swaths of habitat for wildlife in urban areas. She also works with governmental agencies to adapt policy for wildlife, as well as share management advice on greenspaces, parks, and bayou corridors with wildlife habitat in mind. Prior to that, for 10 years she served as the Education Director of The Texas Zoo @ Victoria, a native species zoo at the time. Diana coordinates the Houston Area Bat Team, an amazing group of trained volunteers dedicated to discovering, researching and monitoring bat populations in our region, as well as encouraging the public to value bats in our ecosystems. Diana has a B. S. degree in Wildlife and Fisheries Science from Texas A&M University, College Station.

Upcoming Events

OCTOBER

17 **Clear For Creek WMA- Fall Meeting**
Location to be determined
Begins at 6:00 P.M.
Contact Robert Trudeau at 512-332-7280

20 **Whitetail Deer Management Workshop**
1884 Hwy 71 W, Cedar Creek, TX 78612
9:00 A.M to 2:00 P.M.
Contact Rob Stroup at 512-730-5160

22 **Pin Oak Creek WMA- Fall Meeting**
732 FM-2104, Smithville, TX 78957
2:00 P.M. to 4:30 P.M.
Contact Robert Trudeau at 512-332-7280

28 **Women's Firearm Safety Class**
Manheim Parish Hall
12:30 P.M. to 2:00 P.M.
RSVP by October 23
Contact Lee County Extension Office
at 979-542-2753

JANUARY

27 **Western DeWitt County WMA Awards Banquet**
5D Steakhouse, Yorktown, TX 78164
Begins at 5:00 P.M.
Contact Larry Franke at 830-780-3887

CHRONIC WASTING DISEASE TESTING

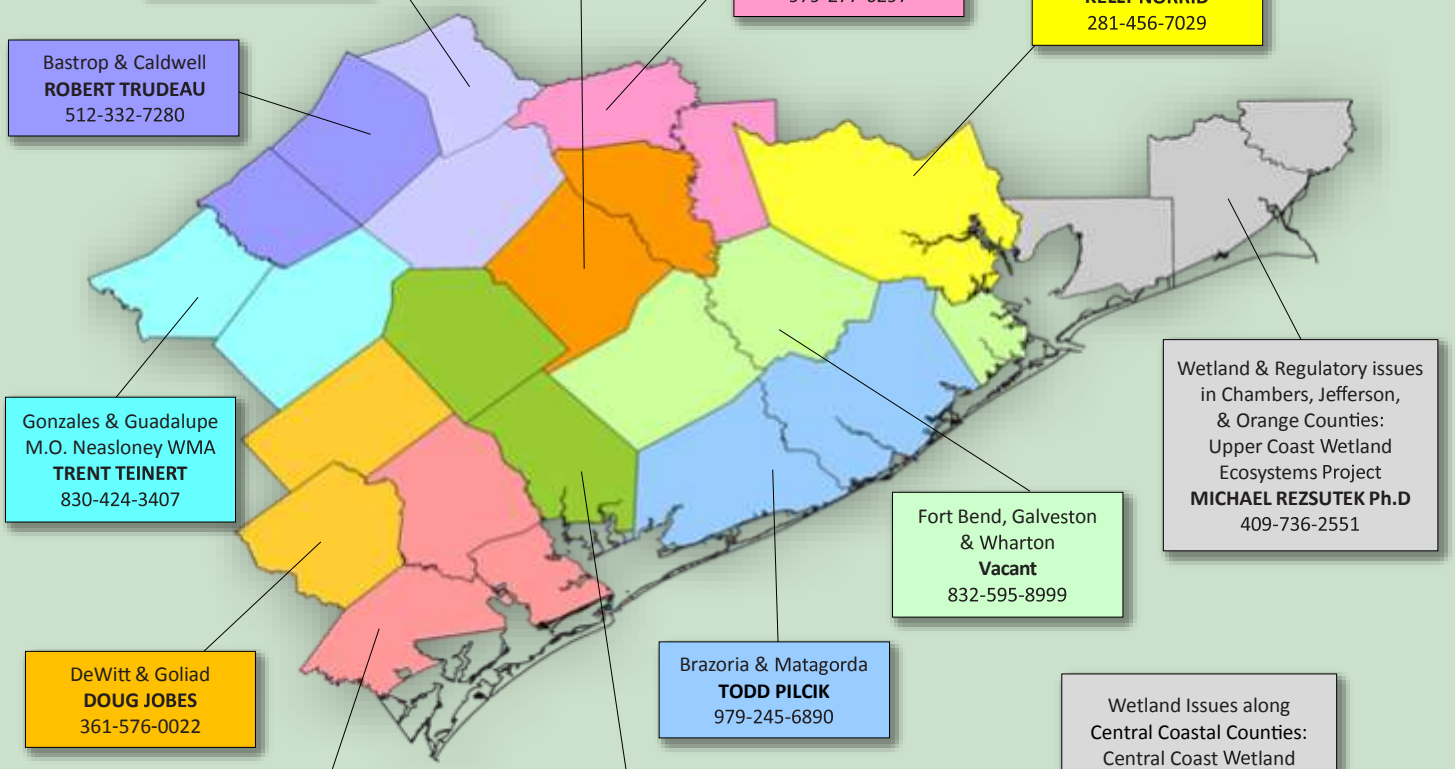
Texas Parks and Wildlife Biologists will be sampling white-tailed deer across the state as in the past. District 7 biologists will sample both roadkill and hunter killed deer until an adequate number of samples have been collected. If you want your harvested deer to be disease tested, please see the directory in this newsletter for contact information.

For testing, keep the deer head cool (not frozen) with the bottom jawbones attached. When properly cooled, samples can likely be taken on heads 3-4 days after harvest.

Hunters will be given a CWD Sample Receipt which can then be found on the testing results website at:

tpwd.texas.gov/cwd

Our Wildlife Biologists



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Wetland & Regulatory issues
in Chambers, Jefferson,
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You may view this publication, as well as other newsletters created by the department, through the TPWD website. Please visit www.tpwd.texas.gov/newsletters/ for more information.

FOR MORE INFORMATION

All inquiries: Texas Parks and Wildlife Department, 4200 Smith School Rd., Austin, TX 78744, telephone (800) 792-1112 toll free, or (512) 389-4800 or visit our website for detailed information about TPWD programs:

www.tpwd.texas.gov

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