

# Eye on Nature



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A publication of the Wildlife Diversity Program — Getting Texans Involved

## Reading the Land

By Kelly Bender

People love our little corner of the world. Many people see its rolling greenness, inhale the warm summertime scent of it, and value its unspoiled beauty. Others see its proximity to travel corridors and shopping malls and think of the financial gain that could be realized by building homes here. Some see evidence of historic and ancient civilizations, some see commodities that can be extracted from the soil, and some see land on which cattle could grow and thrive.

Each person will look at a piece of land and observe only those parts they recognize or value. But each of those features reveals only a portion of the whole.

When we act as stewards of the land, we take on the responsibility of assisting the land in achieving a certain state. But in trying to manage it, we must be able to address the whole system, not just a few parts.

The land is complex and ever-changing. Plants, animals, invertebrates, soils, water, a multitude of other features all interact. In a way, each of these components “speak.” Our job is

to listen and understand what the land is telling us about its history, current condition, and future potential.

A few years ago, I heard a talk by Steve Nelle of the Natural Resource Conservation Service. He described learning to read the land like this: Learning to read the land is a lot like learning to read language. First the parent instills a love for reading by demonstrating it until the child wants to learn to read for himself. Teachers help the child learn each letter and sound of the alphabet. The child then learns that letters can be put together to make sounds and words, and then sentences. As he forms and reads sentences, he recognizes that the elements that he put together – letters, sounds, words, sentences – come together to create a meaning much larger than the individual parts.

As a steward of the land, you probably have already developed a love of the land. Perhaps it was developed through a mentor’s teaching or with repeated exposures to natural places, but for whatever reason you have

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Understanding the language of the land gives you the keys to understanding its history, present condition, and future potential.



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#### [Reading the Land, continued from page 1]

formed a tie to and a respect for the natural world. This is the beginning of a process of understanding the elements, processes, and interactions of the land: reading the land.

When land stewards begin to read the land, observations gain depth and develop from simply naming individual species to recognizing groups of populations and interactions.

For example, consider these simple observations of a piece of land in Central Texas: Grasslands are punctuated by groups of trees dominated by Ashe juniper along with agarita, tasajillo, and Mexican buckeye. The land has an almost park-like quality, since all the lower limbs appear to be trimmed up. The land is aesthetically beautiful, but if we are managing with a broader vision of habitat, does it represent a healthy ecosystem?

Now consider the property a few miles down the road: This land is also beautiful, with some Ashe juniper and open grassland meadows, but it also includes islands of redbud, kidneywood, and snailseed vine. Looking closer, young saplings of red oak and redbud crowd the understory. This land is clearly different from the first, but how?

At first observation, we might conclude that both pieces of land host common species of native Central Texas vegetation. However, when we read the land by observing the combinations of plants that are occurring together as well as the structure of the habitat, it becomes apparent that the first habitat has an abundance, perhaps an over-abundance, of white-tailed deer. The group of plants found there are some of the least favorite species of deer food, and remain on the land like vegetables on a toddler's dinner plate. And, because deer eat leaves and twigs ("browse") from ground height up to about five feet, areas that have too many deer will often look like manicured parks. Wildlife biologists call this a "browse line."

The second piece of land has an abundance of vegetation that some people refer to as "deer candy," those tasty plants that deer nibble up first. It has an abundant understory – shrubs and young trees – that reveals that deer have not over-browsed the area. Biologists know that one of the things that points toward a healthy Central Texas habitat is that the white-tailed deer population is held below its carrying capacity, or the total number of individuals that the resources can support.

As stewards of the land, we are responsible for observing the whole picture of the habitat: elements of the land and their interactions. We can read the land to understand its history, current condition, and future potential, and by learning this language, we can make habitat management decisions based not simply on the latest trends in wildlife management techniques, but on the needs and potential of the land itself.

Of course, determining whitetail population density is only one angle of observation to take when reading the land. Other clues to use that will provide a more complete picture of the health of an ecosystem include:

1. **Soils:** Even in the same season, in the same part of the country, and the same year, soils that are compacted or nutrient-poor are often harder and more cracked than nutrient-rich and well-aerated soils. You might also observe soils with ripples formed from sand or debris. This indicates that the soil has experienced flooding and quick runoff, a clue that the soil is not absorbing rainwater and is probably compacted from foot traffic or heavy equipment. You might also observe soil pedestals, where plants appear to be raised above the surrounding soil. Pedestals indicate erosion of the soil, and can be found in overgrazed or otherwise under-vegetated areas.
2. **Water:** Healthy rivers throughout much of Texas are shaded, cool, and clear. Erosion, improper vegetation (replacement of native riparian vegetation with mown sod grass or concrete), and polluted or nitrogen-rich water washing into streams results in silty, warmer, faster-moving and less dependable water, as well as a significantly different suite of water organisms.
3. **Colonizing species:** Nature has always been in a perpetual cycle of disturbance, colonization, and maturity. Native vegetation such as partridge pea and Ashe juniper act as colonizers, while exotic species like burr clover and ligustrum can also fill this role. While periodic disturbances a normal occurrence, constant disturbance depletes soil nutrients, increases erosion, and coincides with plant and animal aggressive exotic colonizers.

Kelly is the Urban Biologist responsible for Central Texas. She works out of Bastrop.

# Big Plans for small properties

By John M. Davis

As an urban wildlife biologist, I am frequently called to visit a park site, corporate campus, or local greenbelt and offer suggestions regarding managing the property for wildlife. These properties are often relatively small parcels (less than 100 acres), so options may be slightly limited, but there is still much that can be done to improve the property for wildlife.

During one of these visits, someone inevitably asks, "How should we manage this property?" I try to explain that that's a complex question that requires addressing many variables to come up with a workable answer. However, I try to proceed in answering their question by asking a couple of critical questions. I first ask them what they want to happen with their land.

Upon asking this question, I've never had someone answer with, "I'd like for this property to be invaded with exotic species, be abused, and be in extremely poor health." Therefore, this question mostly serves to have them verbalize their wishes so that we are all on the same page regarding where we are headed. Most people who call me want their land to be healthy, attractive and host more wildlife. It's just the specifics of how to get there that they may not understand.

The second question I ask is more of an internal one. I ask myself, "What would this parcel 'want' to be most during this snapshot of geological time?" In other words, I ponder what the plant community at this location would likely look like if we hadn't altered it. Fortunately, there were bright minds in the past who asked these questions and mapped the historic plant communities of our great state. So, answering this question is usually a matter of matching soils and locations on one of those maps.

Once I have agreement from the landowners that they want healthier land and more wildlife, and I've determined which ecological zone the parcel is in, then I can begin offering specifics as to how to get this parcel on the road to better health. For the purpose of this article, however, I am left to offer a process and some general guidelines that can be applied to any parcel and will likely lead to healthier land and more wildlife.

## Research Current Conditions

Get the most recent aerial photo of your property that you can find. There are several websites and government agencies that offer these online free for downloading. I get aerial photos these days from several sites. The Texas Natural Resources Information Service (TNRIS) has aerial photos available for download or for order. User-friendly mapping and directions sites that one can find can also be used.

Once you get an aerial photo, you can see your land in ways you never did before. Now it's time to start assessing what you have. I once went to a school where the administrators told me their plan was to convert the property to buffalograss. I looked at the field and they already had buffalograss. So, it's always good to assess what you have before deciding what you want to do in the future. To accomplish this, get field guides and learn about the plants and the wildlife on your property so that you know what you have and where you have it. TPWD wildlife biologists are assigned to each county and may be contacted to help you.

## Develop a Plan

Once you know what's found on your land, you can then start considering what you want your goals to be for the future. In general, I believe it's good to try to manage properties so that they begin to look more like the climax plant community did in your ecological zone 250 years or so ago. Since this will differ depending upon the ecological zone your property is located in, there are no specific practices (such as plant this or that) I can recommend. Once again there are some general principles that apply most everywhere.

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### Helpful Internet Resources:

[http://soils.usda.gov/survey/online\\_surveys/texas/](http://soils.usda.gov/survey/online_surveys/texas/)  
online soil surveys for most counties

<http://www.nrcs.usda.gov/>  
navigate to "find a center" and get local county contact information

<http://www.tnr.is.state.tx.us/datadownload/download.jsp>  
TNRIS county click-on map to find aeri als

<http://www.tpwd.state.tx.us/landwater/>  
find a biologist, land steward info, habitat descriptions, etc.

<http://www.tpwd.state.tx.us/landwater/land/habitats/>  
good habitat descriptions

[http://tpid.tpwd.state.tx.us/ecological\\_regions.asp](http://tpid.tpwd.state.tx.us/ecological_regions.asp)  
point to county and get ecological zone

[Big Plans, continued from page 3]

Most of the ecological systems in the world today are suffering from problems with invasive exotic species. Species like Johnsongrass, bermudagrass, fescue, etc., are taking over prairie ecosystems. Chinese tallow, kudzu, etc., are taking over forested ecosystems. Hydrilla, parrotfeather, and water hyacinth are taking over wetland systems throughout the state. So I believe it's safe to say that most landowners would benefit from eliminating exotic species from their property.

The next generic goal that most can benefit from is increasing native biodiversity. While some folks take the species specific approach and try to manage land to benefit a particular species (i.e., deer, horned lizards, etc.), if we take care of the habitat, the wildlife will take care of themselves. That's why I believe in trying to manage land to mimic the historic climax community. The climax plant communities in Texas were historically more diverse than we see today. Fields dominated by silver bluestem and broomweed today, once housed hundreds of different species of grasses and wildflowers. Wooded properties dominated by pine trees today may have once housed many hardwood species as well. I often encourage landowners to

"push" their property back toward the historic diversity and let the wildlife respond on their own.

### Implement Your Plan

Once you know what your land's current conditions are, and you decide what you want your land to look like in the future, a "road map" to get you there starts to take shape. You may need to burn your property to rejuvenate it. Maybe you will need to plant native trees that have been lost or seed grasses/wildflowers that no longer grow on your property. Perhaps you may need to disk your property, or maybe that will only make your Johnsongrass problem worse. You may need to re-initiate grazing on your property or allow your property to rest for a while. Once again, you may need some assistance from your local biologist, but by this point some specific practices will likely start to emerge that can lead you and your land to your goal.

### Evaluate Your Progress

As you begin your management plan, you'll want to periodically stop and see if the plan is taking you toward your goal. I suggest surveying whatever you have learned is the best indicator of success for your particular management goal each year. I also recommend taking

photographs from the same spot, facing the same direction each year. This "photo record" of your property will become extremely valuable for you over the years as you look back and see how your property has improved.

### Share Your Knowledge

You will undoubtedly learn a lot of useful things along your journey to better manage your land. Share that knowledge. Become an agent of improvement not only for your piece of ground but for the entire landscape as well. Participate in wildlife "co-ops" with other landowners in your area. Enter your property in our Lone Star Land Steward Award program so we can all celebrate what you've done to improve your land. Certify your property as a Texas Wildscape or Best of Texas Backyard Habitat.

Land ownership and land management is a privilege and responsibility that should be cherished. Hopefully through this article I've outlined for you a process by which you can make the most of that privilege, making Texas an even better place for all of us and our wildlife friends.

John is an Urban Biologist responsible for the Dallas-Fort Worth area working out of Cedar Hill State Park.

# Tracking Nature in your Own Backyard

By Marsha E. May

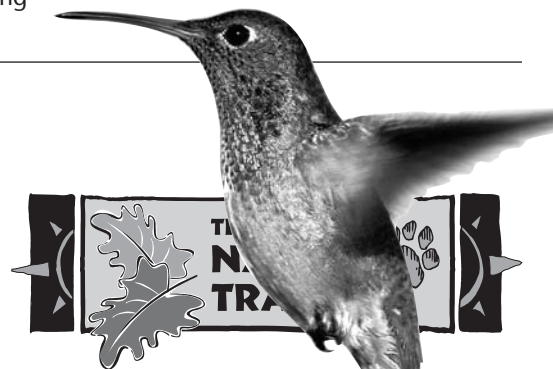
Texas is blessed with an array of ecoregions from the Trans-Pecos to the Piney Woods to the High Plains to the South Texas Brush Country and others in between. Do you know your local ecoregion? This knowledge benefits Texas citizens with an apartment balcony to the largest Texas spread. Each ecoregion provides a home for a diversity of native fauna and flora. Armed with the understanding of the native habitat within an ecoregion provides folks with a means to enhance the natural world in their own backyard. This not only provides a place for native plants and animals to thrive but it also

brings hours of enjoyment to the resident. Programs such as Texas Wildscapes (<http://www.tpwd.state.tx.us/huntwild/wild/wildscapes/>) and the Texas Master Naturalist Program (<http://www.tpwd.state.tx.us/landwater/land/programs/txmasnat/>) can help get you started.

While enjoying visitors to your native habitat, why not help Texas Parks and Wildlife Department (TPWD) biologists by recording your observations of these critters. Sometime around 1992 Congress ordered the U.S. Fish and Wildlife Service (USFWS) to monitor rare species across the country to ensure

their survival. The USFWS came to TPWD for ideas on how best to do this. Thus began the Texas Nature Tracker program. Texas Nature Trackers include such projects as the Texas Horned Lizard Watch, Texas Hummingbird Round-up, Texas Monarch Watch, Texas Mussel Watch, Texas Amphibian Watch and Texas Black-tailed Prairie Dog Watch. For more information on these projects and more, please go to: <http://www.tpwd.state.tx.us/tracker>

Marsha is the Nature Tracker Biologist working out of Austin.



# Wildlife Valuations

By Nathan Rains

The face of rural Texas is changing. The size of private farms and ranches has decreased dramatically over the past few decades. Today, 80 percent of Texas' private land holdings are less than 500 acres. Many of these properties are now owned by absentee landowners or are being subdivided for mobile home parks, high dollar "ranchettes," rural housing and industrial developments. Congestion in the cities and metroplexes has increased "urban sprawl." With a stronger economy and increased resources, many people are leaving the urban environment to commute to rural Texas for a taste of country life. Land use on these properties is also changing.

Today, many landowners are shifting away from traditional agriculture operations and land uses such as ranching or farming, either for economic reasons or changes in land-use interests. Managing land and habitat for wildlife is gaining in popularity, whether for trophy white-tailed deer, songbirds, or everything in between.

Recent changes in the property tax laws of Texas have also helped increase interest in wildlife and habitat management. Wildlife management as a primary land use can be used to maintain an agricultural tax valuation. Proposition 11 was passed in 1995 to amend Article VIII, Section 1-d-1 of the Texas Constitution permitting agricultural appraisal for land used to manage wildlife. Landowners and wildlife have both benefited from this change, especially on smaller acreages.

The agricultural tax valuation for wildlife management or "wildlife exemption" is a program where wildlife management is deemed an acceptable agricultural practice (for tax purposes) on properties with an existing agricultural tax valuation. Having the property qualified and appraised as agricultural land during the previous year is a prerequisite. A second requirement is that the property must be used to propagate a wintering, migrating or breeding population of indigenous (native) wildlife.

To apply, a landowner must complete an approved wildlife management plan (available from your local tax appraisal office or TPWD) and submit it to their local tax appraisal office between

January 1 and April 30. In this wildlife management plan, seven categories of wildlife management practices have been outlined, of which a minimum of three practices must be implemented. These seven habitat management categories include Habitat Control (i.e., Management), Erosion Control, Predator Control, Providing Supplemental Food, Providing Supplemental Water, Providing Supplemental Shelter (nesting or escape), and Census. They address the four basic needs of wildlife; Food, Water, Cover, and Space. Under these general categories there are many suggested practices as well as opportunity for creative ideas. On smaller acreages, its important landowners target management practices toward wildlife species which primarily live on or frequently utilize their property. Small mammals, songbirds, small game species, and even butterflies are common wildlife species managed for on smaller acreages. Wildlife management on smaller acreages can be more challenging than on larger ranches due to limited space and resources. There are practices landowners can perform to benefit wildlife on any size property, especially with a little creative thinking.

A few common practices on smaller properties include winter fallow disking, brush control or "sculpturing," providing permanent water resources, providing artificial nest structures, providing




supplemental food, and conducting annual wildlife surveys or census. Each property is unique in its habitat and conservation needs, and habitat management options are available to meet these specific needs.

Local TPWD biologists are available upon written request for consultation and one-on-one site visits to assist landowners in developing wildlife management plans at no cost. Cost share programs are also available from TPWD and other state and federal agencies for qualified properties.

**Nathan is a Private Lands Biologist working out of Cleburne.**





# Wildlife Viewing at Lake Corpus Christi State Park

By Mary Jane Robertson



**L**ake Corpus Christi State Park is located on the lower Nueces River approximately 40 miles northwest of Corpus Christi. The park is in the Gulf Coast Region, and borders the South Texas Plains Region. Situated on a large freshwater lake, the park consists mainly of mesquite brushland and riparian areas, which is home to many birds and mammals.

The mammal most commonly seen in the park is the collared peccary, better known as the javelina. Javelinas feed during the day, although the best time for spotting them throughout the year is early mornings and late evenings. Another permanent resident is the white-tailed deer. As with the javelinas, the white-tailed deer show themselves mostly in cooler temperatures or mornings and evenings foraging on shrubs and grasses.

This area is also home to nocturnal mammals. The nine-banded armadillo is

an awesome but rare sight. The striped skunk occasionally visits the campsites and fishing piers, as do common raccoons. Virginia opossum in the park are very solitary and not a common sight.

The park is the territory of both the gray fox and the coyote. They can be seen and heard in all seasons, but seem more vocal during the cooler months. These carnivores have a ready food supply with the cottontail rabbits also found in the park.

Two animals in the park fascinate visitors and staff alike. Bobcats show themselves often, but stay away from any human activity while the mountain lion is very rarely seen. Occasionally hikers will report seeing one.

There is a great variety of birds in the park. Many Winter Texans are excited about seeing a greater roadrunner and are rarely disappointed. The roadrunner is a full time resident in the park and usually puts on quite a show.

The green jay, seen during warmer temperatures, is also a full-timer. Their vibrant yellow and green coloring is hard to miss. The crested caracaras as well as the northern cardinal are examples of other interesting birds found here.

Lake Corpus Christi State Park is a natural environment and home to a wide variety of wildlife and birds. Its location on two ecological regions and on a freshwater lake combine with its mild winters and hot summers allow for wildlife viewing year round. To have the best and safest experience at the park, we ask that visitors not disturb the wildlife. Happy viewing.

Mary Jane is an Administrative Assistant at Lake Corpus Christi State Park.

*[The Back Porch, continued from back page]*

other natural features. There is even a statewide group known as the Texas Organization of Wildlife Management Associations comprising over 60 separate associations.

For landowners currently under agriculture property tax appraisal, switching to active wildlife management provides another option for landowners to maintain the same valuation. Conservation easements and changes in the estate tax structure can also provide significant incentives to prevent further fragmentation. The Texas Land Trust Council, comprised of a growing number

of landowner-friendly regional groups across the state, can provide more information and assistance regarding conservation easements and related strategies.

Not all land fragmentation, however, is bad. Consider the context: Extensive acreage of farmland can be fragmented with restored wildlife habitat. A neighborhood subdivision can be fragmented with permanent green belts. A parking lot can be fragmented with native wildscaping. Thus, land fragmentation presents many challenges, but also creates opportunities. Take the time to learn more about the effects of land fragmentation and how you can be part of the solution.

## Internet Resources:

TPWD Private Lands Program –  
[www.tpwd.state.tx.us/landowners](http://www.tpwd.state.tx.us/landowners)

TPWD Texas Wildscapes Program –  
[www.tpwd.state.tx.us/wildscapes](http://www.tpwd.state.tx.us/wildscapes)

Texas Organization of Wildlife Management Associations –  
[www.towma.org](http://www.towma.org)

Texas Land Trust Council –  
[www.texaslandtrusts.org](http://www.texaslandtrusts.org)

Matt is director of the Wildlife Diversity Program and works out of Austin.

# Wild Stuff!

## Wildlife Posters

You Can Help Texas Turtles

Bats of the Western United States (pictured)

Venomous Snakes of Texas (pictured)

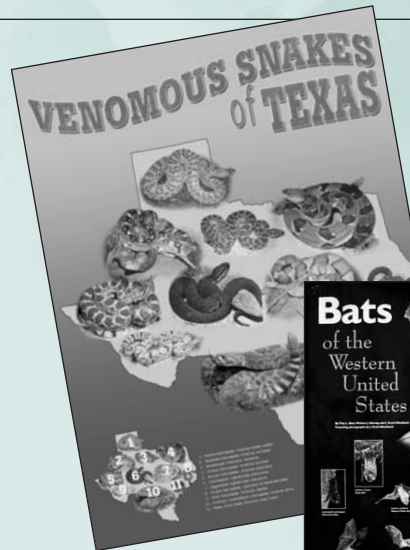
Migratory Landbirds of the Southeast (pict

Common Feeder Birds of Eastern North Ar

Common Feeder Birds of Western North Ar

\$2 each plus \$3 shipping and handling for up to 4 posters. Add \$1 for each additional poster.

Visit [www.tpwd.state.tx.us/business/shop/](http://www.tpwd.state.tx.us/business/shop/) for order form.



## Checklist of Texas Birds

The newest edition of *A Checklist of Texas Birds* is now available (pictured). Includes 632 species in good standing.

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## Hummingbird Wheel

This 10" full-color identification wheel is a helpful reference to keep nearby when you watch the hummingbirds. Sixteen hummingbird species are featured, all of which have been documented in Texas! For each bird, the wheel tells you its range in North America, habitat type, and distinguishing features of both males and females.

\$11.95 (shipping and handling included)

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# The Back Porch

KEEP TEXAS *wild!*

## Land Fragmentation in Texas: Meeting the Challenge

By Matt Wagner

**T**he increased demand for land in Texas is based on the growth in recreational values. Lands purchased for wildlife management make up a large percentage of all land sales in the state. While this is good news for the conservation of wildlife habitat, unfortunately, the trend is for subdivision into small tracts, making wildlife management much more difficult across the landscape.

The greatest threat to wildlife and habitat today is the break-up of large land holdings into smaller tracts. This division of ownership and associated change in land use is referred to as land fragmentation. As intact ranches become smaller “ranchettes,” wildlife populations are subject to many pressures including loss of open space from development, increased hunting pressure, proliferation of potential predators

(i.e., dogs and cats), and introduction of exotic species to name a few.

Additionally, excessive groundwater extraction is being exacerbated by the widespread subdivision of land combined with the “rule of capture.” This common law doctrine allows landowners to pump unlimited amounts of groundwater unless the property falls within a Groundwater Conservation District. In past decades, where a few large ranches had relatively minimal water needs over an aquifer, in some of those same places today a greater concentration of many smaller-acreage landowners drilling water wells is threatening to overtax limited groundwater supplies.

Most of the growth in land ownership has occurred in the 10–180 acre parcel size. In fact, at least 65 percent of the number of tracts in the triangle formed by Dallas, San Antonio and

Houston are smaller than 180 acres on average.

The Texas Parks and Wildlife Department is actively engaged in helping reducing the impacts of land fragmentation, through efforts like the Private Lands Enhancement and Texas Wildscapes programs. These programs provide technical assistance to landowners desiring to enhance wildlife habitat on their property, be it rural or urban.

The creation of wildlife management associations is another important solution to land fragmentation. These multi-landowner groups have been successful in improving wildlife conditions in spite of land fragmentation. Today there are about 170 such associations formed with over two million acres involved. Some associations are county based, others are formed along rivers or

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