

Eye on Nature

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Getting Texans Involved

Nature's Springtime Chorus

by Lou Verner

Ah spring, when a naturalist's thoughts turn to... amphibians! Well, perhaps among a few other things! Having survived the short, dark, cold months of winter, we who live in the Northern Hemisphere are eager to discover any signs of life returning to our familiar haunts. Swelling buds on trees, stiletto-like spring ephemerals piercing the leaf litter, the clear, high notes of warblers passing through on their northward journey, and yes, glorious choruses of frogs and toads that come with the onset of the first spring rains. Did you know that other than songbirds, frogs and toads are the only major group of Vertebrates to use vocalizations to attract their mates?

Of the 46 or so species of frogs and toads that live in Texas, all need to return, at least temporarily, to the water to breed and lay their eggs. Because the breeding season is often limited to a relatively short period defined by favorable environmental conditions, it is imperative that males and females (which normally live solitary, independent lives) closely coordinate their breeding behavior. Males are usually the first to arrive at the breeding grounds, where they begin to make their prominent calls to advertise their presence at the site. These so called "advertisement calls" are distinct for each species and appear to have several functions. The main function, to attract females of the appropriate species, has clearly been demonstrated, but they may also serve to attract additional males to the breeding chorus. Large choruses, comprised of thousands of individuals, may be advantageous since there is some evidence that they are more effective at attracting females than smaller ones. Ironically, advertisement calls may also have a territorial function, repelling other males from the immediate area surrounding a calling

male. "Yes, I want you to join me in attracting females, just make sure you keep your respectful distance!" While females are drawn into the breeding grounds by the strength of the overall chorus, there is evidence that females of some species choose a male based on his individual calling ability, his location in the chorus, or the quality of his calling territory. In some species, such as the Spring Peeper, dominant males not only initiate the rounds of calling within smaller groups of trios or quartets, but their individual calls are louder, longer and lower pitched, perhaps reflecting their superior age, size and/or vigor — all important qualities in terms of female mate selection.

It may surprise you to learn how many species of frogs and toads live in your vicinity. Here in the Dallas/Fort Worth area, we are home to 20 species, ranging from the tiny (under an inch) introduced Rio Grand Chirping Frog to the familiar Bullfrog, our largest native frog that can exceed 6" in length. Because many of them are very secretive in their habits, and often "disappear" upon approach, it is often easier to determine what species you have in your area by learning to identify them by their calls. Spring and early summer is the best time to "go frogging," but many species of chorus frogs (of the Genus *Acris* and *Pseudacris*) will actually breed during rainy mid-winter warm spells, and some of larger "lake" frogs, like the Leopard Frogs and Bullfrog, may breed year-round whenever the weather is warm enough. Calls range from

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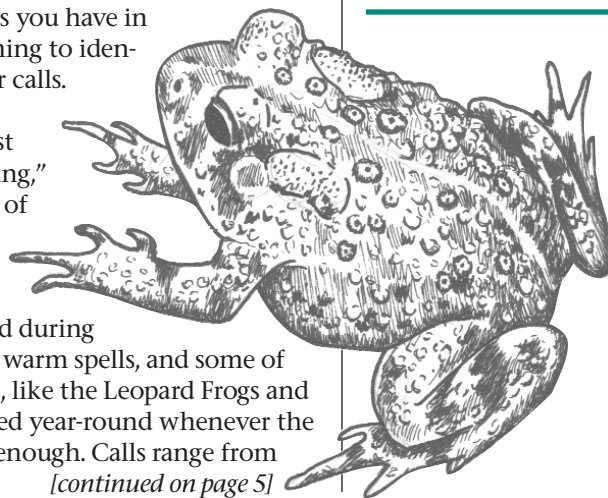
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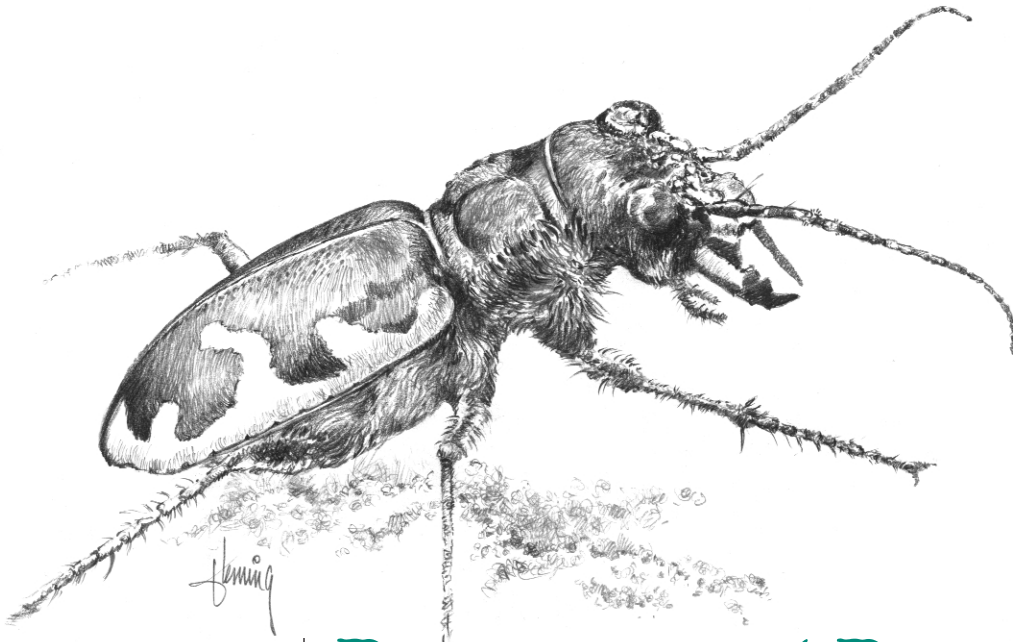
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Diversity and Dependence

by Mike Quinn

When biologists speak of diversity, the discussion quickly turns to entomology, that buggy branch of biology whose very name is synonymous with biodiversity. It's a bit difficult to put the diversity of insects into perspective, so let's start with some organisms more familiar to most people. Howell and Webb (1995) list nearly 1,000 species of birds for Mexico. Correll and Johnson (1970) list nearly 5,000 species of plants for Texas. By contrast, we don't even know to the nearest thousand how many species of insects reside in Texas. According to Drees and Jackman (1998), the current estimate (including undescribed species) hovers around 30,000 species of Texas insects!

One might conclude that if we can't quantify Texas' insect diversity to the nearest thousand species, then the introduction or removal of one or two types of insect could hardly be of any consequence. Quite the opposite is true though. One need look no further than the Imported Fire Ant to know the devastation that a single new species can induce. The eradication of the Primary and Secondary Screwworm through a Herculean effort to produce and release millions of sterile males has also altered our landscape. Removing these two species of flies allowed the U.S. and Mexican cattle industries to flourish. Additionally, the extirpation of

these two insects contributed to the deer population rising to unexpectedly high levels in some locations.

This tremendous insect diversity often experiences dramatic population fluctuations from season to season and from year to year. In the extremely unlikely event that insects should disappear altogether the world, as we know it would soon follow. Two-thirds of wild plants depend on insect and other animal pollinators, as do three-quarters of crop plants (Withgott 1999). To be fair, in the equally unlikely event that all the plants should disappear, all the animals would soon follow as well. The vital interdependence of plant and animal species cannot be overlooked.

There might be 30,000 species of insects in Texas, but there are only a handful of entomologists by comparison. This is where our readers can help. The world's professional entomologists are reliant upon amateurs to help in a myriad of tasks, from monitoring common species like the Monarch to locating new populations of rare mussels or insects such as the Manfreda Giant-Skipper. Observing, recording, and collecting valuable data are tasks for which we are dependent on you. Won't you help?

Mike Quinn is the new entomologist working out of Wildlife Diversity Fountain Park Plaza offices in Austin.

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Wildflowers of the Deep Sand in the Post Oak Savanna

by Dana Price and Jason Singhurst

Texas has an amazing diversity of wildflowers that arise from our varied climate and the unique and specialized plant habitats found throughout the state. The wildflower enthusiast who seeks out the deep sand habitats of the east central Post Oak savanna region will be rewarded by a number of unusual species. In this area of the state, well-drained habitats of xeric sands are dominated by numerous drought tolerant wildflowers. Although this area of the state can accumulate an average of 30-45 inches of rainfall, surface moisture only lasts for a few days. A year with good fall and winter moisture however, prepares a spectacular display of spring wildflowers.

The deep sands of the Carrizo, Queen City, and Sparta Sands geologic formations extend in a belt from south to north beginning in Atascosa and Bexar counties south of San Antonio, Texas. Heading northeast in the state, the sands pass through Bastrop, Texas in Bastrop County and on to Athens, Palestine, and Tyler, Texas in Henderson, Anderson, and Smith counties, finally ending just south of Texarkana, Texas. The heart of these sand formations is in Anderson, Freestone, Henderson, Leon, Robertson, and Smith counties.

Unique in appearance, this habitat looks like a coastal beach with very fine sands in shades of white and tan. In this xeric community, grasses and wildflowers are generally sparse, but showy in a good year. Adjacent to the sands or clustered in them are sand post oak and bluejack oaks (*Quercus stellata* var. *margaretta* and *Quercus incana*), along with black jack oak, southern red oak, and black hickory (*Quercus marilandica*, *Quercus falcata*, and *Carya texana*). These sands support shrub thickets with woody plants such as Oklahoma sand plum (*Prunus gracilllis*) and aromatic sumac (*Rhus aromatica* var. *serotina*).

Cnidioscolus texanus (bull nettle; beware the stinging hairs!)
Delphinium carolinianum (blue larkspur)
Heterotheca subaxillaris (yellow camphorweed)
Hymenopappus artemisiaefolius (woollywhite)
Ipomopsis rubra (standing cypress)
Monarda punctata (spotted horsemint)
Penstemon murrayanus (cup leaf penstemon)
Paronychia drummondii (Drummond's nailwort)
Phlox pilosa (downy phlox)
Pteridium aquilinum (bracken fern)

Sedum nuttallianum (yellow stone crop)
Senecio ampullaceus (Texas groundsel)
Streptanthus hyacinthoides (Oklahoma twist flower)
Tetragonotheca ludoviciana (Louisiana square head)
Thelesperma filifolium (greenthread)
Tradescantia reverchonii (Reverchon spiderwort)
Yucca louisianensis (Louisiana yucca)

In middle to late March blue larkspur, an upright perennial up to 3 feet tall with bright blue spur flowers, begins to dominate these deep sand sites. Concurrently with the larkspur, woollywhite begins to march across these sandy landscapes. Reaching 3 feet tall, woollywhite can be easily identified by its snowy white disk flowers and white hairy leaves. In April and May standing cypress, a frequent host of several bee and butterfly species, occurs throughout these sands. Its bright orangish-red tubular flowers and cypress-like leaves top stems up to 6 feet tall. Cup leaf pentstemon, a near endemic to Texas, can be sporadically observed with its thick leathery leaves and stems, magnificent red flowers and height of 3 to 6 feet. Yellow stone crop, a succulent, carpets the sands with its bright yellow clusters of minute flowers. One of the most amazing members of the mustard family in Texas is the Oklahoma twist flower, represented by its lavender to purple or magenta flowers that appear on lacy 1 to 3 feet tall stems.

Peak spring and summer flowering in these areas occurs in late April and early May. The display of wildflowers on these deep sands can overwhelm the plant enthusiast. The



differing flower colors, leaf shapes and aromatic smells, such as the spotted horsemint and the yellow camphorweed make when rubbed by your hand or up against by your pant legs, make a road trip to this area of the state worth while.

There are in excess of 100 deep sand wildflowers that can be observed in the spring and early summer. The list above includes some of the more common and showy wildflowers you are likely to see. Please take only pictures! Some of these species are found only within a limited range, and some of the showier ones such as cup leaf penstemon (*Penstemon murrayanus*) have already suffered from over collection. If you are interested in growing these plants at home, a native plant nursery or one of our urban biologists can help you locate a source of seeds or plants.

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Diversifying Ranch Income through Nature Tourism

by Linda Campbell

There is a growing interest among agricultural producers in diversifying farm and ranch income by providing wildlife-associated recreational opportunities. Many ranches in Texas already derive substantial income from hunting. Opportunities exist for attracting other segments of the recreation market, such as birders, wildlife watchers, hikers, mountain bikers, or nature photographers, the so-called nature tourism business.

For example, ranchers with established hunting businesses might consider marketing non-consumptive activities such as birding or biking during the non-hunting season. This can fill empty lodging facilities and bring in off-season income. Opportunities also exist for landowners and entrepreneurs interested in developing tourism-related businesses such as B&Bs that specialize in birding and wildlife watching.

Hunting outfitters are an established part of wildlife-associated recreation in Texas. With the growing interest in diversification among landowners, opportunities abound for the “new breed of outfitter” specializing in interpreting the natural and cultural resources of Texas for wildlife watchers, birders, photographers and those interested in history and culture.

Although opportunities exist to profit from the growing demand for outdoor recreation, it is important to be realistic about your assets, management ability, personal style and preferences, and how new endeavors integrate into your existing business. Nature tourism is not a cure-all to “save the ranch.” It can diversify income, but those in the business will tell you that it takes commitment and vision. It is not for everyone.

Providing recreational opportunities is a people-oriented business. It's not a business for you if you don't

enjoy dealing with people and providing services to your customers. The ability to enjoy the company of others, to share your experiences and knowledge with those of different backgrounds and to be flexible enough to adjust to people with personalities and tastes different from your own are important attributes for success in a “people business” such as nature tourism.

Nature tourists are looking for the natural, historical and cultural heart of the place they are visiting, and their defining principle is authenticity. They are interested in what is real, and they want to be immersed in a rich natural, cultural or historical experience. Focus on providing an enjoyable experience that also teaches. Good interpretation of the resources adds immensely to the learning experience and overall enjoyment. A satisfying experience that meets visitor expectations will generate repeat customers and positive word-of-mouth recommendations.

Once you have an adequate assessment of your natural and cultural resources, think about what activities you could offer that best fit with your current operation and interests. Start slow and focus on what you can do best based on your resource assessment and financial resources. Consider the preferences and abilities of

other family members and employees. Be honest with yourself about your temperament, time, management ability and preferences for certain type of activities and people.

For many agricultural landowners, marketing nature-tourism activities is the most difficult part of starting a new business. It often is easier for people of the land to understand the resources themselves than how to sell the experiences of those resources to others. Marketing is vitally important, however, as the time and energy invested in researching and developing a business endeavor is wasted if potential customers are not aware of its existence. A full discussion of marketing however is beyond the scope of this article.

Texans are blessed with an abundance of wildlife and natural beauty, and opportunities abound for sharing this natural heritage with fellow Texans and visitors from all over the world. For some landowners, diversifying agricultural income through nature-based tourism can be both enjoyable and profitable. For more information, contact Linda Campbell, Nature Tourism Coordinator, Texas Parks and Wildlife, Austin, Texas (512-389-4396).

Linda Campbell is the Nature Tourism Coordinator working out of our Austin office.

Helpful Internet Sites

Texas Parks and Wildlife

<http://www.tpwd.state.tx.us/nature/tourism/yourbusiness/index.htm>

Texas A&M University, Texas Nature Tourism Initiative

<http://tnti.tamu.edu>

1996 U.S. Fish and Wildlife Service National Survey of Fishing, Hunting, and Wildlife-associated Recreation

<http://fa.r9.fws.gov/surveys/surveys/html>

1997 Results from the National Survey on Recreation and the Environment

http://www.fs.fed.us/research/rvur/recreation/publications/Outdoor_Recreation/title/html

Emerging Markets for Outdoor Recreation in the U.S.

<http://www.outdoorlink.com/infosource/nsre/>

Fermata, Inc. Austin, Texas (private nature-based tourism consulting business)

<http://www.fermatainc.com>

Texas Department of Economic Development, Tourism Division

<http://research.travel.state.tx.us>

Is Nature Tourism Right For You?

In developing a nature-based tourism enterprise, the first step is to inventory the natural and cultural resources that form the basis of what you are selling. Ask yourself these questions:

- What does your ranch have that is unique or different from others? (Think about plants, animals, geology, local history, and ranching heritage.)
- What are your ranch's special habitats and how can you provide viewing opportunities? (Think about watering areas, wildlife gardens close to lodging, feeders, blinds, elevated observation areas, trails, and boardwalks.)
- Get outside perspective — remember the common or ordinary to you may be of great interest to urban residents or visitors from other states and countries.

Examples of activities offered on Texas ranches include:

- Guided bird and wildflower walks
- Special viewing areas for hummingbirds
- Wildlife watching from blinds (turkey, deer, birds)
- "Owl prowls" at night
- Stargazing in dark, rural settings, sometimes with telescopes
- Special hikes to unique or scenic areas
- Fossil walks along creek beds
- Interpretive walks featuring geology, historic sites, ranching heritage
- Mountain bike trails
- Horseback riding trails
- Camping and backpacking
- Chuck-wagon meals with music or storytelling
- Observing or participating in working livestock

Just relaxing and experiencing a rural setting with family or friends



[*Nature's Springtime Chorus continued*]

the long-held trills of toads (Genus *Bufo*), to the buzzy bleating of the narrowmouth toads (Genus *Gastrophryne*), to the metallic, *giick-giick-giick-giick...* of the Northern Cricket Frogs, to the clear, bell-like *pip-pip-pip-pip-pips* of Strecker's Chorus Frog, to the deep, resonant *ru-ru-ru-rumm, rumm, jug-o-rumm* calls of the Bullfrog. The best time to go out is in early evening to dusk following or during a rain.

There are several resources available to aid you in identifying the frogs and toads common to your area. They include the Web site: <http://www.zo.utexas.edu/research/texherps> — which contains photos, range maps, and voice recordings for nearly all the frogs and toads in Texas, as well as information on other amphibians and reptiles. Available from TPW's Wildlife Diversity

Program (1-800-792-1112, ext. 7011) is *Guide to the Calls of Frogs & Toads in Texas*, which contains recordings of frog and toad calls, as well as a guide to interpreting frog and toad choruses. Order this tape (\$5) and receive a free Amphibian monitoring booklet too. *Voices of the Night* contains recordings of 36 species found in eastern North America, including the eastern half of Texas, while *Frog and Toad Calls of the Rocky Mountains and Southwest* contains species found in the western part of the state. Both are available from the Cornell Laboratory of Ornithology (607-266-7425), and can also be found or ordered from most nature stores or bookstores.

Efforts are underway, both worldwide and nationally, to monitor amphibian populations. Here in Texas, Texas Parks and Wildlife is cooperating with the North American Amphibian Monitoring Program (NAAMP) in the collection of

data on amphibian populations in the hope of better understanding their current status, identifying potential causes for their decline and outlining a strategy for their conservation. Throughout the eastern two-thirds of the state, we have been training volunteers to help collect baseline inventory data on local populations for the last two years. These data will help us monitor long-term trends in Texas populations and determine which, if any, species, are exhibiting significant decline. If you are interested, you can help! To find out more about this exciting opportunity, contact Ann Miller at 1-800-792-1112, ext. 7025, ann.miller@tpwd.state.tx.us or Lee Ann Linam at 512-847-9480, lalinam@wimberley-tx.com.

Lou Verner is an Urban Biologist working out of the Dallas office.

A Team Effort:

“Texas Wildscapes” join National Wildlife Federation to Promote Wildlife Habitat Gardening

by Kelly Bender

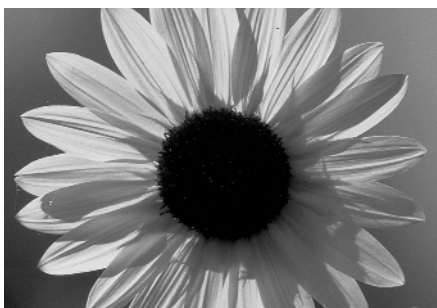
In order to spread the message about landscaping for wildlife more effectively throughout Texas, *Texas Wildscapes* is teaming up with National Wildlife Federation’s *Backyard Wildlife Habitat Program*. Together, we will actively promote both organizations’ programs as well as provide cooperative “Gardening for Wildlife” workshops. A combined official habitat certification option is planned for this spring.

By developing this important partnership, both organizations can strengthen the message of good land stewardship and reach more people throughout the state. “The message of landscaping for wildlife should rise above organizational boundaries,” says Mark Klym, Texas Wildscapes Coordinator, “and we are proud to partner with National Wildlife Federation in this important effort.”

For more information on National Wildlife Federation’s *Backyard Wildlife Habitat Program*, see their web page at <http://www.nwf.org/habitats/index.html> or call Alice Martin at 512-476-9805.

For more information on Texas Parks and Wildlife’s *Texas Wildscape Program*, see our web page at <http://www.tpwd.state.tx.us/nature/wildscapes/index.htm> or call Mark Klym at 512-389-4644.

Kelly Bender is an Urban Biologist working out of the Austin offices.



Bat Educational Materials Now Available Throughout Texas!

by Annika Keeley

With 31 bat species Texas is blessed with the highest bat species diversity in the United States. Bracken Cave near San Antonio contains the largest bat colony in the world and the Congress Avenue Bridge in Austin houses the largest urban bat colony in North America. Numerous Mexican free-tailed bat colonies occur in buildings, especially in central Texas. Nevertheless, bats have long been misunderstood and intensely persecuted by the public. They are susceptible to decline and extinction, because they are among the slowest reproducing animals and because some species form large, vulnerable aggregations. Increased conservation efforts are crucial since several species in Texas are in alarming decline.

The basis for all conservation efforts is the appreciation of natural resources, which is generated best through education. In Texas, the presence of large, watchable Mexican free-tailed bat emergences and Austin’s special status of the ‘Bat Capital of the World’ has increased awareness about bats. However, popularity alone does not educate. It does stimulate a desire for facts and knowledge. Teaching kids and adults throughout Texas to understand and value bats as essential allies will contribute immensely to bat conservation.

Texas Parks and Wildlife with assistance from a North American Bat Conservation Partnership/Bat Conservation International Grant, has developed 18 educational bat trunks, giving educators and interpreters throughout Texas access to exciting bat educational materials appropriate for all ages, including adults. Reference materials and thorough instructions allow even educators without previous knowledge of bats to learn about these fascinating creatures and conduct interesting and fun bat programs. Information materials include the book *Bats in Question*, a *Bat House Builder’s Handbook*, and *Bat Facts on the Fly*. With a variety of teaching materials, including classroom activities, a slide set, two bat videos, and three bilingual books for kids, bat programs can be adjusted to age, abilities, and previous knowledge of the audience. A hands-on, visual, and experimental approach is possible with the many demonstration materials. A bat detector, a mounted bat, laminated posters, and outlines of the largest and smallest Texas bats are just a few of the fun things in the trunks.

Eighteen trunks are distributed throughout Texas (see below). They can be borrowed for periods of up to four weeks. Contact the caretakers to reserve a trunk for you!

Location	County	Caretaker	Phone Number
El Paso	El Paso	Lois Balin	915-834-7070
Fort Leaton State Historical Park, Presidio	Presidio	Evie Dorsey	915-229-3613
Amistad National Recreation Area, Del Rio	Val Verde	Annmarie Mikelsky	830-775-7491
Alpine	Brewster	Mike Hobson	915-837-2051
Canyon	Randall	Bob Sullivan	806-655-3782
Caprock Canyons State Park	Briscoe	Deanna Oberheu	806-455-1492
Cedar Hill State Park, Cedar Hill	Dallas	Lou Verner	972-293-3842
Brownwood	Brown	Steve Jester	915-643-5977
Comfort	Kendall	Tim Lawyer	830-995-4154
Austin	Travis	Kelly Bender	512-389-4388
San Antonio	Bexar	Rufus Stephens	210-348-6350
M.O. Neasloney WMA near Luling	Gonzales	Jeff Bonner	830-424-3407
Uvalde	Uvalde	Rick Taylor	830-278-9151 x142
Weslaco	Hidalgo	Jesus Franco	956-447-2664
Sheldon Lake State Park in Houston	Harris	Diana Foss	281-456-7027
Village Creek State Park near Lumberton	Hardin	Jerry Rashall	409-755-7322
Jasper	Jasper	Clayton Wolf	409-384-6894
Tyler	Smith	Heidi Kryger	903-566-1626

Texas Nature Trackers Update

Going Above and Beyond

by Ann Miller and Lee Ann Linam



Keen interest in our loveable state reptile is not only selling license plates, but is leading some Texas Horned Lizard Watch (THLW) volunteers to go that extra mile to help us get the important data we need. **Frank and Marjorie Hoelscher**, 4-year veterans of Texas Horned Lizard Watch, have been managing habitat on their ranch in Pecos and Reeves counties for Texas horned lizards. One of Frank's objectives is to provide food for his "horny toads." Since part of Frank's land is in CRP, he tries to move harvester ant beds from the CRP land into nearby pastureland before he does the required periodic cultivation. By doing this and feeding the harvester ant beds with cracked grain, he has had success in increasing the number of harvester ant beds. We look forward to more data from Frank and Marjorie about their "ground-breaking" methods to increase horned lizard numbers.

Bette Armstrong in Eastland County, **Doris Steadman** in Scurry County, and **Barbara Farley** in Mills County have been horned lizard watchers for several years. They published notices in local newspapers and used other venues to advertise Texas Horned Lizard Watch (THLW), greatly increasing the amount of data we have from their counties. **Patrick McAdoo**, a TCU grad, sent in data from all over his community in Gaines County, including sightings from his "golfing buddies." **Linda White** of Taylor County has enlisted fellow Audubon society members to get THLW off the ground in the Abilene area. Thanks to all these folks for going "above and beyond" to help us gather new information about the status of Texas horned lizards! If we keep getting the help of volunteers like these, we can solve the mystery of the disappearance of "horny toads" in many parts of Texas.

For more information about Texas Horned Lizard Watch and other volunteer monitoring projects, request the upcoming edition of "The Texas Nature Tracker."

[Wildflowers of the Deep Sand in the Post Oak Savanna continued]

Where can you go to see these unique deep sand plants? Roadside wildflower viewing is possible along I-45 between Fairfield and Centerville, on Hwy. 287 between Corsicana and Palestine after you cross the Trinity River heading east, and Hwy. 19 between Athens and Palestine.

If you enjoy getting out for a hike, the Gus Engeling Wildlife Management Area has deep sands as well as other unique habitats such as pitcher plant bogs, fresh water marshes, and bottomland hardwoods. To get to the WMA from Palestine take U.S. Highway 287 northwest 21 miles. From Corsicana take U. S. Highway 287 southeast 38 miles.

Dana Price is a Botanist. Jason Singhurst is a Landscape Ecologist. Both work out of the Austin offices.

Special Opportunity for Teachers and Students! "Hometown Horned Toads" Essay Contest

They are the stuff legends are made of. They've traveled across the country by the boxload to Boy Scout jamborees. Kids have kept them in shoeboxes on the back porch, stuffing them full of big red ants. Purple and white ones adorn TCU football pennants, and one especially famous individual spent three decades in the cornerstone of the Eastland County courthouse! (At least that's the story.)

People have always loved telling stories about their beloved horned toads (not a toad or a frog, but a member of the lizard family). Sadly, many of these same Texans have noted that horned lizards have become increasingly rare over the last 30 years. Texas Parks and Wildlife is offering an opportunity to students, grades 4 to 12, to document those stories and find out about historical occurrences of Texas horned lizards in their communities.

The goal of the "Hometown Horned Toads" contest is twofold. First, it will provide Texas Parks and Wildlife with a valuable glimpse into the factors that have impacted this popular reptile. The essays may give us insights that will help us to develop better conservation approaches for the Texas horned lizard. For students, the contest will provide an opportunity to learn research methods, practice writing skills, and discover information about their own communities, its citizens, and its wildlife. Of course there will be some very nice prizes, too!

Students, depending on their grade levels and abilities, can begin conducting interviews of local residents and researching local historical reports such as newspaper articles, crop records, and aerial photographs in the summer and fall of 2001. They will learn about the abundance of Texas horned lizards past and present, habitats used by Texas horned lizards, changes in habitat in the local community over time, and unusual experiences people have had with horned lizards. In counties where Texas horned lizards have declined, the overall goal should be to document when and perhaps why Texas horned lizards disappeared.

Prizes will be awarded based on a combination of several criteria, including thoroughness of investigation, number of people interviewed, number of local written sources accessed, and quality of presentation. Deadline for submission is March 1, 2002. Winners will be announced and prizes awarded by May 1, 2002. For more information about this contest, contact Lee Ann Linam 512-847-9480 or lalinam@wimberley-tx.com or Ann Miller 1-800-792-1112 or ann.miller@tpwd.state.tx.us.

Ann Miller is Texas Nature Trackers Volunteer Coordinator while Lee Ann Linam is a Project Biologist with Texas Nature Trackers. Both work out of the Austin office.



The Back Porch

by Paul Robertson

What good is that animal anyway? That's a question often asked by people about both plants and animals, especially annoying ones such as sand-burrs or "bugs." Despite having heard that question many times, it always seems to take biologists by surprise and often elicits a less than satisfying reply. When I'm asked that, I think of the famous wildlife biologist Aldo Leopold's quip that "The last word in ignorance is the man who says of an animal or plant: what good is it?" Although Leopold was one of our most noted wildlife ecologists, his work is virtually unknown to the general public and his quip probably sounds a little harsh given the minimal experience that most people have nowadays with wild species and natural systems. Is it reasonable to expect people to understand and appreciate what they don't know either practically or intimately?

We live in an intensely utilitarian, high technology culture and most people are virtually certain that there is a distinct purpose for each and every material thing that surrounds

them — even if they don't know what that purpose is. You might say that we've developed a strong "faith" in utility and technology. An inadvertent consequence of our modern lifestyle is that our relationship with wild species and natural systems has dramatically altered. When people lived in more practical and intimate association with natural systems they developed a "faith" in the importance of all the parts (species, riparian systems, etc.), even when they didn't know exactly what each did either. There are still a few native cultures and individuals around who have managed to continue to live and think this way, and Leopold was once one of them.

The complex, technological world that we have built around us in this society stands upon and depends upon the even more complex natural systems that sustain us in myriad, critical, but often very poorly appreciated ways. We're like a deluded circus acrobat at the top of a huge pyramid, who doesn't realize that her/his stability and survival depends on each of the individuals below.



Everyone in our culture knows better than to open up a computer or TV and start throwing out parts whose function they don't know or understand because we have developed a sort of techno-wisdom; we know the machine is likely to stop working with the first, careless toss. Unfortunately, but understandably, we've lost much of our eco-wisdom and many people are willing to "throw out" species for which they cannot divine a use. Our diminished eco-wisdom is why the question gets asked so often nowadays.

The famous biologist, Paul Ehrlich, expressed the same sentiment as Leopold, but in a more constructive vein: "To keep every cog and wheel is the first precaution of intelligent tinkering."

If we can find a way to recover our eco-wisdom and to meld it with our techno-wisdom, we are much more likely to keep the pyramid of life stable and flourishing.

Paul Robertson is the new leader of the Nongame and Rare species program working out of the Austin offices.