

Eye on Nature

TEXAS
PARKS &
WILDLIFE

FALL 2009 A publication of the Wildlife Division — Getting Texans Involved

Treasure challenged by change

By Ricky Maxey

Someone unfamiliar with the Pineywoods ecoregion of Texas might develop a mental picture of a landscape completely dominated by pine forests, but the Pineywoods landscape is much more diverse than that. The Pineywoods extend into portions of 40 counties along the eastern side of the state where it borders Arkansas and Louisiana. Depending on which map you use, it either borders or is close to Oklahoma as well. The forests of the southeastern United States reach their western boundaries within this ecoregion and the Post Oak Woodlands and Prairies. The Pineywoods ecoregion of Texas is bounded on the north and west by the Post Oak Woodlands and Prairies, on the west by portions of the Blackland Prairie, and on the south by the Gulf Coast Prairies and Marshes ecoregions. The Pineywoods ecoregion is very rich in biological diversity, particularly within those ecotonal boundaries.

Though there are fairly expansive pine forests and mixed pine-hardwood forests within this landscape, there are other vegetative communities as well. The Pineywoods landscape contains a mosaic of vegetative communities including: dry longleaf pine woodlands, dry pine-oak-hickory woodlands, wet longleaf pine woodlands, dry-mesic mixed pine-hardwood and hardwood-pine

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PINEYWOODS

They were one of the first things noticed by settlers arriving from the east—these extensive stands of large, old growth pine trees. They are the fuel that drives a major industry—forestry is an important element in East Texas. They are also the vital element of an ecosystem that encompasses the eastern edge of our state—the pineywoods. And this edition of the newsletter they are the focus of our discussion—conservation in the East Texas Pineywoods.

Inside you will find articles highlighting the great diversity of the Texas Pineywoods, with even more diversity featured in the online newsletter at www.tpwd.state.tx.us/newsletters/eye-on-nature/2009fall



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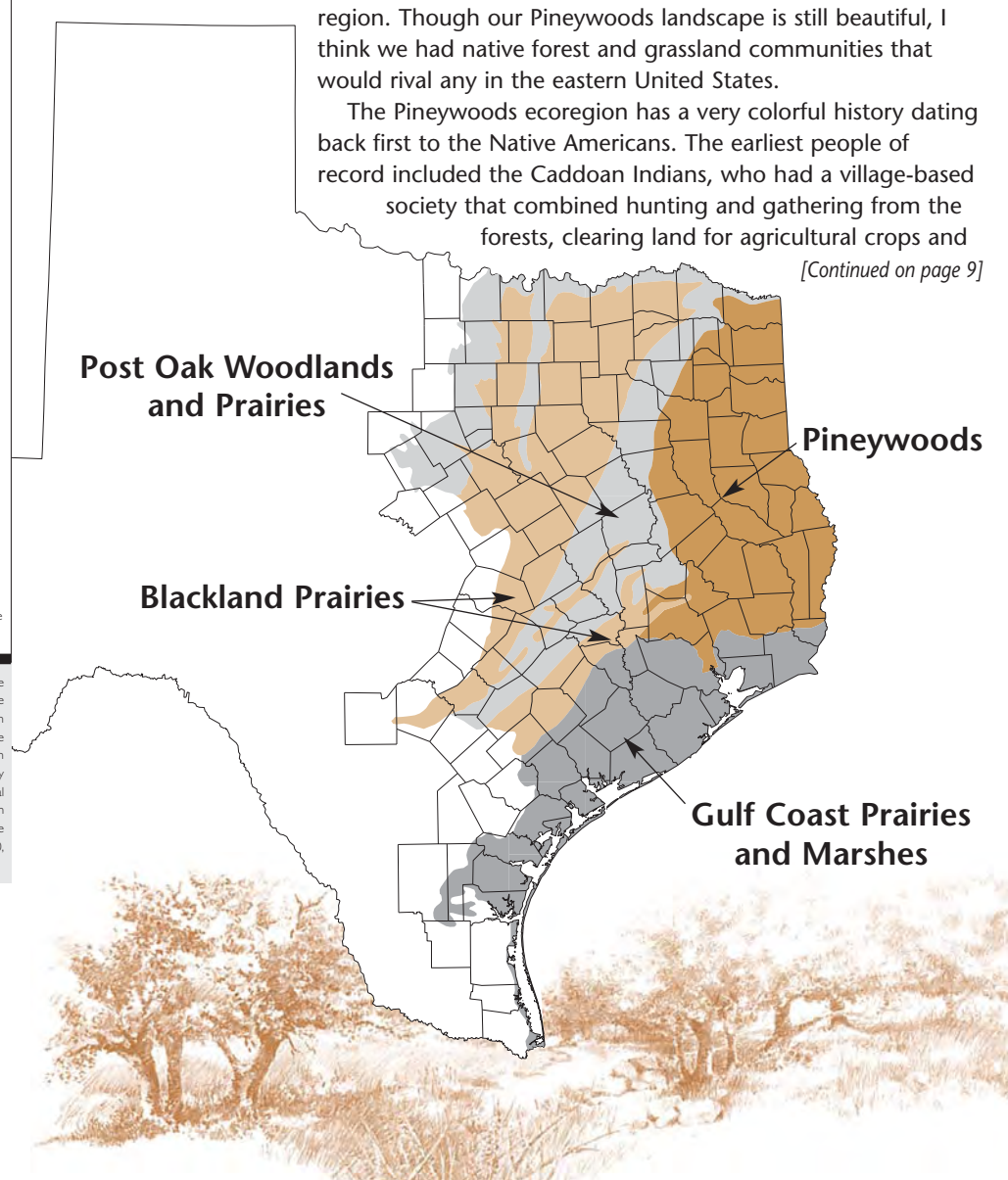
[Treasure challenged by change, continued from page 1]

forests, mesic slope and terrace forests, minor stream bottom forests, seasonally flooded river floodplain forests, semi-permanently flooded swamps, seeps and bogs and localized native grasslands. The topography of this landscape is rolling hills dissected by stream corridors and river floodplains in the north, flattening out as it reaches the coast. Uplands are dominated by species such as longleaf pine, shortleaf pine, post oak, red oak, white oak and black hickory. On terraces, lower slopes and bottomlands species such as loblolly pine, American beech, southern magnolia, willow oak, water oak, green ash and water hickory are common. Swamps and wetlands provide habitat for bald cypress, redbay, water tupelo, Planer tree and common buttonbrush. Native grasslands are dominated by species such as little bluestem, big bluestem and Indiangrass.

This beautiful mosaic of vegetative communities changes in character with changes in climate, soil types and land forms. There is constant interplay between temperate and tropical climates in this region of convergence that results in weather-related events such as flooding, fire, tornadoes and hurricanes. These events, the forces of water, wind and fire, and the physical characteristics of the land itself create a dynamically changing mosaic of vegetative communities across the landscape. Many of the vegetative communities, though, are striving to achieve natural succession—changing over time in response to these events, or interruptions, as they have for centuries. Anyone who has worked with me in the field has heard me lament a desire to be able to go back in a time machine and see this landscape before the impacts of European settlement of the region. Though our Pineywoods landscape is still beautiful, I think we had native forest and grassland communities that would rival any in the eastern United States.

The Pineywoods ecoregion has a very colorful history dating back first to the Native Americans. The earliest people of record included the Caddoan Indians, who had a village-based society that combined hunting and gathering from the forests, clearing land for agricultural crops and

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Rafinesque's Big-ear Bat Conservation in the Texas Pineywoods



It's time to check the nets

By Christopher E. Comer

"It's time to check the nets," says Leigh Stuemke, Stephen F. Austin State University (SFASU) graduate student and bat researcher. Dutifully, the four biologists present hitch up our chest waders, turn on our headlamps and stomp off into the East Texas night. Mylea Bayless from Bat Conservation International (BCI) in Austin is the first to arrive with her spotlight at the stagnant pond about 75 meters from the truck. "Nothing in this net," she calls from out of the darkness. I play my headlamp over the 6-foot-tall, 12-foot-wide stretch of fine nylon mesh in front of me. A tiny, struggling, furry ball is visible in the net about a foot from the water's surface. "Hey, we got one. Looks like a Seminole bat." I am referring to *Lasiurus seminolus*, one of the more common bats resident in this densely forested part of the state. Then we can hear the excitement in Leigh's voice: "We've got a CORA! No, two CORAs." She is referring to our target species, the far less common *Corynorhinus rafinesquii* or Rafinesque's big-eared bat. Fifteen minutes later we meet back at the vehicle with Laurie Lomas, the U.S. Fish and Wildlife Service biologist responsible for the Trinity River National Wildlife Refuge, where we are working, to examine our catch. Rafinesque's big-eared bats are both uncommon and dif-

ficult to catch, so it is rare to handle more than one caught in mist nets on one evening. But the truth is that we are cheating a bit—a group of 50 or more bats roosts regularly in a nearby abandoned home. Before the night is over, we have captured 11 CORAs and one southeastern bat (*Myotis austroriparius*), a secondary target species. Though they did not appear to appreciate the honor, those bats were the first subjects for a research project examining the ecology of these poorly understood mammals in East Texas.

Of the 11 bat species native to the Pineywoods, the Rafinesque's big-eared bat and, to a lesser extent, the southeastern bat are among the most vulnerable to long-term population declines. These species are closely associated with mature bottomland hardwood forest, primarily because of their habit of establishing maternity roosts in large, hollow trees, especially black gum and tupelos (*Nyssa sylvatica* and *Nyssa aquatica*). Forest biologists estimate that over 75 percent of the original bottomland hardwood forest in the southeast has been lost or degraded. Threats include timber harvest, urbanization, reservoir construction, and conversion to pastures or other agricultural uses. Because of this loss of habitat, perceived declines in abundance, and a general lack of knowl-

DID YOU KNOW?

The Pineywoods of East Texas are home to 11 bat species.

Some bats make their homes in hollow trees.



edge about its ecology, the Rafinesque's big-eared bat is protected in most states across the southeast. In Texas it is listed as threatened by the Texas Parks and Wildlife Department (TPWD).

Adding to concerns about this species is our poor understanding of their ecology, habitat requirements, and even distribution within their range. Thankfully, biologists have recognized the need for more information, and research projects are currently underway in several states in the species' range. One of the most comprehensive is currently ongoing at SFASU using funds from TPWD. Along with others from across the region, the bats from Liberty County were fitted with radio transmitters to allow us to track them to their roost sites and learn about their ecology and movements. We are also using various techniques to survey promising areas of bottomland hardwoods in East Texas for these bats. Acoustic

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Red-cockaded Woodpecker Conservation in Texas

By Donna Work

East Texas is the western-most range of an endangered bird that has very interesting home-building habits and is particular about the condition of its “neighborhood.” The red-cockaded woodpecker (RCW) inhabits areas from East Texas and Southeast Oklahoma across the South to the East Coast. These woodpeckers prefer open, mature pine forests. Each RCW group needs 100 acres or more of continuous mature pine stands depending on the condition and quality of habitat available.

Red-cockaded woodpeckers construct their roosting and nesting cavities in live pine trees. After the cavity is completed, the woodpeckers create resin wells around the cavity entrance, allowing fresh sap to flow each day. This serves to deter their major predator, the rat snake.

These birds live in family groups consisting of a mated male and female and helpers. There is only one breeding pair per group. All members of the group help build cavities, defend the territory, incubate eggs and feed the young.

Most red-cockaded woodpeckers in Texas can be found on national forest lands. They also reside on forest industry lands, state forests and non-industrial private lands. All four of the national forests in Texas have red-cockaded woodpeckers that can be viewed by the public. The W.G.

Jones State Forest, south of Conroe, and the I.D.

Fairchild State Forest, between Rusk and Palestine, also house RCWs.

A recovery plan for the endangered RCW is underway across the South, including habitat management, monitoring of populations, and translocation (moving from one site to another) of juvenile RCWs where needed.

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DID YOU KNOW?

Some Texas woodpeckers make their homes in living trees. These woodpeckers also use sap from these trees as a primary defense against predators.

The *Recovery Plan for the Red-cockaded Woodpecker* (www.fws.gov/rcwrecovery/), a document of the U.S. Fish and Wildlife Service, provides guidance and policies in managing for the recovery.

Habitat management practices that benefit the red-cockaded woodpecker include: thinning dense pine stands; prescribed burning; leaving hundreds of acres of continuous mature stands; and reduction and control of midstory (dense undergrowth). Artificial cavities can be installed to provide immediate roosting and nesting cavities. Recruitment stands to allow for new groups to form and replacement stands to provide replacement territories for RCWs displaced by some catastrophe can be maintained. Population enhancement comes in the form of translocations and augmentations—moving extra birds from one place to another and pairing up unrelated single birds.

These management practices are being used in East Texas. On lands inhabited by RCWs, biologists monitor RCW habitat and populations year-round, ensuring there is sufficient habitat and roosting/nesting trees for the woodpeckers. They monitor RCWs closely before, during and after breeding season to determine group numbers and population dynamics. Translocation cooperatives consisting of biologists from federal and state agencies, timber companies and others meet annually, developing strategies to move RCWs between groups to help build populations.

State and federal cost-share programs are available to help landowners provide sufficient quality habitat for RCWs on private lands. Most of the timberland in East Texas is owned by non-industrial private landowners. These lands are considered important in the recovery of the RCW by providing foraging and nesting habitat, even if only temporarily. The *voluntary Safe Harbor program of the Regional Habitat Conservation Plan for the Red-cockaded Woodpecker on Private Land in the East Texas Pineywoods* encourages private landowners to manage their property in ways that produce habitat for RCW without fear of additional responsibilities under the Endangered Species Act. See <http://texasforestservice.tamu.edu/main/popup.aspx?id=1372> for information on the Safe Harbor program.

Harvesting of timber is compatible with RCW management. Harvesting methods that favor leaving enough of the large, old pines as well as planning for an ongoing supply of older pine trees are acceptable.

Donna is a biologist with the Texas Forest Service out of Lufkin. She is working on the Best Management Practices Project, the Forest Stewardship Program and with red-cockaded woodpeckers on state and private lands.

For more information on the red-cockaded woodpecker, go to:

http://www.tpwd.state.tx.us/landwater/land/habitats/pineywood/endangered_species/rcw_life_history1.phtml

http://www.tpwd.state.tx.us/publications/pwdpubs/media/pwd_bk_w7000_0013_red_cockaded_woodpecker.pdf

http://www.tpwd.state.tx.us/publications/pwdpubs/media/pwd_bk_w7000_0361.pdf



monitoring uses specialized equipment to identify the unique echolocation calls bats make to navigate and locate insect prey in the dark. Another survey method is simply sticking our heads into hollow trees and searching for bats. Our data suggest sparse but stable populations of both bat species in East Texas.

In response to concerns about the long-term future of these bottomland hardwood bats, BCI and the Southeastern Bat Diversity Network are currently preparing a comprehensive conservation and management plan for Rafinesque's big-eared bats and southeastern myotis. The most important conservation measure is the conservation and wise management of our remaining large tracts of bottomland hardwood forest. The bottoms associated with the major rivers of the region are critical to the future of Rafinesque's big-eared bats. In areas where there are few large trees suitable for roosts, these bats will roost in manmade structures such as houses, bridges and culverts. Of 20 known roosts for these species in the state, half are in structures. Several are in old, abandoned homes or buildings like the one at Trinity River. These roosts need to be preserved by strengthening the existing structures or providing alternative roost sites. BCI has developed a successful tower design for these bats, with several currently in use across the southeast.

The bottomland hardwood forests of East Texas support a unique and diverse wildlife community that has declined significantly in the last 100 years. In addition to bats, wildlife of these bottomlands include other rare or declining mammals such as Louisiana black bears, birds such as prothonotary and Swainson's warblers, and herptiles such as timber (canebrake) rattlesnakes. Long-term persistence of these species depends on wise use and conservation of these resources. Next time you are fortunate enough to spend a summer evening in one of our remaining bottomland forests, keep your eye out for bats.

Dr. Christopher Comer is a professor at Stephen F. Austin State University in Nacogdoches, where he is overseeing research on Texas bats.

Rattlesnake!

A profile of the timber rattlesnake

By Keith Aguillard

Personal Accounts

It was the spring of 2005 when I received a call from a neighbor about a snake in his yard. I later identified the snake as a timber rattlesnake. I had lived on my 15-acre property for three years at the time and had noticed copperheads, coach whips, eastern hognose and Texas rat snakes, but not rattlesnakes of any kind. The next April, I saw a juvenile timber rattlesnake within 50 feet of my residence, and was pleased to know that I had help in controlling the rats and mice. Five days later, another rattlesnake was seen and later that summer, a third. Several were noticed in subsequent years on or near my property.

Over the years, rats and mice have destroyed more of my personal property than I care to recall. The greatest account was September 2006, when

I discovered that rats had chewed into the fire wall of my vehicle and built a nest under the hood. This was all done in the five days since I had last moved the vehicle. It was apparent that I needed a natural predator of the rodent on my property to keep numbers in check. The timber rattlesnake was the perfect ally!

Range and Habitat

The timber rattlesnake inhabits the eastern U.S., from Maine south to the Florida Panhandle and west to Wisconsin, including the eastern third of the state in Texas.

Its preferred habitat is rugged terrain in deciduous forests, including the piney woods and river bottomlands of the southeastern U.S.

Hunting Behavior and Diet

Their most important food item is rodents, with an occasional bird, reptile or amphibian also being taken. A stealth hunter lying in wait near a rodent run or log, the snake immobilizes its prey with venom which later aids in digestion. Diurnal in early spring and late fall, the snake is almost exclusively nocturnal during hot summer months.

Identification

This snake is typically heavy-bodied with a base color of fleshy to pinkish-gray hues accented by dark chevron-shaped cross bands which break up toward the head to form a row of dark spots down the back and sides. The last few inches of the tail is solid black ending with the

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DID YOU KNOW?

Rattlesnakes use their rattles to warn a potential predator of their presence. There are other snakes that shake their tails in the dry leaves, imitating the rattlesnake warning.

Reportedly, the venom of a black widow spider is 15 times more toxic than the venom of the prairie rattlesnake.



[A profile of the timber rattlesnake,
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rattles. A very distinct rust-colored stripe runs along the entire ridge of the backbone. The scales are strongly keeled, giving the snake a rough appearance. Three to five feet in length is the average, and the snake can be very thick in circumference, especially older males.

Although classified as the timber rattlesnake (*Crotalus horridus*) of the eastern U.S., some folks identify the southern population as a subspecies called the canebreak rattlesnake (*C. h. atricaudatus*).

Reproduction

Eggs are fertilized and incubated within the abdomen of the female for about six months, and the young emerge in a membranous sac in late summer. A young snake is 8–12 inches long, a lighter version of the adult, with a single rattle segment called a button. Days after birth it sheds its skin and has a new rattle. Young snakes are fully equipped with fangs and venom.

This snake reaches sexual maturity three to four years later, and the females breed on average every third year. Reproduction rates are rather slow when compared to species that reproduce annually.

Temperament

Timber rattlesnakes are reclusive by nature. In my encounters with the snake, I have found it to be very docile, timid, and non-confrontational when compared to copperheads, cottonmouths and the squatty pigmy rattlesnake. The snake's first attempt at defense is to remain absolutely motionless. If that doesn't work, it might try the rattle warning, but is more likely to try to escape. Unfortunately, it is an easy snake to get the first jump on, making it an easy target for predators including the

coyote, bobcat, fox, raccoon, feral cat, snake-eating snakes, birds of prey and human persecutors.

Status

It is state-listed as threatened in Texas. Most states within the range of the timber rattlesnake have some protective listing. More protection is needed to be effective in curtailing further population decline.

Pollution, habitat loss and fragmentation are the main threats facing the timber rattlesnake. Along with this, indiscriminate persecution due to historical myths, black market pet trade and lack of education—especially about the role of all snakes in the ecosystem—contribute to the decline of the species.

All snakes are our allies in controlling rodents. Please help protect timber rattlesnakes—your ally, not your enemy. The timber rattlesnake is a handsome snake, working while you rest, helping to control your pest population. Quietly it slips away if confronted, and asks for nothing in return but to be left undisturbed to hunt for food, reproduce and maintain a comfortable environment. You can create habitat for your snakes by maintaining brush piles and rock piles, preserving animal burrows, or even creating your own manmade burrows, which may be used as hibernation den sites.

Avoid a snake bite

Never pick up or handle a snake. Look into flowerbeds, clumps of weeds and thick brush before putting your hand or foot there. Use a flashlight when moving about after dark. When you encounter a snake, detour and allow the snake to move undisturbed. Always move away slowly, since snakes have poor eyesight and quick movements may trigger a strike. Remember, a snake's first defense is to retreat. Allow that to happen.

Sightings

Its ability to blend into its surroundings, its habitat preference of deep forests, and its nocturnal behavior make sightings of this snake uncommon. Increasing fragmentation of the forests and ensuing development are resulting in more sightings being reported in the urban-wildland interface, usually resulting in loss of the snake.

I have encountered the snake in the East Texas Pineywoods, from Montgomery County to the Sabine River, as well as Southwestern Louisiana. Some of my encounters included road kills, as well as those shot and left by hunters, hikers, cyclists, etc. In interviewing outdoor enthusiasts, I have come to realize that sightings are not totally uncommon, given ideal habitat and geographic location. Mr. Buddy Hollis, naturalist for the Newton County Chamber of Commerce, has seen a dozen in Newton County in the last 10 years. In late March 2004, he saw four different rattlesnakes sunning on the gravelly road near the Azalea Canyons. He has had half a dozen sightings in Martin Dies State Park—two near the Canyon Lands in Tyler County and one in Hardin County across the creek from Village Creek State Park. Mr. Chris Lena with TPWD has encountered half a dozen—three in Martin Dies, Jr. State Park where he worked previously and three in Panola County on private property.

People working in the timber cruising and harvest business often encounter timber rattlesnakes—too often with devastating outcome to the snake.

Keith is a wildlife biologist working out of Fred, Texas.

DID YOU KNOW?

In the 1950s rats devastated the bird population of the Queen Charlotte Islands, British Columbia Coast, Canada.



Snakes typically will not ambush you, but rather will either retreat or warn you. Spiders, scorpions, ants, wasps, hornets and yellow jackets give you little or no warning to retreat or protect yourself.



A stroll through East Texas might still reveal some interesting Rare Beauties

By Anita Howlett

A leisurely stroll through the forests and savannahs of East Texas truly is a very rewarding experience. Varied in topographic and geologic attributes, some areas boast plant communities and species biodiversity that rival world famous biopreserves. While admiring towering southern yellow pine species (loblolly, slash, shortleaf and longleaf), stately American beeches, and enormous southern magnolias, take time to look on the forest floor. There, if you have timed your forest stroll just right, you may encounter some of nature's most beautiful and alluring plants: orchids. Each unique in habitat requirements and insect pollinators, orchid gems can be found on undisturbed lands throughout the world. East Texas is home to over 20 species, and orchid representatives grow here in just about every plant community. Some grow only on wet and seeping, shady slopes in association with baygall plant communities. The yellow fringed orchid (*Platanthera ciliaris*), perhaps one of the best-known members of its genus, prefers these acidic slopes. Large butterflies of the swallowtail family appear as the main perpetrator in this orchid's pollination scheme. A visually similar species by the name of Chapman's fringed orchid (*Platanthera chapmanii*), although not uncommon in Florida, is considered quite rare in East Texas, and is on many orchid watchers' checklists.

One wonders what could possibly cause all these beautiful wildflowers' rarity. Many plants face threats of habitat fragmentation, disturbance, overgrowth by both native and exotic species, and sheer habitat destruction through deforestation. Declining numbers of insect pollinators add to the not-so-sunny future. Collectors and poachers armed with trowels and shovels often choose the most uncommon and rare species, wanting to claim a rarity for themselves, or placing them on the auction block. Wild collected orchids seldom acclimate to "captivity," though, as *ex situ* growing attempts cannot possibly replace wild growing conditions. All of our native orchids require and live in harmony with symbiont soil-dwelling fungi, and the intricacy of this symbiosis is, at best, difficult to replicate. Their elusive nature and picky method of site selection might be the orchid's best defense against extirpation. National and private preserve managers reluctantly reveal known orchid sites, fearing the information may get into the wrong person's hands.

Scientists, researchers, and orchid and native plant aficionados have noticed a sharp decline in wild populations, and several conservation projects are now in place to help ensure the plants' survival for future generations to see. The southern lady's slipper orchid (*Cypripedium kentuckiense*), the largest flowering specimen and increasingly rare member of lady's slippers, enjoys the attention of several organizations, whose missions include reproducing and raising seedlings to eventually be relocated into national forests. Through artificial pollination, seed stock collections and in-vitro rearing, Stephen F. Austin State University's Department of Biology in Nacogdoches is growing over 300 seedlings. The Central Louisiana Orchid Society (CLOS) and Houston Orchid Society (HOS) both have *Cypripedium* Restoration Committees that have grown over 800 small plants, while the HOS is currently "parent" to around 120 small plants. The goal is for volunteers to reintroduce these plants into East Texas in the spring of 2010. The Center for Plant Conservation (CPC) has partnered with Mercer Arboretum and Botanic Gardens to create and maintain a National Collection of Endangered Plants via plants and stored seed material. Mercer Arboretum works to collect seed pod material of the southern lady's slipper, Navasota ladies' tresses and Chapman's fringed orchids, and is instrumental in the preservation of southern rein orchids (*Platanthera flava* var. *flava*).

For more information on efforts to conserve orchids, see Anita's online article at www.tpwd.state.tx.us/newsletters/eye-on-nature/2009fall

Anita is a naturalist based out of Jesse H. Jones Park & Nature Center in Humble. She works extensively with our native orchids.

DID YOU KNOW?

The East Texas Pineywoods is home to more than 20 species of orchid, some of which can be found nowhere else in the world.

[Treasure challenged by change,
continued from page 2]

villages, and setting fires to improve travel and hunting conditions. There are a number of towns in the region that were originally Caddoan Indian villages, and are among the oldest towns in America. Accurate accounts of the impacts of these peoples on the landscape are few, and natural vegetative communities across the landscape remained mostly intact.

Exploration and settlement by European settlers over the past few centuries have highly impacted and changed the Pineywoods landscape at a regional scale. These waves of settlers started when explorers from Spain travelled the landscape setting up garrisons and missions to facilitate settlement of the region. Since that time, this part of the state has been part of six nations: Spain, France, Mexico, Republic of Texas, the Confederacy and the United States. The history of settlement of this region goes back as far as any in the United States. These settlers, regardless of nation, were looking for broad expanses of land to establish an agrarian society based primarily on the production of row crops including cotton. Any property that could grow crops was converted to do just that, and entire vegetative communities were altered and removed. Some soils that were too harsh for agricultural crops produced lumber, but the logging of those forests was whole-scale with little regard for reforestation. The fact that vegetative communities were able to survive this period makes a bold statement about the recuperative capabilities of these lands, and the favorable climate for plant growth within the region.

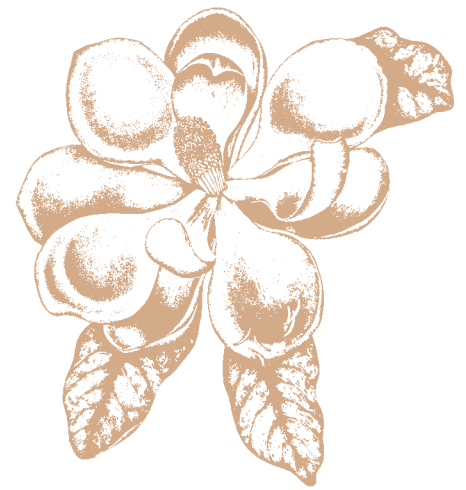
More recent forces of change, since the early 1900s, have included oil and gas exploration and production, conversion of large tracts of forest lands to pastures for cattle production, inundation of large expanses of bottomland hardwood forests to create reservoirs, and the ever-increasing urban and rural sprawl associated with a growing human population. In addition to the sprawl associated with population growth, there is a tremendous amount of landscape being converted into highways, rail lines, manufacturing facilities and other infrastructure.

One force of change that has been associated with the growth of the human population from the initial forays of the Spaniards to the present is the ever-increasing number of non-native invasive animal and plant species that have been introduced by humans. Their destructive, severe and costly impact on native animal and plant species and human infrastructure is a force that will have to be recognized. Some of these species in the Pineywoods include: feral hogs, feral cats, feral dogs, fire ants, Raspberry crazy ants, Chinese tallow, Japanese climbing fern, kudzu, hydrilla, elodea and giant salvinia. Though there has been much effort aimed at control of these pests, their impacts on the landscape continue to increase.

Efforts to conserve and manage the natural resources of the Pineywoods landscape are better focused on multiple use and sustainability, and great strides are being made to utilize resources while assuring their existence for future generations. Approximately one-third of this landscape was owned by timber companies until recently. Since these companies divested themselves of these lands, most have been acquired by timber investment management organizations and managed for investment funds under the sustainable forestry initiative similar to that of the previous landowners.

The challenge for the Pineywoods as it continues to be subdivided into an increasing number of smaller parcels is to conserve native vegetative communities and the habitats for native animals and plants within a continually altered and fragmented landscape. How do we create significant blocks of habitat with corridors of connectivity across the landscape? There are many creative opportunities for landowners to manage their lands for conservation purposes. Many of these are discussed by Linda Campbell in the Back Porch article. There are similar opportunities available through non-governmental and private-sector programs such as conservation easements, mitigation banking and carbon sequestration programs, many of which allow the landowners to conserve natural resources while making a profit on their land.

There are numerous places to participate in a wide variety of recreational pursuits, nature study and ecotourism within the region. There are national



forests, a national preserve, national wildlife refuges, Army Corps of Engineers properties adjacent to public trust reservoirs, state parks, state wildlife management areas, state forests, numerous community and county conservation lands and parks, and many conservation properties owned by non-governmental entities. There are numerous private landowners who are fully engaged in management of significant private properties for conservation and recreation purposes as well, and this seems to be increasing as the baby-boomer generation continues to retire. Many of these landowners and private entrepreneurs are creating opportunities for outdoor recreation, nature study and ecotourism in the private sector as well. In addition, there are numerous public, private and non-governmental conservation organizations that are organized to facilitate educating the public about conservation issues, participating in public land-use planning procedures, and actually funding conservation projects on both private and public lands.

In closing, the Pineywoods of East Texas provides a beautiful landscape for the citizens of Texas to escape from the hectic challenges of daily life, and numerous opportunities to experience a rich heritage of native animal and plant species and a variety of native forest and plant communities that will surely enrich the lives of those who experience them. For those who desire to conserve and restore natural resource values on private lands, there is much opportunity to make significant contributions, and to leave a conservation legacy.

Ricky is the diversity biologist in East Texas working out of Karnack.

Over the past 15 years, the conservation community has witnessed the success of incentive-based programs for landowners. TPWD implemented a number of programs to engage landowners' interest in habitat enhancement. The Landowner Incentive Program (LIP), developed in Texas in 1997, was the first incentive-based program for rare species (www.tpwd.state.tx.us/lip). Most rare species inhabit privately owned and managed lands in Texas. Incentive programs to assist landowners in managing rare species can have a direct and positive impact on their conservation. LIP provides financial and technical assistance to landowners to conserve rare species and support the Texas Wildlife Action Plan (www.tpwd.state.tx.us/twap). The LIP program is flexible and open to all private landowners who have a desire to manage for targeted species of concern on their land.

The Managed Lands Deer Program (MLDP) is an incentive approach designed to appeal to landowners interested in quality deer management. The program allows landowners involved in a TPWD-approved management program to have the state's most flexible seasons and increased harvest opportunities for white-tailed and mule deer (www.tpwd.state.tx.us/business/permits/land/wildlife_management/mldp/). The MLDP program is incentive based and habitat focused.

Wildlife professionals believe that the greatest threats to wildlife in Texas are habitat loss and fragmentation due to population growth and changing land uses (www.texaslandtrends.org/index.aspx). Land fragmentation influences present real challenges for resource conservation. One promising solution comes through the efforts of landowners working together to conserve and enhance their land for the benefit of wildlife. Wildlife management associations are landowner-driven groups formed to improve wildlife habitats and associated wildlife populations. Over 250 associations are operating in Texas today (www.tpwd.state.tx.us/wildlifeassn).

Partnerships are increasingly important in achieving natural resource conservation on private lands in Texas. TPWD actively works with partners such as The Nature Conservancy, Environmental Defense Fund, Ducks Unlimited, Quail Unlimited, National Wild Turkey Federation, Texas Wildlife Association,

Audubon, the U.S. Fish and Wildlife Service and NRCS to leverage funds and technical assistance on projects. In addition, there is growing interest in long-term conservation tools such as conservation easements. Favorable national legislation and educational efforts have contributed to over 500,000 acres of land under conservation easements. There are currently over 45 land trusts in Texas that hold conservation easements (<http://www.texaslandtrustcouncil.org/>).

The greatest source of cost-share funding for private lands conservation is the Food, Conservation and Energy Act of 2008 (Farm Bill, www.tpwd.state.tx.us/farmbill). TPWD and partners have established seven wildlife emphasis areas directing Environmental Quality Incentive Program (EQIP) funding to longleaf pine forestland and grassland restoration and habitat management benefiting shrub and grassland dependent species. These Farm Bill EQIP contracts address tree planting, fence modification, prescribed burning, tree, brush and grazing management and habitat improvement. In fiscal year 2008, these seven wildlife emphasis areas received almost \$1.4 million dollars in landowner cost-share, allowing the restoration or enhancement of 134,880 acres of grass, shrub and forestland benefiting wildlife and contributing to healthy watersheds. Since 2003 Texas landowners have received \$10,080,549 in cost-share to improve 506,427 acres.

It is clear that efforts to reach out to private land managers have paid off in landowners actively managing for sustainable wildlife populations. As we look to the future, TPWD biologists continue to provide one-on-one assistance while seeking innovative ways of working with landowners and partners to maintain and enhance wildlife habitats and recreational opportunities. To find a TPWD biologist near you, visit www.tpwd.state.tx.us/biologist.

Linda is the coordinator of the Private Lands and Public Hunting program working out of Austin.

DID YOU KNOW?

TPWD biologists are currently assisting more than 6,000 private landowners with management plans impacting more than 22 million acres of habitat for Texas wildlife.

New Staff at the Austin Offices

by Wendy Gordon

As many know, this year saw the retirement of Dr. Andy Price and Mike Quinn from the Texas Parks and Wildlife Department. It is our pleasure to introduce two new teammates who will fill their roles.

Dr. Andrew Gluesenkamp has had a lifelong fascination with reptiles and amphibians. He attended the University of California at Davis, where he participated in surveys of rare and threatened amphibians in the San Joaquin Valley, worked as curatorial assistant in the Zoology Museum, and conducted independent field work on reptiles and amphibians in Belize and Ecuador. He graduated with a B.S. in Zoology. He pursued a graduate degree in Zoology at the University of Texas at Austin, during which time he also discovered caving and biospeleology. His dissertation focused on the relationship

between development and morphology in bufonid frogs. In recent years, he has worked as a biological consultant specializing in karst issues, as a university lecturer, and as a skeletal preparator for the Texas Memorial Museum. In addition, he has conducted numerous grant-funded projects on rare and endangered salamanders in Central Texas.

Michael D. Warriner holds a B.S. in Biology from the University of Arkansas at Little Rock and an M.S. in Biology from Emporia State University. For the past eight years, he has served as invertebrate zoologist for the Arkansas Natural Heritage Commission. Prior to that, he conducted research on forest entomology at Mississippi State University and insect nutritional ecology at the University of Arkansas at Little Rock.

Wendy is leader of the Non-game and Rare Species Program working out of Austin.

Habitips

Simple things you can do on your land to enhance wildlife value.

In General

- Monitor grazing pressure on rangelands and move livestock accordingly
- Continue controlling feral hogs
- Preserve brushy fence rows, shelterbelts and critical wildlife cover by fencing
- Order survey kits for Texas Nature Tracker programs such as Hummingbird Roundup and Texas Horned Lizard Watch

November

- Monitor use and condition of key vegetation going into winter
- Move livestock off of fall food plots for wildlife
- Order spring-planted annual seedlings
- Construct brush piles needed for winter cover
- Begin developing winter prescribed burn plans
- Disk fire lanes as needed
- Clean up leaf litter within your firewise defensive zone

December

- Prepare fireguards for prescribed burning program
- Disk in proximity to woody cover to provide habitat interspersions for game birds
- Get prescribed burn equipment ready
- Strip disk to encourage native food resources
- Focus on providing travel lanes and cover for birds

January

- Prepare fireguards for prescribed burning program
- Disk in proximity to woody cover to provide habitat interspersions for game birds
- Get prescribed burn equipment ready

- Strip disk to encourage native food resources
- Focus on providing travel lanes and cover for birds

February

- Conduct prescribed burns as needed
- Begin planting annual seedlings—perennials should be planted in fall
- Monitor turkey flocks
- Conduct mechanical brush control as needed
- Disk wetland areas to encourage moist soil plants as needed
- Look for early spring wildflower blooms—mostly gold colored flowers
- Hummingbird migration begins
- Repair and install nestboxes for the nesting season

March

- If trained begin trapping brown-headed cowbirds
- Plant native grasses, forbs and legumes
- Conduct prescribed burns as needed
- Watch for developing wildflower blooms
- De-water flooded to encourage wetland vegetation

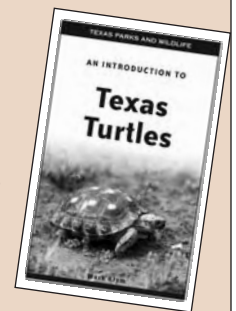
April

- Monitor grazing to provide nesting cover and plant diversity
- Clean and store prescribed burn equipment
- Develop a checklist of birds you see in various locations—note habitat use
- Continue trapping brown-headed cowbirds if trained
- Protect turkey roosts in areas with limited numbers of large trees
- Continue monitoring wildflower blooms

Wild Stuff!

Wildscapes DVD or Introduction to Texas Turtles booklet

Send an e-mail request to mark.klym@tpwd.state.tx.us



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.



Send \$11.95 (shipping and handling included) to Texas Hummingbird Roundup, 4200 Smith School Road, Austin, Texas 78744.



Wildlife Posters

Venomous Snakes of Texas (pictured), Endangered Animals, Migratory Landbirds of the Southeast, Common Feeder Birds of Eastern North America, Common Feeder Birds of Western North America, You Can Help Texas Turtles (pictured)

\$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/posters/ for order form.



Texas Parks and Wildlife Department
Wildlife Diversity Program
4200 Smith School Road
Austin, Texas 78744

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The Back Porch



Resource Conservation on Private Lands in Texas

By Linda Campbell

Over 94 percent of Texas land is privately owned or managed. The ability of Texas Parks and Wildlife Department (TPWD) to manage and conserve the state's natural and cultural heritage is tied directly to the strength of our partnership with landowners. Agencies and organizations interested in private lands management face increasing challenges associated with population growth, changing land uses, increasing absentee ownership, continued break up of family lands, and fragmentation of habitat. These influences, coupled with emerging issues associated with wind energy and water, place increased pressure on the state's natural resources and biological diversity.

Since the 1930s TPWD biologists have provided habitat management

assistance to landowners. Department biologists provide guidance and recommendations to land managers, who include wildlife management considerations in land use decisions. The goal of the Private Lands Program is to help landowners achieve their wildlife management goals by assessing the wildlife potential of the land and recommending actions to improve the land for wildlife (<http://www.tpwd.state.tx.us/landowner>). TPWD provides information on ways to manage wildlife consistent with other land use goals, ensure plant and animal diversity, provide aesthetic and economic benefits, and conserve soil, water and natural resources. As of August 31, 2009, biologists are assisting over 6,000 landowners in implementing wildlife management plans on more than

22 million acres. TPWD works with other agencies that provide resource management assistance, such as USDA Natural Resources Conservation Service (NRCS, <http://www.tx.nrcs.usda.gov/>).

Financial and regulatory incentives for landowners have been very successful in accomplishing on-the-ground conservation of natural resources. TPWD will continue to work with other governmental agencies and organizations to provide incentives for conservation of wildlife and habitats. As the demographics and land ownership patterns of Texas change, the challenge for TPWD and our partners will be to meet the demand for services from a constituency that is growing in number and diversity of interests.

[Continued on page 10]