

FALL, 2002

A publication of the Wildlife Diversity Branch

The Pineywoods Yesterday, Today and Tomorrow

By Ricky W. Maxey and Rick L. Turner

The East Texas Pineywoods was once a mosaic of ecosystems that changed in character primarily with changes in climate, soils and land forms. In this area where temperate and tropical climates converge, weather-related events such as flooding, fire, tornadoes and hurricanes periodically impact natural succession creating a dynamically changing mosaic of vegetation on the landscape.

There are basically eight types of vegetative communities within the region including dry longleaf pine woodlands, dry shortleaf pine-oak woodlands, wet longleaf pine woodlands, dry-mesic mixed pinehardwood forests, mesic slope and terrace forests, minor stream bottom forests, seasonally flooded river floodplain forests and semi-permanently flooded swamps and lakes. Uplands are dominated by species such as longleaf pine, shortleaf pine, post oak, red oak, white oak and black hickory. On 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 provide habitat for baldcypress, redbay, water tupelo, planertree and common buttonbush.

The first human inhabitants of the Pineywoods were Native Americans such as the Caddo. They had a village-based agricultural society, clearing forests for crops and villages and setting fires to improve travel and hunting conditions. Although accurate accounts of the Native Americans' impacts upon the landscape are few, natural communities remained largely intact.

It is only within the past few centuries that man has begun to highly impact and change the Pineywoods region at a landscape scale. The first European settlers were looking for broad expanses of land to establish an agrarian society based primarily upon the production of row crops including cotton. Broad expanses of the landscape, particularly those with good soils were stripped of their native forests and planted to agricultural crops. There were also vast acreages dedicated to the production of livestock, primarily cattle. In addition, there was broad scale logging. This logging was different from the sustainable forest management practices of modern forestry in that basically all merchantable timber was removed whole-scale with no attention given to reforestation.

This resulted in broad-scale high grading of forests, leaving poor quality trees to assume the task of reforestation.

Early reforestation efforts favored easily established, quickly grown species over the native species. In many instances forests that were either dominated or co-dominated with

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Getting Texans Involved

Species

Eye On Nature Fall, 2002

Texas Parks and Wildlife Department

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Texas Emerald

By Mike Quinn

exas Emerald." Well now, that's a beautiful name but what does it apply to you might ask? Texas Emerald (*Somatochlora margarita*) is the name of one of the rarest dragonflies to breed in Texas. Identifying features of this large dragonfly include two pale stripes on the sides of its thorax and brilliant iridescent green jewel-like eyes, hence the name "Emerald."

Sidney Dunkle states in his *Dragon-flies Through Binoculars* field guide that most species of *Somatochlora* "are intriguingly rare to uncommon denizens of wild forests." Until recently, the Texas Emerald hadn't been collected more than a few kilometers from its type locality, in the Sam Houston National Forest. *Somatochlora margarita* is a high-flying species that was formally described back in 1962 from specimens collected with a long-handled net while standing in the back of a pick-up truck in the long-leaf and loblolly pine forests of San Jacinto Co. in East Texas.

Besides altitude, other factors that contribute to this species apparent rarity include a short flight period, they are only on the wing from May 27 to July 2. Additionally, they mostly fly in the early morning and late afternoon to dusk. It has since been found in five Texas and one Louisiana counties.

Dragonflies Through Binoculars

Sidney W. Dunkle, 2000. Oxford Univ. Press

Mike Quinn is the invertebrate biologist for the Wildlife Diversity program. He works out of Austin.





Red-cockaded Woodpecker

By Ricky W. Maxey

The Red-cockaded Woodpecker (*Picoides borealis*) is State and Federally listed as an Endangered Species. It is Vulnerable throughout its range. Although it can be fairly abundant within limited areas of well-managed quality habitat, it is generally considered very rare throughout its range.

General Discription: An eight-inch long woodpecker with black cap and nape, and prominent white cheek patches. The male has a tiny red streak behind the eye and near the ear (the cockade). The cockade is seldom visible in the field, making it difficult to distinguish males from females. It has a barred back and spotted breast. This species lives in groups of 2 to 6 birds. A group is generally a breeding pair and a number of adult males who remain as "helpers." All birds work cooperatively to incubate eggs, feed young, construct new cavities and defend the group's territory.

Habitat: This species lives and forages almost exclusively in mature "park-like" pine forests throughout its range. It is the only species of woodpecker that excavates its cavities exclusively in living pine trees. Most cavities are excavated in older pine trees, in excess of 60 years of age, with decaying heartwood present. They excavate numerous small shallow areas on cavity trees known as resin wells to encourage resin flow as a deterrent to their primary preditor the rat snake. Cavity trees have the general appearance of "melting candles" from the creamy white flows of resin.

Total Range: Southeastern United States from Maryland and Kentucky on the East Coast south through Florida and states of the Gulf Coast west to eastern Texas.

State Range: Occupies mature pine forests in the Pineywoods of East Texas. Texas is the western extent of this species range. The majority of groups currently occur within national forests; other groups occur on state, industrial and private forests.

Threats to the Species: The primary threat to this species is loss of suitable habitat containing mature "park-like" pine forests. Primary reasons for habitat loss include timber management favoring dense stands of pine with short rotation ages, conversion of pine habitat to other types of forest and non-forest uses, and habitat degredation resulting in encroachment of off-site species in the absence of adequate natural and management fire.

Best Time to Look: This species can be seen year-round in close proximity to cavities of active groups (clusters). Best times for observation are an hour before sunrise, and an hour before sunset when birds are leaving or returning to their cavity trees. Observers should try to minimize their presence and observe from a distance that respects the birds privacy.

Source: Campbell, Linda. 1995. "Endangered and Threatened Animals of Texas."

Hummingbird Roundup Provides Information on Pollinators

By Mark Klym

here are all the hummingbirds this year? Aren't the hummingbirds late? Why do I have no hummingbirds in my yard this year?

These are just some of the questions we get each spring and fall at the Hummingbird Roundup desk. Most of the time, it is just a question of patience — the caller assumes the birds are late because they are anxious to see them. When we check data from seven years of hummingbird surveys in their county, we often find that birds begin to show up in that area about two or three weeks later than the person had assumed.

Keeping a careful diary of your yard is one of the best ways to track wildlife trends in your area. Are birds late? Check your records from last year to find out. Is the butterfly population different this year? The weather conditions, plant population, etc. may explain the difference. The Hummingbird Roundup provides a simple, fun way to track hummingbird populations in your backyard. For more information about the roundup and how you can participate visit:

www.tpwd.state.tx.us/hummingbirds If you see an unusual hummingbird, please call 1-888-TXBIRDS.

Mark Klym is the coordinator of the Texas Hummingbird Roundup out of the Austin office.



Answers Online!

By Julia Gregory

How many different kinds of venomous snakes are native to Texas? What does Poison Ivy look like? What dinosaurs were found in Texas? What is a BioBlitz? The answers to these questions and many more can now be found easily at the Texas Junior Naturalists, a new section of the Texas Parks and Wildlife web site.

Launched in January and targeting kids age 8 to 15, this online resource for students of nature and the outdoors features all sorts of information about Texas nature including snakes, mammals, dinosaurs, bugs, plants and geology. In addition to fact sheets, there are seasonal features pertaining to nature in Texas with an attitude towards conservation and stewardship of natural resources. One section even explains and diagrams how to make your own field equipment out of household items. There are links to additional information on all the topics and even an opportunity to submit a review of your most recent visit to one of the 123 Texas State Parks.

To find out more, visit Texas Junior Naturalists at www.tpwd.state.tx.us/expltx/jrnat/ or perform a Google search with the words: Texas Junior Naturalists.

Julia Gregory is education technology coordinator out of the Austin office.

Hummingbird Wheel

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

Did You Know?

New research indicates that Monarchs use the sun for guidance during their annual



3000 km trek from the mid-west to Michoacan, Mexico.

Researchers set up an ingenious experiment with upward air flows allowing caged butterflies to continually soar as if on thermals. Artificially manipulating the photoperiod caused the Monarchs to change their heading while soaring.





B ox up. Birds in." Establishing a bluebird population is almost that simple. Reports from across Texas tell of success with bluebirds that started with a nestbox.

Ricky Wilson in Bandera put up a box in July 1990 even though she had not seen a bluebird. Within hours a bluebird sat on the box. This year 100+ bluebirds have fledged from her nestboxes.

In February 2000, Kelly Cotten, President of Audubon Dallas, and a team from Wild Birds Unlimited installed seven nestboxes at White Rock Lake in the heart of Dallas. Within two weeks bluebirds were inspecting the boxes; by mid-March they were nesting. Now bluebirds are a regular breeder at the lake and some boxes occasionally fledge as many as four broods!

"I never dreamed bluebirds would nest here!" says Judith Reader of Corpus Christi. She placed several nestboxes "just as a project" with her grandson. Four years later a friend told her a bluebird was exiting a box. She continued, "If more people knew that it was possible, they would be putting up boxes, I'm sure."

True success includes making it possible for the birds to have a successful nesting.

- Adapt "bluebird boxes" for Texas' heat (larger, thicker, much more ventilation)
- Mount in manner to deter predators (on smooth pole or EMT with baffle)
- Remove House Sparrows (the major predator in many areas) in the area

Texas Bluebird Society's motto is "Bluebirds Across Texas ... one nestbox at a time!" It's success in process!

Pauline Tom is president of the Texas Bluebird Society.

Bluebirds in Texas By Pauline Tom By

By John Holland

avis Mountains State Park provides excellent opportunities to view both the birds and mammals of the Trans-Pecos region of Texas. The park is located in the lower Davis Mountains with an average elevation of just over 5000'. Watering areas, both natural and man-made, are located throughout the park and attract resident and migrant wildlife. The park has a no feeding policy for mammals, although several species are easily observed in the campground area, and bird-feeding stations are plentiful.

Bird watching is one of the most popular activities in the park; spring and fall migration periods are the best times. A total of 365 species of birds are known to occur within Jeff Davis County and the park provides a convenient location to see many of these species. Bird viewing blinds with water and feeders are located at two places within the campground area, and trails and roads within the park lead to many other excellent locations. Commonly seen birds include Acorn Woodpecker, Cactus Wren, Phainopepla, Pyrrhuloxia, Canyon Tohee, Curve-billed Thrasher, and Blackheaded Grosbeak. The park also affords the opportunity for visitors



to see several species of hummingbirds. The Black-chinned Hummingbird nests in the park and several other species are common in late summer.

The most frequently seen mammal in the park is the Mule Deer, but others are not hard to find. The Javelina or Collared Peccary is most often seen early morning or late evening and several groups of 6 to 15 individuals are resident. Rock Squirrels are easily seen through the park by day, however most of the park's mammal emerge after dark, including three species of skunk, gray fox, raccoon, ringtail, several species of bats and mice, and an occasional mountain lion.

John Holland is park manager at Davis Mountains State Park in Fort Davis.



UPCOMING EVENTS

Master Naturalist Training

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

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

Birding Festivals

Balmorhea Birdfest in Balmorhea	October 31 - November 1
Rio Grande Valley Birding Festival in Harlingen	November 6 - 10
Eagle Fest in Emory	January 11 - 12
Celebration of Whooping Cranes & Other Birds in Port Aransas Migration Celebration in Lake Jackson	February 21 - 23 March 15 - 17
Butterfly Festivals Texas Butterfly Festival in Mission Grapevine Butterfly Festival in Grapevine	October 17 - 20 October 19
Nature Festivals Wild in Willacy in Raymondville/Port Mansfield	October 24 - 27
South Texas Wildlife and Birding Festival in Kingsville	November 22 - 24
Texas Tropics Nature Festival	March 27 - 30

For more information on these events visit: www.tpwd.state.tx.us/nature/birding/festivals/festivals.html

Meetings and Events

The Texas Ornithological Society will be holding a winter meeting in Amarillo from Feb. 6-8 2003. Information will be on their web site describing the meeting in detail. www.texasbirds.org

Lonestar Legacy Weekend

Many State Parks and Wildlife Management areas will be holding special events the weekend of October 19. Contact your favorite recreation site to see how you can enjoy a special weekend and support our great outdoors in Texas.

Book Reviews

Review by Paul Robertson



Outwater, Alice. 1996. *Water: A Natural History.* Basic Books. ISBN 0-465-03780.

B ook reviews are usually written about new books. Once in awhile you miss a really good one but get lucky and discover it later. Such was the case with *Water* by the ironically named Alice Outwater who wrote it while working in the "bowels of a Boston wastewater treatment plant." Don't let this locale mislead you; she has technical degrees from the University of Vermont and MIT.

This book is a fascinating account of our nation's water from the pristine streams and springs of pre-European times to the water in your toilet today. For me the most fascinating part of the book was her insightful, chronological account of the dismantling and rearranging of our country's flowing water systems. In our high tech dominated world it is difficult to imagine that the primary forces in this dramatic and continent-wide transformation were events as seemingly mundane as the virtual extinction of beaver and prairie dogs, the conversion of grasslands to crop lands, and the destruction or modification of most riparian (streamside) systems. The effects of the dam building, channeling, and reservoir construction of the 20th century pale in comparison to those "mundane" actions of oh so long ago. What we did to our water systems is much more dramatic than what we have put in them.

Fortunately this book is still in print and inexpensive.

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

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by Dana Price

t's natural to think about wildflowers in spring when our open Texas landscapes are blanketed with color. But summer? By the time August ripens, with even this summer's generous July rains parched out of memory, I am bent on survival. Two more months 'til it cools off ... maybe. I could go dormant like many of my plant friends, curl inside my prickly self like a cactus. But the survival mode I prefer is the one I learned my first summer in Texas: to get and stay wet as long as possible.

Fortunately for folks who love native plants, summer offers plenty of opportunities to botanize while floating, fishing and paddling on our beloved Hill Country creeks and rivers or hiking in the shade of their riparian woodlands. In these moister areas, summer wildflowers are there for discovering: emerging from the river's edges and calm backwaters, hidden in the shady riparian zone, and tucked into cool seeps and springs.

In the calm backwaters of rivers like the Guadalupe, look for the yellow pond-lily or spatterdock (*Nuphar luteum*). Its relatives the water lilies (*Nymphaea* spp.) and yellow lotus (*Nelumbo lutea*) can be found in ponds and lakes throughout eastern and southern Texas. Also in calm water, Wapato or arrowhead (*Sagittaria latifolia* and other *Sagittaria* species) with its three-petaled white flowers and arrowshaped leaves can form large colonies along the edges of creeks and lakes.

Humans are not the only life forms that love tubing. Floating freely in quiet water, Bladderwort (*Utricularia* spp.) has bladders at its finely divided leaf tips. This plant is carnivorous, like the sundews (*Drosera* spp.) with which bladderworts may grow in boggy places. Its bladders double as traps in which it captures small insects. Bladderwort's small yellow flowers are unusual as well, with a spurred lower lip and lump in the throat similar to a snapdragon. (It is not related, but is in an allied family, the Lentabulariaceae).

American water-willow (*Justicia americana*) emerges from the water or moist soil of even the swifter streams. Its white flowers are streaked with purple inside the throat and appear from spring to fall. It can blanket the edges of streams, as can the Water-primrose, (*Ludwigia peploides*) with its glossy dark green leaves and yellow flowers.

The walls and gravelly areas around seeps can be hidden gardens throughout the summer with yellow monkey-flowers (*Mimulus glabratus*), maidenhair ferns (*Adiantum capillus-veneris*) and, if you are lucky, the stream orchid, or Giant Hellebore (*Epipactis gigantea*). This orchid can grow quite tall (to 3 feet) and its brownish-red or purple veins and lip contrast with the greenish-white background of its small flowers.

California loosestrife (*Lythrum californicum*) brightens Hill Country streams with its bright purple flowers. If you find its shorter, broader-leaved sister, Stream loosestrife (*L. ovalifolium*) you have seen an uncommon Hill Country endemic. *L. ovalifolium*'s broader leaves are widest towards the tip, while *L. californicum*'s leaves are narrow and rounded at the base.

Leaving the water's edge, the gravels, sands and moist soils near waterways provide a summer haven for flowering plants. Along the Llano River you may find water hyssop (*Bacopa monnieri*) creeping along in moist sands bearing small white to purplish flowers. This mat-forming member of the Snapdragon family (Scrophulariaceae) occurs in moist habitats throughout our state. You may also find plants that don't require wet areas, but benefit from the moist yet well drained sands. Clammyweed (*Polansia dodecandra*) with its sticky foliage and showy long, purple anthers inhabits open areas along roadsides or alluvial soil.

Richer, moist soils along the stream edge are home to flowering shrubs like Buttonbush (*Cephalanthus occidentalis*) with its round clusters of white flowers and Elderberry (*Sambucus canadensis*), which should be in fruit by late summer. Moving away from the stream edge in the riparian forest look for shade lovers such as Pigeon-berry (*Rivina humilis*), bright red Turk's cap (*Malvaviscus arboreus* var. *drummondii*), White Boneset (*Eupatorium serotinum*) and frostweed (*Verbesina virginica*), whose white flowers will appear in fall.

Open areas that are close enough to water to remain moist often bear showy wildflowers into the late summer. Look for Bluebell gentians' (Eustoma grandi*flora*) rich display or the vibrant reds of Cardinal flower (Lobelia cardinalis). A plant that is fun to play with, False dragon-head or Obedient plant (Physostegia spp.) has showy pink to purplish flowers that stay in place if you turn them to the side. A slender plant that is harder to find, Bluehearts (Buchnera floridana) has purple flowers and reddish or purplish pigmentation in the stems and leaves; it is thought to be a parasite on the roots of other plants.

These are only a few of the lovely native plants that flower in wet places throughout the summer. While you take refuge from the sun and heat, please remember that our native streamside habitats are vulnearable. Aquatic habitats are being overtaken in some areas by non-native invasive species such as hydrilla, water hyacinth, elephant ears and yellow iris, displacing our native aquatic plants. Adjacent land uses may alter watersheds. Riparian areas are impacted by human recreational activities, trampling by foot and vehicular traffic. Keep the wildflowers in mind and please tread lightly!

Note: Thanks to Jason Singhurst for suggesting this topic and providing plant names and Jackie Poole for her review. Most of the plants mentioned here are pictured in Wildflowers of the Texas Hill Country by Marshall Enquist (1987) or Wildflowers of Texas by Geyata Ajilvsgi (1984).

Dana Price is a botanist with the Wildlife Diversity branch working out of the Austin office.

[The Pineywoods Continued]

hardwood forests were replanted to loblolly pine, and thus changing the natural mosaic of the landscape. In addition, the natural and Indian-initiated fires were replaced with complete fire suppression efforts beginning early in the twentieth century. Absence of fire from fire-dependent ecosystems allowed encroachment of fire-intolerant species from the lower slopes. In the river bottoms, large areas of forests have been inundated by man-made reservoirs.

The actions of man during the last few decades may have had the greatest impact to-date on the landscape of the Pineywoods. The ever-growing human population and the advent of a global economy have produced significant demands for natural resources from the region. These demands have led to conversion of lands to residential, commercial and agricultural development. In addition, increases in infrastructure such as roads have been necessary to support this growth. Along with this growth there is an associated loss of the natural landscape and the animal and plant species dependent upon that landscape. Another problem associated with population growth is the increasing demand for water. The result is a landscape that is highly altered, converted and fragmented.

So, where do we go from here? We are faced with the difficult task of balancing the needs of man with the needs of the natural world in which we live. The best hope for long-term conservation of the natural landscape of the Pineywoods is intelligent landuse planning. We need current information concerning all of the natural vegetative communities and the animals and plants that depend upon them. We need to develop information concerning carrying capacities, and movements of both animal and plant populations across the landscape. We need to establish a network of natural and managed landscapes linked by habitat corridors that can sustain these species into the future. As if these tasks weren't difficult enough, these areas will have to be integrated within a human-dominated landscape. Can this be accomplished? Only time can truly answer this question. It may be possible if we as a society are willing to work together to achieve this worthy goal.

Ricky W. Maxey is a wildlife diversity biologist in Nacogdoches. Rick L. Turner is senior ecologist for The Nature Conservancy in Nacogdoches.

Wild Stuff!

Venomous Snakes of Texas Poster

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You can order this full color 20" x 24" poster featuring venomous snakes in Texas for your classroom or children.

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The Back Porch

by Linda Campbell

n my travels throughout Texas, I am constantly amazed by the diversity of this state. From the western mountains to the tall pine and hardwood forests of the east, Texas has much to offer those who love the outdoors. I am an easterner, born and raised in Florida, but adopted Texas as my home soon after college. Although I live in the Hill Country now, I always feel strangely at home amidst the tall forests, dark rivers, wetlands, bottomland swamps and lakes of north and east Texas.

The images of Texas for many uninitiated conjure up cowboys, endless vistas, and dry, dusty plains (remember the movie Giant). We need to encourage these people to experience Caddo Lake at dawn, open longleaf pine forests at Boykin Springs, the quiet dark waters of Village Creek, birds at Alazan Bayou and a sunset over Lake Arrowhead. And then there is the rich history and southern culture of places like Jefferson, San Augustine, Nacogdoches, Fort Richardson and Caddoan Mounds, contributing a pallet of opportunity for history buffs as well. So how do we encourage people to experience the best kept secrets of east Texas? We have a plan. It is called the

Prairies and Pineywoods Wildlife Trail.

Modeled after the highly successful Great Texas Coastal Birding Trail, the Prairies and Pineywoods Wildlife Trail is a driving trail featuring private and public sites throughout north and east Texas where people can enjoy wildlife in their natural habitats. Community leaders, landowners, birders and interested citizens are helping us identify the best sites. When completed, the trail will feature two beautifully illustrated maps with directions to the sites, a description of the habitats and wildlife that can be seen. and contact/reservation information. Numbered highway signs will correspond to site numbers on the map to help visitors find their way. The trail will include county and city parks, state parks and wildlife management areas, Forest Service, Corps of Engineers, and river authority parks and campgrounds, private ranches, and lodges/bed and breakfasts where visitors can "wake up in habitat."

We hope the Prairies and Pineywoods Wildlife Trail will encourage people to get outdoors and experience nature for themselves. Whether it is by watching birds or butterflies, admiring wildflowers, or hiking



through a forest, experiences that provide enjoyment of nature are critical in our urban society if we are to develop an understanding of the importance of conserving wildlife and their habitats.

We have had enthusiastic support from many of the communities and citizens of north and east Texas. They understand that nature and cultural tourism is an important way to diversity rural economies, conserve habitats, and maintain rural lifestyles. So if you live in the Oak Woods and Prairies or Pineywoods of Texas and to see how you can help, visit our web site at www.tpwd.state.tx.us/birdingtrails/ index.htm The rest of us will cheer you on and begin planning our next vacation to your area.

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