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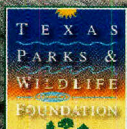
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FEATURES

BEST OF TEXAS (NATURALLY) 2012

**BIGGER IN TEXAS? WHY, YES, EVERYTHING IS!
BETTER IN TEXAS? OF COURSE!**

BY LOUIE BOND

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 Radar's Eye on Wildlife
By Russell Roe

Biologists harness weather technology to unlock the secret lives of birds, bats and bugs.

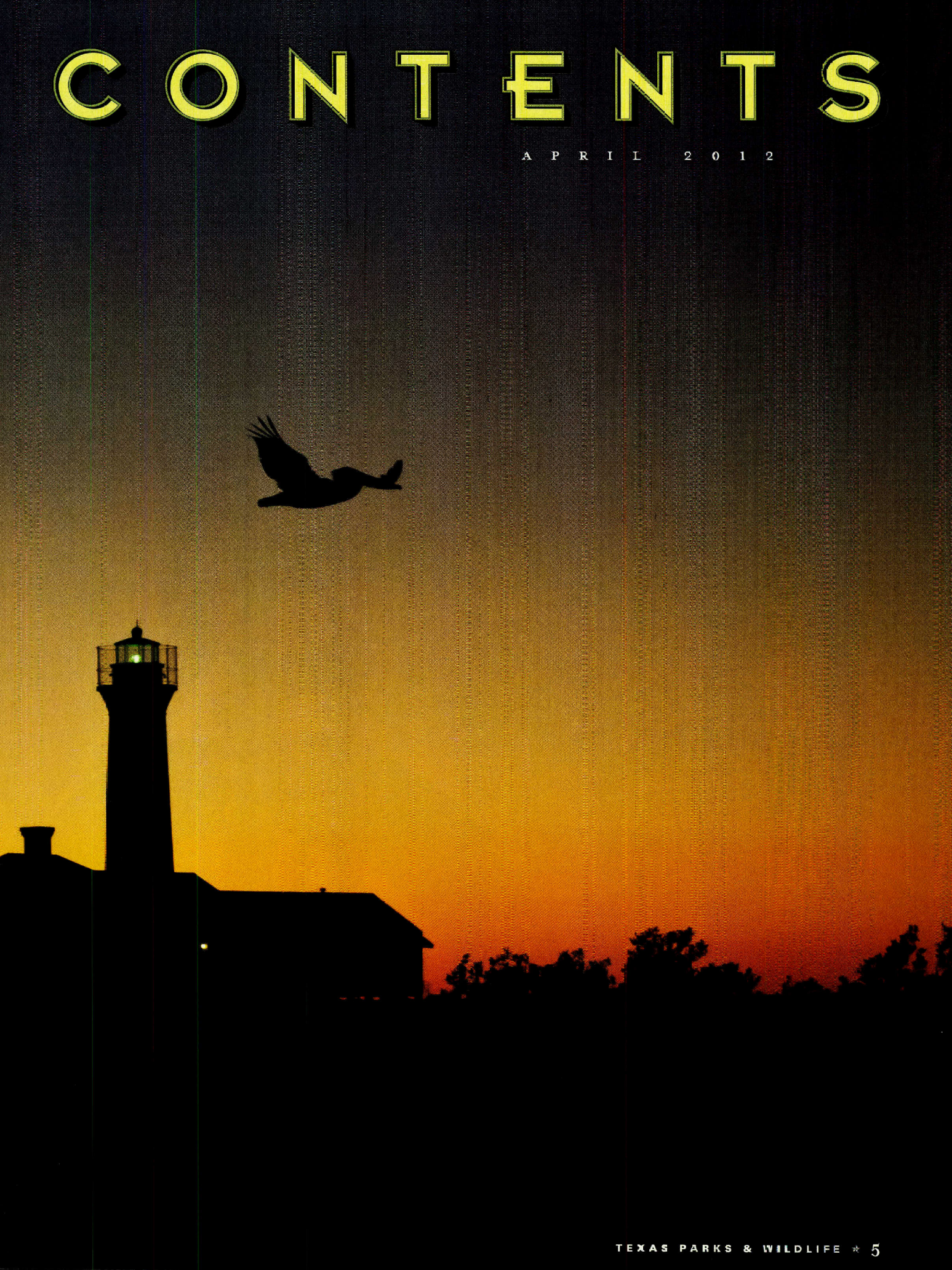


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FRONT: A Texas horned lizard, the official state reptile. Photo © Rolf Nussbaumer/rolfnp.com

PREVIOUS SPREAD: Sunset frames the Lydia Ann Lighthouse, a landmark on the Lighthouse Lakes Paddling Trail near Port Aransas. Photo by Brandon Jakobeit/TPWD

THIS PAGE: Pioneer times come to life at the Barrington Living History Farm at Washington-on-the-Brazos State Historic Site. Photo by Earl Nottingham/TPWD

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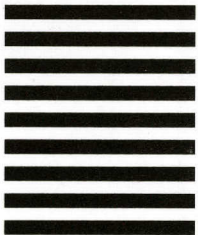


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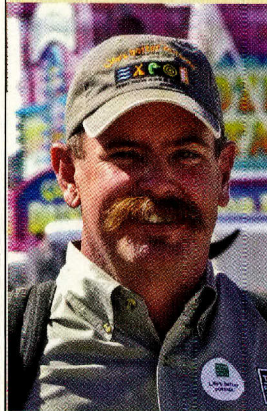
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In the Field

TREY HAMLETT

serves as outreach and recruitment manager for the Texas Parks and Wildlife Department, working with the National Archery in Schools Program, the mobile shooting range, basic outdoor skills and the Life's Better Outside Experience. Trey, who wrote this month's



Skill Builder on trail running, came to long-distance running during a midlife crisis when his son moved away from home to go to college. He ran his first marathon in 2003 and has completed six since then. His confusion over the metric system explains why he entered a 50K trail race last year. He regularly trains on the trails of McKinney Falls State Park, next door to TPWD headquarters

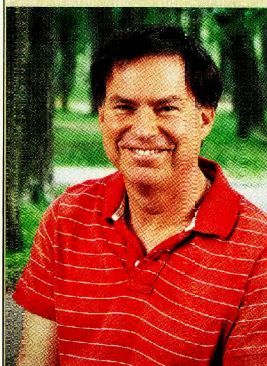
WALT BAILEY

who penned this month's Park Pick on Brazos Bend State Park, is the regional interpretive specialist for the Houston-area state parks. Walt has worked more than 12 years at the Texas Parks and Wildlife Department, where he has driven oxen at Barrington Living History Farm and produced hiking trail maps and now trains interpretive guides and develops trail exhibits. A trained historian, he always looks for ways to tell stories of natural and human history together. Recently he began working with outdoor educators in the Houston area to connect more children with nature. You can often find Walt at Brazos Bend with camera in hand.



RON KABELE

operates as a one-man band producing, shooting, writing and editing segments for the Texas Parks & Wildlife television series. His philosophy is simple — to allow the subjects to tell their own stories. Armed with a camera, a wireless microphone and lots of videotape, he tries to capture those small moments of real life while shy-



ing away from the traditional talking-head format. Ron, who contributed this month's article on Big Thicket conservationist Geraldine Watson, believes this relatively straightforward approach is even more important in governmental or bureaucratic environments. Over the years, he's won 19 Regional Emmys and a slew of awards from the National Press Photographers Association.

AT ISSUE

FROM THE PEN OF CARTER P. SMITH

For all those who care to take a look, or better yet step right into it, nature is on full display come April time. The lions of March have uttered their final roar, and the sirens of spring are getting fully warmed up. The spring season brings some of the great rites of nature across our grand state.

White bass are making their runs up the Colorado, the Trinity and the Neches. Crappies have moved up from the depths to spawn in lake shallows. Warblers, vireos, tanagers and myriad other songbirds have completed their trip back home across the perilous Gulf waters. Pompous gobblers, prairie-chickens and vermilion flycatchers are in full spring regalia, strutting, drumming and fluttering prominently in pastures and meadows, doing all they can to attract the attention of a partner of the opposite sex. Blue-bonnets and other showy native wildflowers are beginning to blanket the roadsides, and dogwoods are doing their thing over in the East Texas woods.

The season is unmistakable. The bees are humming, the birds are singing, and the flowers are blooming. Spring has finally sprung. And if ever there was a reminder that life is better outside, this is it.

I had the pleasure recently of working with a former university professor of mine, Stephen Kellert from Yale. A biologist by background, Dr. Kellert has made his mark in the social and evolutionary sciences, documenting the wide range of emotional, mental, psychological, physical and spiritual connections people have with nature.

It's pretty cerebral stuff, and I certainly don't pretend to understand all of it, but I do get that what he does is vitally important for all of us who care about connecting people, particularly children, with nature. In 1980, he completed the seminal comprehensive study of Americans and their diverse attitudes toward wildlife and the outdoors. These days, he keeps himself busy with the probing of the complex dimensions of biophilia, a word whose origins mean literally "love of life or living systems."

He told me a statistic recently that ought to make every single person reading the pages of this magazine sit up, take notice and take action. Americans of all ages in all places now spend on average more than 90 percent of their time indoors. I guess I shouldn't be surprised, what with the realities of where most people live these days, as well as the demands of school and work and all the electronic gadgetry that we have to amuse ourselves.

I can't help but think about those poor souls and all they are missing. If you have any doubts, reread the second paragraph in this essay, or better yet turn to "The Best of Texas, Naturally," the piece authored by my colleague Louie Bond, the editor of this fine magazine. In it, she details the favorite haunts and habitats of a group of people who ought to know something about such things — our colleagues at TPWD!

At your Texas Parks and Wildlife Department, the nature of our business is nature. And thankfully, what a rich and bountiful nature it is we have to steward and enjoy right here in our home ground. So, I hope this month, and every one hereafter, you'll devote a good bit more than 10 percent of your time to doing something in the great outdoors.

Thanks for caring about our wild things and wild places. They need you more than ever.



Carter Smith

EXECUTIVE DIRECTOR

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MAIL CALL

PICKS, PANS AND PROBES FROM OUR READERS

FOREWORD

Ranch owner J. David Bamberger asked us if we wanted to see his dog climb a tree. How could we refuse an offer like that?

On Bamberger's command, his dog Corye scampered up into the branches of a live oak. Corye jumped into the tree and scooted out along a horizontal branch. After the first tree, which had branches fairly close to the ground, Bamberger took his dog to progressively more difficult trees. Corye made short work of all of them — to the delight of my son's fifth-grade class, which had come to the ranch for a field trip.

The canine display came at the end of two days of hands-on conservation education, covering everything from dinosaurs to cedar trees, at Bamberger's Hill Country ranch. Bamberger has turned his ranch into a showcase of conservation and education, and the lessons were readily soaked up by these fertile young minds.

I accompanied the class on the trip, and as much as anything, I was interested in the bat cave Bamberger had built — the chiroptorium. It was built in 1998 and now houses 250,000 bats. I had met Bamberger the year before when I went to the Hill Country to talk to bat biologists about the use of weather radar to track wildlife such as bats and birds ("Radar's Eye on Wildlife," Page 40). The biologists I was interviewing at Frio Cave, north of Uvalde, were friends of Bamberger's and had invited him out to talk about bats.

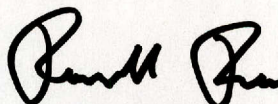
Bat researchers from across the U.S. regularly come to Texas because of our extraordinarily large colonies of Mexican free-tailed bats.

In terms of wildlife spectacles in Texas, birds and bats offer some of the most dramatic, providing a rich resource for radar biologists. In addition to spectacular colonies of bats, Texas is also famous as a world-class place for bird watching, and spring migration provides a particularly rewarding time to see incredible varieties and numbers of birds.

I experienced the spectacle of our birds and bats in a couple of new ways last summer. For one, I ventured to an unlikely wildlife watching site — the parking lot of Austin's Highland Mall. There, tens of thousands of purple martins roost before migrating south. At dusk, masses of purple martins returned from the day's feedings and descended on a handful of trees in the parking lot. It was quite a scene. When the birds leave each morning, the mass exodus shows up on weather radar, producing the same sort of radar image as bats leaving their caves at night.

One summer morning, I met some of my fellow TPWD bike-commuting colleagues on the Congress Avenue Bridge in Austin — home to a famous colony of bats — to watch bats return to the bridge. I've watched them depart from the bridge many times in the evening but had never thought to be there for their return. In the morning light, bats dived straight down from high in the sky, pulling up at the last second to make their way into the crevices of the bridge.

At Bamberger Ranch, we missed out on the bats — they hadn't yet returned from their winter home. But that's OK. The tree-climbing dog was a spectacle in itself.



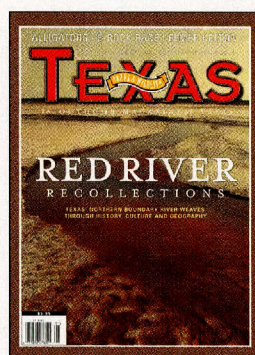
RUSSELL ROE
MANAGING EDITOR

LETTERS

MISSING TEXAS' PARKS

Over a year ago, because of a new job, my family and I moved from Texas to Utah. While Utah has many beautiful outdoor parks and wildlife, we miss the unique flora and fauna of Texas. We miss "our" Texas state parks. We love the magazine as it keeps us connected to one of the many reasons we love Texas. In the January/February issue I read with gladness that the state park system recently added nearly 25,000 acres. Keep up the good work, Texas!

JEFF LORIA
Lehi, Utah



I believe there is a unique "covey" of us whom you touch and enrich — heart, mind and spirit.

P.D. TRUSSELL
Houston

GOING DIGITAL

Just found the link to the digital January/February edition and information about how you will move forward with these. Fantastic move! I hope you offer an option to drop the print edition and go 100 percent digital. I'd be more than

happy paying the same price. I have been a subscriber for many years, and I can't save all the print editions. Most go into the recycling bin when the next edition arrives. To have access to such a high-quality digital edition would be more than enough for me. Those with articles that I want to save, I don't mind ordering isolated print copies. Best of both worlds.

TOM HAYCRAFT
Round Rock

GREAT JOB, BUT SKIP THE LOTION

I have, for several years, subscribed to your magazine and read it from cover to cover, even all the ads. It is beyond enjoyable! I believe there is a unique "covey" of us whom you touch and

MAIL CALL

enrich — heart, mind and spirit. Thank you for what you accomplish.

I know you are working with fewer resources due to state budget cuts. In spite of that, you've risen to the challenge and continue to produce an outstanding magazine. The articles, the art, the spirit of the publication have not suffered. It remains a masterpiece. I will miss the two months you do not publish but want you to know you are doing an amazing job!

In your October 2011 issue, Carter Smith writes that *TP&W* has been a staple in his family for as long as he can remember, and he describes exactly what *TP&W* was and is. He says that *TP&W* reminds him of his grandmother, a farm girl from Killeen. Your readers feel this same way and share Carter's views. In that same issue, however, is an article that seems to veer off the path a bit from that standard. The writer of "Red River Refuge" writes about her travels with her boyfriend, describes their couples massage, luscious lotions and soaps, and mentions a small local restaurant as being "a bit of a dive," popular with locals. This article seems to

veer off the path a bit from the *TP&W* we love and the *TP&W* standard Carter describes. The article is interesting and well-written but maybe belongs in another venue. Please don't compromise the *TP&W* focus and integrity. Be careful to keep the heart and soul of *TP&W* exactly as it has always been.

Again, sincere thanks for the amazing work you are doing despite "hard times."

P.D. TRUSSELL
Houston

RED RIVER CONNECTIONS

It was great to see the "Red River Recollections" feature by Russell A. Graves (January/February 2012). I especially enjoyed reading about Minnie Lou Bradley. My family also settled on the banks of the Red River in 1955 at the height of the 1950s drought — as we purchased what was Burk Burnett's historic Four Sixes horse ranch in Wichita County. His son Tom Burnett's ranch house had been on the bluff overlooking Wildhorse Creek and the Red. He is reputed to have entertained Quanah Parker, the

great Comanche war chief, in this house. The nearby community was christened Burkburnett by Teddy Roosevelt, who had been hosted by Burk Burnett and Parker in their famous wolf hunt in Indian Territory across the river.

Most recently, my mother, Joreen Ludeke, was a member of the Texas-Oklahoma Boundary Commission, which set the south vegetation line of the Red River as the Texas-Oklahoma state line. Thanks for highlighting the rich history of this part of Texas.

A. KIM LUDEKE
Austin

Sound off for Mail Call

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NEWS AND VIEWS IN THE TEXAS OUTDOORS

THE SAGA OF THE HEARTBREAK TURTLE

A documentary sequel outlines 30 years of Kemp's ridley sea turtle restoration.



The term *arribada*, the Spanish word for arrival, was used in 1947 to describe the approximately 40,000 Kemp's ridley sea turtles observed nesting in one day on a beach near Rancho Nuevo, Mexico. Forty years later, fewer than 600 turtles nested along that same stretch of beach during the entire season. Kemp's ridleys became known as the "heartbreak" turtle because, when caught and put on its back on a boat deck, the turtle would thrash to the point of death, causing fishermen to believe it

died of a broken heart.

Unregulated fishing and collection of both turtles and their eggs contributed to the species' decline. Now, thanks to conservation efforts over the past 25 years, the Kemp's ridley population is starting to recover.

Much of that recovery, especially along the Texas coast, is due to the efforts of Carol Allen, whose passion for these turtles goes back 30 years to when she founded HEART (Help Endangered Animals – Ridley Turtles) in 1982. With

the help of schoolchildren around the country who participated in a letter-writing campaign, she worked to extend funding for a "head start" program for Kemp's ridley turtles in Galveston, in which turtles are reared in captivity and then released in the wild. Allen continued to work as an advocate for the turtles, and in 2002 became the Gulf director of the Sea Turtle Restoration Project, a worldwide organization dedicated to sea turtle conservation. She has been integral in getting legislation passed requiring

shrimp trawlers to use turtle excluder devices (TEDs).

What fuels her passion for Kemp's ridley recovery? "The preservation and recovery of the Kemp's ridley sea turtles is extremely important because it is an example of what can be done when countries and agencies work together," Allen says. "The activities of human beings, from stealing eggs and killing turtles for leather in Mexico to drowning thousands of sea turtles in shrimp trawls in U.S. waters, caused the near extinction of the Kemp's ridleys." Allen works to change those destructive behaviors.

One step in Allen's efforts toward the recovery is a documentary focusing on the Kemp's ridley. *The Heartbreak Turtle Today* highlights the progress the Kemp's ridley has made in recent years, but also emphasizes concerns that still need to be addressed. The film was shown on PBS stations nationwide last year.

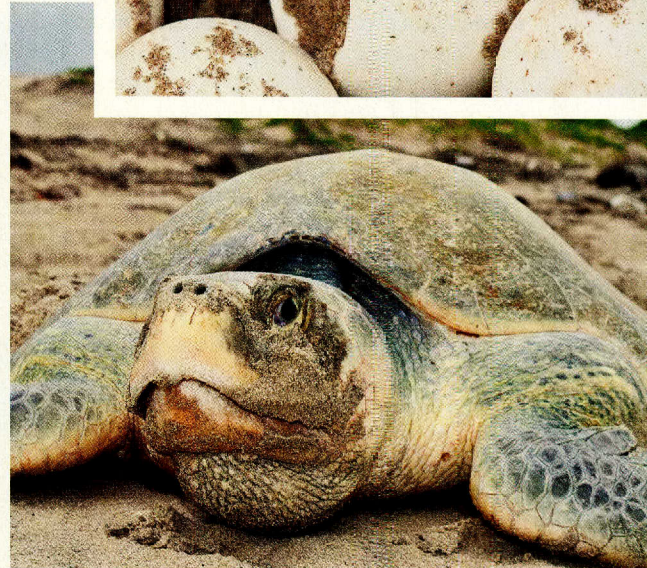
More than 30 years ago, the original *Heartbreak Turtle* documentary was produced by the University of Houston's PBS station to help educate the public on the issues surrounding the Kemp's ridley sea turtle. Now, this sequel to the original documentary (with footage of the amazing 1947 *arribada*) demonstrates that it was possible to bring this species back from the brink of extinction. Through the

efforts of Allen and others, there are now many nesting sites along the Texas coast, with hopes that the number will continue to grow. The story told by biologists, academics, government employees and others in this documentary shows the hard work that has been accomplished to help this species, and how much work still lies ahead. The Deepwater Horizon oil spill occurred in the Gulf during production of the film, and the long-term effects of that spill are still being calculated.

Allen hopes the documentary will be a tool to help educate others about Kemp's ridleys and the ways we can ensure a long future for this species in the Gulf of Mexico.

To get a copy of *The Heartbreak Turtle Today*, and for more information regarding Kemp's ridley conservation programs along the Gulf of Mexico, contact Allen at 281-444-6204 or carole@seaturtles.org. For more information about sea turtles and sea turtle conservation efforts, please visit www.seaturtles.org. ★

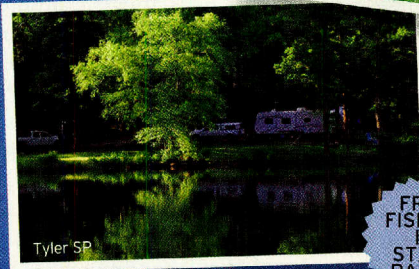
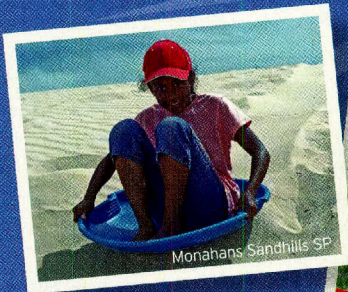
—Matthew Abernathy



Opposite and above: The Kemp's ridley sea turtle is making a comeback, thanks to conservation work over the past 25 years. A documentary spells out the recovery so far.

Wish you were **HERE.**

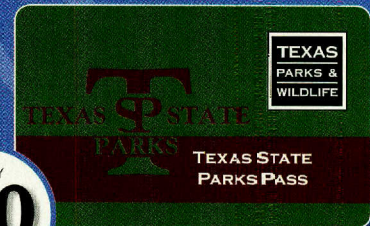
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Hitchhiking Herp

The Rio Grande chirping frog rides tropical plants to new homes across the state.

Somewhere deep in a bush on this warm, humid night in College Station there is a frog hiding, but for the life of me, I can't find it. I check the ground, where most frogs and toads hang out, but the high-pitched *chirp* is coming from up in the branches of the shrubbery. I cup my ears to try to pinpoint the call, but this frog is a ventriloquist. I try listening from all sides, pulling back the greenery, trying to triangulate its location, and then, finally, there it is — the Rio Grande chirping frog, a half-inch-long, darkly mottled frog that's supposed to be found only in the most southerly counties in Texas.

The Rio Grande chirping frog (*Eleutherodactylus cystignathoides*) breaks all the rules. This tiny Texas amphibian doesn't go to water to breed, and it's been hitchhiking all over the state in recent years. Though the frogs are native to the Lower Rio Grande Valley, folks all over the eastern half of Texas have heard their tiny nocturnal chirps, described as sounding like a bird or the squeak of tennis shoes on a gym floor. Urbanization, the bane of many wildlife species, somehow seems to be beneficial for this one.

Chirping frogs are a part of the free-toed frog group — the largest genus of vertebrates in the world, with more than 700 members, found primarily in tropical areas. Two other chirping frogs are found in Texas: the cliff chirping frog of the Texas Hill Country and the spotted chirping frog, found only in the Trans-Pecos. All share the unique characteristic of direct development of the young. While most frogs go to ponds to lay hundreds or thousands of eggs and the young larvae develop as tadpoles in the water before metamorphosing, chirping frogs lay a dozen or so eggs in pockets of moist soil. The young frogs actually go through the larval development stage in the egg and emerge from the egg as tiny little froglets.

That unique attribute explains why Rio Grande chirping frogs have been showing up all over Texas, from San Antonio to



The Rio Grande chirping frog, which goes through larval development in the egg instead of in water, has been expanding its range in recent years.

have flourished, expanding their range into nearby natural areas as well.

Data submitted by volunteers in TPWD's Texas Amphibian Watch (www.tpwd.state.tx.us/amphibians) have confirmed an increasing presence of the species in many areas, especially in coastal counties.

Little is known about how the chirping frogs cope in these new habitats — whether they compete with other species, whether predators exist in these environs or whether they are simply a welcome addition as a predator of small insects. We do know that the squeak of Rio Grande chirping frogs will be heard in new habitats this spring. Volunteers who report hearing and seeing them can help us learn more about the little frog that breaks all the rules. ★

— Lee Ann Linam

PHOTOS THIS PAGE © SETH PATTERSON; OPPOSITE COURTESY OF PAUL COXLADY BIRD JOHNSON WILDLIFLOWER CENTER



Which Way is North?

The leaves of the compass plant can point you in the right direction.

My first encounter with the compass plant (*Silphium laciniatum* L.) was in my youth among the chalk limestone prairies of north-central Texas while hiking the trails at the Heard Natural Science Museum near McKinney. The plants looked like little yellow figurines standing in the tall prairie grasses.

As a botanist, I now know why this amazing member of the sunflower family is such a valuable keystone prairie species. The compass plant tends to align its sandpaper-like leaves north to south to avoid the direct rays of the midday sun. This prairie plant navigator has a taproot that may grow to more than 16 feet deep, making it hardy and resistant to drought. Other common names include rosinweed, gum weed, cut-leaf silphium or turpentine plant.

Compass plant is a perennial and a member of the sunflower family. The plant's flowers are rather large, from 2 to 4 inches in diameter, and are



striking on the upper portions of the stems where they occur in clusters. Flowering begins in late June and proceeds through August in Texas.

The compass plant is a typical plant of black soil prairies in the tallgrass region. It often grows with big bluestem (*Andropogon gerardii*). Other habitats include sand prairies, savannas and glades. The compass plant grows in

Central Texas, blackland prairie regions, Northeast Texas prairies and upper coastal prairies of Texas.

Native Americans brewed a root tea from this plant for back or chest pain. The smoke from a burning plant was inhaled to relieve head colds. Indian children chewed the resin.

Small mammals and birds eat the seeds of the compass plant. In grasslands the compass plant provides a sturdy perch for prairie songbirds. Long-tongued bees, including bumblebees, miner bees, large leaf-cutting bees and others, are the primary pollinators of its flowers. The compass plant is grazed by livestock, especially in its juvenile state.

With its imposing height, interesting leaves and abundant yellow flowers, the compass plant is an extraordinary plant. Tallgrass prairies, savannas and glades are complete only with a population of them. ★

—Jason Singhurst

New electronic lure may catch too many fish; one state bans it.

A bass every seven minutes.

by Mike Butler

NEWARK, DE – A new fishing technology that set a record for catching bass in Mexico is now showing its stuff in the U. S. It has out-fished shrimp bait in Washington State and beat top-selling U. S. lures three to one in Florida. The new technology is so effective one state, Wyoming, has banned its use.

The breakthrough is a tiny, battery-powered electrical system that flashes a blood-red light down a lure's tail when its moved in water. Fish think it's an injured prey and strike. Some fishing authorities, like those in Wyoming, think that gives fishermen too much of an advantage.

They may be right. Three fishermen using a flashing lure in Mexico caught 650 large-mouth bass in just 25 hours. That's a bass every seven minutes for each person, and a record for the lake they were fishing. They said the bass struck with such ferocity they hardly lost a strike.

In Florida two professionals fished for four hours from the same boat. One used a flashing-red lure; the other used some top-selling U. S. lures. The new, "bleeding" lure caught three times as many fish.

Before reporting this, I asked a veteran fisherman in my office for his opinion. Monday morning he charged into my office yelling "I caught six monster fish in an hour with this thing! Where did you get it?"

Then I phoned an ichthyologist (fish expert).

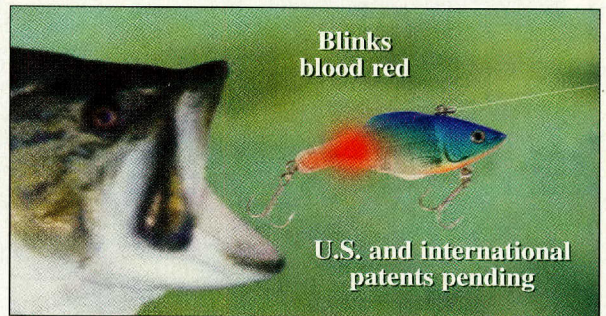
"Predators - lions, sharks," he said, "will always go for the most vulnerable prey. Fish are predators, so if a fish sees a smaller fish bleeding, it knows it's weakened and will strike."

"If a lure could appear to be a live, bleeding fish, a few fishermen could probably empty a lake with it."

I told him three almost did.

Fishes top, middle and deep

There is a U.S. company that offers a kit of three blinking lures (one each for shallow, middle and deep water) called the Bite Light®. Each lure is a different color. They work in fresh or salt water, contain rattle attractants inside and last 300 hours in the water.



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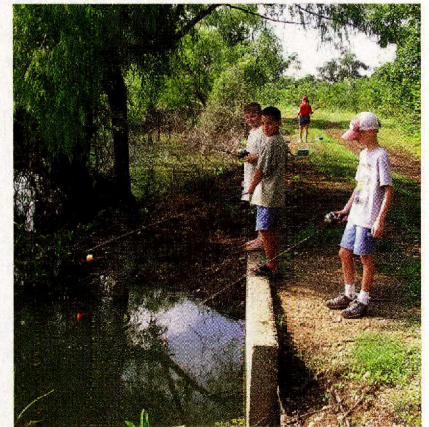
To order, go to www.fishingtechtoday.com or call 1-800-873-4415 anytime or day and ask for the Bite Light® lure (Item # kbl). Or send your name, address and a check (or cc and exp. date) to Scientific Edge LLC (Dept. BL-530), 40 E. Main St., Newark, DE 19711

The company gives your money back, if you don't catch more fish and return your purchase within 30-days.

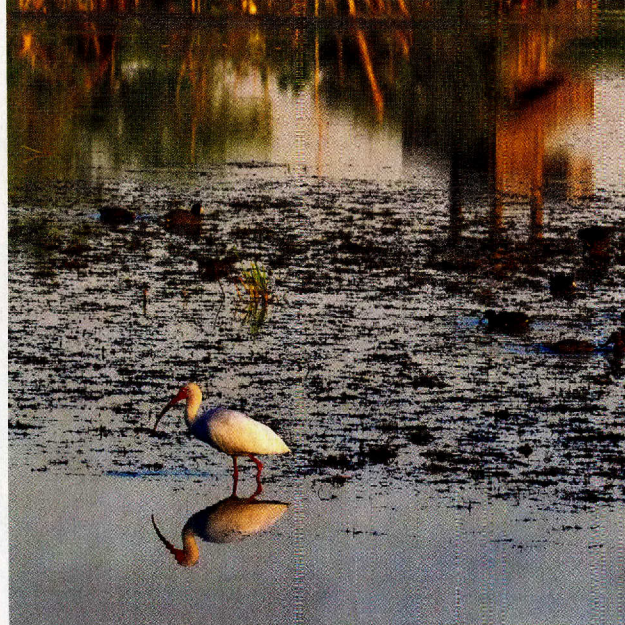
BL-14H © Scientific Edge LLC 2012 Dept. BL-530

Then and Now

Brazos Bend State Park beckons with opportunities to create outdoor memories.



Fishing, hiking, biking and wildlife watching are some of the main attractions at Brazos Bend, south of Houston. Nature programs are offered on the weekends.



The house still stands, once his childhood playground in the woods along the Brazos River. For Barry Eversole, this place shaped his life long before he became a game warden.

He spent much of his youth in the late 1960s there with his great-uncles, Robert and Dean Brumbelow, on what later became Brazos Bend State Park.

"We fished the river, using throw lines tied to a tree," he recalls. They caught flathead and blue catfish, then fried them in cornmeal for dinner.

Eversole also camped near the house and rode many miles in the surrounding woods on his bicycle. Baby alligators in nests nearby made a croaking sound back then. Still do, and that keeps the memories fresh in his mind.

Want to enjoy your own backcountry adventures at Brazos Bend?

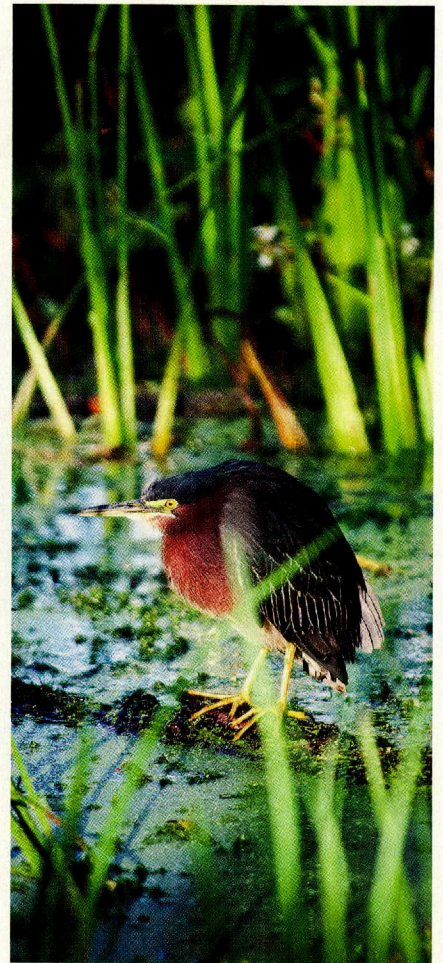
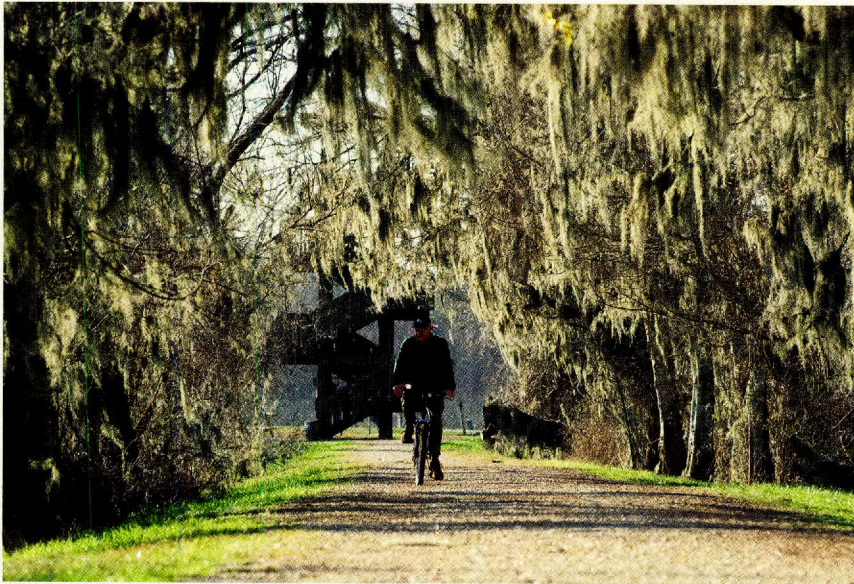
The park offers hiking, mountain biking, horseback riding and camping at a primitive campground that snakes around the Brumbelow brothers' house.

Bring a canoe or kayak and launch it

into the river from the close-by Yellowstone Landing Trail primitive boat launch. The trail's rope line will help get the boat back up the steep slope.

Do you enjoy fishing? Bring a rod and reel to the Brazos River or the park lakes. River anglers often catch flathead catfish, buffalo and freshwater drum, while the lakes yield largemouth bass, panfish and channel catfish. Watch as some of the park's many American alligators stalk the lakes for food.

Park facilities include campgrounds,



playgrounds, picnic sites, two group picnic pavilions and a group dining hall. Travelers on the park's 35 miles of multi-use trails may encounter cricket frogs, white-tailed deer, armadillos and green anoles.

The new observation deck on Elm Lake offers birders a great place to observe many of the more than 300 species of birds that have been seen at the park. While you're here, don't miss the park nature center. It's open

every day and offers a variety of interpretive programs on the weekends.

Brazos Bend State Park is located about one hour south of downtown Houston. From U.S. Highway 59, take the Crabb River Road exit heading south. From Texas Highway 288 take FM 1462 west and follow FM 762 north. For more information, visit www.tpwd.state.tx.us/brazosbend or call 979-553-5102. ★

— Walt Bailey

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Run on the Wild Side

Trail racing is a fast-growing sport in state parks.



Some state parks offer trail races, or you can take off down the trail on your own. It's a way to explore parks at a faster pace.

Are you bored with the gym? Tired of inhaling exhaust fumes in town? How about satisfying your competitive urges with a race on the wild side in a Texas state park? It's a great way to get healthy and see the parks from a whole new perspective.

There are year-round opportunities galore across the state, from 5K races to ones as long as 100 miles, from mountain bike and ultramarathon trail races at Bandera, Palo Duro Canyon, Brazos Bend and Huntsville to triathlons and duathlons at Blanco, Inks Lake and Enchanted Rock.

Trail racing is running's fastest-growing endurance and adventure sport, and one of the most welcoming. There are participants of all skill levels and ages. Many participants "hike" the distance; walking breaks are common even among the runners in the longer distances.



One of the biggest differences between racers on road and trail is the laid-back and friendly attitude of the trail racers. Everyone is proud to be there and happy to see you there. At a 50K run at Palo Duro, almost everyone who passed me or I passed had

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BIG SPRING PHOTO BY DOUG RICHARDSON/TPWD; RUNNER BY EARL NOTTINGHAM/TPWD; BIKER BY BRYAN FRAZIER/TPWD

some word of encouragement. It was either "Looking good!" or "Have a great run!" the entire way.

The benefits don't end there. As one trail running club points out, trails are cooler in the summer and warmer with less wind in the winter and, thanks to Mother Nature and photosynthesis, have a higher level of oxygen and a lower level of air pollution. (You won't find many cars on the trail.) The surface is softer than pavement, and the pace is slower because of the terrain, thus reducing impact injuries.

Things to consider for races:

» Races often start before daylight, so be prepared with a headlamp.

» Trail etiquette is important. It may be crowded at the start of a race. Wait for wide spots on the trail to pass or "pull over" to let other runners pass. Let others know a pass is about to occur. The crowd usually thins out after the first couple of miles, so you'll have the opportunity to spend some quiet time concentrating on the trail and enjoying the amazing views that our state parks have to offer.

Things to consider for any trail run:

» Although most trail regulations give the right-of-way to hikers, use common sense and yield to mountain bikes. Taking on a bike going 15 miles per hour will definitely cut your run short. Horses always have the right-of-way. When you approach walkers, hikers and equestrians from the rear, let them know you are coming and always pass on the left.

» Pick up at least one piece of litter each time you run. Every little bit helps.

» Keep your eyes on the trail so you don't trip on roots, rocks and uneven ground.

» Carry a hand-held water bottle or hydration pack with you. Drink 16 to 24 ounces every three to five miles, depending on the temperature.

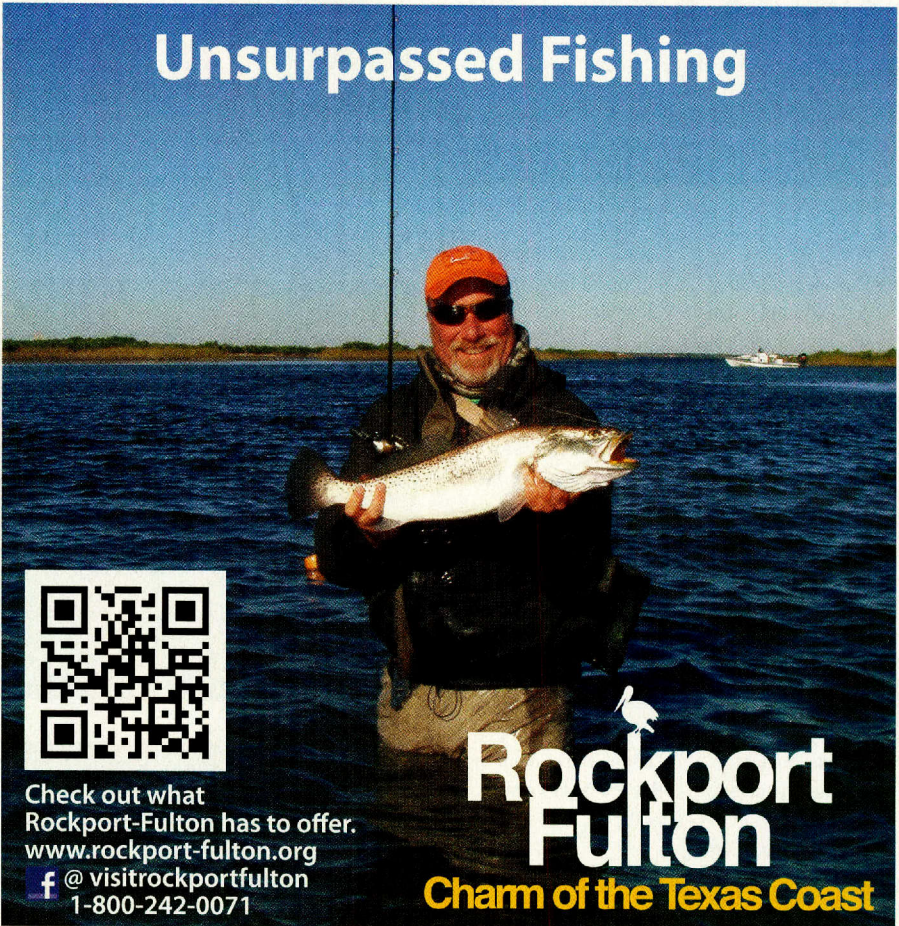
» Wear a hat, sunglasses, proper shoes and sunscreen.

» Make sure someone knows your planned route and return time. It's always best to run or hike with a partner.

» Follow the principles of Leave No Trace and let common courtesy and love of the outdoors dictate your actions.

If you aren't ready to race, many trail running clubs schedule weekend group runs at state parks. Bring the friends and family and make a weekend trip out of exploring a state park at a little faster pace. ★

Unsurpassed Fishing


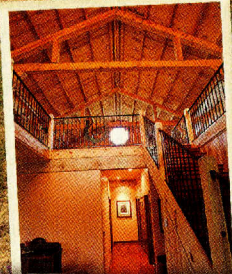
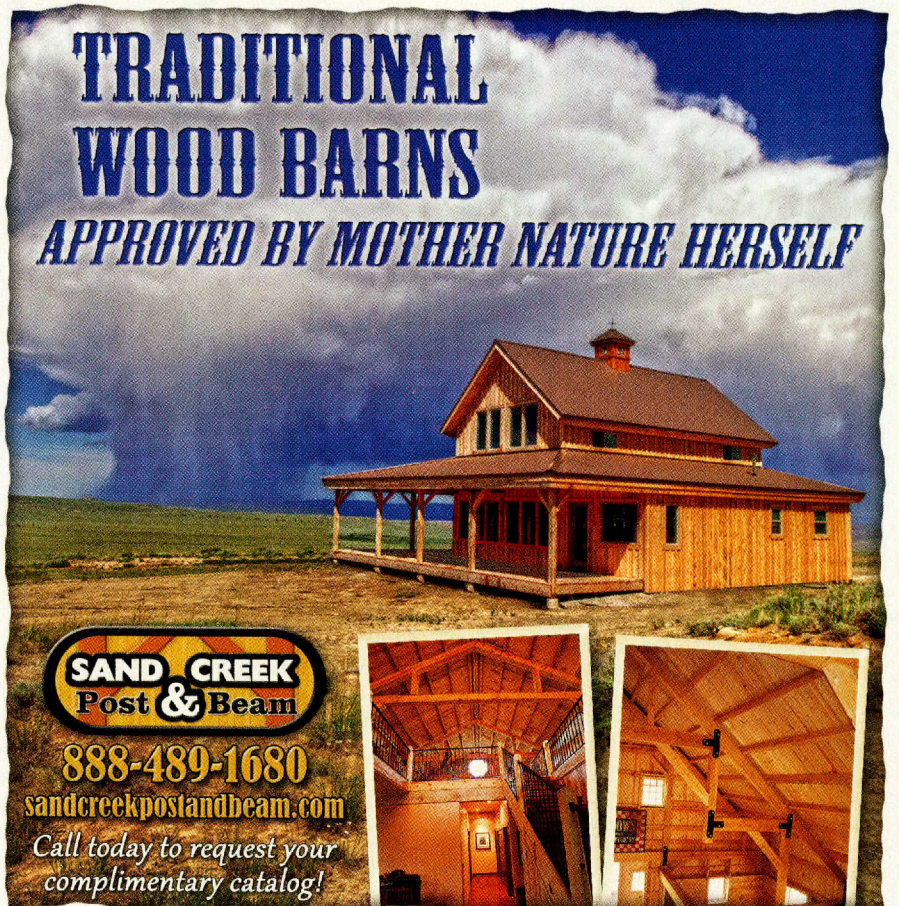


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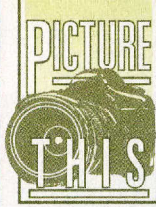


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April 1-7:

The rise of the forgotten flounder; Leave No Trace; when plants attack; Martin Dies Jr. State Park; pictures from the drought.

Fourth at Garner; rappelling into Devil's Sinkhole.

April 22-28:

Ecology and economy of the Gulf; Chester's island; Martin Creek Lake morning; Warbler Woods Bird Sanctuary; Washington-on-the-Brazos.

April 8-14:

The puzzling plight of Trans-Pecos pronghorn; get started camping; young pup in training; family film from Balmorhea.

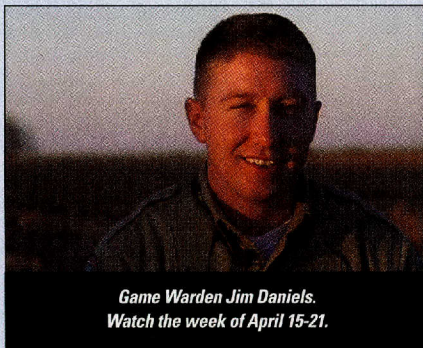
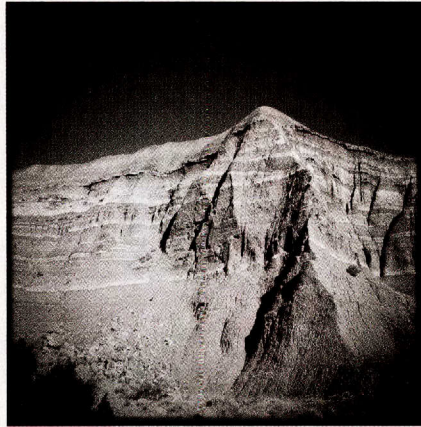
April 29-May 5:

Hurricane history, past and present; sandhill cranes; pointy plants of Big Bend Ranch; Lodge Creek Ranch; Resaca de la Palma birds.

April 15-21:

Game Warden Jim Daniels; boating accident resolved; San Jacinto Battleground; a family

Smartphones and camera apps are making it easy for photographers to express their creativity.



Game Warden Jim Daniels.
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Maybe we can't be the next Ansel Adams, but some camera apps can deliver results that bring us pretty close. Jessica Blank uses her iPhone and apps such as Instagram and Hipstamatic to produce creative shots. Blank accentuated the tonal values and textures of Palo Duro Canyon State Park and the dried lakebed of Lake Livingston, top row, using the Hipstamatic app. Reflections in Blank's backyard and Huntsville State Park's Lake Raven take on painterly qualities with the use of the Pro HDR app combined with the Instagram app. The popular trend of HDR (high dynamic range) photography has introduced several apps that produce saturated — sometimes surreal — color palettes that can be enhanced even further by reprocessing in a separate app.

Smartphones and their larger tablet-type cousins have become integral tools not only in the ways we communicate but in the ways we create.

For photographers, downloadable camera apps allow the built-in cameras on most of these devices to become fun and creative tools. Photographers can take an ordinary picture and enhance it with creative photo styles that simulate the unique looks of vintage cameras and special film processes combined with textures and frames.

These apps are available for both Android and iPhone. While many are

free, most full-featured versions cost around a buck or two.

Although there is a wide selection of apps, a few have risen to the top. For the iPhone, favorites include Instagram, Hipstamatic, Snapseed, PhotoShop Express, Camera+ and Pro HDR. For Android, top picks include Vignette, Retro Cam, FxCamera and Photoshop Express.

While many photographers may consider these apps to be gimmicky because the images they produce only emulate the looks created with "real" cameras and chemical processes, others

embrace their interactivity and creative potential.

For Jessica Blank, a graphic designer in Huntsville, camera apps such as Instagram and Hipstamatic allow her to combine her creative eye with her love of nature for what she terms "iPhoneography."

According to Blank, "It's like there is a tiny art project just waiting every time I go outside. With nature's randomness combined with the random looks from Instagram and Hipstamatic, it's hard not to create an interesting image." We agree. ☆

—Earl Nottingham

Please send questions and comments to Earl at earl.nottingham@tpwd.state.tx.us

To see more of Jessica Blank's "iPhoneography," check out her Flickr photostream at www.flickr.com/photos/jayembee

For more on TP&W magazine photography, go to www.tpwmagazine.com/photography

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3 Days in the Field / By Rob McCorkle

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Island Time

Galveston's indomitable spirit helps this historical seaport rebound from the forces of nature.

When I was growing up in

Houston, a trip to Galveston meant an ocean swim, sunny beaches and tasty seafood. A recent weekend trek to the island drove home just what Galveston has come to represent to me as an adult: tenacity, adventure and enviable historical preservation.

Named for American Revolution Spanish hero Bernardo de Galvez and founded in 1839, Galveston has exhib-

ited multiple personalities and a remarkable resilience in the face of adversity, both natural and manmade.

In the late 19th century, Galveston held the distinction of being Texas' largest port, welcoming great cargo ships and legions of immigrants from Europe and Russia, but Mother Nature brought the island city's opulent reign to an abrupt halt in 1900 when a massive hurricane destroyed most of the

city, killing more than 6,000 people. Proud and determined Galvestonians raised the elevation of the city and built a 17-foot-high seawall to thwart future storm-driven sea surges.

By the Roaring Twenties, Galveston had reinvented itself as a bawdy, flamboyant precursor to Las Vegas. For decades, city boosters compared Galveston's Seawall Boulevard to Atlantic City's Boardwalk. It was the beginning of the tourism business that buoys the city's economy today.

In 1957, authorities sent in Texas Rangers to bust the rackets and gambling houses. The most renowned was the Balinese Room, a world-class casino and nightclub on a pier jutting out into the Gulf of Mexico across from the Queen of the Gulf — the Hotel Galvez.

Throughout the ebb and flow of the city's tumultuous history, the Galvez, built in 1911, has served as the community's guiding beacon of hope and prosperity.

It was therefore fitting that my wife, Judy, and I would call the Hotel Galvez and Spa, celebrating its 100th anniversary in 2011, our headquarters for our fall island sojourn.

Like Galveston itself, the Hotel Galvez has undergone numerous transformations. Photos of the Galvez circa 1911 inspired renovations that returned the beachfront hotel to its original airy, light-filled look.

While Judy relaxes in one of the Galvez's 224 updated guest rooms, I meet Galveston native Christine Hopkins, public relations manager, for a tour of the \$11 million centennial-year refurbishing that has earned the National Register of Historic Places property recognition from the Texas Historical Commission.

Hopkins notes a few extant features of the original hotel: terrazzo floors, acan-



Galveston's grand Hotel Galvez celebrated its 100th anniversary last year.

PHOTOS BY EARL NOTTINGHAM/TPWD



Ghosts of Travelers Past inhabit the Galveston Railroad Museum, left. Paths wind through the forest floor and tree canopy in the Rainforest Pyramid at Moody Gardens, right. Galveston nightlife has a casual flair along Post Office Street in front of the Mod Coffeehouse, below.



thus leaf capitals on the lobby columns, wrought-iron stair railings and a brass letter box by the elevators. The tour concludes with a visit to the lower level that houses the luxurious spa and a new Hall of History.

Despite a steady rain, Judy and I head for the downtown Galveston ArtWalk, an art gallery open house along Post Office Street sponsored by the Galveston Arts Center every six to eight weeks. We duck into the 1894 Grand Opera House for a self-guided tour. Just down the street, a Celtic band performs for a small crowd in front of the Mod Coffeehouse.

We check out a few of the art galleries, including the popular René Wiley Studio & Gallery, where we view compelling pastel paintings of Galveston's streets and alleyways and detailed wood carvings of sea life made from reclaimed remnants of trees felled in 2008 by Hurricane Ike.

After a quick cocktail at the funky, Art Deco-style Stork Club, which sports a Galveston Mardi Gras motif, Judy and I walk five blocks to Pier 21 on the harbor to dine at the Olympia Grill. The seafood at the waterfront restaurant owned by the Kriticos Brothers, descendants of one of Galveston's many Greek immigrant families, does not disappoint. A belly dancer snakes rhythmically through the restaurant.

Though growing a bit weary, we can't resist listening to the first set of Texas singer-songwriter Shake Russell and his band at the nearby Old Quarter Acoustic Café, the island's legendary music club. Though the compact club is packed and we have no reservations, owner Wrecks Bell takes pity on us out-of-towners and finds us seats.

The next morning, despite a steady

downpour, I meet with local birding experts Alice O'Donnell and Brenda Dawson. We head north on 8-Mile Road to "bird" the ponds and waterlogged fields all the way to West Bay, and then head to a wooded nature park in Lafitte's Cove via Stewart Road. I'm told the area is "ground zero" for great birding, where bird watchers can readily see a wide variety of shorebirds, migrating species and sought-after resident specialties such as the American oystercatcher, clapper rail and spotted sandpiper. As if on cue, O'Donnell points out the latter 30 yards away. It's not uncommon, she says, for birders to spot 40 to 60 species in a few hours on the island's west end.

Our tour ends at the eight-acre Lafitte's Cove Nature Preserve, where O'Donnell identifies three brown thrashers in a tree and several unusual native flowering shrubs.

My next adventure lies just down the road at Galveston Island State Park, where I am to meet with Frank Bowser of the park's friends group, which has been instrumental in clearing up the park to get it reopened in Hurricane Ike's wake. He has offered to take me kayaking on one of the three paddling trails in West Galveston Bay accessed from the state park. But with angry-looking clouds boiling up in the east, he decides against it.

Instead, I join the Hall family from Kingswood on a regularly featured Saturday park event, "Discovering the

Bay Shore & Mud Flat," led by Texas master naturalist and former science teacher Jack Clason. I'm glad I have my river shoes with me as we wade out into the higher-than-normal bay water resulting from an extremely high tide. We learn about the bay ecosystem's importance to sea life.

"This is a place where sea creatures come to breed," Clason says, "and if you pollute it and destroy it, it negatively impacts the Gulf fisheries."

Returning to the park's bay-side nature center, which was repaired after Ike and served for many months as the park's temporary headquarters, I am impressed with how few reminders of the destructive hurricane remain. I cross the highway to the park's Gulf side, which sustained heavy storm damage. Park staff are moving into a new temporary headquarters/visitor center that will have to suffice until enough funds are appropriated to implement the state park's recently completed master redevelopment plan, which emphasizes sustainable design.

For lunch, Judy and I walk a couple of blocks from the hotel to a local mainstay,

(continued on Page 52)



BEST OF TEXAS (NATURALLY) 2012

**BIGGER IN TEXAS?
WHY, YES, EVERYTHING IS!
BETTER IN TEXAS?
OF COURSE!**

BY LOUIE BOND



Web exclusive: Find additional Best of Texas selections with this story online at www.tpwmagazine.com

ASK TEXAS PARKS AND WILDLIFE Department staffers what they love best about Texas and then sit down for a spell.

The one thing that unites biologists and educators, journalists and accountants across this agency is a love for the natural places that abound in this state. Our eyes start to sparkle when we talk about horned lizards, Palo Duro Canyon or kayak fishing. Love of nature and love of Texas — it's in our DNA.

Last year, we brought you a selection of Texas' natural favorites picked by our *Texas Parks & Wildlife* magazine staff. This year, we asked our colleagues across the agency for their picks. We hope you'll join in the conversation on Facebook and Twitter, and tell us about your favorite Texas animals, places, plants and activities.

While all the nominees are clearly winners in their own right, I'd like to share one special nomination that resonated for me. You see, like Inland Fisheries specialist Larry D. Hodge (a frequent contributor to the magazine), I can't decide on just one!

BEST ODE TO BEAUTY

Larry Hodge says: My favorite place in Texas? How about that bluff on our hunting lease overlooking the confluence of the Pecos and the Rio Grande, the perfect place to watch the sun set? Or the almost-mystical moss-draped parade of trees lining Government Ditch on Caddo Lake? Or a playa lake in the Panhandle at sunset with a thousand sandhill cranes spiraling down, calling across the ages? Or the dense thorn-scrub of a South Texas wildlife management area, its silence shredded by a raucous band of chachalacas? Or the Hill Country deer blind where I shot my best buck ever, a heavy 10-pointer who lingered just a second too long after I bumped the window getting my gun up? Or the sandbar at the mouth of San Francisco Canyon on the Rio Grande where sleep came swiftly after a hard day's paddling against the wind, while thunder rolled in the distance, reminding me that the canyon once flashed 80 feet deep here and drove the Rio Grande backward for half a day? Or any of a thousand other places in this state, where I have explored every corner (and most of the rounded-off places, too)? No, none of these. My favorite place in Texas is one I have not yet seen. And there will always be another.

BEST CRUISE IN AN EL CAMINO

El Camino Del Rio is the Spanish name ("River Road") for FM 170's circuitous path along the Rio Grande from Lajitas to Presidio. The 50-mile drive, a long, winding road across the Chihuahuan Desert along the bottom edge of Big Bend Ranch State Park, will take you an hour or so to traverse, if you don't stop to look. "Perish the thought!" says David Lewis, an interpretive ranger at Fort Leaton State Historic Site. At the peak, La Cuesta, you're 600 feet above the Rio Grande, but you'll be back down to the river in less than a mile. Along the way, you'll spy a movie set. On the west end is Fort Leaton, a Chihuahua Trail trading post and the largest adobe structure in Texas. The Barton Warnock Visitor Center, with a natural history museum and desert garden, is on the east end.

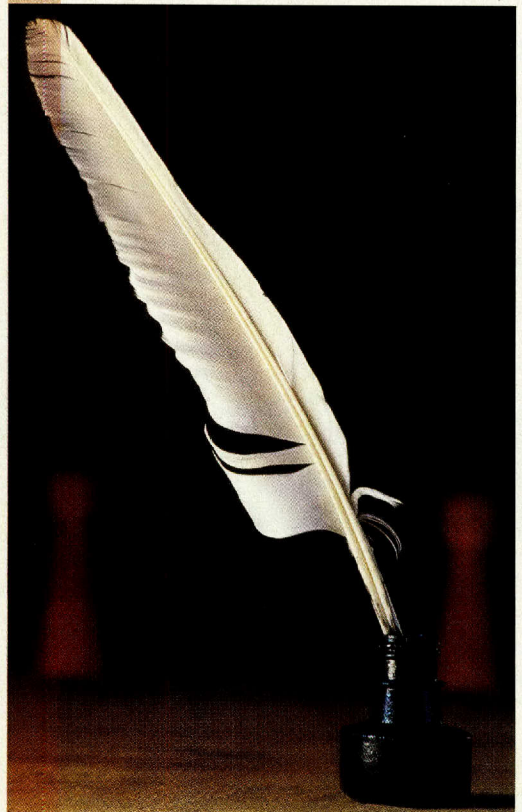




LEFT PHOTO BY EARL NOTTINGHAM/TPWD; MIDDLE BY CHASE A. FOUNTAIN/TPWD; RIGHT COURTESY OF TEXAS HIGHWAYS

BEST PLACE TO START A REVOLUTION

"I am a huge history buff, and the Texas Revolution is my favorite period," says TPWD contract and park revenue manager Shawn Riggs. Sometimes his wife and two kids grow weary of pursuing Riggs' passion for historical sites and re-enactments. But one place they all enjoy is Washington-on-the-Brazos State Historic Site. "Let me tell you, they love it," he says. The charming park's Barrington Living History Farm is a favorite of the children. They learn how early pioneers made rope, washed clothes in a wooden tub with a washboard and carried water using a yoke; then the kids are given a chance to try their hand at it themselves. The entire family enjoys the star-shaped Star of the Republic Museum. Riggs' favorite spot is Independence Hall, where, he says, "ordinary Texans did an extraordinary thing" when they birthed a nation.



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BEST PLACE TO SINK A SHIP

Texas Parks & Wildlife television producer Bruce Biermann, an expert diver, says the sunken Texas Clipper is the best day-trip scuba adventure off the Texas coast. After a colorful career dating back to World War II, the Texas Clipper was sunk in 2006 as part of the Ships-to-Reefs program. In the years since, she has become an enormous oasis for marine life. "I came around the davit arm once and had four of the largest red snapper I have ever seen staring at me," Biermann says. "Manta ray, amberjacks, barracuda, queen angels, grouper — they all abound on the Clipper. Even shark and dolphin sightings are not unusual."



CLIPPER, FLIP-FLOP AND SEA CENTER PHOTOS BY CHASE A. HOONJAINI/TPWD; LIGHTHOUSE BY EARL NOTTINGHAM/TPWD; PADDLING BY BRANDON JAKOBEIT/TPWD



BEST FLIP-FLOPPERS HAVEN

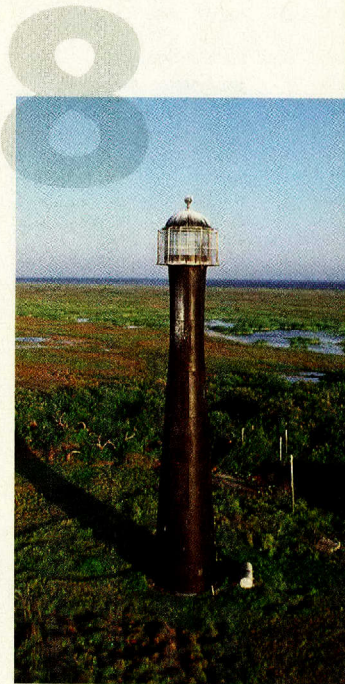
A.E. Wood Fish Hatchery manager Rob Schmid describes the waters of the San Marcos River as "gin clear." He should know. Schmid collects what he calls "cerelict flip-flops," lost by happy paddlers, tubers and swimmers at Rio Vista whitewater park. No content to just throw the rubber shoes into the trash, Schmid creates works of eco-art with them, including three flip-flop trees the local paper cleverly dubbed "The Forest of Lost Soles."





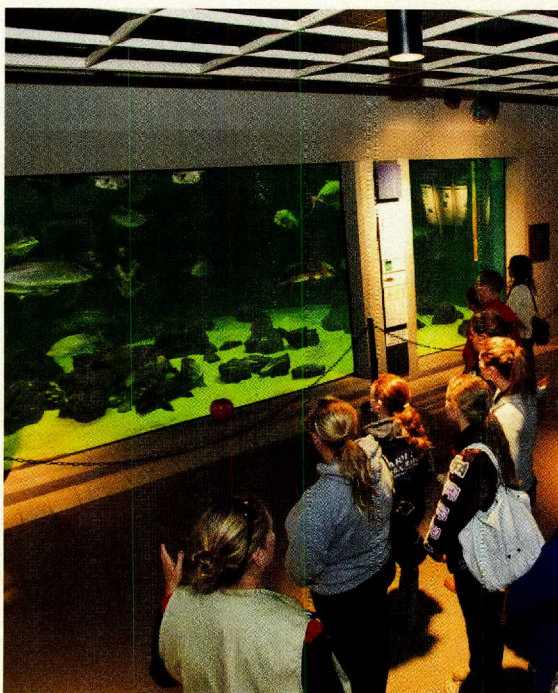
BEST PLACE TO ROW, ROW, ROW YOUR BOAT

With 35 established paddling trails across the state, and more opening every year, it's hard to pick a favorite, though many were nominated by happily paddling TPWD staffers. Special project coordinator Paul Hammerschmidt, a member of the TPWD paddling trails team, particularly enjoys kayaking the trails at Lighthouse Lakes and Galveston Island State Park. The Lighthouse Lakes trail, near Port Aransas, was the first official Texas paddling trail, and it offers kayakers a mix of mangrove mazes and open flats, with excellent fishing and birding opportunities and views of the Lydia Ann Lighthouse. Observe shorebirds as you quietly paddle at Galveston, just as the Karankawa Indians did centuries ago.



BEST FORGOTTEN TREASURE

Game Warden Michael Mitchell says most Texans overlook the treasure that is Matagorda Island State Natural Area, probably because it is accessible only via boat. A 38-mile-long narrow stretch of barrier island and bayside marshes, Matagorda is guarded by an 1852 lighthouse at the north end. Enjoying the beautiful seclusion are a dazzling array of migratory birds, deer, alligators and other wildlife.



BEST FISH YOU'LL NEVER CATCH

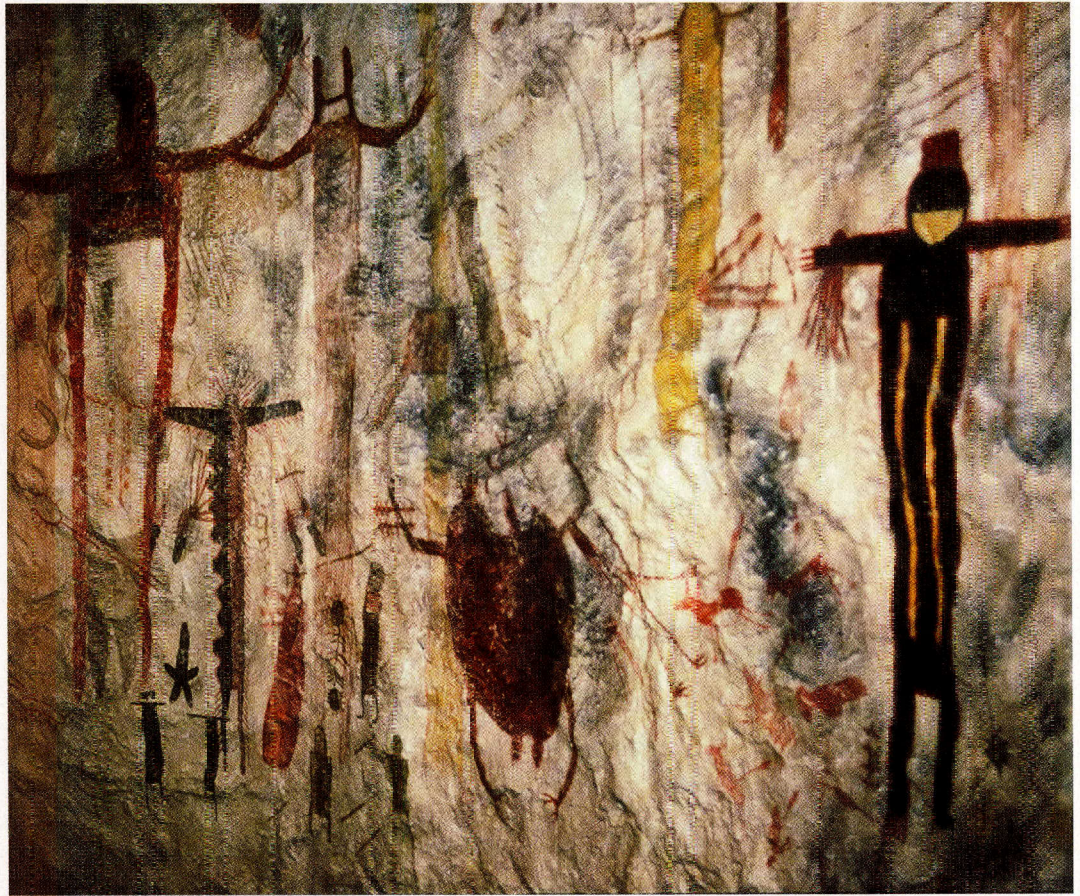
Sea Center Texas, located in Lake Jackson, is a wonderful place to learn about fascinating sea creatures for free, says visitor center manager Connie Stolte. Visitors flock to Sea Center to see the most diverse native fish aquarium displays in the state and huge replicas of state record fish. Kids can get up close and personal with smaller creatures like hermit crabs, sea anemones and snails at the touch tanks. "You will be amazed from the moment you walk in the front door," says Stolte. "I enjoy watching kids' faces light up and their eyes open wide with wonder."

BEST OF TEXAS (NATURALLY) 2012



BEST "GRANDMA" CHRISTMAS

Sauer-Beckmann Living History Farm manager Eugene Bonds says that Christmas at the farm is like stepping into a Currier and Ives painting. While visitors can experience life circa 1900 on a typical German farmstead all year long at the farm inside the Lyndon B. Johnson State Park and Historic Site, they may visit at night during the annual tree-lighting event, held the third Sunday in December. The farm comes to life with more than 30 costumed interpreters and musicians. Some are busy tending the livestock; others are making items from metal in the blacksmith shop. Inside the Victorian house, Mama is busily sewing a new doll dress and greeters welcome guests into the traditionally decorated parlor, complete with a freshly cut tree illuminated with actual burning candles. In the kitchen, guests are tempted to sample traditional German cakes and cookies.



BEST PLACE TO SEE A PRIMITIVE PICASSO

When our ancestors inhabited the large limestone rock shelters at Seminole Canyon State Park and Historic Site in the lower Pecos River country, they decorated their "living rooms" with some of the most complex pictographs found anywhere in the country. Named by park interpreter Tanya Petruney, the area also contains archeological deposits from more than 6,000 years of human occupation.



BEST PLACE TO MAKE A NEW BEST FRIEND

TPWD colleagues Dave Terre (Inland Fisheries chief of management and research) and Don Cash (*Texas Parks & Wildlife* television producer) forged a career-long friendship while working on a video promoting fishing for kids. After three unsuccessful trips to catch anything worth filming from a boat, the two, along with Terre's 12-year-old son, Cory, tried a last-ditch effort off the pier at Puris Creek Reservoir. In an hour Cory caught five bass averaging five pounds—the biggest was nearly seven pounds. Cash got all the footage he needed for that story, plus enough for countless other videos aired over the past decade. Cory was totally hooked on bass fishing and is an avid angler today at 22.



BEST PLACE TO PUT SOME SPICE INTO YOUR LIFE

From the majesty of 60-foot-tall Gorman Falls, with its crystal waters and frothy ferns, to the 30 miles of hike/bike trails and the refreshing swimming holes, Robert Owen is crazy about Colorado Bend State Park — especially the Spicewood Springs area, a wonderland of travertine and waterfalls. “It’s the best-kept secret in the state, the perfect place to be alone with your thoughts for a short hike or a cool dip,” says Owen, who works with the Texas Outdoor Family program.



BEST PLACE TO FIND THE BLUEBIRD OF HAPPINESS

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Park ranger Dawn Capps’ favorite place to watch and take pictures of eastern bluebirds (*Sialia sialis*) is at Lake Tawakoni State Park. The park is near Wills Point, the Bluebird Capital of Texas. In 1993, Bill Mack Kinney formed the Wills Point Wilderness Society, persuading area landowners to place bluebird boxes on their fences to save bluebirds from a potentially serious decline. The efforts were so successful that the National Audubon Society determined the community has hosted more bluebirds than any other area in Texas. There are 21 boxes at the park.

BEST COOL CRITTER

TPWD wildlife biologist John Davis loves the prehistoric look of the Texas horned lizard (*Phrynosoma cornutum*). Like any grown-up little kid, he's still amazed at its ability to shoot blood from its eyes when it feels threatened, an anti-predator mechanism. "The main reason I love this lizard so much is because it reminds me of my childhood," Davis says. "Unfortunately, for the many 'horny toads' I carried in my pocket as a young 'un, they are not faster than little boys and they don't bite. That made them easy, though likely unwilling, companions for this future biologist. They are not as plentiful now as they once were. Hopefully it's not due to the harassment of little boys."

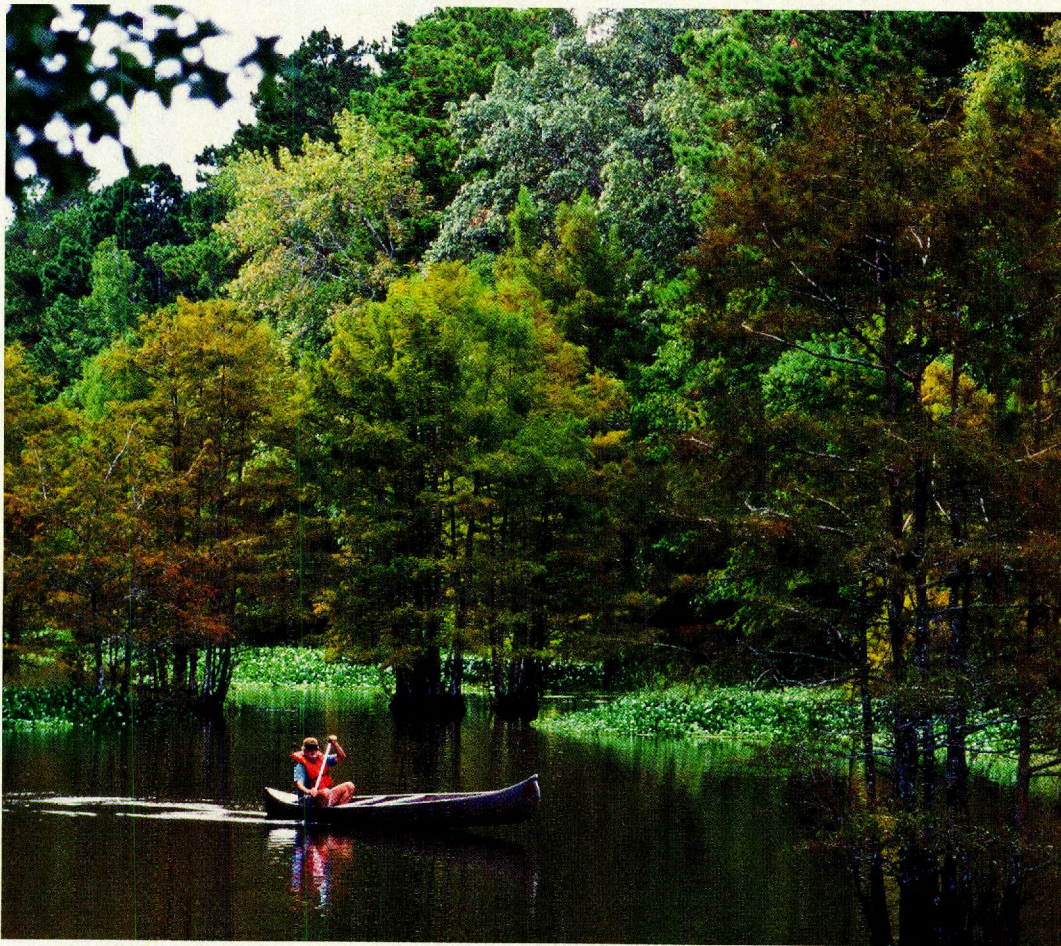
BEST BARK WITH NO BITE

"I always had a great big time going to the Guadalupe Mountains or the Big Bend area and coming upon the Texas madrone trees," says Deborah Burns, Wildlife Division administrative assistant in Canyon. "They have a beauty that is all their own. When you see one, especially for the first time, you have to run your hands over the smooth bark."

Arbutus xalapensis is found in the mountains of West Texas and the limestone slopes of the Hill Country. Each year, the bark of the madrone peels away to reveal a new pale layer that changes color progressively to peach, coral, red and chocolate before beginning the process again.



MADRONE: PADDLING AND MCKITTRICK BY EARL NOTTINGHAM/TPWD; RESACA DE LA PALMA BY CHASE A. FOUNTAIN/TPWD; LIZARD BY TPWD



BEST PLACE TO PLANT YOURSELF

Resaca de la Palma State Park in Brownsville offers a rare glimpse of the last remnants of the incredible biodiversity of the ebony-anaqua woodland, one of the most threatened plant communities in the country. "There are over 20 species of regionally rare plants at the site, including Bailey's ball moss, Runyon's water-willow, sabal palm, potato tree and Vasey's adelia," says park Superintendent Pablo de Yturbe.

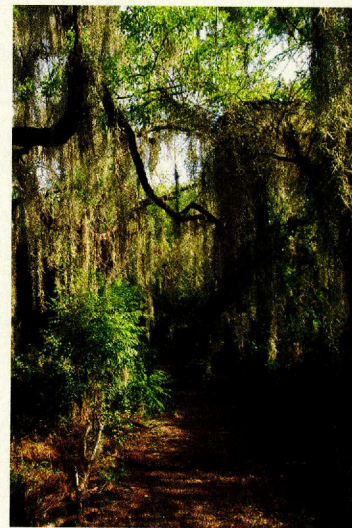
BEST PLACE TO CHANNEL YOUR INNER ANGELINA

If you want to see East Texas as the Native Americans did, take a guided canoe trip down the Angelina and Neches Rivers from Martin Dies Jr. State Park, says naturalist interpreter Katherine Crippens. "This trip is the best way to see the backwater sloughs and bayou areas between the two rivers and enjoy the flora and fauna of the area." Trips are offered the third Saturday of the month. Can't get to East Texas? Take the trip on YouTube: <http://youtu.be/RykfcEQBgCQ>



17 BEST PLACE TO SEE A RAINBOW

McKittrick Canyon at Guadalupe Mountains National Park is one of Inland Fisheries' Ken Kurzawski's favorite places to hike, and it offers possibly the most colorful hike in the state. In the fall, the bigtooth maples put on a dazzling display of autumn colors. Look down at the creek, and you'll see the only reproducing, self-sustaining population of rainbow trout in Texas.



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BEST OF TEXAS (NATURALLY) 2012



BEST BOOM-BOOMS

Lee Ann Linam thinks readers should experience the wonder of prairie-chicken courtship displays — sights and sounds that occur both on the coastal prairie and the shortgrass prairies of the Panhandle. “You rise early in the morning to get to a blind on a prairie-chicken lek site and hear them display as the sun comes up,” says Linam, a TPWD biologist in the wildlife diversity program. “The sound of the booming and cackling in the pre-dawn light and the almost comical antics of the males as they try to attract females are things you’ll never forget.” Though declining populations of both species make these experiences more rare, enthusiasts can contact the Atwater Prairie Chicken National Wildlife Refuge or the Canadian Chamber of Commerce to find out what opportunities exist.



BEST PLACE TO HAIL THE CHIEF

It’s hard to imagine world leaders gathering to make monumental decisions in lawn chairs on a Texas afternoon, but that was a common occurrence at the “Texas White House” during Lyndon B. Johnson’s presidency, says Katie Raney, a Bastrop/Beuscher naturalist interpreter who nominated LBJ’s place in the Hill Country near Johnson City. Originally the home of LBJ’s uncle, the native limestone house was used for large family gatherings during LBJ’s childhood and became a center of political activity for two decades during his political career. LBJ felt more comfortable and confident there, it is said, and used this advantage to twist more than a few arms. Lady Bird continued to live there part time until her death in 2007. The house was officially opened to the public in 2008.



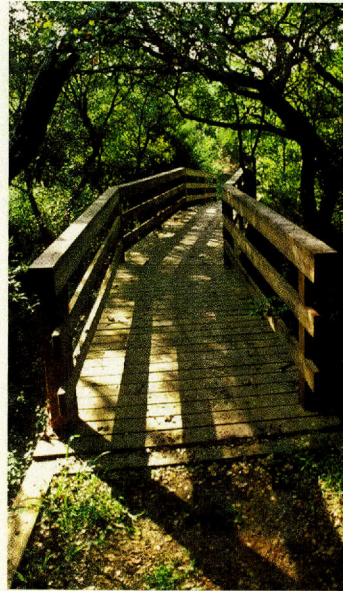
21 BEST PLACE TO HIT THE TRAILS

With nearly five miles of trails that cross three ecosystems, Mother Neff State Park offers great hiking and running, says park Superintendent Leah Huth. “Office manager Marianne Van Houtte runs the trails on a daily basis, and as a Boston Marathon finisher, she knows good trails when she sees them!” Huth says. Birders also enjoy the trails, as do many local residents who regularly hike for health.



BEST PLACE TO HUNT FISH

TPWD Wildlife Division's Linda Campbell recommends beating the crowds to fish the back-water shallows of Port O'Connor from a kayak. "Stalking big redfish in one foot of water from a kayak is like hunting fish," she says. "You can't get bored because you can always watch birds between bites."



BEST PLACE TO WATCH A WAR

Photographers flock to the San Jacinto Day Festival and Battle Re-enactment at the San Jacinto Battleground State Historic Site, says Beth Tragus, who serves as volunteer services coordinator there. Every year, hundreds of authentically clad enthusiasts demonstrate life in the Texas and Mexican army encampments circa 1836, then take to the field for a battle re-enactment. There are ample opportunities for wildlife photography as well, with more than 240 species of birds during spring/fall migrations and dozens of animals to be found on the 1,200-acre site.

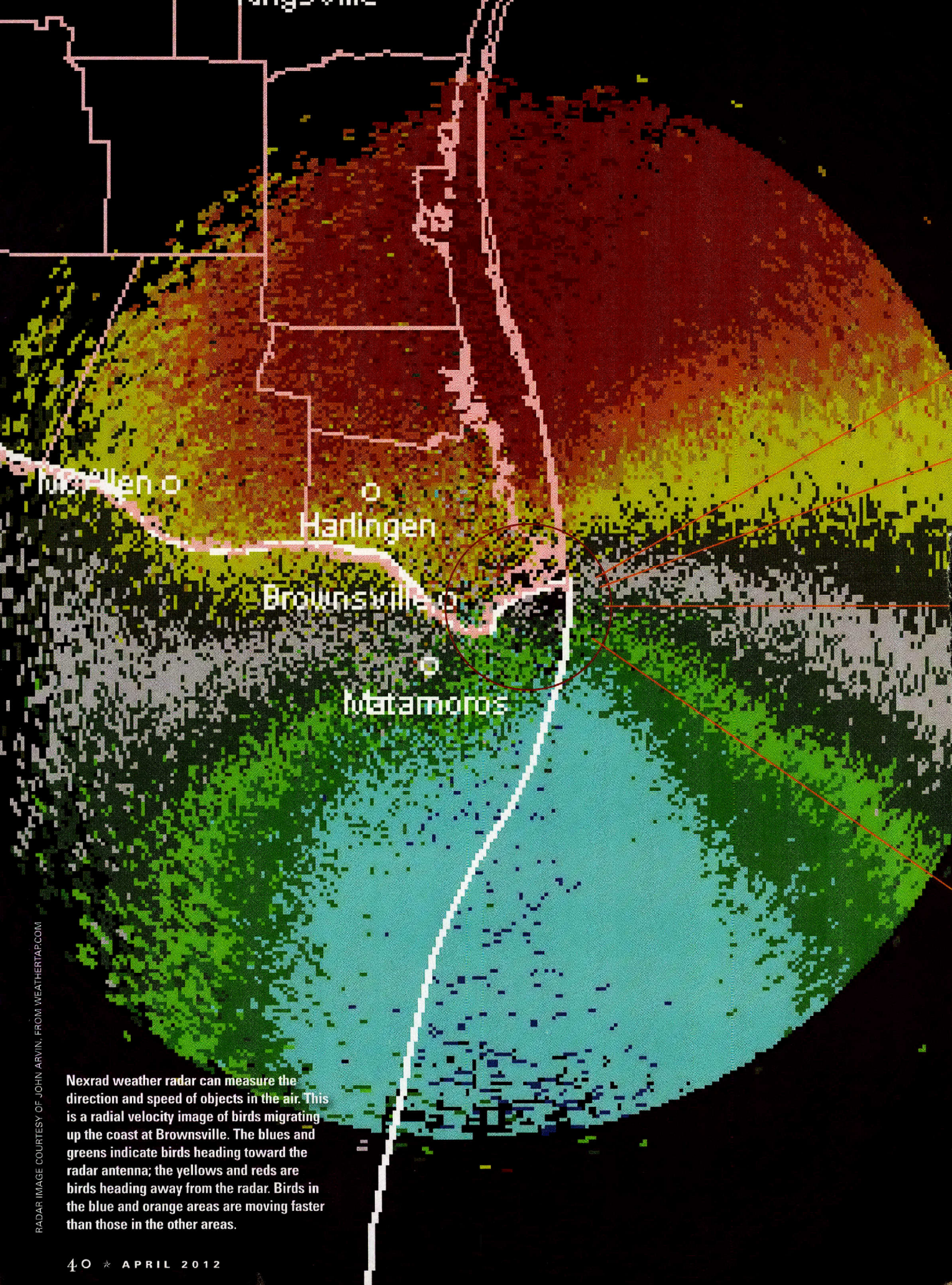
BEST PLACE TO PULL OFF THE ROAD

Cedar Hill State Park, just minutes from the skyscrapers of downtown Dallas, offers a serpentine 18-mile trail system for urban dwellers to escape from everyday life. "It's the best terrain a mountain biker or hiker could ask for," says Mercy McBrayer, special events and volunteer coordinator. The trail is maintained through a partnership with DORBA (Dallas Off-Road Bicycle Association), a hard-working, all-volunteer, nonprofit group.



PRAIRIE-CHICKEN BY ROLF NUSSBAUMER/ROLFN.COM; SAN JACINTO AND CEDAR HILL BY TPWD; MOTHER NEFF AND PADDLER BY EARL NOTTINGHAM/TPWD; LBJ RANCH BY CHASE A. FOUNTAIN/TPWD

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RADAR IMAGE COURTESY OF JOHN ARVIN, FROM WEATHERPAR.COM

Nexrad weather radar can measure the direction and speed of objects in the air. This is a radial velocity image of birds migrating up the coast at Brownsville. The blues and greens indicate birds heading toward the radar antenna; the yellows and reds are birds heading away from the radar. Birds in the blue and orange areas are moving faster than those in the other areas.

BY RUSSELL ROE

PHOTOS BY EARL NOTTINGHAM



RADAR'S EYE ON WILDLIFE

BIOLOGISTS HARNESS
WEATHER TECHNOLOGY
TO UNLOCK THE SECRET
LIVES OF BIRDS,
BATS AND BUGS.

THE NEXT TIME YOU WATCH THE WEATHER ON TV, YOU SHOULD KNOW THAT YOU'RE MISSING SOMETHING.

Something big. The bigger story of life in the air is being ignored — hidden behind the cheerful TV meteorologists, the warm air masses from the Gulf and the picture sent in by one of our viewers. In addition to tracking storms, weather radar picks up aerial wildlife — birds, bats and insects — but meteorologists routinely filter it out or skip over it.

That means you're missing the drama of life and death, grand voyages and great migrations, the great struggle of life across North America's aerial landscape.

Too bad for us. Now here's Tom with tonight's sports report.

It's all there on radar: Hill Country bats emerging on their nightly feeding forays, flocks of birds migrating across the Gulf of Mexico and hordes of insects being carried on winds high aloft. Even if meteorologists are ignoring it, biologists aren't. They're increasingly using Nexrad weather radar and other radar systems to gain new insight into animal behavior and to observe aerial wildlife in ways that were previously unachievable.

Winifred Frick, a biologist at the University of California-Santa Cruz, came to Texas last summer to count bats — millions of bats. She figured that if

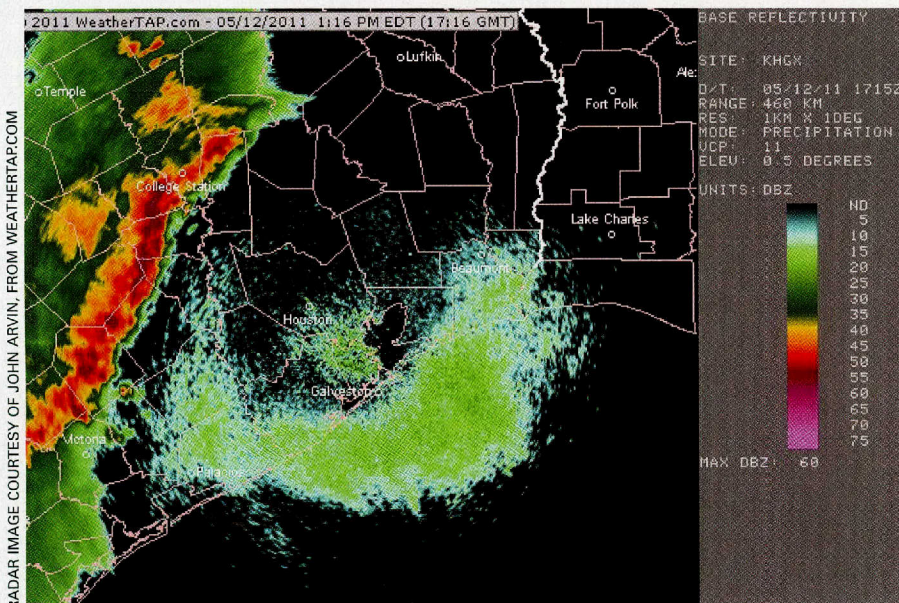
meteorologists could estimate the number of raindrops in a raincloud, she could find a way to measure the number of bats in a bat cloud. And if she could estimate the number of bats on a radar image, she could track whether bat colonies were thriving or in decline.

Frick's work dovetails with previous research done with radar, primarily involving birds. Sidney Gauthreaux, a professor at Clemson University in South Carolina, pioneered the field with his work on bird migration along the upper Texas coast. The use of radar to track bird migration and monitor bat movements has deepened our knowledge of wildlife and led to conservation actions such as purchasing bird migration stopover habitat, guiding wind farm locations and calculating bat benefits in agricultural pest control.

To accomplish her bat-counting task, Frick enlisted the help of Phillip Chilson, a University of Oklahoma meteorology professor who provided a storm-chasing radar truck, and Thomas Kunz, a Boston University bat biologist who brought his bat-counting thermal-imaging equipment.

The biologists and meteorologists

THE USE OF RADAR TO TRACK BIRD MIGRATION AND MONITOR BAT MOVEMENTS HAS DEEPEINED OUR KNOWLEDGE OF WILDLIFE AND LED TO CONSERVATION ACTIONS SUCH AS PURCHASING BIRD MIGRATION STOPOVER HABITAT, GUIDING WIND FARM LOCATIONS AND CALCULATING BAT BENEFITS IN AGRICULTURAL PEST CONTROL.



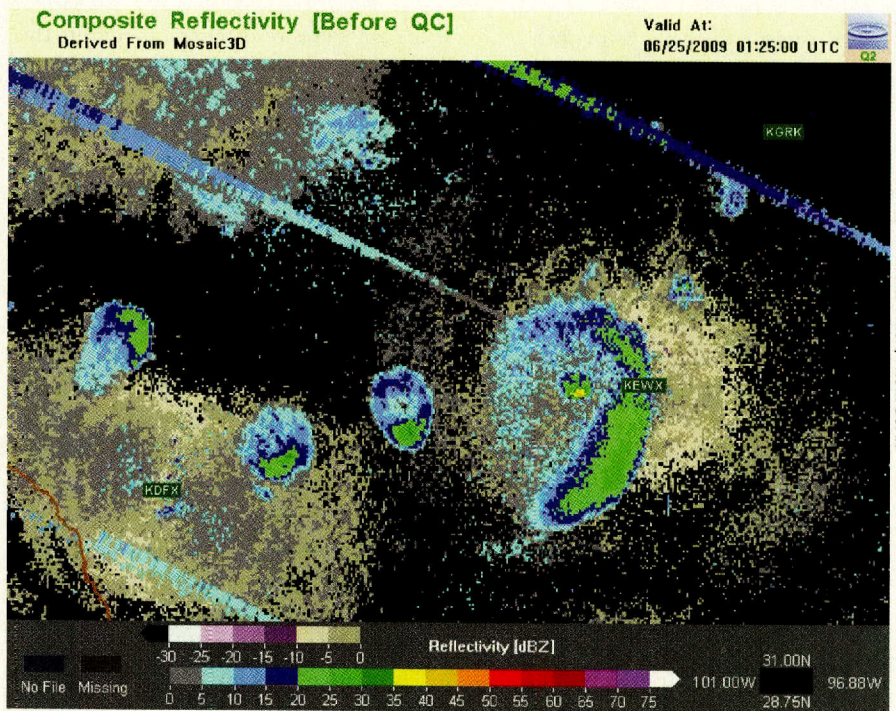
In this radar image, a spring squall line bears down on the Houston area on a collision course with a flight of migrating birds. The bright reds, yellows and deep greens are precipitation. The lighter green areas in front of the squall line are migrating birds hoping to get to shore before the storm hits. The storm will cause most of the birds to land, causing a "fallout."



Thomas Kunz, above, and other researchers gather at Frio Cave in the Hill Country to count bats and record their movements.



As evening approaches, large colonies of Brazilian free-tailed bats emerge from caves in the Hill Country and show up on radar, displayed here in green and blue. The largest is at Bracken Cave, far right, with San Antonio just to the south. The emergence at Bracken shows a first pulse of bats dispersing to the south/east over agricultural fields and a second pulse beginning to emerge. The other caves showing bat emergences, heading west, are Ney, Frio and Rucker caves. The straight lines are sun spikes caused by sunset hitting the radar at an angle.



converged on Frio Cave, which harbors one of the largest bat colonies in the U.S. and sits along the Frio River between Uvalde and Garner State Park in the Texas Hill Country. Kunz set up his heat-sensing gear outside the cave, near the top of a limestone ridge, to obtain a census of the bats as they left. Chilson parked his truck, normally used for tornado duty, in an agricultural field a few miles away to record radar images of the bats. They would later correlate their data and compare it with images captured by the weather radar station in New Braunfels to obtain a bat count.

For Frick, this method beats standing outside Frio Cave and counting to 1.5 million as fast as she can.

Before sunset, more than a million Brazilian free-tailed bats, also called Mexican free-tailed bats, started to swirl out of Frio Cave in search of that night's dinner. The bats flew for a short distance in one direction and turned to head south over the ridge. Then they dispersed. We couldn't see where they went, but the radar could.

"These are small animals, flying high

in the sky, and they're flying at night, so the ability to try to estimate the number of bats flying in the night sky hasn't really been possible," Frick says. "The radar really allows us to see a phenomenon that nothing else allows us to really visualize."

That night at the regional weather radar station in New Braunfels, the bats showed up as a colorful blooming image amid the hills and agricultural lands of the area. The radar picks up the bat emergences from more than a dozen Hill Country caves. "You can see them nightly sort of erupt, these huge blooms of radar reflectivity coming out of the ground," Frick says.

John Arvin, research fellow at the Gulf Coast Bird Observatory, tracks birds (and sometimes bats) on radar from his home in South Texas. He says watching the Hill Country bat emergences erupt on radar is "just like watching popcorn pop."

Jon Zeitler of the National Weather Service in New Braunfels says his office regularly gets calls from people who see clear skies outside but at the same time

observe a series of storms suddenly popping up on radar in the Hill Country. It's the bats.

Meteorologists filter out such biological data to focus on weather patterns, but biologists want to reverse that and study the radar castoffs — the biology of the sky.

Radar works by transmitting a signal into the atmosphere and listening for a returned signal. When the pulse hits a target, a small amount of the pulse is reflected back to the radar. The objects causing the reflection can be raindrops, birds, dust or anything in the atmosphere.

With a trained eye, observers can tell the difference between raindrops and birds on a radar image. "Big movements of birds have a particular stippled pattern to them," Arvin says. "You can easily distinguish between birds and rain showers because rain showers make these big, blocky-looking images that are strongest in the center."

The system of more than 150 Doppler radar stations provides biological and meteorological coverage over the whole country. And the archive of digital radar data goes back 20 years.

"There's a true wealth of data here," Chilson says. "In one sense, you could say this could be one of the largest biological repositories in existence."

Scientists at the U.S. Geological Survey are developing artificial intelli-

"THESE ARE SMALL ANIMALS, FLYING HIGH IN THE SKY, AND THEY'RE FLYING AT NIGHT ... THE RADAR REALLY ALLOWS US TO SEE A PHENOMENON THAT NOTHING ELSE ALLOWS US TO REALLY VISUALIZE."

gence software that will distinguish between birds and precipitation on radar, and they hope to dive into the Nexrad archive to develop models for the timing and routes of bird migration. USGS scientists have also formed a collaborative to share their radar research, including a project documenting migration patterns and stopover habitat in the borderlands of the Southwest.

Frick, Kunz and Chilson aren't just bat counters. They're also interested in how wind, rain and other factors affect the timing and direction of bat emergences, and weather radar gives them the answers.

Frick has used weather radar to study how drought and rain influenced bat behavior at Frio Cave. She looked at daily radar data and found that bats emerged earlier in dry years than in wet years.

"In dry years, they're more willing to face the increased risks of predation by emerging earlier because they have physiological needs that need to be met," Frick says. "In the wet years, they're more willing to wait till later to come out because they know they'll get full tummies."

That predation was on display on the night I visited Frio Cave. It was a dry year, and the bats were coming out when it was still light outside. As the bats emerged from the cave, a red-tailed hawk repeatedly dive-bombed into the bat cloud in an attempt to get dinner.

Kunz and Jason Horn of Boston University have tracked the migratory pulse of bats in Texas by studying archived Nexrad data. They observed radar activity over known bat sites for a period of months and found that as the bats arrived from Mexico, they tended to stop at bridge colonies, such as Austin's Congress Avenue Bridge, before moving on to the Hill Country caves. When they migrated back to Mexico, the pattern was reversed.

Spurred by radar images of bats and migrating moths thousands of feet in

the air, Texas researchers, including the Texas Parks and Wildlife Department, showed that Hill Country bats save farmers millions of dollars by gobbling up crop-eating insects, underscoring the need to protect large bat colonies.

The radar research being done on bats, birds and insects is part of an emerging discipline called *aeroecology*, which aims to unify the study of aerial wildlife the way marine biology did for the sea. Most people think of bat habitat as a cave and bird habitat as a forest or wetland. But birds and bats spend much of their time in the air, and *aeroecology* blends meteorology and biology to study the near atmosphere as habitat and to look at animal interactions there.

New developments in radar could very well mean major advances in the field. The next generation of weather radar, coming this year, is called *dual-polarization*, which will transmit waves vertically in addition to horizontally. It'll be like seeing in two dimensions instead of just one. Distinguishing between birds, bats and rain will suddenly get much easier.

Already, radar has helped unlock some of the mysteries of bird migration. Texas sits in a crucial spot for millions of migrating birds, and it's where the study of radar and wildlife really took off. Much of what we know about the details of bird migration we've learned from Gauthreaux and his radar studies along the Texas coast, Arvin says.

"He discovered pretty much everything that's known about it now — the timing, the altitude of flight, all those kinds of things that we kind of take for granted as common knowledge," says Arvin.

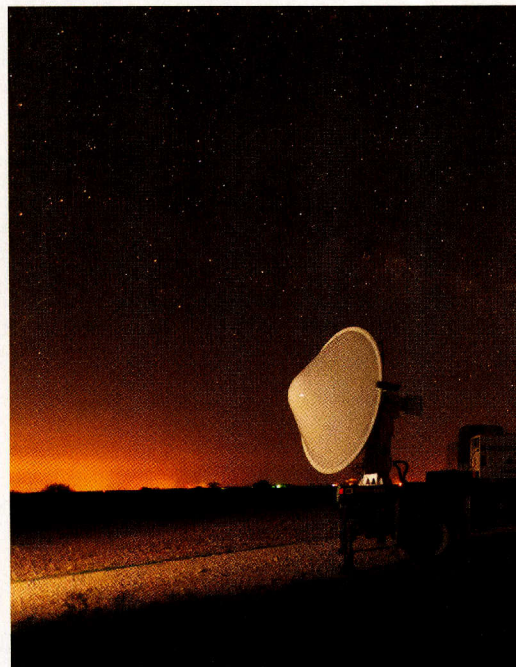
Gauthreaux's radar studies led to some major Texas conservation actions. Millions of birds cross the Gulf of Mexico in the spring on their way to their nesting grounds, and they need a place to stop and rest after the exhausting journey over the sea. Where do they stop? The upper Texas coast. Gauthreaux, using radar, was able to

map the important stopover sites for the birds, and the U.S. Fish and Wildlife Service targeted those areas for protection. The USFWS has acquired 20,000 acres under a land acquisition program spurred by the birds, and it hopes to acquire 50,000 more. The forested areas along rivers were found to be magnets for migrating birds — places that are vital for the birds to replenish their energy reserves so they can keep on migrating.

"What's been very important in Texas is protecting some of the important stopover areas in the greater Houston area — the Columbia bottomlands, adding sections to the national wildlife refuge, the Trinity River area," Gauthreaux says. "All of those are projects where weather radar showed them how critically important those stopover areas are. In terms of conservation achievements, that's one of the biggest for the state of Texas."

Watching wildlife on radar isn't new, but it's gaining momentum. Gauthreaux thought he could see birds on radar even as a high school kid in New Orleans in the 1950s. The development of digital Doppler radar in the early 1990s revolutionized the field. The Doppler technology meant that researchers could determine the direction and speed of objects in the atmosphere, and Doppler's digital aspect meant they could download files and store them easily (Gauthreaux no longer had to take

THE RADAR RESEARCH BEING DONE ON BATS, BIRDS AND INSECTS IS PART OF AN EMERGING DISCIPLINE CALLED AEROECOLOGY, WHICH AIMS TO UNIFY THE STUDY OF AERIAL WILDLIFE THE WAY MARINE BIOLOGY DID FOR THE SEA.



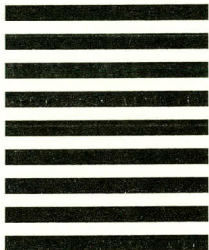


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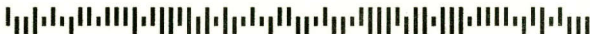
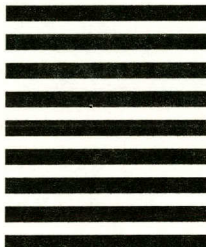
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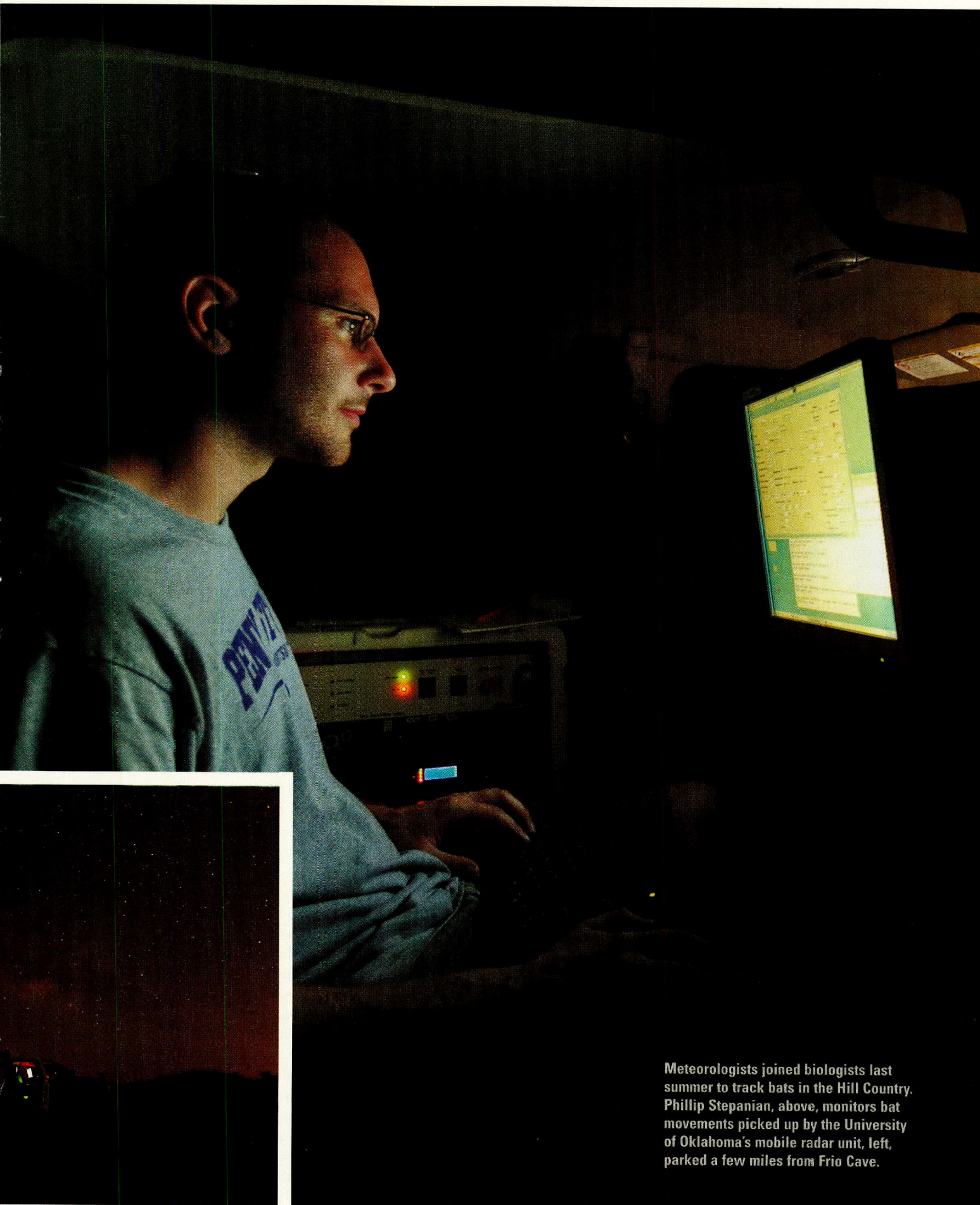
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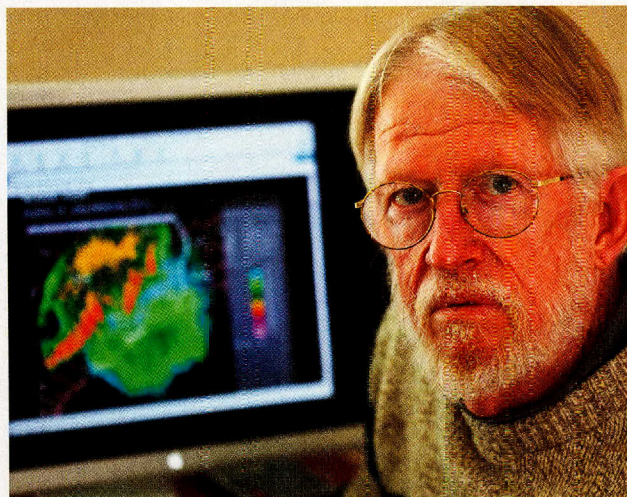
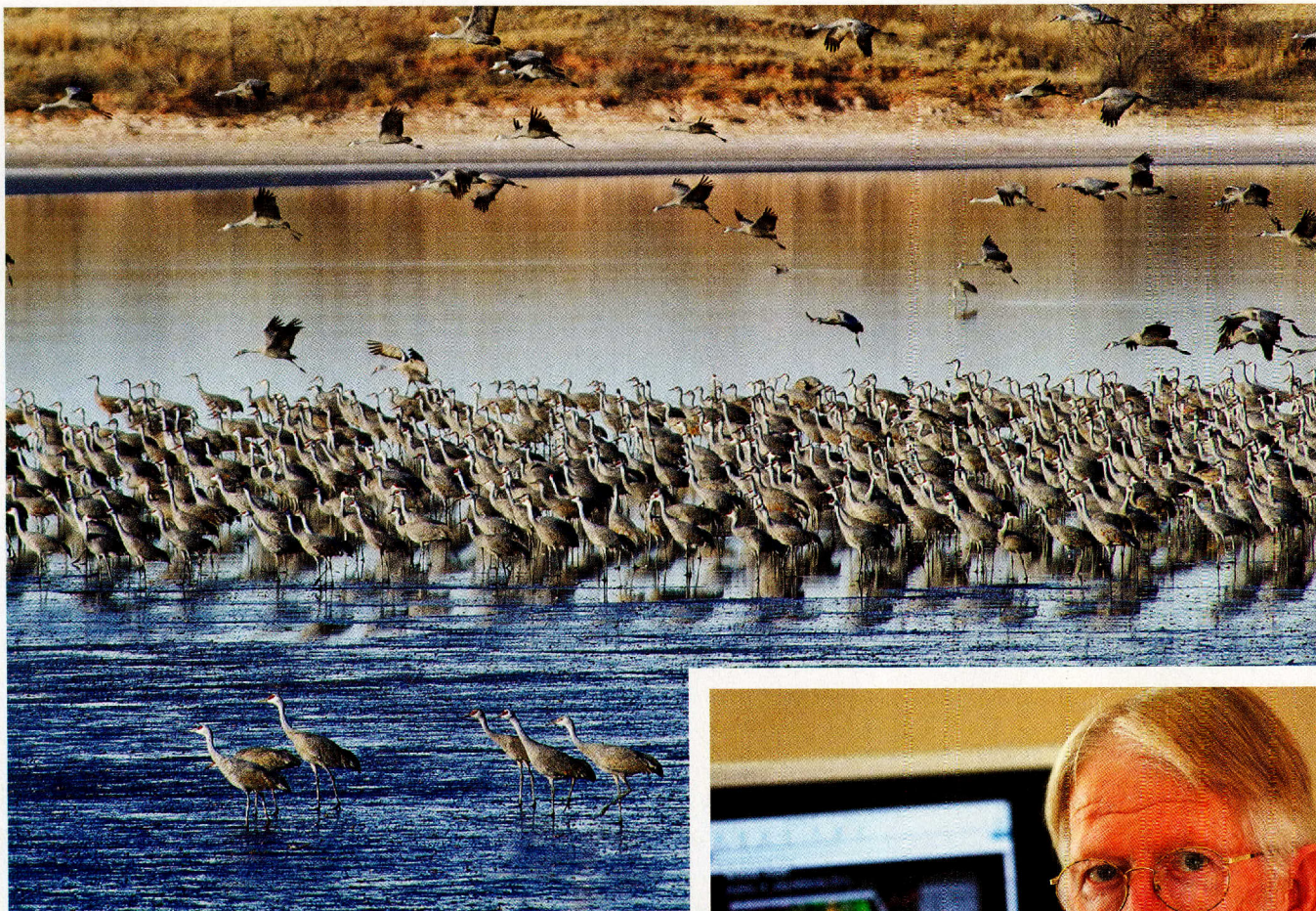
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about Dad too.)

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Meteorologists joined biologists last summer to track bats in the Hill Country. Phillip Stepanian, above, monitors bat movements picked up by the University of Oklahoma's mobile radar unit, left, parked a few miles from Frio Cave.



ARVIN USUALLY STOPS DOING HIS DAILY REPORTS IN EARLY MAY, BUT LAST YEAR A LATE STORM GOT HIS ATTENTION: INCOMING TRANS-GULF MIGRANTS WERE ABOUT TO REACH THE COAST JUST AS A LINE OF THUNDERSTORMS WAS MOVING INTO THE AREA — PRIME CONDITIONS FOR A FALLOUT.

John Arvin uses weather radar to keep tabs on birds moving through Texas during spring migration. He posts regular reports for bird watchers.

photographs of the radar screen). Plus, everything was now in color. The advent of the Internet meant anyone could have access to radar images.

Radar can help bird watchers, too. Several areas of the country have radar watchers who relay their findings to local birders. Arvin, the ornithologist and research fellow, makes a daily radar report on a Texas bird-watching listserv during spring migration to help bird watchers plan their outings. He lets avid birders know what he's seeing as migrants make their way across the Gulf. He's especially alert to weather events that may cause the birds to land, called a "fallout." Such events may not be optimal for the birds, but for Texas bird watchers, it's the time to break out the binoculars.

Arvin usually stops doing his daily reports in early May, but last year a late

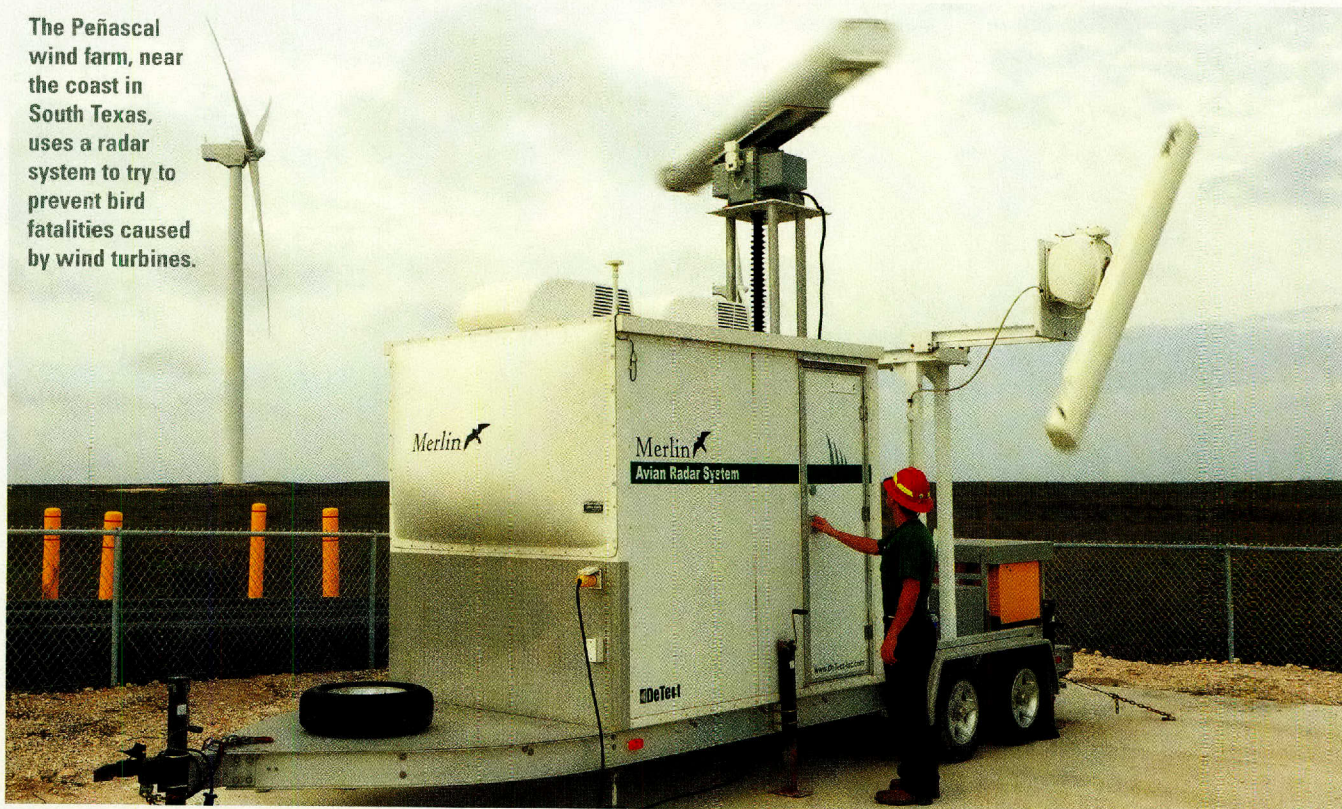
storm got his attention. Incoming trans-Gulf migrants were about to reach the coast just as a line of thunderstorms was moving into the area — prime conditions for a fallout.

"There is ... an honest to goodness squall line that stretches from Laredo through College Station," he wrote. "All three Texas radars are showing incoming migrants on a collision course with this line of strong to severe thunderstorms. ... The birds will be in a fallout mode this afternoon along the coast is a foregone conclusion."

Birders took note. It was "very birdy this morning," one poster commented on the listserv the next morning. A warbler watcher noted: "What a morning!"

Arvin uses a tool we've all grown accustomed to from our couches and easy chairs as the TV weatherman waves

The Peñascal wind farm, near the coast in South Texas, uses a radar system to try to prevent bird fatalities caused by wind turbines.



his hand along a weather map showing the weak cold front moving across the nation's midsection. It would be great to see Arvin in front of a television camera, with blotches of migrant birds flapping across the gaping Gulf, predicting cloudy skies and a 90 percent chance of warblers at High Island.

As with bats, bird migration presents particular challenges for study. Many migrating birds travel at night, when the atmosphere is more stable but when direct observation is impractical. And they travel at altitudes where direct observation is challenging.

Biologists such as Gauthreaux are using radar to determine basic biological questions about birds and migration — when they migrate, the magnitude of yearly migration, how weather affects migration.

"Birds are incredible at being able to detect the most favorable altitude to migrate, based on the structure of winds aloft," Gauthreaux says. "Radar was really instrumental in allowing us to discover that."

And they're working on direct applications, too — using the knowledge to guide wind farm locations and prevent bird-aircraft collisions. By knowing migration corridors and influences on migration, wind farms

can be placed where they will have the least impact on migrating birds, and airports can go on alert when migration is at its peak.

When wind farm companies started proposing projects along the coast, Kathy Boydston of the Texas Parks and Wildlife Department started worrying about the birds.

"We funded one of the first attempts of using radar to track the bird migration corridors along the Texas coast," Boydston says. "Basically what we were trying to do is track to see what influence weather and vegetation and topography had on migration corridors." She wanted to use that knowledge to help guide the decisions made by wind companies.

The winds that help the birds during migration are the same winds that companies want to harness to produce power. That's the conflict. The coastal Peñascal energy farm was built in a migration corridor but made a concession: In what's believed to be a first for the nation, it's putting radar to use to avoid bird fatalities. The wind farm uses a radar system to detect incoming birds and analyze weather conditions, and if the birds are in danger of flying into the turbines, the turbines will be shut down.

TPWD gave a grant to Eart Ballard of

the Caesar Kleberg Wildlife Research Institute at Texas A&M-Kingsville to track birds along the coast. He set up mobile radar units — smaller than Nexrad and better for tracking individual animals — at the King Ranch and the Laguna Atascosa National Wildlife Refuge in 2007, 2008 and part of 2009. What did he find?

"We learned that we've got one of the highest migration passage rates in the world here along the Texas coast," Ballard says. Warblers, ducks, hummingbirds, swallows and raptors — they're all flying through.

Ballard has been analyzing the results to learn more about birds and weather and is hoping to fire up the radar system again for more migration studies.

With biology's expanding role in radar, is it time to rethink the main purpose of radar? Chilson, the Oklahoma meteorologist, offers this thought about what the future might hold as radar biology spreads: "With time, people might start calling these 'environmental radars' instead of 'weather radars'."

Either way, the next time you watch the weather on TV — after the city council news and before the nightly basketball scores — be sure to think about the birds and the bats. ★

Unconquerable Soul

*Armed with passion
and tennis shoes,
Geraldine Watson
helped preserve the
Big Thicket.*

By Ron Kabele

I first met Geraldine Watson while shooting a story about the decline of the hardwood bottomlands in East Texas. I was a young photojournalist, unaware of the volatile history between environmentalists and the local timber companies, but I'd heard about Watson's conservation efforts and wanted to hear her story.

Watson is a legendary East Texas botanist. She's one of the folks instru-

mental in the creation of the Big Thicket National Preserve and the author of *Big Thicket Plant Ecology*, the bible of East Texas botany. Among plant people, she's a rock star.

"What interests me most about the Big Thicket is its diversity," Watson says. "There are at least nine different plant associations here, which are totally distinct, yet so close together, that you can literally walk from swamp to

desert in a few yards."

Watson, now in her mid-80s, was born in the days when the forests were still virgin, before the lumber companies came. On Sunday afternoons, she and her mother would go walking in the woods, picking birdfoot violets and winecups. Her mom would point out plants and explain their uses — some provided fiber to make cloth, others could be used for dyes or medicines.

Watson's father, who worked at a lumber mill, would take her up and down the streams, through the woods and across the wildflower meadows. She learned each species of tree, each phylum of flora. At a very young age, she was taught to appreciate the natural world surrounding her.

"The perfection that's in the balance of nature is empirical evidence of the creative genius of God," Watson says. "He set it up. Whether he used the process of evolution, or whatever process he used, I don't know and I don't care. But nevertheless, once you get to know all the intimate details of all this, it's incredible."

As Watson grew older, her fascination with flora grew deeper. She would disappear into the Big Thicket for days at a time, cataloging rare plants, collecting samples and learning the intimate details of each species. Though she would be the last to acknowledge it, Watson would come to know as much about the ecology of the Big Thicket as any living human.

"I never planned to be a botanist," she admits. "I never planned to be an ecologist or a park ranger. I just seemed to drift into things."

Over the years, Watson had become camera-shy. A few weeks before my visit, she had declined my invitation to be interviewed on camera. But on the day I came to videotape a group of biologists, she arrived with her son David. The two sat in a corner of the cavernous room where my video gear was set up.

I got ready to test my audio and speak into the microphone. I don't like the standard "testing, testing, one, two, three," so I always recite *Invictus* by William Ernest Henley. I memorized it in third grade, and the poem is still in my brain after all these years. *Invictus* is famous for its empowering message of self-mastery, a metaphysical journey meshing one's mind, body and spirit into a higher enlightenment of being.

I put on my headphones and began my microphone check.

"*Out of the night that covers me, black as the pit from pole to pole ...*"

Watson's head came up and her eyes turned my way.

"... *I think whatever gods may be for my unconquerable soul.*"

She rose out of her chair and walked in my direction.

□□□□□

The decline of the Big Thicket started while Watson was still a child. Huge old-growth forests were clear-cut to fuel the fires of progress. This fueled

the fire of Watson's activism. By the 1960s, 90 percent of the virgin forests in the Big Thicket were already gone. That's about the time the Big Thicket Association was formed; Watson was a founding member.

"In the old days, there were very few people like me," she says. "We were called 'those little old ladies in tennis shoes.' Did you ever hear that term?"

One of Watson's biggest contributions to the effort was her work defining the treasure the volunteers sought to preserve.

"How are we going to save the world if we don't understand what makes it what it is?" she wonders.

Those little old ladies in tennis shoes turned out to be a formidable group. Maxine Johnston was a member.

"The eight ecosystems that she put together were distributed among all of the scientists and the conservationists," Johnston says. "That gave everyone a better understanding of what we were trying to save and why we were trying to save it. I think her contribution was just immeasurable."

Still, it took a decade of contentious negotiation with the powerful timber

and oil companies for Congress to create the national preserve in 1974.

□□□□□

I continued speaking, adjusting my audio levels.

"*In the fell clutch of circumstance, I have not winced nor cried aloud.*"

Under the bludgeoning of chance, my head is bloody but unbowed."

Watson now stood next to me. Her small stature belied her intimidating presence.

"*Beyond this place of wrath and tears looms but the horror of the shade.*"

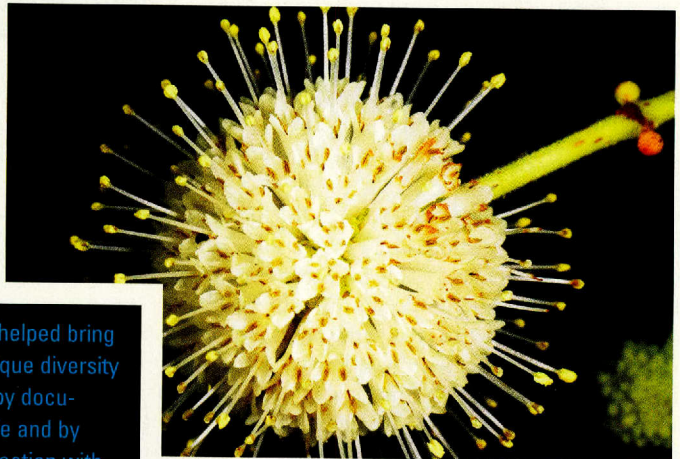
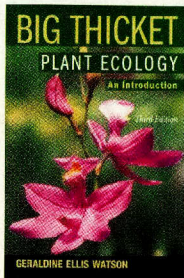
To my surprise, Watson began to recite the poem along with me.

"*And yet the menace of the years finds and shall find me unafraid.*"

The two of us spoke in a synchronized duet. She emoted a passion I have never felt. I forgot about the microphone check.

□□□□□

Many people were dead set against the idea of a Big Thicket National Preserve. Sides were drawn, pitting neighbor against neighbor. Advertisements in newspapers claimed the government would take people's homes, landowners would lose their oil royalties and hunt-



Geraldine Watson helped bring attention to the unique diversity of the Big Thicket by documenting its plant life and by pushing for its protection with a group of activists. Below, Watson is second from right.



PHOTOS COURTESY OF MAXINE JOHNSTON; PLANT © PAUL V. ROLING

ing and fishing in the region would cease.

Watson and her five children faced harassment and rejection in their East Texas community in the decade before the Big Thicket National Preserve was finally established. Ten years can seem like an eternity when you are living a life in conflict.

"It wasn't a smooth path, and there was controversy involved," Johnston says. "So Geraldine struggled to get this message across, but she was victorious. She talked to groups, and she was so good at explaining what was unique about the Big Thicket. She was as comfortable testifying to congressional subcommittees as she was talking to Audubon groups."

Once the national preserve finally opened, the storm surrounding her family began to lift. But the emotional damage had been done, and her family had the scars to prove it. Bitter feelings and regrets ensued.

"Those 10 years ... you have no idea what my children went through," Watson recalls. "I often think that I am not proud of anything I have done. As my children have grown up and grown older, and my husband is gone, I think of all the days and the hours that I spent out in the woods and the fields with other people when I could have been spending time with them."

□□□□□

Together we finished the last two lines of the poem.

"It matters not how strait the gate, how charged with punishments the scroll.

I am the master of my fate. I am the captain of my soul."

She was radiant. She was happy. She was legendary. The entire incident lasted only a moment, but has stayed with me for almost two decades now.

□□□□□

As in *Invictus*, Watson's head was bloodied but

unbowed. A few years ago she made a choice to end her activism and decided to spend her remaining years on a small tract of land outside the town of Warren. Watson's still trying to save the world — only now she's limited her efforts to these 10 acres, which she calls the Watson Rare Native Plant Preserve, named in memory of her late husband.

Here on her property, Watson is not alone. She has found peace and purpose, at one with her land and her higher power.

"All around us there are little spots like this," she points out. "If we just look for them and protect them and appreciate them, we'll always have them."

What she's done here at her preserve is remarkable, providing tangible proof that land can be restored and ecosystems can be revived. Season by season, Watson has transformed her property into a botanical showplace. She has continued her mission of "preserving empirical evidence of the creative genius of God" in her own backyard.

"The loss of each plant, or each animal takes us, and me personally, closer to extinction," she says. "We're all part of the chain of life."

If we truly are products of our memories and experiences, I am so much richer because of Geraldine Watson. And before every video shoot, as I do my microphone check and recite *Invictus*, I think very fondly of that little old lady in tennis shoes. ★

To learn more about Watson and her life in East Texas, visit the Texas Legacy Project website at www.texaslegacy.org/bb/transcripts/watsongeraldinetxt.html. Watch the author's video about Watson, filmed on location at her refuge, the Watson Rare Native Plant Preserve, at www.youtube.com/watch?v=4jchjWV_7G0.

(continued from Page 25)

Miller's Seawall Grill, specializing in Cajun-seasoned grilled items. It's the kind of history-filled, homey eatery that one expects to find in Galveston.

The afternoon calls for a return to the historic Strand District to visit a few shops and explore some of the city's hundreds of preserved historical brick commercial structures. On the way, I consult the Tree Sculpture tour brochure's 19 addresses where one can view whimsical sculptures carved from the stumps of majestic trees felled by Hurricane Ike's winds or the salty storm waters that inundated much of the island. We stop for a look at a couple of these remarkable carvings in one of Galveston's historical neighborhoods.

On the Strand, one Galvestonian points out a painted line on an exterior wall 8 feet above street level that marks the height of Ike's floodwaters. I happen to meet the owner of the 1894 J. D. Rodgers Building (Trolley Station), who, according to the personal account on display inside, rode out the storm with his wife on the third floor. "We endured a terrible night. I thought it would never end," they wrote.

As bad as Ike was, the deadly Storm of 1900 was far worse. To get some sense of the horror Galvestonians endured more than 100 years ago, we head to a small theater at Pier 21 showing the recently digitized film chronicling the awful night when thousands of islanders perished. It's a must-see to truly understand what Galveston has endured and appreciate its survival instincts and robust civic pride.

Few stories of Galveston's indomitable spirit can match that of the resurrection of the 19th century tall ship *Elissa*, moored today in the Galveston Harbor next door to the Seaport Museum. City philanthropists and volunteers spent countless hours

during a two-year restoration effort to meet the July 4, 1982, opening deadline.

Standing on the *Elissa*'s polished deck and prowling the officers' quarters below, it's easy to see why it was designated a National Historic Landmark in 1991. We chat with Capt. Dave Parker and watch a gigantic cruise ship departing the harbor, dwarfing the *Elissa*. Parker notes that true sailing aficionados may want to take one of the *Elissa*'s springtime day cruises or overnight excursions.

With rain pounding down and water rising along Seawall Boulevard, we decide to stay dry and eat at the Galvez's celebrated Bernardo's Restaurant. It proves to be a stellar decision.

No trip to Galveston is complete without a visit to the city's iconic Moody Gardens, whose three glass-covered pyramids catch the eye of motorists crossing the causeway onto the island. Moody Gardens features two IMAX theaters, the Aquarium Pyramid, the Discovery Pyramid and the Rainforest Pyramid. I want to see how \$25 million in recent enhancements have transformed the 10-story Rainforest Pyramid.

Paths wind both through the jungle-like environment on the pyramid floor and above on a new elevated walkway in the tree canopy teeming with tropical birds, butterflies, monkeys and other critters. We stroll through a walk-in butterfly exhibit and later get within an arm's length of the white-faced saki monkeys and cotton-top tamarins. Back on the rainforest floor, I find the delicate orchids and other bizarre flora indigenous to Africa, Asia and the Americas.

Leaving Galveston under what are finally blue and sunny skies, I can't help but wonder why it's been so long since I set my watch to "island time." ★

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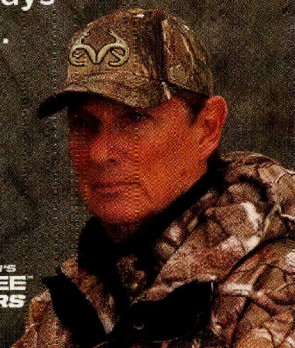
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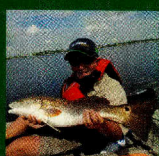
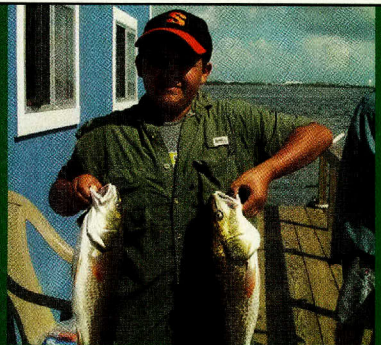
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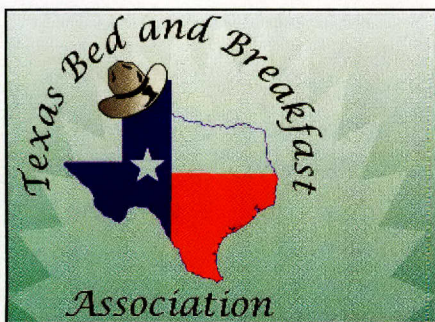
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IMAGE SPECS:

Canon 7D camera with a 100mm Macro lens, f/16 at 1/200 second, ISO 400

In nature photography, "getting the shot" is a lot more involved than just using the appropriate camera settings. Knowledge of an animal's natural history will greatly increase a photographer's chance of success. Luckily for Seth Patterson, rains in the Lower Rio Grande Valley provided the perfect opportunity to document one of the region's amphibians, the Rio Grande chirping frog. Patterson heard the soft, peeping call of the frog and slowly closed in on his subject until he got his shot.

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