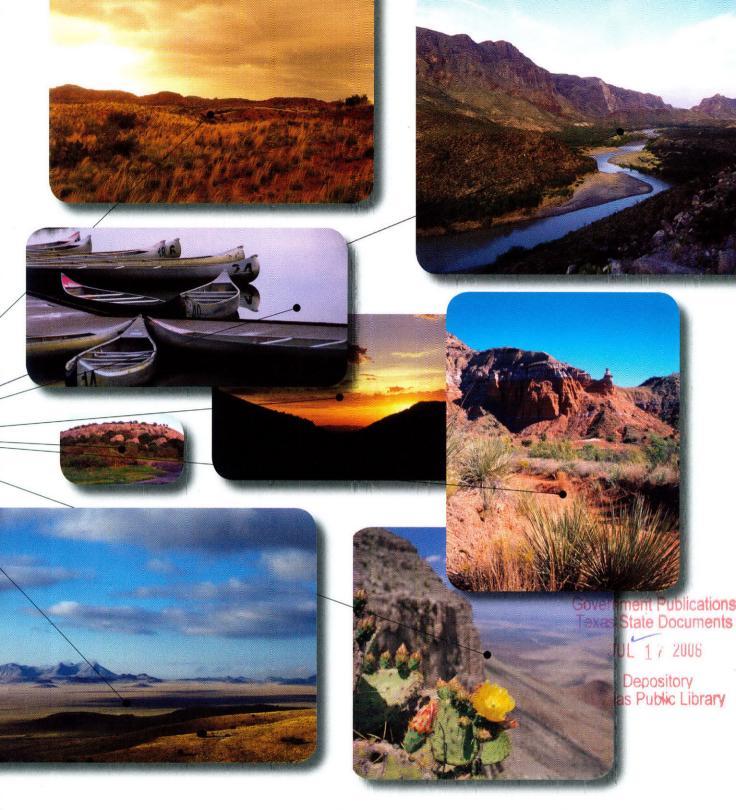


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to Point B, C, D, E, F, G, H, I, J,



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CONTENTS

M A Y 2 0 0 6

Features

30 2006 Great Texas Birding Calendar

By Shelly Scroggs Plante
A whole year's worth of birding fun.

Red-cockaded Stranger By Henry Chappell

These rare woodpeckers often live in homes inherited from their grandparents and protect their nests with a novel weapon — pine sap.

44 Wind Power Surges in Texas

By Karen Hastings

Wind farms deliver pollution-free renewable energy, but their potential impact on wildlife remains largely unknown.

50 Crappie Days Are Here Again

By $Larry\ D.\ Hodge$ Anglers sing the praises of a fish that is fun to catch and even more fun to eat.

54 Stocking Up

By Larry D. Hodge

Hatchery-raised fish keep rods bowed all over Texas.

It's definitely time to see for yourself: Life's better outside! For the latest information on Texas' parks and wildlife, visit the department's Web site: <www.tpwd.state.tx.us>

Departments

6 At Issue By Robert L. Cook

8 Mail Call

Our readers share their ideas.

10 Scout

The latest conservation news and events.

10 ISLAND BUILDING

By Marsha Wilson Rappaport

About 2,000 acres of new bird habitat have been created out of dredge material.

12 PICTURE THIS By Earl Nottingham

The photograph as trophy: There's no greater prize than a memory well preserved in a picture.

13 HOUSTON'S BAT BRIDGE

By Wendee Holtcamp

Bat coalition hopes to turn the Waugh Drive bridge into an ecotourist attraction.

14 PARAKEET PROLIFERATION

By Betsy Simnachei

Monk parakeets are experiencing steady population growth — and showing up all over the state.

18 SKILL BUILDER By Larry D. Hodge

Lilliputian insects may restrain giant salvinia better than humans can.

19 FIELD TEST By Gibbs Milliken

Two digital camera systems that will help you shoot like a pro.

20 Three Days in the Field

By Randy Brudnicki

From top-notch birdwatching to eye-popping art to spicy cuisine, McAllen delivers delights for all your senses.

58 Legend, Lore & Legacy By Eileen Mattei

Valued since ancient times by humans and wildlife, salt lakes remain one of South Texas' oddest natural marvels.

65 Sights & Sounds

Check out Texas Parks and Wildlife's television and radio schedule.

66 Park Picks

Recommended stops along the road less traveled.

72 Parting Shot By Mike Sloat

Covers

FRONT: A ruby-throated hummingbird takes aim at a sunflower. Photo © Larry Ditto. To order a copy of the book Hummingbirds of Texas, go to <www.tamu.edu/press/ BOOKS/2005/shackelford.htm>All proceeds from sales of the book benefit TPWD nongame wildlife programs.

BACK: Waiting for the perfect light at the World Birding Center's Willow Lake Overlook.
Photo © Larry Ditto.

Previous spread: This checkered setwing dragonfly rests a moment on a wildflower. Photo © Larry Ditto.

This page: The gorgeous Costa's hummingbird is rarely sighted in Texas Photo © Larry Ditto.



MAY 2006, VOL. 64, NO. 5

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In the Field

SHELLY PLANTE, TPWD's nature tourism coordinator, developed the Great Texas Birding Calendar featured in this issue. She has worked on our annual birding issue for the past eight years, and most of that time, she coordinated the Great Texas Birding Classic, a birdwatching tournament on the Texas coast. Now sponsored by The Gulf Coast Bird Observatory, this event raises awareness of avian habitat conservation needs on the coast. With a background in geography and environmental studies, Plante works with everyone from

landowners and community leaders to tourists visiting Texas for wildlife viewing and outdoor experiences. She represents TPWD at landowner and community development workshops statewide and manages the TPWD Expo's wildlife viewing area to showcase nongame, urban and endangered species.



NOREEN DAMUDE, ready to make her yearly pilgrimage to the Texas Gulf Coast, is no stranger to the avian delights and surprises in store for her come mid-April during peak spring migration. As one of three judges for the annual Great Texas Birding Classic, she gets to learn firsthand what specialties pop up along the coastal corridor from South Texas to the Eastern Pineywoods. When not traveling (typically in pursuit of new birds and unusual plants), she works as a free-lance environmental consultant, specializing



in writing up physiographical descriptions of private properties for homeowners or landowners anxious to learn more about the flora and fauna on their property. She also writes the occasional article for TPWD and works part-time in the cataloguing department of the Perry- Castañeda Library at the University of Texas at Austin.

JOHN R.MEYEK is a 5th generation Texan who has hunted and fished from Salt Flat in the West to Palacios on the Gulf Coast. Meyer now lives in Fort Worth, but grew up in Houston, first developing a sense of the magnitude of the Texas outdoors during childhood vacations driving from Houston to El Paso with many diversionary stops in between to break up the trip. As he explains, "I knew from an early age that I wanted to

spend as much time outdoors as I possibly could; to get to write about it is a privilege. My favorite subjects to write about are the very ones I once wondered about but knew nothing about. I hope every reader has that same curiosity and develops their own ability to discover. Meyer's writing has been published in Texas Parks & Wildlife magazine and in Fort Worth magazine.



AT ISSUE

FROM THE PEN OF ROBERT L. COOK

A reporter called me the other day from Washington, or somewhere like that, to ask some questions about "Virtual Hunting," those Web sites that make it possible to actually fire a rifle somewhere out in the boondocks and shoot an animal by clicking the mouse. The writer asked if I wanted to comment. My initial reaction was to say, "No, it's disgusting, and our Commission and Legislature have prohibited it in Texas." But, since I am older and wiser these days ... OK, I'm older anyway ... I decided that I would comment and I told them something like this.

"In my opinion, hunting is not just about killing an animal; it never has been to me ... ever. Hunting is about getting outside, seeing and learning about the plants and the animals that have survived and evolved out there since the beginning of time. Hunting is about sunrises and sunsets. Hunting is about the sounds, and the quiet of the outdoors. Hunting is about the cold and the hot, the wet and the dry. Hunting is about sitting out in the open in the rain ... just because you like it; or feeling the sleet hit your face. Hunting is about the pleasure of being with friends

and family around the camp, and strong black coffee, and the never-ending game of dominos, and frost so thick it cakes up on your boot laces. Hunting is about the coyote's song just after sunset and that spooky laugh of the barred owl in the night. Hunting is about having a very deadly weapon in your hands, and having the ability to use it effectively. Hunting is about making the decision, taking the responsibility, of whether or not to kill that animal and then acting on that very personal decision one way or the other. If you decide to harvest that animal, then you must make a quick, clean kill, and you must utilize all of the edible meat from that kill. I don't think "hunters" necessarily start out that way; I did not. But over time, hunting became a very personal experience for me, and I became fully aware of the choices that I make while hunting and the personal responsibility that comes along with the decision to go into the outdoors fully armed and licensed to kill game animals. To appreciate the experience and the responsibility that comes with hunting you must reach that point where you consciously make the decision to harvest that animal or to let that animal pass for whatever reason."

Hunting is about sitting out in the open in the rain ... just because you like it; or feeling the sleet hit your face. Hunting is about the pleasure of being with friends and family around the camp, and strong black coffee, and the never-ending game of dominos.

My comments got edited along the way and they published the following:

"It is very clear from the actions of both the Commission and the Legislature that the concept of remote control hunting is viewed with great distaste in Texas by a vast majority of the state's hunters and citizenry. Hunting is not just about killing. It is a personal decision that involves responsibility and a level of respect toward the animal being hunted and the environment that we share." I kind of like the way they said it.

I love to hunt. I enjoy hunting. Folks always ask, "Did you kill anything today?" and about 99 percent of the time the answer is "No." My wife, who has known me for almost 50 years, now asks "Did you enjoy getting outdoors today?" and the answer is always "Yes." Every once in a great while, I even bring home some venison, or a mess of quail or a couple of mallards for the table. It depends.

Get outdoors. Enjoy.

EXECUTIVE DIRECTOR

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To manage and conserve the natural and cultural resources of Texas and to provide hunting, fishing and outdoor recreation opportunities for the use and enjoyment of present and future generations.

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PICKS, PANS AND PROBES FROM OUR READERS

FOREWORD

The month of May brings many wonderful things to our state: birds galore (see "Sky Trek" on page 24), Mother's Day, Memorial Day, the end of the school year, wildflowers. People often rattle on about the marvels of spring, but precious little attention is paid to the other side of the coin: the dangers of spring.

A few years ago, while driving along Houston's lush and curvy Memorial Drive, a beautifully landscaped esplanade caught my eye — and I veered into oncoming traffic.

My final words on this planet were very nearly, "How look, pretty flower"

My final words on this planet were very nearly, "Hey look, pretty flower." Fortunately, I steered back into my lane in time, spending the rest of the drive trying to calm down my frazzled passenger.

Even if you're not easily distracted by shiny objects and splashes of color, it's a good idea to be extra vigilant this time of year. Thousands of people stop along the highways every spring to take snapshots of children half-buried in bluebonnets. I wouldn't dream of discouraging anyone from participating in this annual rite of extreme cuteness — just be careful out there.

And if the wildflowers don't get you, there are baby birds all over the place. Last year, I saw a tiny mockingbird on the ground in my backyard. I knew better than to try and pick it up, but I did try to shoo it back into the yard where it came from (and away from my dog) through the chain-link fence. Not only was the bird unimpressed by my attempts at shooing, it was downright annoyed. The little mocker charged me and pecked me on the hand. So much for gratitude.

Of course, you should always be on the lookout for snakes, whether you live in Dallas or Marfa. The best way to avoid a snake bite is to never put your hands or feet anywhere you can't see clearly, particularly around rocks, fallen limbs and in piles of leaves. Come to think of it, that's probably a pretty good tip even if there aren't any snakes around.

Oh, and be on the lookout for squirrel babies falling from the sky. Again, this may be the type of thing that happens only to me. In late spring, I found a large squirrel's nest on the ground in my backyard. Scattered around it were four hairless baby squirrels. I was pretty sure they were dead. As I tried to figure out what to do, one of them emitted an ear-piercing call, and Mama Squirrel appeared atop a nearby fence, shouting at me. I backed away from the nest, thinking the mother would come down and check on her babies. Instead, she bolted down the fence and made a beeline straight for me. I backed off a few more feet. Amazingly, she then proceeded to pick up each baby by the tail and carry it somewhere high up in the tree out of sight. Despite a fall of at least 30 feet, all the babies survived. I never knew squirrels were so tough.

For guidelines on what to do if you encounter an orphaned or injured animal, visit <www.tpwd.state.tx.us/huntwild/wild/rehab/orphan/>. Have a safe and happy spring.

ROBERT MACIAS EDITORIAL DIRECTOR

Robert macias

LETTERS

FUNDING STATE PARKS

The April 2006 edition of TP&W had a very sad letter in Mail Call that suggested the park system support itself. "Let those who use the parks pay for them." I doubt

there would be many who could afford to use the parks should that ever be the practice.

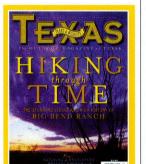
Next was the comment, "We don't pay for someone to go to the movies do we?" Let me mention a few of the things we pay for someone else to do.

I rarely eat out, but a portion of my taxes goes to support the board of health that keeps an eye on restaurants, making them safe for other people. My kids are out of school, but the lion's share of my property taxes goes to fund schools. My taxes also

fund the local fire department, but I've never had a fire at my house. That means I have to pay to put out a fire at someone else's house.

The simple fact is, as a poet oncesaid, "No Man is an Island." Thankfully, that's still true.

> TONY GRISOLIA Van Alstyne



The April 2006 issue of TP&W had a very sad letter in Mail Call that suggested the park system support itself.

Tony Grisolia Van Alstyne

WE ALL SHARE PARKS

In answer to Cliff Wilson's letter on funding for state parks, the following questions could be asked:

Why shouldn't the school system support itself? Let those that use the schools pay for them. Charge what it takes to operate the schools.

MAIL CALL

Why should someone that has no need for the schools, no school-aged children, pay for someone else's usage? I've paid for Cliff to go to school. Cliff should pay for me to use the park.

In reality, the answer lies in the fact that everyone benefits from the Texas state park system whether they know it or not. The state parks bring revenue into a community that never sees the park coffers. Large numbers of tourist dollars are spent outside the park. The state park is the "draw" for the tourist, but the community is the recipient of the majority of the money spent.

GEORGE D. BRADLEY

Brownwood

ATTITUDES ABOUT PARKS

We should be proud to have parks in excellent condition that attract visitors from both in state and out of state. Further, we should want a good portion of our tax dollars to go toward funding these parks. The fees alone cannot support the parks programs nor should they be expected to. We pay for children to go to school, even though we may not have children of our own in school. Should we insist that schools be supported by those that use them? That would put our schools in shambles, and our parks are fast becoming that way too. We need to properly fund our parks system.

BILL CLARK

Nacogdoches

Sound off for "Mail Call!"

Let us hear from you!

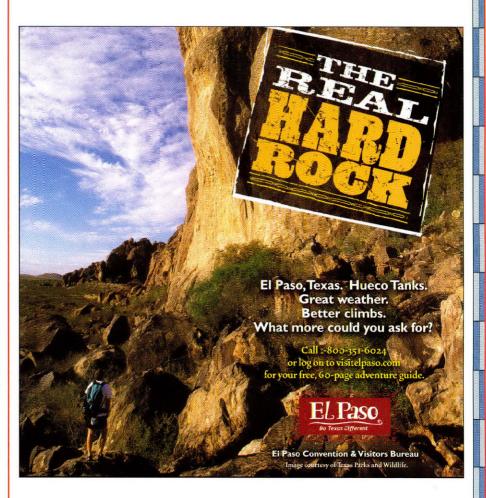
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NEWS AND VIEWS IN THE TEXAS OUTDOORS

ISLAND BUILDING

About 2,000 acres of new bird habitat have been created out of dredge material.



Islands like this one — the new Evia Island is an example — consist of material dredged from Galveston Bay

Galveston Island has a small new neighbor: Evia Island. Evia Island is no competition for the Strand or the seawall since no human tourists are allowed on its six-acre site near Bolivar Peninsula. Instead, its 250-foot sand beach serves as a water bird wildlife sanctuary. Since it was completed in summer of 2000, it's been a "no-human" zone which has welcomed thousands of terns, skimmers, pelicans and other waterfowl to "drop in and set a spell" in the warm Texas sun.

What makes Evia island special is that it is man-made and part of the Beneficial Uses Group project. The project is committed to building more than 4,250 acres of marsh over the next 50 years from the "spoils" produced when Galveston Bay is dredged to increase its depth in order to improve maritime traffic.

According to the Environmental Protection Agency, the U.S. has lost 55 million acres of wetlands. Galveston Bay has lost 85 percent of its native sea grass meadows. The losses are due to a combination of man-made and natural causes. Wetlands are nurseries for many types of marine life — when the wetland disappears, there's no place for the marine animals to produce and nurture the next generation. The ecosystem that has made Galveston Bay the seventh largest estuary system in the country is being lost. And solving a problem this massive requires a cooperative effort between citizens and government agencies.

The project is a joint venture with eight agencies, including the Texas Parks and Wildlife Department, the Texas General

Land Office, the Port of Houston Authority, the U.S. Army Corps of Engineers, the U.S. EPA, the National Marine Fisheries Service, the U.S Fish and Wildlife Service and the Natural Resource Conservation Service.

"As owner of all state submerged lands, the Land Office had a real stake in finding a better way to use the materials dredged up from the ship channel," says Jerry Patterson, Commissioner of the Texas General Land Office.

"The result has been a success that's being held up nationwide. Dredge material, once called spoil, now is being put to a beneficial use in building up bird habitat and generally improving the bay ecosystem," says Patterson.

"In terms of environmental success, we've already constructed close to 2,000 acres of habitat," says Scott H. Aspelin, project manager for the Port of Houston Authority. "There is construction success, economic success and biological/habitat success."

That acreage includes seven sites scattered throughout the Galveston Bay system including Evia Island.

Andy Sipocz, a natural resource biologist for TPWD, has been with the project since its inception.

"We've met once a month since 1990," says Sipocz. "I quickly realized while working with the engineers that we were speaking two completely different languages."

Over time, the biologists and engineers figured out how to work together. For example, Sipocz related how tough it was to find the right elevations for the marsh islands.

"The marshes had to be the right elevation," he says. "If they were planted too deep the plants would die, and if they were planted too high they couldn't serve as a habitat for fish."

A solution was devised by combining the survey data used by the engineers with the biological information — such as the effect of water depth on barnacles — in order to build the marshes correctly.

Like many similar projects, funding remains a nagging issue. "Since 75 percent of construction costs are federally funded through the Corps of Engineers, congressional funding is requested annually but not guaranteed. This presents challenges for the project team to be able to build the necessary elements of the project in the time needed with limited or reduced dollars," says Aspelin. -Marsha Wilson Rappaport



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PICTURETHIS Our chief photographer shares his insights.

The Photograph as Trophy

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"A piece of scenery snapped by a dozen tourist cameras daily is not physically impaired thereby, nor does it suffer if photographed a hundred times. The camera industry is one of the few innocuous parasites on wild nature" —Aldo Leopold



We're all hunters. Yep, when it comes to enjoying the outdoors, we all hunt in our own way. Whether it's biking, mountain climbing, kayaking, camping, fishing, hunting, birding, photography ... you name it ... we're hunting for the reward of an enjoyable and memorable outdoor experience. And from the West Texas desert to the ਵ੍ਹੋਂ forests of East Texas, we have no shortage of outdoor recreational possibili-E ties. And unique to each activity is its with two of the "trophy," some

measurable outcome of the activity that defines an ultimate success.

The concept of the trophy in outdoor recreation was poetically illustrated by Aldo Leopold in his classic book of essays, A Sand County Almanac, in which he describes trophies as "The physical objects that the outdoorsman may seek, find, capture,

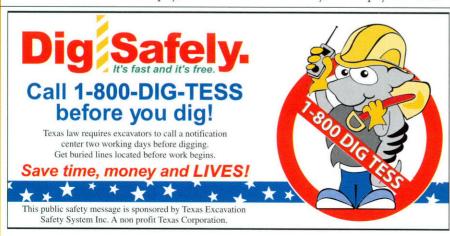
and carry away. In this category are wild crops such as game and fish, and the symbols or tokens of achievement such as heads, hides, photographs, and specimens." He goes on to add that "The trophy, whether it be a bird's egg, a mass of trout, a basket of mushrooms, the photograph of a bear, the pressed specimen of a wildflower, or a note tucked into the cairn on a mountain peak, is a certificate. It attests that its owner has been somewhere and done something." Put another way, the trophy is a validation of the experience itself.

For the outdoor photographer, the hunt for the trophy photo can be as intense as any Hemingway safari. The planning, scouting and stalking skills are just as important with a camera as with a gun and the framed photo hanging on the wall can bring as much pride as any taxidermist's mount. Both, as described by Leopold, are certificates in their own right, and a glance at either one will immediately bring back the experience and emotions of the day.

But there is another type of trophy photograph, one that doesn't require the stalking of an animal or a difficult hike to a mountain summit for a magnificent sunset. Often looked down upon by photographic purists, the lowly "snapshot" probably has more of an intrinsic trophy value. While often lacking great artistic or technical merits, the off-color, faded, coffee-stained prints that overflow shoeboxes and photo albums can be considered the trophies of the heart. I often pose the question: "If your house caught on fire, what one thing would you try to retrieve (assuming everyone was out safely)?" Invariably, "family photos" is the answer, a testament to the power of photography to recall cherished memories of faces and times gone by and simple validation that we were part of life. A commentary by A. Hyatt Mayor hangs in a simple frame in my office, serving as a reminder of photography's true trophy:

Mayor writes, "As today's clothes obsolesce into yesterday's costumes, old photographs become windows into a romantic past, fossil instants where life in all its trappings is struck with a catalepsy, for they can say more clearly than any painting; 'I was there.'" *

- Earl Nottingham



Houston's Bat Bridge

Bat coalition hopes to turn the Waugh Drive bridge into an ecotourist attraction.

Bat-watching along the banks of Austin's Town Lake and Congress Avenue Bridge is a time-honored tradition, and the source of an estimated \$10 million in ecotourism revenue annually. Now Houston is capitalizing on bat bridges, too.

Standing atop the Waugh Drive bridge at Allen Parkway, a group gathers to hear TPWD urban biologist Diana Foss talk about Houston's bats, and to witness their nightly emergence. The Waugh Drive bridge has been an underground batwatching mecca of sorts for the handful who knew about it. But bat-watching is about to take off. The event is the first of many bat-focused programs that will be led by the newly formed Houston Bat Project Team—a coalition of nonprofits, TPWD and the City of Houston.

Foss passes around photos and hands out bat detectors (devices that click when they detect the bats' echolocating signal) to the kids. Although the bridge has the same species, Mexican free-tailed bats (Tadarida brasiliensis), and the same type of crevice, the Waugh bridge colony differs from all others in Texas. "There are bats occupying the bridge crevices every month of the year," says Foss. "The other colonies in Texas migrate to Mexico, usually around September. "We can't say that they are 'non-migratory' because we don't know if some Waugh bats leave and migrate to Mexico, and then others from other places migrate to Houston and fill in the crevices again."

To answer these and other questions, the Bat Patrol Team conducts emergence and roosting census counts. So far, there are as many questions as answers. How many? Where do they go at night? How many insects, including agricultural pests, do they consume?

As Foss talks, someone points to the sky. The bat emergence has begun. Bats pour out of the underside of the bridge in a seemingly endless stream, and bat detectors start clicking away. "It seems that the bats emerge from the crevices and create a tornado-like vortex beneath the bridge first," explains Foss. "They cur-

rently emerge on the east side of Waugh Drive bridge, usually a few minutes after sunset." As in Austin, the bats fly out over the water, along Buffalo Bayou.

The Waugh bridge is smaller than Austin's bridge, so the colony will always remain smaller, around 300,000 compared to Austin's I.5 million, but it offers a much closer view. From atop the bridge, it's only a few feet to the bridge's underside. From beneath the bridge, it's easy to see the bats tucked in their cozy crevices, wings folded at their sides.

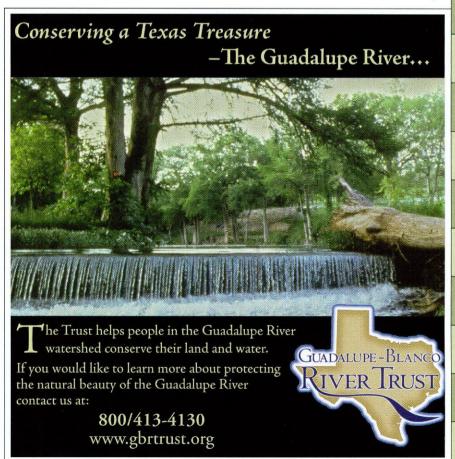
Bat Conservation International and the Texas Department of Transportation started a Bats and Bridges program in which the state now designs bat-friendly bridges. Besides Houston and Austin, bridges with confirmed colonies exist near Uvalde and Round Rock, and TPWD is seeking information on unknown bat bridges. Report new sightings to Meg Goodman at (512) 912-7042.



Houston's Waugh Drive bridge is home to a bat colony that attracts tourists.

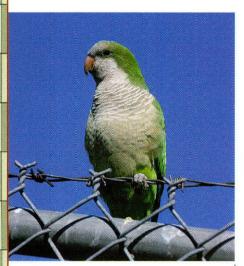
In Houston, local nonprofits plan to offer dusk bat-viewing boat tours of the bayou, and the Bat Project Team will continue to research the private lives of bats. Special bat programs are held every third Friday at dusk at the Waugh Drive bridge. Contact Diana Foss for details at (281) 456-8216. *

— Wendee Holtcamb



Parakeet Proliferation

Thanks to steady population growth, monk parakeets are making appearances at new sites across the state.



Monk parakeet nests have become a more common sight in at least eight counties around Texas.

When Larry Sall, president of Audubon Dallas, wants to impress foreign visitors with the birds of the area, he takes them

to White Rock Lake to see parakeets. "It's fun when visitors from Europe come to see me, because they know I'm a birdwatcher, and I've infected some of them with the same insanity," he says. "They want to see something interesting, so I take them over there where they can see parakeets, and they find that absolutely fascinating. That's always fun."

Monk parakeets, which nest in various places throughout the state, are definitely out of their natural element. They are South American natives, brought here for the pet trade. Some were released, some no doubt escaped, and some flew out of damaged packing crates as they were being shipped in.

"Parakeets are long-lived organisms, and so, I think people just get tired of having them, and they don't know what to do with them, and so they let them

go," says Texas Parks and Wildlife Conservation Biologist Mark Lockwood, who is also the secretary of the Bird Records Committee of the Texas Ornithological Society. In addition, monk parakeets are one of the least expensive birds available in pet stores, so they're readily available, he says. Perhaps people more readily let them go than they would a more expensive bird, says Lockwood. Monk parakeet nests have been spotted in at least eight Texas counties, including locations in Dallas, Fort Worth, Temple, Austin, Houston, San Antonio and El Paso. Additional sightings come from the Panhandle as well as East and South Texas.

Whether they were set free or escaped, parakeets in Texas do seem to thrive, despite cold winter weather. (They also live in Chicago, so Dallas weather isn't a problem.) They build large, permanent nests of sticks that help keep them warm during cold weather. Plus, Texas weather isn't that different from their native clime, Lockwood says. Unfortunately, they have a decided preference for building nests in the power grid, which has pitted bird lovers against utility workers in other states.

Monk parakeets possibly got their name from their appearance. They are a bright lime green, except for a gray face and chest, which, with a lively imagination, makes them look like monks. They are also called Quaker parakeets. They eat seeds, leaf buds, fruits, berries, nuts and blossoms, according to The Birds of North America by Mark F. Spreyer and Enrique H. Bucher. And they are becoming more numerous, according to steadily growing national figures compiled in the National Audubon Society's Christmas bird counts. In fact, the society's winter 2001/2002 bird count data 9 cited a study that showed the U.S. monk parakeet population is doubling every 4.8 years. *

— Betsy Simnacher



Bentsen-Rio Grande Valley State Park

Some little-known facts about this popular — and world-famous — birding destination.

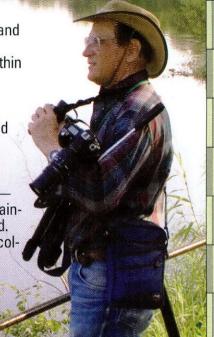
bird species may be spotted in this unique Rio Grande Valley ecosystem — many of which are found nowhere else in the United States.

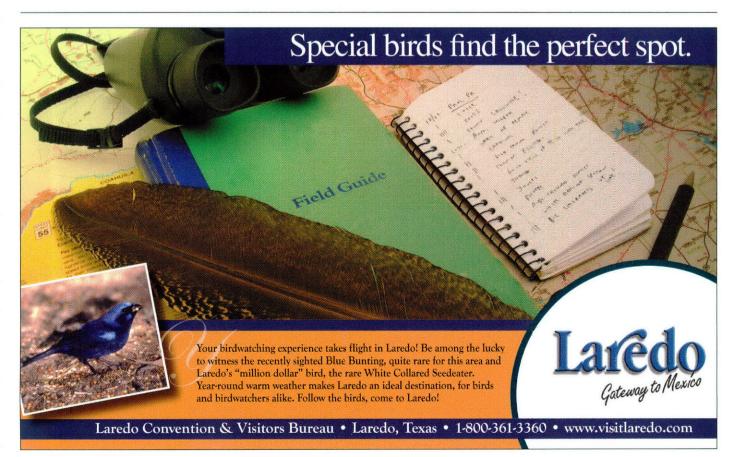
176 butterfly species can be found in this South Texas subtropical park — making the World Birding Center site a popular destination for butterfly enthusiasts as much as it is for birders.

different kinds of reptiles and amphibians live in this region — many of which can be spotted within the state park.

varieties of dragonflies and damselflies are found here.

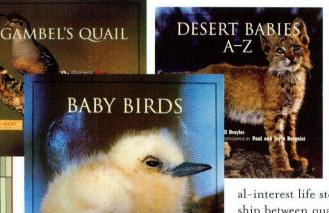
2,625 gallons of water—
that's what each of the 18 metal rainwater collection cisterns can hold.
This networked system of water collection helps irrigate the grounds
and landscaping surrounding the
park buildings.





Books about Birds

The books in the "Look West" series are like detailed natural history postcards — the kind of postcards that inspire you to learn a little more about the photographs on the front.

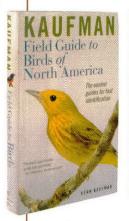


Even though the phrase "Baby Birds" is not technically correct (these winged youngsters are "fledglings" or "nestlings") the small volume titled *Baby Birds* (Rio Nuevo Publishers, 64 pages, \$12.95 hardbound) is an engaging book that is ideal for young readers but still relevant for those softhearted adults who adore all young creatures. The text is brief, but includes specifics on range, habitat and general behavior. *Baby Birds* is one volume in the "Look West" series of titles published by Rio Nuevo and including the books pictured here — *Gambel's Quail* and *Desert Babies* A- \mathcal{Z} — as well as a number of others that each focus on one aspect of the American West. Read *Gambel's Quail* and you'll find a gener-

al-interest life story of the Gambel's quail that includes insights into the relation-ship between quail and indigenous people of centuries past. The book closes with brief descriptions of other members of the quail family. And *Desert Babies A—Z* is not just snapshots of cute little animals. (The newly hatched scorpions are in no way attractive, but *are* fascinating) Each entry describes the young creature with enough detail to cover the Spanish name, habitat information and a little general biology.

Other titles in the series include Roadrunners, Coyotes, and Javelinas as well as regional history titles like The Navajo Long Walk (describing the Navajo tribal exodus of the mid-19th century), Kokopelli and Navajo Rug Designs. Visit <www.rionuevo.com> to see the entire list. When you're at the site, take a minute to look at Birds of Prey in the American West, which includes predators from small pygmy owls to huge California condors.







If you're looking for a birding field guide in Spanish, there's just one option. Fortunately, it's a very good one. Given that nearly 30 million birders in North America speak Spanish, it is surprising that there was no comprehensive and easy-to-use field guide en español until last year when Houghton Mifflin published the Kaufman Guia de campo a las aves de Norteamérica (Kaufman Field Guide to Birds of North America) (Houghton Mifflin, 392 pages, softcover; \$18.95 each volume).

This comprehensive guide is pocketsized, with a pictorial table of contents that helps you categorize the bird and directs you to the color-coded pages where detailed information is available.

All the birds are pictured in digitally enhanced photographs, which combines the detail and accuracy of paintings and the distinctive field marks typical of photographs. Also, digital technology makes it possible to present groups of birds as they might appear in the field or place a flying bird next to a photograph of the same bird standing on the shore or perched on a limb.

This guidebook receives rave reviews for the quality of the translation. When he was planning the book, Kaufman conducted extensive research in the U.S., Mexico and the Caribbean, before enlisting translator Patricia Manzano Fischer, an active conservationist trained as an ornithologist, to complete the project.

Another challenging component of the guidebook is translation for the descriptive terms for the voices of birds. For that task, Kaufman selected Hector Gomez de Silva, a respected Mexican ornithologist, who composed completely new Spanish voice descriptions for the birds.



Hungry Hordes to the Rescue

Lilliputian insects may restrain giant salvinia better than humans can.



A small beetle, right, is a lethal weapon in the war against giant salvinia, above, which clogs freshwater ponds and lakes.



Opinions about aquatic vegetation

differ among anglers and other recreational users. Anglers generally like vegetation, because it provides habitat for fish. Young fish hide among plants and feed on them and insects living there, and larger fish use plants as hiding places from which they can prey on smaller fish. Casting a lure into a stand of hydrilla or other plants often results in a strike.

However, too much aquatic vegetation can block boat lanes and interfere with water skiers. Swimmers have drowned after becoming entangled. Out-of-control introduced species such as water hyacinth, hydrilla and giant salvinia can harm fishing, too.

Howard Elder is the Texas Parks and Wildlife Department's aquatic vegetation biologist, and it's his job to keep invasive aquatic species from taking over Texas reservoirs. "Ultimately we are concerned about losing the shallow water habitat that many fish, including bass and sunfish, use to spawn," he says. "These exotic plants have the potential to cover that up." A total takeover of the surface by the invading plants would block sunlight from reaching native plants and result in a body of water with little or no fish or other life. Boaters and swimmers would be unable to use the lake as well.

Control methods include physical

removal of plants by machine or by hand, manipulation of water levels to kill plants by dehydration or freezing, using booms to block the spread of plants, chemical spraying and biological controls.

All the methods have drawbacks, but biological control in the form of insects that eat undesirable plants may prove to be the best in the long run. Water hyacinth weevils, alligator weed flea beetles and water lettuce weevils have proved effective in other countries.

"I would rather be putting beetles and weevils out there than spraying herbicides," Elder says. "Results will not come as quickly, but in the long run, I think it will be more effective. We don't think the weevils will eliminate giant salvinia, but we hope they will reduce the amount to a point that is more manageable."

Until the bugs have time to do their job, boaters will play a significant role in the battle — for good or for bad. One of the main ways invasive aquatics spread from one body of water to another is by being carried on boats and boat trailers. Just one tiny fragment of a plant can multiply into thousands in a very short time. Giant salvinia is widespread on Toledo Bend Reservoir, and it would be very easy for it to spread to nearby Sam Rayburn. TPWD has placed signs at all boat ramps on Toledo Bend informing boaters of the

danger and requesting their help in preventing the spread by thoroughly cleaning their boats, trailers and vehicles of all vegetation before leaving the ramp area.

The results of a recent study support Elder's belief in the tiny bugs. Using a weevil that eats only giant salvinia, TPWD and U.S. Department of Agriculture scientists have been able to control infestations in test plots. "One IOO-acre impoundment was 80 percent covered, and in two years the weevils reduced that to less than I percent," Elder says. "

As the beetles chomp their way through their food supply and deplete it, they move to new areas. "We're very optimistic," Elder says. "This year we found evidence of weevils in an area more than a quarter of a mile from the nearest release site. I feel that's a strong indication the weevils are moving around with the plant and are establishing in areas we are not able to reach with herbicide applications. That's what we need."

The old adage "An ounce of prevention is worth a pound of cure" was never more true than when applied to controlling invasive aquatic vegetation. Cleaning bits of vegetation from your equipment when you leave a lake takes time, but doing so will help ensure that lake will be usable the next time you want to go fishing, boating or swimming. **

Capture the Wild

Two digital camera systems that will help you make better-quality images.

Nature photography is one of the most popular and rewarding avocations. Each year, improved digital cameras and software programs continue to revolutionize electronic imaging. This advanced technology is now available in medium-price-range equipment for the outdoor enthusiast and pro alike.

Are you ready to move up to a professional level digital camera? The small point-n-shoot cameras have their place, but serious nature photographers should look to a new breed of DSLR (Digital Single Lens Reflex) cameras. The versatility of these systems is the key. When equipped with professional grade interchangeable zoom lenses, larger digital sensors, and specialized accessories. the additional expense is worth it if you want your electronic images to rival those from 35mm film. The following are two excellent digital camera outfits available at professional camera stores.

CANON DIGITAL SYSTEM

Canon EOS 30D Body, \$1,399 (8.2 megapixels and a 1.6 "cropping" factor using standard 35mm lenses)

EF 16-35L f2.8 Lens, \$1,559.95 (Professional quality results from wide angle to normal imaging ratios at all apertures)

EF100mm f/2.8 USM Macro Lens, \$449.95 (Excellent acuity at all focusing distances)

EF 24-70L f2.8 Lens, \$1,349.95 (One of the best zoom lenses made to date plus macro capabilities without attachments)

EF 70-200L IS f2.8 Lens, \$1,899.95 (Heavy glass, but outstanding Image Stabilized performance and sharpness. It can be used with the Extender EF 2X II, \$329.95 (Doubles the focal length to become a f5.6 long zoom-tele-

Canon 580 EX Auto Flash, \$449.95 (Use with adjustable bracket and bounce-card for close-ups)

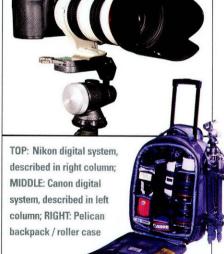
Off-camera Coiled Extension Cord, \$69.95 (Connection of flash to hot shoe)

Fill-in Reflector, (Prices vary for the satin silver fold-up type)

Compact tripod, (Prices vary with size, brand, fast-release head and camera plates)

1GB Delkin 75X Pro Compact Flash Memory Card, \$99.95, (Fast reading disk. Make sure to use the largest file setting for best resolution)

It is best to invest in one of the top camera systems and become so familiar with all the individual functions, buttons and knobs that, in use, it becomes like a part of your hand. The camera should always be readily accessible, lens pre-selected, mounted and adjusted to anticipate live action. In the field, this is essential where fleeting light on landscape, moving wildlife and changing weather demands speed with proficiency to record in a brief



window of opportunity an event in nature that may seldom if ever be repeated.

Also essential is keeping your valuable equipment safe in a well-padded compartment case that is easy to transport and allows quick access. Since the application of in-line skateboard rollers on camera cases, traversing smooth trails and walkways is effortless. However, when the going gets rough, the same unit needs to quickly convert to a backpack. The

NIKON DIGITAL SYSTEM

Nikon D200 Body, \$1,697.95 (10.2 megapixels with a 1.5 "cropping" factor with standard 35mm

17-55 f2.8 Zoom-Nikkor, \$1,349.95 (Great for low light and has a very fast focus)

105mm f/2.8D AF Micro-Nikkor, \$729.95 (Sharp ultra close-up lens)

70-200mm f/2.8G ED-IF AF-S VR Zoom-Nikkor, \$1,759.95 (An excellent Vibration Reduction lens. then add a Nikon TC-20E II Teleconverter. \$499.95 to multiply the 70-200 to become a f5.6 long telephoto)

Nikon SB800 Auto Flash Unit, \$369.95 (Use with adjustable bracket and bounce-card)

Off-camera Coiled Extension Cord, \$59.95 (Connects flash to hot shoe)

Fill-in reflector, (Prices vary for the satin silver fold-up type)

Compact tripod, (Prices vary with size, brand, fast-release head and camera plates)

1GB Delkin 75X Pro Compact Flash Memory Card, \$99.95, (Fast reading disk. Make sure to use the largest file setting for best resolution)

Pelican Backpack/Roller Case does this and also has a removable daypack when only a limited amount of gear is needed. (\$364.95, Backpack/Roller Case, Model: PCS182B, 800-802-8500, www.precision-camera.com)

Hunting with a camera is an exciting @ experience. At the essence of nature photography is the reward of capturing a special moment without harming the environment or its wildlife. *

Days in the Field / By Randy Brudnicki DESTINATION: MCALLEN TRAVEL TIME FROM: AUSTIN - 6 hours / BROWNSVILLE - 1.25 hours / DALLAS - 8 hours / EL PASO - 12.75 hours HOUSTON - 7.5 hours / SAN ANTONIO - 5 hours / LUBBOCK - 11 hours

Bird Bliss

From top-notch birdwatching to eye-popping art to spicy cuisine, McAllen delivers delights for all your senses.

Visiting the Rio Grande Valley (the Valley) is all about nature, or so I thought before arriving. I was struck by the cultural, social, commercial and culinary opportunities. And, did I mention food? More on that later.

The four-county Valley is booming with new development; and, of course, with the influx of Winter Texans from October to April the population increases by about 150,000 people for half the year. I went in late October and the weather was very pleasant, if not a tad bit too warm.

McAllen is a great central location for exploring the Valley. The Valley is special for nature lovers because not only do the Mississippi and Central flyways converge here, but also the Gulf Coast and Tamaulipan thorn scrub meet on the fertile alluvial plain. The subtropical climate enhances bird and butterfly populations: About half of all bird and butterfly species recorded in the U.S. have been spotted in the Valley.

Depending on where you live in the state, the trek to this subtropical haven could be a long one by car. Fortunately, McAllen's airport has numerous daily flights from two airlines, Continental and American, if you decide to fly. Within walking distance of the airport is La Plaza Mall, which is one of the most popular shopping destinations for Mexican nationals in the

Casa de Palmas

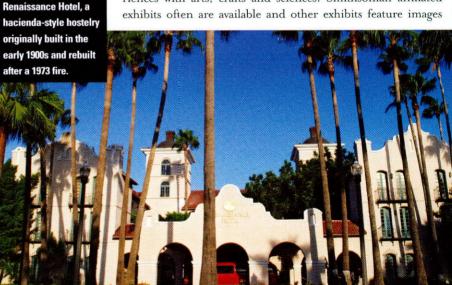
U.S. Many of the stores in the mall enjoy some of the highest income per square foot in the U.S.

After arriving in McAllen, my first stop was to check in at the Casa de Palmas Renaissance Hotel. The Spanish-hacienda-style hotel, originally constructed in the early 1900s, was rebuilt after being destroyed in 1973. The rooms aren't much different than other hotels, but the hacienda feel with the red tile roof, white stucco towers and lush vegetation with palm trees - offers a change from the ordinary. With easy access to the airport and area highways, the hotel is an excellent starting point for exploring the Valley, and it is within walking distance of what is now my favorite Valley restaurant, España. The Nuevo Santander Gallery, which features art and artifacts from early Texas and Mexico, is also just down the

Art plays a role in many aspects of daily life in McAllen. The local chamber of commerce, in addition to typical business development activities, also actively cultivates the arts. For example, the McAllen Creative Incubator is a former public school building that has been converted into low-cost studio and office space for developing artists. Here, artists have access to a personal suite-studio for perfecting and displaying their craft. The facility also includes typical office equipment (copiers, fax machines, computers) that is shared with other tenants. For those looking to make art a full-time profession, the McAllen Creative Incubator offers classes in marketing, business management and business plan development.

After a short visit to the incubator, it was off to the International Museum of Art & Science (IMAS). The display of Mexican Folk Art and pre-Columbian and Mayan art and artifacts is part of the museum's 10,000-piece permanent collection.

The IMAS also has collections of African art, European paintings, Pablo Picasso and American pop art. A large amount of space in the museum is devoted to children's hands-on experiences with arts, crafts and sciences. Smithsonian-affiliated exhibits often are available and other exhibits feature images







downloaded from the Hubble Space Telescope.

After looking at museum collections at IMAS, we ventured to the Nuevo Santander Gallery near the hotel where the collectibles on display are available for purchase. Spanish colonial period pieces are intertwined with Old West firearms, saddles, spurs and Mexican coins. The gallery also hosts exhibits by local artists on a rotating basis.

Finally, it was time for dinner at España. The Mediterranean cuisine is served elegantly in the formal dining area or, for a more casual experience, dine on the patio with live music. All of the dinner choices looked appetizing, but after much deliberation, I opted for the veal cutlet. It was the perfect way to end the evening: The green salad and yeal were excellent.

The next morning, after a quick bite at the hotel's breakfast buffet, we were off to canoe the Rio Grande at Santa Ana National Wildlife Refuge, a site operated by the U.S. Fish and Wildlife Service. The 2,000-acre refuge is an island of native thorn brush habitat where one may observe about 400 bird and 300 butterfly species and, if lucky, the occasional ocelot or jaguarundi.

Historically, the region encompassed by the refuge was periodically flooded by runoff from the Rio Grande. Now that the river's flow has been significantly reduced by dams, invasive saltcedar and other factors, flooding rarely occurs. However, the ecological benefits of the floods are now artificially reproduced by creating oxbow lakes or resacas. Natural resacas are dry streambeds that hold water only after heavy rains.

The Friends of Santa Ana host half-day canoe trips for only \$20 per person, which includes a guide for the group. With two or three people per canoe, the leisurely pace of the river in fall and winter requires some downriver paddling. It is easy, though. We saw birds on both sides of the river during the two-hour float, and we stopped often to observe some of the rarer species. A word of advice — leave the new shoes at home. The riverbank is



ABOVE LEFT: Paddling on the Rio Grande affords excellent birding on both sides of the river. ABOVE: The headquarters of the World Birding Center — Bentsen-Rio Grande Valley State Park — is landscaped with native plants that attract birds and butterflies. LEFT: Quinta Mazatlan, McAllen's portion of the World Birding Center. The 10,000-square-foot mansion is undergoing renovation.

muddy at the take-out point.

After getting the canoeists on terra firma, shuttling back to the visitor center and looking around the many paths, hiking trails and butterfly gardens, lunch seemed in order. With the border so close, we couldn't resist the lure of international adventure. We chose to cross into Nuevo Progreso, which is smaller and more intimate than the area's other popular destination, Reynosa. We parked on the U.S. side and walked across the short bridge.

Most of the restaurants are within a few blocks of the bridge. The waiters all spoke English and the menu was "Americanized," so chicken fajita sounded good — and it tasted good too. After lunch, it was off to look for a souvenir. Many shops and merchants line the sidewalks on both sides of the street for many more blocks. Although there were many trinkets and goods for sale, I could only manage to spend \$10 in four hours of exploring — even though I looked at nearly every shop.

Back on the U.S. side of the Rio Grande that evening, we went to the Blue Aquarium for dinner. The food again was sexcellent. Keeping with a somewhat low-carb diet, I chose chicken zarandeado and asparagus spears and was happy with my selection.

Our last full day in the Valley proved to be the most packed with activity. Breakfast on the run at the local fast-food chain, El Pato, was a pleasant surprise. The signature dish, the Pato, is a handmade tortilla filled with a combination of breakfast fare such as eggs, potatoes, cheese, migas, jalapeños, avocados, bacon or ham. *Delicioso!*

We traveled north on Highway 281 along wide-open agricul— tural fields until we approached La Sal del Rey (which translates bitterally as "the salt of the king") to participate in a half-day hike of along the shores of the salty lake (see also "Salt of the Earth," on page 58). As we started to get out of the vehicles, a group of nil-gai antelope appeared and disappeared before I could get my camera out of the backpack. Native to India, nilgai antelope were first brought to Texas in the I930s to be hunted on exotic game ranches. These were the first live nilgai I had ever seen. Hiking from the road across the salt flat, salt crunched under every step until I got too close to the water's edge. There, the

thin salt crust easily gives way, revealing its muddy underbelly. Shorebirds waded in the shallows, probably probing for brine shrimp. The harsh, salty and dry environment starkly contrasted with the riparian corridor of the Rio Grande the previous day. Today's guide, Christina Montoya of the Lower Rio Grande Valley NWR, cautioned us appropriately as we hiked from the salt flat to the surrounding brush and cacti: "Everything around here bites, stings or pokes." (She had checked the trail earlier in the morning to make sure there were no rattlesnakes waiting for us.)

Returning to McAllen gave us the opportunity to visit the still-under-renovation Quinta Mazatlan, the city's portion of the nine-venue World Birding Center. The 10,000-square-foot Spanish revival-style mansion, originally completed in the 1930s, had only two owners before the city purchased the 15-acre property in 1998. Both previous owners could be classified as "eccentric," and the city renovation manager told us he feels that the mansion is haunted. Well, we didn't see any apparitions, but we did see lots of fleeting birds and butterflies in the gar-

dens and surrounding paths. The property, which should be open soon to visitors, features catering facilities, conference rooms and tropical landscaping.

The next stop on our birding excursion was the crown jewel of the World Birding Center, the Texas Parks and Wildlife Department's Bentsen-Rio Grande Valley State Park, which is the headquarters of the WBC. One would need to spend several days here to see everything. The 24-foot hawk-observation tower and the viewing blinds near feeders offer many opportunities to see birds. There are butterfly gardens and resacas here as well. The educational exhibits showcase the species noted in the area and help novices such as myself with species identification.

On the way back to the hotel, we popped in to the final evening of the Texas Butterfly Festival for barbecue, after-dinner entertainment and talks by renowned entomologists. Not only was the evening informative, but the speakers were quite entertaining (for scientists). By the end of the evening, the long day was catching up to me and I was relieved when we decided to head back to Casa de Palmas.

Soon after getting back to my room, however, my traveling companions decided that we couldn't let the last night end so quietly, so we ventured out once more for dessert and live music on the patio at España. What was to be a light snack ended up as a fun-filled night with new friends, assorted rich chocolate desserts (so much for the low-carb diet) and grand plans for another visit to this south Texas wonderland. I can't wait to go back.

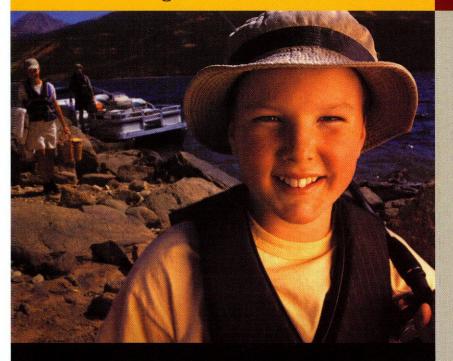
DETAILS

España Mediterranean Cuisine, (956) 618-1178,
<www.espanacuisine.com/index.php>
International Museum of Art & Science, (956) 682 1564, <www.imasonline.org/>
Nuevo Santander Gallery, (956) 618-4959,
<www.nuevosantander.com/>
McAllen Chamber of Commerce, (956) 682-2871,
<www.mcallen.org/>

Santa Ana National Wildlife Refuge, (956) 784-7500, www.fws.gov/southwest/refuges/texas/santana.html

Friends of Santa Ana National Wildlife Refuge, (956) 783-6117, <www.friendsofsantaana.org/> World Birding Center, (956) 584-9156, <www.world birdingcenter.org/>

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Exploring the wonders of spring bird migration.

By NOREEN DAMUDE

Ruby – throated humming bird: In tune with ancient rhythms, the ruby-throated humming bird prepares for the long trek to nor-hern breeding grounds as early as February. He begins to feed more vigorously now, laying down gobs of fat just under the skin. He zips and dashes from flower to flower with a special urgency, spending much less time preening and sitting still. In a matter of weeks, he puts on twice his meager weight. A hummer butterball, he is ready to depart, carrying his own high-test fuel in the form of fat. Following trails of flowering plants, he makes his way up the Yucatan peninsula. As the great mass of southerly winds move in, the time is right. Solitary, flying by dead reckoning, he launches himself into the night sky, heli-bent for the Upper Texas Coast. Six hundred miles over a black, killing sea, he zooms across, wings buzzing at a mind-boggling rate of speed. It's early March. Many of his fellow ruby-throats will pass through Texas on their way further north and east. Some will continue on as far as Canada. Austin, almost at the western limit of its southern U.S. range, hosts a few breeding ruby-throats, with many farther east. During the winter, ruby-throated hummingbirds share pine-oak-fir forests with resident birds in Mexico and Central America. There they forage in the company of masked tityras, golden-browed warplers and cinnamon-bellied flowerpiercers.

The Rite of Spring: With their myriad adaptations for movement in water, on land and in the air, birds are, in Walt Whitman's words, born "to match the gale, to cope with heaven and earth and sea and hurricane." Heeding the urges of spring, a host of feathered wayfarers heads north, reenacting the age-old drama of seasonal migration. Spring is a great time to head for the Upper Texas Coast to view the many birds arriving, leaving or just passing through, as they fly from their Neotropical wintering homes to their northern breeding grounds. Birders call these spring flocks "waves" because of the way they roll across the landscape. Typically in late afternoon, flotillas of birds move in from the Gulf, flying over beach and field to dive suddenly into the protective cover of the welcoming trees. Catching the biggest waves in spring, when the world becomes a riot of renewal, movement and song, defines the annual rite of spring for birders who head for the stands of live oak and hackberry along the Upper Texas Coast. 🍴 RIDERS ON THE WIND: When the axis of the earth inclines toward spring, millions of birds take to the skies, following the southeasterly winds. Well-spaced battalions lift off soon after dark from the Yucatan Peninsula and from coasts farther south — the grand passage is underway. The vanguard of songbird migration may reach the Gulf Coast as early as March and continues to surge, peaking in April, and trailing off by early June. The birds are not misled, those that fly by day — ducks, geese, cranes and hawks — believe in the zenith of the sun; it's written in their germ plasm. Those that fly by night rely on a redundancy of cues, from celestial constellations patterned against the Pole Star to heady resonances of infrasound and the geomagnetic field. Even the sense of smell may guide a few. The sweep and drama of bird migration in the Western Hemisphere shifts endlessly across distance and season. Some that spent the winter <mark>in Texas</mark>, such as northern pintails, hermit thrushes and Lincoln's sparrows, will leave for the northern U.S. and Canada to breed. Others that departed for Latin America last fall, like yellow-billed cuckoos, scissor-tailed flycatchers and indigo buntings, will return to Texas to breed. Still others, like buff-breasted sandpipers, scarlet tanagers and rose-breasted grosbeaks, may land here to refuel before continuing on their way farther north. The boldness of their annual hegiras never fails to stir us, reminding us again of that cycle of beginnings and closings we call a year. | MEET THE "FLYING TIGERS": While by no means <mark>an exhaust</mark>ive list, this quick <mark>set of c</mark>ameo portraits of Neotropical migrants reliably seen along the Texas Coast offers a colorful smattering of what lies in store for birders who celebrate the grand passage of spring migrants that grace our state come spring.





American redstart: A flaming black and orange ember flickering through the leaves on a shaft of golden sunlight announces the arrival of the beguiling American redstart. High in a live oak in Sabine Woods, he darts out like a flycatcher to snare a passing bug, misses his target and abruptly flutters down through the sun-spangled leaves, spreading his wings, fanning his tail and flaunting his brilliant attire. Down he comes like a tropical butterfly, only to swoop upward suddenly and perch jauntily on the overhanging limb. One of the most dainty and winsome of all the warblers, the American redstart, also called the forestfiretail, is a "butterfly" of a bird, the sole representative of his genus. Doing the "hoochie-coochie," flashing his tail and drooping his wings, the male is a blithe flash-dancer, more like a flycatcher than a wood warbler. Breeding over much of North America, birds nest in open deciduous and mixed second-growth woodlands. Redstarts winter throughout Central America, from southern Mexico south to northern and western Amazonia, including the West Indies, where they frequent humid lowlands. A medium- to long-distance migrant, come spring, American redstarts travel in small flocks at night, moving north on a fairly broad front across the Gulf rather than following the Mexican coast. Many first-year birds remain in the Greater Antilles throughout the year. In Texas, American redstarts migrate through all kinds of woodlands and undergrowth, showing up as well in city parks and gardens. An expected annual nester in East Texas, their delightful showboating is a joy to behold.

Townsend's warbler: Just as over-water migrants must find land, so desert travelers like the Townsend's warbler— a bird adapted to high, cool mountain forests— must find a suitable haven when daylight breaks. Desert springs, cienegas and seeps, shining green in the morning sun, fit the bill perfectly. Like shorebirds hop-scotching from one stopover site to another, northbound songbirds must find suitable habitats at every stage of their trip. This is relatively easy in the East where forests are widespread, but in the Southwest, wooded habitats are few and far between. Like a swimmer in a strong current, a bird may be pushed off course by stiff cross-winds. Such drift helps account for the puzzling appearances of western birds well east of their normal flight path. High Island periodically hosts a few of these dapper western strays, keeping birders who are expecting to see black-throated greens on their toes.







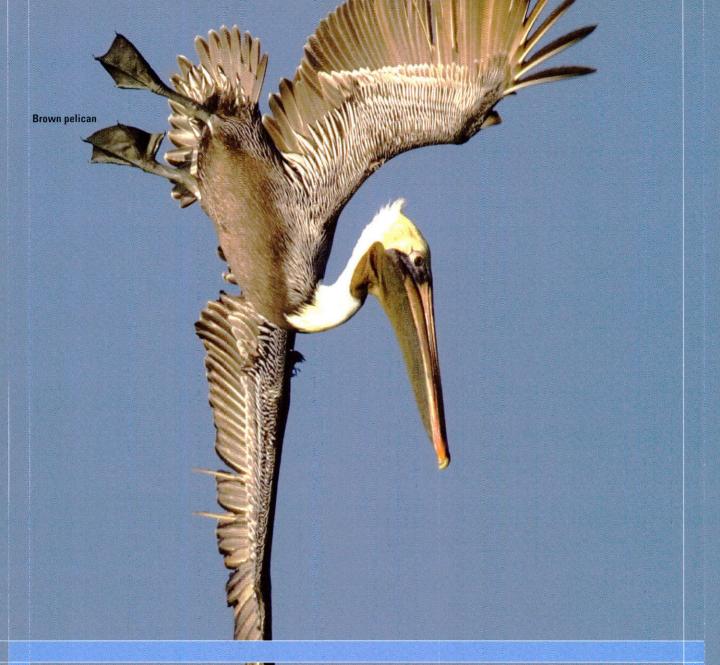
Blackboll warbler: When you think of champion long-distance trekkers, the Hudsonian godwit, American golden-plover and Arctic tern immediately come to mind. Traveling thousands of miles a year, the two shorebirds are strong, robust creatures with powerful wings to propel them long distances over water. Arctic terns are graceful "windcatchers," able to land on the water and rest during their epic journeys from the Antarctic to Arctic shores. An unlikely contender for the prize in its size category, weighing not much more than a first class letter, is the blackpoll warbler. Hardly looking like a transoceanic traveler, this diminutive black-and-white songbird is renowned for its Promethean voyage to its South American wintering grounds. In late August, blackpolls that nested in Alaska begin to head east across the boreal forests of Canada to the Maritime Provinces and northern New England coast. While a few birds of the year may hug the shore, most blackpolls strike out south over open ocean. They pick a night with a brisk, northerly tailwind after the passage of a cold front to take off, leaving soon after dusk. For the next 40 to 50 hours, depending on the winds, the tiny songbirds fly at an altitude of more than 5,000 feet over the western Atlantic, wings buzzing at a dizzying 20 flaps per second. As they round Bermuda and the Greater Antilles, they trace a curve, guided and abetted by the winds. When they reach Bermuda, the northwesterlies fail and the nearly exhausted migrants pick up the friendly subtropical trade-winds that ferry them in a southwesterly direction towards South America. Most make final landfall along the coast of Venezuela — an over-water trip of nearly 2,000 miles — with no rest, no water and no refueling. The trip requires a degree of exertion not matched by any other vertebrate. For a human, the metabolic equivalent would be to run 4-minute miles for 80 hours, note ornithologists Tim and Janet Williams. "If a blackpoll warbler were burning gasoline instead of its reserves of body fat, it could boast of getting 720,000 miles to the gallon!" Most other warblers travel between 200 and 400 miles each night during migration, with stopovers to fatten up between flights. Despite these unimaginable hardships, blackpolls are fairly numerous "eastern" warblers in the spring along the Upper Texas Coast. The fact that they make this journey each year of their adult lives is truly one of the miracles of the avian world. In spring they opt for an overland route up through the central and eastern U.S. Zigzag, illogical, far-flung routes are not the paths of biological necessity, but more often the fruits of tradition. Birds do not always fly straight as an arrow from winter to summer territories, and they don't always take the same route both spring and fall. For the blackpoll, the unspeakably difficult elliptical migration has worked best to ensure this species' success.





Purple martin: Migrating by day is not the sole monopoly of larger birds like hawks, cranes, geese and cormorants. Because aerial foragers, such as martins, swallows and swifts have no need to stop to periodically refuel, they feed continually on the wing as they head north. These are the birds most often seen during migration. Swallows in an unending stream course low along our reservoirs, levees and pastures as they move northward. Purple martins are the shock troops of the invading migratory invasion. What the American robin is to New Englanders - a welcome harbinger of spring — the purple martin is to Texas, arriving as early as the end of January at the state's southernmost tip. Brave scouts face hard freezes and killing sleet as they proceed north to claim traditional man-made martin houses and hanging gourds. Many perish as insect food is squelched during extended cold snaps. But the risk is worth it. Claiming traditional martin houses makes all the difference in assuring reproductive success - continuing the genetic legacy of the scout's clan. *

For further information on the miracle of bird migration, see Living on the Wind by Scott Weidensaul; Ornithology by Frank Gill; Gatherings of Angels: Migrating Birds and Their Ecology by Kenneth P. Able; Bird Migration: A General Survey by Peter Berthold; and Bird Migration by Robert Burton.



2006GREATTEXASBIRDINGCALENDAR BY SHELLY SCROGGS PLANTE

Compliments of the 2006 Great Texas Birding Classic sponsors ROSEATE SPOONBILL SPONSOR: CONOCOPHILLIPS

YEAR ROUND EVENTS

EVERY WEDNESDAY

Bentsen State Park Tram Tour — Bentsen-Rio Grande Valley State Park. Explore the park aboard the open-air tram, where you can enjoy nature in a relaxed atmosphere while your guide reveals the history of the park and its native flora and fauna. Reservations recommended. 8:30–9:30 a.m. Free with park admission. (956) 584-9156; www.worldbirdingcentet.org.

EVERY SATURDAY

Bentsen State Park Bird Walk — Bentsen-Rio Grande Valley State Park. Take a guided walk through the park where green jays, chachalacas, kiskadees, orioles and many other birds are frequently seen. Reservations recommended. 8–10 a.m. Free with park admission. (956) 584-9156; www.acarlabbridingcenter.org.

Bentsen State Park Butterfly Walk — Bentsen-Rio Grande Valley State Park Join a park naturalist and observe the diversity of colorful butterflies that are attracted to the park gardens. Several rarities are possible, especially from October through January. Reservations recommended. 1:30–3 p.m. Free with park admission. (956) 584-9156; www.worldbirdingcenter.orgs.

Saturday Morning Field Trips in Midland County. Midland Naturalists schedules birding and nature field trips every Saturday morning. Call for more information. (432) 770-4746; www.midnats.org.

FIRST THURSDAY EACH MONTH (JANUARY-NOVEMBER)

San Antonio Audubon Society Monthly Meeting — The Ruble Center, 419 E. Magnolia St., San Antonio. Interesting programs each month. The Ruble Center is east of McCullough between E. Huisache Street and E. Mistletoe Street. 7 p.m. Free. (210) 308-6788; www.saaudubon.org>

FIRST AND THIRD SATURDAYS OF EACH MONTH

Saturdays in the Park — Valley Nature Center, 301 S. Border, Weslaco. Experienced nature guides conduct walks through the park pointing out birds, butterflies, native plants and more. 1 p.m. \$3/Adult, \$2.50/Senior, \$1/Child. (956) 969-2475; www.valleynaturecenter.org.

FOURTH SATURDAY OF EACH MONTH

Monthly Mitchell Lake Audubon
Center Field Trip — Mitchell Lake
Audubon Center, San Antonio.
A San Antonio Audubon Society
member will lead the trip. The gate
is located on the east side of
Moursund Boulevard. 8 a.m. \$5 fee.
(210) 308-6788; <www.saaudubon.org>

APRIL

EVERY WEEKEND

Birdwalks — Blucher Park, Corpus Christi. Audubon Outdoor Club of Corpus Christi members lead walks through Blucher Park and the expansive lawns of the homes across the street from the park. Blucher Park is the site of large migrant fallouts during spring migration. 8 a.m. Free. (361) 991-9031;

<www.ccbinting.com>

APRIL 10 - 30

Houston Audubon Society's Annual Birdathon. Annual fundraising and outreach opportunity to help habitat protection and conservation education programs for Houston Audubon Society. Participants form teams to solicit pledges, scout and log as many birds as they can see in a 24-hour period. Free. (713) 932-1639; society-bustonaudubon.org.

APRIL 15

Spring Garden Festival and Plant Sale — Corpus Christi Botanical Gardens and Nature Center. Celebrate spring! Full day of educational seminars including a Children's Learning Area. Shop for plumeria, orchids, bromeliads, natives and other water-smart landscape plants. Plant experts available on-site and shopping at indoor and outdoor gift shops. Tour scenic garden areas, the Bird and Butterfly Trail and natural wetlands. 9 a.m.—5 p.m. Free. (361) 852-2100;

<www.ccbotanicalgardens.org

APRIL 15, 21 AND 29

Fennessey Ranch Spring Migration Tour

— Fennessey Ranch, Refugio County. A full
day in the field on a private coastal ranch at
the height of spring migration, guided by an
experienced birder. Up to 100 species have

Common yellowthroat

APRIL 22 – 30

<www.mcbnc.org>.

APRIL 22

Toth Annual Great Texas Birding Classic

— Texas coast. Weeklong birding tournament
for youth, adult and mixed-age teams, including a tournament for blind and visually
impaired birders to "bird by ear" and a new

Artisans in Nature Jubilee — Matagorda

County Birding Nature Center, Bay City.

Wildlife art, nature, entertainment, birds of

prey show, boating and kayaking rides, and

There is also fishing for the kids, stagecoach

more are scheduled at the Nature Center.

rides, gardens and century-old oaks. 9:30

and rides included). (979) 245-3336;

a.m.-5:30 p.m. \$6/Adult, \$3/Child (all events

College Challenge. Coordinated by the Gulf Coast Bird Observatory and Texas Parks and Wildlife Department, the opening event

is in

Corpus Christi, the
Awards Brunch is in McAllen,
and the three registration sessions are in Lake
Jackson, Corpus Christi and McAllen. \$52,000
in coastal habitat conservation money, as well
as individual prizes, awarded to winning
teams. Cost varies. (866) 482-2527;
<www.tpwd.state.tx.us/gtbc> and
<www.gcbo.org>.

APRIL 25 - 30

Great blue heron

Nature Quest 2006 — Concan. In the heart of the Texas Hill Country, the Texas River Regions offer great birding and outdoor opportunities. Excellent programs, guided field trips and great fun highlight this weekend. (800) 210-0380; www.thcrr.com.

APRIL 26 - 30

North American Bluebird Society 2006
Convention — Hosted by the Texas Bluebird
Society at the San Antonio Airport Hilton. A
time of education, encouragement and entertainment for bluebird lovers and nature conservationists from across the continent.
Includes Texas Hill Country field trips (birds,
bats, popular tourist attractions), presentations
(hummingbirds, cowbird control, purple martins), workshops, seminars and special events.
Speakers include M. David Luneau, Gary
McCracken, June

Osborne
and Keith Kridler.
Door prizes, silent auction, live auction. Cost varies.
(512) 268-5678;
<www.NABS2006.com>.

APRIL 28 - 30

Chappell Hill Bird

Fest — Featured speakers, guided field trips to private preserves, vendor and educational booths, workshops, opportunities to see painted buntings and many other spring migrants as well as wildflowers galore, all in beautiful, quaint Chapell Hill. Cost varies. (979) 337-9910; <www.chappellhillbirdfest.com>.

APRIL 29

Birding in the Big Thicket Family Day—Kountze Middle School. Birding in the Big Thicket Family Day is geared to children and families. Children will participate in hands-on projects and then travel with their parent or group leader to a birding hot spot by bus with a guide to show participants how to use field-guides and binoculars, helping them to identify birds seen on the trip. \$3 per person. (409) 246-2384.

Spring Nature Fest — Stephen F. Austin Interpretive Trail, Nacogdoches. Field trips, birding, workshops and other activities will highlight the Stephen F. Austin Experimental Station as well as other known East Texas sites. Educational displays will complement the field trips. (936) 569-7981;

<www.srs.fs.usda.gov/wildlife/>.

APRIL 29 - MAY 1

Balcones Songbird Festival — Balcones Canyonlands National Wildlife Refuge, Lago Vista. This festival is a celebration of nature through a collection of interpretive events to experience birds, butterflies and wildflowers. This year's new format and added events will likely widen the focus and appeal to hikers, naturalists, environmentalists and families. Cost varies. (512) 339-9432, ext. 0; <www.balconessongbirdfestival.org>.

MAY

MAY 6

Trans-Gulf Migration Workshop — Kleb Woods Nature Center. This workshop will

review the phenomena of trans-Gulf migration by migrant songbirds. It will include lecture, examination of study skins, a bird walk to see migrating birds and a one-hour lunch break on your own. 8 a.m.–3 p.m. Free. (281) 357-5324;

<www.pct3.hctx.net/parks.htm>.

MAY 13

Dragonfly Family Day — Valley Nature Center, 301 S. Border, Weslaco. Speakers and presentations on dragonflies, guided tours and crafts for the kids. \$5/person. (956) 969-2475; www.valley-naturecenter.org.

Jones Park Bird-A-Thon —
Jesse Jones Park, Humble. Join
or form a team of birders and
identify as many species of birds
as possible during this fun event.

Golden-fronted woodpecker



Marsh Madness — Lake Waco Wetlands. "Marsh Madness," hosted by the City of Waco, Lake Waco Wetlands and the Central Texas Audubon Society, will focus on local birds and plants of the wetlands. Educational booths, nature hikes and guest speakers will be on hand to provide information and answer questions about local flora and fauna in the area. 8 a.m.—3 p.m. Free. (254) 848-9654; <www.wacowater.com>.

MAY 13 - 14

Fennessey Ranch Photo Safari -

Fennessey Ranch, Refugio. Fennessey Ranch and Sean Fitzgerald team to host a full day in the field photographing wildlife and the bird action in a huge rookery. Ibis, egrets and herons are the focus of the day. \$204/person. (361) 529-6600; www.fennesseyranch.com.

MAY 19-21

7th Annual Dragonfly Days — Valley Nature Center, 301 S. Border, Weslaco. Speakers and presentations on dragonflies and guided tours to various Valley locations exploring dragonflies. Cost varies. (956) 969-2475; www.valleynaturecenter.org.

MAY 20

Warbler Woods Open Gate Day — Warbler Woods, Cibolo. Warbler Woods has a very active migration season, especially with the songbirds. 2005 had one day with 20 species of warblers and the property had 32 total warbler species last year! Painted buntings also nest on this 126-acre property's varied habitat. Free. 8 a.m.—8 p.m. (210) 658-0089; <www.warblerwoods.com>.

JUNE

EVERY SECOND SATURDAY

Beginner's Bird Walk - Judson Nature

Trails, 246 Viesca, Alamo Heights. This regularly scheduled in-town birdwalk sponsored by San Antonio Audubon Society is especially designed for introducing new birders to the area. Loaner binoculars are available. Free. 7:30 a.m. (210) 308-6788; www.saaudubon.org>.

JUNE 5-9 AND 12-16

Kids' Camp 2006 — Valley Nature Center, 301 S. Border, Weslaco. Fun educational nature activities. Camp is divided into two weeks: First week for ages 6–8 and second week for ages 9–12. \$80/non-member, \$65/VNC member. (956) 969-2475; <www.valley-naturecenter.org>.

JULY

EVERY SECOND SATURDAY

Beginner's Bird Walk - Judson

Nature Trails, 246 Viesca, Alamo Heights. This regularly scheduled in-town birdwalk sponsored by San Antonio Audubon Society is especially designed for introducing new birders to the area. Loaner binoculars are available. Free. 7:30 a.m. (210) 308-6788; <www.saaudubon.org>.

AUGUST

EVERY SECOND SATURDAY

Beginner's Bird Walk — Judson Nature Trails, 246 Viesca, Alamo Heights. This regularly scheduled in-town birdwalk sponsored by San Antonio Audubon Society is especially designed for introducing new birders to the area. Loaner binoculars are available. Free. 7:30 a.m. (210) 308-6788; <www.saaudubon.org>.

AUGUST 18 - 21

Toth Annual Davis Mountains
Hummingbird and Nature Festival —
Fort Davis. Head to the beautiful Davis
Mountains for five days full of field trips, private garden tours, hummingbird banding and lectures for birders and naturalists. Past years have recorded at least 10 species of hummingbirds during the event. \$85/person preregistration, \$100/person after July 22. (432) 364-2499; <www.cdri.org>.

AUGUST 19

Texas Bluebird Society 2006 Summer Symposium — Wichita Falls. Features Keith Kridler, who has 40 years bluebirding experience and is co-author of *Bluebird Monitor's Guide*. Silent auction plus lunch and refreshments included. Call for costs. 10 a.m. to 4 p.m. (940) 691-5702; <www.texasbluebirdsociety.org>.

SEPTEMBER

EVERY SECOND SATURDAY, SEPTEMBER-MAY

Beginner's Bird Walk — Judson Nature Trails, 246 Viesca, Alamo Heights. This regularly scheduled in-town birdwalk sponsored by San Antonio Audubon Society is especially designed for introducing new birders to the area. Loaner binoculars are available. Free. 8 a.m. (210) 308-6788; www.saaudubon.org>.

SEPTEMBER 9

Xtreme Hummingbird Xtravaganza — Gulf Coast Bird Observatory, 103 W. Hwy 332, Lake Jackson. See hundreds of migrating ruby-throated hummingbirds. Learn all about bird banding and how you can help protect migratory birds and habitats. (979) 480-0999; www.gcbo.org.

SEPTEMBER 11 – EARLY DECEMBER

Beginning Bird ID Series — Corpus Christi Botanical Gardens and Nature Center.

Designed for beginning birders, 12 Monday evening classes (6:30–8:30 p.m.) and six field-trips are taught by acclaimed birder Gene Blacklock of the Coastal Bend Bays and Estuaries Program. \$100 for series, \$75 for CCBG/NC Members. (361) 852-2100; www.ccbotanicalgardens.org.

SEPTEMBER 14-17

Hummer/Bird Celebration — ACISD School Complex, Rockport. Thousands of hummers descend on the area — lectures, nature vendors, hummer-homes tours, banding and fun. Cost varies. (361) 729-6445; <www.rockportfulton.org>.



SEPTEMBER 16-17

Fennessey Ranch Hummingbird Tours — Fennessey Ranch, Refugio County. Witness hundreds of hummingbirds feeding on the native turk's cap growing wild on the banks of the Mission River. A migration spectacle not to be missed. \$19.75/person. (361) 529-6600; www.fennesseyranch.com.

SEPTEMBER 23

Fennessey Ranch Fall Hawk Watch — Fennessey Ranch, Refugio County. Experience the sight of thousands of hawks lifting from their roost on the Mission River. Full day in the field, lunch included. \$49.75/person. (361) 529-6600; www.fennesseyranch.com.

SEPTEMBER 28 - OCTOBER 1

Celebration of Flight — Hazel Bazemore County Park, Corpus Christi. This event promises thousands of migrating birds of prey — a spectacle unmatched anywhere in the United States. The weekend includes live raptor programs, mini-talks on raptor identification and migration. Surveys of raptor roosting spots offer opportunities to enhance your knowledge. (361) 241-2617; <www.ccbirding.com>.

OCTOBER

DATE TO BE ANNOUNCED

Grand Opening, Roma Bluffs World Birding Center — Roma. Roma Bluffs is the westernmost World Birding Center site, and many bird species found in Starr County are not common to other parts of the Lower Rio Grande Valley. Free. (956) 849-4930.

OCTOBER - APRIL, OR BY APPOINTMENT

Rio Grande Canoe Tours — Santa Ana National Wildlife Refuge. Paddle on an unforgettable canoe trip down the Rio Grande with trained guides. With Mexico on your right and the United States on your left, you can see birds in two countries at the same time. \$20/person. (956) 784-7500; <www.friendsofsan taana.org>.



OCTOBER 7-8

Texas Wildlife Expo — Texas Parks and Wildlife Headquarters, Austin. Presented by Texas Parks and Wildlife Department, Expo gives visitors an opportunity to try out and learn about a wide range of outdoor sports and pastimes. The birding area offers nature walks, workshops and information about birding in Texas. (800) 792-1112;

OCTOBER 1-9

Refuge Week — Your favorite national wildlife refuge. Visit your favorite national wildlife refuge this week to learn more about your local natural heritage and what is being done to protect the wildlife around us.

OCTOBER 13-14

Natural Bridge Caverns Nature Fest — Natural Bridge Caverns, San Antonio. This new festival will be held just north of San Antonio at the caverns. Call for details. (210) 651-6101; <www.naturalbridgecaverns.com>.

OCTOBER 14 (RAIN DATE OCTOBER 28)

Rio Reforestation — Lower Rio Grande Valley National Wildlife Refuge. With over 95 percent of the original lower Rio Grande delta habitat cleared or altered, the U.S. Fish and Wildlife Service is working to restore native vegetation to National Wildlife Refuge tracts throughout the area to connect fragmented existing natural areas. Each year, more than 1,000 volunteers dedicate a Saturday morning to plant thousands of native seedlings on a portion of the Lower Rio Grande Valley NWR. Free. (956) 784-7500.

OCTOBER 19 - 26

Texas Butterfly Festival — Rio Grande Valley, Mission. Visit Mission to celebrate the Valley's 280-plus species of butterflies. Learn from internationally renowned speakers, explore the area's natural habitats on expert guided field trips. (800) 580-2700; <www.texas butterfly.com>.

OCTOBER 21

NatureFest and Fall Plant Sale — Corpus Christi Botanical Gardens and Nature Center.

Focus on fall family fun! Full day of unique nature seminars, including a children's learning area and on-site plant experts. Shop for trees, natives and other landscape plants. Tour scenic garden areas, the Bird and Butterfly Trail and natural wetlands. 9 a.m.—5 p.m. Free. (361) 852-2100; <www.ccbotamicalgardens.org>.



OCTOBER 26 - 29

Wild in Willacy Bootfest — Raymondville and Port Mansfield. Birding field trips include airboat rides into the otherwise inaccessible sloughs of the Laguna Madre Bay, boating safari across the Laguna Madre to the northern tip of South Padre Island and access to private ranches. Other events feature a children's program, butterflies, native Texas plants and history of the area. (888) 603-6994; www.wildinwillacy.com.

NOVEMBER

DAILY NOVEMBER - MARCH

Guided Bird Walks — Santa Ana National Wildlife Refuge. Free, guided bird walks are offered almost every day along trails that follow the edges of wetlands and curve through some of the most pristine flood forest left in the Lower Rio Grande Valley. Call the Santa Ana NWR visitor center for current schedules. Free. (956) 784-7500.

EVERY WEDNESDAY AND SATURDAY NOVEMBER 1 – APRIL 28

Birding Van Tours — Laguna Atascosa National Wildlife Refuge. Led by knowledgeable volunteers and rangers, these van tours take you through the refuge "back country" (weather permitting) that is not open for private vehicles, to see and identify many bird species unique to the Lower Rio Grande Valley. 8 a.m.—noon. \$3/Adult, \$1/Child (12 or younger). (956) 748-3607.

NOVEMBER 8-12

13th Annual Rio Grande Valley Birding Festival – Harlingen. The Rio Grande Valley's premier birding festival featuring quided field trips, afternoon seminars, all-day workshops, and keynote lectures. Meet world famous birders and see red-crowned parrots, ringed kingfishers, great kiskadees, green jays, and many other birds found exclusively in this region. (800) 531-7346; <www.rgvbirdfest.com>; <www.harlingen.com>.

NOVEMBER 16 - 19

7th Annual South Texas Wildlife and Birding Festival — Life Center, 123 5th St., Kingsville. Celebrating and educating the public about wildlife, nature and the importance of preserving both. Tours, speakers, exhibits, demonstrations, bird show and numerous youth activities make the festival a memorable experience for all who attend. Free admission, tours \$20/person, seminars \$5/person. (800) 333-5032; <www.kingsvilletexas.com>.

NOVEMBER 30 – DECEMBER 3

Red River Valley Birding and Nature Festival — Hagerman NWR, Pottsboro. Field trips, seminars, workshops, demonstrations, children's activities and more highlight this birding festival in North Texas. (888) 893-1188; <www.redriverbirding.com>.

DECEMBER

DATES TO BE ANNOUNCED

La Sal Vieja Christmas Bird Count — La Sal Vieja Tract of the Lower Rio Grande Valley NWR. (956) 969-2475.

Laguna Atascosa NWR Christmas Bird Count. For more than 100 years, the National Audubon Society's annual Christmas Bird Count, the largest citizen science event in the world, has been collecting winter census data to be used by researchers studying long-term trends in bird populations throughout North America. People of all birding skill levels are



invited to join teams participating in the count. Free. (956) 748-3607.

DAILY DECEMBER 15 - APRIL 15

Tram Tours — Santa Ana National Wildlife Refuge. One of the most popular winter attractions at Santa Ana NWR is the 75-minute interpretive tram tours that run several times each day. A naturalist tells the story of the natural and cultural history of the region and the refuge, while visitors seated high above normal eye level get a great look at some of the most pristine habitat left intact in the Lower Rio Grande Valley. \$3/Adult, \$1/Child. (956) 784-7500.

DECEMBER 16

Santa Ana National Wildlife Refuge Christmas Bird Count. Free. (956) 784-7500.

JANUARY 2007

EVERY TUESDAY, JANUARY- MARCH

McAllen Great Outdoors Series — McAllen Chamber of Commerce, 1200 Ash Avenue, McAllen. Various speakers presenting a wide variety of nature topics to the general public. 6 p.m. \$3/person. (956) 969-2475; <www.valleynaturecenter.org>.

EVERY SATURDAY, JANUARY – MARCH

Natural History Series — Valley Nature Center, 301 S. Border, Weslaco. Various speakers presenting a wide variety of natural history topics to the general public. 10 a.m. \$3/Adult, \$2.50/Senior, \$1/Child. (956) 969-2475; <www.val leynaturecenter.org>.

JANUARY 2

Bentsen – Anzalduas Christmas Bird Count — Bentsen Rio Grande Valley State Park. All-day count of bird species and individuals in a 15-mile diameter circle. Pot luck countdown dinner following event. Last year's count recorded nearly 160 species. \$5/person. 6 a.m.—6 p.m. (956) 584-9156; <www.worldbird ingcenter.org>.

FEBRUARY 2007

DATE TO BE ANNOUNCED

Ocelot Conservation Festival — Harlingen. The annual Ocelot Conservation Festival includes demonstrations with live ocelots, live exhibits of other Texas wildlife, nature seminars, children's arts and crafts, games, archery and camping demonstrations. Free with tickets sold for certain programs. (956) 748-3607.

FEBRUARY 14 - 18

Seventh Annual Brownsville International Birding and Nature



Festival — Brownsville. If a rose-throated becard has been at the top of your birding list, or if you have never seen even one rare neotropical bird before, there is a Valley full of birds waiting to be seen during this festival. The Rio Grande Valley's warm climate offers 150–200 possible bird species this time of year in an area that has counted more than 500 different birds. (800) 626-2639; www.brownsville.org.

FEBRUARY 23 - 25

IIth Annual Celebration of Whooping Cranes and Other Birds — Port Aransas. Pack your binoculars and flock to the coast to observe the endangered whooping crane and many other birds as well as listen to lectures by birding experts, attend birding tours both by land and sea, go to photography and water-color workshops, attend a nature-related trade show and the International Children's Art Exhibit. Do not miss this chance to whoop it up in Port Aransas — island style. (800) 45£CAST; <www.portaransas.org/cranes.html>.

FEBRUARY 24

Nature Celebration — Sea Center Texas, Lake Jackson. Nature Celebration will feature everything from snakes to fish to birds and gardening for wildlife with something for everyone, including special events for the kids. (979) 292-0100.

MARCH 2007

MARCH 30 - APRIL 2

Texas Tropics Nature Festival — McAllen. The McAllen Chamber of Commerce's 11th Annual Texas Tropics Nature Festival offers field trips, seminars, a nature marketplace and trips both before and after the festival. Costs vary. (877) 622-5536; www.mcallenchamber.com. ★





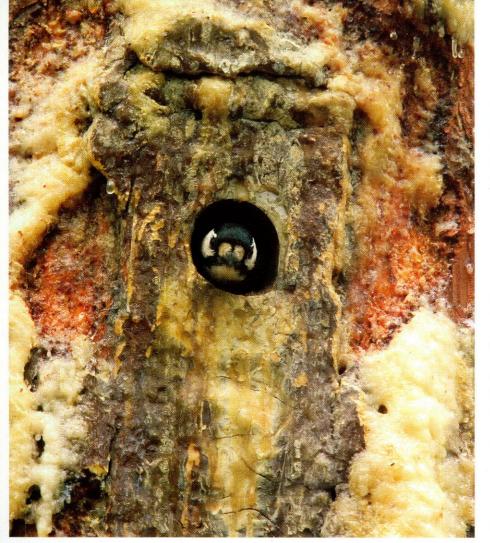


Opposite page, foreground, red-cockaded woodpecker; left, downy woodpecker; and, flying, pileated woodpecker.

These rare woodpeckers often live in homes inherited from their grandparents and protect their nests with a novel weapon — pine sap.

weapon—pine sap.

By HENRY CHAPPELL
Illustration By ALTON LANGFORD



WE WAITED IN A CLEARING

amid 80-year-old shortleaf pines. Eastward, the boles rose dark and perfect against the dawn sky. We were listening for red-cockaded woodpeckers, one of Texas' rarest birds. So far, none had joined the morning conversation. Donna Work, my guide for the day, laughed softly and said, "They get up later than everyone else."

A harsh wuck-a-wuck-a-wuck-a erupted 50 yards behind us. "Pileated woodpecker," Donna said. My inner hunter-gatherer asserted himself. I'd never seen a pileated woodpecker. If the red-cockaded woodpeckers weren't cooperating, perhaps we could ease back for a look at one of their big, raucous kin. But Donna kept glassing the woods ahead. Right. Back to work. (Yes, I was working. And running at least a quart low on coffee.)

Without my noticing the transition, the pine boles had changed from black to reddish-gray. The new sun lighted swarms of insects and the waist-high understory of dense herbaceous cover and blackberry

tangles. August in the Pineywoods.

I heard a soft, raspy shripp. Donna pointed toward a cavity tree 40 yards out. "Ah...there!" She seemed relieved. An answer came from nearby. I glassed limbs and trunks. This was prime time, the quarter hour when the birds leave their roosts and move about the cavity trees before dispersing to forage. I noticed for the first time a silver-dollar-sized cavity

Red-cockaded woodpeckers drill out cavities in mature, living pine trees and then surround the cavity with resin. These resinous barriers keep predators — like tree-climbing snakes — away from the cavity entrance.

hole, perfectly centered, 20 feet up the trunk of a pine.

We watched and listened. The little woodpeckers continued calling and pecking softly. Bits of bark fell. Donna, a Texas Forest Service biologist, had captured and banded many of these birds, but on this morning they didn't show themselves.

A few minutes later, as we approached another open stand of pines, we heard the familiar calls. "That's right. Come on out and fuss at us," Donna said. "Come check us out." Finally, a bit of movement. A bird flew out of the branches and back through the trees, undulating in the familiar woodpecker pattern. Something flittered among the boughs. A small dark bird lit on a branch, then walked down the boll. Definitely a woodpecker. There was no mistaking the profile. It kept to the shadows, then moved to the far side of the tree. Seconds later, it skittered back into view. Dark back. Bluebird-sized. Good so far. It moved into sunlight. I caught a flash of red just as the bird disappeared again. Or had I seen light playing off the reddish-brown branch? You wouldn't see red cockades from 30 yards away. A downy woodpecker, perhaps? But those calls came from redcockaded woodpeckers. Donna seemed satisfied. The calling faded into the woods.

Back at the truck, I wondered if I had actually seen a red-cockaded woodpecker. Probably. But that flash of red bothered me. I closed my notebook. I'd just have to make another trip to be sure.

Red-cockaded woodpeckers, commonly

"AH...THERE!" SHE SEEMED RELIEVED.

AN ANSWER CAME FROM NEARBY. I GLASSED LIMBS
AND TRUNKS. THIS WAS PRIME TIME, THE QUARTER HOUR
WHEN THE BIRDS LEAVE THEIR ROOSTS AND MOVE ABOUT
THE CAVITY TREES BEFORE DISPERSING TO FORAGE.



known as RCWs, were once common in the mature longleaf pine forests of the Southeast, from East Texas to Florida, northward to southeastern Oklahoma and eastward to Virginia. According to U.S. Fish & Wildlife Service estimates, the longleaf pine ecosystem once covered about 90 million acres and supported more than a million RCW family groups. In Texas, RCWs occupied suitable habitat throughout the Pineywoods. Precipitous

Be sure to distinguish the red-cockaded woodpecker from the downy woodpecker, left, and the pileated woodpecker, right.

male RCWs sport tiny red patches on the sides of the crown, along the edge of the white auriculars. However, don't rely on the cockades for identification. They're virtually invisible unless the bird's head feathers are raised during bathing or territorial disputes. Juvenile males have varying amounts of red in the center of the crown, but this isn't the cockade, and it disappears as the bird matures.

Adult RCWs average about 8 1/2 inches in length, with prominent white cheek patches, black cap, white breast and belly with broken black stripes along the sides Ornithologist Cliff Shackelford. "And folks often misidentify downy woodpeckers that come to bird feeders. A red-cockaded woodpecker would never come to a feeder."

Unlike most other woodpeckers, which make cavities in dead trees or dead parts of live trees, RCWs excavate nesting and roosting cavities in live southern pines. While other birds drill their cavities in a few weeks and often make new ones every year, an RCW family may take up to 12 years to complete a cavity. "That means you're going beyond the lifespan of an individual bird," says Richard Conner, a research biologist with the U.S. Forest Service, and senior co-author of The Redcockaded Woodpecker. "In some instances a bird's grandfather will have started the nest cavity that a young bird will inherit from its father." Although RCWs seem to favor longleaf pine, they'll use other species, including loblolly, slash and shortleaf pine. Regardless of species, the tree must have enough heartwood to contain the roosting chamber. That means trees at least 60 years old. The birds prefer pines infected with red heart fungus, which softens the heartwood.

What do RCWs gain from all of their hard work? In a word, resin. Tree-climbing snakes avoid it because it gums up their scales; dead trees don't produce it. In fact, one of the surest ways to identify an active RCW cavity is by the fresh sap running down the bole above and below the cavity entrance. The birds freshen the sap-producing wounds or "resin wells" around the entrance daily.

Biologists often describe ideal RCW habitat as open and "park-like," with little



RCW population declines began in the 1880s and continued through the 1930s due to heavy logging and land clearing for agriculture. By the 1960s, when legendary TPWD biologist Dan Lay began warning of dangerous RCW declines, the longleaf pine ecosystem had been reduced to about three percent of its former size, and only about 10,000 RCWs remained in isolated clusters in the U.S. The USFWS listed the RCW as endangered in 1970. Federal protection began in 1973 with the passage of the Endangered Species Act.

No doubt, naturalist Alexander Wilson had in mind the ribbons or "cockades" that adorned hats in 1810 when he gave Picoides borealis its common name. Adult UNLIKE MOST OTHER WOODPECKERS. WHICH MAKE CAVITIES IN DEAD TREES OR DEAD PARTS OF LIVE TREES, RCWS EXCAVATE NESTING AND ROOSTING CAVITIES IN LIVE SOUTHERN PINES. WHILE OTHER BIRDS DRILL THEIR CAVITIES IN A FEW WEEKS AND OFTEN MAKE NEW ONES EVERY YEAR, AN RCW MAY TAKE UP TO 12 YEARS TO COMPLETE A CAVITY.

and flanks, and a black-and-white barred back. Inexperienced birders sometimes confuse the RCW with more common woodpeckers. "Beginners often remark about how easily they saw the red on the bird's head, which makes me believe that they instead saw a downy or a hairy woodpecker," says **TPWD** Nongame

midstory. Historically, these conditions were maintained by frequent fires caused naturally by lightning strikes or set by Native Americans. The fires burned away encroaching hardwood brush while the fire-resistant longleaf pines thrived — as did RCWs, bobwhite quail, eastern wild turkey, Bachman's sparrow and other

open forest species. On the forest floor, fire stimulates herbaceous growth which serves as nursery cover for the insects RCWs eventually pluck from trees. Later on, heavy logging removed existing and potential cavity trees, and fire suppression encouraged thick stands of hardwood brush that gives predators access to RCW cavities. Typically, RCWs abandon a tree when the surrounding midstory nears the height of the cavity entrance.

RCWs live in groups of two to nine birds consisting of a single breeding pair and several male helpers — usually sons of the breeding male. Helpers share incubating duties, feed the young, make new cavities and defend their area from other RCWs. When the breeding male dies, one of his helper sons may replace him. Every member of a group roosts in a separate cavity.

A "cluster" consists of a group's cavity trees plus an area of approximately 200 feet around those trees. The cluster plus the surrounding foraging area — about 125 acres in good habitat — comprises the group's territory.

RCWs nest late April through June. The breeding female lays 2 to 5 white eggs in the nesting cavity. At night, the breeding male incubates the eggs, which hatch in 10 to 12 days. Newborn nestlings are altricial (blind, naked and helpless) but grow quickly, fledging in 24-27 days. Adults may continue to feed the fledglings for as long as six months.

RCWs are primarily insectivorous, though they occasionally eat seeds and fruit. The birds flake away and probe beneath bark, pulling in insects and larvae with their long, extensible tongues.

In recent years, thanks to effective management and enlightened forestry, RCW populations have increased over much of their range. "The bird is definitely doing better, mainly because of federal work being done on federal lands," says Cliff Shackelford. "In 1988, when the tracking started, there were 184 active groups in Texas. In 2002, there were 342."

All four of the national forests in Texas — Sam Houston, Davy Crockett, Angelina, and Sabine — boast RCW clusters, a total of 277 as of 2002. Sam Houston National Forest, with 164, holds the most. "We're very fortunate here in Texas to have large contiguous acreages that we can manage for RCW habitat," says USFS biologist Bill Bartush.

Wildlife managers maintain and improve RCW habitat through prescribed burning, very selective cutting and mechanical mulching of hardwood brush. At times, they install artificial cavities. "Our focus is on long [logging] rotation, so that the trees get older," Bartush says.

Donna Work and her colleagues at the Texas Forest Service also manage for RCWs. Both W. Goodrich Jones State Forest and I.D. Fairchild State Forest have several family groups.

Yet only a tiny fraction of the Pineywoods is public land. TPWD's Landowner Incentive Program provides matching funds for wildlife habitat improvements which benefit endangered Through a combination of ecological and historical chance, the red-cockaded woodpecker hung on until science and our country's developing environmental ethic could lend hope for recovery. One need only consider the huge, striking ivorybilled woodpecker to understand how easily we could have lost the RCW. The two species share serious vulnerabilities: Both are highly specialized; remove or significantly alter any major habitat component and they disappear. And though their needs differ, both birds depend on mature, commercially valuable timber.

Until early 2005, most ornithologists believed the last ivory bill died some 60 years ago. Now a few glimpses, a short,

HURRICANE RITA IMPACTS

WHEN RITA SLAMMED INTO THE TEXAS COAST LAST SEPTEMBER, the hurricane's winds damaged homes miles inland — including a few in the trunks of pine trees. According to Donna Work, one active cavity tree and two inactive cavity trees were snapped off in the Fairchild State Forest near Rusk. The Jones State Forest near the Woodlands lost only one active tree, but that cavity had been used the past two years for nesting.

Ron Mize, district wildlife biologist for the Angelina National Forest found two RCWs dead in the cavities of broken trees. Though confident that losses were relatively light, Mize remains concerned about birds flushed out of their cavities and into the storm. Spring surveys should yield a more accurate mortality estimate. Losses in the Sabine National Forest appear light as well. Biologists have already replaced the destroyed cavities with artificial cavities.

The damage could have been far worse. Because RCWs depend on trees weakened by red heart fungus, they're vulnerable to high winds. In 1989 Hurricane Hugo destroyed 87 percent of the cavity trees and killed 293 RCWs in Francis Marion National Forest in South Carolina, dealing RCW recovery a serious setback — and hastening development of the artificial cavity.

DETAILS

Texas Forest Service <www.txforestservice.tamu.edu>

U.S. Forest Service <www.fs.fed.us>

U.S. Fish & Wildlife Service <www.fws.gov>

Cornell Lab of Ornithology <www.birds.cornell.edu>

For details on the Landowner Incentive Program and the Safe Harbor Program, contact:

Texas Parks and Wildlife Department, (936) 564-0234, <www.tpwd.state.tx.us/landwater/ land/private/lip/>

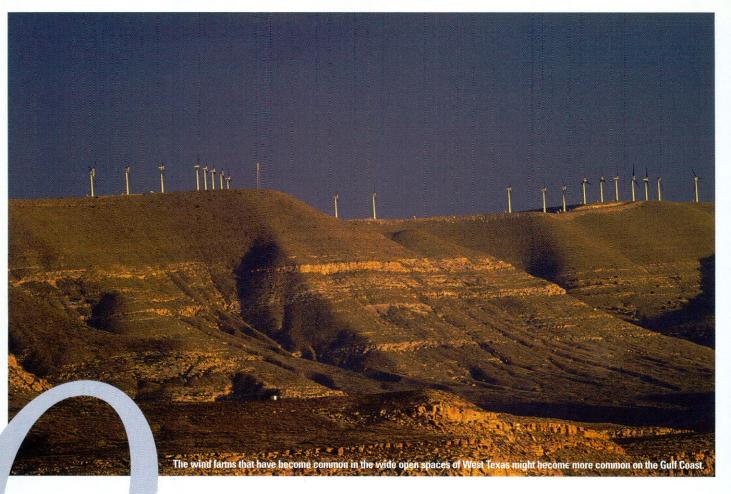
species, including the RCW. Property owners are beginning to respond. The 6,000-acre Cooks Branch Conservancy provides homes for 16 RCW groups. "It's very important that landowners understand that if they decide to protect or improve habitat for endangered species, they can get a lot of assistance and guidance from Texas Parks and Wildlife," says Sheridan Lorenz, the Cooks Branch family manager. "It's exciting for us to be able to work very hard to keep that woodpecker there and increase its population. It's now the greatest source of pride we have in that land."

blurry film clip, and faint recordings of calls and drumming offer the thinnest strand of hope that a few ivory bills may still be with us, in the backwaters of eastern Arkansas. And elsewhere, if we're very fortunate. (On remote tracts of Trinity, Neches and Sabine River bottomland not inundated by reservoirs, for example.)

We would do well to keep the ivory bill in mind even as the red-cockaded woodpecker makes a modest comeback. Hopefully, future generations of bird lovers will hear the RCW's raspy call and spot its impossibly round cavity holes with much pleasure, and little surprise. オ

INP POWER SURGES By Karen Hastings TEXAS Photography by Wyman Meinzer





One day last December, sparsely populated Kenedy County managed to pack its tiny 1919 courthouse for a public hearing on a wind energy plant proposed for its undeveloped Gulf Coast ranchlands. But as residents and interested visitors talked about tax abatements, economic development and pollution-free energy, school superintendent Orville Ballard found himself thinking about the local history museum's recent photo contest.

Kenedy County's 4th, 5th and 6th graders — there are only about 80 kids in the entire public school system here — were each given disposable cameras last spring, and asked to take snapshots of their homes. The results made a lasting impression on Ballard, and they speak eloquently about this unique South Texas region's rich history, culture and wildlife resources.

"If you looked at the pictures those kids took—the deer and nilgai and turkeys and their daddy on a horse—I think what the kids have here would be apparent. Wildlife is the basis of everything in this county—the culture and the lifestyle," says Ballard, whose district includes parts of the historic Kenedy and King ranches.

"I think we have something very unique here that we have to be very, very careful to take care of."

It's no surprise the superintendent was musing about wildlife as Kenedy County wrestled with (as yet still unresolved) issues surrounding a proposed 500-acre wind "farm" on the short grass prairie south of Baffin Bay. The possible effect of wind farms on migrating birds, bats and other wildlife has become an important concern as Texas increases its commitment to this popular form of renewable and pollution-free energy production.

The Peñascal project is only one of several land-based wind projects proposed along the Texas Gulf Coast, home to one of the nation's most important bird migration corridors. And the state of

Texas last fall leased II,355 acres off Galveston Island for a proposed field of fifty-three 260-foot wind turbines — one of the nation's first offshore wind farms.

Such high-profile developments have moved wildlife issues into sharper focus:

Will rivers of migrating Neotropical birds — the bedrock of a South Texas tourism industry as well as a crucial biological phenomenon — collide with wind turbine blades, as migrating raptors have at California's Altamont project? Will turbines, roads and the electromagnetic fields generated by power lines fragment precious habitat or scare game animals like the lesser prairie chicken away from breeding and nesting grounds? What about Mexican free-tailed bats, those night-flying, insect-eating wonders so important to the state? And will offshore towers create artificial reefs for offshore fishing, or repel dolphins, shrimp and other marine creatures?

The simple answer: Neither Texas biologists nor the wind industry knows for sure.

"The impacts from wind projects are going to depend on where they're located and what (wildlife) resources are there," explains Kathy Boydston, the Texas Parks and Wildlife Department's point person on wind energy.

"People are worried about another Altamont (along the coast).





We don't want that to happen in Texas, but we don't have any data to show one way or another how it's going to impact migrating birds (in Texas.)"

Already, Texas is second in the nation for turning wind into electricity, with 17 plants, 1,407 megawatts of installed capacity as of 2005 — mostly in West Texas and the Panhandle — and more on the way. Yet little research has been done here — despite warning signs from projects and studies in other states.

"There's an overall lack of data from these existing wind farms in Texas and their impacts on wildlife," says Boydston, who notes that TPWD has no regulatory authority over wind farms. We don't really think they've had any bad impacts, but the fact is, we really don't know."

Land Commissioner Jerry Patterson, whose agency authorized the state's first offshore wind power lease, says the potential benefits of wind power offset any potential harm to wildlife. His staff notes that high-rise buildings, cars and house cats kill more birds than wind turbines.

"You look at the overall good and the overall good is unequivocally environmentally positive," Patterson says. "If we start focusing on the one environmental negative, I think we're being very shortsighted."

BIRDS

California—the nation's leader in wind energy—discovered in the 1980s that wind farms and migratory birds can be a disastrous mix. At Altamont Pass, east of San Francisco, thousands of raptors—including federally protected burrowing owls, red-tailed hawks and golden eagles—have been killed in collisions with rotating turbine blades.

At least in part because of Altamont, wind towers are now sleeker and designed without the roosting perches found in older lattice-work towers. Turbines have also been redesigned to allow more space between the tips of the blades, which reduces the chance of bird impacts.

And proposed wind projects in and along the Texas Gulf Coast now must work harder to show their chosen site is safe for the millions of birds that travel the region each year between breeding and wintering grounds.

Several recent and upcoming developments in Texas:

• TPWD has commissioned a ground-breaking study of bird migration along the southern coast. Earlier this year, scientists from the Caesar Kleberg Wildlife Research Institute in Kingsville set up mobile radar units in key locations between Brownsville and Corpus Christi. They are studying the magnitude, range and chronology of migratory birds passing through South Texas

"When you look at North America and start looking at the migration routes, the southern Gulf Coast is just a natural funnel for birds that migrate from temperate areas of North America and winter in Central and South America," says Bart Ballard, lead research scientist on the

study. "A lot of those birds don't have the flight ability to make it across the Gulf. The circum-Gulf migrants are sort of sucked around the Gulf there, and even the trans-Gulf migrants get blown in during periods of bad weather."

Ballard stresses that the study results — along with an upcoming TPWD map showing known breeding grounds, wetlands and other important wildlife locations in the state — will be useful in evaluating all kinds of future development for this important region, not just wind farms.

• Louisiana-based Wind Energy Systems Technologies says it will use instruments inside the blades of a test turbine to collect bird strike data, during a preliminary phase of its offshore Galveston project. Infrared imaging technology also will be used to observe bird activity from the company's two observation towers, says company president Herman J. Schellstede.

"It's been proven that the migratory body of birds can be identified coming from South America," says Schellstede, whose first-ever state lease was announced late last year. "When this is known, to be extremely careful, we can stop the turbines for a period of time and let them pass."

• Biologists hired as part of the proposed Peñascal project on the Kenedy Ranch have added a second year to their study of bird activity and migration. Researchers are using field observations, radar, and acoustic and infrared technology to collect data from a 191,000-acre lease area. This new information will be analyzed to select sites for as many as 267 wind turbines, capable of producing 400 megawatts of energy. "Ours is probably the most extensive study ever done in connection with wind farms," says Patrick Nye of Corpus Christi-based American Shoreline, which is working with Scottish Power on the Peñascal project. "Based on the studies we've done so far, it's looking pretty positive that it's going to be minimal risk to the birds."

But collisions during migration are not the only worry from wind farms, biologists say. Alex Hoar, a U.S. Fish and Wildlife Service expert on wind and wildlife issues, cites a recent European study that indicates wildlife avoidance of wind turbines. While the wind industry is happy with evidence that birds will simply fly around the problem, Hoar says the study raises different questions

for areas where hunting is important, habitat is dwindling or protected species dwell:

Will game birds abandon leases near wind farms? What about owls, who depend on their hearing, and may be disturbed by the whooshing of turbine blades? Could ground-nesting prairie-chickens, which are known to avoid man-made disturbances, be harmed as a species?

Heather Whitlaw, a TPWD expert on the lesser prairie-chicken, says she is concerned about the impact of Panhandle wind farms on nearby "booming grounds" or "leks" — expanses of native prairie where these grouse attract mates each spring with a resonating sound like a wobbling saw blade.

Vertical structures and man-made noise can disturb this spring ritual, which has become a tourist attraction in some communities, she says.

"We think that wind farms are potentially an issue for the lesser prairie chicken," which is a candidate for endangered species designation, "but it's our opinion here that we really don't have a full suite of data to make decisions," says Whitlaw.

BATS

While Altamont sounded alarm bells for birds in the I980s, it wasn't until around 2003 that biologists added a concern for another winged creature — bats — to the wind farm equation. Significant kills discovered at plants in Tennessee and West Virginia provided some of the first clues that bats also are vulnerable to turbine strikes.

In 2004, a research team led by Austin-based Bat Conservation International studied 64 turbines along a forested ridgetop in Pennsylvania and West Virginia, documenting more than 2,000 bats killed by the turbines in only six weeks. Bat kills also have been reported in Oklahoma, where wind turbines are located near a well-known bat cave.

At the Kenedy County hearing last December, BCI's Merlin Tuttle pointed out that Texas has some of the largest bat colonies in the U.S. "Our predominant species, the Mexican free-tailed bat, is an especially fast-flying, migratory species that appears to be exceptionally vulnerable to being killed at wind power generation facilities," he says.

Yet, despite the importance of bats in Texas, where millions cluster in limestone caves and even around urban structures like Austin's Congress Avenue Bridge, BCI knows of no tests for bat kills at any Texas wind plant. The Peñascal research team, which has been studying bird activity since

2004, only recently added equipment for tracking bats as well.

"We simply don't know if the turbines are or are not a major source of fatalities in Texas because we simply haven't looked," says BCI scientist Ed Arnett.

In 2003, BCI helped form the Bats and Wind Energy Cooperative, which includes representatives from the U.S. Fish and Wildlife Service, the American Wind Energy Association and the U.S. Department of Energy. The purpose of the cooperative is to support research and identify solutions that prevent or minimize bat fatalities at wind farms.

For instance, the organization wants to study whether "feathering" (changing the angle of the blades so that they catch less wind) on low-wind nights will cut bat strikes. Bats are more likely to hunt

when the wind is low. "Unless solutions are soon discovered to prevent or minimize this new threat," BCI states on its Web site, "the cumulative impact on populations of bats could become extremely serious."

OTHER WILDLIFE ISSUES

In Europe, where ranks of huge turbines often dominate the offshore view, biologists have begun asking questions about the effects of noise, vibration, maintenance boat traffic and electromagnetic fields on marine life such as dolphins and whales.

But Herman Schellstede, whose turbine towers off Galveston will be less visible from land, says he expects his wind project to offer a benefit: The creation of artificial reefs, with new potential for offshore fishing.

Towers will include a horizontal grid about IO-I5 feet below water, seeded with limestone to encourage the growth of marine life, Schellstede says. Towers will be about 900 to I,000 feet apart, cables will be buried and "you can shrimp and trawl and fish between them, it won't be an obstruction," he adds.

"We're doing this to enhance our position as a friendly power distributor. To do everything we can to enhance wildlife instead of hurt it," Schellstede says. "It doesn't cost us anything to speak of and is low maintenance, but it may have a great positive impact on fisheries."

Old-style windmills have stood as icons of the Texas prairie and the state's ranchlands for well over a century. Today, Texas' energy policy supports the increased development of wind power as a clean, renewable source of energy for the state. In announcing one of the nation's first offshore wind leases, officials touted Texas' friendly attitude toward the energy industry and the limits of federal review here.

But one side-effect of this friendlier regulatory attitude, wildlife experts say, is the current knowledge gap about the impact of wind projects on the state's important wildlife populations.

"Parks and Wildlife has no regulatory authority over wind power development. We are at the graces of these companies and private landowners who want to work with us," says Whitlaw, who adds that she often learns of a new wind project as it appears on the skyline.

"Wind projects are pretty much being developed under a busi-

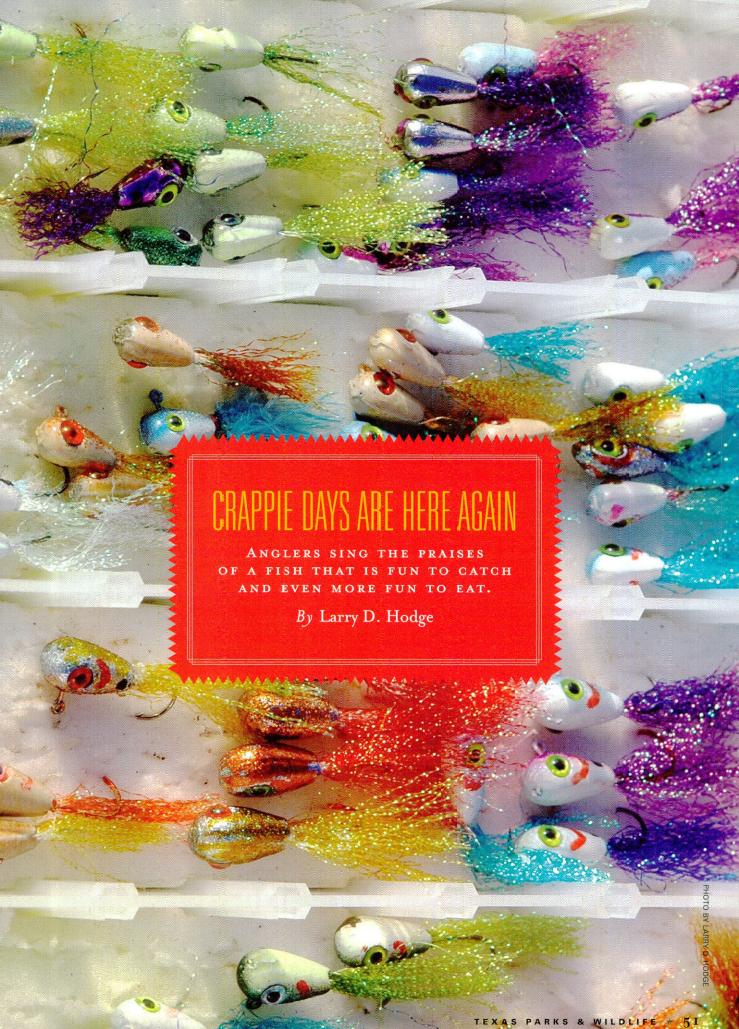
Texas is second in the nation for turning wind into electricity, with 17 plants, 1,407 megawatts of installed capacity as of 2005 — mostly in West Texas and the Panhandle.

ness plan and the public interest (in protecting wildlife) has not been well represented," agrees Hoar of U.S. Fish & Wildlife. "Often by the time we hear about a project, they have a landowner agreement and power purchase agreement. The ability to evaluate one site over another is really, from a practical standpoint, impossible because they've locked in a site."

On a positive note, TPWD's Kathy Boydston says the wind energy industry in Texas is becoming more sensitive to the need for pre- and post-construction consultation as wildlife issues surface across the country.

"Most wind companies know that it's to their benefit to check with the state resources agencies ahead of time," she says. "They're starting to come to us and work with us." **





MY WIFE'S DAUGHTER, KALMIA, is a city girl. She grew up in Dallas, attends college in New York City and generally regards any urban area with a population of less than 500,000 as the boonies. So I thought it was a stretch to invite her crappie fishing last January on Lake Fork.



Her response surprised me.

"Yes! I LOVE CRAPPIE!" her e-mail shouted.

I love getting all-capped by a young person excited about fishing.

Kalmia is not alone. Crappie are the quail of the fish world. Like quail, they tend to hang out near cover. And like quail, predatory city girls love to eat them. (So do another predator, big bass. The current state record largemouth bass was caught by an angler fishing for crappie in January on Lake Fork. Winter entries in the Budweiser ShareLunker program are often caught by anglers targeting crappie.)

Catching crappie — and if you follow the tips in this article it will be catching, not fishing — is just plain fun. Even seasoned crappie fanatics like Cedar Creek Lake guide Ernest Paty and nationally known crappie angler Wally ("Mr. Crappie") Marshall told me, "I live for the thump."

Marshall has been fishing for crappie since he was a kid growing up near Lake Lavon, northeast of Dallas, and he started crappie fishing professionally in 1986. He's designed more than 100 items for crappie anglers, and still nothing gets his heart pumping like the thump of a crappie taking his lure. "I like crappie fishing because of the action," he says. "Still today that thump on the line is the real deal for me."

How you can get that thump on your line is what the rest of this article is about. I picked the brains of five crappie experts for the information I'm about to give you. Study it carefully. There will be a test. Bring plenty of cornmeal and cooking oil to test day, and show up hungry.

CRAPPIE BASICS

THERE ARE TWO KINDS OF CRAPPIE, black and white. The two look similar and are easily confused. White crappie have dark vertical bands on their bodies and are silvery in color. Black crappie are silvery-green and have irregular dark blotches randomly scattered over their bodies. The easiest ways to tell them apart are to look at them together or to count the number of spines on their dorsal fins. White crappie have no more than six spines; black crappie have seven or eight. The foremost spine is very short; pull the dorsal fin up with your finger to get an accurate count. A 2-pound crappie of either species is considered large, though both can grow to about 4.5 pounds.

And about that name. Some people pronounce it to rhyme with *happy*, but the preferred pronunciation is KROP-ee.

"Black crappie prefer clear water and also live better in and around aquatic vegetation," says Craig Bonds, a TPWD fisheries biologist. "White crappie seem to do better in turbid water and around flooded timber and brush. That's one reason you see black crappie sometimes

dominate in East Texas and white crappie more in Central and West Texas."

Researchers and anglers alike note that crappie tend to move around, often at night. Voracious feeders, they follow shad as the baitfish journey daily from creeks and the backs of coves to open water. "The key thing to remember is that the fish move, and if you are fishing a place and not catching any crappie, move. But recheck that spot even four or five hours later, and the fish may be there," Bonds says.

In spring, crappie move up into shallow water to spawn and sometimes concentrate in huge numbers. "Research has shown that the spawn for the crappie population as a whole lasts from 27 to 56 days," Bonds says. "They begin spawning when the water temperature reaches about 61 degrees; the spawn peaks at 68 to 72 degrees. There may be one or two days with no fish against the bank, then a day or two later they will move in and spawn, then move right back out again. There are multiple pulses of fish."

Crappie like to spawn on a hard bottom. If the bottom is silty, the eggs will get covered with silt and won't hatch. It's likely that crappie spawn on submerged wood in some reservoirs.

Crappie typically take three years to reach the minimum legal length of 10 inches. On Lake Fork and Lake O' the Pines, from December 1 through the last day of February there is no minimum legal length and all crappie caught must be kept up to the bag limit of 25. This is because fish caught from deep water may not survive if thrown back. The same regulation applies to Toledo Bend Reservoir, but there the bag limit is 50. The bag

limit on Lake Texoma is 37. All bag limits are for any combination of black and white crappie.

FINDING FISH

AS YOU MIGHT EXPECT, finding fish that move around a lot can be frustrating. Some people never get it, says Tommy Tidwell, a guide on Lake Granger. "Lots of people think you need to find a big brushpile and sit there three or four hours," he says. "But when you go to a spot and don't catch any crappie within five minutes, they're not there, even though it may be the best crappie hole in the country."

But, Tidwell says, don't give up on a place too easily. "Probe the whole area. Try every corner of it. They may be in a spot maybe twice the size of your boat. Once I watched a boat sit on a spot for three hours and not catch any fish. When he left, I went in and found fish just a few feet away. We caught 10 big slabs."

Crappie can often be found near some type of structure bridge pilings, brushpiles, lay-downs, drop-offs, boat docks. In open water, crappie will hold on underwater humps and points

of land. They show a distinct preference for structure near creek channels, which are baitfish highways. Use a topographical map of a lake to locate potential crappie hotspots ahead of time.

Unless you fish a lake often enough to know all the favorite crappie hangouts, electronics are the key to finding fish but you have to know how to interpret the little squiggles marching across the screen. "One of the biggest weaknesses people exhibit is not knowing how to read their graphs," Paty says.

For that reason, both Paty and Lake Fork guide Roy Greer approach crappie fishing with clients more as education than fishing. They don't just take you fishing, they teach you how to fish. "A fish looks like an arc on the screen," Greer says. "Crappie are arced higher than bass, because their

body is smaller on either end than in the middle. A short, curved arc is probably a crappie; a long arc is probably a bass. A tightly packed group of tiny arcs is often mistaken for brush. It's probably baitfish. You'll often see a ball of baitfish with an arc or two beneath it. That's crappie following the baitfish."

AS IF ON CUE, a wiggly ball creeps across the screen on Greer's fish finder. He points to the arc beneath it. "That's a big crappie," he says. A few seconds later our fishing companion, Mike Delph, sets the hook on a 1.25-pound white crappie. Greer has made a believer out of me.

One of the appeals of crappie fishing is its affordability. You can catch plenty of crappie off the bank or fishing barges, and \$75 will buy all the crappie toys you need. One spring while birding the wildlife management area that surrounds Lake Granger, I met a man and woman carrying long rods tipped with about 6 feet of line and white jigs - and two 5-gallon buckets half full of big crappie. They simply walked the shoreline and dabbled around lay-downs and stumps.

Think light and small when rigging for crappie. Ultralight gear is plenty heavy and multiplies the fun. Use the smallest jig the wind will let you cast. Greer favors a I/32- to I/8-ounce lead-head jig with mylar tail of his own design and manufacture. Four or five basic colors — blue, pearl, watermelon, orange, purple — seem to work best, though it varies from day to day.

Marshall's favorite color for Texas lakes is a chartreuse head with a blue-and-white body; second choice is lime and chartreuse. He likes lures with a small gold willow-leaf blade, especially in murky water. Paty's favorite jigs are black and chartreuse or cinnamon brown with a blue tail, but "almost any color will catch fish if you have confidence in it and fish it well." Paty says the second-biggest weakness most people have is not knowing when they are getting a bite, so he likes to use a high-visibility yellow line that makes any movement easy to see.

Tidwell says lure color on Lake Granger makes no difference because the water is very turbid, but presentation is everything. He uses a I/4-ounce egg weight held 6 inches above the jig with

> a split shot. "Move the jig around slowly," he advises. "Drop it down and feel the weight touch the brush. Fish hear the click. Hold really still, then if they don't hit it, move it just a little and then hold it still. They will usually hit it when it stops moving."

> On lakes with lots of shoreline development, "shooting docks" catches crappie. Marshall explains how. "Use a 4foot rod, get in close, hold the lure with your thumb and index finger, bend the



Mike Delph with white crappie left, and Roy Greer with black crappie, right

CRAPPIE CONTACTS

FOR INFORMATION ON CRAPPIE FISHING ON A LAKE NEAR YOU, visit <www.tpwd.state.tx.us/fishboat/fish/recreational/lakes/> The best way to learn to fish for crappie is to go with someone who knows how.

Roy Greer, (903) 765-2075 <www.thebassclinic.com> Ernest Paty, (972) 245-9311 <www.catchcrappie.com> Tommy Tidwell, (512) 365-7761

Wally Marshall does not guide clients, but he offers crappie fishing information on his Web site, <www.mrcrappie.com>.

rod and shoot the lure into the shade." Paty teaches the technique and says to look for bigger patches of shade, diving boards that indicate deeper water and docks near creek channels.

All four guides agree that minnows will catch crappie, and Tidwell says dead ones work even better than live ones. Greer and Paty believe that jigs will outfish minnows. In open water with no submerged structure to hang up on, Marshall slowtrolls with up to 16 rods at a time using crankbaits.

Catching crappie is fun, but the best part comes later. Few fish ₹ taste better than crappie fried in cornmeal or sautéed in butter. The fish we caught on Lake Fork appeared on our dinner table the very next night. If I were sending you an e-mail about that meal, I'd 💍 have to shout it in uppercase letters, because IT WAS GOOD. *

AROUND APRIL 15

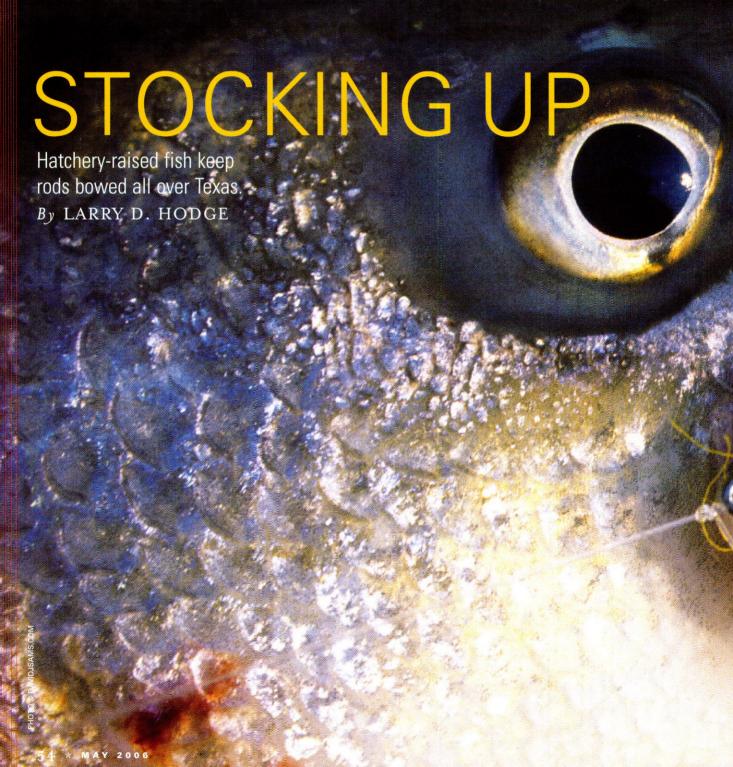
every year, dozens of Texas Parks and Wildlife Department Inland Fisheries biologists and technicians gather beside the Trinity River at the foot of Lake Livingston Dam to do a little fishing.

Actually, they do a lot of fishing — electrofishing for striped bass to be used for spawning fry for stocking into reservoirs across Texas. Plunging into the raging waters of the tailrace, biologists use long-handled nets to scoop up trophy-sized fish as they float to the surface, temporarily stunned by electricity. In mid-April the big females bulge with up to a million eggs each, and the males are full of milt.

Biologists examine a sample of eggs from each female collect-

ed and estimate when the eggs will be mature. Fish with eggs that will mature within 24 hours or so are tagged, numbered and loaded into fish trailers bound for the A. E. Wood, Possum Kingdom and Dundee fish hatcheries.

At the hatcheries, biologists and technicians work around the clock until all the fish are spawned. They check the fish hourly and strip eggs ready for spawning into a bucket, at the same time adding milt from a male and stirring the mixture with a turkey feather, which helps prevent the eggs from getting damaged. Fertilized eggs are enumerated and placed into hatching jars, where they hatch about 48 hours later. The fry are raised to fingerling size — about 1.5 inches long — in hatchery ponds before being stocked into lakes across the state. In 2005 TPWD stocked about 7.2 million striped bass and hybrid striped bass



(palmetto bass, the result of crossing a male white bass with a female striped bass).

The striped bass stocking program illustrates just one of the reasons TPWD stocks fish: to increase the diversity of species found in a particular body of water. Stocking is also used to (I) start populations in new or renovated waters, (2) supplement populations with insufficient natural reproduction, (3) restore populations reduced by catastrophe, (4) provide catchable-size fish in community fishing lakes, (5) enhance the genetic makeup of a population, and (6) take advantage of improved habitat resulting from increased water levels in reservoirs. In all, TPWD stocks about 21 million fish of various species into fresh water each year.

When a truckload of fish hits the water, that's merely the last

step in a long, carefully planned process. District biologists use electrofishing, gill netting and creel surveys to assess the status and use of fish populations in reservoirs they manage. If a reservoir's fish population (and, ultimately, fishing) can be improved by stocking, they then prepare stocking proposals requesting specific numbers of particular species for that reservoir. A review process at regional and state levels sets a stocking priority for each reservoir, since hatcheries are usually unable to supply enough fish to meet all the requests.

In Texas, lakes sometimes remain low for a long period of time or go completely dry. When such lakes rise, so does their priority for stocking. New or renovated reservoirs also generally go to the top of the list. Thus, West Texas reservoirs rebounding from a decade-long drought were first in line to receive fish



in 2005. Lakes impacted by golden alga kills are also restocked when conditions improve. Community fishing lakes, which provide close-to-home fishing for urban Texans, also rank high on the stocking list.

"Our goal is to use stocking to complement the other management tools we have - regulations and habitat manipulation — to make fishing as good as we can make it in Texas," says Bill Provine, management and research chief for TPWD's Inland Fisheries Division.

Without stocking, Texas anglers would not enjoy what is arguably the best fishing in the nation, particularly for largemouth bass.

Florida largemouth bass, striped bass and smallmouth bass are not native to Texas. Yet all three species are very popular with anglers. How they got here, and why, is a tale of a growing state with few natural lakes and several semiarid regions.

"Two hundred years ago Texas had 191,000 miles of streams and rivers flowing unimpeded to the Gulf of Mexico - and one natural lake," says Provine. "Today, there are more than 800 impoundments and few unregulated stretches of river. Reservoir construction increased the amount of aquatic habitat in the state while dramatically changing most of the original habitat. Consequently, TPWD had to develop a fisheries program based almost entirely on environments alien to native fish populations. TPWD has used hatchery-raised fish to meet the challenges of these altered systems while diversifying fishing opportunities."

Lacking adequate numbers of predators, the new reservoirs tended to become overpopulated with forage fish and undesirable species. For a time fisheries managers tried controlling populations by removing unwanted fish, but that was expensive and did little to improve the quality of fishing. Introduction of new species was the next option. "We went through a laundry list of species from this and other countries to try to take advantage of this newly created habitat unlike any we had had in Texas," Provine says. "We looked at Nile perch, peacock bass, walleye, northern pike, muskellunge and corvina." What was needed was a game fish adapted to large bodies of open water that would feed on the overabundant forage, primarily threadfin and gizzard shad.

Enter striped bass, a marine species that can survive and grow in fresh water. "In 1954, fisheries biologists in South Carolina discovered that striped bass could live in fresh water, when Santee Cooper Reservoir was closed," says Roger McCabe, a now-retired TPWD fisheries biologist who headed the striped bass program in Texas for three decades. "We brought the first striped bass to Texas in 1967 and stocked them into Lakes Navarro Mills and Bardwell." Stripers were later introduced into the Brazos, Trinity and Red River systems. Populations in 13 mainstream reservoirs are maintained through annual stockings. Oklahoma and Louisiana have stocked the border reservoirs Lake Texoma and Toledo Bend.

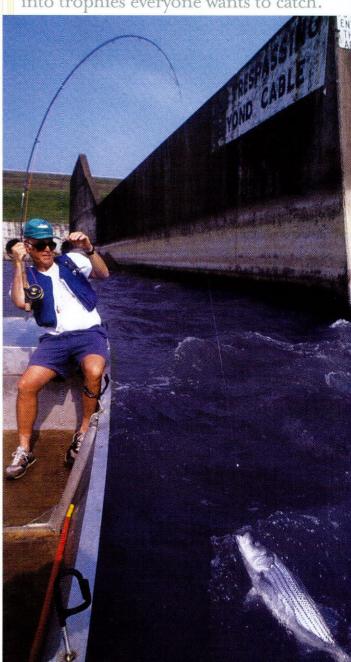
Like salmon, stripers are anadromous, meaning they live in saltwater but spawn in fresh water. Success depends on having water flowing in stream segments long enough to keep the eggs suspended until they hatch, about 48 hours. Some stretches of the Brazos, Trinity and Red have the right conditions, but only Lake Texoma has a self-sustaining striped bass population. For

the other reservoirs in Texas, striped bass and hybrid striped bass must be produced in hatcheries. According to McCabe, Texas has the largest striped bass and hybrid striped bass stocking program in the nation.

Stripers feed primarily on shad in reservoirs and can eat gizzard shad that grow too large for largemouth bass to eat. In biologist-speak, stripers convert underutilized forage fish biomass into sport fish biomass. In angler-speak, stripers eat fish no one wants and grow into trophies everyone wants to catch. The current state record for striped bass stands at 53 pounds.

Stripers occupy a vacant niche in artificial environments, mainly open water in reservoirs. Anglers target them by finding schools of baitfish, either by using electronics or watching for birds feeding on baitfish pushed to the surface by predators.

In biologist-speak, stripers convert underutilized forage fish biomass into sport fish biomass. In angler-speak, stripers eat fish no one wants and grow into trophies everyone wants to catch.



The new reservoirs also had lots of shoreline habitat and submerged structure such as trees, humps, old roadbeds and brush piles. Anglers recognize these things as largemouth bass habitat.

"Most people don't realize that Florida largemouth bass were introduced to Texas not just because they grow bigger, but also because they are adapted to living in large, open bodies of water," says Phil Durocher, director of TPWD's Inland Fisheries



Division. Hatchery production began in 1972, and by 1979, Florida largemouths had been stocked into 91 reservoirs statewide.

"The influence of Florida largemouth bass has increased angler catches of trophy-sized bass," Provine points out. "In 1990, there were only 64 public reservoirs in the state with largemouth bass records exceeding 9.9 pounds. By 2003 there were 154. The Texas state record for largemouth bass stood at a little more than 13 pounds from 1943 to 1980. The current record, 18.18 pounds, was set in 1992."

It's worth noting that those changes would probably not have

happened at all without the introduction and stocking of Florida largemouths.

It's also worth noting that stockings of Florida largemouth bass have been carried out evenly across the state. Every part of the state has received Florida largemouth stockings almost exactly equal to its share of surface waters. Almost every place you go, you can catch Florida largemouth bass.

Catching fish is what other TPWD fishing programs are all about, and stocking makes those programs possible. Rainbow trout are stocked in winter in 82 small lakes. For locations of community fishing lakes, go to <www.tpwd.state.tx.us/fish boat/fish/recreational/lakes/cfl.phtml>. For dates and locations of fish stockings, see <www.tpwd.state.tx.us/fishboat/fish/man agement/stocking/>. The Texas Urban Fishing program stocks fish at approximately two-week intervals from spring through early fall; see <www.tpwd.state.tx.us/fishboat/fish/manage ment/stocking/urban_catfish.phtml> for current information.

"Intensive work with hatchery-raised fish in urban and state park impoundments may become emphasized even more as the Texas population continues to shift to urban areas," says Provine. "Our present successes with propagated fishes demonstrate that put-and-take and put-grow-and-take fisheries may be better able to withstand fishing pressure than fisheries relying on natural reproduction. If this is the case, the use of propagated fishes and the demands on our hatchery system in Texas are sure to increase."

One way to meet the increased demands is to maximize the survival of the fish that are stocked. TPWD research studies have shown that as many as 22 percent of stocked fish are eaten by predators within hours after being stocked. That same research has shown how to minimize losses, either by stocking larger fish or protecting fingerlings for the first 24 hours. Both methods are prohibitively expensive at present, but biologists hope to overcome that obstacle someday. **

HATCHERIES AT WORK

TEXAS PARKS AND WILDLIFE DEPARTMENT maintains five state fish hatcheries.

A. E. Wood Fish Hatchery in San Marcos produces Florida largemouth bass, channel catfish and koi carp (for forage for bass). In some years it also produces striped bass and hybrid striped bass.

Dundee State Fish Hatchery near Wichita Falls produces striped bass, hybrid striped bass, channel catfish and koi carp.

Jasper State Fish Hatchery near Jasper produces Florida largementh bass, blue catfish, channel catfish and sunfish.

Possum Kingdom Fish Hatchery near Graford raises striped bass, hybrid striped bass, channel catfish, smallmouth bass, walleye, saugeye and koi carp.

Texas Freshwater Fisheries Center near Athens produces six-inch Florida largemouth bass descended from 13-pound-plus fish entered into the Budweiser ShareLunker program. It also produces channel catfish and koi carp.

All five TPWD hatcheries hold rainbow trout purchased from commercial hatcheries in other states and deliver them to community fishing lakes at intervals.

Hatcheries are open to the public and available for tours; see <www.tpwd.state.tx.us/fishboat/fish/management/hatcheries/> for details.

REGULATIONS AND HABITAT MANIPULATION: MORE MANAGEMENT TOOLS

FISHERIES MANAGEMENT is a three-legged stool. Stocking deals with the fish. Regulations deal with the anglers. And habitat manipulation deals with where the fish live.

Regulations are tailored to individual lakes. By setting bag and size limits, managers can influence how many fish a lake will have and how big they are likely to grow. Bag limits also spread harvest over a larger number of anglers.

TPWD Inland Fisheries biologists use four basic strategies to manage largemouth bass in Texas

reservoirs. Most reservoirs — 135 — are managed to provide the optimum sustained catch and harvest. These reservoirs have either a 14-inch or 16-inch minimum length requirement. This harvest strategy produces few large fish, but there are many legal-sized ones.

Another 18 reservoirs are managed for optimum sustained catch and harvest with enhanced quality. These goals are accomplished by enforcing an 18-inch minimum or a 14- to 18-inch slot. Ten reservoirs are managed for quality bass fishing with enhanced trophy potential using a 14- to 21-inch slot and a limit on how many fish over 21 inches may be kept. The four lakes managed for maximum trophy potential have either a 14- to 24-inch or a 16- to 24-inch slot and a limit on how many fish over 24 inches may be kept.

Habitat manipulation — providing better places for fish to live — may be the next leap forward in fisheries management. TPWD biologists are studying native plants and how to establish them in reservoirs to provide quality fish habitat.

LEGEND, LORE & LEGACY

Salt of the Earth

Valued since ancient times by humans and wildlife, salt lakes remain one of South Texas' oddest natural marvels.

By Eileen Mattei

The glistening white surface crunched underfoot like corn flakes. With each step under the Valley sun, my shoes cracked through the salt crust, sinking deeper as I walked closer to the open water of La Sal del Rey. Dead bees, butterflies and walking sticks dotted the solid salt pushed into tiny ridges by the wind. Ahead of me, hundreds of long-billed curlews foraged for brine shrimp. Behind me, my footprints filled rapidly with brine. When the warm slush rose to my ankles, I turned back.

On higher, drier ground, nilgai and deer hooves had left sharp-edged indentations near tiny ballerina marks of javelinas, each print was topped with a glittering layer of salt crystals. What looked like mudpies with white-frosted sides were piles of scat being desiccated by salt.

Up to 10 times saltier than the ocean, La Sal del Rey is a hypersaline lake sitting over a solid dome of salt estimated at 4 million tons. Exactly how the massive salt deposit originally formed remains unknown, but it is probably a remnant of an ancient seabed. With salt crystals that are 99 percent pure sodium chloride, it is the most famous of the dozen or so salt lakes found across South Texas. These natural mineral licks attract herds of cattle, and the brine shrimp draw flocks of shorebirds and waterfowl to nest, roost and stop over on migrations.

Exploited by tribes north and south of the Rio Grande before the first Europeans ventured to the New World, La Sal del Rey, or the King's Salt, covers about 380 acres in Hidalgo County. Also known as El Sal del Rey and La Purificacion, the salt lake was the destination of an ancient salt trail and a critical supply point and military objective during the Civil War. More important today, La Sal del Rey was the catalyst for an 1866 Texas constitutional amendment that turned over mineral rights to property owners and took them away from the government, which by law and custom in Texas had controlled all minerals until then.

Salt was once linked to power and wealth, a prized mineral because it is an essential human nutrient and crucial for preserving meat, fish and hides. In 1798, Spanish army Captain Juan Jose Ballí was awarded the San Salvador de Tule land grant including La Sal del Rey, which the Spanish had already mined for 40 years, and nearby La Sal Vieja. By law, the King of Spain received a royalty or tax of 20 percent of the salt mined there. Salineros or salt miners came from Mexico with trains of pack mules or ox carts. The salt was shoveled loose, dried briefly on the shore, and then packed into bags to be hauled away. Spanish ships that brought supplies to the Americas returned home with loads of salt and other precious minerals.

The ancient tracks of the salt-laden carts are still visible today on undisturbed land since salt that dribbled from the bags poisoned the ground, according to Elouise Campbell. Her family owned the 5,384-acre El Sal del Rey ranch for 40 years until selling it to the U.S. Fish and Wildlife Service in 1992. "I can picture those conquistadores coming out of the brush, spotting this huge white lake and thinking it was snow," Campbell says. "They must have tasted it and claimed it for the king." Before that, Indian tribes considered it neutral ground, a place to peacefully harvest the salt used to cure hides. In Raymondville, 18 miles to the east, a pocket park commemorates the old salt road with a mural of salteros loading bags of salt onto wooden carts. A bigwheeled weathered cart is parked in front of the mural.

During the Civil War, the Confederate states lost their sources of salt, and the La Sal del Rey salt works prospered as prices rose to \$8 a bushel. The wagons that smuggled southern cotton to the Mexican border port of Bagdad returned home with cargos of salt and guns until the Yankees captured the salt lake in 1863.

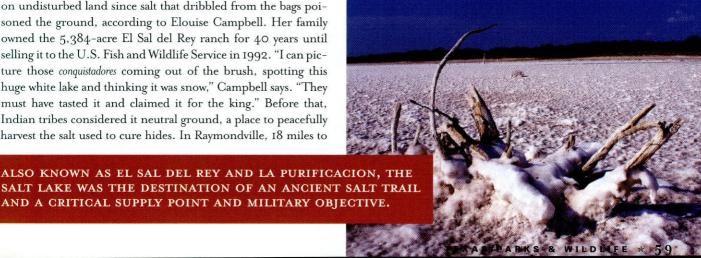
When the Campbell family started ranching at the lake, farmers would still come to retrieve salt for their livestock. After laying wide planks on top of the solid salt out into the lake, they used hoes and shovels to cut out blocks of salt, which they put in wooden boxes that burros took to shore. Ice cream factories were major salt buyers, too.

Good times at the salt lakes included looking for arrowheads and other traces of long-ago visitors and swimming when the rains raised the water level. "People would stick a branch in the lake for a few days and retrieve a white, sparkling Christmas decoration," Campbell says, noting that the lake itself sparkled, day and night. "When the moon was full and shining on the lake, it was so beautiful. I could always tell when it was going to rain because the lake was pink." The pink tone came from the algae, which supports the brine shrimp population. "In the 1950s, Judge Looney's wife would go lie down in the lake and soak for her rheumatism." The mile-long La Sal del Rey sometimes dries out completely and is rarely more than three or four feet deep, unlike La Sal Vieja, which is on an adjoining private ranch.

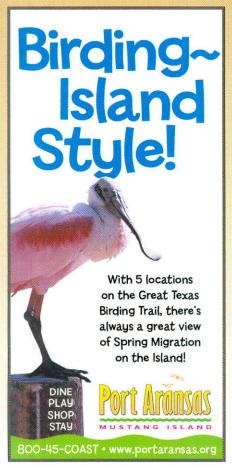
A rickety dock sits high and dry at La Sal Vieja, a remnant of the years when the water near the shore was six feet deep, and people water-skied and swam in its 1,674 acres. "When you floated in it, you felt like a cork riding high. When you got out, salt frosted you like a cake," says Allan Crockett, a horticulturist whose family's hunting lease includes a quadrant of La Sal Vieja. Last summer, after trekking about IOO yards out from the dock, Crockett's sons reached the brine and discovered that the salt mud is hot and abrasive. Salt crystals have sharper edges underwater, before they are eroded by the wind, Crockett says.

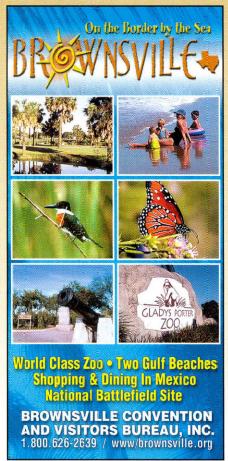
Thickets of Texas ebony, wild olive and Texas persimmon overlook La Sal Vieja and its two islands. Stumps and branches of mesquite trees along the high-water line are salt-cured and sandblasted, a preserved wood that resists rot. "People didn't realize what a treasure the lake was and abused it in years past," says Crockett, as he moved a rattlesnake partially buried in the salt.

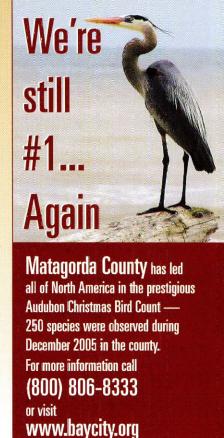
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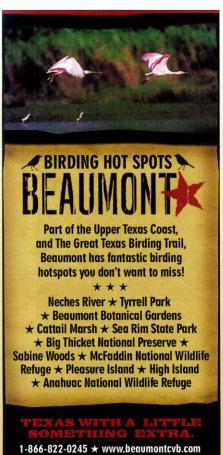


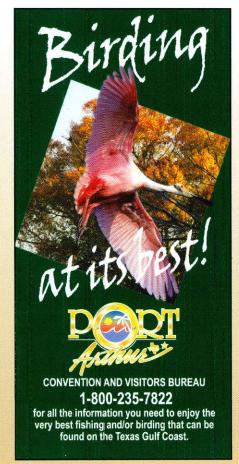
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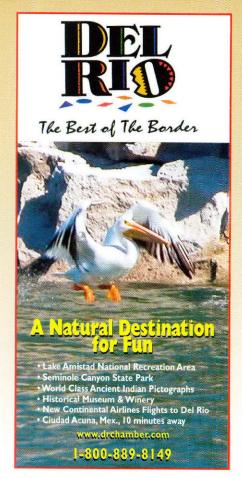


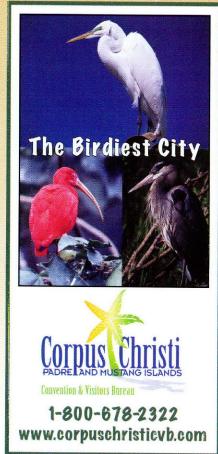




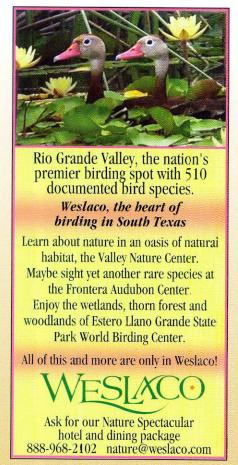


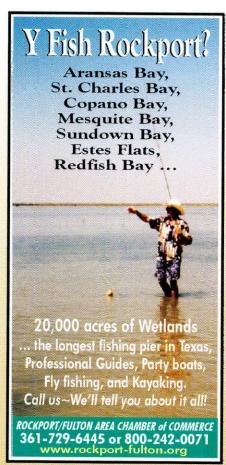
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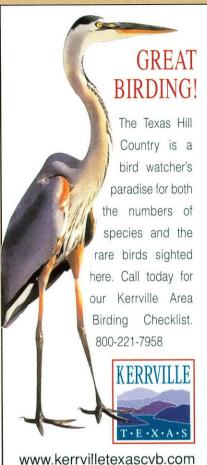




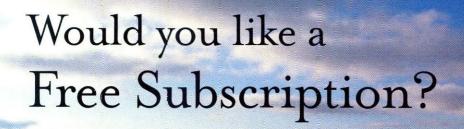


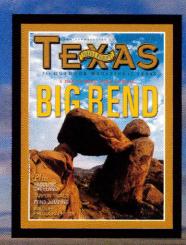












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SIGHTS & SOUNDS

(continued from page 65)

- 6 a.m.; KVRT-FM 90.7 / 5:33 p.m.; KLUX-FM 89.5 / throughout the day

CROCKETT: KIVY-AM 1290 / 8:20 a.m., KIVY-FM 92.7 / 8:15 a.m.

DIMMITT: KDHN-AM 1470 / 10:30 a.m.

EAGLE PASS: KINL-FM 92.7 / 3:30 p.m.

EASTLAND: KEAS-AM 1590 / 5:50 a.m., 5:50 p.m.; KATX-FM 97.7 / 5:50 a.m., 5:50 p.m.

EDNA: KGUL-FM 96.1 / 7:10 a.m.

EL CAMPO: KULP-AM 1390 / 2:36 p.m.

EL PASO: KTEP-FM 88.5 / 12:15 p.m. Thurs.

FAIRFIELD: KNES-FM 99.1 / Sat. mornings FLORESVILLE: KWCB-FM 89.7 / 1:30 p.m.

FORT STOCKTON: KFST-AM 860 / 7:10 a.m.; KFST-FM 94.3 / 7:10 a.m.

GAINESVILLE: KGAF-AM 1580 / 10 a.m.

GRANBURY: KPIR-AM 1420 / 4:20 p.m. **GREENVILLE:** KGVL-AM 1400 /

HARLINGEN: KMBH-FM 88.9 / 4:58 p.m.; KHID-FM 88.1 / 4:58 p.m.

HENDERSON: KZQX-FM 104.7 / 10:20 a.m., 4:20 p.m.

HEREFORD: KPAN-AM 860 / 2:50 p.m.; KPAN-FM 106.3 / 2:50 p.m.

HILLSBORO: KHBR-AM 1560 / 9:30 a.m.

HOUSTON: KILT-AM 610 / between 4 a.m. and 7 a.m. Thur.-Sun.

HUNTSVILLE: KSHU-FM 90.5 / throughout the day

JACKSONVILLE: KEBE-AM 1400 / 7:15 a m

JUNCTION: KMBL-AM 1450 / 6:40 a.m., 3:30 p.m., KOOK-FM 93.5 / 10:20 a.m., 3:30 p.m.

KERRVILLE: KRNH-FM 92.3 / 5:31 a.m., 12:57 p.m., 7:35 p.m.; KERV-AM 1230 / 7:54 a.m., 11:42 p.m., 6:42 p.m.; KRVL-FM 94.3 / :54 a.m., 11:42 p.m., 6:42 p.m.

KILGORE: KZQX-FM 105.3 / 10:20 a.m., 4:20 p.m.

LA GRANGE: KBUK-FM 104.9 / 12:30 p.m.; KVLG-AM 1300 / 12:30 p.m.

LAKE CHEROKEE: KZQX-FM 104.7 / 10:20 a.m., 4:20 p.m.

LAMPASAS: KACQ-FM 101.9 / 8:25 a.m..; KCYL-AM 1450 / 8:25 a.m.

LAREDO: KHOY-FM 88.1 / throughout the day

LEVELLAND: KIVT-AM 1230 / 12:30 p.m.

LLANO: KITY-FM 102.9 /5:15 a.m.; 1:15 p.m.; 3:15 p.m.; 9:15 p.m.

LONGVIEW: KZQZ-FM 101.9 / 10:20 a.m.; 4:20 p.m.

LUBBOCK: KJTV-AM 950 / overnights **LUFKIN:** KUEZ-FM 100.1 / 12:15 p.m.;

KYBI-FM 101.9 / 12:15 p.m. **MADISONVILLE:** KMVL-AM 1220 / 7:45 a.m.; KMVL-FM 100.5 / 7:45 a.m.

MARSHALL: KCUL-FM 92.3 / 6:12 a.m.; KMHT-FM 103.9 / 6:25 a.m.; KMHT-AM 1450 / 6:25 a.m. **MASON:** KOTY-FM 95.7 / throughout the day

MESQUITE: KEOM-FM 88.5 / 8:15 a.m., 2:30 p.m., 8:30 p.m. Mon.–Thu.; 8:15 a.m., 2:30 p.m. Fri.

MEXIA: KRQX-AM 1590 / 3:15 p.m.; KYCX-FM 104.9 / 3:15 p.m.

MINEOLA: KMOO-FM 99.9 / 5:15 p.m.

MONAHANS: KLBO-AM 1330 / between 8–9 a.m. and 1–3 p.m.

NACOGDOCHES: KSAU-FM 90.1 / 2:45 p.m.

NEW BRAUNFELS: KGNB-AM 1420 / 5:55 a.m.

ODESSA: KCRS-AM 550 / 6:15 a.m., 5:50 p.m.; KOCV-FM 91.3 / 6:49 a.m.

PECOS: KIUN-AM 1400 / 10:30 a.m.

PLAINVIEW: KVOP-AM 1090 / 9:50 a.m.

ROCKDALE: KRXT-FM 98.5 / 5:04 a.m., 8:45 p.m.

SAN ANGELO: KGKL-AM 960 / 6:32 a.m., 6:58 p.m.

SAN ANTONIO: KSTX-FM 89.1 / 9:04 p.m.

SEGUIN: KWED-AM 1580 / 7:55 a.m.

SONORA: KHOS-FM 92.1 /10:15 a.m.; KYXX-FM 94.3 / 10:15 a.m.

SULPHUR SPRINGS: KSST-AM 1230 / 2:50 a.m., 11:50 a.m.

SWEETWATER: KXOX-FM 96.7 / 8:30 a.m.; KXOX-AM 1240 / 8:30 a.m.

TEMPLE: KTEM-AM 1400 / 10:20 a.m.

TEXARKANA: KTXK-FM 91.5 / 2:04 p.m.

VICTORIA: KTXN-FM 98.7 / 6:50 a.m.; KZAM-FM 104.7 / 7:10 a.m.; KGUL-FM 96.1 / 7:10 a.m.

WACO: KBBW-AM 1010 / throughout the day

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May 14 - 21:

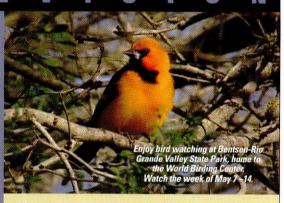
A cooperative that conserves; preserving Texas' coral reefs; the hunting life; rainy days; Sam Bell Maxey House.

May 21 - 28:

Colorado Bend State Park; challenges to water laws; San Antonio's colorful canyon; instructing hunters; classy prairie dogs.

May 28 - June 4:

Lake Fork fishing guide; honoring Iwo Jima; East Texas conservation family; Lake Corpus Christi State Park; fly the Guadalupe.



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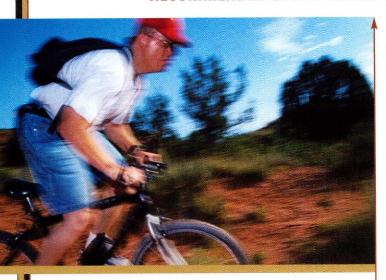
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COMMERCE: KETR-FM 88.9 / 10:15 a.m. **CORPUS CHRISTI:** KEDT-FM 90.3 / 5:33 p.m.; KFTX-FM 97.5 / between 5

(continued on page 64)

RECOMMENDED STOPS ALONG THE ROAD LESS TRAVELED



Matador Wildlife Management Area

An undiscovered cycling haven awaits in North Texas.

A PLACE EXISTS THAT MOUNTAIN BIKE ENTHUSIASTS dream about but never ride because it is a place where no mountain bike has been before. Remote and obscure, it lives in the mountain biker's mind, having yet to acquire a name. But now, Texans can give it one. In fact, history has surrounded this place with odd sounding names like Cow Hollow Creek, Cactus Flats Windmill, Moons Camp, Hell Roaring Creek and the "mouth" of the Tongue River. Sound like someplace you'd find in a folk tale? It's not. It's actually just northeast of Matador, Texas, and it's called Matador Wildlife Management Area.

"I know of no one who has engaged in mountain biking activities on the Matador WMA," says Area Manager Chip Ruthven. But with miles of rugged, 4-wheel-drive jeep track rolling across mesquite uplands, gravelly juniper hills, and sandy bottomlands typical of its central Plains location, TPWD's Matador offers ideal biking opportunities.

"We have approximately 70 miles of roads on the Matador WMA that would be accessible to mountain bikers," says Ruthven. "Of these, approximately 3 miles are well-maintained gravel on gently rolling terrain. Remaining roads are unimproved dirt roads on a variety of slopes and soil textures." Good news for mountain bikers — that's a lot of rough mileage. Even better news — the WMA doesn't have the manpower to keep every road maintained at all times so most of them stay rough.

Matador's 28,000 acres offer the mountain biker plenty of riding country along with a chance to see lots of wildlife. Rio Grand turkey, Mississippi kites, painted buntings, ornate box turtles, bobcats, bobwhite quail and the occasional pronghorn may join you at any point on your ride. Two rattlesnake species, the western diamondback and the western massasauga, make Matador their home as well, so bikers might want to tread with caution.

Located midway between Wichita Falls and Lubbock, Matador WMA is accessible for a day ride from Lubbock and Amarillo or a quick overnighter from Dallas/Fort Worth. The self-service visitor's registration is open 24 hours, and all one needs to access the WMA is either an Annual Public Hunting Permit or Limited Public Use Permit, which can be obtained online at the TPWD Web site or from a license vendor.

Be prepared to bring your own drinking water. Matador is primitive and there are no facilities or hookups. Dogs are allowed but booties are recommended for protection against troublesome grass burs. The area has seen its share of camping throughout the ages and bikers should be prepared to practice proper primitive camping etiquette.

Since Matador is a wildlife management area and not a state park, access is limited by its hunting program, a factor typical of WMAs statewide. But it still provides ample opportunities to ride.

"Our general nonconsumptive-use period is from early May through August," Ruthven says. "We are closed during special permit hunts. During much of the fall and winter we are open to Annual Public Hunting Permit holders for quail and dove hunting." But that shouldn't stop mountain bikers from enjoying the area during these seasons too.

"Persons interested in mountain biking during the period of September through April should contact the WMA to determine when we are open for mountain biking activities."

Easy enough! The real challenge for mountain bikers at Matador is where it should be — on the bike. \star

For more information, call Matador WMA at (806) 492-3405 or visit www.tpwd.state.tx.us/huntwild/hunt/wma/find_a_wma/list/?id=15.

— Е. Dan Klepper

Huntsville State Park

As part of Operation World Record, Lake Raven promises to become a lunker factory.

THERE ARE SOME VERY SPECIAL LARGEMOUTH BASS swimming around Lake Raven, which is located in Huntsville State Park. Some 20,000 small fry, from three to six inches long, were spread out over six Texas lakes including Raven. Each fish has a very small tag, about a millimeter in size, inserted into their skin that holds the secret to their special pedigree.

What makes these fish special is that they are part of Operation World Record, which evolved as a result of the Budweiser ShareLunker program. Now in its 20th year, the ShareLunker program has accepted more than 400 largemouth bass, 13 pounds or bigger, donated by anglers for use in spawning in an effort to increase the number and size of trophy largemouth bass caught in Texas. Recent advances in the ability to detect genetic differences among fish are expected to enable scientists to confirm their belief that big fish have genes that make it possible for them to grow bigger and that these genes can be passed on to their offspring.

PHOTO @ RUSSELL A. GRAVES





Lake Raven has all the requirements needed to produce trophy-sized bass. It is a fairly shallow lake with a mean depth of six feet; maximum depth is 28 feet at the dam. It has 4.6 miles of shoreline, small enough to be easily sampled by Texas Parks and Wildlife Department fishery biologists, but large enough to provide a quality fishing experience for anglers. It has a history of producing large double-digit largemouth bass. The lake record is 13.48 pounds.

The habitat is conducive to bass growth. "The hydrilla is mostly gone," says Jeff Henson, a TPWD biologist. "There are some native aquatics out there now. The only invasive species we have are alligator weed and water hyacinth.

"I would say it (fishing) is excellent considering the potential to catch large bass," continues Henson. "Typically at Raven we catch 50-70 bass per hour from electrofishing, with fish to 21 inches. A 21-inch fish here is almost a six-pound bass; they are pretty chunky. There are lots of young fish, which is good because you always want to see young fish recruiting into the fishery, and a good number of nice quality-sized bass out past 14 inches. Plus, you have really good forage here, bluegill, redear sunfish—large redear sunfish. Eleven-inch redears are pretty common in this lake."

The fish tagged in 2005 will be sampled by electrofishing in 2009. Differences in length and weight between the ShareLunker offspring and wild fish will provide insight into the effectiveness of TPWD's Operation World Record largemouth bass selective breeding program. Meanwhile Raven is a catch-and-release-only lake for bass.

"Ultimately we will be able to take a DNA sample from a Budweiser ShareLunker and determine that fish's parents," says Allen Forshage, director of the Texas Freshwater Fisheries Center.

— Tom Behrens

Lake Mineral Wells State Park

Located an hour west of Fort Worth, the park offers 85 climbing routes for novice and experienced rock climbers.

TWO OF THE BIGGEST OBSTACLES TO OVERCOME in planning an outdoor adventure are distance and time. For the rock climber, Lake Mineral Wells State Park takes care of both. Located about an hour west of Fort Worth, this park offers a classroom-like setting for climbers of all skill levels. The rim of the climbing area, known as Penitentiary Hollow, overlooks Lake Mineral Wells from the east. A canyon cut into sandstone contains 85 side-by-side climbing routes with a wide range of difficulty levels. In an effort to protect the rock and its surrounding natural features, TPWD had rope anchors placed at the top of the hills. The rope anchors also protect

climbers by providing more secure protection. Indirectly, the anchors also provide a reference point for locating individual routes.

What the routes lack in length, they make up for with convenience. A short walk from the parking area lies a staircase, built into the rock, that leads climbers to the bottom of the small canyon. The path to the staircase runs parallel to the top of the climbing area, allowing for walk-up accessibility to many of the anchors. (The rest require a short scramble.) Once in the bottom of the canyon, climbers may walk up to the start of virtually any one of the routes. This enables new and young climbers to have easy access to a variety of difficulties. That is one of the things Danny Andrejeski, a frequent visitor from Arlington, likes most about climbing here. "There's a great variety of difficulties, and that gives the new climber plenty of options, but still keeps the more skilled climber busy."

The park has a "Climb Clean" policy, which requires the use of existing anchors only — in other words, no boulder "free climbing" or anchoring to anything that could damage the existing rock or any other natural features. Top rope and a harness are musts. Before driving out to the park, be sure to call ahead to check the recent weather. The climbing area is closed for 48 hours after rain in order to protect the rock from damage. All that's left for climbers to do is stop at the park entrance station to sign a waiver and pay the \$3 per person climbing fee (in addition to the usual \$5 per person park entrance fee).



On the short drive to the climbing area, you will pass near the park store as well as the beach swimming area. In warmer months, a swim is great for a post-climb cool-down. Paddleboat and canoe rentals are also available. The store stocks groceries, ice, firewood and deli items. To round out your adventure, you can check out the park's trailway, more than 20 miles of transformed Mineral Wells and Eastern Railroad route that provide a great escape for the biker. Those in no hurry to return home can spend the night in one of the many campsites, both with and without water, or even a screened shelter.

The climbing area at Lake Mineral Wells State Park provides more than a full day of climbing. The variety and proximity of all the routes make for great accessibility. Combined with plenty of room in the campground, long or short stays satisfy climbers of all levels. *

— John R. Meyer

For more information, call (940) 328-1171 or visit www.tpwd.state.tx.us/spdest/findadest/ parks/lake_mineral_wells/>.

For information about upcoming events in all your state parks, visit <www.tpwd.state.tx.us/newsmedia/calendar>.

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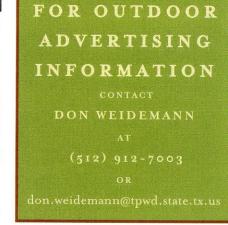
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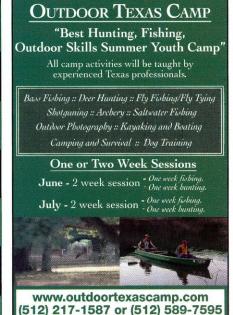
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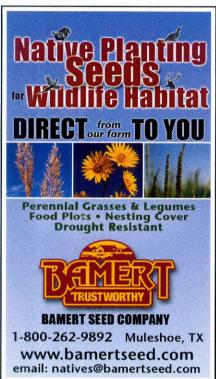


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(Continued from page 59)

The lake was used intermittently as an oil field runoff basin before regulatory agencies stopped them.

East Lake, the third of the hypersaline lakes running west of Raymondville for 20 miles, is a newly opened tract of the Lower Rio Grande Valley Wildlife Refuge system, and serves as a protected nesting area for gull-billed terns.

La Sal del Rey, the smallest of the three lakes, is also the most accessible. Next to State Highway 186, a USFWS kiosk provides natural and historical information at the head of the wide caliche walking trail that winds for a mile through Tamaulipan thorn scrub leading to the western, shallower end of the lake. There, rimmed by mesquite, ebony, cactus and huisache, a puddle or two of pink brine lingered in late spring as the evaporative season began.

In light of the lake's contribution to Texas mineral rights as detailed in Wallace Hawkins' book, El Sal del Rey, it is only fitting that USFWS does not own La Sal del Rey's mineral rights. An oil supply company's pipes snake along the lake's edge, transporting brine to be used as drilling mud.

La Sal del Rey shrinks and expands with the seasons. "It's one of my favorite places in the Valley. You get a remote feeling of being on a refuge," says Christina Montoya, a USFWS Refuge Operations Specialist. Salt crystals glittered like glass shards as she circled the edge of what looks like a barely frozen pond and pointed out perfectly preserved insects — a centipede shell, a desiccated walking stick — along with rabbit and bird bones. Salt removed from any spot in the lake is quickly replaced, usually within three days, she says. In the distance, rime-encrusted fen-

ceposts poke up, while a flock of curlews seemed to wade amid chunks of ice.

On the northeast bank of La Sal, an artesian spring bubbles up from reeds, between the brush line and the brine, and trickles down to the lake. The lake is a stopover for thousands of migrating snow geese, sand-hill cranes, phalaropes, eared grebes and other waterfowl and shorebirds. In spring, La Sal del Rey lake hosts nesting blacknecked stilts, snowy plovers and least terns. "Access is not restricted," Montoya says, "but we encourage people to be more cautious during nesting season," which starts in mid-March. Whooping cranes have been observed here, and most human visitors to this natural wonder are birders.

Standing in this magical place shimmering in the sun, I scraped out a clump of salt crystals. On my tongue, the taste was pure and clean — salt of the earth. **

PARTINGSHOT

A rare white red-tailed hawk soars above Highway 114 near Seymour, in North Texas. Photographer Mike Sloat says he normally sees the bird during one week in November and near the end of January. On this mid-afternoon in November, a cold front had pushed away the clouds to give the hawk a clear sky for a backdrop.

IMAGE SPECS: Nikon D1x with a Nikon 600mm lens and 1.4 converter. Shutter speed is 1/500 second, f/10, ISO 400.



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