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FRONT: They're not typical Texas residents, but greater flamingos can find their way to our state as a vagrant species. Photo © Tim Fitzharris

BACK: With Lake Buchanan in the background, mountain biker Eric Krell rides through trail markers on his way to the summit of Decision Point at Reveille Peak Ranch. Photo by Chase A. Fountain/TPWD

PREVIOUS SPREAD: When the lemming population declines sharply in the Arctic, snowy owls are forced to flee in search of other sources of food, occasionally coming as far south as Texas. Photo © Tim Fitzharris

THIS PAGE: A scuba diver finishes maintenance on a glass-bottom boat at Spring Lake in San Marcos. Photo by Chase A. Fountain/TPWD

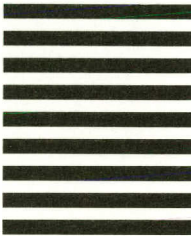


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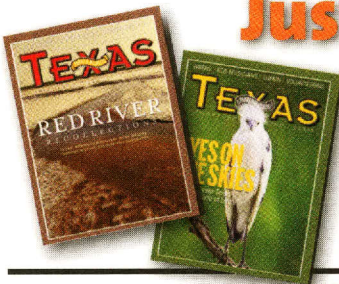


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Russell Roe Managing Editor
Brandon Jakobeit Art Director
Earl Nottingham Chief Photographer
Chase A. Fountain Photographer
Ana Kirk Business Manager
Catherine Groth Photography Intern

CONTRIBUTING WRITERS:

Mike Cox, Steve Lightfoot, Rob McCorkle, Larry D. Hodge, Dyanne Fry Cortez

CONTRIBUTING PHOTOGRAPHERS:

Tim Fitzharris, Kathy Adams Clark Productions, Erich Schlegel, Larry Ditto

EDITORIAL OFFICES:

4200 Smith School Road, Austin, Texas 78744
Phone: (512) 389-TPWD Fax: (512) 389-8397
E-mail: magazine@tpwd.state.tx.us

ADVERTISING SALES OFFICES:

STONEWALLACE COMMUNICATIONS, INC.
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Fax: (512) 389-8397
Jim Stone, Advertising Director (512) 799-1045
E-mail: jim.stone@tpwd.state.tx.us

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In the Field

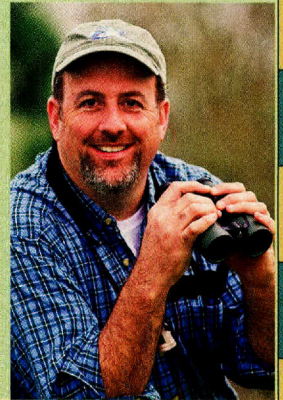
LINDSAY SANSON grew up in the Hill Country town of Wimberley, which inspired in her a deep, abiding love for clean, clear water. As a child she was a frequent and enthusiastic visitor to Aquarena Springs and grew up loving Ralph and the Aquamaids. After earning a master's degree in international rela-



tions and environmental policy at Boston University, she returned home to Texas to do water policy research addressing the growing water crisis. Lindsay is a research specialist for the Texas Stream Team and the Meadows Center for Water and the Environment in San Marcos (where she works for former TPWD chief Andy Sansom but is no relation to him). She will be enrolling in the water management and hydrological sciences doctoral program at Texas A&M this fall.

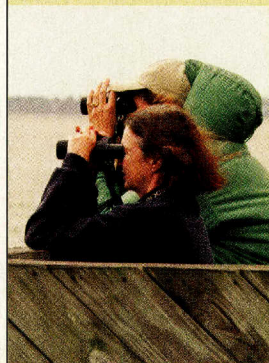
CLIFF SHACKELFORD, a seventh-generation Texan, has been an ornithologist with the Texas Parks and Wildlife Department for the past 16 years. He is senior author of the colorful and informative book *Hummingbirds of Texas*.

Behind the scenes on an annual basis, Cliff reviews more than 20 draft articles on birds and confirms the identification of numerous bird photos for this magazine. Although he and his family live behind the "pine curtain" of East Texas, work travels take him to all corners of the Lone Star State, and personal travels have taken him to and beyond the winter range of the species that he writes about in this issue, the Mississippi kite.



NOREEN DAMUDE is currently, and joyfully, retired. Formerly a nongame biologist at TPWD and a biologist for the TPWD Endangered Species Program, she has also worked as a botanist at the Lady Bird Johnson Wildflower Center. Before moving to Austin, she was a technical French translator for Fluor Inc., an English/technical writing teacher for a community college

and a film editor/scriptwriter in the film industry. When not traveling, mostly in pursuit of birds and succulent plants, she spends her time reading and writing. Birds have been the one constant in her life. And like aficionados of any pursuit, birders are drawn to the extraordinary. Sighting a red-billed tropicbird or a stygian owl anywhere in Texas arouses the ultimate *frisson* of excitement, attracting birders hoping to add a species to their life list.



AT ISSUE

FROM THE PEN OF CARTER P. SMITH

My love affair with the Lower Rio Grande Valley is a multigenerational one. It began, I am quite sure, with my maternal grandparents, who were “winter Texans” of a sort. Each January or so when the temperatures dipped and the winds spiked in North Texas, they would pile into their motor home and gleefully head south, seeking refuge in some palm-lined trailer park in deep South Texas.

Some years they would land in Harlingen, others it was Weslaco, and still others it was Mercedes, Brownsville or McAllen. I don't know how they selected their ultimate destination. It didn't matter. As far as I was concerned, they were headed to the exotic Rio Grande Valley, and I couldn't wait to join them for a week-end or longer if my parents would relent.

My grandmother was a great lover of nature, and of birds in particular. Rest assured she was never so presumptuous as to call herself a “birder.” She would have demurred at being called a “nature tourist.” But, in essence, that is what she was. Like the throngs of wildlife enthusiasts who make their seasonal pilgrimages to the Valley, she particularly loved all the brightly colored, subtropical species for which the region is well known. Brilliantly hued Altamira orioles, great kiskadees and green jays were among her favorites.

Just as she loved the birds, I think she enjoyed the habitats that supported them just as much. Santa Ana and the Sabal Palm Grove, Laguna Atascosa and the Laguna Madre, Bentsen-Rio Grande and Boca Chica were all on her proverbial bucket list on each trip to the southern reaches of Texas. Thankfully for me, she and my grandfather were always more than happy to take their wide-eyed grandson along for the ride.

She's long gone now, but I have no doubt she would be thrilled to know that other destinations such as the wetlands of Estero Llano Grande and the resacas of Resaca de la Palma are there to see and discover as state parks. She'd love the concept of the World Birding Center and the opportunity to explore a host of destinations spanning the Valley, from the towering Roma Cliffs overlooking the Rio Grande to McAllen's magical Quinta Mazatlan to the shorebird-rich bayside flats on South Padre Island.

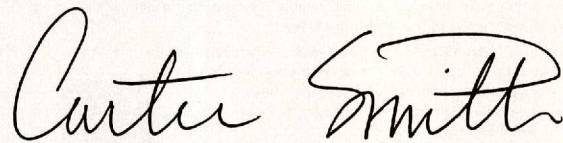
She'd be just as pleased to know that there are ample other destinations in Texas that beckon the nature-inclined. In this edition alone, the magazine features stories about eagle watching on Lake Buchanan, hawk viewing at Hazel Bazemore Park in Corpus Christi, historic rock art viewing at Hueco Tanks and the restoration of that most famous of multigenerational family destinations, Aquarena Springs.

The nature of this tourism business is nature. And, in that category, I can proudly say, Texas is second to none. We were the first state, back in 1996, to offer a public birding trail along the coast, attracting tourists to birding hot spots from Bolivar Flats to Boca Chica. We now offer similar trails all around the state, including the Far West Texas Wildlife Trail, officially completed in 2011. Forty other states have now followed our lead. And we didn't stop with routes along the land. There are now nearly 50 different public paddling trails encompassing more than 430 miles of rivers, streams and lakes around the state for canoeists and kayakers to enjoy.

Wildlife watching and nature-based tourism have become big business for communities across Texas, generating more than \$5 billion in economic impact each year for the state. Just as importantly, it allows families to reconnect, not only with one another, but also with the nature that sustains us all. As we like to say, Life's Better Outside!

Thanks for caring about our wild things and wild places. They need you to get out and enjoy them now more than ever.

*Wildlife watching
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tourism have
become big business
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MAIL CALL

PICKS, PANS AND PROBES FROM OUR READERS

FOREWORD

Despite failing vision due to my advancing years and a lack of bird identification knowledge, I am taking the plunge this month. I'll be participating in the Great Texas Birding Classic with a Big Sit team, spending four hours with an early morning crew of colleagues trying my best to spot every species that happens by.

While I'm a novice at this team event, I've spent the past several years doing my own kind of "sit" in my Hill Country garden. With birds enticed by the reflection of water from multiple baths, a good feeder full of songbird seed and myriad blooming plants, I've enjoyed thrilling to the sight of and learning about golden-cheeked warblers and painted buntings, Carolina chickadees and tufted titmice, black-chinned hummingbirds and Inca doves. Now I'll get to try out a new setting, Austin's Hornsby Bend, where birder Eric Carpenter spotted 249 species in 2005. I'd better study up!

My favorite avian wordsmith, Noreen Damude, shares the rarest of rare bird sightings with us this month, as evidenced by the flamingo on the cover and the snowy owl on the opening spread of her article on the "vagrant" birds that aren't usually seen in Texas but somehow find their way here. Rob McCorkle takes us down to Corpus Christi, where the Hawk Watch Platform at Hazel Bazemore Park offers the opportunity to spot migrating hawks, turkey vultures, kites and other raptors. If the park had a golden arches sign, it would read: "More than 10 million seen."

We're not only about birds this month, however. We're also about swimming pigs and mermaids! Well, Lindsay Sansom's article is more about the demise of those kitschy attractions and the rebirth of a fabulous natural area around an ancient spring in San Marcos. Under the guidance of former TPWD Executive Director Andy Sansom (no relation to Lindsay), the former Aquarena Springs now provides the perfect context for timely and significant research into the state's serious water issues. Like Lindsay, my children enjoyed the gondola rides and tourist attractions, but it was the real world we saw through the glass-bottom boats that made a lasting impression.

McKinney Falls State Park ranger Amber Conrad takes us geocaching this month. If you haven't caught the fever yet, geocaching is the hottest new outdoor family activity around, combining technology with nature to create a treasure hunt everyone can enjoy. I've tried it once, and have to admit that I wound up tangled in a briar patch, way off-track with no treasure in sight. I have a feeling that this is an activity our kids wind up teaching us, just like programming the remote control or working out the kinks of our home computers. Despite my abject failure, geocaching was a lot of fun. I'll try it again someday soon at a state park, maybe with a few 9-year-olds to guide me.

But first, I'm off to count birds! Think about joining me next year. Find more information on this great bird-watching event at www.tpwd.state.tx.us/gtbc.

Louie Bond

LOUIE BOND
EDITOR

LETTERS

THANKS FOR THE WOLVES

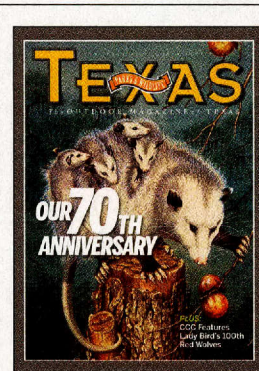
I am chair of the Red Wolf Coalition Board of directors in northeastern North Carolina.

Please convey to Russell Roe, author of "Last Stand of the Red Wolf" (December 2012), our sincere thanks for his outstand-

ing article. This is absolutely one of the best pieces we have seen about this critically endangered animal. The article is thoroughly researched, accurate, entertaining and so beautifully written. We have posted a link to the story on our Facebook page.

Thank you so much from us and from the red wolves of North Carolina.

CORNELIA "NEIL" HUTT
Red Wolf Coalition



"This is absolutely one of the best pieces we have seen about this critically endangered animal."

CORNELIA "NEIL" HUTT
Red Wolf Coalition

PARK IS A JEWEL

The March issue of *Texas Parks & Wildlife* magazine arrived in the mail, and I was delighted to find the article on Fort Boggy State Park ("Heav-

enly Haven," March 2013). I spent nearly two years making monthly visits to the park to compile birds for a park checklist. As such, I had the opportunity to see the park in all seasons (such as we have in Texas!).

The park is a relatively unknown jewel in the park system. Incidentally, while I compiled a list of only 99 species actually observed, the potential is much higher, and the list will grow much larger as birders visit the park.

KEITH ARNOLD
Texas A&M University

MEMORIES OF BIG SPRING

Cynthia Walker Pickens' story "Stopover Cat Big Spring" in the March issue brought back a flood of memories for this

MAIL CALL

displaced Texan. I was born in Big Spring in 1951. My father, W.D. McNair, worked at the *Big Spring Herald* alongside Joe Pickle, the paper's longtime editor (Joe's brother Jake was a congressman from Austin for many years).

In 1954 we moved to Snyder, where my dad edited *The Snyder Daily News* until he retired in 1982. We returned to Big Spring many times to visit friends and watch the Snyder Tigers play the Big Spring Steers. We always knew when the short (49-mile) trip to Big Spring was nearing its end when we could see the Hotel Settles, the tallest structure in the area. At night, the glow of the lights and flares from the old Cosden refinery were visible for miles. Thanks for prompting a great trip down memory lane.

TERRY MCNAIR
Framingham, Mass.

HOG HUNT BROUGHT SURPRISES

Feral hogs being the problem that they are here in Texas, a number of wildlife management areas (WMAs) around the state allow limited public

hunting to help control the population. Nannie Stringfellow WMA in Brazoria County seems to be particularly vexed by the critters. Marc Ealy manages Nannie Stringfellow and does a great job conducting a number of feral hog hunts each February. I applied for one of the hunts this year with my youngest son, Hud, and was fortunate enough to be drawn.

I always take my camera afield because you just never know. And that was indeed the case as we whiled away a Saturday afternoon in blind No. 8. We didn't know. We didn't know that we were going to be treated to an impromptu hoot owl jam session. Though several owls participated, one owl in particular was so close that it seemed as though he might be in the blind with us. But despite our best efforts we never managed to spot him on his perch. We finally did catch sight of him after a couple of hours when he went on the move, opting for another location down the sendero. The quest to get a glimpse of the owl had the benefit of drawing our eyes up from the horizontal plane, and we got some great shots of the

oak tree canopy. There are a number of challenges to hog hunting, and at Nannie Stringfellow WMA the mosquitoes might be first on that list. We never counted a crick in the neck among them.

For the record, we didn't see a hog, but we did gain an appreciation for the beauty of what's above the brush and the palmettos. It ended up being a really memorable hunt. Thanks to Ealy and TPWD for a great public hunting program.

BRYAN BAESE
San Marcos

Sound off for Mail Call

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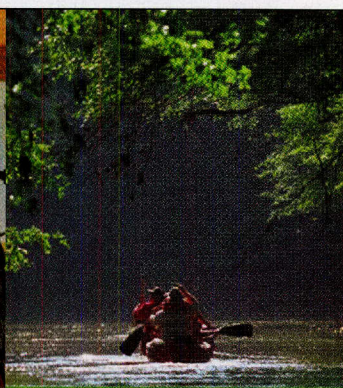
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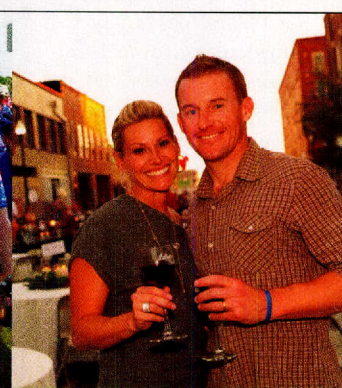
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SCOUT

NEWS AND VIEWS IN THE TEXAS OUTDOORS

HAWK WATCH

Keeping eyes on the sky in Corpus Christi.

First-time visitors to the Hawk Watch Platform at Corpus Christi's Hazel Bazemore Park during fall migration will have a tough time diverting their attention from the controlled chaos swirling around them to glance toward the winged action unfolding above.

On a chilly morning last Oct. 8, I watched a handful of observers scurry about, pausing at the railings to point binoculars toward the heavens. Several sat in folding chairs, scanning overhead, while others stood sentinel at strategically placed spotting scopes aimed at different parts of the sky. Most clutched hand-held counters, clicking away as they spotted migrating hawks, turkey vultures, kites and other raptors.

Occasionally, an observer slipped over to a metal table to record on a spreadsheet their numbers, the different species seen, the altitude at which the birds were flying and a plethora of weather-related data required by the Hawk Migration Association of North America.

"I've got something over the water works," one calls out, swinging binoculars to the east.

"There's a little kettle of accipiters here now," another one says. "Who's counting those?"

"That's what Bob's on," comes the answer.

"Celia, do you have that kettle in the east?" asks lead observer Dane Ferrell. "Your kettle is back to the left of the

the nation's more than 200 hawk-watch organizations in the United States when it comes to raptor-counting sites. During its 16-year existence, it has racked up a mind-boggling tally of more than 10 million raptors, averaging more than 700,000 a year. And, during one remarkable season, Corpus observers logged more than a million raptors.

In such an esoteric, exacting avocation, weather (especially the speed and direction of the wind) drives the daily count by pushing some raptors over the viewing stand and others eastward toward the coast. Thermals — those swirling columns of heated air that allow raptors to climb upward and soar effortlessly — play a major role, too. Propelled by the favorable air currents, soaring birds often travel 25 to 200 miles in an eight-hour day.

Last year, observers lamented a down year in the count, with a much lower

broad-winged hawk count due to strong west winds that pushed many of the plentiful raptors to the coast several miles away. Nonetheless, of the 23 species recorded, broad-winged hawks dominated the tally that as of Oct. 4 stood at 281,271. But sometimes even a low count of infrequently seen raptors, such as swallow-tailed kites, is cause for celebration. The Corpus Christi group went on to chalk up a total of 390,051 raptors by the Nov. 16 season's end.



wind turbines."

And so it went throughout the overcast fall day at the most active hawk-watch platform in North America. By the end of a nine-hour day, the observers — a few, such as Spain's Celia Benitez, sponsored by HawkWatch International, and the rest volunteers — tallied more than 25,000 raptors from the hillside platform overlooking coastal prairie 18 miles west of downtown.

Corpus Christi Hawkwatch sits atop



The Hawk Watch Platform at a county park in Corpus Christi is the most active raptor-counting spot in the nation.



in his early years, concurs.

“If raptors are doing well, the ecosystem is fine,” he says. “If they aren’t doing well, there’s a major flaw somewhere that needs attention.”

Just as I was driving away, Simon rapped on the side of my truck, motioned for me to step outside the cab and hand-

ed me his binoculars.

Overhead I saw a swirl of dark dots moving south high overhead – spread out for miles like a necklace of black pearls strung across a gossamer sky. It was a super-kettle of thousands of turkey vultures and Swainson’s and Cooper’s hawks, providing a *National Geographic* moment in the Texas Coastal Bend.

Note: A skilled birder is on hand at the Hawk Watch Platform every day from Aug. 15 through Nov. 15. In addition, the public is invited to the park’s annual Celebration of Flight, featuring raptor programs and more, Sept. 27–29. ★

—Rob McCorkle

Joel Simon is generally recognized as the godfather of the local hawk-watch organization. He worked for 11 years to solicit donations and garner the support of the Nueces County Parks and Recreation Department to erect the Hawk Watch Platform.

So why do a hawk watch?

“My analogy,” says Simon, “is that migratory raptors are the ‘canary in the gold mine’ because they provide insight into our nation’s environmental health.”

The longtime birder explains that raptors live in a wide range of habitats encompassing all of North and South America’s ecosystems – from the plains and forests to mountains and water. Because hawks and other raptors feed at the top of the food chain and are sensitive to environmental contamination and human disturbance, they serve as an indicator species of ecosystem health.

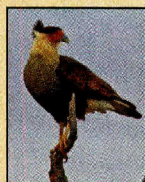
“When it was first hypothesized decades ago that DDT was responsible for killing bald eagles and other birds in large numbers, lawmakers asked for proof,” Simon says. “Hawk watches proved scientifically that bald eagles were in a rapid decline, peregrine falcons were almost gone, and ospreys were going down the tubes. Not long after the chemical was banned in the 1970s, peregrines were moved off the endangered list, and bald eagles have just been taken off. Brown pelicans that were affected are now thriving.”

Those once-endangered species have been replaced today, according to Simon, by several raptor species of concern, the tiny kestrel leading the pack. He believes long-term collection of scientific data related to kestrels by the widespread HawkWatch International network will one day provide a solution to their decline.

Local hawk-watch captain Ferrell, whose love affair with the big birds began



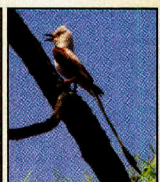
A stop in Lampasas is well worth your while. Enjoy the birds that frequent Rex & Linda Johnson Nature Park - only blocks from downtown restaurants and shopping. Stay a little longer to enjoy golf, lodging, and local wineries. For more information you can E-mail: birders@cityoflampasas.com



Crested Caracara



Greater Roadrunner



Scissor-tailed Flycatcher



Great Blue Heron



Painted Bunting



Northern Cardinal

For the most up to date pictures and news visit [f/RexLindaJohnsonNaturePark](https://www.facebook.com/RexLindaJohnsonNaturePark)



Yellow Warbler

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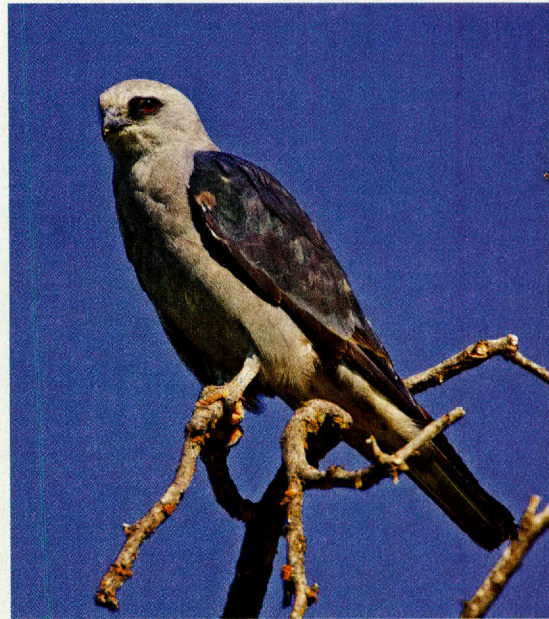
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GUTS-GLORY  RAM

Acrobats of the Air

Buoyant, graceful Mississippi kites are long-distance travelers.



In the “old” days, Texans would often pick up the phone to ask Texas Parks and Wildlife Department biologists about some strange critter they’d spotted. The biologists were hampered in their identification efforts by the limitations of the callers’ vocabulary or sometimes by their faulty memories.

Every summer we received quite a few calls about a medium-sized, dark-colored raptor that soars effortlessly. After a vague attempt to describe what he’d seen one hot August day, a caller wanted answers. “What in the world is it? We’ve never seen one before.”

Thankfully, many observers today send the same questions via email, accompanied by digital photos of the critter in question. These images certainly make it easier to accurately identify birds.

A quick glance at the photos attached to last autumn’s emails confirmed that the buoyant, graceful acrobat my correspondents observed is a Mississippi kite (*Ictinia mississippiensis*).

Funny thing about that name. Most kites in Texas never set foot (or wing) in the state of Mississippi. A name is just a name, and this one is based on where the species was first described by science.

Most of the kites we see migrating through Texas breed along the Red River, South Plains, Panhandle or points farther north into Oklahoma and Kansas.

Nesting pairs often dive-bomb humans who get too close to a tree that supports an active nest. Don’t



Mississippi kites are agile fliers, with long, pointed wings. They can be seen in northern parts of the state or during their migration to South America.

fault these birds for being good parents and protecting their young from a perceived threat. We humans could learn a lot about parental care from our feathered neighbors.

Kites eat a wide variety of vertebrates and invertebrates, but a large part of their diet seems to favor insects they catch on the wing, like grasshoppers, beetles and cicadas. It is likely by design that the timing of their southbound migration (in sizable flocks during the heat of late summer and early fall across much of Texas) is done alongside tasty, migratory dragonflies known as rainpool gliders. These dragonflies are an easy protein source during the long journey and sure beat packing a sack lunch.

Kites spend their winters in South America. With an expected life span of 10 to 12 years, these busy birds live out of a suitcase for much of their lives. When people want to travel from Oklahoma to Peru, they get on an airplane. This bird, though, makes that trek all by itself, powered by muscle, instinct and a little help from favorable thermals and wind.

The next time you see one of these graceful gliders overhead in the sky, think about his migratory lifestyle. Try to imagine where he started his journey and where he's headed. Remarkable! ☆

— Cliff Shackelford

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Rafinesque's big-eared bats; Texas Clipper, sinking history; 130 years of the Wexford Ranches; explore the Guadalupe River; Elephant Mountain wildflowers.

May 12–18:

Diving the Texas Clipper; goose hunting

women; cool under fire, Stephanie Rubio; Lake Arrowhead State Park; dinosaur tracks.

May 19–25:

Texas' native duck; baby black-capped vireos; Colonel Burns Ranch; volunteers at Pedernales Falls State Park; buffalo at sunset.

May 26–June 1:

Family of birders; bikes and hikes at Davis Mountains State Park; an appreciation of hunting dogs; Double H Ranch; Indian Lodge.



It's nesting season for the endangered black-capped vireo. Watch the week of May 19-25.

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Passport to Texas is your radio guide to the Great Texas Outdoors. Visit the website, www.passporttotexas.org, to find a station near you that broadcasts the show, or listen online.

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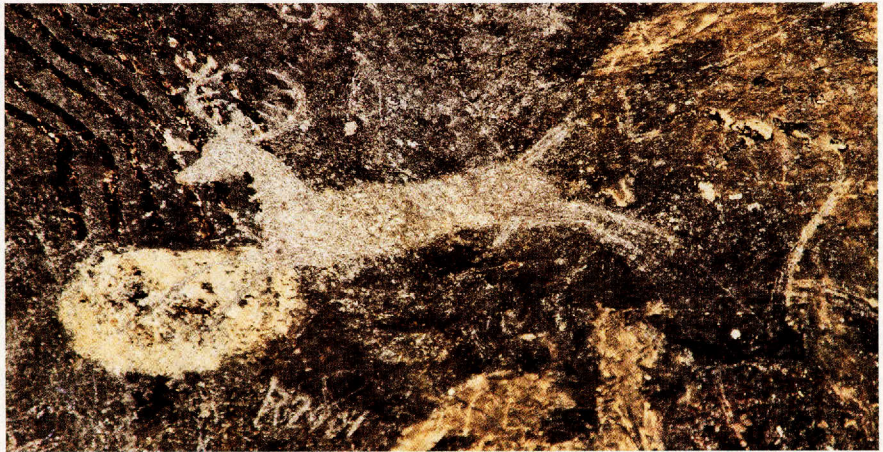
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Still Life in Stone

Familiar animals serve as the models for rock art at Hueco Tanks.



By seeking out animal-themed rock art at Hueco Tanks, visitors can share the wildlife observations of ancient artists.

Hueco Tanks State Park and Historic Site in northeastern El Paso County boasts a world-class collection of rock art — ancient images either pecked or painted on stone. Many of the depictions are quite abstract: mask representations, rain altars and Tlaloc- and Quetzalcoatl-like figures representing meso-American deities. Park visitors may feel challenged to find a personal connection with such conceptual likenesses as these.

Then there are the animal motifs. Who cannot identify with birds, mammals and insects? Several species that we still see today were painted on the park's stone outcrops some 600 to 1,400 years ago by the Jornada Mogollon people. By observing carefully and responsibly, we can transcend time and culture to share the experience of wildlife observation with our prehistoric brethren, captured as "still life in stone." Here are a few creatures depicted at Hueco Tanks that you may find quite familiar.

Popularized by the famous Warner Bros. cartoon, the greater roadrunner is easily recognized by its large size, distinctive shape (including a head crest) and stealthy posture. When danger lurks, this desert denizen flies for short distances low to the ground, unable to keep its ample body aloft for long. The roadrunner more typically walks or runs when in search of its favorite prey: reptiles. Using its wings like a matador's cape, it catches lizards and snakes by the tail with lightning speed and precision before beating the prey's head against the ground to kill it. Were the Jornada Mogollon people who created this pictograph as intrigued by the bird's antics as we are today?

Deer would have been an important source of protein for the prehistoric dwellers at Hueco Tanks and are pictured in numerous places. Two species of deer inhabit far West Texas: mule deer and white-tailed deer. Mule deer sport bigger bodies than their white-tailed cousins along with larger ears, narrower tails and bifurcated antlers that fork instead of branching as tines from a main beam.

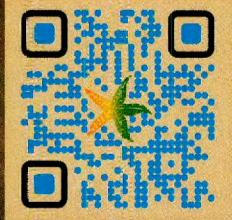
Dragonflies are intrinsically tied to water — both literally and symbolically. Adult females lay eggs in water, an event that is depicted at Hueco Tanks. Native American groups and other cultures throughout the world regard the dragonfly as symbolic of moisture. To the Navajo, for example, this insect represents pure water, a scarce and treasured resource in desert lands. Dragonfly motifs are also common in Zuni pottery and Hopi rock art. How fitting that the dragonfly has been immortalized at Hueco Tanks as well.

Unique characteristics of the rock outcroppings at Hueco Tanks trap and hold water; *hueco* is actually a Spanish word meaning hollow or depression. The site has long provided a life-giving water source in an otherwise arid region.

Much more rock art can be viewed at Hueco Tanks. Call (915) 857-1135 or visit www.tpwd.state.tx.us/huecotanks for more information and to inquire about guided tours. ☆

—Linda Hedges

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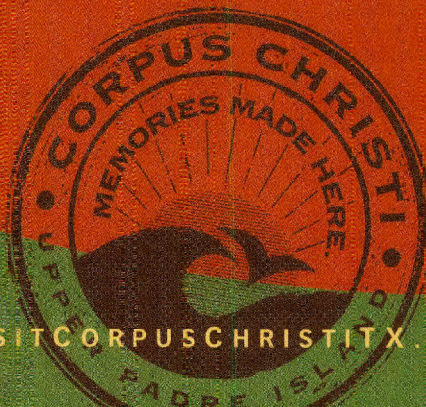


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Monkey's Ears

A popular bonsai plant, Texas ebony grows above forbidding tidal flats.



One mercilessly hot but typical

South Texas summer day, I was driving along Texas Highway 4 on my way to Boca Chica Beach. Highway 4, the southernmost highway on the Texas coast, cuts through hilly clay dunes called lomas that sit above the tidal flats in the Laguna Madre. Being so close to the Gulf of Mexico, the lomas take a regular beating from salt spray and high winds, including hurricanes coming off the Atlantic Ocean.

Outside of hurricane season, it hardly ever rains on the lomas. I marveled that any plant could grow, let alone survive, in such a place. Well, Texas ebony (*Ebenopsis ebano*), surely one of the hardiest trees anywhere, does.

The name *Ebenopsis* comes from *ebenos*, a classical Greek name for a plant in the legume family; *ebano*, from ancient Egyptian, means "black," referring to the bark. Usually small trees or shrubs, Texas ebony

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NEW SPORTS TECHNOLOGY

New lure's catch rate may be too high for some tournaments.

Uses aerospace technology to mimic a real fish -- wins 19 to 1 in contest.

NEWARK, DE— A small company in Connecticut has developed a new lure that mimics the motion of a real fish so realistically eight professionals couldn't tell the difference between it and a live shad when it "swam" toward them on retrieval. The design eliminates wobbling, angled swimming and other unnatural motions that problem other hard bait lures. It swims upright and appears to propel itself with its tail.

Curiously, the company may have designed it too well. Tournament fishermen who have used it said it's possible officials will not allow it in contests where live bait is prohibited. They claim it swims more realistically than anything they have ever seen. If so, that would hurt the company's promotional efforts. Winning tournaments is an important part of marketing a new lure.

3 to 1 advantage

Eight veteran fisherman tested the new lure (called the KickTail® XL-5) on a lake in Florida. The four using the KickTail® XL-5 caught 41 fish versus 14 for the other four. In

one boat the KickTail won 19 to 4. The KickTail® XL-5 also caught bigger fish, which suggests it riggers larger, less aggressive fish to strike.

The KickTail® XL-5's magic comes from a patented technology that breaks the tail into five segments. As water rushes by on retrieval, a little-known principle called aeronautical flutter causes the tail to wag left and right as if the lure were propelling itself with its tail. Unlike other hard baits, the head remains stationary—only the tail wags. A company spokesman told me this.

"Marine biologists will tell you that the more a lure swims like a real fish, the more fish it will catch. Well, the only live thing the KickTail® XL-5 doesn't do is breathe. It's always swimming wild and free."

Whether you fish for fun or profit, if you want a near 3 to 1 advantage, order the KickTail® XL-5. The company guarantees a refund, if you don't catch more fish and return the lures within 30 days. There are three versions, a diver, a floater and "dying shad" with a weed-guard. A set of 3 costs



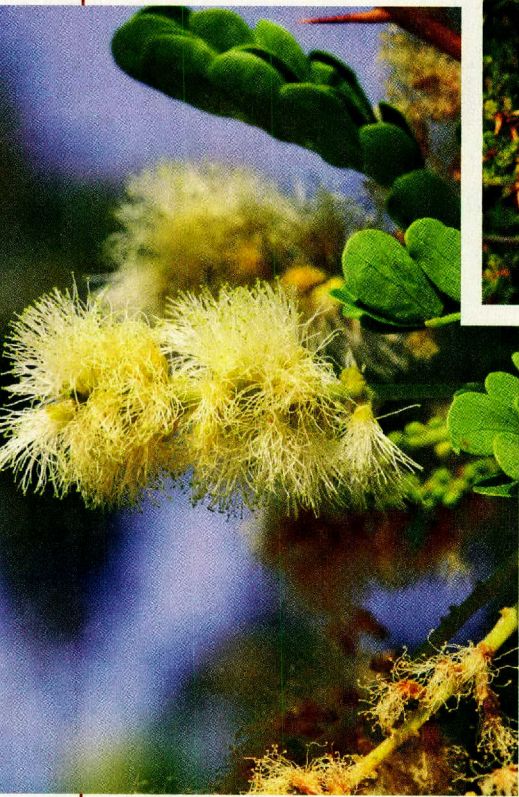
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styles that are light, airy and graceful. The border town of Los Ebanos, where the last hand-operated ferry on the Rio Grande is located, is named for the Texas ebony. A large Texas ebony tree anchors the three-car

barge on the U.S. side. Good places to see Texas ebony are Laguna Atascosa Wildlife Refuge, Bentsen-Rio Grande Valley State Park, Estero Llano Grande State Park and Brownsville's Resaca de la Palma. Here, Texas ebony and many other tropical forest plant species found nowhere else in the United States grow at the northern limits of their ranges. These forests host many sought-after seasonally tropical birds, including chachalacas, ferruginous pygmy-owls, buff-bellied hummingbirds, green jays and blue buntings. ★

—Karen Clary

Texas ebony is an important component of the South Texas brushland. The tree is distinguished by its woody pods, dense foliage, zigzag branching and fragrant flowers.

can grow in protected areas along the Rio Grande to a height of 40 feet.

Texas ebony's dense, evergreen, shade-producing leaves make it an attractive landscape tree. The fragrant cream-colored flowers appear in the spring and are followed by thick, woody curved pods that give rise to the name "monkey's ears." The dense red heartwood is used to make fenceposts, cabinetry, bowls and small furniture.

The branchlets, which form a zigzag pattern, are armed with pairs of wicked spines at the nodes. The bark is gray, turning dark black and rough with age.

Both young and mature seeds are edible. Lore has it that ripe seeds may be roasted and ground into a substitute for coffee. Deer, javelina and small mammals eat the seeds, which are very high in crude protein. Deer favor the leaves, also high in protein. Like other legumes, Texas ebony has roots that stabilize the soil and make nitrogen, an important soil fertilizer.

Texas ebony is a popular bonsai plant. Bonsai enthusiasts value its deep green leaves, woody bark and zigzag branches, which lend themselves to

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The New Crop of Cameras

Smaller and more versatile products combine photo, video, Wi-Fi and GPS capabilities.

Like spring wildflowers, a new crop of cameras tends to pop up around this time each year as manufacturers introduce new products — and like last year's flowers they tend to look pretty much the same.

However, plants and cameras do slowly evolve over time, and some of the current trends in the photography industry represent the increasingly rapid hybridization of traditional camera designs with seemingly strange bedfellows such as wireless connectivity, GPS, video recording and audio recording.

The traditional camera, smartphone, camcorder, GPS device and computer are quickly morphing into the equivalent of a photographic Swiss army knife with a variety of creative tools that open up new ways of not only capturing still and moving images but also sharing them quickly. Technological cousins are rapidly marrying.

One of the most noticeable evolutions in recent camera design is the smaller size and lighter weight of camera bodies thanks to advances in the miniaturization of electronic circuitry and batteries. From the full-sized digital SLR to the smallest point-and-shoot, cameras have gradually decreased in size and weight, yet have retained or increased the quality of the still and video images they produce while adding other features.

Currently, there are many notable offerings in small, high-quality cameras from well-known names like Canon, Fujifilm, Nikon, Panasonic, Pentax, Samsung and Sony. Although they may have different sensors and other whistles and bells, each is capable of producing professional-quality still photos and video.

For the photographer, the primary benefits of a lighter and smaller camera are comfort and spontaneity of use, which in many instances can make the difference between getting the shot or not. Here are a few examples that represent where the industry is headed. ★

— Earl Nottingham

Please send questions and comments to Earl at earl.nottingham@tpwd.state.tx.us. For more tips on outdoor photography, visit the magazine's photography page at www.tpwmagazine.com/photography



At 4.6 inches wide and 13 ounces, the Canon Rebel EOS SL1 is purported to be the world's smallest and lightest digital SLR camera body and features an 18-megapixel sensor. It's quite possible that the lens you put on it will be bigger than the body.

www.usa.canon.com/cusa/home



For a camera that fits easily in your pocket, Sony offers the 18.2-megapixel Cyber-shot WX300, which the company calls the smallest and lightest 20x (25-500mm) optical zoom available at under 6 ounces. The WX300 also comes with Wi-Fi, so you can transfer photos and videos to your smartphone or TV.

www.sony.com



It is best known for being a tiny high-definition video camera, but the über-popular GoPro Hero3 camera also shoots stills and time-lapse photography. It can also be controlled and monitored wirelessly via a smartphone with the GoPro app.

www.gopro.com/hd-hero3-cameras

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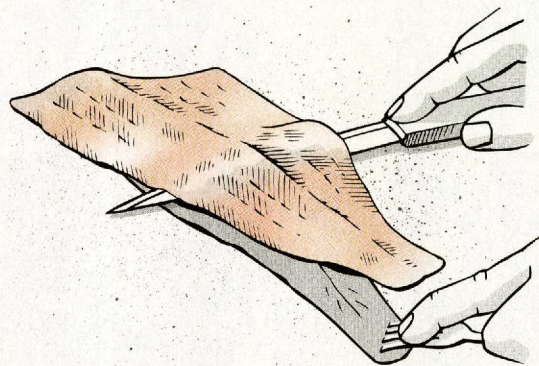
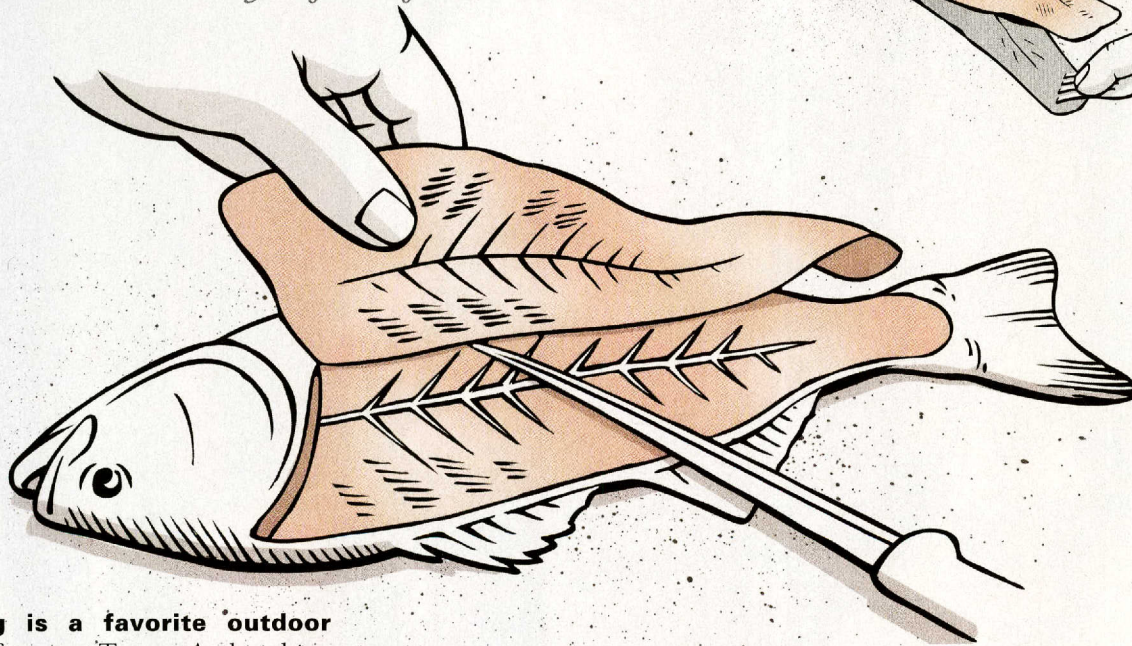


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To the Bone

There's more than one way to fillet a fish.



Fishing is a favorite outdoor activity for many Texans. And nothing tops off a day of fishing better than savoring a delicious meal of the fish you have just caught.

While the catching and eating can be fun, cleaning fish is probably the least enjoyable part of the process.

Filleting a fish simplifies cleaning by avoiding bones or innards. In general terms, cut just behind the head, down to and then along the backbone and ribcage, then out to the tail. Place the fillet skin-side down and slice the skin off. Keep the knife flat, applying downward pressure.

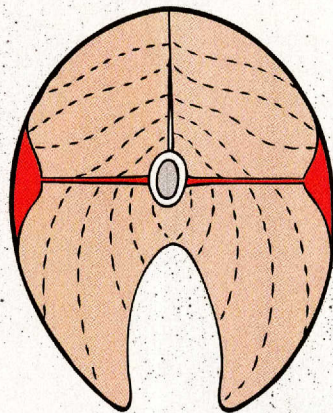
Fish have a thin layer of red muscle right under the skin along the sides that help them swim. The more active the fish, the thicker the layer of muscle. This vascular muscle has a stronger taste than the white meat; you can avoid it when filleting if you don't like that "fishy" taste.

Some fish lend themselves to filleting better than others.

Bass and crappie: These species fillet very easily and have no floating bones. A quick cut behind the head, down to the spine and out to the tail works nicely.

Catfish: A simple fillet will miss quality meat on the top and side of the long skull. Carving out that chunk and then slicing down the spine gets more meat. Many peel the skin first by cutting slits high on the head, then pulling with pliers down to the tail. This lets you see the meat clearly. River and saltwater cats

Dark or red muscle



Fish Cross-Section

often have more red meat, but otherwise taste just fine.

Carp: While carp are surprisingly one of the tastiest fish, their tough scales and rows of unattached Y-shaped bones can create issues. Fillet normally, then cut the fillet in half lengthwise so you have two long strips. On each strip, feel for a row of Y bones. Lay the strip so the Y is upside-down and cut down along each side of the Y, throwing out the middle portion with the bones.

Saltwater: Marine fish do more swimming than freshwater fish, thus the red layer is typically thicker. If you don't like that stronger flavor, you need to cut

that away.

Larger fish: Big fish don't require a bigger knife. Cut the fillet from the back down to the spine, then from the bottom up to the spine, and finally, off the spine.

Knives: There is no perfect knife or length. The most important factor is that the knife be very sharp. Stick with one type. If you change the type of knife you use, you'll have to change your technique. Electric knives cut faster and let you cut right through the ribcage and hard scales, cutting the ribs away afterward. When all is said and done, the best way to get better at filleting is to do it more frequently, so go fishing! ★

Texas crowd pleaser

New!



New H-E-B Supreme Texas Wild Bird Seed is made with premium seeds to attract colorful Texas songbirds to your backyard feeder. Pick up a bag of this premium blend of bird seed at your neighborhood H-E-B, and invite the Cardinals, Blue Jays, and Finches over for a bite to eat. They'll be so excited, they'll tweet about it.



3 Days in the Field / By Russell Roe

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The Allure of Eagles

A Lake Buchanan weekend provides recreation and a chance to glimpse our national bird.



Symbol of freedom or scavenger? The bald eagle is both. This eagle takes flight at Lake Buchanan.

a well-known roadside bald eagle nest. A few days later, on Thanksgiving, we chowed down on a bunch of turkey, as did millions of other Americans.

Eagles win.

Benjamin Franklin famously wanted the turkey to be the national symbol, saying the bald eagle is a bird of bad moral character and a scavenger, while the turkey is a true native bird and a bird of courage. The founding fathers, though, looked past the eagle's shortcomings and saw the bird as a symbol of strength and freedom. Sorry, Ben. The turkey is a tough sell.

At Canyon of the Eagles, turkeys actually outnumber eagles, which reside there for just part of the year anyway. But Canyon of the Turkeys just doesn't sound as appealing.

People come for the eagles.

We came for the eagles, too, and for the numerous other attractions at Lake Buchanan, the uppermost lake in the chain of the Hill Country's Highland Lakes.

As we drive, my kids lighten the mood with some jokes from a joke book they brought along. Jokes ended up punctuating several of the events of the weekend.

◆◆◆

Q: What happened when the teacher tied all the students' shoelaces together?

A: They went on a class trip.

Q: What's the best way to revive a dying rodent?

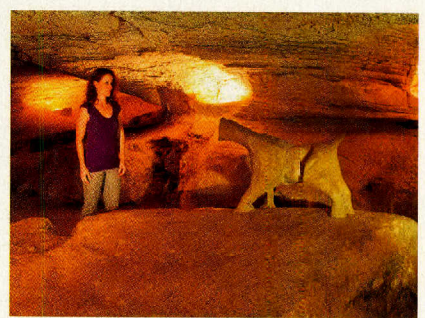
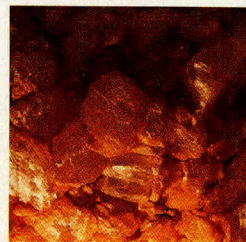
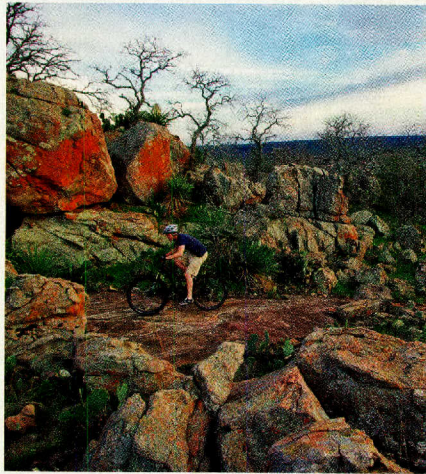
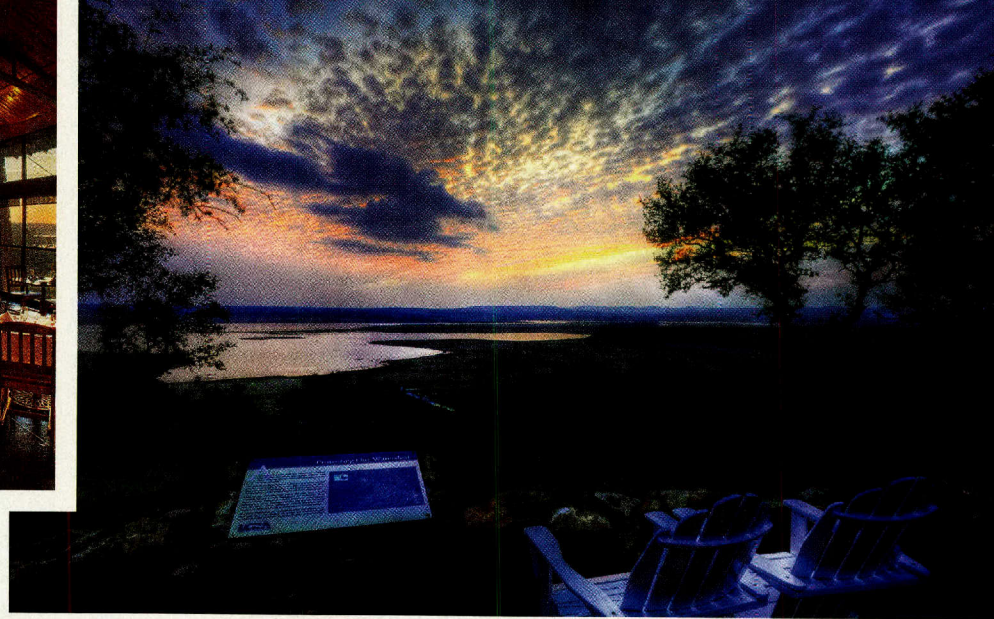
A: Mouse-to-mouse resuscitation.

◆◆◆

Our first stop is Longhorn Cavern State Park, one of the oldest state parks in Texas. We buy tickets for an afternoon cave tour, giving us time to wander around the grounds and buildings developed by the Civilian Conservation Corps in the 1930s. I love the rockwork of the former headquarters building,

The battle between the turkey and the bald eagle as the national symbol has long since played out, and the bald eagle is clearly running the show. Here's evidence: On a trip to the Lake

Buchanan area the weekend before Thanksgiving, my family and I stayed at the Canyon of the Eagles resort, shopped for eagle souvenirs, took a boat trip to watch for eagles and visited



At Canyon of the Eagles (top photos), the dining room and the bluff offer views of Lake Buchanan. Mountain biker Eric Krell (left) tackles the granite trails at Reveille Peak Ranch. At Longhorn Cavern (above right), cave formations, including crystals and the Queen's Watchdog, are on display. Stefan Hill (right) releases a rehabilitated red-shouldered hawk as part of a Freedom Flight Cruise.



which was built with native limestone and crystal formations from the cavern, and I always make it a point to admire the well-crafted and artistic work done by the Depression-era job corps.

To me, Longhorn Cavern is more interesting for its human history than for the beauty of its formations. It doesn't have a lot of highly decorated rooms that you might find in other caves, but it has no peer in terms of human interaction. Our tour guide tells us that the cave has been used as a shelter since prehistoric times. Comanches used it as a place to make tools, and the Confederate army used bat guano from the cave to make gunpowder during the Civil War. Several outlaws, most notably Sam Bass, are thought to have made use of the cave. In the 1920s and '30s, the cave was used as a nightclub and dance hall. Concerts are still held there — the Lake Bottom Jazz Trio was scheduled to play a few days after our visit.

One of the best-known formations is the Queen's Watchdog, which appears to have four legs, a body, a tail and a snout. Our tour guide matches the corniness of my kids' jokes with one of her own.



*Q: Does anybody know what kind of dog this is?
A: A rock-wweiler!*



After the tour, we head to our weekend's lodging at Canyon of the Eagles, a nature park and resort on the shores of Lake Buchanan. Owned by the Lower Colorado River Authority, it offers lodging, a restaurant, a campground, trails, lake recreation and an observatory.

I'm hoping to get there before sunset, and we arrive just in time to see the sun drop below the horizon from the bluff overlooking the lake, which is still suffering from drought.

The impending darkness means the monthly "star party" will begin soon, and after dinner at the restaurant, we make our way out to the Eagle Eye Observatory. Once a month, the Austin Astronomical Society hosts a "star party" where members set up telescopes and invite the public for an evening of stargazing. As I get out of the car, I'm immediately struck by the presence of the Milky Way, the luminous river of stars stretching across the sky. Club members welcome us to look through their telescopes, and show us such wonders as the Northern

Cross, Pegasus, Jupiter, the Orion nebula and, fittingly, the eagle constellation Aquila.



*Q: Why didn't the Dog Star laugh at the joke?
A: It was too Sirius.*



The next morning brings us to the Vanishing Texas River Cruise, which takes passengers around Lake Buchanan to enjoy scenic views and look for wildlife, especially birds, and super-especially, bald eagles.

Texas has resident bald eagles that live in the state year-round, mostly in East Texas and along the coast. Winter brings migrating eagles from the North to other parts of the state. Back when bald eagles were on the brink of extinction, in the 1970s, Texas had only seven known nest sites. Thanks to recovery efforts, 117 active nests were identified

Outdoor Activity of the Month



Want a recipe for fun?

Picnic in a Texas State Park!

Whether you relax on a blanket, sit at a picnic table or cook outdoors on an open grill – food just tastes better outside! You can even put on a Texas-sized picnic in a group pavilion. And afterwards the family can relax under the trees or enjoy a walk or other activities in the outdoors.

For recipes and info on picnicking in Texas State Parks, visit:
www.TexasStateParks.org/picnic



Chef Picnic Recipes

Check out special recipes from Texas chefs, from kid-friendly to outdoor grilling. Visit www.TexasStateParks.org/picnic or at www.pinterest.com/texasparks 



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Partners



in the Texas Parks and Wildlife Department's 2003 survey.

Cruise passengers always hope for a bald eagle sighting, but it's never a guarantee. On our cruise, we have other raptors to hold our attention. The Vanishing Texas River Cruise regularly teams up with Last Chance Forever, a raptor rehabilitation group, to release rescued birds back into the wild on what they call the Freedom Flight Cruise.

On our cruise, Last Chance Forever has brought four birds to release, and despite my cajoling, the staff members won't drop any hints about what they've brought aboard.

The first bird turns out to be an American kestrel, a migratory bird that is North America's littlest falcon. This one had been found injured in the Dallas area. An 11-year-old passenger is picked to release it. He puts on thick gloves to protect his hands from the bird's sharp talons. Standing on a bench at the back of the boat's upper deck, surrounded by passengers filled with anticipation, he flings open his arms to release the kestrel. The open arms represent a new beginning for the bird, and his wings take him across the water toward the shore.

After a second kestrel is released, on a Lake Buchanan island, the rehabilitators bring out a red-shouldered hawk that had been shot. They select Stefan Hill, a Vietnam War veteran, to release the hawk.

"We consider this bird a wounded warrior," one of the rehabilitators says.

Hill had open-heart surgery six weeks earlier, and his wife booked this trip for him so he could see these magnificent birds that had been healed and perhaps get some inspiration for his own recovery. The red-shouldered hawk was an apt choice.

"You both know what it's like to be shot at," his wife, Lynn, says.

On the island, with arms outstretched, Hill lets the bird take flight.

"It felt like when I got out of the hospital — freedom," he says.

Back on the boat, with our patriotic fires stoked, we continue to cruise around the lake. And then, one of the boat's crew sees it — a bald eagle. We watch as the eagle soars through the air and then alights on the top of a tree, next to another bald eagle. Mission accomplished.

As the boat heads back to the dock, one last bird gets its freedom flight — a great horned owl.



*Knock-knock.
Who's there?
Owl says.
Owl says who?
Exactly.*



Once we get ashore, I call my uncle and aunt, who live in the area, to see if we can meet up with them. We were planning to see them at Thanksgiving in a few days anyway, but it's always good to get in a little family time. My uncle is a Methodist minister, and he and my aunt had finished Sunday services and were wrapping up a post-church lunch with friends. He suggests we meet at the Dairy Queen in Kingsland, where I've met him before when I'm in town.

On the way, we decide to make a little detour to check out the bald eagle nest off Texas Highway 29 near Llano. The nest sits high in a tree between the highway and the Llano River, and it attracts wildlife watchers from across the state. We don't see any eagles, but the enormous nest, constructed of large sticks, is quite impressive on its own.

For the last part of the trip, I leave my family behind and meet up with a friend for some mountain biking at a ranch I'd been hearing and reading about.

Reveille Peak Ranch offers Texas mountain bikers something different — the chance to ride on granite trails and formations. My friend and I plot a course on the map and take off.

We wind through creek crossings, granite outcrops and prickly pear patches until we get to the top of the Flow Track, a downhill trail with a series of jumps, berms and banked turns. The zippy 1-mile downhill ride is a blast.

After more riding, we decide to make the trek to the top of Decision Point, the highest spot on the ranch. We follow a jeep road, steep in sections, to the peak, which affords a beautiful 360-degree view of the countryside and Lake Buchanan. The grippy granite on top of the peak reminds me of Enchanted Rock. If you've ever wondered what it would be like to go mountain biking at Enchanted Rock, this place might be the closest you'll come.

On the ride out, I take a head-over-heels tumble that leaves me shaken but not broken. I'm able to finish the ride, and back at ranch headquarters, we decide to recover and relax by hanging out at the lakeside pavilion, having an adult beverage and watching some NFL football on the big-screen TV.

The Eagles, believe it or not, lost. ★

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UNEXPECTED

GUESTS

**DELIGHTING BIRDERS, RARE 'STAR' VAGRANTS
TRAVEL THROUGH TEXAS EACH YEAR.**

By Noreen Damude



PHOTO © ANDREW MCINNIS

When birding in Texas, expect the unexpected. Look closely; you may have spotted a rarity.

If expecting to see, say, a roseate spoonbill, look again. It just might be a greater flamingo. Or, when all excited to see a wood stork, take a second look — danged if it isn't a jabiru! When hoping to find a few scoters along the coast this spring, keep a sharp eye out; you may turn up a king eider. A bare-throated tiger-heron — that's not like any heron I've ever seen in Texas before.

Is that a whimbrel? No, wait a minute. Could it be an Eskimo curlew? I thought that bird was extinct!

Imagine seeing a snowy owl, white ghost of the Arctic, or a stygian owl, mysterious denizen of the New World tropics. There could be a yellow-billed loon or a northern jaçana, a black-tailed godwit at the refuge in Brazoria or a double-toothed kite at High Island.

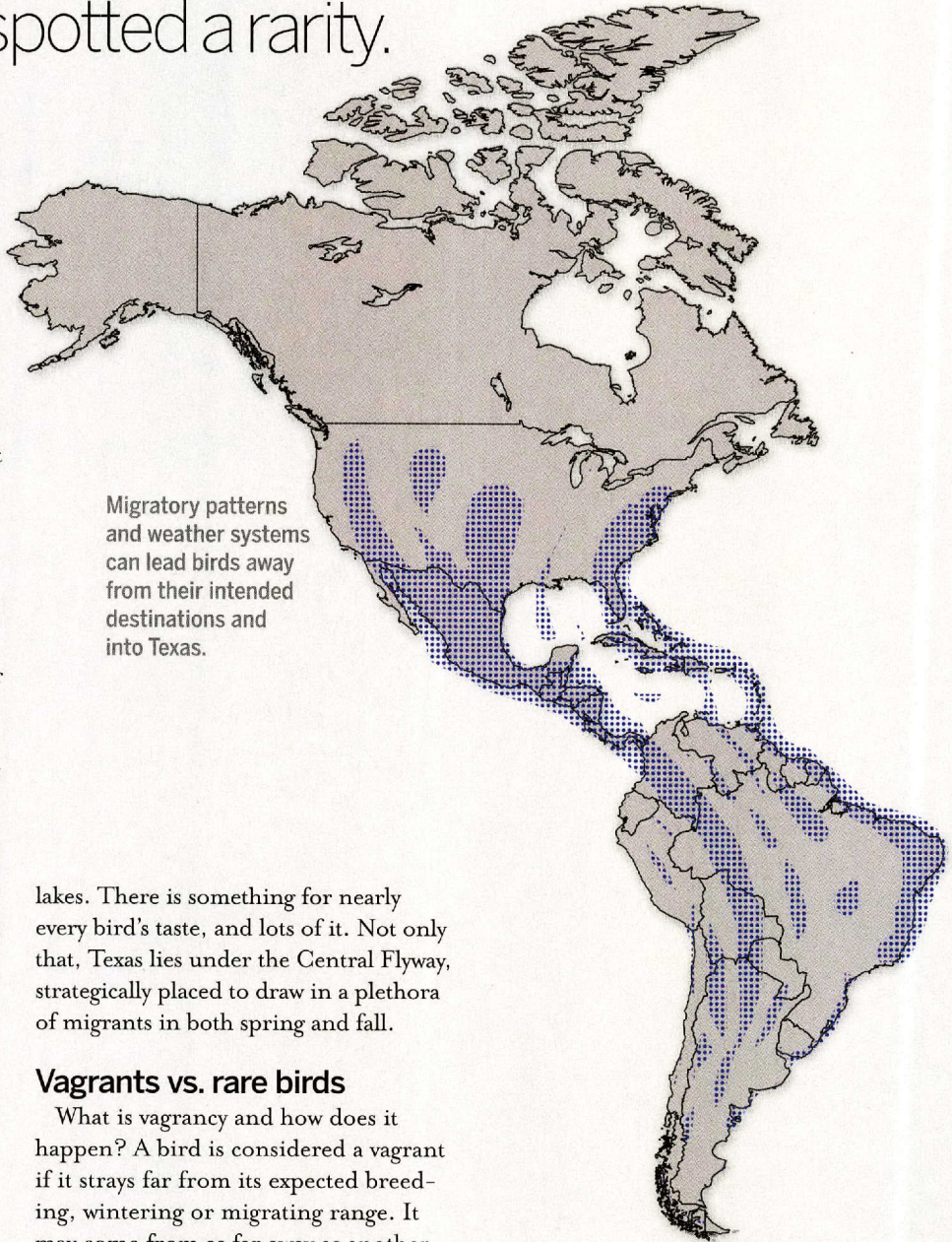
Where do they all come from, how and why do they occur so far from their normal ranges, and what species will be next? Avid birders are always keen to predict what the next "star" vagrant will be to visit our state.

Birder John Arvin says he has given up playing that game.

"The experience of the past several decades has shown me that while some species follow expectations, some of the recent additions totally defy explanation," he points out.

Why does Texas boast so many birds, and why do so many unlikely species turn up? Put simply, Texas is prime avian real estate with its tremendous size and, of course, its location, location, location.

A birder's paradise, Texas is located at ground zero for birds. North, south, east and west converge to ensure a rich cornucopia of avian surprises. Size is important, as is a long coastline and a diversity of habitats — piney woods, arid thorn-scrub, long- and short-grass prairies, mountains, valleys, rivers and



Migratory patterns and weather systems can lead birds away from their intended destinations and into Texas.

lakes. There is something for nearly every bird's taste, and lots of it. Not only that, Texas lies under the Central Flyway, strategically placed to draw in a plethora of migrants in both spring and fall.

Vagrants vs. rare birds

What is vagrancy and how does it happen? A bird is considered a vagrant if it strays far from its expected breeding, wintering or migrating range. It may come from as far away as another continent, or it may reside year-round only a few hundred miles south of the border. Vagrants may or may not be rare, but they can show up far outside their normal range. Occurring anywhere at any time, most are seen during winter or migration, when birds traditionally desert their breeding grounds in search of food.

A rare bird, on the other hand, is one

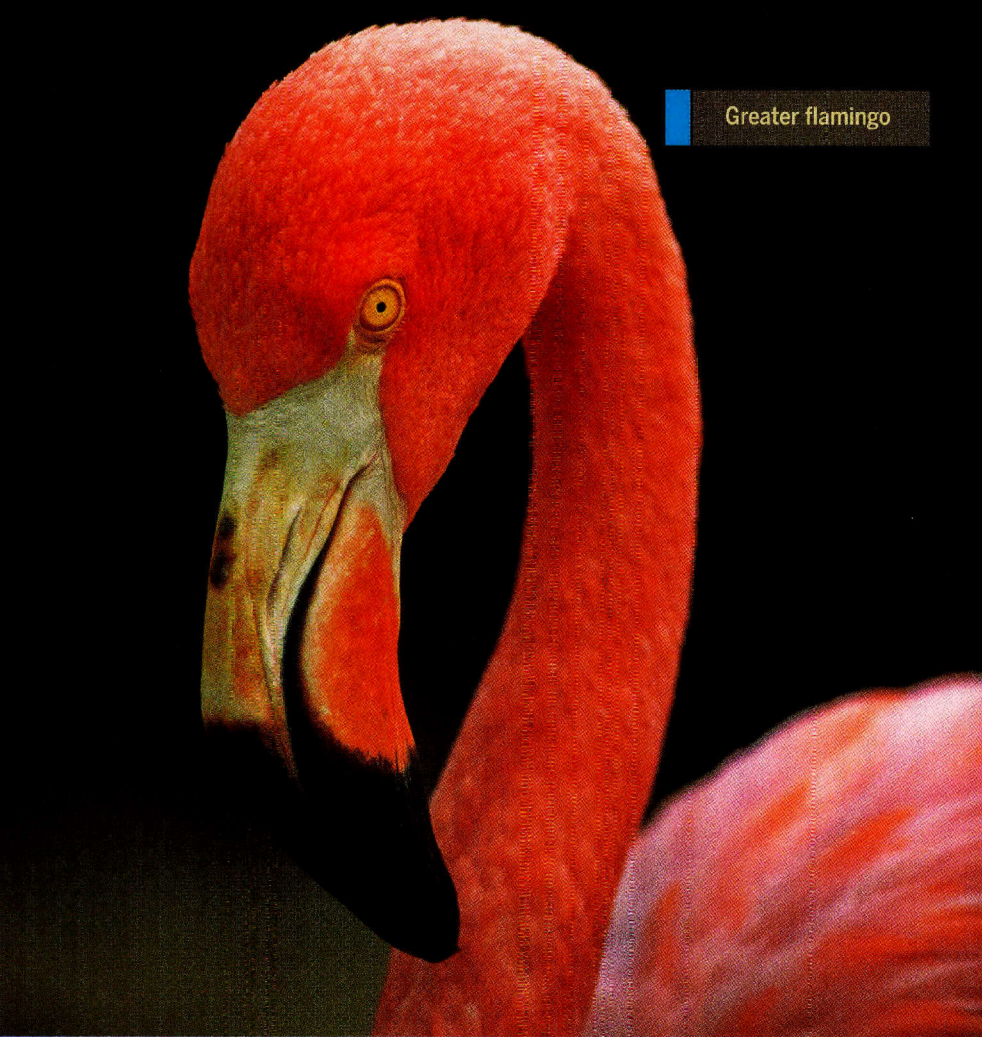
that is hard to observe even where it naturally occurs. Examples may include narrow endemics, endangered species or birds on the brink of extinction. Eskimo curlew still fits this last category, we hope, and has not gone over the edge.

Finally, some birds just seem rare because cryptic plumage, secretive behavior or nocturnal habits make them

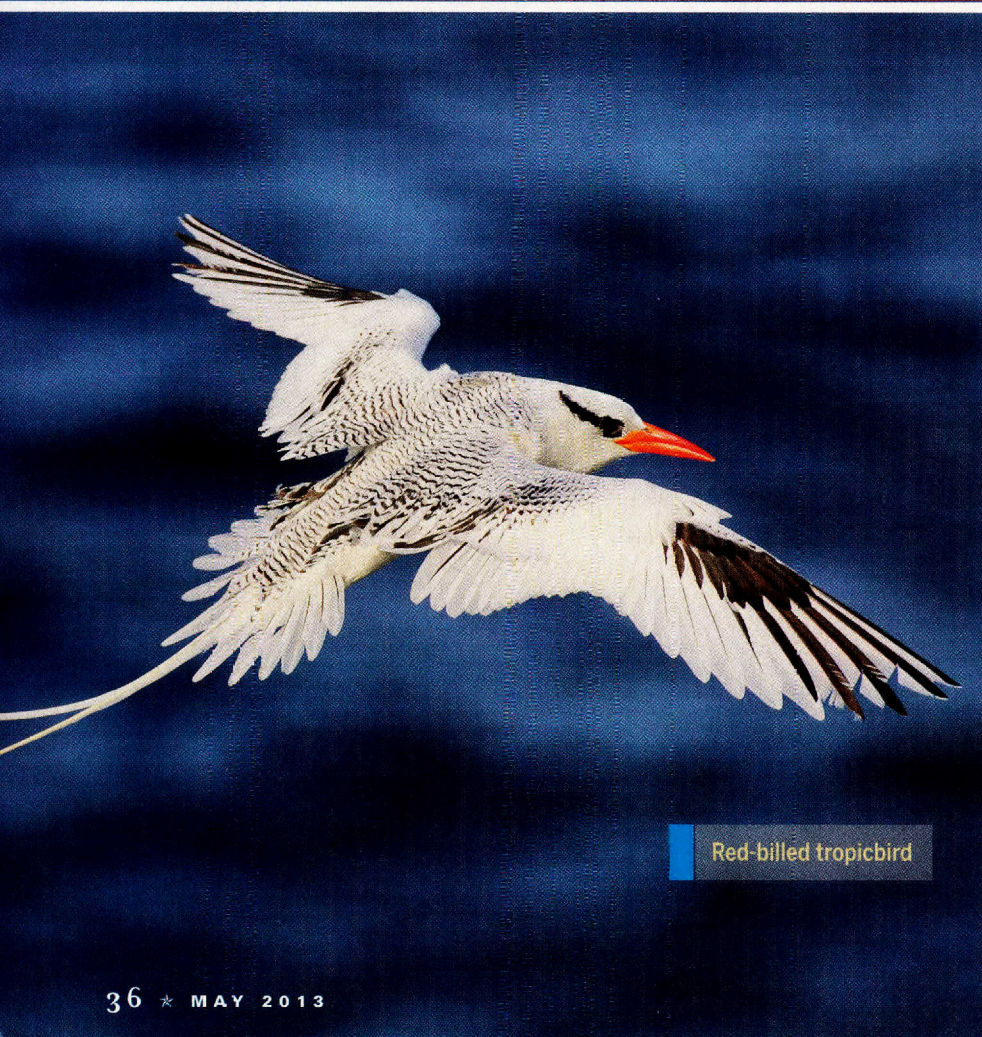
Birding Calendar

In the spring, migratory birds spread their wings and leave their winter homes. Events around the state offer terrific bird-watching opportunities. Find our calendar of those events at www.tpwmagazine.com.

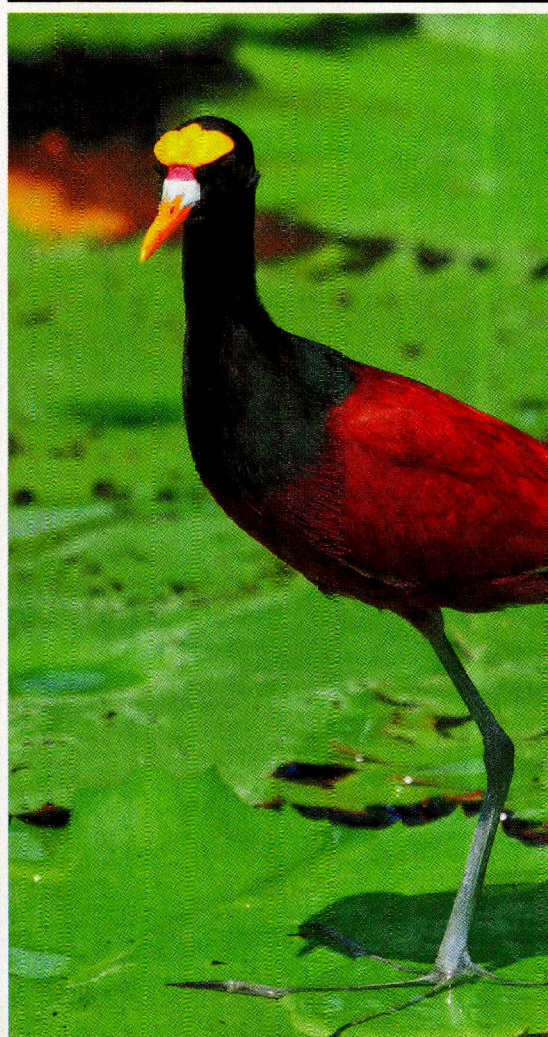
PHOTO © ANDREW MCINNES



Greater flamingo



Red-billed tropicbird





Harlequin duck



Northern jacana

FLAMINGO © TIM FITZHARRIS; DUCK AND TROPICBIRD © GARY KRAMER; JACANA © ANDREW MCINNES

hard to find. The stygian owl fills this conceptual niche. Even in Latin America, these elusive owls commonly go unseen.

How birds get 'lost'

Why some birds go astray is one of the more puzzling conundrums of avian biology. A number of factors may conspire, either singly or in concert, to cause an individual to lose its way and end up where it's never been seen before.

Juvenile birds making their first migration without the guidance of adults occasionally overshoot or undershoot their destination. Certain species, such as wood storks and jabirus, may disperse in every direction after fledging.

Other species just seem to wander more than others. Perennial vagabonds turn up far from their traditional haunts on a surprisingly regular basis. One such inveterate gypsy is the fork-tailed flycatcher, a migrant from South America that has occurred in Texas at least 23 times — most recently last December for the Austin Christmas Bird Count. Less spectacularly in terms of distance, the varied thrush of the Pacific Northwest has turned up 42 times in Texas and as far east as Atlantic Canada.

The vicissitudes of migration

Twice a year great rivers of birds flow between northern and southern latitudes, spurred by the ever-changing seasons due to the tilt of the earth. Birds migrate twice a year to take advantage of optimal conditions for survival. The vicissitudes of long-distance travel, sometimes over oceans, present both untold hazards and ample opportunities for migrants. Whether by epic or seasonal journeys or periodic disruptions caused by food shortage, birds are ultimately spurred to seek new areas to exploit as current conditions dictate.

Weather vs. climate

Birds are both helped and harmed by the effects of the weather, which brings about day-to-day changes to their world. Migratory birds are cued by shifts in wind direction and by cold or warm air masses that alert them to optimal times for departure. Unusually powerful winds or storms during migration can be devastating, killing birds by the thousands or forcing them far from their regular course. Exhausted birds, at the end of their tethers, drop down wherever they find land to rest and recover or fall into the sea to perish. Hurricanes may even waft seabirds far from their normal paths. High winds can carry oceanic birds, like the red-billed tropicbird, far north of their tropical oceanic homes.

Climate, by contrast, works over time by influencing the distribution of birds around the globe and the seasonal cycles of their lives. Severe winters create havoc by inflicting paralyzing cold, sleet or wet snow, forcing huge numbers of longspurs and snow buntings to flee starvation on their wintering grounds.

Unseasonably hot, dry summers result in food scarcity over large areas by drying up fields, woodlands, lakes, marshes and rivers, ravaging local bird populations and forcing them to move away. Long-term heat waves and persistent drought may force a few permanent residents of north-central Mexico to cross the border into Texas in search of better habitat conditions. Elegant trogon, blue mockingbird and masked tityra are among the avian delights that have found temporary refuge in South Texas, causing a whirlwind of excitement in the birding world.

Contingent movers and shakers

Unlike most migratory songbirds that have traditional wintering ranges, irrup-

Other species just seem to wander more than others. Perennial vagabonds turn up far from their traditional haunts on a surprisingly regular basis.

tive species do not. Irruptive species move in response to changes in food supplies. Their movements tend to be subtle, like those of the pinyon jay. After nesting is complete, the jays wander the landscape looking for pockets of food, most notably when pinyon seed crops crash. Of course, some irruptions can be spectacular, bringing in huge flocks of evening grosbeaks, red crossbills, pine siskins or redpolls from the north.

Many irruptive species depend heavily on specialized diets of conifer seeds as their mainstay. Given plenty of food, they are quite capable of surviving both cold and snow. The snowy owl, also an irruptive species, feeds predominantly on lemmings, rodents whose immense populations crash at regular intervals. Every 10 years or so these spectacular diurnal raptors are forced to flee their traditional Arctic wintering grounds in search of alternate food, occasionally coming as far south as Texas.

Other unexpected birds

Other potential surprising birds may be escapees from zoos or private collections. Pets accidentally or intentionally released from cages contribute to many an unanticipated rare bird sighting. Budgies or Afro-Asian mannikin finches fit this paradigm.

Hitchhikers include birds that did not get here under their own steam, landing on boats far at sea due to exhaustion or transported intentionally and released in Texas. Understandably, they don't qualify as countable species in the "New to Texas" list.

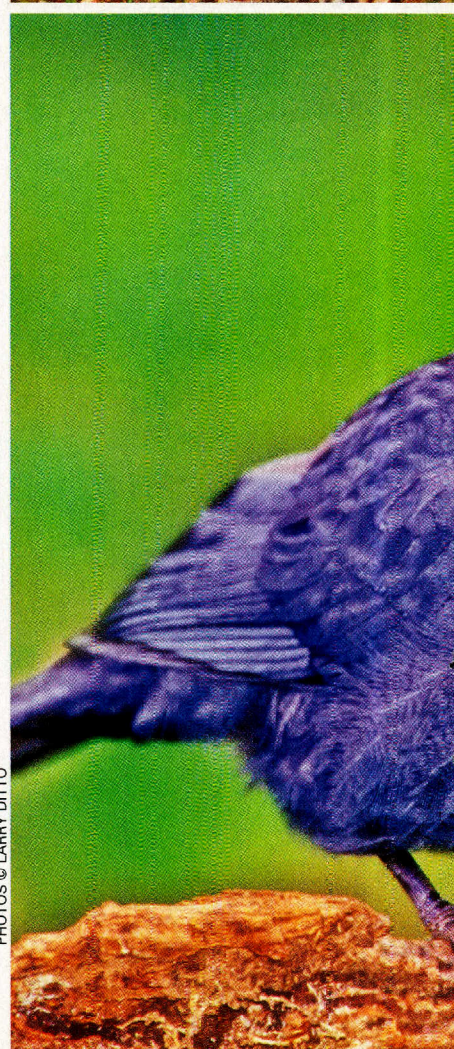
Finally, some migratory birds may suffer

physical or genetic impairments that affect their navigational systems, sending them off in the wrong direction. Usually these waifs don't survive long enough to be counted anywhere.

Planning and documentation

Surprise visitors cause great *frissons* of excitement among novice and hard-core birders alike. Birders, wayfarers in their own right, will travel almost as far, sometimes farther, than birds to add a new species to their life lists. When planning a trip to the field, whether on a quest or a lark, keep in mind the importance of documentation. Take photographs, including habitat shots, or make sketches, indicating salient field marks. Make sure to describe the bird's behavior: how it flies, how high or low, how does it move along the ground, does it walk or hop, how and where does it feed and on what. If you have a camcorder, all the better. Even if you are not sure what it is, send your materials in to the Texas Bird Records Committee (texasbirds.org/tbrc) for validation.

You may not be so lucky as to cop a new bird for the state, but by birding on the *qui vive*, alert to any unfamiliar song or call, you'll increase your odds by orders of magnitude. Besides, enjoying all the usual suspects, glorious gems in their own right, is not to lose the game. But, should you manage to grab the brass ring and find a new bird for Texas, know that it's a coveted prize for any birder. Not only that, you will be adding immensely to our knowledge of Texas birdlife. ☆



PHOTOS © LARRY DITTO

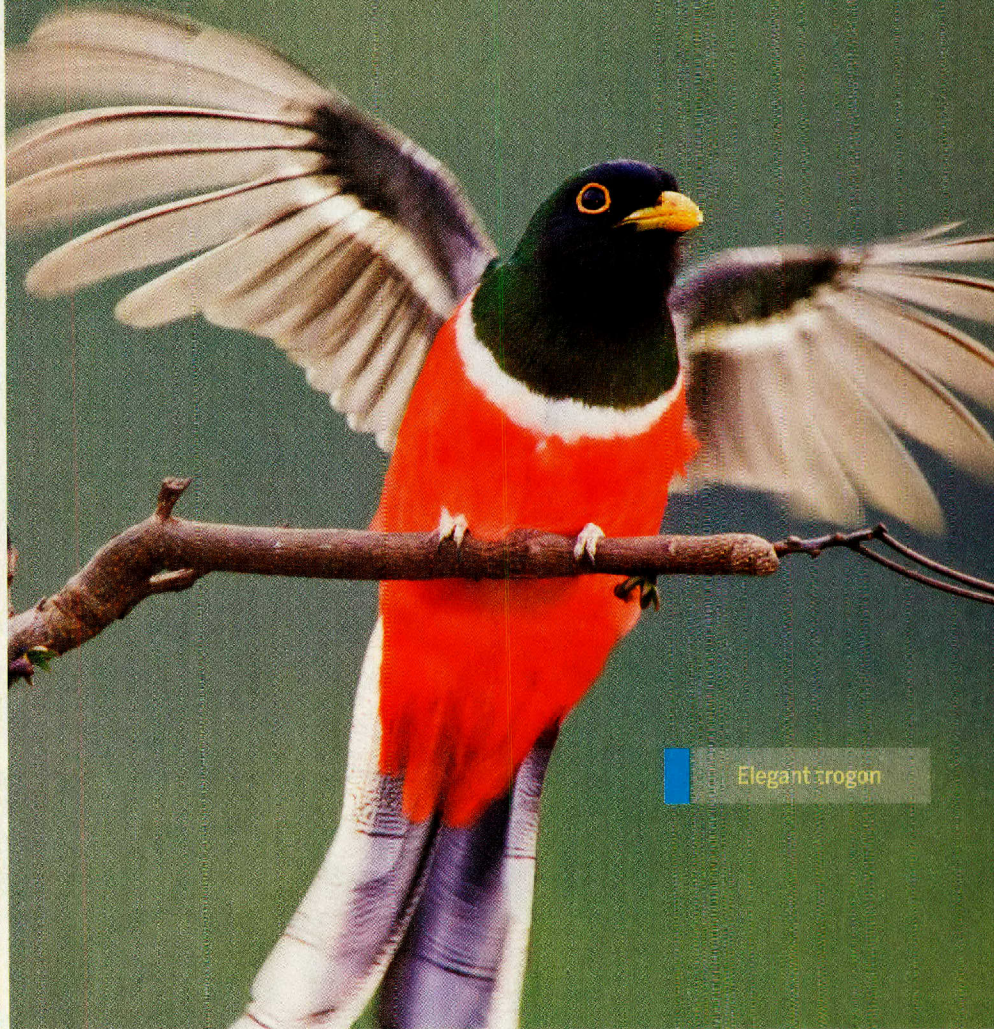
My favorite surprises

The Texas Bird Records Committee currently boasts 638 documented species on its state list. The most recent addition, as of June 2012, was a double-toothed kite. The 2012 Austin Christmas Bird Count recorded a fork-tailed flycatcher, a migrant far from its South American home — not new to Texas, but thrillingly unexpected nonetheless.

Here are a few of my favorite pairs of "surprise visitors." Some I have seen, others I long to see, and the last I pray still abides: a harlequin duck and a masked duck; a red phalarope and a red-billed tropicbird; a snowy owl and a stygian owl; a northern wheatear and a fork-tailed flycatcher; an elegant trogon and a varied thrush; a pinyon jay and a blue mockingbird. And one perhaps (or perhaps not) extinct Eskimo curlew.



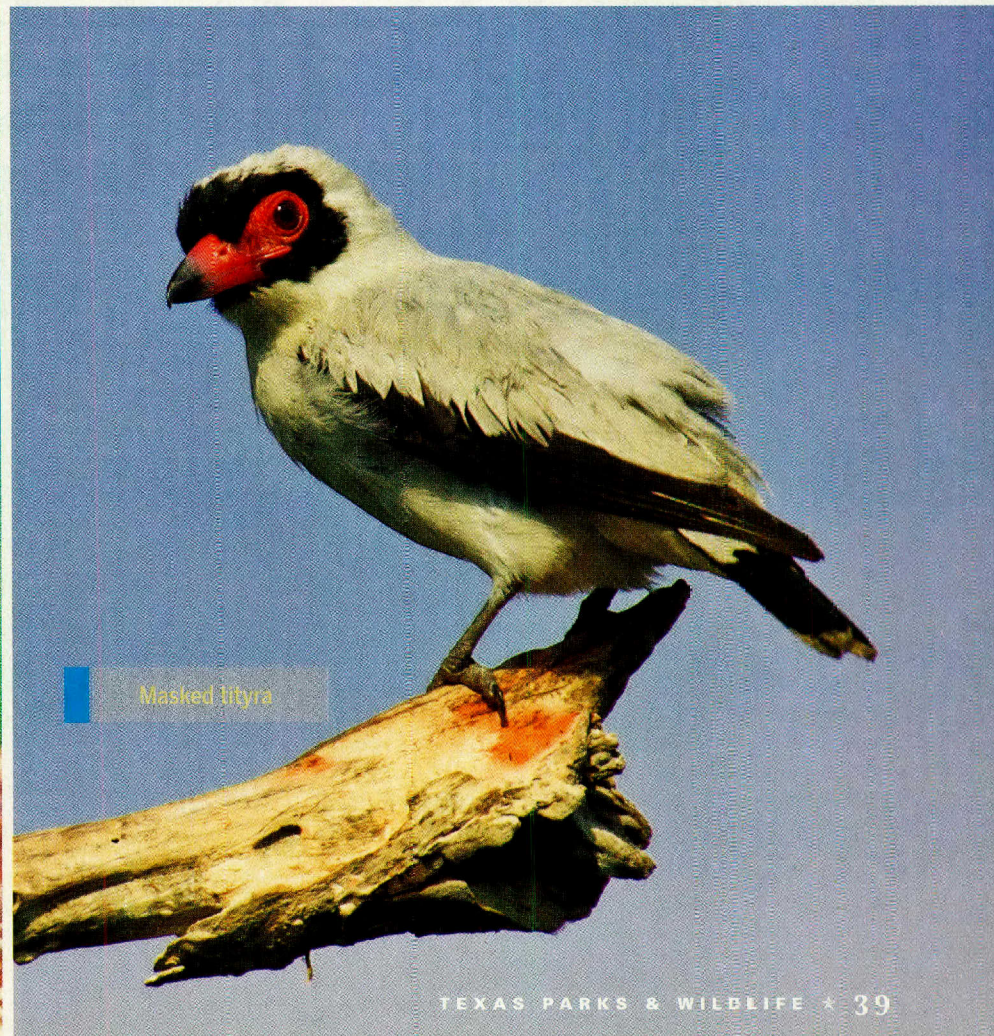
Bare-throated tiger heron



Elegant trogon



Blue mockingbird



Masked titlyra



STATE PARK TREASURE HUNTS

Geocaching combines technology
and nature for outdoor family fun.

BY AMBER CONRAD

PHOTOS BY CHASE A. FOUNTAIN

The author,
McKinney Falls
State Park ranger
Amber Conrad
(left), joins the
Hawbecker family
as they hunt for a
hidden geocache.

X



X

X

X

With help from ranger Amber Conrad and with GPS devices in hand, the Hawbecker family is ready for a geocaching adventure.

TREASURE, ADVENTURE, GOLD COINS, CRYPTIC CLUES AND RIDDLES AWAIT. THIS IS NOT THE THEME FOR AN ADVENTURE PARK RIDE OR ANOTHER PIRATE MOVIE; IT'S THE THEME FOR A WEEKEND SPENT GEOCACHING IN STATE PARKS.

"Yo-ho!" sang an excited 6-year-old Lexi Hawbecker. "A-geo-treasuring we go!"

She swung her mom Sonja's hand as she bounced along the trail at Pedernales Falls State Park behind her two older brothers.

I fiddled with the touch screen on my phone, but I wasn't emailing or checking social media. Instead, I used the device to access topographic maps and global positioning coordinates as I hunted for treasure. Sure, I'd tweet about it eventually, but first there was a geocache waiting to be discovered.

Containers called geocaches are hidden around the world, waiting for people to find them. These containers hold toys, coins, prizes and logbooks. Some contain trackable memorabilia that are then taken and hidden in other geocaches in other locations; these items have specific numbers that are logged into a website and tracked. Geocaches are placed everywhere from the bottom of the ocean to the neighborhood park to the International Space Station.

In Texas, the state park system sponsors a geocache challenge. An official geocache has been placed in every state park. Participants of all ages can find a park's geocache and then submit answers to the challenge's questions to reach certain prize levels. More than 6,000 people have logged caches through the geocache challenge, with more participating without logging their finds.

Park geocaches are well-maintained and can usually be found just off a stroller-friendly trail. With geocaching, you can get a cute photo for the scrapbook as your kids discover treasure and use technology to learn about the outdoors.

TIP 1: GEOCACHING IS "BUSY MOM"-FRIENDLY.

My friend Sonja Hawbecker is a mother of three and works at her family's business in Austin. When she's not carting the kids to after-school clubs



CONTAINERS CALLED GEOCACHES ARE HIDDEN AROUND THE WORLD, WAITING FOR PEOPLE TO FIND THEM. THESE CONTAINERS HOLD TOYS, COINS, PRIZES AND LOGBOOKS.

and Scouts, she's fulfilling many other duties. For Sonja, her husband Ken, sons Nick, 10, Travis, 8, and little Lexi, free time is spent on last-minute activities and the occasional nap.

"We try to do outdoors things, but sometimes the closest we get to nature is our yard and the trees in the parking lot islands around town," Hawbecker admitted as we walked the trail.

Hawbecker's not alone. It's estimated that our kids spend more than 90 percent of their time indoors now. In some schools, recess and playgrounds have been taken out of the daily routine.

Geocaching is a good introduction into the outdoors because it allows you to take a little walk on a well-managed trail out in nature. You don't have to spend all day at the park — many parks are less than an hour away from major metropolitan areas. On our trips, we usually picked up the kids after school for an afternoon park outing and were home in time for dinner.

"I was really impressed at how the kids took to the geocaching concept," Hawbecker said. "We had a lot of fun and were able to talk about plants and animals while taking about half an hour to an hour to find a cache."

Nick and Travis ran ahead of us on the paved trail, weaving under and around lower-hanging tree branches and jumping over roots. Hawbecker glanced at her phone and then directed the boys at the fork in the road as they bounded off in the appropriate direction.

TIP 2: THERE'S AN APP FOR THIS.

Hawbecker and I weren't always so Zen about wandering through the Hill Country with kids in tow to find a little treasure in the middle of a state park. We first had to navigate through technology to get a map, or at least a clue, to start our adventure.

Having shunned the user manual for my 10-year-old hand-me-down geocaching brick before we set out that morning, we stared at the coordinate download text, willing it to reassemble into something we understood. We had read the inspirational TPWD geocaching challenge Web pages on my

X
The trappings of geocaching: backpacks, GPS devices, containers and small prizes.



FOR ALL THE LITTLE TREASURE HUNTERS IN YOUR CREW, AN IMMEDIATE REWARD OF TRINKETS AND TRIVIA AWAITS DISCOVERY IN THE STATE PARK CACHE.



smartphone. We smiled at the pictures of kids with devices in their hands on a hike. But then we got to the pages of coded links for program and coordinate downloads.

I may be a child of the technology age and run tech support for my older co-workers, but I'm hardly a computer goddess. We didn't know which digital package to choose, didn't know where to put the files, and we didn't know how much longer we were going to want to deal with this newfangled hobby. But then Hawbecker found a beginner video on YouTube, friendly official sites, helpful forums and an all-important app. I was suddenly back in my comfort zone and ready to find some treasure.

It's a good idea to set yourself up with your computer and phone before you go out. Here are the steps:

1. Create an account at www.geocaching.com.
2. Download the app on your device.
3. Log in with your account info.
4. Find the cache name from www.texasstateparks.org/geocache and plug it into the app.
5. Go find the geocache.

The app was brilliantly simple: I typed in the cache name, and a compass came up on my screen with a huge arrow pointing to the geocache location. Below the huge arrow, the program told me how many miles (later, feet) until the cache and I were united. I handed the phone over to Travis, who had no problem following the arrow, sometimes walking in circles, eyes fixed on the screen as the location updated down the trail.

TIP 3: BRING SOMETHING, GET SOMETHING.

For all the little treasure hunters in your crew, an immediate reward of trinkets and trivia awaits discovery in the state park caches. The containers are ammo boxes designed to withstand the elements with bright state park geocache challenge stickers stuck to their sides. These caches hold a logbook, a punch, park-specific trivia and trinkets. Write your name and the date in the log; the punch is used to make a unique





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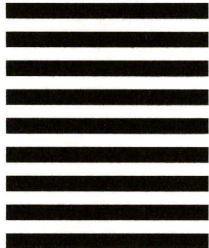


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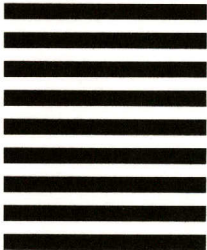


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Payoff comes for the Hawbeckers as they discover a state park geocache and the rewards inside.

WE SEARCHED BEHIND ROCKS, WE SEARCHED ABOVE US IN THE TREES, WE SEARCHED BEHIND EACH OTHER, AND THEN THREE SHRIEKING KIDS FOUND IT IN A HOLLOW OF A TREE TRUNK.

shape on your geocache challenge passport, available from the TPWD website. The park-specific trivia is used to answer the question on the challenge passport proving you found the cache.

All this record keeping is great, but as Nick says, "There's cool stuff in there, too."

We were a few hundred feet away from the cache according to my phone, and the arrow led us off the paved trail onto a worn grassy path in the park. We walked single-file through underbrush and branches, figuring out after squeezing through the wilds that there was a convenient path we could have taken just up the trail.

The phone app said we were five feet away from the cache, then zero feet away. The kids spread out looking for their treasure chest. We searched behind rocks, we searched above us in the trees, we searched behind each other, and then three shrieking kids found it in a hollow of a tree trunk.

Families leave everything from kid's meal toys to trading cards to favorite recipes in these caches. Geocachers can find trackable tags and the occasional coin in the park caches, and littler explorers can often choose from colorful stickers, puzzles, patches from Scout troops, magnets shaped like states, little Mexican pottery pieces and many other delightful prizes.

There's an honor system among cachers. People take one trackable tag and leave another, take a coin and leave a coin, take a toy and leave a toy.

Hawbecker was interested in the recipes left by other families and decided to exchange her own at our next cache. I was interested in the trackable

tags, and the kids were understandably infatuated with the little toys.

TIP 4: THE PARKS STAFF HAS COVERED ALL THE BASES.

The Hawbeckers and I were good to go with an app and learning from experience, but if you prefer formal training, the park staff has got you covered. Several state parks across Texas offer demonstration programs, where rangers teach the basics of geocaching and then lead the class on a treasure hunt in the park.


When we went to Lockhart State Park, the ranger there was happy to chat with us about our adventure. He even let us know where to take an alternate route to get around a muddy trail.

It turned out the cache had washed away in a rainstorm two days before we got there, but it was quickly replaced the next week when we logged the missing cache on the geocaching site tied to our phone apps.

The trails leading to caches are usually the park's main trails, with the X marking the spot just a little ways off the path. Bathrooms and water are seldom far away.

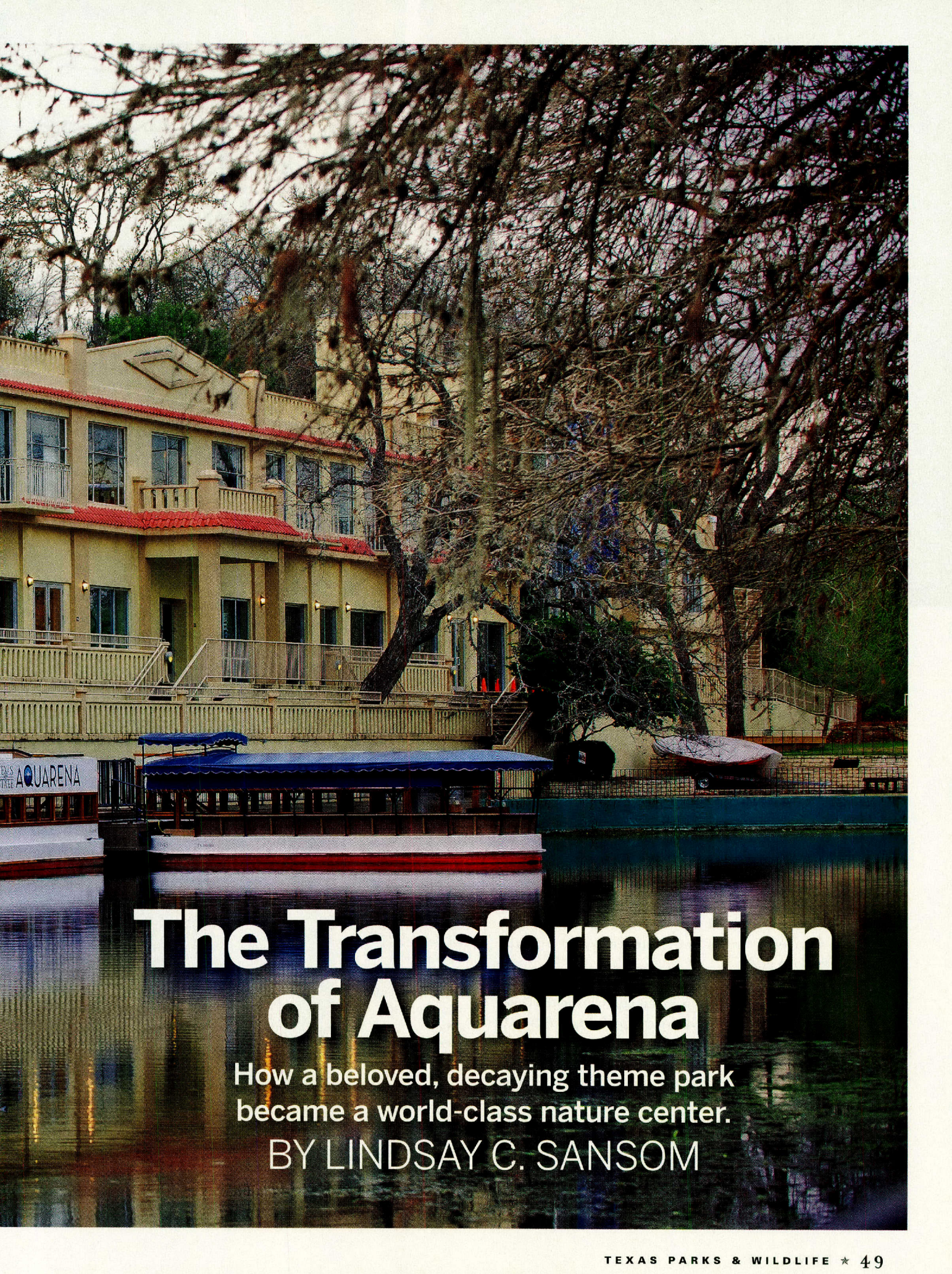
As the Hawbeckers discovered at McKinney Falls State Park, some parks even offer special event caches. For Easter in 2012, park employees hid several little egg caches in the park, which together gave clues to get a special prize.

For more information on geocaching at state parks, visit www.texasstateparks.org/geocache. ★

A photograph of a large, multi-story building with a Mediterranean architectural style, featuring a red-tiled roof and light-colored stucco walls. The building is situated on a hillside overlooking a body of water. In the foreground, a wooden dock with a white chair and a small table is visible. A white boat is docked on the right. The scene is captured at dusk, with warm lights from the building and surrounding trees reflecting on the water's surface. The building has multiple levels with balconies and a prominent staircase leading down to the water level. The background is filled with dense green trees.

Glass-bottom boats are docked outside Spring Lake Hall, home of the Meadows Center for Water and the Environment, in San Marcos. The building was originally the Spring Lake Park Hotel.

PHOTO BY CHASE A. FOUNTAIN/TPWD



The Transformation of Aquarena

How a beloved, decaying theme park became a world-class nature center.

BY LINDSAY C. SANSOM

Beloved

by vacationing families for seven decades for entertaining Aquamaids and lovable swimming pigs. Aquarena Springs in San Marcos is no longer a glitzy theme park. Visitors to this ancient Texas treasure will now find Spring Lake much as nature intended.

Since our early ancestors lived near the Spring Lake site nearly 20,000 years ago, Texans have had a love affair with the spring-fed lake. Resort history spans a period from the opening of the Spring Lake Park Hotel in 1929 to the final "swine dive" in the early 1990s.

Now, the newly transformed and named Meadows Center for Water and the Environment offers a different one-of-a-kind experience, from globally significant water research initiatives to localized solutions to Texas' water problems to ecotourism. The transformation wasn't easy, and it's been nearly 20 years in the making.



Aquarena Springs nostalgia

It all started in 1926, when A.B. Rogers purchased 125 acres surrounding Spring Lake with the dream of creating a "first-rate Texas tourist destination," according to great-granddaughter Doni Weber. The Spring Lake Park Hotel was the first phase in realizing that dream. The hotel was considered a luxury resort, the epitome of 1930s art deco glamour, often hosting local swimsuit beauty contests and fancy parties on the rooftop.

In 1946, the first glass-bottom boat was launched in Texas at Spring Lake, and visitors were given an exclusive opportunity to peek into the aquatic wonderland hidden just beneath the surface. The glass-bottom boats were, and continue to be, an exceptional opportunity to see a lush, verdant underwater ecosystem from the dry comfort of a boat.

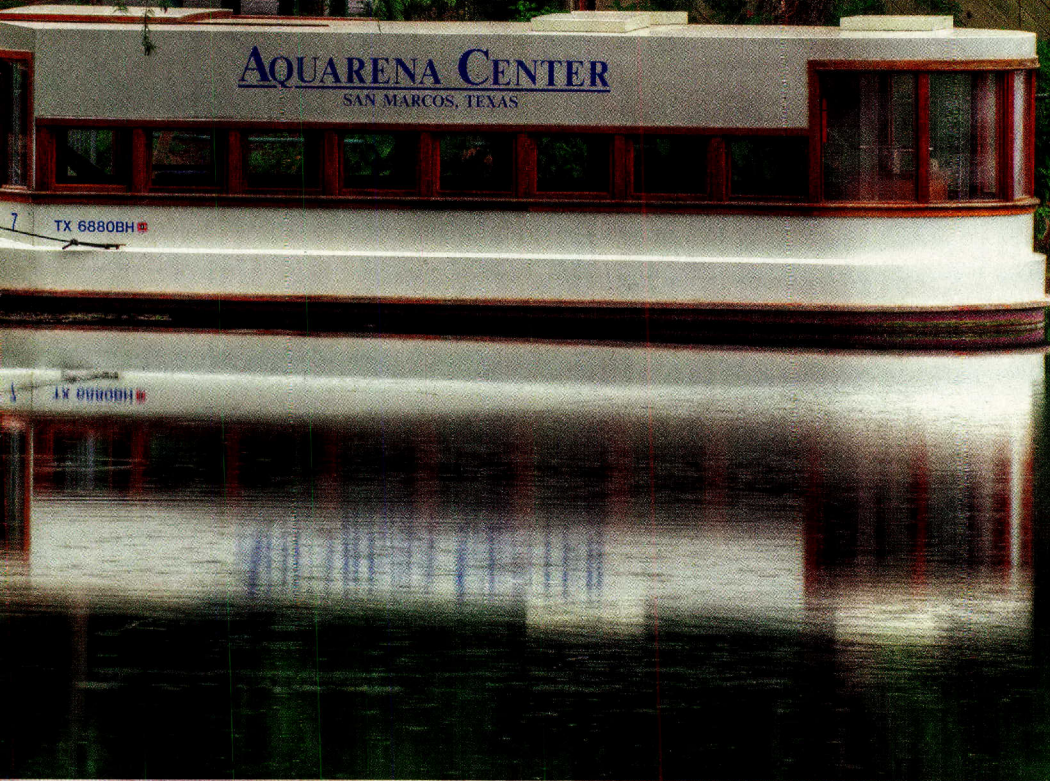
In 1951, the submersible Submarine Theater show made its debut, featuring swimming Aquamaids and Glurpo the clown, and was a smashing success. The aquatic performances won the hearts of visitors and became a mainstay of the theme park for decades. Ralph the diving pig (all 300 of them), introduced in 1969, became famous for his aquatic antics. There were other attractions as well, such as the Swiss-designed gondola sky ride that gave guests an unprecedented view of the springs from above, and the Texana Village, which offered a fun and educational trip back in time to the pioneer days.

When I was a child in the nearby town of Wimberley, Aquarena Springs was a frequent indulgence. I loved and



Lush vegetation and clear, clean water make Spring Lake a natural attraction. In Aquarena's heyday, underwater picnics with Aquamaids and Polynesian-themed shows drew crowds.

In 1946, the first glass-bottom boat was launched in Texas at Spring Lake, and visitors were given an exclusive opportunity to peek into the aquatic wonderland hidden just beneath the surface.



BOAT BY CHASE A. FOUNTAIN/TPWD; HISTORICAL PHOTOS BY JACK LEWIS/TPWD

envied the graceful Aquamaids, and I delighted in watching Ralph make his famous swine dive. The park also housed one of the best restaurants in San Marcos and was *the* place to go for Sunday brunch.

By the time the park was purchased by Texas State University in 1994, the magic of Aquarena Springs had faded into a beautiful memory. Over time, the glitz and glamour had vanished; what was once a resort and theme park experience unlike any other in Texas felt rundown and quaint in comparison to Six Flags Fiesta Texas and Sea World in San Antonio.

Apparently, a swimming pig just can't compete with a killer whale that does tricks.

According to Ron Coley, who has managed Spring Lake maintenance and educational operations since Texas State acquired the site and is also an award-winning cinematographer, the university didn't want to try to compete with the nearby modern theme parks and decided to do what universities do best — research and education. Sadly, there was only a small crowd of onlookers for the last swine dive. Many Texans didn't have a chance to say goodbye.

San Marcos River headwaters

While many Texans still associate Aquarena Springs with Ralph, Spring Lake now offers a much more significant and profoundly meaningful experience.

Offering one of the healthiest, most ecologically diverse habitats in the southwestern United States, Spring Lake and the upper 4.5 miles of the San Marcos River are considered critical habitat for eight federally listed endangered and threatened species, with some of those species endemic only to Spring Lake, according to Andrew Sansom, executive director of the Meadows Center for Water and the Environment at Texas State.

"What a rare and wondrous opportunity for introducing and reconnecting your kids with the natural world," Sansom says of the new experience at the former theme park.

The last time I took a glass-bottom boat ride at Spring Lake, I was 8 years old. Recently I had the opportunity to take another voyage. I wasn't sure what to expect, and I was a little worried that it wouldn't live up to my fond memories. I was pleasantly surprised when I boarded the beautifully restored vessel. The unforgettable allure of the underwater wonderland called to me,



The Submarine Theater (above) was pulled from the water last year as part of the Spring Lake restoration. Educational programs (center) have taken the place of diving pigs. Glass-bottom boat rides and scuba diving programs (right) remain as features of the center.



and I quickly took my seat, once again mesmerized by the eternal springs below.

With more than 200 springs pouring forth from the honey-combed limestone of the Edwards Aquifer at an unbelievable rate of 130 million gallons per day, Spring Lake contains water that is about three times cleaner than the EPA standard. That clean water provides the incredibly healthy habitat for the local, environmentally sensitive occupants. Several of these species, including the Texas blind salamander and the threatened San Marcos salamander, can't be found anywhere else in the world.

What some people don't realize is that these endangered species act as an environmental indicator for the Edwards Aquifer. A fluctuation in these indicator species can warn water managers of any problems that might be associated with the quality of drinking water for more than 2 million Central Texans. Spring Lake provides this valuable ecological early warning system without expensive water resource infrastructure. An incredible complexity makes these pristine natural resources amazingly effective in providing filtration and ecological balance.

While there have been decades of conflict over how best to protect the Edwards Aquifer, and its unique inhabitants, the Edwards Aquifer Recovery Implementation Program (EARIP) has finally addressed many of the concerns facing this vital aquifer. This past February, the U.S. Fish and Wildlife Service approved a Habitat Conservation Plan and "incidental take" permit, putting a formal stamp of approval on five years of work by the EARIP to balance water pumping and spring flow. Maintaining spring flow in the Edwards Aquifer protects not only the endangered species that live there, but also fresh water for Texans who rely on it.

The natural biodiversity of Spring Lake, headwaters to the

San Marcos River, makes it home to many animals, from great blue herons and red-tailed hawks to turtles, bass, channel catfish and bluegills. It has something for every nature lover.

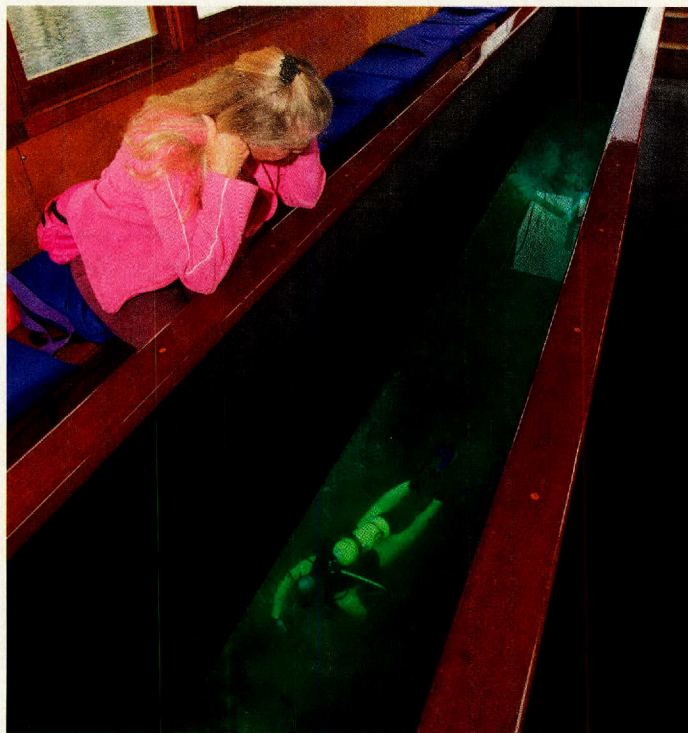
Spring Lake is thought to be one of the longest continually inhabited sites in North America. Archaeologists have excavated rare artifacts, some of which date back 12,000 to 13,000 years.

The damming of Spring Lake in the mid-1800s allowed for the preservation of artifacts from all of the different cultures that have relied upon and enjoyed the cool, clean respite of the San Marcos River. From multiple tribes of American Indians to early Spanish settlers, and later the great tribe known as Texans, the headwaters of the San Marcos have been home to a wide diversity of human inhabitants, making Spring Lake ecologically, economically and culturally significant. In fact, Spring Lake could become a candidate for designation as a World Heritage Site by the United Nations Educational, Scientific and Cultural Organization (UNESCO), but that is years away.

Changing tides

These days, we sometimes hear about the land around a locally cherished swimming hole being bought up and developed into new homes. Less and less do we, as a community, rise to the occasion to save and preserve these special places that we grow up loving. Less and less do our children and grandchildren have access to these irreplaceable wild spaces. The Meadows Center for Water and the Environment, in collaboration with partners across the state, is addressing this problem.

I'm a native Central Texan, but the first time I heard about the Meadows Center for Water and the Environment (then known as the River Systems Institute) was in Boston. While working on my master's degree, I stumbled across some of the top-notch research publications the center had produced. It



THEATER © ERICH SCHLEGEL; OTHERS BY CHASE A. FOUNTAIN/TPWD

wasn't until later, when I came back to contribute to its growing body of research, that I realized the Meadows Center was also restoring my beloved Spring Lake to its natural condition.

While a part of me was sad to see the old Aquarena Springs go, the springs provide the perfect context for timely and significant research regarding the serious water issues that Texas continues to face.

After the theme park closed in 1996, the university took some time to decide the best course of action. Recognizing the need for structure and strategic vision, the university recruited Sansom, former executive director of the Texas Parks and Wildlife Department, to help create a world-class research institute and nature center.

The park had problems. Some people feared that the dam holding in Spring Lake would break. Not only was the old theme park infrastructure built on a known flood plain, it used outdated and hazardous materials, such as asbestos and lead paint. Floodwaters sank the old Submarine Theater and damaged other park infrastructure in 1998.

By 1999, Texas State University had entered into a contract with the Army Corps of Engineers to restore Spring Lake to its original, natural condition.

The park operated for several years in a limited fashion, offering glass-bottom boat rides and walks on the Wetlands Boardwalk. Last year, workers took some of the final steps toward transformation as they demolished the old visitors center, took down the remaining parts of the sky ride and pulled the Submarine Theater from the water. Invasive trees were removed, and native grasses have been planted.

Diving programs

At 72 degrees year-round and teeming with aquatic diversi-

ty, the 30-foot-deep, crystal-clear waters of Spring Lake are ranked as one of the best places to dive in Texas. Unfortunately, there is no recreational diving or swimming allowed because of the delicate nature of the springs and the species that rely on them.

A Diving for Science course provides an opportunity for volunteers to become certified to dive in Spring Lake. These volunteers are responsible for removing invasive species and helping to maintain the lake. The course has been temporarily put on hold for the duration of the Spring Lake habitat restoration project, but should be opened again soon.

There's also a scientific diving program. According to Fritz Hanselmann, chief underwater archaeologist for the Meadows Center, the program will be geared toward "training students and staff from Texas State and other local universities, government agencies and other professions on how to conduct science underwater." There will be a number of focused underwater courses, such as Underwater Archaeology and Underwater Photography. This program will help foster the technical skills necessary for future leaders to address complex water problems by providing an underwater laboratory for students and researchers.

Conservation through education

Not a diver? Not a problem. The Meadows Center for Water and the Environment provides other outdoor recreation opportunities. At \$9 for adults, and \$6 for children age 4-15 (children 3 and under get in free), the glass-bottom boats will always be a favorite at the Meadows Center.

If you are a birder or an amateur nature photographer, go for a stroll on the beautiful Wetlands Boardwalk, or hike the nature trails at the City of San Marcos' 250-acre Spring Lake Preserve. If kayaking is more your speed, take an eco-tour in a glass-bottom kayak around Spring Lake to gain up-close access to the wildly diverse inhabitants (advance reservations required). While you are waiting for your boat or kayak tour, check out the Discovery Hall and Endangered Species Exhibit. Farther downstream, cool off in the river as it runs through Sewell Park.

Field trips and tours give children an awe-inspiring glimpse into the artesian springs and provide greater understanding of the interconnections between surface water and groundwater. The Aquatic Sciences Adventure Camp, offered through the Edwards Aquifer Research and Data Center, gives kids an in-depth understanding of complex aquatic systems through hands-on learning opportunities that they will remember for the rest of their lives.

Understanding the state's water resources will be crucial in the years ahead. For many Texans, the recent drought has taken a brutal toll. Policymakers are currently struggling to come up with better solutions, from enacting required conservation initiatives to funding the 2012 State Water Plan. The Meadows Center for Water and the Environment is poised to provide strong science to support a better way forward for water management in Texas while also providing a first-rate environmental learning center where a theme park once stood. ★

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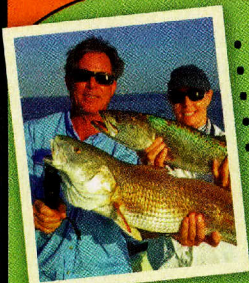
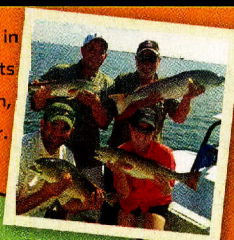
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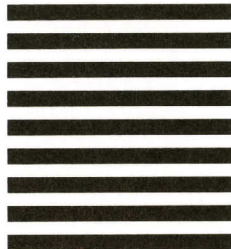


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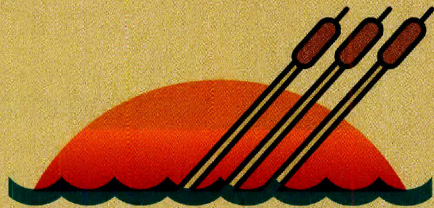
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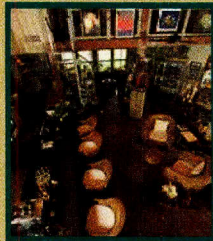
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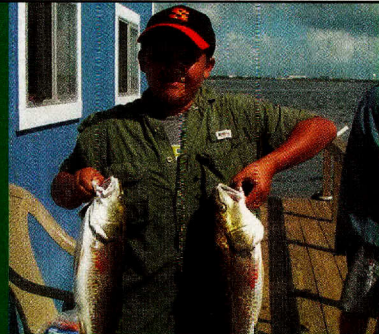
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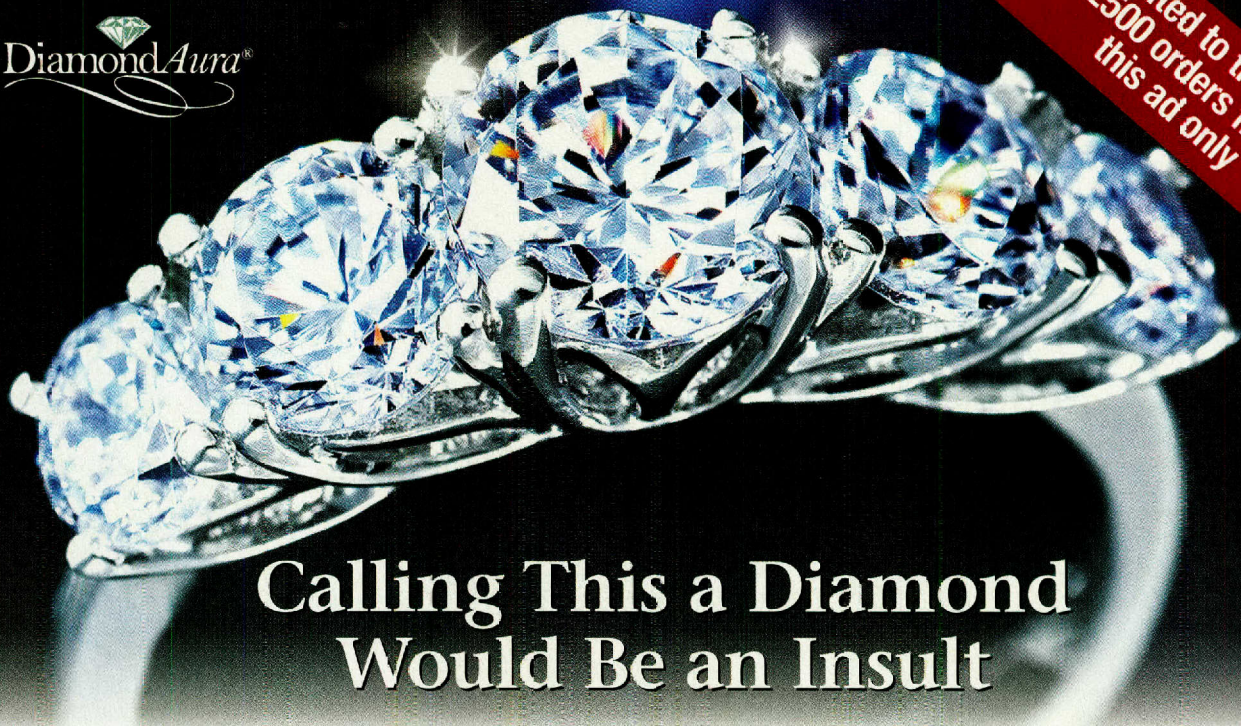
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PARTING SHOT



Ralph the swimming pig and the chicken that played tic-tac-toe were long gone, but some vestiges of the former Aquarena Springs remained in place for years. Photographer Erich Schlegel documented the final steps of the San Marcos resort's transformation from theme park to nature park. Here, a worker from American Underwater Services welds steel tabs onto the iconic Submarine Theater in preparation for its removal by crane from Spring Lake in May 2012.

IMAGE SPECS:

Canon 5D Mark II camera with 16-35mm f2.8 zoom lens in Aquatech water housing, 1/9 at 1/200th second, ISO 640.

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