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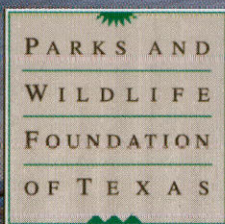
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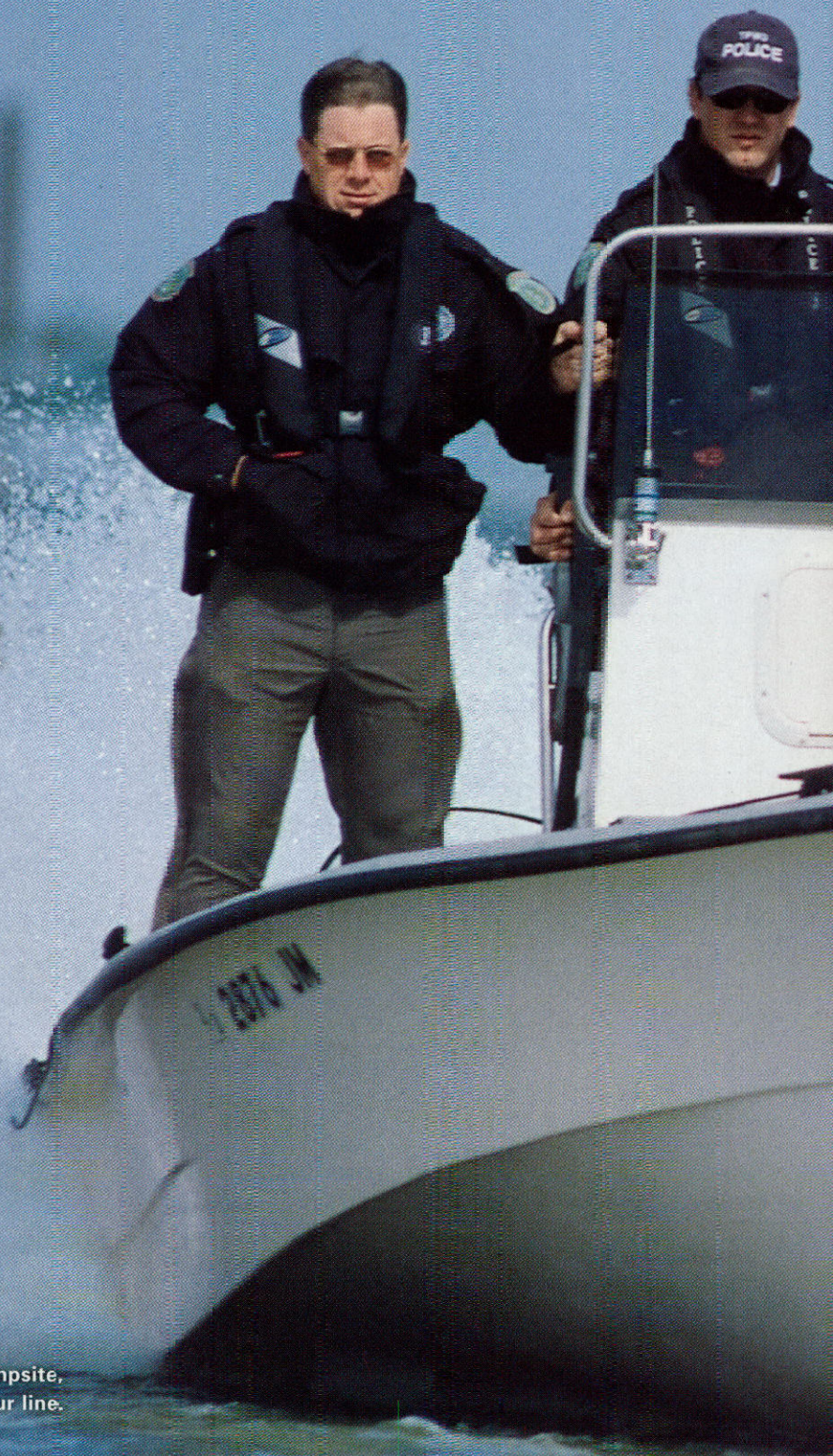
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This page: Nonmigratory mottled ducks are captured and fitted with metal leg bands. See "Midnight Maneuvers on Mad Island," page 46. Photo by Earl Nottingham

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The OUTDOOR MAGAZINE of TEXAS

JUNE 2003, VOL. 61, NO. 6

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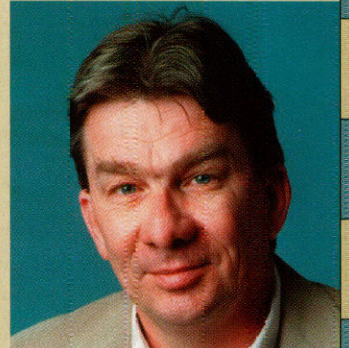
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In the Field

JOHN MACCORMACK has lived in San Antonio for the last 18 years, covering South Texas and West Texas for two daily newspapers, first the *Dallas Times Herald* and currently the *San Antonio Express-News*. Before that, he worked for newspapers in Oregon, New York and Florida. He has written for publications ranging from *The New York Times* to the *Dallas Observer* to the Mexican magazine *Proceso*. A student of Spanish, he also has traveled and reported from Mexico. The father of three sons, MacCormack lives with the youngest of them, Leon, as well as three pythons, a Pueblan milk snake, five dogs and the various occupants of a 200-gallon fish tank that once graced a Chinese restaurant. In this issue he writes about the TPWD game wardens who enforce environmental laws.



KEN KURZAWSKI, who writes in this issue about fishing opportunities in state parks, is a frequent contributor to *Texas Parks & Wildlife* magazine on the subjects of fish and fishing in Texas. In his job as a fisheries biologist with TPWD's Inland Fisheries Division, he works with freshwater fishing regulations and provides freshwater fishing information for TPWD's Web site. He also coordinates freshwater fishing activities at Texas Wildlife Expo. Kurzawski, his wife Anne and sons Andrew and Philip, live near Austin and enjoy fishing and camping around Texas.



TODD MERENDINO writes about tagging alligators and banding mottled ducks in this issue. He is the leader of TFWC's Central Coast Wetlands Ecosystem Project, which is headquartered in Bay City. Merendino has been with TPWD since 1992. He holds bachelor's and master's degrees from Texas Tech University and a Ph.D. from the University of Western Ontario. Merendino says his mom can attest that he has always loved to play in the mud and bring home creatures, and that his wife accuses him of going out to play every day when he goes to work.



AT ISSUE

FROM THE PEN OF ROBERT L. COOK

I am not the greatest fisherman in Texas. The biggest bass I ever caught weighed seven pounds, maybe six — well, for sure, almost three. OK, I didn't weigh the thing, but it was huge.

I prefer to fish with a cork. That cork bobbing on top of the water creates pure, unadulterated anticipation of something to come, something fun and good. My heart likes to see the cork suddenly dive below the surface and then pop right back up again. What is it? How big is it? Did it get my worm, should I pull it up and look, or will that scare him? That's the good thing about fishing; you just never know what is below the surface that might grab your hook. You can always imagine or dream that this is "Mr. Big."

I'm not sure that any angler is better than the next, although some folks spend a lot more time fishing than others. For sure, some avid fisherpersons have lots of gear. I have one old rod and reel and about 30 bucks worth of lures and such that were on sale for an obviously good reason: nothing likes them. I have a couple of cane poles and an assortment of hooks and corks. When it comes to fishing, I'm barely equipped for survival.

Fishing in Texas is very good, maybe the best. I love to hear the stories that our fishermen make up — excuse me — that they tell. Fishing is fun, and it gives you time to think about the important things in life. All Texans should go fishing now and then. It is our agency's job to keep fishing good in Texas, and with your help we can make it great.

Texas Parks and Wildlife operates five freshwater fish hatcheries that produce nearly 20 million fingerlings annually for stocking our public lakes and streams. Several of these hatcheries are antiquated and their ability to produce fingerlings has declined significantly. The Jasper hatchery, for example, was built in 1932, 71 years ago! These old hatcheries are costly and inefficient. New or renovated hatcheries will produce more fish per acre of pond, at a cheaper cost. Some of our hatcheries are middle-aged and simply need renovation to be more efficient producers of millions of fingerling fish. A complete renewal of our freshwater hatchery system will cost an estimated \$45 million.

Outdoor Texans have again stepped up to the plate by supporting legislation for a \$5 Freshwater Fisheries Stamp to be added to the current fishing license for the dedicated purpose of freshwater fish hatchery replacement and renovation. This stamp will produce an additional \$4 million to \$5 million annually, will be in effect for 10 years, and will go away in 2014.

This long-range hatchery replacement and renovation plan will assure continued great fishing for Texans for many decades. If approved by the legislature, it is our hope that all outdoor Texans will support this program and enjoy its results.

Go fish!


EXECUTIVE DIRECTOR

*Outdoor Texans
have again stepped
up to the plate
by supporting
legislation for a
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MAIL CALL

PICKS, PANS AND PROBES FROM PREVIOUS ISSUES

FOREWORD

We've been completely inundated with responses to the "Texas Treasure Hunt" in the May 2002 issue! At press time, we've received more than 500 entries.

The first 50 readers supplying correct answers have been mailed *The Official Guide to Texas State Parks* and *The Official Guide to Texas Wildlife Management Areas*. These readers are: Lana Vieh, San Benito; Barbara Warren, Crandall; Gary Lockhart, Dallas; Don Parker, Richardson; Dale Hill, Ennis; Bobby Kubin, Ennis; JoAnn Oakley, Mesquite; Jason D. Carlisle, Early; Steve Kath, Mesquite; Travis Gibson, Dallas; Lynne Blinka, Caldwell; George Ontko, Houston; Melissa A. Bowles, Dallas; Marylee Kott, Houston; Arlane Boing, Houston; G. R. Somerville, San Antonio; Lawana Williams, Houston; Joyce Hooper, Temple; John R. Jones, Ozona; Henry Tilloson, Nausau, Wis.; Sandra Browning, Haslet; N. Giles, Springtown; Mary Williams, Jasper; Richard Kale, Marshall; Doris Burke, Houston; Steve Bedell, Amarillo; Will Coleman, Jr., Rockwall; Jim Emanuel, Denison; Nona Burgamy, Lubbock; Charlie Vento, Houston; Raymond Flow, Fort Worth; Susan Anderson, Houston; Coy E. West, Sr., Houston; Trish Garrison, Houston; Ronald Brown, Willis; Georgianna Coffman, Alvarado; Mychal Murray, Bryan; Sue Sutterby, Houston; Ken Runkel, Houston; Ginny Hooper, Shreveport, La.; James H. Stroud, Shreveport, La.; Robert Robles, Big Spring; Katie Hughes, Ft. Worth; Ronald W. Williams, Ft. Worth; Brad Janik, DeSoto; Jimmy G. Hoover, Wichita Falls; Joe Orr, Mt. Enterprise; Tommy Fair, Vega; Joan Helton, Junction and Chris Baker, Amarillo.

The second 50 readers supplying correct answers have been mailed the Official Texas Travel Map, designating all Texas state parks. These readers are: Darrell Nevins, Seguin; Floyd Gee, Abilene; Kevin G. Cox, Weatherford; Cyndi Doyle, Krum; Tom Dittrich, Houston; Ron Bautch, Corinth; Albert C. Moyer, Jr., Houston; Michelle Braden, Bryan; Monty Flippin, Odessa; James N. Castleberry, San Antonio; Jerry C. Willis, Houston; Joe A. Webb, San Antonio; P.L. Bankston, Temple; Kathy Carriker, Georgetown; Louie D. Frizzell, Colorado City; Sherrrie Barefoot, DeLeon; Fred Knabe, Argyle; Natalie Compton, Ross; C.M. Griffin, Poteet; Rodney Garrison, Bowie; Karen Fenton, Highland Village; Sherry Timmons, Royse City; Beth Farris, Ivanhoe; Virginia Wales, Mertzon; Janet McCreary, Palestine; Lonnie Adams, Paradise; Eldon H. Sund, Wichita Falls; Dottie Mitchell, Robert Lee; Larry Breazeale, Richardson; Jeanne Fortner, Terrell; Wayne Kile, Trinidad; Ervin Williams, Temple; Barry Fox, Ft. Worth; Paula Blackshear, Lake Dallas; Justin Lee, Groesbeck; Mark R. Cain, Weatherford; Paulette Kiel, Palo Pinto; Goldie Warren, Crowley; Danny Lueckenhoff, Ft. Worth; Kathy Hardy, Tyler; J. G. Rainwater, Graham; Lelia Vaughan, Jonesville; T.J. Goss, Chireno; Mendy Beaty, Mason; James Hosea, Houston; Sandra Stanford, Richardson; Joel Dyer, Woodson; James Schulze, Irving; Cheryl Simmons, Flower Mound and Chad W. Etheridge, Hurst.

Thanks to all of you who entered this contest, and especially to those of you who included notes to the editorial staff. Your ideas for this magazine are highly valued, and will help guide our decisions in issues to come.

LETTERS

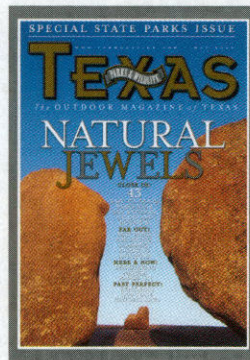
CATCALLS AND KUDOS

As an avid bird watcher, it was with excitement that I opened up my April 2003 issue of *Texas Parks & Wildlife*.

I wonder if it was a mere oversight or a deliberate poor choice to include on page 14 a photo of a dead turkey flung over a hunter's back in the glaring silhouette of the sun. I realize that your magazine and the Texas Parks and Wildlife Department advocate hunting; however, it seems to me to be in very poor taste to run such an article and photo when your entire issue is supposed to be "for the birds" and your cover is of a majestic bald eagle and you feature a story about raptor rehabilitation. I suppose the issue was dedicated to birds that do not taste good!

Surely the irony wasn't lost on everybody but me. I would suggest in the future that you be a little more sensitive to your readership.

TRACY FRANK
Austin



When I came to the "Treasure Hunt" page in the Special State Parks Issue, I could not resist the challenge! Thanks for the educational issue and the seeds for many future vacations and long weekends.

Frank J. Mayer
Spring

SUSAN L. EBERT, PUBLISHER & EDITOR, RESPONDS: The editorial staff believes that the inclusion of a news item regarding spring turkey hunting on wildlife management areas and the accompanying photograph is a valid subject for this magazine, and was neither an oversight nor a poor choice — even in an issue primarily about birding. One of every three readers is a birder; two of every three readers are hunters. Fully 50 percent of these hunting readers are active spring turkey hunters; one in four of all of our hunting readers identifies himself or herself as a birder as well. We make every effort to be sensitive to our readership; still, y'all are a diverse lot and we know we can't please

MAIL CALL

everyone all the time.

I count myself among those readers who enjoy both turkey hunting and birding; my best birding experiences have been while spring turkey hunting. While completely camouflaged and still, I've seen quail stroll by within arm's reach, vermilion flycatchers swoop for bugs and an indigo bunting perch inches from my nose, among countless other breathtaking visual treats. Yes, I shot a gobbler, too, and my children and I said grace over it for our Easter dinner. I believe that in the sharing of my experiences that spectacular spring day, and in consuming this wild creature, my teenagers gained far more reverence for — and insight into — the natural world of which they are members than they would have if I had bought and served a supermarket turkey for our Easter feast.

I am a long-time subscriber, but even at that, you folks never cease to amaze me with your ability to consistently include articles that are of interest to all your readers.

First, let me make it clear that I am not a birder: I am a hunter, a fisherman, a camper and a lover of nature and the outdoors. I have to admit that, upon seeing the line "This issue's for the birds!" on the April cover, the thought did cross my mind that this would probably not be one of my more enjoyable issues of my favorite magazine.

Wrong again! Among the articles in the departments section, the desert survivor article, and the article about snook, there certainly were enough items of interest in this issue for a non-birder such as me.

And I had yet another pleasant surprise awaiting me. As I perused the birding articles, it was fascinating for me to discover that birding interests include much more than just running around the countryside with binoculars to check off bird species in a little book. I loved the "Last Chance Forever" article, and Russ Hansen's photographs were absolutely stunning! So as it turned out (as always), I ended up reading this issue of my favorite magazine from cover to cover.

It was interesting to me to find that I could go through a magazine issue that was dedicated to a pursuit in which I have no interest, and discover that I not only enjoyed the issue, but learned some new things, and gained more of an appreciation, and under-

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standing, of the pursuits and interests of other folks, who, like me, also have an appreciation of nature and of the outdoors. I find that we have more in common than I had previously thought.

I only wish that more folks could be more open-minded to my hunting interests, and more receptive to the *Texas Parks & Wildlife* issues that don't interest them. Those folks might make the same type discovery that I did, and we might all be a better outdoor family for it.

ART FARIAS
Lampasas

HIGH COST OF HUNTING

As I write, I am one of the unfortunate many who cannot afford to hunt anymore. My 24-year-old son, my 12-year-old son and I have not been invited to hunt (at any price but the maximum) on any of the many hundreds of acres that I was able to hunt on 10 or 12 years ago because the landowners now get a packaged hunt for \$3,000 to \$12,000 per weekend.

I am not stupid; I understand the economics. I understand and realize that landowners have the right to make money any way they can — and that times are hard — and being a refugee from the cattle business, it is a slick way to make money. But I am incensed that it is OK for the landowners to build these high fences and charge large sums of money for the privilege of selling these three to five day hunt(s) for game that TPWD states “belongs to the people of the State of Texas.”

Am I wrong? I am not happy with the status quo.

MICHAEL K. MURPHY
Spring Branch

Sound off for “Mail Call!”

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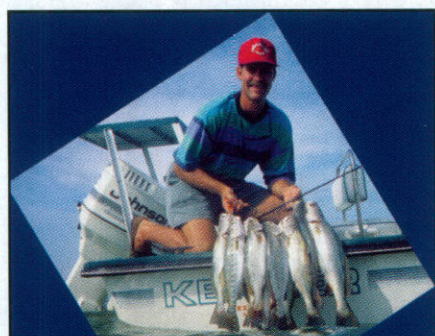
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SCOUT

NEWS AND VIEWS IN THE TEXAS OUTDOORS

Thorny Problem

A thirst for desert plants is changing the West Texas landscape.

Cacti and other desert plants of West Texas might seem like a tough lot, but their numbers are shrinking. That's because landscapers and private collectors are buying these plants by the tens of thousands and creating a huge — and partly illegal — market.

According to a study conducted by the World Wildlife Fund and TRAFFIC North America, nearly 96,000 native succulents worth \$3 million were shipped from Texas to Arizona from 1998 to mid-2001. (Arizona is one of a few states that tracks such imports.) The plants were taken from the Chihuahuan Desert, home to almost a quarter of the 1,500 cactus species known to science.

Much of the trade is legal. Many private landowners — who traditionally dislike cacti because they believe they hurt livestock and compete with native grasses — are only too happy to sell the plants. Ocotillo shrubs for example, can retail for \$150 to \$5,000, depending on size.

The new market has spurred theft. Poachers steal from unwitting landowners, sometimes hiring migrant workers to scoop up plants. Some dealers smuggle succulents from Mexico into Texas — forbidden under U.S. and Mexican law — and then claim they were grown or harvested in the United States. (Two Americans were convicted in 2000 of smuggling more than 20,000 Mexican ocotillo plants into Texas, a haul worth about \$530,000.) Much of the loot is sold to unsuspecting nurseries throughout the Southwest.

Some tourists see nothing wrong with yanking out a cactus in state and national parks, says Danny Contreras, a park ranger for the Texas Parks and Wildlife Department. Contreras has seen the impact of cactus theft in Franklin Mountains State Park, where he works. The 24,000-acre park, which juts into the west side of El Paso, is being robbed of cacti. Many people do not understand how ecologically valuable and sensitive the plants are, he says. Cacti preserve the

topsoil, and their blooms provide food for insects and small mammals.

"One cactus here, one cactus there makes a difference very quickly," he says. "This area is one of the most beautiful parks we have, and it won't take much before it's stripped of cacti."

State Senator Eliot Shapleigh of El Paso, who regularly hikes the park, grew so alarmed by the theft of cacti that this spring he introduced a bill to regulate the sale of cacti in Texas. If passed, SB 970 would make it illegal to sell native succulents that are not marked as inspected by the Texas Department of Agriculture. To prove that cacti are legally grown, sellers would be required to provide documentation showing the cacti were raised on private property and taken with the landowner's permission. Violators would have to pay a fine of up to \$1,000 and/or serve a prison term of up to 180 days.

Environmentalists applaud the bill but warn that even more protection is needed. Contreras would like the state to track cactus populations just as it does game. Christopher Robbins, an environmental consultant in Portland, Oregon, who edited the cactus study, wants the state to fund nurseries in rural communities of West Texas where growers raise cactus from seeds and cuttings obtained legally from the wild.

"These plants have been considered pests," he says. "It's going to take some outreach to convince their adversaries that these plants are worth keeping around for their commercial use and role in the desert ecosystem."

—Janet Heimlich

Cactus theft is becoming a significant problem in the Chihuahuan Desert of West Texas.



PHOTO © E. DAN KLEPPER

Waves of Knowledge

Texas A&M's Floating Classroom Program takes to the water to teach coastal concepts.

Every time the 57-foot former shrimp boat *R.V. Karma* leaves port, it carries a new crew of students eager to learn about the coastal environment. Since its first educational voyage in 2001, the *Karma* has carried more than 3,000 students of all ages.

The *Karma's* captain and an on-board naturalist immerse students in marine study using trawls, plankton nets, water samplers, bottom corers, video-enhanced microscopes and live tanks for the display of sea plants and creatures. When students probe clumps of plankton just pulled from the water and come face to face with blue crabs, shrimp and flopping fish, the

tions, students learn how ships float, why marine transportation is so efficient, where the world's major ports are located and how marine trash affects people and wildlife.

As an alternative to the shore-based classroom activities, groups may elect to visit a nearby marsh for what coordinator Willie Younger calls "muck and yuck" activities, exploring the variety of life in the shallows and ooze.

"The overriding goal is for students to come away with an understanding of how we impact the coast and how the resources here affect them, even if they live in Amarillo or Dallas," says Younger. "They go away seeing the value of what takes place here on the coast and the importance of freshwater inflows to the bays. We hope they grow up to be better decision-makers than we were, because they have better knowledge. We want them to become more 'coastal literate.'"

Aboard the *Karma*, students help net plankton from the water and then examine these tiny drifting plants and animals under a microscope connected to a TV monitor. After collecting a sediment sample from the bottom, students screen the muck through sieves and then view the tiny worms, snails and other creatures through microscopes as the naturalist explains the role each plays in the marine web of life.

While the program is largely aimed at children, adult groups such as elderhostels may book trips as space permits. Elementary and secondary school teachers can take three-day summer workshops to help them present lessons on marine ecology in their own classrooms. Scholarships cover all costs of the teacher workshops, including lodging and meals; call (979) 863-2940 for information.

The Floating Classroom accepts groups of up to 54. Grants from the Houston Chapter of the Marine Technology Society and the Coastal Impact Assistance Program defray all but \$100 of the \$1,000 fee for groups such as public and private school classes, home school associations, scout troops, boys and girls clubs, 4-H clubs and public service organizations. Programs are offered Monday through Saturday. To learn more or to make reservations, write Floating Classroom Program, Texas Marine Advisory Service, P.O. Box 18, Matagorda, TX 77457; call (979) 863-2940; or e-mail Laura Beach at lbeach@neo.tamu.edu.

—Larry D. Hodge



Youngsters attending the Floating Classroom learn first-hand about plants and animals in the Gulf of Mexico.

importance of coastal habitat comes alive far more effectively than by reading about it in books.

That's the method of Texas A&M University's Floating Classroom Program, a joint effort of the Texas Sea Grant College Program and Texas Cooperative Extension. The program offers field trips to 4th grade through 12th grade classes and other organized groups. Learning objectives for school groups correlate to the state-mandated TEKS (Texas Essential Knowledge and Skills) test.

Upon arrival at headquarters in Matagorda, students divide into two groups. One group enjoys shore-based activities while the other takes to the water aboard the *Karma*; after lunch the groups switch.

While ashore, students learn how changing salinity gradients affect life. They peer at various kinds of plankton through microscopes, draw what they see and learn why plankton make Gulf waters appear green instead of blue. At other learning sta-

FIELD NOTES

THE TEXAS BIGHORN SOCIETY will hold its 15th annual Round Up on June 6 and 7 in Grapevine. The highlight of the festivities will be the auction of a desert bighorn sheep hunting permit. Texas Parks and Wildlife Department for the first time has donated a permit to the Texas Bighorn Society with 100 percent of the proceeds going toward the society's goals of habitat restoration and desert bighorn repopulation. The proud recipient of the permit will be one of only a handful of people who have had the opportunity to hunt a desert bighorn in Texas. TPWD approved just six permits last year, and only four in 2001. Festivities also will include music, shooting events and other auctions. Visit www.texasbighornsociety.org for more information or call (817) 336-0401.



World Premiere

Edinburg launches the first site of the World Birding Center.

The first of nine nature preserves that will make up the World Birding Center opened in Edinburg in March, just in time to welcome birds and birders during spring migration. The 40-acre Edinburg Scenic Wetlands includes a learning center, two miles of nature trails, six acres of butterfly gardens and a dragonfly pond.

The \$1 million project was funded jointly by Texas Parks and Wildlife Department and the City of Edinburg. The site



The Edinburg Scenic Wetlands features an interpretive center with exhibits and a learning center.

was created within Edinburg Municipal Park, which has two 20-acre ponds. By planting native brush such as mesquite and huisache around the ponds, the site managers have recreated the type of thick wetland vegetation that exists along the Rio Grande. The revived wetlands now attract many different types of birds, from various ducks to white pelicans to great kiskadees and kingbirds.

Like all of the WBC sites, the Edinburg Scenic Wetlands is designed to bring students from neighboring schools for conservation and natural history programs. The site is expected to attract tourists as well as students. World Birding Center experts can take visitors on outings that range from general nature tours lasting a couple of hours to daylong treks for expert birders.

TPWD began working on plans for a large-scale birding project for the Lower Rio Grande Valley in 1998 with the help of Fermata, Inc., the Austin firm that created the Great Texas Coastal Birding

Trail. "Rather than having just one high-profile location, the intent of the World Birding Center is to unite several sites across the area," says Ted Eubanks, president of Fermata.

The relatively small area where these nine sites are located, spanning only four Texas counties, is one of the richest birding spots in America. This region has recorded 498 different bird species, more than half of all the species in the United States and Canada combined. And it is home to many species, such as the brown jay, the green jay and Audubon's oriole, that can be seen nowhere else in the United States.

The nine sites will consist of a headquarters site and two additional visitor centers built and maintained by TPWD. The WBC headquarters will be housed in Bentsen-Rio Grande Valley State Park just west of Mission. The other six sites will serve as gateway sites for the center. The sites span 120 miles of the Rio Grande Valley, from South Padre Island to Roma, each with its own personality.

—D.J. Carwile

TEXAS READER

The Turning of the Seasons

MANY OUTDOOR BOOKS tell the how, when and where of fishing and hunting. Tosh Brown's *Texas Tides: An Angling & Shooting Chronology* (180 pages, hard cover, \$60, Collectors Covey, (800) 521-2403) covers those basics, but it's more about why we hunt and fish. Sharing the memories of Port Bay duck hunts with friends and family, the thrill of stalking speckled trout in Baffin Bay and the pursuit of bobwhite quail in the South Texas brush country, Brown serves up a banquet of outdoor experiences along the Texas Coast.

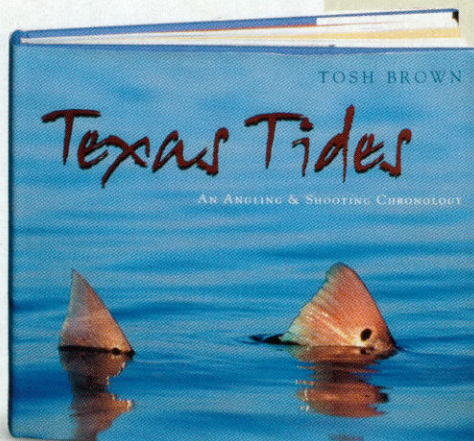
Tosh Brown is one of those few people who are skilled at both photography and writing. The 250 color photographs in the 10-inch by 12-inch book convey the beauty and bounty of the Texas Coast month by month. January begins with big-water duck hunting on Texas bays. February brings quail hunting; March, fishing for speckled trout; June, fly-rod fishing for redfish; and so on. Along the way Brown introduces us to guides, fellow anglers and hunters, beachcombers and several good dogs.

Brown's hunting and fishing vignettes convey the excitement of the outdoors, and he reflects on conservation issues important to anglers and hunters. But his photographs likely will be what attract people. Brown has an eye for color, composition and detail, and he knows how to use the soft, warm light of morning and evening to best advantage.

He blends action, wide-angle and detail shots in a way that gives a complete impression of the experience.

A two-page spread in the first chapter includes photographs of a flock of redheads settling into a decoy spread, loafing dowitchers, duck calls and bands dangling from a lanyard around a guide's neck, a retriever (caught with all four feet off the ground) bringing in a duck, and guides pulling a boat away from a blind to hide it before a hunt. Even someone who's never been on a duck hunt will understand what is going on — and probably want to go.

—Larry D. Hodge



Know These Nuisances

Help keep alien plants from spreading through Texas waters.



Learn to identify these nuisance aquatic plants, clockwise from top left: water hyacinth, hydrilla, giant salvinia and common salvinia.

Nuisance plants can be ecologically detrimental to fish and wildlife resources, and limit access for fishing, hunting and other recreational activities. For example, researchers have found that overabundant vegetation can decrease the growth and average size of largemouth bass.

In general, aquatic plants that have become nuisances in Texas are not native to the state. None of Texas' three most troublesome aquatic plants — hydrilla, water hyacinth and giant salvinia — are native to North America.

Want to help protect boating, fishing, hunting and swimming in Texas? Then make sure you can identify nuisance plants and are not introducing them into other bodies of water.

Here's how to identify these top three aquatic nuisance plants:

1. Water hyacinth (*Eichhornia crassipes*): This large floating plant is often called the world's worst aquatic weed. Water hyacinth reproduces by budding daughter plants, or by producing seeds when its beautiful purple flower blooms. Populations may double in size every six to 18 days. Water hyacinth can shade out beds of submerged vegetation, elim-

inate plants that are important to waterfowl, and induce low oxygen concentrations that precipitate fish kills. The combination of large leaves and hanging roots can cause the loss of up to 13 times as much water to the atmosphere as normal evaporation without the plant.

2. Hydrilla (*Hydrilla verticillata*): A submerged plant species, hydrilla has small ($\frac{1}{2}$ to 1 inch) leaves arranged in whorls around the stem. Hydrilla can grow very fast (up to 1 inch per day), producing dense surface mats that may cause fluctuations in dissolved oxygen levels, pH and temperature, as well as inhibiting water flow, boating, fishing and swimming. Overabundant hydrilla can reduce plant and animal diversity, and stunt sport-fish populations. Nearly half of fragments with at least a single leaf whorl can grow into a new plant. Hydrilla tubers can dry out for several days and still remain viable. Buried in wet sediment, they can live for years.

3. Common salvinia (*Salvinia minima*) and giant salvinia (*Salvinia molesta*): Both common and giant salvinia are small, floating aquatic ferns with oval leaves that have tiny hairs on the upper surface. Common salvinia is readily distinguished from giant salvinia by its leaf hairs. In common salvinia, the hairs are split four ways near the tip, whereas in giant salvinia, the hairs are also split, but they come together at the tip, forming an egg-beater-like structure. Typically, the mature leaves of giant salvinia are about twice the size of common salvinia. Giant salvinia damages aquatic ecosystems by outgrowing and replacing native plants. Additionally, giant salvinia has been known to grow up to three feet thick, blocking out sunlight and decreasing oxygen, and thereby killing fish and other aquatic species. ☆

To ensure that you're not adding to the spread of invasive species, follow these procedures:

1. Remove any visible plants, mud, fish or animals before transporting equipment.
2. Eliminate water from equipment before transporting.
3. Clean and dry anything that came in contact with water (boats, trailers, equipment, etc.).
4. Never release plants, fish or animals into a body of water unless they came out of that body of water.

For more information on invasive species and aquatic hitchhikers, visit <www.protectyourwaters.net>.

Backwater Boats

Lightweight, flat-bottom boats run silently in shallow waters.

In the Deep South, few boats are more popular for hunting and fishing in flooded lowlands than flat-bottomed boats such as the pirogue and the johnboat. Often handmade, these one- and two-person craft have been in constant use for centuries. Evolving from the simple dugout tree trunk, these boats were later built of marine plywood. The current commercial models are form-constructed of more durable fiberglass, aluminum or polyethylene. In shallow waters, these basic paddle-craft are often powered only by push-pole. The larger open-water marsh, duck or johnboats usually are equipped with electric trolling or gasoline-fueled outboard motors.

In its purest form, the pirogue is a lightweight, horizontal-profile boat with a pointed bow and stern. It can be maneuvered easily through shallow swamps, bayous, flats and marshes. The flat bottom makes it relatively stable when the operator is standing and poling on quiet waters. For safety, most novice users prefer to sit and paddle with a lower center of gravity. The pirogue is the classic Cajun boat used by duck hunters and fishers to sneak up on game and fish in almost complete silence. Some designs have stake or spud-holes through the hull ends for conversion into stable duck blinds.

At 40 pounds, one of the lightest versions is the all-fiberglass **Copperhead Pirogue** that will carry one person, equipment and a dog, for a maximum load of 325 pounds. (\$295; length: 13 feet, 10 inches; color: olive drab; Louisiana Pirogues, (504) 277-6526, <www.pirogue.com>). For a step up in size, consider the two-person, aluminum **Black Water Pirogue**. This sturdy, hand-finished, 70-pound boat is well made and can carry up to 500 pounds. It is slightly keeled for better tracking and with a light, well-balanced load, can travel in two inches of water. (\$695; solid color; \$735, four camouflage patterns; length: 13 feet, 9 inches; C & D Enterprises, (877) 396-7612, <www.duckcommander.com>).

The larger duck and marsh boats vary only slightly from the pirogue. Their bows and sterns are partially decked; a flanged gunwale forms a cockpit to reduce the shipping of water in a chop. Often called "layout" boats for their use as waterfowl blinds, they can be dragged into fields, marshes or poled across wetlands and camouflaged near arrays of decoys. A classic variation of this style is the **Slider**, a completely hand-built, wooden design for one or two persons fly fishing on the Texas coastal flats. The Slider has the graceful lines and charm of an antique lapstreak craft, but is made with modern wood laminates protected by fiberglass cloth set in epoxy and finished with catalyzed urethane paint to give it years of service in rough-bottom bays and rivers. (\$2,500; length: 16 feet; weight: 55 pounds; Austin Angler (512) 472-4553, <www.austinangler.com>).

Aluminum johnboats are the most common and practical means of shallow-water transport for hunters and fishers. These inexpensive, low-maintenance, flat-transom craft have

set a proven standard for all-purpose utility boats. In Texas, they outnumber the Louisiana-style push-boats because our water depths vary so greatly. Johnboats vary in size. Small models, 10 to 12 feet long, can slide into the bed of a pickup. Larger, trailer-carried versions rigged for bigger waters go up to 24 feet. One of the most popular sizes is the 12-foot-long **Riveted Jon**. It can take up to a six-horsepower gas outboard or an electric trolling motor, and holds three persons for a total load of 440 pounds. Add oarlocks and oars and it doubles as a traditional rowboat. (\$629; Model #1232; weight: 105 pounds; Fisher Boats, <www.fisherboats.com>).

The **Ambush** is a two-person hybrid boat made of molded polyethylene that can carry up to 800 pounds. It has the form of a modified, sit-on-top kayak and the stability and low maintenance of a 44-inch-wide johnboat. (\$749-\$799, depending on options; size: 13 feet, 10 inches; weight: 100 pounds; colors: olive drab, granite, or wheat; Ocean Kayak, (800) 852-9257, <www.oceankayak.com>). The Ambush can be paddled or outfitted with a strong 12-volt, saltwater trolling motor such as the RT55/S **Minn Kota Riptide** for silent traveling at a good speed on calm waters. (\$419; Minn Kota, (800) 227-6433, <www.minnkotamotors.com>).

Remember that all motorized craft used on public waters must be registered with the Texas Parks and Wildlife Department and have the required safety equipment on board. ★



From top: Copperhead pirogue; the Ambush with Minn Kota Riptide motor; the Slider.

3 Days in the Field / by Mary-Love Bigony

DESTINATION: FREDERICKSBURG

TRAVEL TIME FROM :

AMARILLO – 7 hours / AUSTIN – 1.5 hours / BROWNSVILLE – 6.5 hours / DALLAS – 5 hours / EL PASO – 7.5 hours
HOUSTON – 5 hours / SAN ANTONIO – 1.5 hours

Hill Country Treasures

Waves lap against the ship's hull and Hawaiian music plays softly in the background. In the distance, the lights of Pearl Harbor and Honolulu flicker against the silhouette of Diamondhead.

It's early morning, December 7, 1941, and the last peaceful moments for this idyllic scene.

I'm in one of several walk-through dioramas at the George Bush Gallery of the National Museum of the Pacific War in Fredericksburg, part of the Admiral Nimitz State Historic Site. This lifelike scene gives visitors the experience of standing on the deck of a Japanese mother submarine preparing to launch a midget sub four miles off the coast of Oahu. In another exhibit I walk across the airstrip at Guadalcanal and sense the disquiet soldiers must have felt one night in October 1942. Pilots in a tent talk about the day's raid, and worry about whether mechanics can salvage enough parts to keep their planes in the air the next day.

It's raining on the first day of my visit to this Hill Country town of 9,000 people, many of them descendants of the Germans who settled this area in the mid-19th century. But once inside the Nimitz museum, I realize I'll have no trouble spending the whole day here. The original museum is housed

in a steamboat-shaped hotel that was operated by Charles H. Nimitz, grandfather of Admiral Chester W. Nimitz, a Fredericksburg native who led Allied forces in the Pacific during World War II. The George Bush Gallery opened in 1999.

Exiting the dioramas, I discover a wealth of exhibits that show many facets of World War II in the Pacific: the rusted and battered hatch of the USS *Arizona*, sunk at Pearl Harbor on December 7, 1941; a recording of President Franklin D. Roosevelt's "Day of Infamy" speech; a map using moving lights to tell the story of the war in the Pacific. Another exhibit tells the story of former President George Bush, for whom the gallery is named. Bush was a Navy pilot, and while on a bombing run in 1944 his plane was hit by antiaircraft fire. He parachuted from the plane, and museum visitors can watch a film of his rescue at sea. As I leave the gallery I walk down a gangplank lined with Welcome Home signs, and get a sense of the excitement returning soldiers must have felt.

A block away from the Bush Gallery is the Pacific Combat

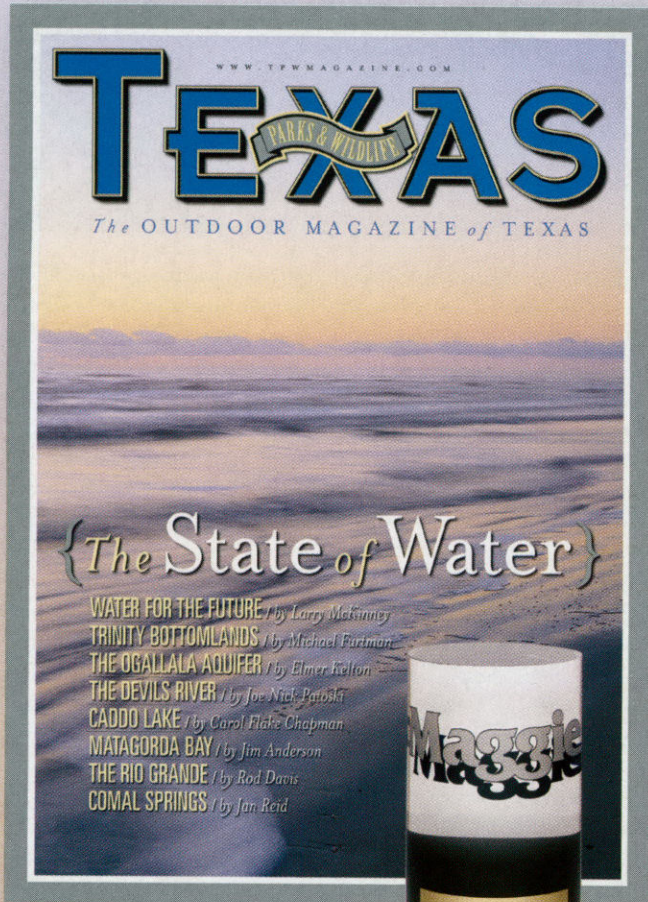
Nestled in the heart of the Texas Hill Country, Fredericksburg is close to several state parks, a wildflower farm and a butterfly ranch.



Vertis Congratulates Texas Parks & Wildlife magazine

on winning five Maggie Awards for the July 2002

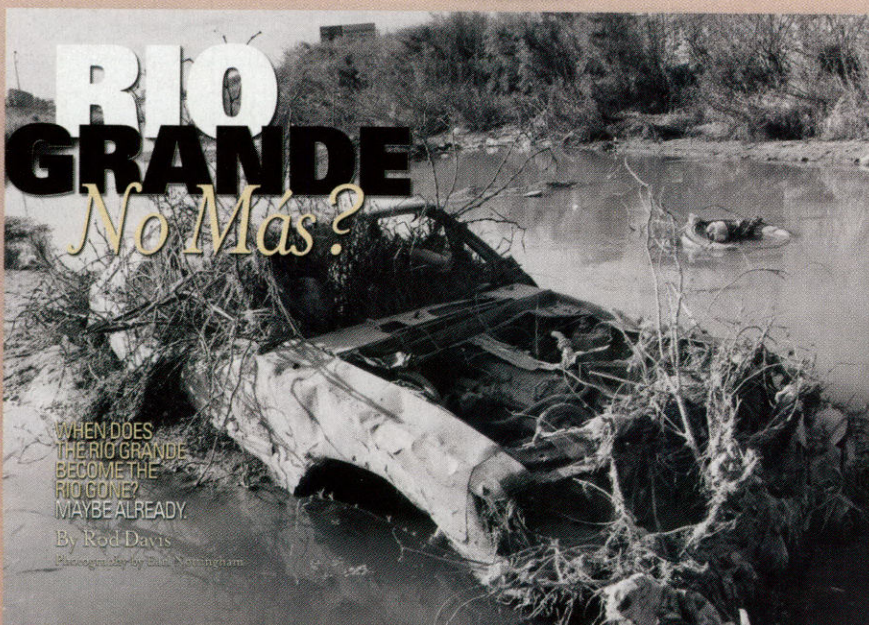
“Texas: The State of Water” issue.



The Maggies, awarded by the Western Publications Association, are among the most prestigious magazine awards in the nation. The WPA serves all member magazine titles published west of the Mississippi, and has represented magazine publishers and companies who interact with the magazine publishing industry for more than 50 years.

This award-winning issue was produced by the magazine editorial staff, led by Susan L. Ebert, Publisher and Editor; Mary-Love Bigony, Managing Editor; Mark Mahorsky, Art Director and Bill Reaves, Photo Editor. *Texas Parks & Wildlife* magazine was nominated for eight Maggie Awards, and won top honors in the following categories:

- Best Magazine (July 2002 issue) - Special Theme Issue/Consumer
- Best Magazine (July 2002 issue) - Sports, Recreation & Outdoors
- Best Magazine (July 2002 issue) - Regional and State
- Best Feature Article/Consumer (July 2002 issue, Rio Grande No Más? - Rod Davis)
- Best B & W or Duotone Editorial Layout/Consumer (July 2002 issue, Rio Grande No Más? - Earl Nottingham, photography; Mark Mahorsky, art direction)



Vertis is honored to partner with *Texas Parks & Wildlife* magazine as its sole provider of color engineering and premedia.

We wish the magazine continued success in its future endeavors.



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Enjoy the quaint German charm of Fredericksburg's main street. Admiral Nimitz State Historic Site – National Museum of the Pacific War, located at 340 East Main Street, tells the story of World War II in the Pacific through exhibits, special effects and artifacts.

Zone, where aircraft, tanks and other large battlefield artifacts are presented in World War II settings. I step onto a recreated hangar deck of an aircraft carrier and see a TBM Avenger bomber being readied for its next mission. Next is a PT boat docked alongside a pier with gasoline drums and ammunition boxes stacked nearby. Other scenes feature an American landing on a Japanese beachhead, a Quonset hut housing a hospital and a burial ground. Leaving the museum, I feel a deep sense of patriotism, as well as profound admiration for the troops that fought in World War II.

The next day I learn more about another Texan who achieved international prominence, Lyndon B. Johnson. The Texas Parks and Wildlife Department and the National Park Service collaborate to tell the story of the 36th president of the United States. Johnson was born in 1908 in a modest frame house near Stonewall, and died in 1973 just a few miles away from that spot, in a ranch house known as the Texas White House during his presidency.

My visit through LBJ country begins at the Johnson City Unit of the national park. A film in the visitor center tells of President Johnson's accomplishments in education, civil rights, the war on poverty and Medicare. Exhibits include a timeline of world events, political cartoons and campaign memorabilia. Down the street from the visitor center is the Victorian home where the future president moved with his family when he was 5 years old. The park ranger points out family photographs and tells how young Lyndon was influenced by his father, a state legislator, and his mother, one of the few college-educated women in the area. Johnson announced his candidacy for the U.S. Congress from the porch of this house in 1937.

From Johnson City I go to Lyndon B. Johnson State Park and Historic Site near Stonewall. I watch another film, this one a TV program about the ranch that aired during the Johnson Administration. In a memorable scene, President Johnson is driving a reporter around the ranch in what turns out to be an amphibious car. Imagine the reporter's surprise when the president drives straight into the Pedernales River!

One of the state park's most fascinating features is the Sauer-Beckmann Farm, a working farm typical of the early 20th century. Park employees raise livestock and crops, make sausage, can vegetables and cook. But the rain is back, so instead of walking through the wet grass to get to the farm, I climb aboard a bus for a tour of the national park.

The bus takes us across the Pedernales River and past the

Junction School, which LBJ started attending at the age of 4, and where he signed into law the Elementary and Secondary Education Act more than 50 years later. Next we come to the president's reconstructed birthplace. Johnson supervised the reconstruction during his presidency, based on old photos and memories of family members; the structure is the only presidential birthplace reconstructed, refurbished and interpreted by an incumbent president. After Johnson left office he personally guided tours at the birthplace, and guided a tour on the day he died, January 22, 1973.

We get out at the family cemetery, shaded by huge pecan trees, where LBJ is buried alongside his ancestors. We drive by the ranch house, but don't get off the bus. This was the Texas White House, where the president entertained heads of state and conducted staff meetings in lawn chairs under the oak trees. The tour ends with a stop at the show barn, where the National Park Service maintains a herd of Hereford cattle descended from LBJ's herd.

Back in Fredericksburg, I visit another ranch. But this is nothing like LBJ's ranch; it's the Fredericksburg Butterfly Ranch & Habitat, right on Main Street. I enter through the gift shop which is housed in the charming Loeffler-Weber house, built in 1846, the same year Fredericksburg was founded. Deborah Payne, founder and owner, greets me warmly and escorts me to the 1,500-square-foot enclosure she calls the butterfly house. Lantana, turk's cap, snapdragons and various other native plants fill the area and butterflies hover near the plants, above a pond and around various feeders.

Payne explains that each butterfly species lays its eggs only on certain plant species. So a butterfly garden needs plants to feed larvae as well as plants to feed mature butterflies. Payne watches the activity in the garden carefully, and when eggs are laid on the larval plants she collects them and transfers them to the caterpillar house. Inside the caterpillar house, a greenhouse-like structure, she points out dozens of caterpillars in various stages of their life cycles.

Fayne spends much of her time helping visitors decide what plants to use in their yards to attract and hold butterflies. She is enthusiastic about butterflies and her goal of increasing the butterfly population by planting butterfly-friendly habitat. The gift shop stocks a variety of butterfly gardening and identification books, feeders, butterfly novelties and even a larval kit for raising butterflies.

On my last day in Fredericksburg, I'm eager to do something

outdoors. Enchanted Rock State Natural Area, just 20 miles to the north, is one of the best hiking spots in the state. But the early morning rain probably has made the smooth granite dome too slick for hiking. So I head east on US 290 to Pedernales Falls State Park.

This quintessential Hill Country park is made up of the stair-like limestone hills that give the region its name. The Hill Country is part of the Balcones Fault Zone; Spanish explorers called the area *balcones*, meaning balconies or stairs, for the appearance of the region from a distance. The Pedernales River runs clear and cold, cutting a course through the hills and juniper breaks. The river is prone to flash flooding, so be alert to weather conditions whenever you're in the park.

I've hiked the park's rugged and scenic trails and cooled off in the river many times, so on this drizzly morning I head for a feature of the park I haven't seen: the covered birdwatching blind. Volunteers built this nature theater, complete with a spacious seating area, from recycled materials. Outside the blind is a habitat complete with feeders, birdbaths and native vegetation. I spend a pleasant morning watching birds come and go and listening to rain tapping on the roof.

On my way back to Fredericksburg, I pull off the highway for a look at something that has caught my eye every time I drive this route: acres and acres of wildflowers in every color imaginable. It's Wildseed Farms, the largest working wildflower farm in the United States. John Thomas, a fourth-generation Texas farmer, owns and operates Wildseed Farms, harvesting the wildflowers for seeds that he sells to customers across the country.

Self-guided walking trails provide access to the 200 acres of wildflowers, which are labeled according to broad types; some

attract butterflies, some are shade tolerant and still others are grouped because they need very little water. Thomas and his staff work with visitors and mail-order customers to help them get the right seeds for their part of the country.

I end the day at the gift shop and biergarten, where I enjoy a snack and a view of the wildflower fields with the hills rising in the background. The German baron who settled Fredericksburg was impressed by the area's abundance of water, stone and timber. That same beauty, with a generous dose of history and hospitality, continues to lure folks to this scenic pocket of the Texas Hill Country. ★

Exploring Fredericksburg

Admiral Nimitz Museum State Historic Site – National Museum of the Pacific War, (830) 997-4379, <www.tpwd.state.tx.us/park/nimitz>.

Lyndon B. Johnson State Park and Historic Site, (830) 644-2252, <www.tpwd.state.tx.us/park/lbj/>

Lyndon B. Johnson National Historical Park, (830) 868-7128, <www.nps.gov/lyjo/>

Fredericksburg Butterfly Ranch & Habitat, (830) 990-0735, <www.livebutterfly.com>

Pedernales Falls State Park, (830) 868-7304, <www.tpwd.state.tx.us/park/pedernal/>

Wildseed Farms, (800) 848-0078, <www.wildseedfarms.com>

Be sure to visit Fredericksburg's new visitor information center, downtown at 302 E. Austin St. For lodging and other information about Fredericksburg and surrounding attractions call (888) 997-3600, or go to <www.fredericksburg-texas.com>.

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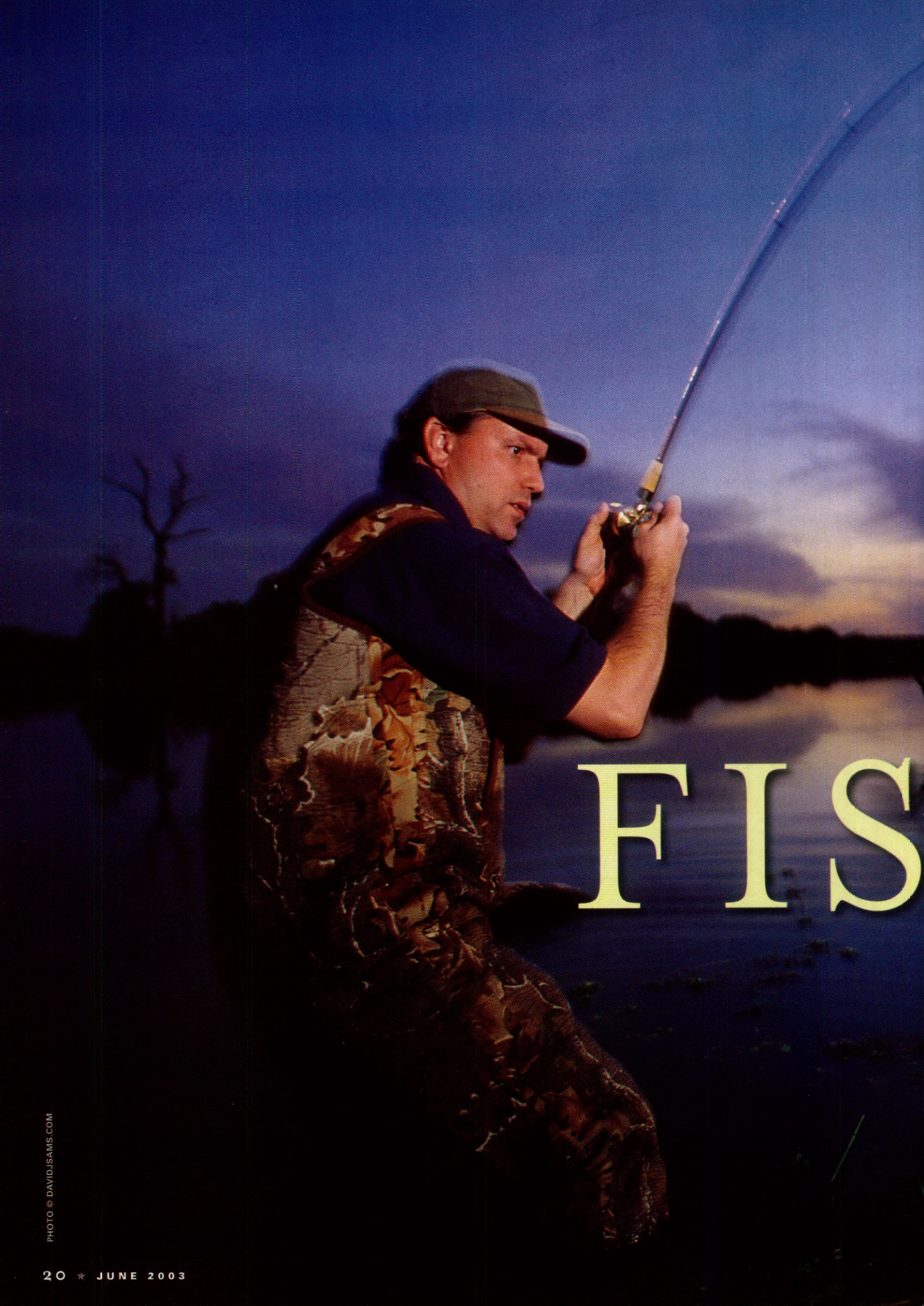
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H C A M P

*Not lucky enough to own your own private fish camp?
Here are 12 state parks that offer the next best thing.*

BY KEN KURZAWSKI

Access to fresh water abounds throughout the state park system, so whatever your angling skills may be, you can find a fishing experience to match. Bank fishing spots, either near your campsite or on a fishing pier, are plentiful and most waterside parks have boat ramps. If you don't have a boat and want to get out on the water, some even have watercraft rentals such as canoes or kayaks.

BASS, CATFISH, CRAPPIE AND SUNFISH, those staples of Texas freshwater fishing, are found in almost every park that has water.

State parks also provide opportunities to fish for something out of the ordinary. In Hill Country parks such as Guadalupe River, Inks Lake, Lost Maples and South Llano River, you can catch Guadalupe bass, the official state fish, which are found only in Texas. Want to catch a chain pickerel? Head to Caddo Lake to tangle with this toothy relative of northern pike. Can't make it to the coast to hook a redfish? Fairfield Lake State Park is one of a half-dozen inland lakes that TPWD stocks with red drum. Prefer trout fishing? Each winter, rainbow trout are stocked in about 10 parks among the 90 or so sites stocked statewide (see sidebar).

The variety of fish and fishing experiences in state parks is matched by the range of camping facilities. Have a small tent and want to camp a few steps from the water? Have an RV pulling a 20-foot boat? Prefer to bed down in a screened shelter or cabin? Texas state parks have nearly as much variety in types of camping facilities as they do in types of fish. Once you find a park with a fishing/camping combo that suits your style, see what else that park offers, as many of these parks sport other recreational activities ranging from swimming, hiking and birding to mountain biking and golfing.

BIG BEND COUNTRY

Devils River State Natural Area: This remote park north of Del Rio combines primitive camping with river fishing for smallmouth bass. No one knows exactly how smallmouth bass got into the Devils River, says Jimmy Dean, who has overseen fisheries in South Texas for TPWD for a quarter-century. Whatever the source, anglers who make the rugged float from Bakers' Crossing (State Highway 163 bridge) are rewarded with outstanding smallmouth bass fishing. Dolan Falls within the park prevents floating farther downstream without portaging. Primitive campsites near the river are accessible only by canoe; seven others and a 10-bed bunkhouse are available for those arriving by road. Special harvest regulations for smallmouth bass (18-inch minimum length limit and three-fish daily bag) are in place for the Devils River from Bakers Crossing to Dolan Falls to help protect the quality of the fishery.



State parks abound with beautiful scenery as well as good fishing. Catch smallmouth bass, top, at Devils River State Natural Area. Catch bass, crappie, sunfish and catfish at a number of lakeside parks. State parks also offer a good venue for teaching children to fish.





HILL COUNTRY

Inks Lake State Park: Fishing in one of the most scenic and popular state parks in Texas has improved over the last few years, reports fisheries biologist Craig Bonds of TPWD. Largemouth bass and sunfish are the primary targets. Inks Lake also has a population of the Texas state fish, Guadalupe bass. Catfish and white bass are available and occasionally, big stripers can be caught on the upper end of the lake below Buchanan Dam. Two lighted fishing piers are popular with campers, and the only public boat ramp on the lake is within the park.

Colorado Bend State Park: If you could take a boat from Inks Lake up the Colorado River through Lake Buchanan (Buchanan Dam prevents that), your trip would end at the rocky shoals in this park. White bass pile up at these shoals on their spring spawning run, making this one of the best-known spring fishing spots in Central Texas. The river can be fished from a boat or from the shore. Catfishing is also good in the spring and fall. Under normal water levels, you can put in at the park's boat ramp and travel downstream through canyons and past waterfalls into Lake Buchanan. Camping facilities at Colorado Bend are less developed than at many parks, mirroring the "wild" nature of the area.

PANHANDLE PLAINS

Lake Brownwood State Park: Drought and fish kills caused by golden algae have been hard on many lakes in the western half of Texas. Lake Brownwood has been an exception to those scourges. Sufficient water level has been maintained in the reservoir, which has contributed to good largemouth bass, catfish and white bass fishing. The park's lighted fishing pier is a favorite of catfish anglers. Many camping spots are right on the water. The park also contains Civilian Conservation Corps (CCC) buildings.

PINEYWOODS

Atlanta State Park: Located on the shores of Wright Patman Lake, this park is nestled in the Pineywoods near Texarkana. Mike Ryan, TPWD fisheries biologist for this area, modestly proclaims Wright Patman "one of the best fisheries in the state." With great fishing for all three species of catfish (channels, blues and flatheads), crappie and white and hybrid striped bass, it's hard to argue with that. Throw in some decent bass fishing and a campground with all the amenities and you have a great destination.

Caddo Lake State Park: Caddo is often

touted as the only "natural" lake in Texas (others are considered man-made reservoirs). However, a flood-control dam added in the early 1900s somewhat muddies that claim. Whatever its designation, Caddo provides a unique experience for those who camp and fish among its cypress-lined sloughs and bayous. Caddo earned a reputation as a big bass lake in the 1990s. Species such as crappie, sunfish and white bass also merit attention. Some people come to Caddo just to chunk spinnerbaits with the hope of catching a chain pickerel. A boat ramp in the park offers access to the upper end of the lake.

Huntsville State Park: Lake Raven is a 210-acre jewel in this park near Huntsville. The lake offers great fishing for bass and sunfish in a serene setting surrounded by pines. Shore access is excellent, with piers and bank fishing available. Attractive camping and picnicking areas are located around the lake.

PRAIRIES & LAKES

Fairfield Lake State Park: A power plant on this reservoir southeast of Corsicana provides warm water that allows stocked red drum to survive during the winter. While a "slot" length limit is used on the coast, red drum in stocked freshwater lakes may be kept if 20 inches or longer; a three-fish daily bag applies. The warm water also allows tilapia to thrive in Fairfield. This fish, native to Africa and the Middle East, was introduced as bait by anglers. Tilapia are difficult to catch on hook and line but are great table fare. Jeff Geer, of the state park staff, says anglers come from all over Texas and other states to bowfish for tilapia. Anglers also have good success fishing for bass, catfish and hybrid stripers.

Ray Roberts Lake State Park: If I lived in the DFW Metroplex or even north of Waco, I'd wear out the road going to this park near Denton. Two units, Isle du Bois and Johnson Branch, are located on the shores of 29,350-acre Lake Ray Roberts. Both units offer great camping and fishing with lots of shore access for angling or parking your boat near your campsite. Chris True, who oversees the operation of both units for TPWD, says the parks were designed to be angler and camper friendly. Each unit has a fish-cleaning station, multi-lane boat ramps with courtesy docks, and kids' fishing ponds that are stocked annually. Isle du Bois has the added attraction of a lighted fishing pier. Ray Roberts Lake has built a reputation as a top-notch largemouth bass lake. It also has excellent fishing for white bass (peo-



Where the Fish Are

For additional information on state parks and fishing in Texas check the TPWD site at www.tpwd.state.tx.us. Click on the Parks and Fishing buttons for links to specific parks, lakes and rivers. You'll find information on making advance reservations for camping (advisable, as many of the popular parks fill up quickly). To make campsite reservations, call (512) 389-8900. The Web site also has information on licenses and fishing regulations and a weekly fishing report.

Contact individual parks at the numbers below for up-to-the-minute information on fishing and camping conditions.

- Atlanta State Park, (903) 796-6476
- Caddo Lake State Park, (903) 679-3351
- Choke Canyon State Park, Calliham Unit, (361) 786-3858; South Shore Unit, (361) 786-3538
- Colorado Bend State Park, (325) 628-3240

- Devils River State Natural Area, (830) 395-2133
- Fairfield Lake State Park, (903) 389-4514
- Huntsville State Park, (936) 295-5644
- Inks Lake State Park, (512) 793-2223
- Lake Brownwood State Park, (325) 784-5223
- Lake Somerville State Park, Birch Creek Unit, (979) 535-7763; Nails Creek Unit, (979) 289-2392
- Purtis Creek State Park, (903) 425-2332
- Ray Roberts Lake State Park, Isle du Bois Unit, (940) 686-2148; Johnson Branch Unit, (940) 637-2294

Chasing Rainbows

Each December, January and February, TPWD's Inland Fisheries Division stocks rainbow trout — a cold-water species — in public parks all over the state. In the winter of 2002-2003, TPWD stocked 29,980 trout in 12 state parks. In mid-November, dates and locations of planned stockings will be posted on the TPWD Web site.



Ray Roberts Lake State Park, top left and bottom left, is located on the shores of 29,350-acre Lake Ray Roberts. The park has good shore access and multi-lane boat ramps. Several East Texas parks, left and this page, offer excellent bass fishing.



ple call them sand bass around there), crappie and catfish, all species that can be caught by novice and expert anglers alike.

Lake Somerville State Park: The Birch Creek and Nails Creek units of this park are on opposite sides of the upper end of this 11,400-acre lake near Caldwell and Giddings. Both units offer access to a wide variety of fishes. Crappie, catfish and white and hybrid striped bass attract the most attention, but TPWD fisheries biologist Jeff Henson says largemouth bass fishing has picked up recently due to favorable water levels and increased aquatic vegetation. Birch Creek has a fishing pier and jetty. The Lake Somerville Trailway links the two parks and provides access to good white bass fishing on Yegua Creek during spring spawning runs.

Purtis Creek State Park: This park's 354-acre lake, set among the hardwoods just northeast of Athens, was designed with one purpose in mind: to produce big largemouth bass. Amenities such as lighted fishing piers, fish-cleaning shelters, boat ramps and courtesy docks help complete the angling experience. To ensure good fishing into the future, the lake has some special regulations such as a no-wake restriction, a limit of 50 boats on the lake at any one time and catch-and-release only fishing for bass. However, if you do catch a bass 21 inches or larger, you can weigh it at a lakeside scale, provided you release it alive back into the lake. If you're more interested in catching supper than trophies, you can fish for crappie, catfish and sunfish.

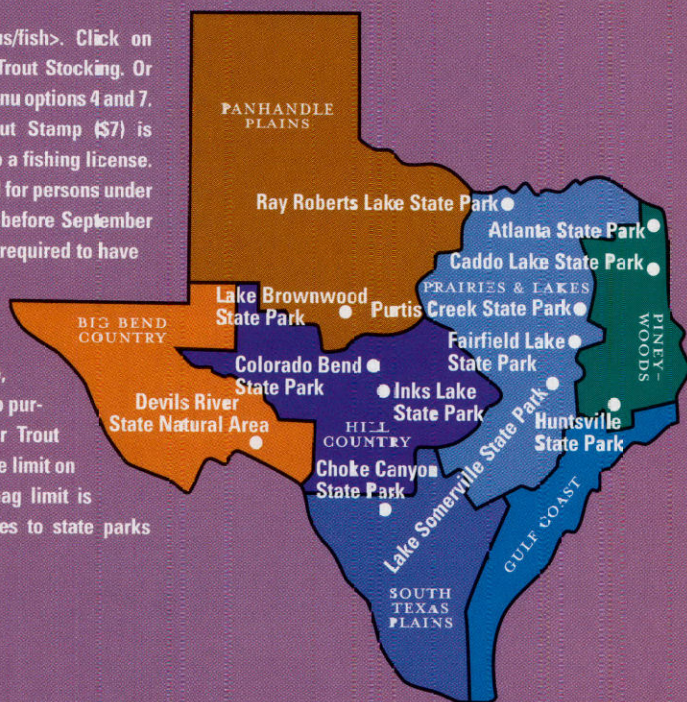
SOUTH TEXAS PLAINS

Choke Canyon State Park: At the opposite end of Texas from Ray Roberts Lake, there's a park that can rival its extensive fishing and recreational opportunities. Like Ray Roberts, Choke Canyon has two units, Calliham and South Shore. The Calliham Unit has a rock jetty and a small lake for bank anglers. The South Shore unit has lots of lakefront access and places to fish below Choke Canyon Dam, where white bass and crappie are plentiful in spring. Both units provide boat access to the main reservoir for anglers to pursue bass, crappie and catfish.

Fishing is one of the most popular activities in Texas state parks. Youngsters dangling earthworms in front of bluegills share park waters with bass anglers twitching plastic worms along the bottom. All can snuggle into sleeping bags at night to dream of the big one that tomorrow might not get away. ★

<www.tpwd.state.tx.us/fish>. Click on Freshwater, then on Trout Stocking. Or call (800) 792-1112, menu options 4 and 7.

A Freshwater Trout Stamp (\$7) is required in addition to a fishing license. No license is required for persons under 17 or who were born before September 1, 1930. If you are not required to have a fishing license, or if you hold a lifetime combination or fishing license, you are not required to purchase the Freshwater Trout Stamp. There is no size limit on trout, and the daily bag limit is five fish. Entrance fees to state parks apply to trout anglers.



TOP LEFT AND BOTTOM: PHOTOS © GRADY ALLEN; OTHER PHOTO © DAVIDSAMS.COM

COATWORKS

EXFFICIO

A Pocketfu



1 *of* Tackle

There are a few essentials for every fishing trip.

ARTICLE AND PHOTOS
BY SCOTT SOMMERLATTE

I still get overwhelmed

when I walk through a sporting goods store to the fishing tackle department, looking for the one or two items I need for an upcoming trip. Searching through the hundreds of possibilities arrayed on those shelves, I'm distracted by the latest and greatest fish-slaying lure that has come out since the last time I was shopping, which was only the week before.



The black worm, above, might be the greatest bass fishing lure of all time. At right is some good gear for spotted seatrout fishing.

Years ago, some old salts taught me that there are certain essentials for a trip to the water and everything else is just fluff. They rarely left the house with more than a pocketful of tackle.

Now, as a fishing guide, I've developed my own list of must-haves whenever I leave the dock. The list varies, of course, according to where I'm fishing, when I'm fishing and, most importantly, what I'm fishing for.

It's been quite a while since I've added something to my list, but it does happen. On a trip about four years ago, I watched photographer and friend David Sams as he tied on an artificial shrimp by D.O.A., chunked it out and started reeling it in real slow. I sat back, thinking that he was plumb kooky. "How do you expect to catch anything with that?" I asked. "It doesn't have any action."

"Just wait and see," he said in a voice that let me know that he knew something I didn't.

At the end of the drift Sams had caught and released five redfish to my one. It didn't take me long to add D.O.A. shrimp to my standard repertoire. Now I don't leave the dock without them. They are one of the most effective lures for sight-casting to redfish and trophy trout in



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A good saltwater tackle pack, above, includes D.O.A. artificial shrimp. Ultra-light tackle and a spinning reel are good choices for fishing creeks and rivers in the Hill Country.

skinny water. As for the rest of my tackle, I carry it all in a small bag or, on some days, just in my pocket.

SALTWATER TACKLE

For a trip to the bay, I load up my boat with two or three Waterloo HP Lite, 7-foot spinning rods rigged with Shimano Stradic reels. The reels are spooled with 8-pound-test Berkley Big Game Inshore line. At the end of the line I tie a 3-foot-long, 12- to 16-pound-test, fluorocarbon leader. The leader protects against abrasions that might cause the loss of a trophy fish. These rigs are perfect for tossing small lures such as spoons and jigs into shallow water and will handle any trout and redfish up to about 32 inches.

As for lures, I carry three essentials: Johnson Silver Minnow spoons with ball bearing swivels attached with split-rings in eighth- and quarter-ounce sizes; D.O.A. shrimp in chartreuse and root-beer colors; and Oldham's screw-lock jig heads with Norton Bull Minnow bait tails in red/white and pumpkinseed/chartreuse, in eighth-ounce and quarter-ounce sizes. The eighth-ounce lures are for water less than a foot deep, and the quarter-ouncers are for deeper water. Because of their erratic action on the retrieve, I also carry some Texas Trout Killers in assorted colors for fishing over reefs.

This is my standard tackle pack, which varies little unless I'm targeting trout. Then I toss another small tackle pouch into the boat. It contains some MirrOlure 51MRs in gold/chartreuse, and Top Pups in a bone/flash color. I also pack a couple of B&L Corky Devils and Fat Boy plugs in a

pearl/chartreuse color, which are essential if I'm going wade-fishing.

When I know that I will be fishing Fat Boy plugs, I change rods. Because plugs require quite a bit of rod manipulation to impart action, I switch to a level-wind outfit. Level-winds, also known as bait-casters, handle the slack line created by the up-down motion of the rod tip better than spinning rods. Because I prefer to fish the smaller plugs, I can get away with lighter tackle than most people would choose. For this kind of fishing I use a Waterloo HP Lite rod with a Shimano Calcutta 150 reel spooled up with 12-pound-test line.

FRESHWATER TACKLE

While I spend most of my time fishing in salt water, I still love to fish fresh water and I do it with even less tackle than I bring to the bay. With a couple of exceptions, my rods and reels vary little from salt to fresh water. When fishing lakes or reservoirs for large bass in heavy cover, I break out the tackle that I grew up fishing with in East Texas lakes and ponds. I've fished with an old All-Star rod for so long that the model number is worn off the blank, so I can't tell you exactly what it is, but I cannot imagine flipping a plastic worm or a jig with anything else. It has had many reels over the years, but now sports a Shimano Calcutta spooled up with 14-pound-test line.

I also carry one of the spinning outfits that I use for sight-casting to reds, but I switch to a spool with a 10-pound-test line on it. The spinning rod is for throwing shallow-running crankbaits and small top-water plugs.

As for the lures, for the bigger waters I keep





It's always a good idea to carry a tool kit for on-the-water reel maintenance

it simple. I will always have 6- to 8-inch-long plastic worms in black, electric blue with a fire tail and tequila sunrise, along with quarter- and eighth-ounce weights and Gamakatsu worm hooks. I like to have a couple of black and a couple of white, single-bladed spinner baits, some black-and-chrome Tiny Torpedoes, and some slender, shallow-running crankbaits in natural colors. I'm also a big fan of soft-plastic jerkbaits. These lures are highly effective when the big fish are in the shallows. Oh yeah, I can't forget the Rat-L-Trap. These are great for schooling fish in open water.

I know some bass-fishing fanatics will look at this list and think it isn't nearly long enough, but I like to keep things simple. I can carry all of my worms and single-hooked lures in a soft, notebook-like pouch and all of my top-water lures and crankbaits in one slender box. Since I'm not a tournament fisherman, I have rarely found a situation where I need anything more.

When I fish the small creeks and rivers in the Hill Country or go for crappie or white bass, I scale down my spinning tackle and go ultra-light. I've got an old Penn spinning reel that I bought in a garage sale for five bucks, spooled up with 6-pound line. It's mounted on a custom rod built by Ryan Seiders of Waterloo Rod Company to match the reel. (It is important that rods and reels are balanced.)

For the streams and rivers, life gets easy. I carry a box that will fit in the pocket of any

fishing shirt. It has a couple of Tiny Torpedoes and Teeny Torpedoes, some small spinner baits, a few floating Rapala shallow-diving crankbaits, and sixteenth- and eighth-ounce jig heads. For the jigs I carry an assortment of curly tailed grubs.

A few other accessories have to be mentioned. A pair of high-quality polarized sunglasses is essential. The polarization helps the angler see below the surface of the water, and the tint affords eye protection. I wear a pair of Kaenon UPD sunglasses with dark copper 12 lenses and bring a second pair with a lighter copper tint. Copper seems to me to be the most versatile lens tint because it enhances colors.

Whether I'm fishing from the casting deck of a flats skiff (my preference), wade-fishing, fishing for bass on a farm pond, or walking the bank of a small creek, I always carry two items on my belt: a pair of good fishing pliers and a multi-tool. For pliers, my choice is a pair of Van Staal titanium pliers with side-cutters. These are not only for removing hooks, but also for pinching down barbs and cutting line. As for the multi-tool, I own several brands, including Gerber, Buck, Kershaw and Leatherman. My favorite is the Leatherman Wave. It has all of the features I want, including one-handed knife operation, a pair of small scissors for cutting line and, most importantly, a diamond hone on one side of the file that is great for sharpening hooks. If I'm fishing where I might encounter smaller fish, I bring a good pair of hemostats for removing hooks.

I also pack a few other things that might not be considered essential, at least not until they're needed. I put together a small tool kit that contains a variety of reel lubricants, some small screwdrivers and a tiny pair of pliers. Combined with a multi-tool, this kit will handle just about any on-the-water reel maintenance job.

I always bring a small first aid kit with two very important items: iodine and Neosporin. Nothing is more annoying than going to the doctor for an infection that grew from a little nick or cut incurred while fishing. I'm speaking from experience. Treat every little wound as soon as you get it.

My preference in brands changes from time to time, but these choices have served me well for more than 15 years of serious fishing and seven years of guiding anglers on the coast. Maybe they'll help you with a problem I still have, despite all that I've learned. When I visit the tackle shop, I still find myself buying tackle that was designed to catch fishermen rather than fish. ★

SCOTT SOMMERLATTE of Lake Jackson is a writer, photographer, fishing guide and waterfowl guide.

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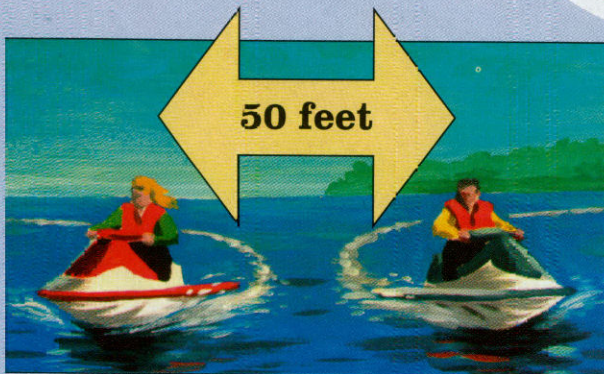


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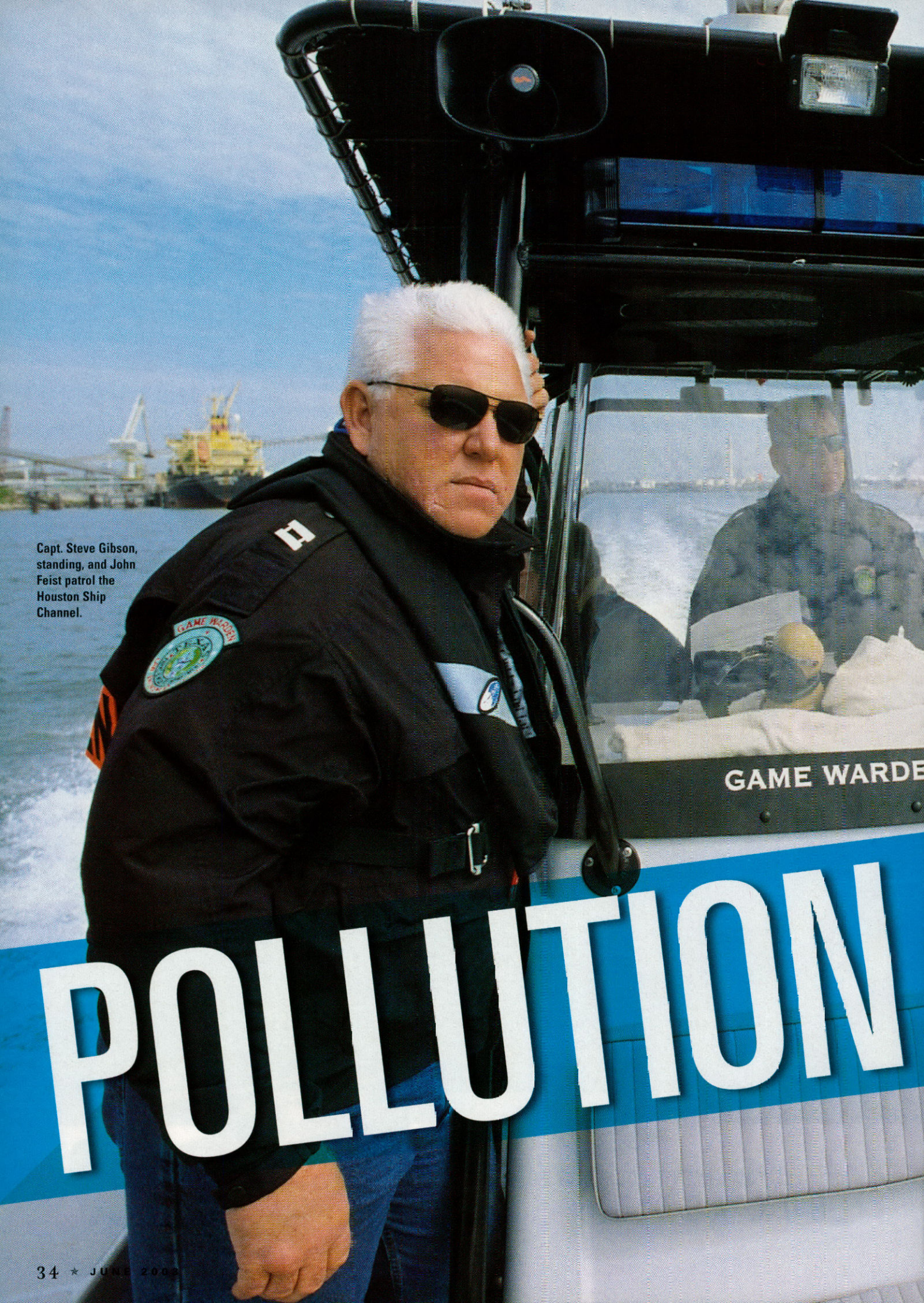


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Capt. Steve Gibson, standing, and John Feist patrol the Houston Ship Channel.

POLLUTION

A photograph showing the interior of a boat on the left, with a view of a body of water and an industrial skyline in the distance. A smaller boat is visible on the water. The word 'PATROL' is overlaid in large, bold, black letters on a blue background that cuts across the bottom of the image.

PATROL

*A new breed of Texas game wardens
is out to protect not only people and
wildlife but the resource itself.*

ARTICLE BY
JOHN MACCORMACK

PHOTOS
BY EARL NOTTINGHAM

On a windy February morning,

with the Houston Ship Channel frothing the color of dirty tea and the bouquet of hydrocarbons spiking the air, Capt. Steve Gibson orders his pilot of a Texas Parks and Wildlife Department boat to go full throttle. Several miles up-channel, a Coast Guard helicopter has spotted a problem that needs to be checked out quickly. As part of the Texas Environmental Enforcement Task Force, Gibson and his team are charged with patrolling the ship channel the way a cop walks a beat. Sometimes a beat is routine, and sometimes things get exciting.

The boat, a Boston Whaler with two 225-horsepower engines, leaps to a plane and within seconds is racing down the channel at 50 miles an hour. With a second task-force boat just off its shoulder, the Whaler zooms past smoking refineries, flotillas of massive barges and dreary tankers with such exotic names as *Medi Trader* and *Tzarevitz*. Their destination is a dry dock near Brady Island and the I-610 bridge. Recently, an environmental manager was arrested on felony water pollution charges resulting from a dry dock discharge.

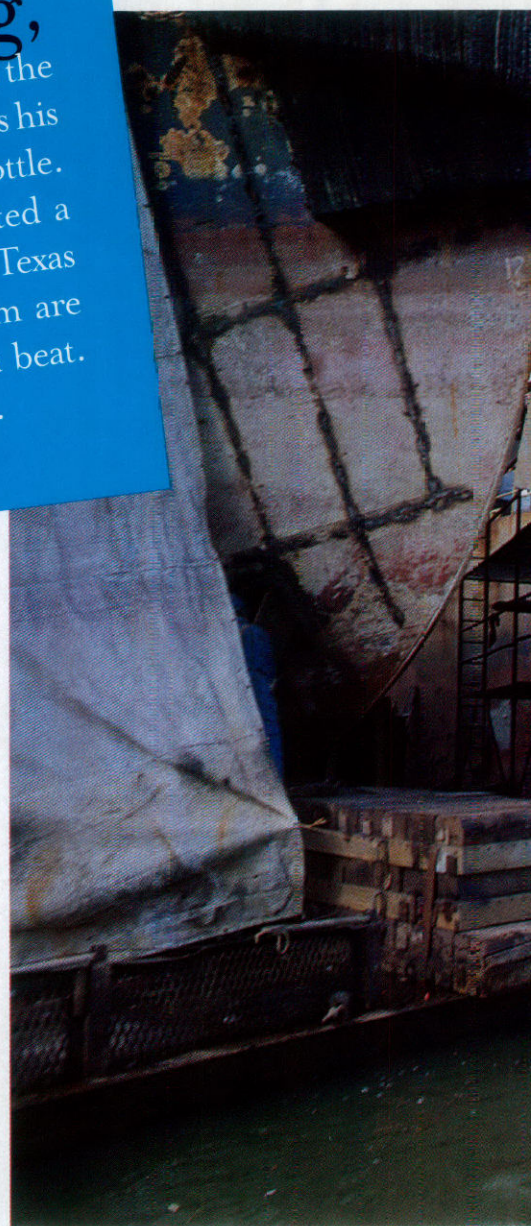
At the dry dock, two stout tugboats are being sandblasted in preparation for a repainting. A fine-mesh black netting has been suspended around the dry dock, but it isn't containing the dust and debris. Zillions of tiny brown flecks litter the water.

As the boats approach, the high-pressure hiss of sandblasters suddenly stops. That is to be expected, says John Feist, the warden at the Whaler's controls. "See all that stuff on the water here?" he says. "Hear 'em shut down? The heavy stuff, the toxic paint chips, the metals, have already sunk. This is just what's left, what floats."

"It's not a huge release," says Gibson, as he bottles some samples, "but we have to document it. They were just indicted on felony water pollution, so we'll use this to show they're still doing it."

For the past several years, a handful of specially trained Texas game wardens has been busting corporate polluters instead of poachers. They follow paper trails instead of deer trails. They haunt industrial areas instead of remote ranches. Working with city, county, state and federal agents and federal and state prosecutors, the environmental crimes unit has opened 120 criminal cases during the last two years.

It's a new line of work for the Texas Parks and Wildlife Department, one that the public is still getting used to. To keep things from getting dangerous or confusing during an arrest, the game wardens on channel patrol wear dark shirts with POLICE in large letters on the front and





Grahame Jones, TPWD game warden, and Sgt. Clarence Eldridge, Jr., of the Harris County Constable's office conduct environmental sampling at a barge in the Houston Ship Channel, left. Sgt. Larry Mitchell of the Harris County Constable's office videotapes a possible environmental violation while game warden John Feist looks on, above.

GAME WARDENS on the back. There's a good reason for that, explains Grahame Jones, a Houston-based game warden turned environmental specialist.

"When we jump out of the boat and some guy is running toward a valve, they recognize 'police' and they stop," he says. "You don't have to explain everything."

"No one has any idea we are doing this," Jones says. "The first question they ask is 'Why is a game warden here?' But in my mind, it's a way we help manage the natural resources of the state. What good is landing a limit of fish if you can't eat them?"



The Texas Parks and Wildlife Department began investigating the state's more flagrant corporate polluters in 1991, when Gov. Ann Richards ordered the creation of the Texas Environmental Enforcement Task Force. Besides TPWD, several state agencies were required to participate, including the Texas Commission on Environmental Quality (formerly the Texas Natural Resources Conservation Commission), the Railroad Commission and the General Land Office. Federal agencies such as the Coast Guard, FBI and the Environmental Protection Agency also agreed to join. Because some counties lack the expertise and money to handle complex environmental cases, all environmental cases may be filed with the Travis County district attorney's office in Austin.

Steve Gibson was one of the first game wardens assigned to the task force. "The purpose of the task force," he says, "was to pool the resources of a number of state and federal agencies to pursue criminal reme-

dies to violations of environmental statutes. Violators who were facing civil penalties just weren't paying attention to the statutes, so the only thing to do was pursue criminal cases."

Initially, TPWD's environmental crimes team was undermanned and underfinanced. Gibson began work with the task force on a part-time basis in 1991. But by 1998, TPWD had assigned six full-time investigators and a captain to the mission.

These wardens now are based in Dallas, Corpus Christi, Austin and Houston. All Texas game wardens are licensed police officers of the state, and are trained in the basics of investigations. But to become environmental specialists, game wardens take several weeks of training from federal agencies. The two-week-long advanced course at the Federal Law Enforcement Training Center in Glynco, Georgia, prepares them for industrial cases. The center is equipped with a loading dock, offices and other equipment so that officers can simulate an arrest, collect samples and paperwork, file cases and go through a mock trial. Another weeklong school focuses on the Resource Conservation and Recovery Act, a federal statute that covers the sampling of hazardous waste, and the storing, labeling and maintaining of the samples that might be used in court.



Cynthia Sorrell, the newest member of the team, joined the task force last summer after working as a field warden in East Texas for six years. Now she spends a lot of time around the Houston Ship Channel and adjacent petro-chemical complex, one of the largest in the world. Her new job required a crash reeducation.

"When I was out in the field, these guys were the guys to call about environmental problems, like fish kills," she says. "It's totally different. It's a complete retraining. I didn't even know what a grease trap was before this."

Sorrell and Grahame Jones work closely with the EPA's criminal investigation division and the Texas Commission on Environmental Quality, as well as with officers from Harris County and the Houston Police Department. Stephen Dicker of the Houston Police Department welcomes the help.

"We complement each other very well," he says. "We provide them with office space, computers, telephones and so forth and, of course, logistical support. By the same token, they do things for us. They bring additional bodies and assets such as airplanes and boats. We primarily use TPWD boats on the channel patrols."

Recently the Houston-based wardens,

backed by task force members, worked for several months with local officers on a complicated case that required the long-term surveillance of a suspect business.

According to Sgt. Larry Mitchell of the Harris County Constable's environmental office, the wardens were critical to bringing the long investigation to a successful conclusion.

"They did at least half the surveillance," Mitchell says. "They brought in investigators from all over the state with vehicles and cameras and put them up in motels here, stuff I couldn't do. And the day we

Central Texas rivers and streams are vulnerable to environmental violations. Here, a game warden samples water in a Hill Country waterway.



did our search warrant, they had probably 20 game wardens here. I've never seen so many before and I've lived in Texas all my life."

Roger Haseman, a Harris County prosecutor who handles environmental crimes, praises the investigations of TPWD officers.

"They're very active," he says. "They are very involved in all the big cases and small cases. They take their jobs seriously, and are really excited to work these types of cases. They generate a lot of cases that go through our office, and a lot of times the warden is the lead investigator. For the most part, their reports are better than those of the police officers who aren't used to special crimes."

★

While the Houston Ship Channel is the most obvious target for investigators, the abundant rivers and streams of Central Texas can be tempting for small companies looking for a cheap way to dispose of waste, says Jonathan Gray, a warden based in Austin. Gray recently saw the legal end of a typical dumping case involving an Austin waste-consulting firm called TriLogic.

The company charged its clients hundreds of dollars a drum to dispose of hazardous waste, he says, but instead of taking it to an approved facility as required by law, TriLogic found a cheaper alternative.

"They were making plenty of money," he says, "but somewhere along the way they made the decision, 'Let's just put this stuff in storage,' and ultimately they accumulated 57 drums of Class II waste."

When TriLogic ran out of storage room, the company headed for Walnut Creek outside of Austin, and tossed out 18 drums and numerous five-gallon containers of waste, Gray says. "They dumped paint waste, solvents and used oil. They dumped it at the creek, but because it was so dry, we caught it in time. We had a remediation company come in and it cost the state \$60,000 to clean it up."

Like many illegal dumpers, TriLogic made a critical error.

"They left a little bit of evidence," Gray says. "A small part of a label was left on a drum, which allowed us to track it to its generator, and they told us who had hauled it away for them."

The president and another employee of TriLogic were charged with multiple felonies. After a long legal fight, in January they pleaded guilty to public endangerment. Each got jail time and a \$40,000 fine.

"When you shut down a guy like this," Gray says, "who's really trying to beat the system, but is also endangering people's well-being and the environment, we tend to think that's a big hit. I think I'm making a difference on a larger scale."

Making cases like these calls for a whole new set of investigative, legal and technical skills, says Joe Bostick. Bostick, an environmental warden assigned to Dallas, was a police officer in Bryan and Fort Worth before becoming a game warden in 1996.

"A field warden spends 99 percent of his time working at the justice-of-the-peace level," Bostick says. "For us, it's not uncommon to write grand jury subpoenas for business records. I had experience as a street cop writing search warrants, but these environmental search warrants are more in-depth. A lot of prosecutors have never

handled environmental crimes, so there's a lot more for us to do."

Several years ago, Bostick investigated a memorable case with warden Kevin Davis, who late last year was promoted to lieutenant and is now an instructor at the game warden training academy. In Rockwall County, just east of Dallas, a county health agent contacted a field warden about finding deer carcasses in a creek, Davis recalls. Some of the deer still had tags on them, which were traced to Gorman's Meat Processing in Mesquite.

"We found the meat processor had dumped the remains of more than 700 animals into that creek, which led into the water supply for Dallas," he says. Three people were indicted on felonies for their roles in the carcass dumping. All pleaded guilty. Two got probation and the third was sent to prison. "That was a unique case," Davis says. "While it wasn't a huge company, it tied back into stuff the regular game wardens work on."

Warden Marvin Tamez in Corpus Christi focuses much of his attention on the area's huge refinery complex, but also investigates pollution cases along the Gulf Coast and into the Rio Grande Valley.

Tamez and Gray both were involved in a long-term, multi-agency criminal investigation of Koch Industries that led to a 97-count federal indictment of the company for creating excessive benzene levels in wastewater and lying to state regulators. In April 2001, Koch pleaded guilty and agreed to pay a \$10 million fine and \$10 million to local supplemental environmental programs. While most cases are far less dramatic, Tamez says, they are no less important.

"I have a case working in the Valley involving a waste hauler," says Tamez. "It started off with information that he was dumping septic waste and grease-trap waste out in the country. He'll likely be prosecuted for falsifying governmental records. This is 180 degrees different from what we did as field wardens. Then we dealt with the public in a public safety capacity. Now, in our investigative role, we're involved in long, drawn-out cases, and most of them are made without eyewitnesses but on paper, with records."

Ultimately, his wardens from the environmental task force can go anywhere in Texas, says Gibson.

"I could get a call that says I have to be in El Paso or Brownsville tomorrow. Thank God Dumas doesn't have any industry," he says with a laugh.

In sheer penalty dollars, another large case the unit has made so far was against Newpark Ship Building, a barge-cleaning

and repair facility on the Houston Ship Channel.

"In 1998," Gibson says, "we got a plea agreement from Newpark on a Clean Water Act violation, and they paid \$1.4 million. And it's funny because just before this, their president received an award from the TNRCC as the environmentalist of the year."

The environmental wardens also have pursued cases that led to the prosecution of other well-known and well-connected companies. Among them are Western Towing, a subsidiary of Kirby Inland Marine, the nation's largest operator of inland barges, and Huntsman Chemical, the largest privately owned chemical company in the country.

Despite the political clout of some of these companies, Gibson says he never has been told by his superiors in Austin to lighten up or back off.

"I've had some concerns directed toward me about certain cases," he says, "wanting to know if I was aware of certain ramifications and keeping us aware that it was politically sensitive, but we've never been pressured to stop an investigation."

Gibson describes a recent case involving a tank truck operator that was one of his most labor intensive. Larry Flynn West of Houston operated a 9,400-gallon tank truck that bore the name East Houston Used Oil Company, Gibson says. He and his employees would fill the truck with waste fuel from barge operations. Some of it was ordinary gasoline; some of it was left from the washing of gasoline and chemical barges in the ship channel area. Instead of taking the waste to a licensed disposal facility, they drove the truck to a remote road, usually at night, dumped the water that had settled to the bottom of the tank and kept the leftover gasoline and chemicals to sell. The chemicals could be almost anything from the petrochemical industry that was combustible, Gibson says. One night investigators watched the tank-trunk driver dump contaminated waste water on the side of a major highway. (Cleanup crews were dispatched to clean up the discharges.)

Although West did not have a state permit, says Grahame Jones, he then sold the chemicals and contaminated gasoline to approximately 15 independent gas station operators in Harris, Fort Bend, Nueces, Galveston and Wharton counties. West paid pennies a gallon for the waste fuel, Gibson says, and sold it for 50 to 60 cents a gallon. Both buyers and sellers evaded state and federal fuel taxes in the process, Gibson says. The operation cleared tens of thousands of dollars a week for West, he

says, and the adulterated fuel probably damaged many automobiles.

Grahame Jones devoted hundreds of hours to the case. "They were using about five drivers," Jones says. "Sometimes I left the house and didn't get back for 36 hours. We were putting in 600 miles a day following this guy, and the funny thing is, he never knew."

Once, Jones says, the officers following the fuel truck lost track of it somewhere south of Houston. He says that he called Marvin Tamez in Corpus Christi on the slim chance that Tamez could find that beat-up old tank truck at its presumed destination.

"Marvin tracked it down," he says. "He found this truck in downtown Corpus Christi. And that was some of the most incriminating video we got. We filmed West at service stations filling up tanks himself."

At times, the investigation involved all six of TPWD's environmental wardens as well as federal, state and local investigators. After two weeks of continuous 24-hour-a-day rolling surveillance, the case ended last December with the arrest of West and four other people on felony charges of fuel-tax evasion. West had served time in federal prison for a similar scheme, Gibson says. Other charges for illegal disposal of hazardous waste may follow. The service station operators who bought the tainted fuel may also face charges, Gibson says.

West's lawyer, Paul Mewis of Houston, says his client didn't need a state permit for his activities because he wasn't selling gasoline or fuel to retailers, merely delivering for a third party. "Our defense is that he was only a transporter who bought this stuff and resold it," Mewis says. "Our message is, don't indict the transporter." He says far from being a ringleader of illegal activity, West did not own the tank truck but was working for his son's company.

Jones says the case was a test of the environmental wardens' abilities, and that they demonstrated what they can do with a complex assignment when given strong backing.

"The thing that stands out is we were given the freedom to work the case and to put in all the hours it demanded," he says. "We talked about it among ourselves, and we decided that Texas Parks and Wildlife is serious about it. Even when the case took non-environmental curves, they let us stay with it."

"And this case certainly showed that our group is capable of standing toe to toe with any specialty agency. We were there from day one, the first ones at the dance and the last ones to leave." ★



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Counting Sheep

Once extirpated from Texas, desert bighorn sheep numbers are slowly increasing, thanks to funding from hunters and efforts of field biologists.

BY HENRY CHAPPELL

PHOTO © DICK KETTLEWELL

I glance at Clay Brewer's brisk steps, half expecting hooves instead of boots. We're 200 yards from the truck, heading down a grassy slope toward the south rim of Elephant Mountain. The Texas Parks and Wildlife Department biologist glances over his shoulder, then slows a bit to wait for me. I consider myself in decent shape, but the loose rocks — perfectly sized for turning ankles — have my knees creaking like a dry windmill. The stiff, brittle-cold wind at our backs does little for my balance.

I stagger another 50 yards, then ease up to the rim. The mountain falls away 2,000 feet, an igneous mass of sheer faces, ledges and jumbled boulders. The desert floor stretches southward 14 miles to Santiago Peak and Mexico beyond.

Brewer hopes to show me a desert bighorn sheep. He hops on a fragile-looking outcrop while I fight the urge to hug a large, immovable object. He leans out, glassing the near-vertical slopes to our left and right.

"They could be right below us, and we'd never see them," Brewer says. "We can't lean out far enough." At that, I move back a few feet, sit on a tuft of grass and jam my frozen hands into the pockets of my parka.

Brewer continues his search, occasionally tugging his cap down tight to keep it from blowing off. "Perfect sheep habitat," he says. "They like the nastiest, roughest, rockiest, steepest places they can find." I sit and think of bighorn petroglyphs and wonder how native people ever hunted wild sheep with stone-age weapons.

An hour later, we're glassing the western slopes. We still haven't seen a bighorn, but I'm gaining my mountain legs. The terrain seems less sheer than it did just a few minutes ago. I dangle my feet and notice the ledges that allow bighorns to scale several hundred feet in seconds. And there are handholds and footholds that might allow a hunter — one who lived in these mountains and hunted to eat — to creep within bow range.

The wind pounds my face, so cold that every breath hurts my teeth. Brewer wipes his watering eyes. "I'd hoped for an easy sighting this morning," he says. "Looks like we might have to work at it." He sniffs the air and points out a patch of churned

ground amid the rocks, a bed scratched out by small hooves. "I smell sheep," he says. I smell only desert grass and rock, but I believe him; for an instant, I'm tempted to drop to my hands and knees to sniff the bed.

Late morning, we're thawing in the pickup. Brewer glasses a vast, gently rising slope to the east. He pauses. "Sheep. No question about it." He hands me his 10-power binoculars then, using land features, guides me to a dark clump that reminds me of a tangled pile of deadwood. "See 'em? Little bunch of rams."

"Maybe." Surely I'm looking in the wrong place.

Brewer hands me a spotting scope, which I clamp to the passenger-side window. After some spastic adjustment, a splendid view of the clouds and a cursory study of a prickly pear 15 yards away, I get a better look at my woodpile. Something moves, and the tangle resolves into a jumble of heavy horns, thick, tawny necks and white rump patches. I tweak the focus ring. Ten rams lying in the sun. Most with full curls. At least 1,000 yards away. And they're looking right back at me.

Bighorn sheep have lived in the desert mountains of the Southwest for at least 9,000 years. In less than 100 years, poaching, market hunting, net wire fencing and diseases introduced by domestic sheep wiped them out in Texas.

Biologists believe that in the late 1800s about 1,500 desert bighorns roamed the mountain ranges of far West Texas. In 1900, after several expeditions into the Trans-Pecos region, Vernon Bailey, chief naturalist with the U.S. Biological Survey, estimated Texas' native bighorn population at 500. Legal hunting of bighorn sheep ended in 1903. By the mid-1940s

the estimate stood at 35 animals.

Restoration efforts began in 1945, when Texas acquired Sierra Diablo Wildlife Management Area in Hudspeth and Culbertson counties as a sanctuary for the state's remaining bighorn sheep. In 1954 the Texas Game, Fish and Oyster Commission, U.S. Fish and Wildlife Service, Boone and Crockett Club, Wildlife Management Institute and Arizona Game and Fish Commission began cooperating to reverse the desert bighorn decline. But despite these 11th-hour efforts, the last documented sighting of a native Texas bighorn occurred in October 1958 on the Sierra Diablo. Biologists believe native bighorns were extirpated from Texas by the early 1960s.

As the native sheep population dwindled toward extinction, transplanted bighorns from other states offered the



only hope for a viable population in Texas. From 1957 to 1959, TPWD stocked a 427-acre brood pasture at Black Gap WMA in Brewster County with 16 bighorns from Arizona. The herd increased to approximately 68 animals by 1970, then declined due to disease and predation. TPWD abandoned the operation at Black Gap WMA in 1978.

Meanwhile, from 1971 to 1978, three rams and five ewes from Black Gap were placed in an eight-acre pen on the Sierra Diablo WMA. From this nucleus, TPWD released seven sheep into the Sierra Diablo Mountains in 1973 and seven more in 1979.

TPWD's bighorn program turned the corner in 1983, when Texas Bighorn Society members built and donated a new brood facility at Sierra Diablo WMA. Since then, more than 175 lambs have

been raised and released into Texas' mountains. In the late 1980s, wild-trapped bighorns from Utah and Nevada were released in the Van Horn and Baylor mountains.

In 1985, C.G. Johnson donated his 23,147-acre Elephant Mountain Ranch in Brewster County to the State of Texas to be used as a wildlife management area devoted to desert bighorn restoration and conservation. Elephant Mountain WMA is now home to about 130 sheep and provides the primary source of brood stock for other areas.

TPWD continues to transplant bighorns to suitable habitat. In December 2000, helicopter crews using net guns caught 45 sheep at Elephant Mountain WMA. The captured animals were blindfolded and hobbled to minimize stress, then flown to an awaiting team

Bighorn sheep have lived in the mountains of the Southwest for at least 9,000 years. In less than 100 years, poaching, market hunting, net wire fencing and diseases introduced by domestic sheep wiped them out in Texas.

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of biologists and veterinarians. After being examined and fitted with tracking collars, the bighorns were placed in trailers and hauled to Black Gap WMA for release. "We essentially doubled the Black Gap population," Brewer says. "We hope this population will reach the threshold where it starts to sustain itself. Then we'll have another source of brood stock."

Today, about 500 wild, free-ranging desert bighorns roam seven Texas mountain ranges: the Baylor, Beach, Sierra Diablo, Sierra Vieja and Van Horn mountains and the Black Gap and Elephant Mountain wildlife management areas. A small population also has moved into some of the more remote areas of Big Bend National Park. Brewer also suspects that sheep inhabit the mountains between Black Gap and Elephant Mountain. TPWD is currently working with the New Mexico Department of Game and Fish to explore the possibility of restoring bighorns to the Guadalupe Mountains on the Texas-New Mexico border.

About 94 percent of the land in Texas is private property. Brewer is quick to point out that landowner cooperation has been critical to the success of the desert bighorn program. "Without the support of West Texas landowners, sheep restoration

would be virtually impossible," he says.

As their name suggests, desert bighorns are perfectly adapted to the high, arid, sparsely vegetated desert mountains. The bighorn's primary defenses against predators are keen eyesight, an unobstructed view and quick escape up steep slopes. Consequently, biologists consider the relatively brushy Davis Mountains unsuitable for sheep restoration.

Although the Trans-Pecos region has suffered drought for most of the past decade, bighorn numbers have increased while mule deer and pronghorn antelope numbers have fallen. Although evidence suggests that desert bighorns can survive without standing water, Brewer and his colleagues believe that guzzlers (artificial rainwater collection basins) help ensure that the small, isolated populations avoid severe drought-induced stress.

Bighorns are gregarious and loyal to their home ranges. Mixed bands of 15 or so rams and ewes are typical during spring and summer. During fall and win-

ter, rams form bachelor groups while 40 or more ewes and lambs are common. In Texas, lambing usually occurs in January and February, though lambs are sometimes seen as early as November and as late as April. In the winter, lambs and ewes inhabit prime steep and rocky habitat while groups of rams use marginal habitat at lower elevations. Ewes typically give birth to one lamb, although Brewer suspects that twins occasionally occur.

In Texas, bighorns vary in color from light gray to tan with conspicuous white rump patches. Ewes tend toward lighter colors while rams grow darker with age. Adults range 30 to 39 inches at the shoulder. Rams average 160 pounds; ewes average 96 pounds. Mature rams (7 years old) have thick necks and carry massive, curled horns — sometimes fully curled and beyond; ewes have much thinner horns that rarely achieve a half curl.

How do bighorns run up nearly vertical rock slopes? In *Biological Survey of Texas*, Vernon Bailey's description of the hooves of an old ram taken in the Guadalupe Mountains leaves little room for improvement:

"While the points and edges of the hoofs are of the hardest horn, the deep, rounded heels are soft and elastic — veritable rubber heels — with a semi-horny covering over a copious mass of tough, elastic, almost bloodless and nerveless tissue... It is easy to see how they would fit and cling to the smooth surface of a sloping rock where wholly hard hoofs like those of a horse would slip..."

★

Sheep restoration and conservation cost big money. Brewer minces no words about who pays the bill: "The bottom line is that hunters are responsible for restoring bighorn sheep in Texas." Funding comes from four sources: the Federal Aid





The bottom line is that hunters are responsible for restoring bighorn sheep in Texas.

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the trouble? "I'm proof that anyone can get drawn," says Mychal Murray. The Texas A&M graduate student won the 2002 drawing for a sheep hunt at Sierra Diablo. Just before Thanksgiving, he found himself clambering up steep slopes with TPWD biologists who served as guides. "It was incredible," he says. "The guides are truly amazing. I was in good shape, but I was amazed at how hard those guys went all day long, day after day."

Murray saw numerous sheep, but it took a tortuous, last-minute stalk on the third day of the hunt to get within range of a mature ram. Exhausted and out of breath, Murray took his trophy with a 200-yard shot. "It's a good thing we found him when we did. He was in the gnarliest stuff we'd seen all week. I don't think I could've gone another day."

His advice to prospective sheep hunters? "I encourage everyone to apply. I send in my check and then I don't worry about it. I don't expect to get drawn, and that's okay because I know the money goes toward conservation."

★

Early afternoon, about halfway down the mountain, Brewer takes a rough road into a brushy draw. As he points out good sheep habitat, I spot five rams just above us. Brewer hits the brakes, and the sheep trot down the slope, heads high, sun glinting on their massive horns. They pass 60 yards from the truck, white rumps bobbing in the brush.

While Brewer sizes up their headgear, I think of his earlier comment: "Our job is to put sheep on the mountain."

The rams stop for a moment to look back at us, then disappear into the desert scrub. ★

Plano writer HENRY CHAPPELL recovered from his Elephant Mountain expedition in about a week.

in Wildlife Restoration Program (Pittman-Robertson tax on sporting arms and ammunition), TPWD's annual four-species Grand Slam hunt, donations by the Foundation for North American Wild Sheep (FNAWS) and donations by the Texas Bighorn Society.

TPWD issues sheep-hunting permits based on annual helicopter surveys of bighorn populations. Six permits were issued for the 2002-2003 hunting season. Four were state permits — two SIO permits awarded by drawing through TPWD's Public Hunting Program, one awarded to FNAWS to be auctioned and another assigned to the Grand Slam Hunt. Two additional permits were awarded to landowners whose properties held sufficient bighorn populations.

As of February 2003, seven FNAWS auction permits have generated approximately \$431,000 for the Texas desert bighorn program; serious sheep hunters routinely bid \$40,000 or more for the coveted permits. Seven Grand Slam hunts have yielded another \$585,000.

Texas bighorns gained their most ardent supporters in the early 1980s when a group of dedicated big game hunters formed the Texas Chapter of FNAWS and the Foundation for the Texas Bighorn Society. In 1985, the two groups merged to become the Texas Bighorn Society (TBS). Since its inception, the TBS has donated more than \$1 million to the desert bighorn recovery effort. TBS members do more than open their checkbooks. Through annual work projects, members help build and maintain water guzzlers and other facilities, set

up Web cams and assist with sheep transplants. Typically, materials, equipment and personnel must be flown by helicopter to remote work sites. The group also provides solar-powered telemetry collars and other research equipment.

"The Texas Bighorn Society is made up of all volunteers," says the organization's president, Kathy Boone. "We don't have a single paid person." On June 7, 2003, the TBS will auction its first desert bighorn hunting permit to raise money for bighorn restoration in Texas. "Twenty years ago when I started in the program, I never thought bighorn sheep would be hunted in Texas in my lifetime," Boone says. "Now, to think that we've started hunting them and TPWD thinks highly enough of our organization to donate a permit — that's what I'm most proud of."

Clay Brewer stresses that Texas' bighorn hunting isn't just for those who can afford to bid on permits. "One of our goals is to make sure that the average hunter has a chance to draw a permit," he says. "Of the four state permits we received this past year, three were for hunters who paid 10 bucks to enter a drawing. That's important."

Think the odds of winning aren't worth

For More Information:

Texas Bighorn Society <www.texasbighornsociety.org>

Foundation for North American Wild Sheep: <www.fnaws.org>

Boone and Crockett Club: <www.boone-crockett.org>

Sierra Diablo WMA is closed to the public except during scheduled hunts. Desert bighorn sheep can often be seen from the driving tour route on Elephant Mountain WMA. The Texas Bighorn Society Web page contains a link to a Web cam focused on a watering area on Elephant Mountain used by sheep. For further details, contact TPWD, (800) 792-1112, <www.tpwd.state.tx.us>.

PHOTO © GRADY ALLEN

Why do grown men and women run around the marsh chasing alligators and mottled ducks? It's called research.

ARTICLE BY M. TODD MERENDINO, PH.D
PHOTOS BY EARL NOTTINGHAM

MIDNIGHT MANEUVERS ON MAD ISLAND



UNDER A DARK MOON AND A STAR-FILLED, mid-summer sky, the marsh at Mad Island Wildlife Management Area is eerily still and ghostly serene. Frogs and crickets sing their night choruses. The Milky Way appears as a hazy sheen across the sky. It's a good night for going into the 3,000-acre freshwater marsh, one of the richest in Texas.



Marc Ealy, Matt Nelson and Kevin Kriegel hold an American alligator that will be tagged and returned to the marsh.

Suddenly,

the silence is broken with a thunderous roar as the 260-horsepower engines of two airboats leap into life. It is still very dark, except for the intermittent flames from the engine exhausts, which idle steadily with a deep thump, thump, thump.

I'm at the helm of one of the airboats, and another Texas Parks and Wildlife Department biologist Matt Nelson, drives the other. Tonight, two crews, consisting of Marc Ealy, Monte Hensley, Robert Korenek, Kevin Kriegel and Pam Carroll, are heading out to search the marsh for alligators and mottled ducks.

With a flick of a wrist, the beams of four 400,000-candlepower spotlights rip the night. Hundreds of red dots — reflections of the eyes of alligators — glow across the marsh. Mottled ducks caught in the glare of the lights scurry for the cover of marsh grasses.

Our night maneuvers are part of the Central Coast Wetland Ecosystem Project, a Texas Parks and Wildlife Department study designed to help us better understand the ecology and function of marshes. One of the ways we do this is by studying two of the marsh's year-round residents, the American alligator and the mottled duck.

The alligator is the top predator in the marsh and helps keep populations of many other species in balance with the habitat. (In some areas, however, they can also become overabundant.) Mottled ducks, which resemble female mallards, are year-round residents of the Texas Coast. Unlike other ducks that migrate north in the spring, mottled ducks rely on our coastal marshes and wetlands for all their survival needs. Like the canary in the coal mine, these two species serve as barometers for the health of our coastal wetlands ecosystem.

Catching alligators can be a rush. Catching ducks can be comic. The mission starts at 9:30 at night and often ends at 4 in the morning, when the tired crews clean out the boats and head for home. We get paid to do this, but driving airboats at night, wrestling alligators and chasing ducks in the mud is too much fun to be called work.



GRABBING 'GATORS

TPWD began a marsh ecology study at Mad Island WMA in 1993. One purpose has been to examine changes in the distribution, abundance and growth rates of alligators in the marsh ecosystem. Considerable research has been done in Louisiana, but little had been conducted on Texas alligators. Back in 1993 we were putting in water-control structures at Mad Island and changing water flows back to a more natural pattern, and we needed to see how those changes were affecting the alligator population.

TPWD staff developed a research project that involved capturing alligators at night from airboats. Exciting in theory, it is even more exciting in application. From May through August, during the dark phases of the moon, TPWD crews head to Mad Island WMA to conduct their research. Two three-person crews use airboats and spotlights to search the coastal marsh for alligators. When eyes in the water glow red, our adrenaline begins pumping. It's 'gator-grabbing time.

Alligators shorter than four feet in length are generally captured by hand. The catchers lie on the bow of the airboat as the driver maneuvers toward the swimming alligator. If all goes well, the catchers grab the alligator behind the head and wrestle it onto the bow of the boat. Alligators longer than four feet are captured with a snare at the end of a six-foot pole. When snared, large alligators



Ealy and Nelson hold spotlights while Kriegel grabs a 'gator. Alligators shorter than four feet generally are captured by hand.



will spin and thrash. We've developed a simple device for dealing with large alligators. When the alligator tires from fighting the snare, we drag it into a five-foot-long piece of 10-inch diameter PVC pipe with a slit cut along its length through which the snare can be pulled. Once inside the pipe, the alligator is immobilized and can be handled safely.

Captured alligators are examined with a hand-held scanner to see if they have been captured previously. The scanner works like those at the grocery store checkout. It

gator is then measured and its gender determined. After all data are recorded, the animal is released. On a good night, the two crews may catch 40 or more alligators between them.

Since 1993, more than 500 alligators have been captured. Of those, 125 have been recaptured in subsequent nighttime missions. The data indicate that alligators at Mad Island grow an average of six inches a year. Conventional wisdom held that alligators grew a foot a year. Since alligators breed when they reach about six feet in

Variations in growth rate may be due to an overabundance of alligators, lack of prey, environmental conditions or, most likely, a combination of many factors.

Alligators appear to be homebodies, as most "recaps" are found within a few hundred yards of where they were captured originally. At Mad Island WMA, this limited movement may be more of a function of water salinity than the alligators' desire to stay put. Although larger alligators may be seen in saltier bay waters, they cannot tolerate high salini-



detects small metal/glass PIT (Passive Integrated Transponder) tags, each about the size of a small automobile fuse, that can be implanted under the alligator's skin with a large hypodermic needle. If the alligator has been tagged on a previous mission, the scanner



A small tag that can be scanned is placed under the gator's skin and a colored tag is placed on its tail.

reads the tag's number and the alligator is measured and released. New captures receive a tag inserted under the skin near the right rear leg. A numbered plastic cattle tag also is attached to the tail to aid in identifying recaptured alligators. The

length, we see that it takes 10 to 12 years for these alligators to reach breeding size. That gives us answers as to how our harvest is impacting alligator populations, if at all. Information such as this is critical in developing management strategies.

ties, those greater than 15 parts per thousand. Young alligators will die if water salinity exceeds 10 parts per thousand for extended periods of time.

At Mad Island WMA, the majority of alligators seem to prefer the fresher portions of the marsh, where salinity is less than five parts per thousand. They move into the lower areas of the marsh only when rains flush saltier water from the system. To maintain alligator habitat, the marsh must be managed to allow freshwater inflows and prevent saltwater intrusion.

Charles Stutzenbaker, Mottled Duck Man

Retired TPWD biologist Charles Stutzenbaker of Port Arthur literally wrote the book on mottled ducks. *The Mottled Duck: Its Life History, Ecology, and Management* was first published in 1988, a few years before the end of Stutzenbaker's 35-year career with Texas Parks and Wildlife. Stutzenbaker also contributed 26 articles to *Texas Parks & Wildlife* magazine and wrote the definitive work on Gulf Coast aquatic and wetland plants, *Aquatic and Wetland Plants of the Western Gulf Coast* (both books available from the University of Texas Press). He conducted some of the early research on the role of lead shot in waterfowl mortality that resulted in nontoxic shot being used today.

Despite a career that took him from being the first and only TPWD waterfowl and wetland biologist in the state to being one of many, the first thing

Stutzenbaker points out about his career is this: "I spent my entire career working at one desk — probably the only biologist who ever did that. I started as a field biologist and wound up as administrator of technical programs — all right here in Port Arthur."

Stutzenbaker didn't just get in on the ground floor of waterfowl and wetlands research in Texas, he laid the plans in that floor. "I started out as the senior waterfowl and wetlands biologist," he recalls. "I came to Port Arthur in 1960 to develop the levee system at what is now the J. D. Murphree Wildlife Management Area and to do basic wetlands research. I spent my Saturdays and Sundays and holidays working, because I loved it."

"Stutz," as he is known by members of his TPWD extended family, became interested in mottled ducks because so little was known about them. (One of his

Proper harvest management also is necessary to keep alligator populations in balance with their prey.

BANDING DUCKS

Unlike other, more familiar waterfowl species, mottled ducks do not migrate north in the spring. They may move along the Gulf Coast, back and forth between Texas and Louisiana, but they generally spend their lives within 60 miles of the Gulf of Mexico. Given that mottled ducks are endemic to the coastal environment, they make a good barometer for determining the health of our coastal wetlands.

During the past 30 years, the coastal wetland homes of mottled ducks have changed dramatically because of natural and human-caused factors. However, the last banding study on mottled ducks

In 1997, TPWD began a five-year banding study to examine survival rates and movements of mottled ducks along the Gulf Coast. This cooperative study involves personnel from TPWD, U.S. Fish and Wildlife Service and the Louisiana Department of Wildlife and Fisheries. We can compare our data to Stutzenbaker's from the 1970s and determine whether we need to adjust harvest limits.

As with alligators, nightlighting from airboats is the most efficient (and exciting) way to capture the ducks. This is done during the molt, when young birds are not yet able to fly and mature birds have lost their old feathers and are growing new ones. Both young and old are unable to fly for four to six weeks, during which time they hide in heavy cover to avoid predators. This makes capturing them all the more exciting.



had been done in the 1970s by TPWD biologist Charles Stutzenbaker (see sidebar). Since that time, we had had bag limit, season and habitat changes, and we had no idea how those three things were affecting mottled duck populations.

The crews slowly maneuver the airboats through the marsh, scanning from side to side with spotlights. When flightless ducks — either ducklings or molting adults — are sighted, the crew gives chase. Some ducks can be captured by leaning

over the bow or side of the boat, but often the catcher has to get out of the boat and run the ducks down. This part of the work can be somewhat dangerous, but it is usually comical as the ducks zig and zag in the grass and shallow water with the catcher in pursuit. On these nighttime sorties, each crew usually captures about 40 mottled ducks, but more than 200 have been captured on a single excursion.

Biologists also use pocket netting in some locations. Once a suitable site is



Mottled ducks located, the crew sets a 40-foot by 60-foot small-mesh net affixed to aluminum leg four short lengths of pipe into which small explosive charges are loaded. These are the rockets. The crew uses rice to bait a small area directly in front of the net. Once the ducks begin using the baited site, the crew waits a mile away while the shooter watches from a nearby blind. Once sufficient numbers of birds are feeding within the capture area, the shooter fires the net with a charge from a six-volt battery. Pandemonium generally ensues as birds try to escape the net and the crew rushes in to remove them. Average net

per square mile. So when you lose a lot of habitat, you lose a lot of birds."

After three years of drought along the coast, Stutz hopes that mottled duck numbers will rebound following bountiful rains in recent months. However, he points out that increased numbers of alligators, raccoons, otters and other predators with a taste for ducklings will continue to have a negative impact on the mottled duck.

As for Stutz, his legacy will live on, due not only to the two books mentioned above but also to the fact that a high school textbook has captured, *Wildlife Management: Science and Technology*, is popular in schools across the nation. It is due to be considered for adoption by the Texas Education Agency in November for use in Texas schools beginning with the 2004-2005 school year.

—Larry D. Hodge

other early research projects, on nutria, eventually faded away, but not before he threw a nutria barbecue party for the benefit of a TPWD magazine photographer.) "I started taking photos and notes about mottled ducks and eventually wound up with enough material to do a book on them," he recalls. "The mottled duck is a native bird that does not migrate as other ducks do, although in the beginning no one knew that. Because it lives on the Texas Coast year around, it is a very important indicator species.

"The mottled duck has taken it on the nose in recent years, not because of hunting but because of loss of habitat due to industrialization, drainage of wetlands and the large-scale loss of rice production," he explains. "When rice fields go out of production, they grow up in brush or have houses built on them. Mottled ducks never nest in dense concentrations — you may have only a couple of birds



David Lobpries releases a tagged mottled duck. TPWD has banded more than 6,000 mottled ducks since 1997.

shots generally capture about 40 ducks, but more than 125 have been captured in a single net shot.

Captured mottled ducks are classified as either adults or immatures that hatched that summer. After their gender is determined, they are outfitted with a numbered aluminum leg band. When banding crews recapture one of these ducks, they can determine its age and how far it has traveled from the banding site. Waterfowl hunters are an important part of the project. When they shoot a banded mottled duck, the information they provide on its location and date of harvest can be used to determine survival probabilities and movement along the coast.

Since 1997, TPWD has banded more than 6,000 mottled ducks. The U.S. Fish and Wildlife Service and the Louisiana Department of Wildlife and Fisheries have banded additional mottled ducks during that time. Recovery data indicate that the ducks move about considerably up and down the Gulf Coast. Most of this movement appears to depend on the seasonal availability of wetland habitat. For example, if it is dry on the Texas mid-coast, mottled ducks appear to move northward across Galveston Bay and into Louisiana in search of better habitat. When conditions improve, the ducks will return to more familiar surroundings. Smaller numbers of mottled ducks move from the rice prairies west of Houston to coastal marshes during late summer and early fall and then return to the rice

prairies later in the winter.

Although they inhabit most of the Gulf Coast, mottled ducks are true Texas natives and, as such, should be a species of special management status. Protection and management of key coastal marshes are critical because mottled ducks use coastal marshes extensively. However, newly hatched ducklings will die if water salinity exceeds 10 parts per thousand for any length of time. Because the Texas Coast is dry and salty during most summers, managers of habitat for mottled ducks should strive to reduce saltwater intrusion, maintain freshwater inflows

and provide for shallow freshwater breeding areas.

Perhaps Charles Stutzenbaker best sums up why we should care about alligators and mottled ducks and the freshwater marshes where they live. "Think of the animals you like to see and the fish you like to catch and the crabs you like to eat as the interest earned on the marsh," he says. "The marsh itself is the principal. As the habitat declines and the principal gets smaller, the interest — the things you enjoy — also gets smaller. That's why it is necessary to preserve the whole array of marsh habitat." ★

Saving Coastal Wetlands

Conserving coastal wetlands on both public and private property is the focus of the Central Coast Wetland Ecosystem Project, begun by TPWD in 1994. The project covers an area from Galveston Bay to Corpus Christi Bay and extends about 40 miles inland.

The goal of the CCWEP is to provide sound biological conservation of all wildlife resources within the central coast area. To that end, TPWD biologists manage habitat on TPWD-owned lands using holistic resource management or "ecosystem approach" to benefit all species living in the wetlands. Through TPWD's Private Lands Enhancement Program, they also provide technical assistance to landowners and other conservation groups wishing to improve the management of wetlands on their property.

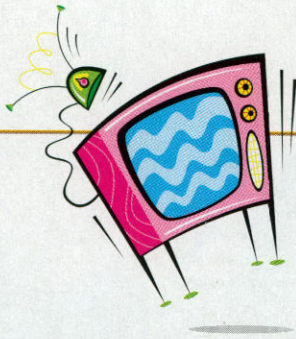
Research such as that described in the accompanying story is carried out on TPWD wildlife management areas within the project boundaries, including the Peach Point, Mad Island, Guadalupe Delta, Redhead Pond and Welder Flats WMAs. This research is intended to provide the information needed to improve wildlife management activities, evaluate harvest regulations on game species and identify management needs and priorities for nongame species.

Alligators, ducks, bullfrogs, neotropical migrants — all species that use wetlands — are part of an intricate web of life that includes human beings. Maintaining and improving the habitat that supports this wealth of life will result in a higher quality of life for wildlife and people alike.

For more information on the CCWEP or to request technical assistance, contact Todd Merendino at (979) 244-7697.

—Larry D. Hodge

SIGHTS AND SOUNDS



THE FRONT LINE OF NEWS AND VIEWS



T E L E V I S I O N

LOOK FOR THESE STORIES
IN THE COMING WEEKS:

June 1 - 8:

Nocturnal animals; kids fishing; dawn at Peach Point; license to conserve; Monahans Sandhills State Park; enjoying the outdoors at any age.

June 8 - 15:

Sporting clays in San Antonio; the Cockrell Butterfly Center; honoring a woman angler; shoreline sights; sound like prey.

June 15 - 22:

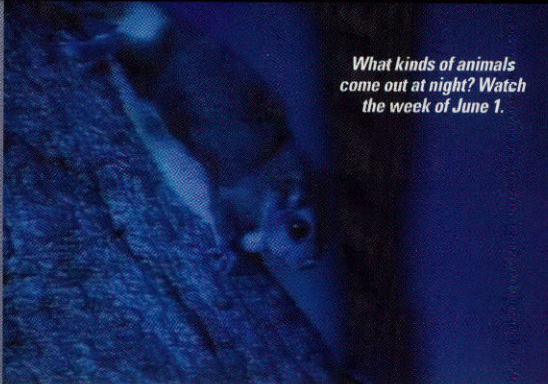
Native plants in the school yard; bicycles on patrol; choosing binoculars; snakes; relocating buffalo.

June 22 - 29:

The secret life of animals; traveling birds; screech owls; buffalo in the snow; the historic landscape of Texas.

June 29 - July 6:

Matagorda Island ecology and geology; birds and bird dogs; tracking the horned lizard; a selection of sleeping bags.



*What kinds of animals
come out at night? Watch
the week of June 1.*

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BRYAN-COLLEGE STATION: KAMU, Ch. 15 / Thurs. 7 p.m. / Sun. 5 p.m., 10:30 p.m.

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KILLEEN: KNCT, Ch. 46 / Sun. 5 p.m.
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LUBBOCK: KTXT, Ch. 5 / Sat. noon

ODESSA-MIDLAND: KOCV, Ch. 36 / Sat. 5 p.m.

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DENTON: KNTU-FM 88.1 / 10:58 a.m., 3:58 p.m., 11:59 p.m.

Continued on page 57

LEGEND, LORE &
Legacy



Breaking the Mold

BACK IN 1949, LURE DESIGNER NICK CREME OPENED A WHOLE NEW CAN OF WORMS. // By Larry Bozka

I've always maintained a mental picture of legendary lure designer Nick Creme standing in his laboratory, Dr. Frankenstein-style, as he extracted the first soft plastic worm from its mold.

Like an artist's palette, Creme's white lab coat is spattered with molten plastic. Outside, lightning bolts crack an infinite canvas of jet-black sky. A crater-pocked full moon showers bright white light through the balcony window and makes Creme's eyes sparkle as he gingerly lifts the wiggling lure.

"It's alive," he says. "It's *alliiive!*"

Then came this story assignment.

What I discovered instead was a soft-spoken man of modest means who, through ingenuity, determination and plain old hard work, single-handedly changed the course of recreational fishing history.

Creme worked during the late 1940s as a machinist in an Akron, Ohio, machine shop. His wife and, ultimately, business partner, Cosma, was constantly at his side, sharing her husband's adventurous and enterprising sense of practical curiosity.

Nick Creme was ... no surprise here ... an ardent angler. One day, while reading what is now remembered only as "an inspirational magazine," he came across an article about unexplored business opportunities. The part of the story that hooked him, and ultimately hooked hundreds of thousands of fish, explained how no one had yet created a workable soft plastic lure. The first-generation son of Italian immigrants, who was noted for his ability to stay focused, Nick Creme set his sights on becoming the first person to put soft plastic lures inside the tackle boxes of American fishermen.

AKRON, OHIO, WAS AT THE TIME THE CHEMICAL hub of the United States. The post-war era witnessed a huge surge in automobile manufacturing, and with it a greatly

An ardent angler, Nick Creme developed the first workable soft plastic lure.

increased need for quality tires.

"The major chemical companies all had facilities in Akron," recalls Creme's friend Wayne Kent, 58, an independent lure manufacturer who started Tyler, Texas-based Knight Manufacturing in 1959. Kent bought Creme Lure Co. in 1989.

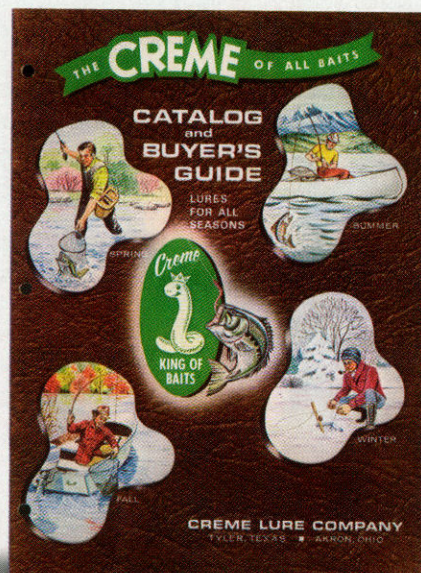
"Nick Creme had the gumption to go around and question a large group of scientists and researchers," Kent says. "Each of them contributed something, but it was only after years of experimentation in the kitchen at home that Nick finally arrived at a workable formula."

GIVEN THE WIGGLE WORMS' EFFECTIVENESS, SOME LOCAL BASSERS ACTUALLY CALLED FOR A BAN BEFORE THE LURES COULD, THEY FEARED, WIPE OUT THE TEXAS BASS FISHERY.

Creme faced a formidable host of formulaic obstacles. Among those were problems with pliability, durability, fading and even toxicity. He conquered the latter with help from Permaflex Mold Co. of Columbus, Ohio, a company that produced ice cream molds. As for the rest, Creme experimented with pigments and dyes and fish oils, mixing the various ingredients in a kitchen deep-fryer.

"Even the packaging was a problem," Kent recalls. "You couldn't put a worm on a varnished surface back then; it would eat the varnish." Buyers of those early generation plastic worms also discovered that the oily lures hungrily attacked tackle box racks and even other lures, a persistent problem that after no small effort was eventually rectified.

Creme's progress was slow but measured. He queried lab technicians at DuPont's laboratories in Cleveland at a time when the researchers were working hard to produce new types of vinyl. The lab techs graciously gave Creme a batch of chemicals to utilize in his own experiments. He tested those chemicals with repeated trials and didn't quit until he was



PHOTOS COURTESY OF CREME LURES

confident his home-cooked lure material was fully ready to field-test.

Wisely, Creme patiently waited to officially introduce his new "Creme Wiggle Worm." Only Nick and his father used the first prototypes, initially trying them with positive results on Canadian walleye. He then successfully tried them on largemouth bass in select lakes near Akron. Fourteen months later, with a small ad placed in *Sports Afield* that offered a selection of worms on a card for \$1, Nick Creme initiated his marketing effort.

According to Kent, some of the Wiggle Worms' first buyers purchased the lures as novelty items. "They used them to play practical jokes on friends, putting them in people's coffee cups and on their desks," he says. "That was very degrading to Nick." Creme got the proverbial last laugh, and in short order.

The Wiggle Worm's debut at the 1951 Cleveland Sports Show immediately put Nick Creme's offerings on the national map. Orders flowed in as readily as molten plastic. The Cremes established relationships with distributors and jobbers and focused on production.

The company soon boasted a national field staff as well. Creme's first pro was none other than bass tournament pioneer and television personality Bill Dance. "We still have pictures of Bill in his station wagon, painted up with the Creme Lure logo," Kent says, adding that dozens of other notable pro staffers have since followed.

Like his mentor, Kent started out making lures in his house. His fishing industry involvement began at The Bait and Tackle Shop on Front Street in Tyler, where the 14-year-old fishing buff earned extra money counting minnows and worms for store proprietor Milton Goswick.

"The man was a genius," Kent says. "He was able to get Creme worms when no one else could."

As the story goes, demand was extremely high and supply was very low, a dilemma Cosma Creme patiently explained to Goswick when he attempted to make an early order. Two dozen Tyler rose bushes from a local nursery soon arrived on Cosma Creme's Akron porch, courtesy of Milton Goswick.

"We suddenly had more Creme worms than anybody," Kent says with a chuckle. "I never forgot that."

Nick and Cosma left Akron in 1960 and built a new manufacturing plant in Tyler. Why Tyler?

"World War II was over," Kent explains. "The country was excited.

Reservoirs were being built all over, and East Texas was no exception. Lake Tyler was one of those reservoirs.

"Back then, when a lake was built, all of the trees and brush were piled up and flooded," Kent continues. "The fish congregated on that flooded structure. Trouble was, the fishermen couldn't reach them."

In nearby Kilgore, Texas, Skeeter was busy developing the first of a new breed of watercraft called "bass boats." Meanwhile, in Tulsa, Oklahoma, Lowrance Electronics was fine-tuning the first flasher-style depthfinders.

"Fishermen had bass, bass boats and even electronics for finding those bass," Kent says. "What was missing was a lure specially designed to get to those deep, concentrated fish. So Nick Creme filled that gap."

The invention of the Creme Wiggle Worm and, soon thereafter, the development of the weedless "Texas Rig" by Lake Tyler bass fishermen, forever changed both freshwater and saltwater fishing.

So did Nick Creme create a bona fide "first"?

"Plastics didn't exist before World War II," Kent says. "The 'plastic' baits prior to Nick's were not plastic; they were rubber. They were stiff and inflexible. There is no comparison to those lures, made as early as the late 1890s, and the plastic worms Nick Creme invented in the mid-1950s."

Creme's creations quickly spawned numerous other angling innovations. Among them are offset-shank worm hooks, "bullet" weights, fast-action "worm rods," specialized tackle storage systems and even scents created to enhance worms' allure.

"The first fishermen on the unexplored brushpiles and timber were almost guaranteed results," Kent notes. "Given the Wiggle Worms' effectiveness, some local bassers actually called for a ban before the lures could, they feared, wipe out the Texas bass fishery."

That, of course, didn't happen. The use of plastic worms continued and, as fish became more "educated" and fishing pressure increased, the playing field rapidly leveled.

Consistently successful worm fishing requires specialized gear and considerable expertise. Nonetheless, worming remains one of the most oft-enjoyed and generally productive means of largemouth fishing in existence.

No, Nick Creme didn't create a monster after all.

But his creations might well help you catch one someday. ★

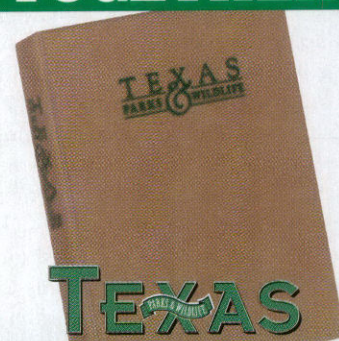
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Continued from page 53

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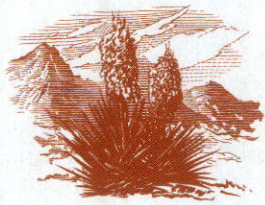
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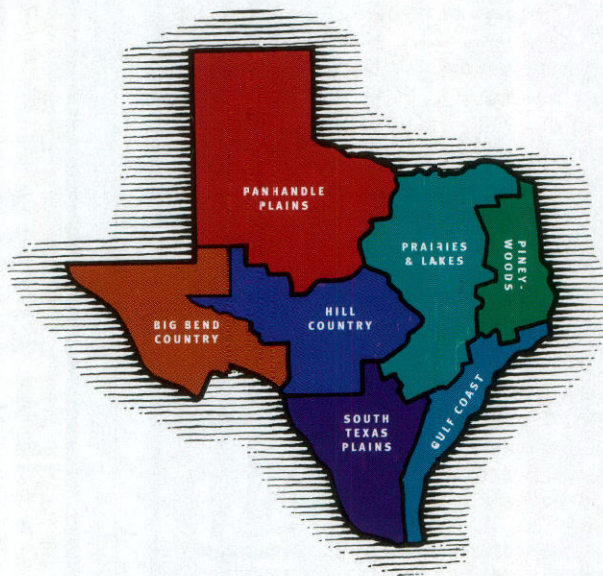
JUNE: Camel Treks, Monahans Sandhills SP, Monahans, call for dates, (866) 6CAMELS.

JUNE: Fate Bell Cave Dwelling Tour, Seminole Canyon SP & SHS, Comstock, every Wednesday through Sunday, (432) 292-4464.

JUNE: White Shaman Tour, Seminole Canyon SP & SHS, Comstock, every Saturday, (888) 525-9907.

JUNE 1-30: Fishing on the Rio Grande, Black Gap WMA, Alpine, (915) 376-2216.

JUNE 1-30: Maravillas Canyon-Rio Grande



For more detailed information on outdoor getaways across the state, visit www.tpwd.state.tx.us and click on "TPWD Events" in the center light blue area entitled "In the Parks."

Equestrian Trail, Black Gap WMA, Alpine, (915) 376-2216.

JUNE 7: Fish the Rio Grande, Barton Warnock Environmental Education Center, Terlingua, (432) 424-3327.

JUNE 7-8, 21-22: Guided Tours, Franklin Mountains SP, El Paso, reservations required, (915) 566-6441.

JUNE 14: Full Moon Walk, Barton Warnock Environmental Education Center, Terlingua, (432) 424-3327.

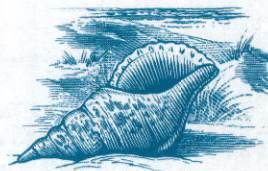
JUNE 14: Madrid Falls Tour, Big Bend Ranch SP, reservations required, Presidio, (432) 229-3416.

JUNE 14: Stories of Spirits, Magoffin Home SHS, El Paso, (915) 533-5147.

JUNE 15: Bird Identification Tours, Hueco Tanks SHS, El Paso, reservations required, (915) 849-6684.

JUNE 21: Fresno Canyon Tour, Big Bend Ranch SP, Presidio, reservations required, (432) 229-3416.

JUNE 28: Gualle Mesa Tour, Big Bend Ranch SP, Presidio, reservations required, (432) 229-3416.



GULF COAST

JUNE: Weekend Nature Programs, Brazos Bend SP, Needville, every Saturday and Sunday, (979) 553-5101.

JUNE: Nature Programs, Lake Texana SP, Edna, every Saturday, (361) 782-5718.

JUNE: Aquarium and Hatchery Tours, Sea Center Texas, Lake Jackson, every Tuesday through Sunday, hatchery tours by reservation only, (979) 292-0100.

JUNE: Airboat Tours, Sea Rim SP, Sabine Pass, Wednesday through Sunday, reservations required (409) 971-2559.

JUNE 7: Fishing with a Ranger, Lake Texana SP, Edna, (361) 782-5718.

JUNE 7: History Tour, Matagorda Island SP&WMA,

Port O'Connor, reservations required, (361) 983-2215.

JUNE 7: Texas Gulf Coast Roundup, Port O'Connor, (361) 939-8745.

JUNE 7: Youth Fishing, Sea Center Texas, Lake Jackson, (979) 292-0100.

JUNE 7, 21: Summer Night Hikes, Sea Rim SP, Sabine Pass, reservations required, (409) 971-2559.

JUNE 7, 14, 20, 21, 28: Story Time, Sea Center Texas, Lake Jackson, (979) 292-0100.

JUNE 8, 26: Beachcombing and Shelling Tour, Matagorda Island SP & WMA, Port O'Connor, reservations required, (361) 983-2215.

JUNE 14: Nighttime Alligator Count and Swamp Tour, J.D. Murphree WMA, Port Arthur, reservations required, (409) 736-2551.

JUNE 14: Flag Retirement Ceremony, Lake Texana SP, Edna, (361) 782-5718.

JUNE 20: Seabirds of the Gulf of Mexico, South Padre Island, reservations required, (956) 584-9156.

JUNE 21: Nighttime Wildlife Tour, Matagorda Island SP & WMA, Port O'Connor, reservations required, (361) 983-2215.



HILL COUNTRY

JUNE: Gorman Falls Tour, Colorado Bend SP, Bend, every Saturday and Sunday,

weather permitting, (325) 628-3240.

JUNE: Walking Wild Cave Tour, Colorado Bend SP, Bend, every Saturday and Sunday, weather permitting, (325) 628-3240.

JUNE: Evening Bat Flight Tours, Devil's Sinkhole SNA, Rocksprings, call for dates, (830) 683-BATS.

JUNE: Basic Canoe Skills Clinic, Inks Lake SP, Burnet, every Thursday, reservations required, (512) 793-2223.

JUNE: Go Fishing with a Ranger, Inks Lake SP, Burnet, Saturdays, (512) 793-2223.

JUNE: Stumpy Hollow Nature Hike, Inks Lake SP, Burnet, Saturdays, (512) 793-2223.

JUNE: Wild Cave Tour, Longhorn Cavern SP, Burnet, Saturdays, reservations required, (877) 441-2283.

JUNE 6: Range and Wildlife Seminar, Kerr WMA, Hunt, (830) 238-4483.

JUNE 7: Crawling Wild Cave Tour, Colorado Bend SP, Bend, (325) 628-3240.

JUNE 7: Fishing Clinic, Lyndon B. Johnson SP & SHS, Stonewall, (830) 644-2252.

JUNE 14: Flag Day Program, Admiral Nimitz SHS-National Museum of the Pacific War, Fredericksburg, (830) 997-4379.

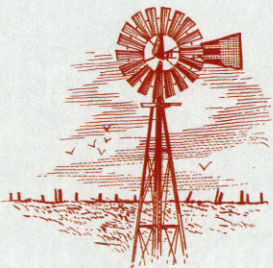
JUNE 14: Bluegrass Music in the Park, Inks Lake SP, Burnet, (512) 793-2223.

JUNE 14: Full Moon Hike, Inks Lake SP, Burnet, (512) 793-2223.

JUNE 14: Bat Flights at Stuart Bat Cave, Kickapoo Cavern SP, Brackettville, reservations required, (830) 563-2342.

JUNE 14: Wild Cave Tour, Kickapoo Cavern SP, Brackettville, reservations required, (830) 563-2342.

JUNE 14, 28: Concert in the Cave, Longhorn Cavern SP, Burnet, reservations required, (877) 441-2283.



PANHANDLE PLAINS

JUNE: Worship Service, Palo Duro Canyon SP, Canyon, every Sunday, (806) 488-2227.

JUNE 5-7: Texas State

Bluegrass Festival, Lake Brownwood SP, Brownwood, (325) 643-8011.

JUNE 5, 12, 19, 26: River Walk, Palo Duro Canyon SP, Canyon, (806) 488-2227.

JUNE 6, 13, 20, 27: History Hike, Palo Duro Canyon SP, Canyon, (806) 488-2227.

JUNE 7: Stargazing Party, Big Spring SP, Big Spring, (432) 263-4931.

JUNE 7: 11th Annual Kids' Fishing Tournament and Annual Rough Fish Contest, Lake Arrowhead SP, Wichita Falls, (940) 528-2211.

JUNE 7: Wildflower Safari, Palo Duro Canyon SP, Canyon, (806) 488-2227.

JUNE 7: Bison Seminar, San Angelo SP, San Angelo, (325) 949-4757.

JUNE 7, 21, 28: Nature Hike, Palo Duro Canyon SP, Canyon, (806) 488-2227.

JUNE 11: Bat Mania, Palo Duro Canyon SP, Canyon, (806) 488-2227.

JUNE 12-30: "Texas" Musical Drama, Palo Duro Canyon SP, Canyon, (806) 655-2181.

JUNE 14: Bats of Clarity Tunnel, Caprock Canyons SP & Trailway, Quitaque, reservations required, (806) 455-1492.

JUNE 14: Photography Workshop, Palo Duro Canyon SP, Canyon, reservations required, (806) 488-2506.

JUNE 17, 24: Family Nature Hike, Palo Duro Canyon SP, Canyon, (806) 488-2227.

JUNE 21: Sun Fun and Star Walk, Copper Breaks SP, Quanah, (940) 839-4331.

JUNE 21: Canyon Heritage, Palo Duro Canyon SP, Canyon, (806) 488-2227.

JUNE 25: Night Noises, Palo Duro Canyon SP, Canyon, (806) 488-2227.

JUNE 28: Trail Talk, Palo Duro Canyon SP, Canyon, (806) 488-2227.



PINEYWOODS

JUNE: Walk on the Wild Side, Martin Dies, Jr, SP, Jasper, every Sunday, (409)

384-5231.

JUNE 6, 20: Nature Slide Program, Village Creek SP, Lumberton, reservations required, (409) 755-7322.

JUNE 7: 13th Annual Kids' Fish Flop Tournament, Martin Dies, Jr, SP, Jasper, (409) 384-5231.

JUNE 7: Take a Kid Fishing, Tyler SP, Tyler, (903) 597-5338.

JUNE 14: Pond Tour, Mission Tejas SP, Grapeland, (936) 687-2394.

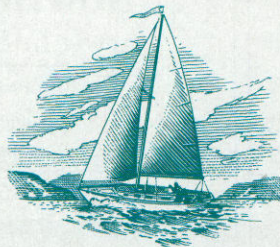
JUNE 14: Steam Engine Shop Tours, Texas State Railroad SP, Rusk, (800) 442-8951.

JUNE 21: Floating the Forks, Martin Dies, Jr, SP, Jasper, reservations required, (409) 384-5231.

JUNE 28: Storytelling, Mission Tejas SP, Grapeland, (936) 687-2394.

JUNE 28: Guided Nature Trail Hike, Village Creek SP, Lumberton, (409) 755-7322.

JUNE 29: Mission San Francisco de los Tejas Tour, Mission Tejas SP, Grapeland, (936) 687-2394.



PRAIRIES & LAKES

JUNE: Evening Interpretive Programs, Fridays, Lake Mineral Wells SP & Trailway, Mineral Wells, (940) 328-1171.

JUNE: Yegua and Nails Creek Canoe Tours, Lake Somerville SP & Trailway/Birch Creek Unit, Somerville, every Thursday, reservations required, (979) 535-7763.

JUNE: Kreische Brewery Tours, Monument Hill & Kreische Brewery SHS, La Grange, every Saturday & Sunday, weather permitting, (979) 968-5658.

JUNE: Interpretive Programs, Purts Creek SP, Eustace, Saturdays & Sundays, (903) 425-2332.

JUNE 7: Top 10 Park Secrets, Cedar Hill SP, Cedar Hill, (972) 291-5940.

JUNE 7: Kids Fishing Day, Cooper Lake SP/South Sulphur Unit, Sulphur Springs, (903) 395-3100.

JUNE 7: Guided Nature Hikes, Lake Mineral Wells SP & Trailway, Mineral Wells, reservations required, (940) 328-1171.

JUNE 7: 10th Annual Kids Fish & Play Day, Purts Creek SP, Eustace, (903) 425-2332.

JUNE 7: Junior Angler Adventure, Texas Freshwater Fisheries Center, Athens, (903) 676-BASS.

JUNE 7-8, 15, 21-22, 28-29: Tours, Fanthorp Inn SHS, Anderson, (936) 873-2633.

JUNE 14: Flag Retirement Ceremony, Cedar Hill SP, Cedar Hill, (972) 291-5940.

JUNE 14: Kids' Wilderness Survival, Cedar Hill SP, Cedar Hill, (972) 291-5940.

JUNE 14: Stagecoach Days, Fanthorp Inn SHS, Anderson, (936) 873-2633.

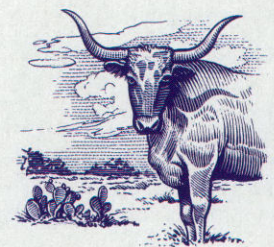
JUNE 14: Cowboy Campfire - Music and Poetry, Lake Mineral Wells SP & Trailway, Mineral Wells, (940) 327-8950.

JUNE 21: Our Fuzzy and Furry Friends, Cedar Hill SP, Cedar Hill, (972) 291-5940.

JUNE 21: Creatures of the Night, Cooper Lake SP/South Sulphur Unit, Sulphur Springs, (903) 395-3100.

JUNE 21: Kids' Wilderness Survival, Lake Mineral Wells SP & Trailway, Mineral Wells, reservations required, (940) 327-8950.

JUNE 28: Night Sounds, Lake Mineral Wells SP & Trailway, Mineral Wells, (940) 327-8950.



SOUTH TEXAS PLAINS

JUNE 7: Fishes of the Hill Country, Government Canyon SNA, San Antonio, reservations required, (210) 688-9055.

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SNA	State Natural Area
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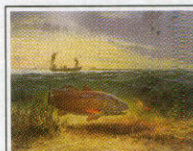
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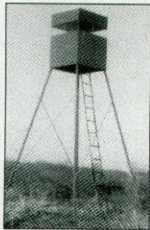
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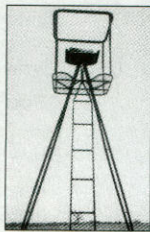
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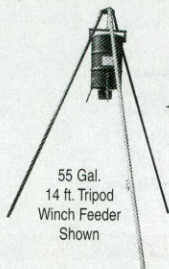
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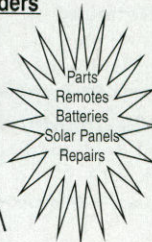
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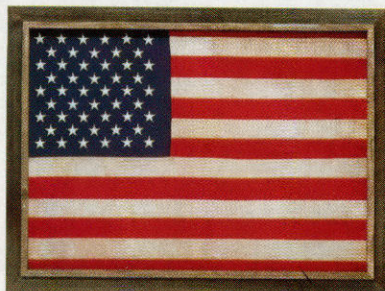
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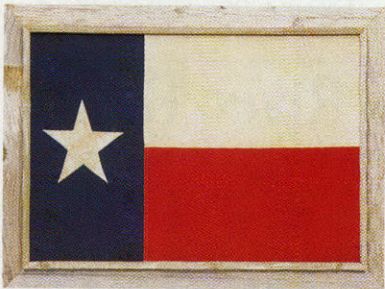
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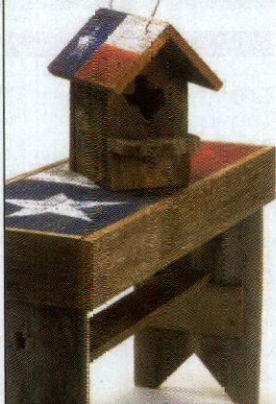
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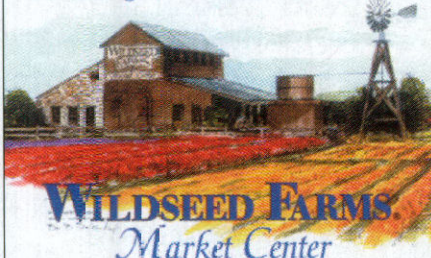
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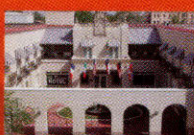
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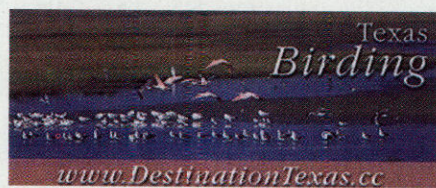
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PARTING SHOT

Photographer Dave N. Richards of Boerne located this unusual wild turkey on a ranch near Camp Verde, in Kerr County. The rancher had been seeing the bird for two years, and estimated it to be around 4 years old, which Richards says is old for a turkey. The bird — a bearded hen — is not an albino. The white plumage is due to a color aberration and Richards points out that this turkey actually blends in with the light-colored rocks better than a brown turkey would. He also reports that the hen had six or seven poults one year, all of which were brown.





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