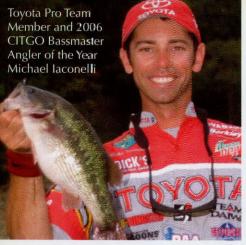
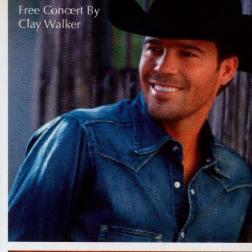
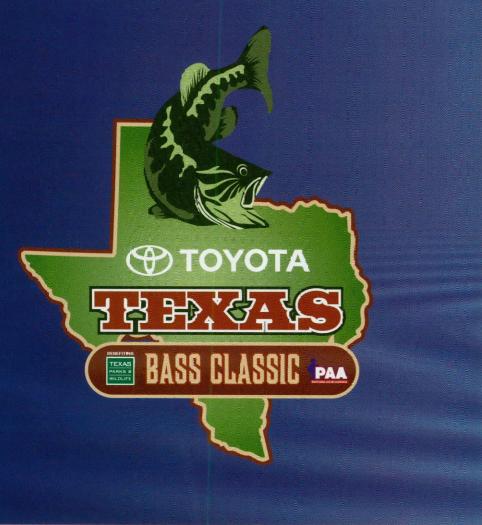
P400.6 P235 65:01 TOUR of TEXAS PLUS: THE ART OF ORVILLE RICE WHAT BASS EAT FISH FINDERS TEXAS MADRONE

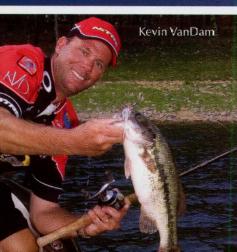




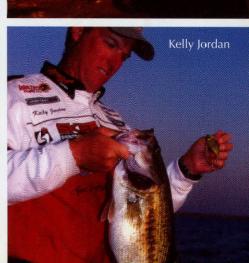












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Lake Fork, Texas April 9-15, 2007

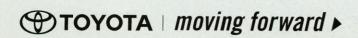
Nothing is more exciting than landing a monster. And nothing is more exciting than driving one. We're speaking of course of the new Toyota Tundra, in showrooms soon and on display at this year's tournament. Its sheer size will amaze you. Its advanced technology will impress you. The new Tundra is just one of many thrills you'll experience live at Lake Fork this April.

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2007 Toyota Tundra.

Proud sponsor and official vehicle of the inaugural Toyota Texas Bass Classic.









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By Wyman Meinzer

Wyman Meinzer shares some of his favorite images from the past two decades.

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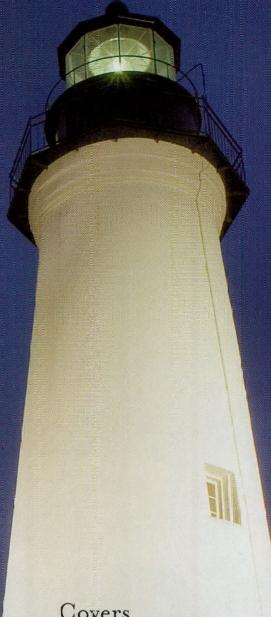
52 Legend, Lore _egacy By Rob McCorkle

With its flaky bark and red berries, the Texas madrone is a rare but remarkable Texas native.

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Covers

FRONT: A gray fox takes a rest 11 feet up in an agave p ant in the Davis Mountains. Photo © Wyman Meinzer.

BACK: Crville Rice's passion for wildlife and attention to detail resulted in remarkable Illustrations, like this one of scissortails in flight. Illustration @ Orville Rice

PREVIOUS SPREAD: This smallmouth bass seems to be wondering if he'll be having crayfish for dinner. Pt oto © Eric Engbretson.

THIS PAGE: The Port Isabel lighthouse has been standing guard over the lower Texas coast since 1852. Photo © Lance Varnell.

Thanks to all who responded to last month's cover photo riddle! The photo was taken at the top of Enchanted Rock.

Prints of photographs on pages 24-33 are available for purchase. Order at 866-962-1191 or www.magazineprints.com.



THE OUTDOOR MAGAZINE OF TEXAS

JANUARY 2007, VOL. 65, NO. 1

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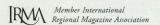
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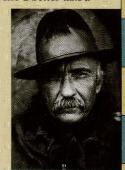




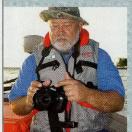
In the Field

WYMAN MEINZER takes us on a visually stunning photographic tour of Texas this month. From the hypnotic symmetry of cactus spines to the preternatural power of a thunderstorm breaking over a rugged West Texas cemetery, Meinzer portrays the natural world with a flair that seems at once spiritual and surreal. Legend has it that when a TP&W staffer called Meinzer once, Wyman's wife, Sylinda, said she'd better take a

message for him. She explained that Wyman was involved with a rattlesnake just then, trying to get a photo. Just a typical day at work for the former Texas State Photographer, whose images have graced more than 250 magazine covers and fill more than a dozen books. Meinzer's favorite portrait of himself is the one pictured here, a tintype taken by Robb Kendrick of National Geographic.



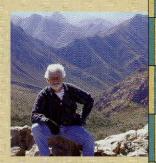
LARRY D. HODGE'S writing and photography have won awards from the Texas Outdoor Writers Association and the Outdoor Writers Association of America. Hodge started his career as a junior high history teacher, then worked as a social studies textbook editor. After 16 years as a freelance writer and photographer, Hodge came in from the cold and became executive editor of Texas Parks & Wildlife Press and wildlife editor



of Texas Parks & Wildlife magazine in late 2000. In 2003 he transferred to the Texas Freshwater Fisher es Center in Athens, where he writes about freshwater fishing and related top cs. He hunts whenever he can and fisnes whenever he can't hunt, and takes photographs while doing both.

ROB MCCORKLE has spent much of his adult life traveling the highways and back roads of the Texas Fill Country, having lived in Marble Falls and the Austin area until a recent move to Bandera County. The state's rich cultural and natural history have been the main focus of his writing for more than a quarter-century. McCorkle's happy to be living in one of the most beautiful parts of Texas, where madrones, pig-ooth

maples and other unusual botanical species, as well as abundant wildlife, are readily found. A frequent contributor to TP&W magazine, this month McCorkle peels away the mystery from the sculptural Lady's Leg, or madrone tree. McCorkle has worked for Texas Parks & Wildlife for II years, serving as media relations coordinator.



AT ISSUE

FROM THE PEN OF ROBERT L. COOK

"Exactly where in the U.S. Constitution does it say that hunting is a right of every citizen?" I asked. "Nowhere!" my general counsel responded, "There is no reference to hunting in the U.S. Constitution." "No reference?" "None." Good grief, I thought, how could those great men forget to make hunting a "right" of every American citizen? "OK, how about where it says that all fish and wildlife belong to all the people; I know that one is in there." "Nope, wrong again," she said, "The words 'fish' and/or 'wildlife' do not appear in the U.S. Constitution." Lawyers!

OK, so how is it that we all grew up thinking we had a "right" to hunt, and that our rebellious Yankee ancestors guaranteed that all wildlife belonged to all the people, not to the king or his royal henchmen? Since you know that I am not a lawyer (thank goodness) I will take some liberties in summarizing how we got where we are in regards to the complex issues of the uses

of wildlife, hunting, fishing, the ownership of wildlife, and trespass in Texas.

The basis for our current wildlife laws traces back to ancient Roman law which, in summary, said that wild animals belonged to or were owned by no one. In addition, Roman law stated that landowners had the right to exclude hunters from their land, and the government in Rome maintained the authority to control harvests (seasons, bag limits). Once harvested, or captured, Roman law made it clear that the animal, bird or fish belonged to the person who "captured" it.

Centuries later, under English law and throughout most of Western Europe, all fish and wildlife belonged to the king. In fact, all of the forests of England and the "colonies" belonged to the king. The king might allow his Earl of This or Prince of That to hunt and fish a little on the side, but it was the king's deer and you'd best not forget it! Needless to say, our ancestors who had a one-way ticket on the Mayflower or who got dropped off at Jamestown didn't really think that the king had any claim to the fish and wildlife of the New World, where hunting was not a sporting matter, it was a source of food and clothing for survival. Hence, our War of Independence to be free and to decide for ourselves.

Our wildlife laws evolved over many decades, and through the 19th and early 20th centuries, American courts fashioned the uniquely American doctrine of "state ownership." Simply put, the state "owns" the wildlife for the benefit of its citizens.

I don't know why our forefathers didn't include some
constitutional right for us
hunters and wildlife watchers.
... Maybe Gen. Washington
decided to knock off a little early
that day and go fishing.

In addition, and some would say in contradiction to the state ownership of wildlife, all states, including Texas, have trespass laws which require that you obtain the landowner's permission to enter private land, for any reason, such as hunting, fishing, birdwatching, breathing or whatever. Although some will argue that having to have permission to enter private land restricts their "right" to see and/or hunt wildlife, I believe that we should support our trespass laws, which are part of the reason that we have witnessed the most phenomenal recovery of wildlife populations in the known world.

I don't know why our forefathers didn't include some constitutional right for us hunters and wildlife watchers. Maybe they had better things to do. Or, just maybe, Gen. Washington decided to knock off a little early that day and go fishing.

We didn't invent this wheel; we refined it and improved on it. It has stood the test of time. Get outdoors.

EXECUTIVE DIRECTOR

Texas Parks and Wildlife Department mission statement:

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



Fish for breakfast anyone?



For the true angler, Academy is just a second home.

MAILCALL

PICKS, PANS AND PROBES FROM OUR READERS

FOREWORD

If you turn back a few pages to the staff box, you'll see these numbers along the top: Vol. 65, No. 1. In December 1942, the same space read: Vol. 1, No. 1. In the foreword of that first issue, William J. Tucker wrote:

"The hunting and fishing public is already surfeited with wildlife fiction and romantical stories of hunting, fishing and killing exploits. We shall not invade this field, which is well supplied by excellent national and regional publications. Our endeavor shall be confined to supplying material pertaining to hunting, fishing,

trapping, and wildlife conservation and restoration in the State of Texas ... There is nothing that will promote the cause of wildlife conservation more than a supply of adequate information to the public. The press and radio of this state have been exceedingly kind in giving a summarization of information available from this department, but they cannot allocate the space nor time that is required for a continuing record of developments in the field of wildlife conservation and restoration; neither do these mediums provide, as shall the 'Texas Game and Fish,' a permanent record of this essential information ... After the harshness, brutalities and sacrifices of the present conflict the Texas man and womanhood that has succeeded in winning the war should return to a pleasanter place in which to live, with the invigorating influence of the out-of-doors doing its full share to cleanse their spirits and temper their character."

The January 2007 issue marks the beginning of our 65th year of operation. This month, we honor the legacy of Orville Rice, the artist whose paintings graced the cover of many of those early issues (when the magazine was still called *Texas Game and Fish*). Throughout the year, we will commemorate the 65th anniversary in a variety of ways. Stay tuned.

The magazine has survived this long because we've paid attention to our readers and adapted to their changing needs. In keeping with that tradition, we recently commissioned Readex Research to do a statewide reader survey. Here are a few highlights:

- In the last 12 months, 54 percent of our readers went camping, 46 percent went freshwater fishing, 42 percent hunted, 29 percent fished in saltwater, and 27 percent participated in birdwatching.
- When asked, "How interested are you in seeing the following topics or items in *Texas Parks & Wildlife?*" the top five topics (out of 31) were, in descending order: state parks, wildlife, Texas travel destinations, Texas history and natural history.
- About 68 percent of our subscribers live in or near Dallas-Ft. Worth, Houston, San Antonio or Austin.
- · The median age is 55.
- Sixty-three percent of our subscribers have no children living at home. Alternatively, 34 percent do have at least one child at home.
- · Our readership is 72 percent male, 26 percent female.
- · And my favorite stat: 26 percent of our readers have subscribed for 10 years or more.

I want to thank all those loyal subscribers and welcome the new ones. We really appreciate those of you who took the time to respond to the reader survey. We're listening, we're evolving, and we hope to keep you engaged and invigorated for years to come. Happy New Year!

Robert Macias
ROBERT MACIAS

LETTERS

ARMADILLOS CAME LATER

I enjoyed the story and illustration, "The Storytelling Place," in your November issue.

One of the visitors (in the illustra-

tion) is out of place. Publications and references show that before 1890, the armadillo was found only in the region south of San Antonio. In 1942, they had expanded their range up the Trinitv. Brazos and Colorado rivers with no authentic records north of Denton County. My first observation of an armadillo in Grayson County was in 1951. These (dates) are all considerably later than when the Comanche visited the pecan tree site.





Before 1890, the armadillo was found only in the region south of San Antonio. In 1942, they had expanded their range up the Trinity, Brazos and Colorado rivers.

> Ed W. Bonn Denison

BEAVERS CAME EARLIER

Thank you for the nice comment about my book On Independence Creek in your article about the creek "Fighting for Independence" in the July issue of TP&W magazine. Joe Nick Patoski wrote an interesting article about an interesting situation.

However, there's more to the beaver story than meets the eye. They didn't arrive after the rise of 2004, as Patoski was told. In 1977, James F. Scudday of Sul Ross University, in an evaluation of the creek area, wrote: "Beaver have always existed here in the Pecos River and the lower end of Independence Creek."

MAIL CALL

And the humans who lived here, including my family, haven't always welcomed them. While I understand the desirability of wetlands and of balance between man and nature, I am pleased that Patoski reported an example of the damage done by beavers. I believe that neither the Conservancy, Mr. McCurdy, nor my family would be happy with the destruction of the live oak trees that are unique to the area. Research has proven that beavers are actually destructive animals that have caused problems in many waterways in the U.S.

However, this is not to take away from your good reporting of the situation. So, forget the beavers, and please accept my compliments on the story.

CHARLENA CHANDLER

Dryden

FELT LIKE I WAS THERE

Jjust want to let you know that the article in your October issue titled "Deer Myths" was one of the best yet! Not being a deer hunter myself, but from a deer hunting family, I thoroughly enjoyed the article by Larry Bozka. After reading the first several paragraphs, I felt like I was there in the ancient barn when the 70-year-old gentleman walked in to talk to the "new and enthusiastic" deer hunters.

NELL HUFFMAN

Pasadena

Sound off for "Mail Call!"

Let us hear from you!

Texas Parks & Wildlife magazine welcomes letters from our readers. Please include your name, address and daytime telephone number.

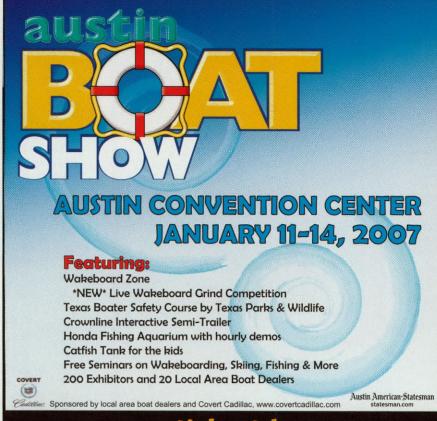
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NEWS AND VIEWS IN THE TEXAS OUTDOORS

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One-day coastal fishing seminars are flat-out worth it.



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The two-column ad was nestled inside the classified section of a popular business magazine.

"One-day seminar. Maximize Yield with Minimal Investment! Meet Industry Experts! Everything You Need for Success, All Under one Roof!"

I almost called Bobby Miller and Art Morris to tell them I had found the perfect promotional copy for the Texas Parks

and Wildlife Department's Flat-Out Fishing Seminars.

TPWD's annual saltwater fishing clinics are both one-day events. At \$20 per person (\$30 for couples, with youths 17 and under admitted at no charge), they are surprisingly affordable.

Plus, the payback is substantial.

Attendees receive a "goodie bag" upon arrival, and throughout the day can interact with some of the coastal fishing industry's leading authorities while enjoying random drawings for door prizes. Furthermore, they leave knowing that their registration monies will benefit an extremely worthy cause: the annual crab trap cleanup.

The Upper Coast event, the first of two seminars, is

slated for Saturday, February 24, at the Lake Jackson Civic Center. Following the success of last year's "near-shore" seminar, Miller and crew are literally taking the '07 event a bit farther out.

"We're focusing on blue-water fishing," he says, "not billfish, like marlin and sailfish, but the more popular and available species such as king mackerel, ling (cobia) and amberjack. Speakers will discuss everything from boating safety to countering motion sickness to correctly rigging for and approaching the various sportfish. Given good offshore conditions, anglers who own modest-sized boats in the 20- to 25-foot class can catch all of them."

The second seminar will be held Saturday, January 27, at Texas A&M University-Corpus Christi.

"We're covering a broad spectrum," Morris explains, "from the life histories of various sportfish species to flats and surf fishing to blue-water fishing in the Gulf. A department representative will also be on hand to explain upcoming plans for the TPWD Artificial Reefs Program."

Flat-Out Fishing is sponsored by Anheuser-Busch, the Coastal Conservation Association, the Texas Parks & Wildlife Foundation and a group of fishing gear and accessory manufacturers. The Lower Coast event is also sponsored by the Coastal Bend Bays and Estuaries Program.

For more information on topics and speakers, or to register for the Upper Coast seminar, contact Miller at 281-534-0110. Send e-mail inquiries to
bobby.miller@tpwd.state.tx.us>. For Lower Coast event specifics, call Morris at 361-825-3356 or send an e-mail to <art.morris@tpwd.state.tx.us>.

The Corpus Christi seminar is limited to the first 100 registrants. The Lake Jackson event can accommodate up to 300. Given last year's crowds, early registration is advised.

As for "Maximizing Yield," anyone who pays attention at these "All Under one Roof" events can't help but catch more fish.

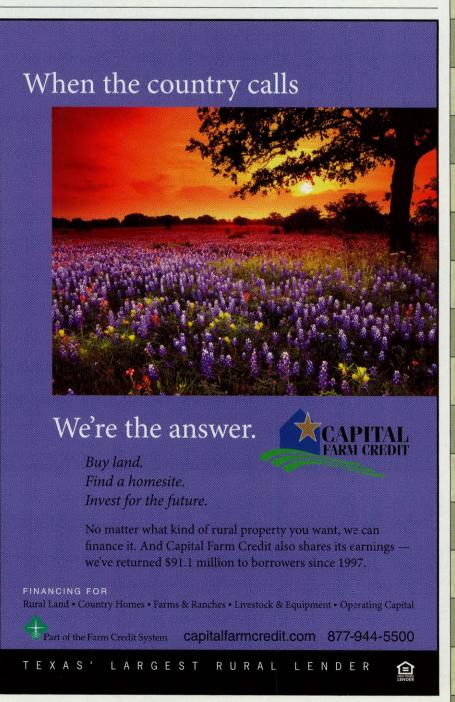
That's a flat-out fact.

— Larry Bozka



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and grandchildren ...



Scouting for Fish

A special group of girls discovers the stress relief that is fishing.

Troop 1500 is not your typical Girl Scout troop. These girls belong to an innovative program, Enterprising Girl Scouts Beyond Bars, which serves girls whose mothers are imprisoned. They have monthly visits with their mothers at the Gatesville prison, and they hold regular troop meetings and go on field trips that allow them to just be girls and explore various interests.

During a recent field trip at Inks Lake State Park, several of the girls giggled and squealed with delight as they baited their hooks and cast their lines into the water. Participating in TPWD's Angler Education Program, the 12- to 16-year-old girls learned about fish and their habitat, knot tying, basic tackle assembly, fishing regulations and ethics.

"Many of the girls had been fishing before, but the concept of catch-andrelease was new to the girls and they were very excited to share this idea with me," says Julia Cuba, Troop 1500 leader.

Fishing will definitely be part of their

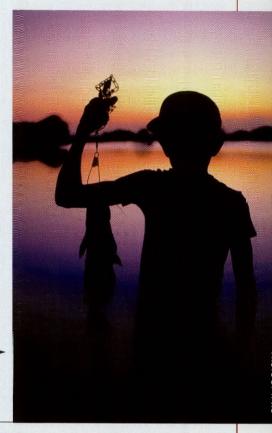
future trips, too. "I noticed that the girls were so relaxed while they were fishing. They really enjoyed just hanging out and talking to each other while they were fishing," says Cuba.

In an effort to make fishing readily available to everyone, the TPWD Angler Education Program has established free tackle loaner programs at locations across the state. The majority of tackle loaner sites are located in state parks. Borrowers may check out rods and reels and basic tackle to go fishing. Some state parks take the fishing activities one step further by offering Fish with a Ranger programs, Junior Angler and Beginning Fly Fishing classes.

For a list of tackle loaner sites, visit <www.tpwd.state.tx.us/learning/angler_education/tackloan.phtml>. **

- Karen Marks

There are many opportunities for children to fish at state parks. Some even offer free tackle loaner programs.



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BY THE NUMBERS / BY BRYAN FRAZIER

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HARD DATA AND FUN FACTS ABOUT YOUR STATE PARKS

1970

the year LBJ State Park and Historic Site opened to the public. The original LBJ site was

269

acres. Since then, the park has expanded to

732

acres and features bison, white-tailed deer and Texas longhorn cattle, in addition to a swimming pool and numerous historic structures.

1869

was the year that Johann and Christine Sauer settled the land of what is today the Sauer-Beckmann Living History Farm. The working farm is part of a "living history" exhibit at LBJ State Historic Site, where workers in period costume (circa 1918) perform various daily farm and household chores. Today, the park features four 18th and early 19th century cabins and farm houses within its boundaries — the Danz Cabin, the Behrens Cabin, the Sauer-Beckmann Farm and the Hodges House.

36.5

is the weight of the current state record channel catfish caught in the Pedernales River on March 7, 1965. The fish was 38 inches long

4

the number of miles of Pedernales River frontage inside LBJ State Park. The park also has 1.25 miles of nature trail on the Paseo Del Arroyo (Creek Walk) and an additional 2-mile ADA nature trail (one mile one way), all of which can be enjoyed year-round in the park.

PHOTO BY TPWE

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As the sun sinks below the hills on summer evenings, a natural wonder occurs at Bracken Cave. Mexican free-tailed bats — 20 to 40 million of them — whirl out from the mouth of the cave for their nightly insect feast. The bats, mostly females who have migrated from Mexico to give birth, eat more than 200 tons of insects every night during their summer stay at Bracken.

The end result of so much eating? Guano Lots of it.

"We have anecdotal measurements that the guano is 70 feet deep in the back of the cave," says Jim Kennedy, a biologist and cave resources specialist with Bat Conservation International (BCI), an Austin-based group that protects bats and their habitats.

Guano, the dried excrement of bats and birds, is a superb natural fertilizer thanks to its high concentrations of nitrogen and phosphorus. It has been so highly prized that countries have gone to war over it.

In the 1800s, chemists discovered that the same concentrated nitrates in guano that make it a gardener's dream could also be used to manufacture gunpowder. This doubled its value, and bat caves were raided for their guano stores during the Civil War.

"Guano was the biggest mineral export in Texas before oil was discovered," says Kennedy.

These days, explosives are made with artificial nitrates and the guano market has shifted to organic gardening. Texas still boasts a huge store of it, though — Bracken Cave, near San Antonio, is the largest habitat for Mexican free-tailed

bats in the world. Each year the bats deposit between 85 and 100 tons of guano on the cave floor. That makes for a lot of fertilizer.

As BCI's designated "cave guy," caver friends turned to Kennedy when they wanted some guano for their gardens and to take a look inside Bracken Cave. Thus, the Guano Gathering was born.

Every year Kennedy and a group of 40 to 70 friends and family descend on Bracken Cave during late winter, before the bats have come to roost. Armed with shovels, bandanas and five-gallon buckets, they form a line called "The Bucket Brigade" that stretches from the mouth of the cave to whatever they have brought to fill, from trash cans to truck beds.

Two brave souls are actually inside the cave, knee-deep in the brown, powdery guano, scooping and passing as fast as they can. After a hot and stinky two hours, the Brigade will have removed close to two tons of guano from the first 40 to 50 feet of the cave.

Afterwards, the group gets the rare opportunity to explore the inside of the cave. When bats are present, the cave floor teems with dermestid beetles which feed on the guano and unfortunate bats that fall off the wall. The beetles emit ammonia gas as a waste product, and levels can get so high inside the cave that they would kill a human. Luckily for the cavers, the beetles die off when the bats leave, allowing them to venture into the habitat in hot and smelly safety.

"It was quite the experience," says Mike Quinn, a TPWD invertebrate biologist who participated in 2006. Despite the overwhelming smell of ammonia, he says, "I had a lot of fun and I'd like to explore the cave some more."

While no more guano gatherers are needed, BCI does operate Bracken Cave as a preserve. BCI members can observe the bats during limited scheduled visits in the summer. For information on other programs and becoming a member, visit the BCI Web site at <www.bat con.org> or call (512) 327-9721. ★

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Florida or Northern Largemouth?

You can become an expert scale counter — or ask an expert.



If you catch a largemouth bass weighing 14 pounds or more, chances are good it has Florida largemouth genes. The Texas state record of 13.5 pounds stood for 37 years, from 1943 until 1980, a pretty good indication that the northern largemouths native to the state don't grow much beyond 13 pounds.

Only after Florida largemouths were introduced into Texas waters in the I970s did Texas bass begin to grow bigger than I3 pounds with regularity. It takes a fish of at least I5.2 pounds to make the list of 50 biggest largemouths caught in Texas, and more than half the 423 entries in the Budweiser ShareLunker program top the I3.5-pound mark.

Anglers looking for a way to tell if the

big fish they just boated is a Florida or a northern largemouth had better have either a crystal ball or a fish finder capable of performing genetic analysis on board, according to Dijar Lutz-Carrillo, TPWD's fish geneticist.

"There's no quick, sure way to differentiate between northern and Florida largemouth bass when looking at them," Lutz-Carrillo says. Biologists know that the number of scales along a bass's lateral line (the dark line running the length of its body) is an indicator. Florida bass typically have from 69 to 73 scales and northerns 59 to 67 but there are problems with using this approach. For one thing, the correct scales have to be identified and counted accurately.

In addition to the number of scales along the lateral line, Floridas and northerns also typically differ in the number of rows of scales on their cheeks, the number of scales above and below the lateral line, and the number of rows of scales around the tail. "Summing these counts, you can use the resulting index to categorize the fish to a subspecies group," Lutz-Carrillo says. However, you can't be 100 percent positive using this index. One reason is a large number of fish in Texas reservoirs are hybrids of the two subspecies, and scale counts for hybrids commonly fall somewhere between the counts for Floridas and northerns.

If counting tiny, translucent scales isn't your cup of tea, you're not alone. Given the complications, Lutz-Carrillo uses DNA analysis to determine the genetic makeup of fish. All three types of largemouths Texas anglers encounter prefer the same general kind of habitat and will attack the same kinds of baits. While it might be interesting for anglers to know if a fish is a northern, Florida or hybrid of the two, the bottom line is: knowing the combination of chromosomes in a fish's cells isn't nearly as important to anglers as the adrenaline rush hooking a trophy bass brings.

Thanks to TPWD's hatchery and stocking programs, the chances of catching a lunker bass are perhaps better in Texas than anywhere else in the world. Only California and Georgia boast state record largemouths bigger than the 18.18-pound Texas record.

For many anglers, knowing how to distinguish among largemouth, smallmouth and Guadalupe bass is of more interest than whether a largemouth is a Florida or a northern. Fortunately, it's also fairly easy. You can download a printable, illustrated brochure at <www.tpwd.state.tx.us/publications/pwd pubs/bkbass_diagrams.phtml>. **







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Life Jackets

New technologies are making flotation devices more comfortable and convenient.

Safety on the water starts with selecting the correct personal flotation device (PFD). Like seatbelts and airbags in a car, you never need them until an emergency occurs. Knowing how to swim is sometimes not enough to save your life. Circumstances like a bad fall from a fast-moving boat can cause a person to be knocked unconscious or injured and therefore unable to remain afloat. The only practical answer is a good PFD that will keep your head above water and be clearly visible to rescuers.

Types of PFDs

Flotation devices take two forms — those that are inherently buoyant and those that must be inflated to function. These are categorized by types I through V with the most popular styles — II or III — typically worn by recreational boaters. The general rule: The lower the type number of the PFD, the

better the performance.

Type I is an offshore life jacket designed for maximum buoyancy and best suited for surviving rough oceanic conditions and extended periods in the water. The bulkiness of this style restricts some movements and can become uncomfortable when worn aboard ship in warm climates. Typical of this type is the Kent Commercial Life Vest. It is lightweight, durable and highly visible in international orange color with large reflective patches. This vest meets or exceeds U.S. Coast Guard standards for persons over 90 pounds in weight. (\$39.99, Adult Life Jacket, Kent Sporting Goods, 419-929-702, www.kentwatersports.com)

Type II vests are intended as inshore, bay and freshwater safety devices that offer unrestricted movement with minimum bulk. One of the newest, most comfortable and reliable of these is the Mustang Survival Auto Hydrostatic Airforce. This deluxe inflatable has a hammer activator that needs only to be submerged 4 inches for hydrostatic pressure to open a valve

releasing a firing mechanism that automatically inflates the PFD. In addition, there are manual overrides by simply pulling a tab on the cartridge activation cord or blowing into the hand-held mouth tube. It will not inflate prematurely due to rain, humidity or water splash. (\$281.55, Airforce Auto Hydrostatic Vest, Model # MD3183, Mustang Survival, 800-526-0532, www.mustangsurvival.com)

Type III flotation aids are for use on calm and open waters where rescue will more likely occur quickly. It is the responsibility of the wearer to maneuver and remain in an upright position by tilting the head back. It is the most common and comfortable type used for recreational boating and fishing. A good design is the Body Glove Torque Vest that can take high impacts from water ski or wakeboard falls. This stylish four-belted unit comes in a wide range of sizes and color combinations. (\$49.99, Torque Vest, Body Glove, 310-374-3441, www.bodyglove.com)

The **Type IV** is a throwable device, such as a floating cushion or life preserver ring, that is tossed to the person being rescued. In addition to the standard PFDs, these are required on board vessels 16 feet or longer (exclud-

ing kayaks and canoes).

The **Type V** special-use jacket, vest or belt pouch is intended for quiet water activities. These are comfortable but somewhat less safe in a major emergency. Most models must be inflated manually by mouth or pull-tab CO2 cartridge, so if you're knocked unconscious, you're out of luck. One of the best we tested is the **Stearns Inflata-Belt Max**, a small waist pouch that inflates into 32 pounds of buoyancy. (\$95.49, Inflata-Belt Max, Stearns, 800-333-1179, www.stearnsinc.com)

Most important is to select a style of PFD that best suits your size, planned activities and the water conditions you expect to encounter. Read the label inside each unit to determine the proper type and weight range you



From top: Kent Commercial Life Vest (Type I); Mustang Survival Auto Hydrostatic Airforce Vest (Type II); Body Glove Torque Vest (Type III); Stearns Inflata-Belt Max (Type V).

should select for each individual.

When boating on public waters, Texas law requires a U.S. Coast Guard approved PFD be worn or readily available to every person aboard. Children under age 13 must wear a PFD at all times when underway in power crafts. Remember: "The best PFD is the one you wear."

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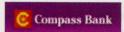




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Days in the Field / By Tom Harvey DESTINATION: CASH

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Boom Town

Prairie chickens and other attractions are luring more travelers to Texas' northern frontier.

Hurtling across the tabletop plains of the Texas Panhandle at interstate highway velocity, the typical traveler might conclude that this region contains a lot of flat nothing. The typical traveler would be wrong. Closer inspection reveals an abundance of wildlife, scenery and history on the High Plains.

Head northeast from Amarillo on Highway 60 to the Canadian River and you'll find a land of hills, valleys and trees and, most importantly, water. Streams and ponds off the Canadian and Washita Rivers create green corridors. Ground-water feeds wells and prairie ecosystems.

I have come to see the lesser prairie-chicken do its famous spring mating display. That may sound funny, but seeing these birds strut and "boom" in dawn's gray light on some of the continent's last native prairie is a rare treat.

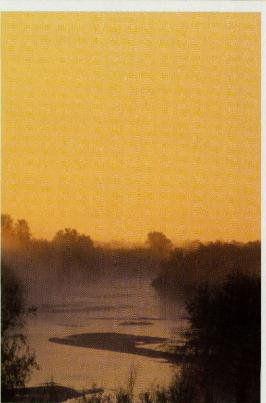
At 6:15 a.m., we arrive at Jim Bill Anderson's ranch east of Canadian. The vehicles bump gently along the dirt road. About 1,000 yards from the bird blind, we kill the lights and engines and get out and walk. The stars burn in the heavens, still no trace of dawn.

Dick Wilberforce, an expert birder and guide, is leading Travis Audubon's Jeff Mundy, BirdLife International's











Top: Lesser prairie-chickens engage in an energetic mating "dance" that draws birding entrusiasts from around the world. Bottom: The Canadian River, shrouded in fog and the Canadian River wagon bridge.

Gerard Bertram of Boston and two chaps from England, all of them fit to bust with stifled excitement about seeing the lesser prairie-chicken.

Wilberforce is gentle and friendly, but he's serious about not disturbing the lek, the patch of prairie where the birds gather for the big mating dance.

We slip into the blind, a 12-by-8-foot plywood box. There's a row of chairs along window holes covered with flaps of fabric that you lift up to peep out. We wait, whispering, in the dark. The impenetrable blackness inside the blind slowly turns to gray. Dawn is coming.

The flock arrives in a flutter of wings, followed by the

unmistakable cooing, burbling call of male prairie chickens. We gingerly lift the window flaps and peer out.

Like a curtain rising, the light grows and we start to see the shapes of chickens hopping about. They're about a foot long from beak to tail feather tip.

The males face off, sitting inches apart, and puff out their distinctive cheek pouches, which bulge red-orange when full. After a few seconds, one or both will flap into the air. Others motor around like toddlers on a rampage, drumming their feet rapidly on the ground. This ritual is the prairie chickens' famed "booming," on which Plains Indian ceremonial dances were fashioned.

As the sun comes up, light bathes the rolling prairie, and the viewing just gets better and better. These birders have the latest, greatest spotting scopes, but you don't need gear to see here.

Immersed in their mating display and clearly accustomed to the blind, the prairie chickens come within 10 feet of us. One bird flutters up on top of the blind. We can hear it scuffling around up there and calling.

The birders are blown away. They'd just been to Colorado to see the Gunnison sage-grouse, but there the birds were hundreds of yards away.

"The lesser prairie-chicken is a magic bird, incredibly rare," says Alan Martin of the Royal Society for the Protection of Birds, Britain's largest conservation group, with more than a million members. "This is a special place where you can come and view them in close proximity. Texas is becoming an extremely famous birding site for international visitors. But most tend to go south to the Gulf Coast, and they're missing out on wildlife spectacles such as this."

While the prairie chickens' mating ritual is the most spectacular wildlife viewing opportunity in the area, it's not the only one. The Panhandle-Plains Wildlife Trail map showcases places to see burrowing owls, black-tailed prairie dogs and other natural wonders. The complementary Texas Plains Trail map features sites of historical significance.

In 1874-75, the U.S. Army subdued the Southern Plains tribes in the Red River Wars. The natives lost their homelands and were moved to Oklahoma reservations. The wild bison were nearly extirpated. The vast plains were opened to railroads, ranching, farming and settlement. This story is told in myriad ways in small town museums throughout the eastern Panhandle, each offering a unique piece of the puzzle.

Both tourism trails were recently completed in partnership with hundreds of towns, ranchers and other local partners — people like Janet Parnell, a fourth generation rancher who helped create the plains trail and supports the River Valley Pioneer Museum in Canadian.

"My great grandfather came to Mobeetie [35 miles south of Canadian] in 1884 as the first Presbyterian minister in the Texas Panhandle," Parnell says. "He died in 1886 from pneumonia he got while fording a swollen creek. My great-grandmother sent her oldest son out to find land with wood and water. He found a section on the Washita River in the southern part of Hemphill County, where they lived in a little dugout until they could get lumber to build their house. It's been said my great-grandmother was the first woman engaged in agriculture in the Panhandle."

In 1886, the railroad came through and created Canadian, a crew-change terminal on the Santa Fe line. The town is named for the Canadian River, which has nothing to do with that big cold country up north, but gets its name from the Spanish word cañada, which I was told means "box canyon."

Tourism is starting to bustle in Canadian, with plenty to

do and see, and places to eat and stay. But it wasn't always that way.

"This town was literally just about to blow off the map and die," says Mundy, who's been leading birding groups in the Canadian area for eight years. "Like so many farm and ranch communities around the state, it was losing its economic base. But a handful of citizens decided they would not let their town go down without a fight. They looked carefully and asked, 'What can we do that will generate a livelihood for us and at the same time maintain the land in a natural state, the way we love it?' Instead of ending up with a factory or railyard, they took a risk and turned to nature tourism."

The result was the Texas Prairie Rivers Region, a 15-county tourism venture where private landowners allow public access to their properties. Since 2001, the organization has funneled \$5 million in outside grant funding to private land conservation.

Canadian also used grants to renovate 16 historic buildings, reviving the town's "Nineteen Teens" era look and feel. Down came overhead electric lines and 1950s light poles. In went red brick streets, 10-foot-wide sidewalks and ramps for wheelchairs and strollers.

On the town's western edge is the restored Canadian River Wagon Bridge, a wood trestle bridge offering excellent birding along the scenic, tree-lined river. A 12-mile trail allows hikers and bikers to take the scenic route west from the bridge to Gene Howe Wildlife Management Area, Lake Marvin and the Black Kettle National Grasslands. A series of sidewalks and trails also connects the bridge with downtown.

The nearby town of Lipscomb is home to another showy bird: the wild turkey. A semi-urban flock sometimes -gathers on the courthouse lawn, fostering a local T-shirt that says "Population: People 42, Turkeys 157."

Luke Lewis is a former National Wild Turkey Federation biologist who has also served as the conservation director for the Texas Prairie Rivers Region. Today he's leading local landowner Gary Jahnel on his first turkey hunt.

He builds a blind from downed tree limbs and we hunker down to wait, trying to stay motionless. A coyote trots by, sniffing the air, but no turkeys.

Finally, at dusk, a long line of about 40 turkeys led by old long-bearded gobblers struts past us, headed for trees by the creek. The flock never gets close enough for Gary to take a shot. The turkeys ascend to their roosts and then call it a night.

As we do the same, I look forward to sharing my experiences and encouraging more people to enjoy the amazing sights and sounds to be found in the northern tip of Texas. **

DETAILS.

Texas Prairie Rivers Region, (806) 323-5397, <www.texasprairierivers.com> Texas Plains Trail, (806) 273-0920, <www.texasplainstrail.com> Panhandle Plains Wildlife Trail, (512) 389-4505, <www.tpwd.state.tx.us/wildlifetrails>

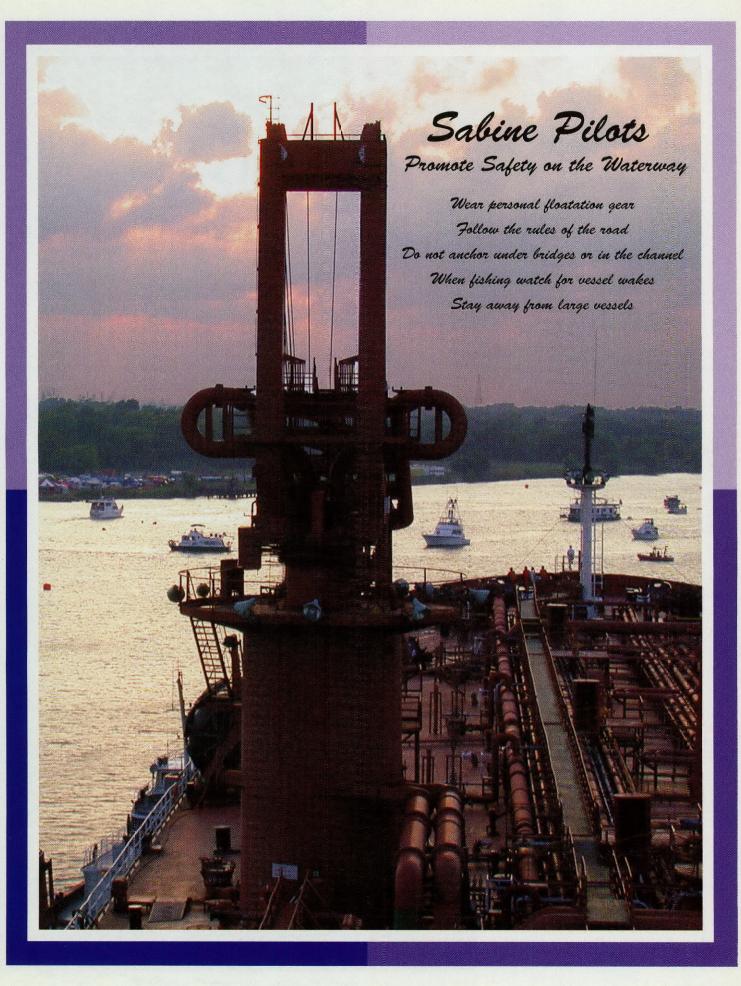


PHOTO TOUR of TEXAS

WYMAN MEINZER
SHARES SOME OF HIS
FAVORITE IMAGES FROM
THE PAST TWO DECADES.

AS WE APPROACHED Santa Elena Canyon, my friend and pilot Knut Mjolhus struggled to hold the helicopter steady in unpredictable desert winds. With the door removed and cameras secured. I doublechecked my seat belt and watched the desert landscape race past our craft a thousand feet below. Within minutes after our arrival, clouds from a dving autumn thunderstorm broke on the western horizon, allowing some of the richest light imaginable to play dramatically on the meandering Rio Grande and rugged landscape that defines the international boundary between Texas and Mexico.

Whether flying in a helicopter over Big Bend, driving across the high plains in my Chevy truck, or hiking across rugged canyonlands, I have been fortunate enough to explore the state's visual wonders from just about every possible perspective for more than two decades. I'm always on the lookout for unusual phenomena that most people never have the chance to see. Through this selection of images, I invite you to join me on a fascinating journey through the Lone Star State.





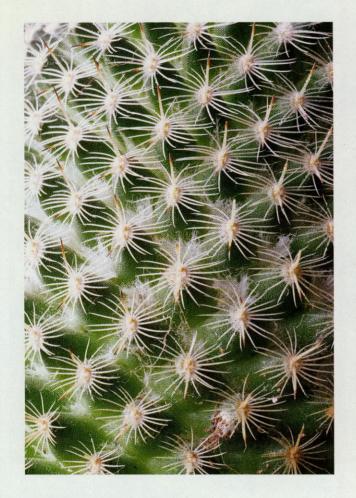
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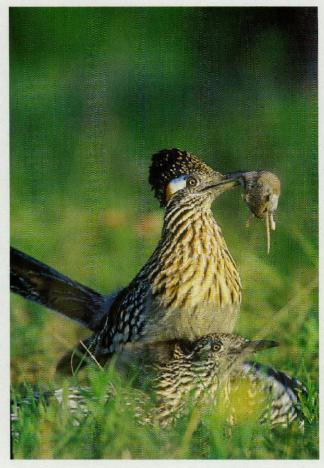


Opposite page, clockwise from top left: Macro shot of cactus spines in West Texas; mating ritual of the greater roadrunner, which for this male included the gift of a mouse to the female; macro shot of scarlet bouvardia in the Davis Mountains: swallowtail butterfly on a yucca bloom.



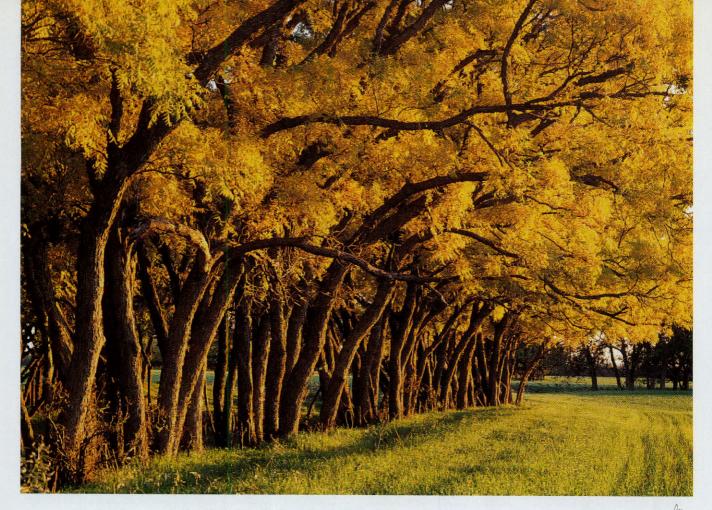
West Texas thunderstorm over Shafter Cemetery. Shafter is an old silver-mining town located at the east end of the Chinati Mountains, 18 miles north of Presidio. The town and the mines are now abandoned.







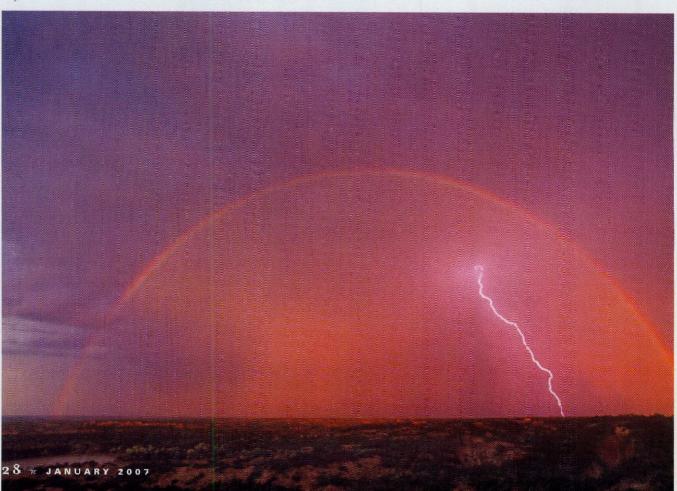




Soapberry trees show off their autumn palette of colors in the Rolling Plains.



Danger and beauty collide in this photograph taken over the North Texas badlands

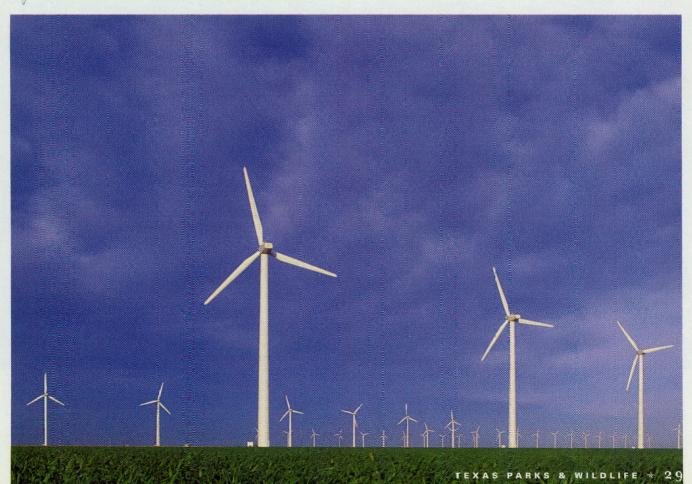




An aerial photo of the Salt Fork of the Brazos River, shrouded in fog.

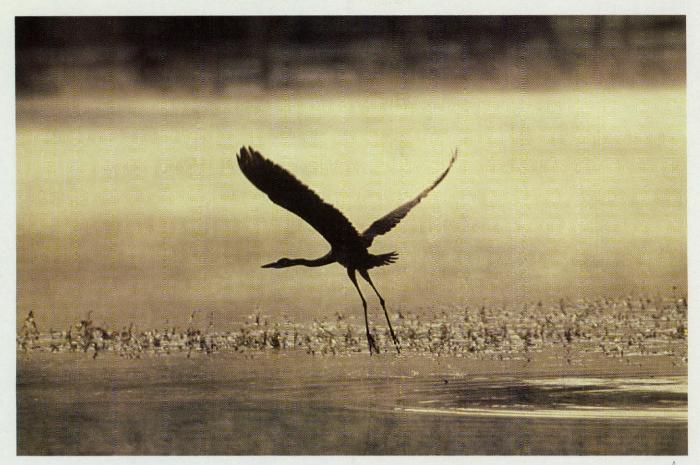


Modern windmills stand sentinel over the Panhandle.





A thick patch of coreopsis finds a place to thrive between granite uplifts in the Hill Country.



A heron takes wing in the early morning fog in East Texas.



An aerial photo of coastal marshland near Matagorda Island.



As Meinzer crawled closer to take a photo of this owl sitting in a prairie dog hole, the owl sank deeper until only his eyes and the top of his head was showing.





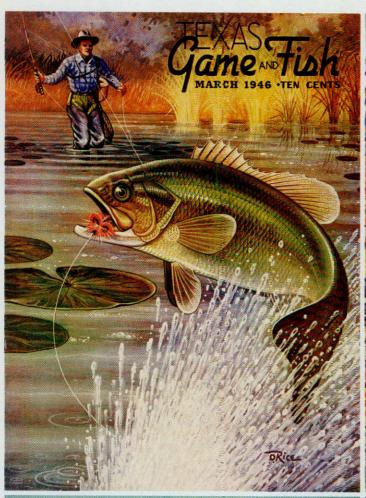




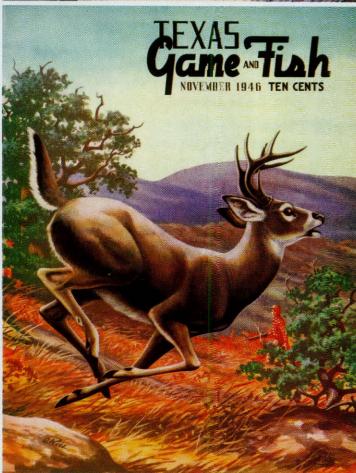
Clockwise from top left: A Mexican ground squirrel feasis on a cicada in the Rolling Plains; a greater roadrunner faces off with a prairie rattlesnake in North Texas; Rio Grande turkey boss gobblers go head-to-head in late winter in North Texas; whitetail bucks clash in the Rolling Plains.

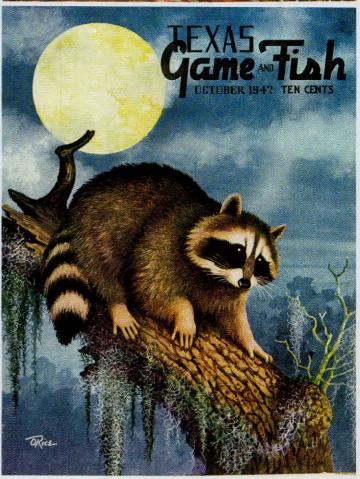
Two large male coyotes fight for dominance on a winter morning in North Texas.



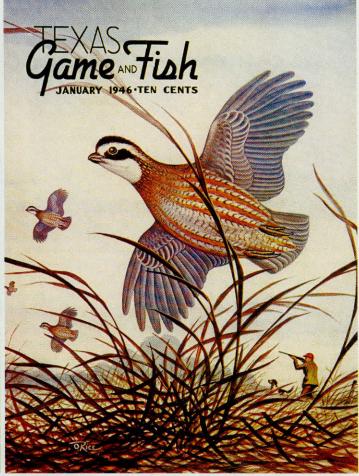




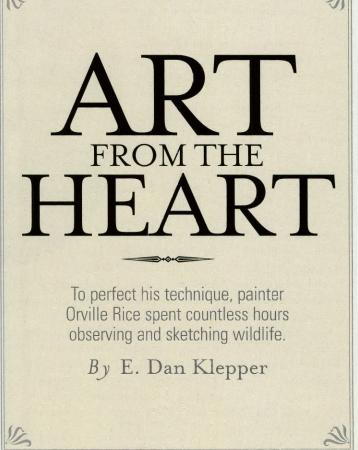












One of the most charming covers to grace this magazine

in its 64-year history features a giant frog. The sleepy-eyed, mammoth amphibian rests on a broken stump overlooking the waters of an emerald stream. A bright red cork drifts in the current. It is attached to the line of a fishing pole that rests in the hands of a young man reclining against a tree along the opposite bank. On closer inspection the young man is wearing a pair of shorts made from jeans cut above the knee and rolled up into cuffs (rural fashion in the summer of 1947) and the fishing pole is actually a crooked branch. The young man is also shirtless, bare-footed and, to fulfill the final requirement for spending a lazy afternoon freshwater fishing in Texas, he has nodded off to sleep.

The cover (facing page, top right) was painted for the May 1947 issue, a time when the magazine — then called Texas Game and Fish — cost readers a mere 10 cents. The bullfrog's enormous size, covering almost a quarter of the page, was an illusion created by the painting's perspective. In reality it is a common species, Rana catesbeiana, typically around four to six inches in length and found throughout Texas' waterways. But the young man in the painting is a rare breed — the image is a self-portrait of artist Orville Rice.

It was the only cover Rice actually appeared in, but it was just one of many that he created for the magazine during the 1940s and '50s. For most Texans who spent summers watching frogs, fishing in creeks and napping under a shade tree, Rice's covers

expressed a certain dual authenticity. On the one hand, his wildlife paintings were true to nature despite the lack of detail in the simple, illustrative forms that defined his signature style. More importantly, his strokes were driven by an emotional honesty that gave the work a deeper authenticity, one that spoke of Rice's devotion for getting to know his subject matter up-close and personal.

Rice, a self-taught artist and naturalist, made accuracy a priority in his work. Like many of the best American wildlife artists, Rice was a keen observer, taking notes and sketching details while watching nature's stories unfold.

"Bald eagle made appr. 8 passes at 2 coots until one of the latter, finally tired, was captured," Rice wrote during the winter of 1951 in one of the many journals he kept. The notation appeared between sketches of an eagle hunting an unfortunate coot. "The eagle then flew about 50 yards with the coot dangling, then alighted on the ice and began to feed. ... At the time there were appr. 2,500 ducks — mallards, mainly — which the eagle ignored completely to pursue the coots."

Rice carefully recorded the physical characteristics of many creatures that struck his interest in order to artistically render their shape, movement and color with realism. "The head is cream yellow," he wrote next to a sketch of a caterpillar eating a leaf. "The bobbing walk sends quivers throu' his light cream body, which has a black strype along the back. The tail end is muddy cream."

"Orville was always concerned with the detail of every animal or bird that he painted," Rice's son-in-law, Ray Chancellor, recalled. "He would do many sketches to get the live feeling that he wanted. Much of the detail was from real specimens. It was not unusual at all for him to come to a screeching stop on the highway to collect some unusual specimen that he would then sketch. These were his 'DORs'—Dead On Road specimens."

Rice, born May 21, 1919, in Yoakum, chose to study architecture rather than art at the University of Texas, and later spent 33 years as an architect in Topeka, Kansas. But his foremost passion was painting wildlife. Throughout his life,

Rice created images of nature, providing covers and illustrations for many publications (including this magazine), a series of books, and the

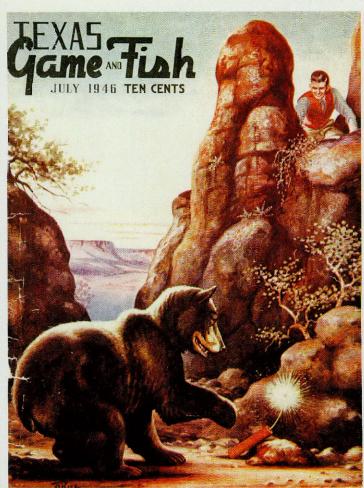
Ornithology. An avid birdwatcher, Rice was considered one of the top 10 bird artists in the nation by the Audubon Society and could count among his friends and fans the premier ornithologist and bird artist George M. Sutton. Rice and Sutton carried on a lengthy correspondence over many years, exchanging bird lists, chronicling their latest bird outings, offering critiques and praise for each other's artwork, and passing along amusing anecdotes about the birding art world.

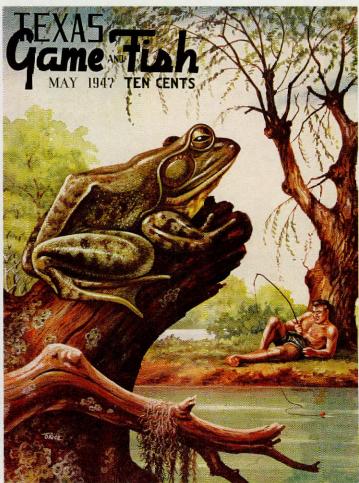
journal of the Cornell Laboratory of

"Let me say, in all sincerity, that it's been a long time since I've derived such deep satisfaction as I have from these line drawings in your 'Volume II'," Sutton wrote on Christmas Eve of 1957, in a letter to Rice regarding some of the illustra-

tor's artwork. "I have just been asked to review a book whose line drawings are hopelessly poor, partly because the artist seems not to realize that the bird-artist is not to give a bird shape, merely, but to cover it with feathers. He has used transverse lines thinking they would create three dimensional quality, I suppose, but by God, he has put strange bathing-suits on them instead. They are little short of monstrosities. I'll not dare say this in my review, I suppose!"

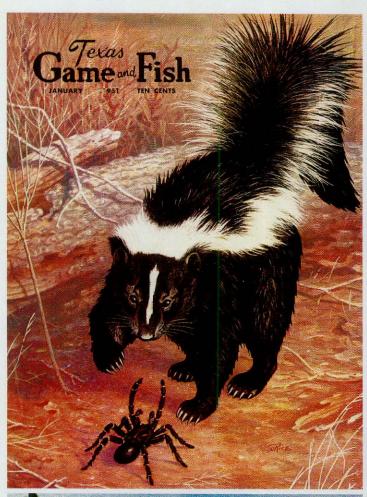
Rice also corresponded with world-renowned naturalist and bird artist Roger Tory Peterson, occasionally submitting draw-

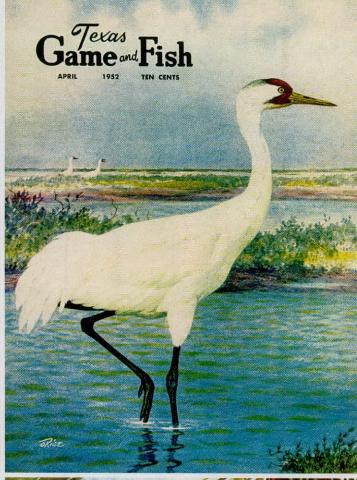


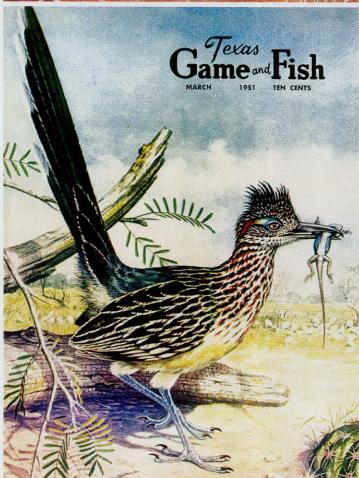


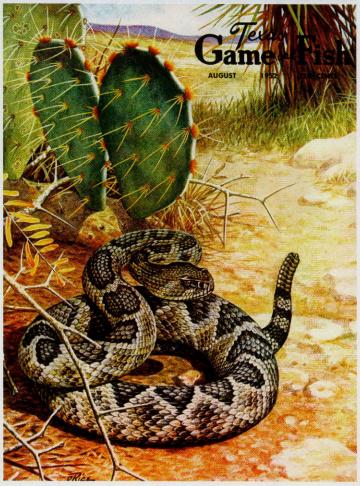












ings and paintings to him for comments and criticism. He also enjoyed discussing the discrepancies that often arise in the birding community.

"I have been enjoying my copy of A Field Guide to the Birds of Texas," Rice wrote in one of his letters to Peterson, "presented to me recently by a friend in Austin, Texas. The book is quite a handsome addition to the Field Guide Series and I believe you have handled the information regarding distribution within Texas very well. The questions raised regarding several species should alert Texas birders to provide better answers in the near future."

Rice spent as much time as his schedule permitted in the field. He would tirelessly follow a particular species around its habitat, observing its behavior and often scrutinizing its nest. His accounts of birding in various parts of Texas, Kansas, Oklahoma and Arizona are at once informative, amusing and definitive in their illustration of the peculiar world of birding.

"My record of the yellow-throated warbler stands on the usual shaky ground encountered when corroborating sightings, photographs or specimens are lacking," Rice wrote in a letter to Sutton in the fall of 1970. "I recognize this weakness (as well as the enthusiastic bird watcher's tendency to make exciting birds out of dead leaves, broken branches and half-submerged stumps) and, therefore, generally yield to the wise classification 'tentative' or 'hypothetical.'

"However, in this case, I followed the bird's movements through the trees with my binoculars for several minutes and was able on several occasions to see all of the definitive markings quite clearly. I can say without hesitation that no other bird fits the observed pattern. The distinctive white supercilliary and post auricular markings were particularly well defined, being noticeable even when other features were obscured by shadows or foliage.

"Unfortunately, I had dropped behind the remainder of the party and by the time they responded to my call, we could find nothing more exciting than 2 or 3 Audubon warblers. Though they were too polite to say so, I had the uneasy feeling that some students concluded that I had misidentified an Audubon! In any event, I'll leave the final judgment to you without prejudice."

In addition to architect, painter and naturalist, Rice proved to be a deft poet, composing verse about a vast array of subject matter, including his bird outings.

"It's an old hunter's adage,
I'm fairly sure —
That a bird in hand is
worth two in the bush;
And unquestioned the concept
would long endure
Unless you've heard the song
of a Hermit thrush!"

"I don't remember ever being more surprised (and pleased)," Sutton wrote in response to receiving a few of Rice's poetic efforts in January of 1968. "Is the writing actually your own? I just can't believe, yet there's no earthly reason why you shouldn't be talented in this way as you are in other ways. ... Are you hiding some light under a bushel, my dear Orville? If you write poetry the least

bit seriously, let me see some of it. What you've sent is good. I'll bet you have some other stuff that should be read by what Eleanor Roosevelt called 'the mosses.' She meant 'the masses.'"

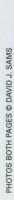
Rice retired early from architecture in 1981 in order to devote all his time to birding and painting. His paintings were exhibited in art museums and galleries across the country and many of his works now reside in private and public collections. He participated in exhibitions sponsored by the National Audubon Society, the Wilson Ornithological Society and the American Ornithologists' Union, and a number of his bird paintings are included in the collection of the Texas Memorial Museum. He was also a frequent lecturer on ornithology and conservation.

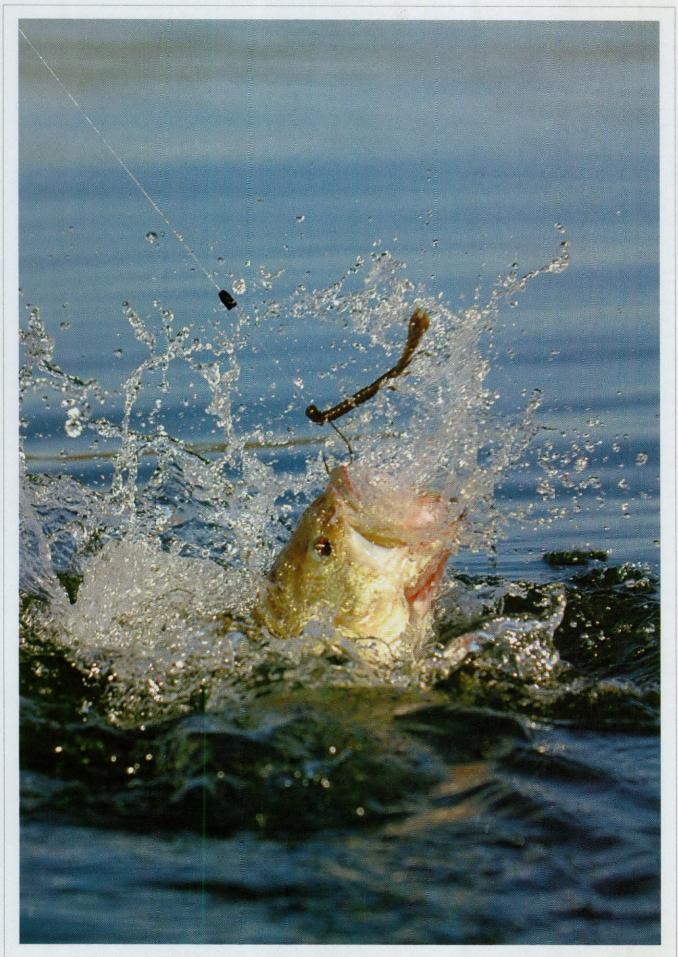
In an introduction for a lecture about ornithology to a gathering of stamp collectors, Rice scored out a poem that he hoped would help break the ice:

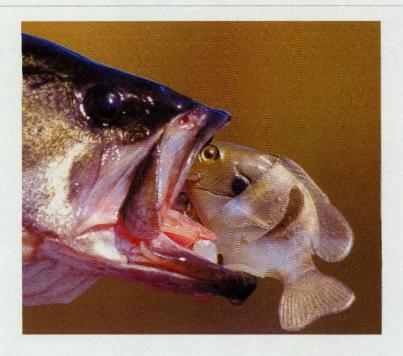
"I haven't lately followed philately Except to glue a stamp or two To greeting cards mailed out belatedly. And so I wondered, reflecting logically How to amuse and not abuse You philatelists while speaking ornithologically. After thinking awhile both lightly and weightily Here's what we'll do: We'll merge the two, And have not just birds and stamps But ornithophilately!"

Rice's creative endeavors expressed the charm and whimsy found in nature whether he was painting giant frogs or inventing puns. But more importantly, Rice, who died in 1986, had an ability to impart through his work the joys and beauty of the natural world in straightforward and engaging terms. He understood the lure and wonder inherent in nature and could express its appeal to the novice and the skeptic with a broad clean stroke of the brush, a conservation of detail, and an enthusiast's attention to nature's magic moments. His work created a link between the wilderness we often take for granted and the artifice of our workaday world, providing a way to connect the importance of nature around us to our own internal lives.

Rice's enthusiasm for outdoor pursuits and dedication to conservation efforts suggest a life led with gusto and resolve. It is a legacy that continues to serve and enlighten Texans half a century later. Perhaps most evidently in his self-portrait as a young man fishing on a summer afternoon, Rice's art suggests a simple truth and a steward's charge for today's Texan—that the pleasure to be found in the state's natural world should not only be a joy inspired by the nostalgia of memory but one that endures for future generations. **







BASS BUFFET

Knowing what, when and where bass eat can be the key to angling success.

BY LARRY D. HODGE

The simple answer to the question of what largemouth bass eat is: "Anything they can get into their mouths."

While there's a lot of truth in that statement, it doesn't offer much help to the angler trying to select a lure, fishing location and presentation that will catch fish.

That's where I come in. I'm from the government, and I'm here to help.

Bass Aren't Really Bass

Largemouth bass aren't really members of the bass family, which includes freshwater fishes like white bass and yellow bass as well as striped bass, a species that can be found in both fresh- and saltwater. Largemouth bass are actually sunfish, like their cousins the bluegill, redear, longear and warmouth, but they don't look like their relatives.

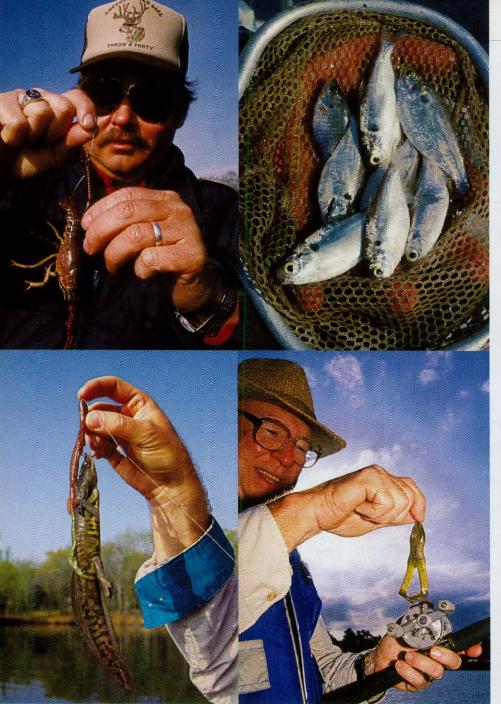
Largemouths have much more streamlined, elongated bodies than other sunfishes and a mouth that extends beyond the rear edge of the eye, hence the name. Their elongated bodies and overall color gave rise to one of their common names, green trout.

Largemenths do share one characteristic with other sunfishes: They are aggressive predators that will strike almost any kind of bait, live or artificial. The key to catching them is putting something in front of them that resembles food in terms of appearance, smell or motion.

Finicky Feeders They're Not

Freshly hatched bass fry live off their egg sacs for the first few days of life. As soon as they develop mouth parts, they begin feeding on microscopic animals, and when they get to be about an inch and a half long, their diet switches to what will remain their primary food for the rest of their lives — other fish, including their own schoolmates. Bass grow up in a tough neighborhood. If they don't eat their brothers and sisters, their brothers and sisters will eat them.

Fortunately, there's usually plenty of other food available for growing bass — otherwise, most lakes would contain only a few very large bass that had eaten all the oth-



ers. Fingerling bass will feed on insects, crayfish and other small fish, primarily various species of sunfish and shad. As bass grow larger, so do their foods of choice, though variety is always the common thread.

"Bass are opportunistic feeders — if they can chase it down and get it into their mouth, they will try to eat it," says Craig Bonds, a Texas Parks and Wildlife Department fisheries biologist from San Angelo. Bonds' master's thesis was on the food habits of black basses (among other sport fishes). In his research, he used plastic tubes to remove the stomach contents of bass for analysis.

Bonds found that adult bass will ear whatever they can catch and swallow, including other fish, crayfish, frogs, salamanders, snakes, mice, turtles and the occasional duckling. "Predators are limited to what size food they

Adult bass will eat whatever they can catch and swallow, including (clockwise from too left) crayfish, threadfin shad, a soft plastic frog lure and a water dog.

can consume by how wide they can open their mouth — their gape size," Bonds says. "A predator fish like a bass has a big stomach, and the esophagus leads directly into the stomach, so it's hard to say where the esophagus stops and the stomach begins. I've seen bass with the tail of a big sunfish or shad sticking out of the esophagus into the mouth. The fish had captured the absolute largest prey it could, given its gape limitation. One 16-inch bass I collected had eaten a 9.5-inch shad."

A popular theory holds that bass will eat the biggest prey they can find in order to get the maximum return on the amount of energy they expend capturing the food. (I'm not sure bass have the ability to solve mathematical equations.) This leads to the often-repeated adage "To catch a big fish, use a big bait." On the other hand, availability also plays a role. "Since bass are opportunistic feeders, if there is something available that is so abundant they can eat a lot of it without expending much energy, they will," Bonds says. I witnessed this in action while fishing on Lake Amistad. Hordes of 12-inch bass were feeding on tiny silversides at the surface, and my fishing partner and I caught and released more than 50 fish in half an hour. Anything we threw into the mass of fish got bitten almost as soon as it hit the water.

A Food Pyramid for Bass

If you think of the menu for largemouth bass as a pyramid, the broad base will be composed of bluegills and other sunfish. Next up the ladder will be threadfin shad and gizzard shad, and at the top will be crayfish. (Naturally, this assumes that these species are available in a

particular body of water.)

"Bluegills are an extremely important prey base for bass," Bonds says. "In a pond, you can have a quality bass fishery with no other forage. Bluegill females can spawn multiple times in one season, and this provides a continual supply of small sunfish for small bass. Plus, bluegills can grow to IO to I2 inches long, providing prey for a wide range of sizes of bass."

During the spring bass spawning season, bluegills are nest predators and eat largemouth fry, so both males and females regard bluegills as the enemy during that time. "If you are targeting bass up in the shallows in spring, a bluegill pattern might work," Bonds advises. "However, remember that bedded bass strike lures as a reaction to the invasion of their territory more than to feed. Because you are dealing with opportunists, so much of bass fishing is not matching the prey base but using the lure that fishes those conditions efficiently." Many anglers fishing for bedded bass have success with a soft plastic lizard or a live water dog (a particularly ugly kind of salamander sometimes called a mud puppy).

Threadfin and gizzard shad are both significant bass foods, but with an important difference. "Threadfin shad grow to only 4 to 5 inches long, so they provide better prey for intermediate size bass," Bonds says. "Many times bass and shad spawn at roughly the same time, and gizzard shad sometimes grow as quickly or more quickly than young bass, so many times young bass cannot feed on gizzard shad during their first year. But when bass reach trophy size, they can feed on gizzard shad. Trophy size fish will usually eat larger sunfish and larger gizzard shad."

An exception to that rule may come in winter, when water temperatures fall and threadfin shad fall victim to cold stress. At that point threadfin shad become lethargic, easy pickings, and bass gorge on them. A bonus is that shad have a high energy content, so bass get a lot of benefit for the effort expended. This becomes doubly important in winter, when cold water slows fishes' digestive processes and their metabolism in general. They move only when they must. That's why bass fishing can be slow during winter. Try using a shad imitation and fish it very, very slowly in deep water.

Bonds found a significant difference in food preferences between largemouth bass and smallmouth bass. "A large component — about 75 percent — of the diet of smallmouth and spotted bass was crayfish," Bonds reveals. "The largemouths' diet in my study consisted of about 20 percent crayfish on an annual basis. However, the study lake did not have much vegetation. Lakes with hydrilla have lots of crayfish, and fish go in there and feed on them."

Whether bass are feeding on crayfish or bluegills hiding in hydrilla, dropshotting plastic worms into hydrilla in 16 to 18 feet of water in spring and early summer can yield lots of bites. Most of the fish will be small, but eight-pounders hang out in hydrilla, too. In late summer and early fall, heavy, ounce-and-a-quarter jigs and crayfish-imitating soft plastics dropped through hydrilla in 20 to 25 feet of water and bounced on the bottom won't catch as many fish, but the fish they do catch will be big. Use 80-pound braided line and a medium-heavy or heavy rod to pull fish out of the grass.

So Many Lures, So Little Time

The popularity of bluegills with hungry bass can affect what size lure will work best at a particular time of year. "In summer and early fall, there will be an abundance of small prey, so downsize your lures," Bonds says. "In spring there may be only intermediate and large forage available, so you may need to upsize your lures."

No matter what the major prey species, anglers should take a number of factors into account. Bonds cites the recent craze for horny toad lures. Horny toad lures imitate small frogs, which Bonds found to be only a minute portion of a largemouth bass's diet. "However, if you fish a horny toad lure under the right conditions, on top of matted vegetation, you can catch large numbers of bass," Bonds says. (Catch the bass in the right mood, and a marshmallow on a hook might work as well.)

Also pay attention to weather. "Many times wind is a boon to anglers," Bonds reveals. "A good breeze that ripples clear water positions the fish shallow, and they feed better. Burn a spinnerbait under the surface or use a noisy topwater like a buzzbait. If the water's calm and the

No matter what the time of year or the weather, remember that a bass is ruled by its stomach.

sun's shining, you have to finesse the fish and go a little deeper, perhaps dropshotting a small soft plastic. If the water is turbid, the best strategy is to target isolated, shallow cover and use a flashy or noisy bait, like a crankbait with a wide wobble or a spinner with big blades, so fish can locate the lure by sight and sound."

No matter what the time of year or the weather, remember that a bass is ruled by its stomach. Someone once observed that you can be sure of one thing about a largemouth bass: No matter where it is, that's

exactly where it wants to be. And that's where it can get the most to eat with the least amount of effort.

"Bass will be where they are because that's where the food is," Bonds says. "For example, in fall threadfin shad typically migrate to the backs of creeks. I don't know why, but I do know the bass will follow them, and fall is a key time to fish the backs of the creeks. In summer, a lot of shad go to main lake habitat, so bass tend to be more prevalent on points and humps and near main creek channels. The shad are roaming in open water, feeding on zooplankton, and bass ambush them when they get close to structure."

And there you have it. Catching bass is as easy as finding what they want to eat and where they want to eat it, and making them an offer they can't refuse at the end of your line.

Sometimes. *



The Electronic Angler

Technology can greatly enhance the fishing experience — but only if you read the manual.

BY LARRY D. HODGE

Ah, fishing. It's such a simple pleasure,

far removed from the clang, clamor and constant communication of the modern world. It's just you, your favorite fishing buddy, the fish and a little bit of paradise.

Really? What planet are you fishing on?

Electronic devices have burrowed into our lives so deeply that we tend to forget how pervasive and helpful — nay, essential — they have become. Let's look at some of the ways electronics might be used in the course of a typical fishing trip.

- · You visit the TPWD Web site to get lake information.
- · You visit another Web site to check on the weather.
- You visit a fishing Web site to get tips on where the fish have been biting and what baits they like.
- You e-mail your fishing partner to set a meeting time and place.
- · You set your digital alarm clock so you won't oversleep.
- Next morning you board your vehicle (with computer-controlled ignition and fuel injection) and head out.
- You navigate to the lake using your on-board navigation system, which uses satellites
 orbiting the earth to pinpoint your position.
- · At the lake, you use a combination GPS/sonar unit to find fishing spots and locate fish.
- When your daughter catches a six-pound bass (which you weigh on your digital scale), she calls a friend on her cell phone to share the good news, takes a picture of the fish with the same device and slips the bass back beneath the waves.
- The weather radio informs you that the dark cloud on the horizon is accompanied by lightning and high winds, so you return to the dock, using your GPS to help you navigate safely.

Let's review. On one ordinary fishing trip, you've used your personal computer; a telephone system operated by computers; a worldwide network of computers linked by phone lines and satellites; a clock controlled by a radio signal from an atomic clock in Fort Collins, Colorado; numerous computer chips in the bowels of your automobile and boat; a network of satellites orbiting the earth II,000 miles in space and transmitting electronic signals continuously; a fish finder that uses electronics to generate, send and interpret sound signals transmitted into the water; a handheld device capable of sending and receiv-

ing audio and video signals wirelessly using a nationwide electronic network; and a receiving unit linked to another nationwide network of radio stations gathering information from radar as well as electronic instruments measuring wind speed and direction, precipitation, barometric pressure and temperature - several trillion dollars worth of electronics in all, in fact. And all this doesn't even take into account the fact that the clothes you wore and the fishing tackle you used were doubtless designed, manufactured, shipped and sold with the aid of what else? - electronics.

All so you can catch a fish you don't even keep. Nor do you give a second thought to miracles of communication undreamed of just a few decades ago.

The days of Hemingway-esque mano-a-mano struggles between

the lake (with the locations of underwater structure marked), the depth of the water, your speed and direction of travel, water temperature at the surface and what's between your boat and the bottom, be it brush, fish or the meeting place of warm and cold layers of water called the thermocline. Jim Behnken points out another use. "Sometimes I get lost on my way to a boat ramp or lake, and I stop, get out of my vehicle, turn on the GPS on the boat and use it to see where I am," he laughs.

Software is available for thousands of lakes and rivers across the nation.

Keeping in Touch. You may not think of your cell phone as an electronic fishing aid, but it can be one of the most valuable tools on your boat. Take along (or program in) numbers you might need if you have boat trouble or need law enforcement.



video displays with underwater camera (the camera is fish-shaped). Note: Download emulator software (Lowrance) to your PC and become an electronics expert in the comfort of your home. Furthermore, many units interface with your PC - so you can plot your course in advance.

an angler with rudimentary equipment and a primal fish no longer exist, save perhaps when kids assault neighborhood creeks and ponds with cane poles, bobbers and cans of backyard worms.

The electronic invasion is not a bad thing. Fishing today is safer, more productive and just as much if not more fun than it's ever been, and electronics are a big part of the reason.

Finding Fish. Tournament angler Jim Behnken of Garden Ridge uses a recent experience on Choke Canyon Reservoir as an example. "I was talking to someone after the tournament about the way fish in Choke Canyon are positioned on tank dams right now," Behnken says. "Electronics make it possible for you to go straight to a particular tank dam or channel bend and fish it. Thirty-pound bags [weight of fish caught] are not that uncommon these days, and a lot of the reason we are seeing so many fish caught is because we are using electronics."

Finding Yourself. "With all the technology that's out there, the one piece I could not do without anymore is my GPS," says pro angler Tom Mann Jr. "I'm a structure fisherman, and being able to put in 20 or 25 waypoints within 3 feet of where I want to fish has been a tremendous help to me. No serious fisherman should fish without it."

Many units combine a fish finder with a GPS (global positioning satellite) unit — and a map plotter. This one electronic marvel can, all at the same time, show you your position on a map of Cell phones can be very helpful when fishing with friends in another boat - when they find fish, real friends will call to let you know. Many guides use cell phones, including those with walkie-talkie capability, for exchanging information confidentially with other guides.

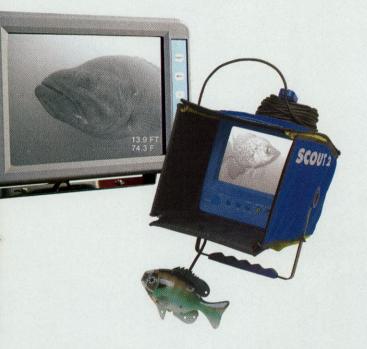
Running for Cover. Not many freshwater anglers use radar (Radio Detection And Ranging), but it's standard equipment for offshore boaters and is available for freshwater use. It's worth considering both as a fishing aid and for safety. "You can overlay the radar on your map and see if someone is already fishing an area. It will also pick up birds working over fish," says marine angler Richard Chapman. "It's especially useful for spotting storms and seeing how far away they are. You can tie it into your radio and GPS, and if you need help, the unit will show the Coast Guard where you are."

Seeing with Sound. Many advances in consumer electronics sprang from military needs. Radar was used during World War II to detect enemy planes. GPS was developed as a military navigation system. Sonar (SOund, NAvigation and Ranging) was invented as a way of detecting icebergs - remember the Titanic? - but quickly found a military use in antisubmarine warfare. Not until the 1950s and the development of transistors (invented in Dallas, thank you very much) was a practical "fish finder" possible.

A sonar unit consists of a transmitter, transducer, receiver and

display. The transmitter produces an electrical impulse, which the transducer converts to a cone-shaped sound wave it sends into the water. The sound wave is reflected by the bottom and by objects in the water — stumps, fish, old roadbeds, whatever — and received by the transducer, which converts it into an electrical signal it sends to the display. This happens about 200,000 times a second in most sonar units. By a process you wouldn't understand even if I could explain it to you, the display converts the signals into a visual depiction of the bottom and whatever is between it and the boat. Even better, the display tells you how deep the water is and at what depth fish are.

Hard objects (like a rocky bottom or a submerged, paved road) have a stronger return echo than soft objects like mud or brush. Therefore, hard objects show up as a wide line on the display's



screen, while soft ones show up as a thin line. The sensitivity of sonar units can be adjusted to show the most information without cluttering up the screen with "noise." Most units have an automatic setting that takes care of this for you.

The Gold in Arches. Displays can be color or black and white. "Color displays are fine, but pixels are everything," Lake Fork guide Roy Greer told me. The more vertical pixels a display screen has, the better it can show detail. Because most fish are thicker in the middle than on the ends, the pixels showing the middle of the fish appear at a higher point on the display, depicting the fish as an arched line. The more lines of vertical pixels a display has, the smaller the fish it can show as an arch. Many units have a zoom feature that enlarges all the echoes on a screen, making it easier to see arches. Some let you choose to have fish displayed as fish shapes rather than arches.

By now you've probably figured out that there's more to using electronic devices than pushing the on button. Fish finders and GPS units come with an important accessory you should not leave home without: the operating manual. Yes, it's a pain to read the instructions and practice using the built-in tutorials, but without them you will have little more than an expensive piece of boat dash décor. "I cannot believe how many people I talk to at tournaments who don't know how to put in a waypoint [a specific location]," says Behnken. "If you will spend a couple of hours

learning how to use your electronics, you will be amazed at how many more and bigger fish you can catch. Everyone could become a better angler by learning how to use their electronics."

Weird Science. Just when you've learned to operate and interpret ordinary fish finders, along comes side-imaging sonar, which uses two sonar beams directed to the sides to produce an almost three-dimensional image of what is on either side of the boat. Because the beams are reflected sideways, like rays of light, the image of an underwater tree looks very similar to the shadow of a tree illuminated by early morning or late evening sunlight. The objects are displayed with almost picture-like quality, although a bit skewed.

Anglers use a variety of sound-producing lures on the theory that fish locate food partly by hearing. The Biosonix fish attractor uses recorded sounds of predator fish feeding on prey, played through an underwater speaker, to attract fish to an area and stimulate them to bite. "I believe there are many times when the bite gets quicker with it than without it," says Bob Holmes, a guide on Richland-Chambers Reservoir.

Interpreting sonar images can be confusing even to experienced anglers. "Looking at a sonar image, you may not be able to tell if a high point is a stump or a brushpile or something else," says Charles Whited of San Marcos. "I use an Aqua-Vu underwater camera to see exactly what's down there. It works best in clear water near the bottom. If there are fish on a brushpile, you can see what they are." Even with its onboard light the camera's range is just a few feet.

I'm a sucker for tiny technology, so a mini fish finder from Humminbird caught my eye. There's a castable sensor you attach to your line and a display for mounting on your rod. It's a Dick Tracy watch for anglers. The display is only 42 pixels tall (compared to 10 times that on many full-size units), so it's difficult to see details, but you can take it anywhere and don't need a boat to use it. And it's just plain cute. Handheld units are available from other companies.

For me, fishing is like expecting a child. I really don't want to know ahead of time whether the baby is a boy or a girl or whether the fish about to bite is a largemouth bass or a hybrid striper. Too much information spoils the surprise and takes away some of the anticipation. But there's also fascination in watching the underwater world scroll across a screen and knowing if everything works as it should, something good could happen any second now. **

For product information, visit the following sites:

Lowrance: www.lowrance.com

Furuno Marine Electronics: www.furuno.com

Raymarine: www.raymarine.com Nature Vision: www.aquavu.com Manta Sonar: www.mantasonar.com

Eagle Electronics: www.eaglesonar.com

Humminbird: www.humminbird.com Biosonix: www.biosonix.com

Garmin: www.garmin.com

MarCum Technologies: www.marcumtech.com

Magellan GPS: www.magellangps.com StrikeMaster: www.strikemaster.com Maptech: www.maptech.com



SENSIBLE PRECAUTIONS SHOULD PROTECT HUNTERS FROM WEST NILE VIRUS AND BIRD FLU.

BY ARTURO LONGORIA

West Nile virus was first introduced into the New York City area in 1999

after migrating across the Atlantic from its normal haunts in Africa, Europe and the Middle East. By 2003 the disease had made it all the way westward to California. The virus's usual route of transmission from birds to humans is through mosquitoes that prey on both. In the case of avian influenza (bird flu), North America is now in a "wait and see" or surveillance mode, with public health officials, epidemiologists and field biologists alert for the possible arrival of a more virulent form of bird flu from Asia.

But just how vulnerable are hunters to these pathogens, and what measures should they take to protect themselves from the illnesses they cause? Do birds afflicted with West Nile virus (WNV) show any overt signs of infection? Not according to Dr. Eric Fonken, a research veterinarian and veterinary epidemiologist in the Zoonosis Control Branch of the Texas Department of State Health Services.

"There is no way to tell by looking at a bird if it has WNV or most any other infectious disease," says Fonken, who also stresses that common bacterial illnesses like salmonella are more prevalent in bird feces and pose greater risks to hunters than WNV. "Still, most game birds will show no symptoms at all, but others may exhibit weakness, be unable to fly, or be in poor physical condition. Many WNV-infected birds are simply found dead. Hunters should avoid handling sick or dead birds," Fonken says.

The experts are all in agreement that a hunter's most likely scenario for contracting WNV is from the bite of an infected mosquito. Fonken notes that to date the U.S. Centers for Disease Control has not issued any reports of anyone becoming infected with WNV from handling an infected bird even though there is a "theoretical risk" that direct contact might transfer the virus to a human.

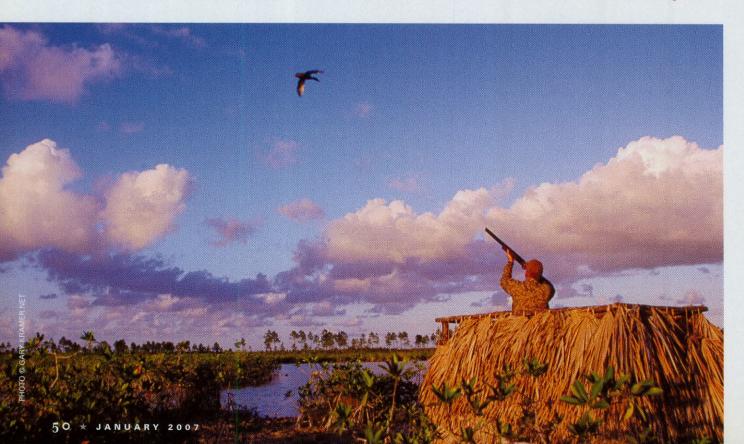
With those facts in mind, what age group has the highest probability to contract WNV?

"All age groups are at essentially equal risk of becoming infected," Fonken says. "However, persons over 50 years of age are at much greater risk for developing WNV neuroinvasive disease [an encephalitic infection of the brain, spinal cord or tissue surrounding the brain and spinal cord], which is quite serious and can result in significant long-term disability or death." Fonken also notes that humans face the greatest probability of being at risk of mosquito bites during the warm and rainy months of August and September. South Texas, with its perpetual warm weather, has the potential for year-round cases of WNV, says Fonken.

But if a hunter is bitten by mosquitoes, and then later experiences achy, feverish symptoms, does this warrant prompt medical attention?

"There are many diseases that are more common than WNV that also start out with vague, flu-like symptoms," Fonken says. "If a person becomes ill enough that they seek medical attention, they should tell their healthcare provider about their outdoor activities, animal exposures and any insect or tick bites they may have incurred. That way, the physician can consider the possibility of animal-, tick- or insect-borne disease, including WNV."

THE EXPERTS ARE ALL IN AGREEMENT THAT A HUNTER'S MOST LIKELY SCENARIO FOR CONTRACTING WNV IS FROM THE BITE OF AN INFECTED MOSQUITO.



When it comes to eating birds or mammals infected with WNV, there are two things to keep in mind. First, according to the experts, including Fonken, properly cooked meat destroys the virus. But what about dried meat that has not been cooked? Experts are not willing to offer definitive answers to that question just yet. Most epidemiologists have concluded that although game mammals can become infected with WNV, their tissues do not generally have sufficient quantities of the virus to pass it on to humans. They also suspect that stomach acids will kill the virus when ingested. Still, those conclusions are tentative and no one in the scientific community is willing at this time to offer an irrefutable declaration.

The bottom line regarding West Nile virus is that its potential to ruin the hunt is extremely low. As Fonken explains, "WNV is a real threat, but when put into perspective, there is no reason for panic or to avoid outdoor activity. About 80 percent of the people infected with WNV will not develop any symptoms at all. About 20 percent of those infected will develop West Nile fever, and less than one percent will develop a more severe West Nile neuroinvasive disease."

The danger, however, is more evident when it comes to avian influenza, though only in highly virulent forms.

"From what we know about human cases of avian influenza, it appears to take a significant amount of exposure to infected birds for a person to become infected, and then almost only when the virus is a highly pathogenic strain," Fonken says. "In general, feces, saliva and respiratory secretions from influenza-infected birds are potentially infectious. There is a very low prevalence of avian influenza in waterfowl populations, and these viruses do not generally infect non-waterfowl species, such as backyard songbirds. So the potential for the average person to be exposed to avian influenza is extremely small."

Other factors lessen the danger to humans as well, Fonken points out. "Most types of avian influenza do not appear to be infectious to humans," he explains. "A big exception to that is the current strain of highly pathogenic H5NI avian influenza circulating in Asia, Africa, the Middle East and Europe. We do not currently have that H5NI strain in North America, however. [Furthermore], highly pathogenic avian influenza viruses typically develop and circulate only in domestic poultry, although on rare occasions circulate in wild birds. So at this point in time, for a hunter in North America, I would rate the risk of contracting avian influenza from a wild bird to be an extremely slight probability."

Of course, slight probability does not mean zero probability. As proof of this, Fonken says there is evidence from a study in Iowa of rare infection, but no clinical disease, with avian influenza virus in hunters and wildlife biologists who had extensive contact with wild waterfowl over a period of years.

What if a bird flu pandemic strikes U.S. soil?

"If a highly pathogenic strain of avian influenza begins to circulate widely in wild North American game birds, a rather unlikely scenario, scientists will use all available information to determine the risk to hunters and others having contact with these birds. Using an objective risk assessment process, public health authorities would then determine reasonable and appropriate measures for hunters and others to take to minimize their risk of infection," Fonken says.

Still, areas in the state with seasonal waterfowl populations will receive the greatest surveillance for avian influenza, particularly the H5NI strain.

"There is really no way to predict with any certainty the likelihood of seeing avian influenza in a given part of the state, beyond saying in general that areas with large populations of waterfowl and/or shorebirds would be more likely to have infected birds," Fonken says. "To give an accurate estimate, you would first need to know which bird species were infected, which subpopulations of those species were affected, where those species stopover and/or winter within the state, how long they spend in those locations, and the number of birds at any given location, among other considerations." ★

SAFETY PRECAUTIONS FOR HUNTERS

Hunters should wear pants and long-sleeved shirts in order to protect themselves from mosquitoes that might carry WNV. If human scents are of no concern then use **DEET-containing insect repellents** on exposed skin and clothes. Hunters worried about leaving a scent should protect their faces with mosquito-proof mesh and wear gloves. Though most WNVcarrying mosquitoes prefer the hours of dawn and dusk, there are some that bite throughout the day, so hunters should safeguard themselves regardless of the time of day. The September and October dove seasons and October bow

season occur in prime mosquito weather so dove hunters and bow hunters in particular should take extra care to minimize their chances of being bitten.

· Many experts recommend wearing rubber or latex gloves when field dressing and skinning game animals. This includes birds, deer, javelina, wild hogs, exotics and other game species. Afterwards wash your hands thoroughly, or at the very least, apply an alcohol-based hand sanitizer. Never touch your face (eyes, mouth, nose) while field dressing game animals. Experts also suggest that hunters wear either protective eye glasses or shooting glasses and surgical masks while cleaning animals in order to reduce the chance of

transferring pathogens to the eyes and mouth. The Centers for Disease Control also recommends that rubber or latex gloves be removed promptly after use.

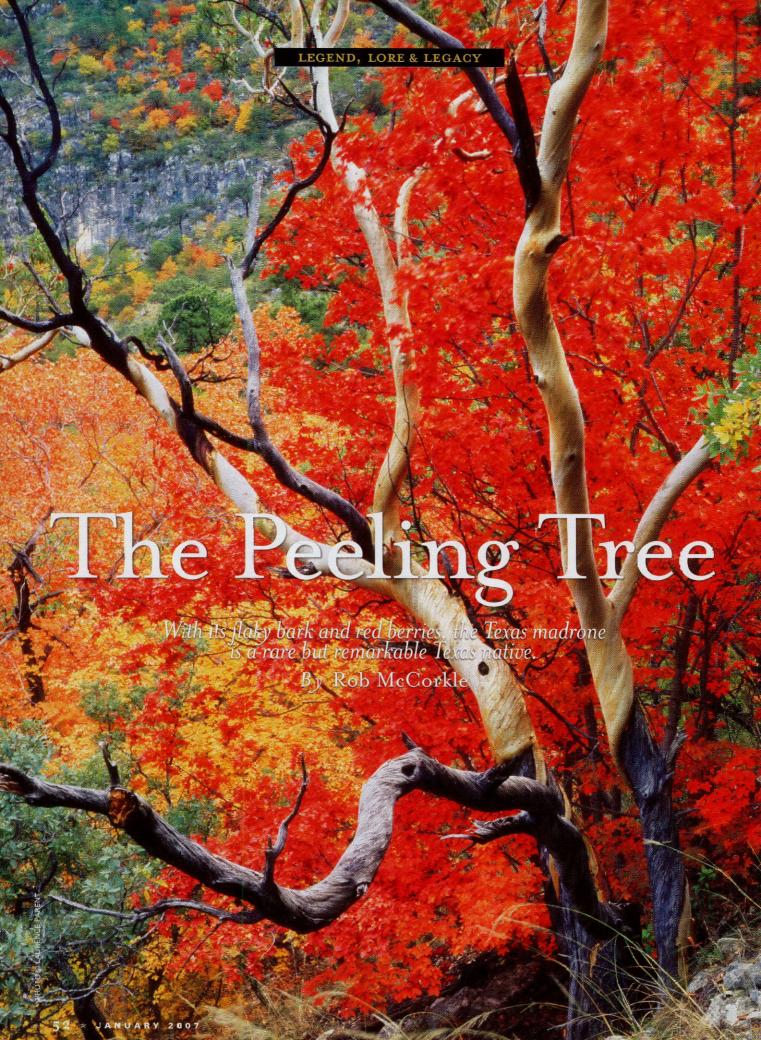
- Never eat, drink or use tobacco while field dressing game animals, as this can be an excellent way to accidentally transmit germs from the animal to you.
- Avian influenza viruses are shed in the feces and/or respiratory and oral secretions of birds. If your hunting shoes become soiled with bird feces, you should rinse them off with water and disinfect them with a diluted bleach solution, allowing them to air dry, preferably in the sun. This should kill most viruses or bacteria.
- · After you have field dressed

your birds, you should thoroughly disinfect any equipment that you used, including knives, cutting boards, game shears and tongs.

All game birds should be thoroughly cooked to an internal temperature of a minimum of 160 degrees in order to kill any virus.

For further information, including up-to-date press releases on both avian influenza and West Nile virus, please visit the following Web sites: <www.dshs.state.tx.us/idcu/health/zoonosis> and <www.dshs.state.tx.us/news/releases.sht

More in-depth safety guidelines are available at: <www.tpwd.state.tx .us/newsme-dia/releases/news_roundup/avian_influenza/>.



The first time I saw a Texas madrone tree, I was hiking up a switchback in the Guadalupe Mountains of West Texas. As my boots wobbled on the rocky path and I looked for a tree branch to grasp should I slip, I noticed a delicate-looking, smooth-skinned tree whose bark had begun flaking away like large patches of sunburned skin, revealing a rust-colored trunk beneath. Its red berries seemed to glow like embers.

Only later did I learn that I had made the acquaintance of Arbutus xalapensis, an unusual tree species found in Texas only in the mountains of West Texas and on the rocky, limestone slopes in pockets of the Texas Hill Country. The Texas madrone (once designated as a separate species, Arbutus texana, or as a variety of A. xalapensis) is one of more than a half-dozen species of madrones found primarily in California, New Mexico, the Mediterranean, Mexico and Guatemala. The Texas version is considered the same species as the Mexican species, which derives its name from the Latin word arbutus, or strawberry tree, and xalapensis, which refers to the Mexican town of Xalapa (Jalapa), capital of the State of Veracruz.

The Texas madrone has been around for thousands of years and is considered by some scientists to be a "relict," or a species from an earlier time that manages to survive even after the surrounding environment has undergone significant change. While the madrone lacks the status and ubiquity of the pecan — the Texas State Tree — or the stature of the giant live oak, it makes up for its unimpressive size and paucity with an attention-grabbing yet subtle beauty that brightens the woodlands.

The Texas Forest Service's Big Tree Registry records the state champion Texas madrones as a 27-footer with a 93-inch trunk circumference and 38-foot crown cross spread and a 45-footer with a 70-inch girth and 30-foot crown. Both were recorded in the Chisos Mountains of Brewster County. But most of the typical native species reach no more

than 15 to 25 feet in height. The national champion, with a massive 14-foot circumference, grows in New Mexico's Lincoln National Forest.

While the madrone's lantern-shaped flowers and showy fruit dazzle the eye, it is the tree's thick, papery, peeling bark that is its most distinguishing characteristic, undergoing metamorphoses each year. In their book, Native Texas Plants, Sally and Andy Wasowski note that the change begins each fall, "when old skin peels away to reveal the soft, cream-colored new bark. Color then changes to peach to coral to Indian red to chocolate and then peels away to start the process over again."

In springtime, blossoms form in clusters of white or pale pink, framed against dark green, leathery foliage. Fall brings forth the tiny orange-red fruit dangling from branches in

The Texas madrone provides year-round visual interest with clusters of blossoms in the spring (right), orange-red berries in the fall (far right), and riotously colored peeling bark as fall passes into winter (below).

three-inch clusters, an appetizer difficult for deer, birds and other wildlife to resist.

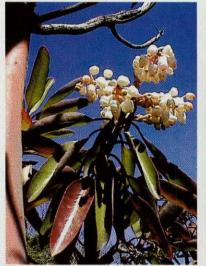
One of the most intriguing things about the Texas madrone is that it has undergone very little long-term scientific study. Perhaps it's due to the fact that the tree is almost impossible to propagate and has an extremely slow growth rate. It can take a century or more for a Texas Hill Country madrone to reach a mature height of 20 to 25 feet.

Botanically speaking, the madrone is a member of the Heath family, Ericaeae. As such, it is related to blueberries, cranberries and azaleas.

Peter and Marianne Bonenberger run the Bear Spring Blossom Nature Conservancy from their 125-acre rocky top ranch in Pipe Creek in eastern Bandera County. Peter, a retired banker from Germany, and his former schoolteacher wife, Marianne, have become formidable Texas naturalists through II years of trial and error. They have succeeded remarkably in restoring their overgrazed and eroded property, just shy of 2,000 feet in altitude, to a semblance of its original state of native grasses and mixed hardwoods. They have cut down numerous cedars (mountain junipers), mulching the wood and spreading it on trails and bare ground to coax native grasses from the caliche soil.

A stroll along the Madrone Trail reveals more than IOO madrone saplings and trees, most thriving beneath or just adjacent to larger cedar trees.

"You never see a young madrone on this ranch under anything but a cedar," Peter says resolutely. "I have been told that the cedar produces an ashlike fungus just under the soil that





THE CHANGE BEGINS EACH FALL, "WHEN OLD SKIN PEELS AWAY TO REVEAL THE SOFT, CREAM-COLORED NEW BARK. COLOR THEN CHANGES TO PEACH TO CORAL TO INDIAN RED TO CHOCOLATE AND THEN PEELS AWAY TO START THE PROCESS OVER AGAIN."

— Native Texas Plants

the madrone seed needs to germinate. Birds eat the madrone, sit in a juniper and expel the seeds in their droppings."

For the most part, man has proven an abject failure at reproducing the madrone, although Dorothy Matiza, a nurserywoman in Tarpley, Texas, has reported some success in growing seedlings. Too little water at the outset and too much water later on can spell doom for the finicky native ornamental. To illustrate the point, Bonenberger points to a lab experiment that was conducted to try to germinate 10,000 madrone seeds. Researchers succeeded in germinating only two seeds. Even if one is successful in germinating and growing a small seedling, chances are good that it will never reach maturity.

To make matters worse for the Texas beauty, it can succumb to a fungus similar to black spot that "scorches" the limbs, blackening them and causing loss of foliage. Some ravaged specimens on the Bonenberger's ranch, however, have managed to fight back, regenerating new growth from the bottom of the trunk, but the long-term effects are yet to be seen.

Efforts to transplant the Texas

madrone have proven dicey, too. It may have to do with the tree's tiny, fibrous root system. As a result, the Texas madrone remains uncommon in most parts of Texas and next to impossible to buy at a local nursery.

Matt W. Turner of Austin has been studying the ethnobotanical uses of Texas plants and trees for years. He has published academic papers and given numerous public presentations on the subject, as well. In his upcoming book, The Natural History of Texas Native Plants, Turner delves into the various uses of the madrone's fruit, bark and leaves. mostly by Native Americans such as the Kickapoos. The Kickapoos, he writes, found the fruit when fully ripe to be "sweet and savory" like strawberries. Pima Indians in Chihuahua, Mexico, still eat the berries, which are reportedly rich in vitamin C and zinc.

Turner notes, too, that the wood and bark of the madrone is "heavy, hard, moderately strong and close-grained, but is rather brittle and is not durable." Nonetheless, he points out that the wood was historically used for tools, mine timbers, stirrups, handles and the like. The Kickapoo make deer calls from the wood of the madrone.

The tree's striking bark, high in tannins, was at one time valued by the tanning industry, according to Turner. Both leaves and bark also have been used in Mexico as astringents and diuretics, and its bark and roots utilized for dyes.

Volume I of *The Useful Wild Plants of Texas* (available online at www.usefulwild plants.org) mentions the Tarahumara Indians of northern Mexico, who are said to make *tesguino*, an alcoholic beverage distilled from fermented madrone berries, and to use the tree's flowers to flavor tortillas.

Other purported Native American uses for the madrone's wood include bowls, ladles, rollers and balls for women's running games.

So by any name — and this unusual tree has several of them, including Naked Indian and Lady's Leg — the Texas madrone warrants more study, protection and greater appreciation. This native beauty is a true Texas survivor, and those who've stumbled upon a madrone in the mountains of West Texas or the western fringes of the Hill Country know that its unique beauty can best be appreciated up close. Take a hike, and see for yourself. **



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5:50 p.m.; KOCV-FM 91.3 / 6:49 a.m. PECOS: KIUN-AM 1400 / 10:30 a.m.

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

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Jan. 14 - 21:

Father Tom finds beauty and inspiration in nature; scale the heights at Davis Mountains State Park; science and nature preservation on private land; flying the Panhandle.

Jan. 21 – 28: Game wardens patrol on horseback; the Sam Bell Maxey House; restoring the black bear; the Katy Prairie; butterflies.

Jan. 28 – Feb. 4: Photographing hummingbirds in flight; Fairfield Lake State Park; wildlife inproves the bottom line; a natural wetland water filter; tubing on the Guadalupe



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PHOTO BY TPWD

BAB BIGS

RECOMMENDED STOPS ALONG THE ROAD LESS TRAVELED



Blanco State Park

Pack a picnic, grab a pole — the rainbow trout are biting in the Blanco River.

IT'S ALMOST LIKE A RITUAL. On the appointed morning in December, Tim Fox always stands patiently on the riverbank in Blanco State Park. With fishing pole in hand and a packed lunch within easy reach, ne, his buddies and other eager anglers watch as state hatchery staff stock rainbow trout in the Blanco River.

After the splashing's done and the trailer pulls aveay, then everyone quickly chooses a spot and casts their reels.

"I've fished all over the state of Texas, and I still haven't found a better place than Blanco," says Fox, who works as a tax accountant in Seguin. "I've been going there at least 15 years."

The Hill Country park is one of more than 100 sites across the state that receives an allocation of rainbow trout for winter angling. In December, Texas Parks and Wildlife purchases adult trout from a commercial fish farm in Missouri, then holds them in state hatcheries until they're distributed. Annually, the department stocks approximately 275,000 fish. Anglers catch most of the trout before water temperatures get too warm in the spring for the fish to survive.

Typically, Blanco State Park receives four stockings of approximately 5,000 fish — two in December, one in January and the last in February. Visitors should check stocking dates online before heading out. Better yet, call the park at 830-833-4333.

"We've got some special fishing events in the works, too," says bark superintendent Terry Rodgers. "In November 2005, we hosted a fly-fishing instructors' class for advanced anglers, which enabled them to teach fly-fishing in their own communities."

Speaking of fly-fishing, grassy banks along the Blanco River offer plenty of room for the sport. They're an ideal place, too, for teaching kids

how to fish. As for bait, most folks use canned corn; others try their luck with salmon eggs, marshmallows, cheese and garlic cheese.

"I use a different lure every time I gc there," Fox confides. "Fishing for rainbow trout is a finesse. You have to cast, and cast again and again, to trick them into biting. But it's a lot of fun. You want to be there whenever they stock the river."

When fishing within a state park, icenses and freshwater fishing stamps are not required. The daily limit of rainbow trout is five with no minimum on length. Park entrance fees are required.

Weather permitting, visitors can also hike the park's short nature trail, bike on park roads and picnic along the tree-shaded river. Two playgrounds have swings and a slide. Facilities include restrooms, campsites with full hookups, and screened shelters. Wi-Fi (wireless Internet) is also available within the park. Four blooks away, downtown Blanco offers numerous restaurants, shops and the historic Blanco County courthouse, originally built in 1886 and now used as a community center.

For more information about Blanco State Park, call 830-833-4333, or visit <www.tpwd.state.tx.us/blanco>. For winter trout-stocking information, visit <www.tpwd.state.tx.us/troutstocking >. **

- Sheryl Smith-Rodgers

Big Bend Ranch State Park

Brave the bats and scorpions for a moonlight hike through the hoodoos.

THE MOON IS FOND OF PLAYING TRICKS ON FOLKS who choose to venture outdoors and explore the Big Bend country under the illumination of its fulsome shine. The light makes the frothing rapids of the Rio Grande appear to slow their currents just enough to soften the harsh sparkle of reflection and transform the ragged waves into ripples that dazzle like scoured titanium. Cactus pads, with their shadow spines akimbo, mesquite beans in droopy clusters, and the fat limbs of cane cholla all hang in the preternatural light, not quite unfamiliar but uncomfortably more human than botanica. And if a picture is taken, not a snapshot but a long, slow exposure, the photograph will at first glance appear as if it had been produced in the broad light of day. But it is only an illusion, because beneath a full moon, the colors of a west Texas desert are at curious odds with nature's spectrum and its night shadows unnaturally darker than pitch.

No place in Texas offers a more fitting chance to witness this spectral light than among the hoodoos of Eig Bend Ranch State Park. The term "hoodoo," like moonlight, is a tricky thing. Its foremost definition is much like it sounds — a form of magic, accipiring or curse — in fact, trickery. But geology defines it as a unique y shaped rock that has been formed over time by weathering — a magic trick, so to speak, of nature. The hoodoos of Big Bend Ranch lie just to the south of FM 170 between Lajitas and Redford. Park visitors can actually view a few of the major



pinnacles without ever leaving their vehicles. But to really appreciate them, visitors are required to take a short hike towards the R o Grands. Along the way, the true lay of the land is revealed as an undulating field of bulbous rock crowned by odd and precarious stone sentinels, several of them over a story high. To see them in daylight is a treat, but moonlight, more so than a harsh bright sun, brings out their most alarming features. Better still, it highlights all their attendant wildlife.

Park interpreter David Long is hardly squeamish about desert nightlife such as pats, o.vls or scorpions, particularly those that like to venture out among the hoodoos by the light of the moon. In fact, if you join him for one of his moonlit hoodoo hikes, he will probably capture a scorpicn between his thumb and forefinger in order to give you a better look. Long offers his hoodco night hikes periodically as part of the visitation program at Big Berd Ranch State Park Long is based out of the Bartor Warnock Environmental Education Center, just outside of Lajitas and along the eastern edge of the 300 000-acre park, and performs his own special magic for fellow hikers during the three- to four-hour program. The hike begins at sundown and includes a variety of nighttime nature tools, including night vision goggles, a bat detector and hand-held black lights, ideal for spotting the dozens of scorpions, spiders and other interesting insects that inhabit the rocks of Big Bend country. Often on hand is a high-powered spotlight that helps to reveal any misadventures taking place skyward, along the river shallows, or atop the bluffs and slopes of the nearby Eofecillos range and the in-your-face Sierra Mataderos just across the water. Once among the hoodoos proper, hikers can take a seat along the rocks and listen to some fun facts about the desert's natural history and a few of Long's ghost yarns. Several of them are genuinely scary - perhaps yet another trick of the moonlight?

Long prefers to plan hikes during the full moons of summer but nature gives him an opportunity to plan one any month, schedules permitting. Call the Barton Warnock Environmental Education Center at 432-424-3327 to express your interest and to determine the program schedule and price per hiker for the coming year. And don't forget your headlamp and hiking boots.

- E. Dan Klepper

Port Isabel Lighthouse
Climb the winding staircase to explore

Climb the winding staircase to explore this historic sentinel.

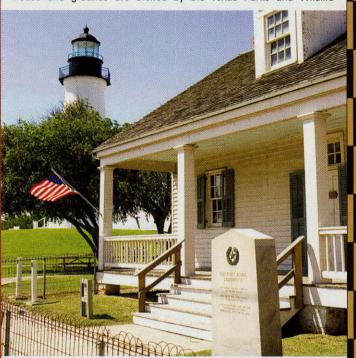
SEVEN YEAR-OLD SARA pauses outside of the entrance to the Port Isabel Lighthouse and gives her sandal straps one more tug. "The first time I climbed, I wore flip flops, but it was hard to climb the steps," she explains, "Now, I can get to the top faster and see out!" Good planning, Sara. Those 75 winding steps up through the cool interior of the light-

house are worth the effort for the view.

The beaches of South Padre Island and the sparkling waters of the Lower Laguna Madre spread out before us when we reach the top of the tower. We can see for miles. Hang-gliding adventurers compete with pelicans and sea gulls for air space over the bay. Below us, cars and trucks hurry across the Queen Isabella Causeway, and tourists are enjoying lunch under colorful umbrellas at waterfront restaurants.

The Port Isabel Lighthouse has been standing watch over the lower Texas coast, through storms and wars, since 1852, and still serves as an aid to navigation on sea charts. The lighthouse was built on the site of old Fort Polk after the Mexican War, and was controlled by both Confederate and Federal troops during the Civil War, who used it as an observation post. After the Civil War, the lighthouse was repaired, returned to service and continued to guide commercial shipping along the low-lying Texas coast. It was abandoned in 1905 when shipping traffic succumbed to the more efficient railroad as the method to transport goods.

Now known as the Port Isabel Lighthouse State Historic Site, the lighthouse and grounds are owned by the Texas Parks and Wildlife



Department and operated by the City of Port Isabel. TPWD restored the lighthouse in 2000, returning its appearance to that of 1880, when the last major operational renovation was completed. The quaint, white clapboard visitor's center is a replica of the lighthouse keeper's original cottage and houses the Port Isabel Chamber of Commerce, along with an interpretive exhibit about the lighthouse and the Fort Polk site it is built on.

The climb up the winding staircase and three ladders is an adventure unto itself for Sara, but a shady picnic lunch is waiting downstairs. The green, grassy knoll the lighthouse perches on is perfect for running up and rolling down, if you have energy to burn, or for sitting in the sun. Before the family packs up to head for the beach, Sara poses stiff-shouldered against the sun-warmed white bricks for her annual "lighthouse picture." "I can count the bricks up and see if I have 'growed' since last year," she says. **

— Marian Edwards

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

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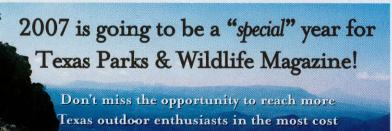
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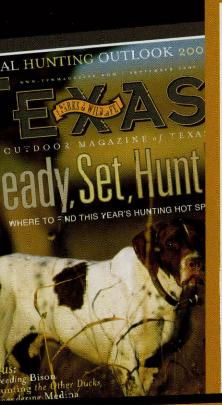
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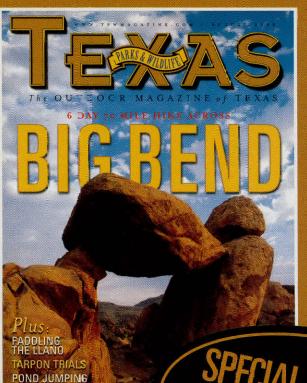
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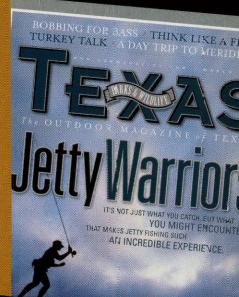
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PARTINGSHOT TP&W Chief Photographer Earl Nottingham captured this luminescent moment on a moonlight hoodoos tour, offered by the Barton Warnock Environmental Education Center in Lajitas. Park interpreter David Long leads the tours, exploring the desert nightlife around the eroded volcanic ash formations along the Rio Grande known as the hoodoos. In this photo, Long, with wife, Martha, and son Kendall, examine a scorpion, which fluoresces under ultraviolet light. The tours are scheduled during each full moon. See more on page 58. **IMAGE SPECS:** Canon EOS-1D Mark II digital camera with one second of exposure at f/5.6 (ISO 800). 64 * JANUARY 2007

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