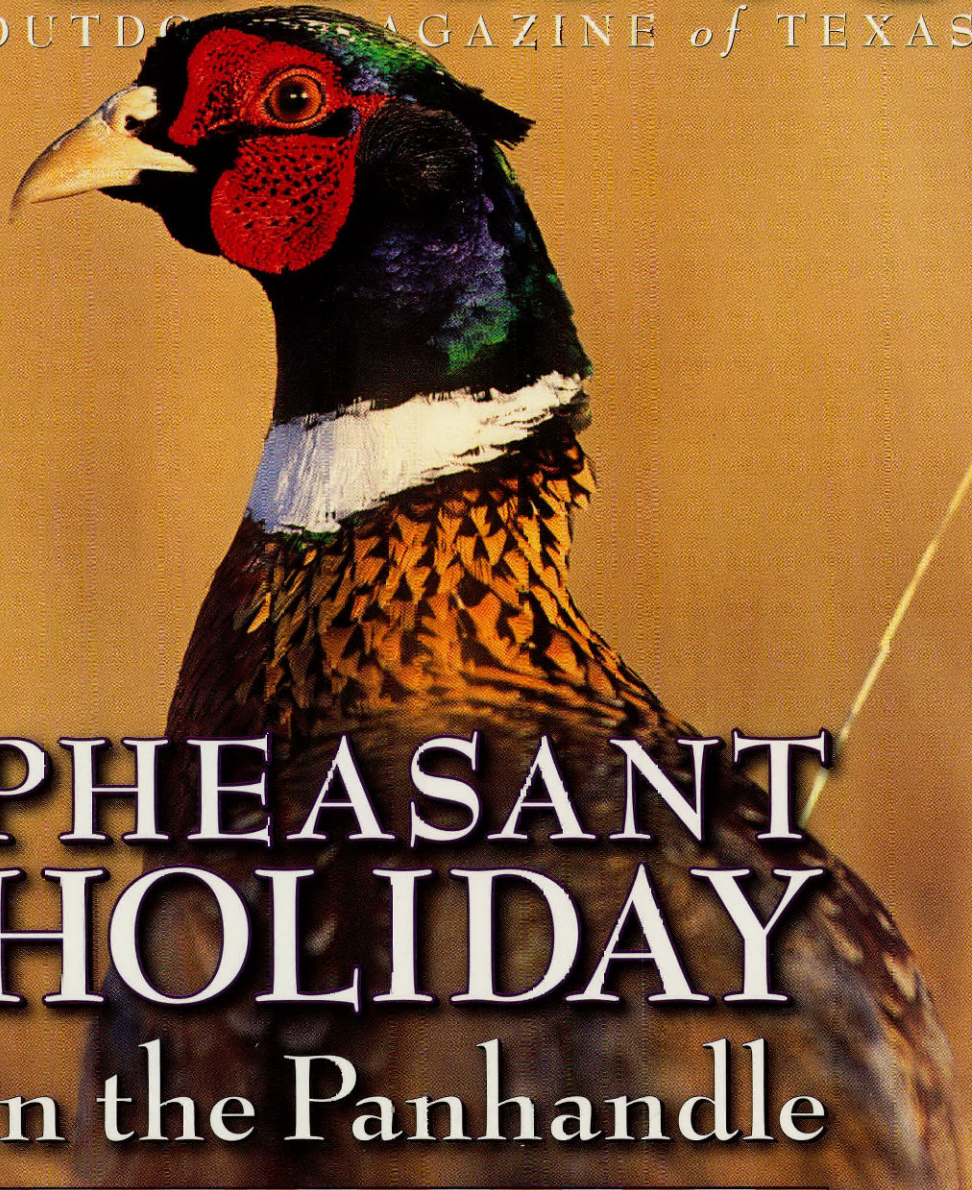


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# TEXAS

PARKS & WILDLIFE

The OUTDOOR MAGAZINE of TEXAS



## PHEASANT HOLIDAY

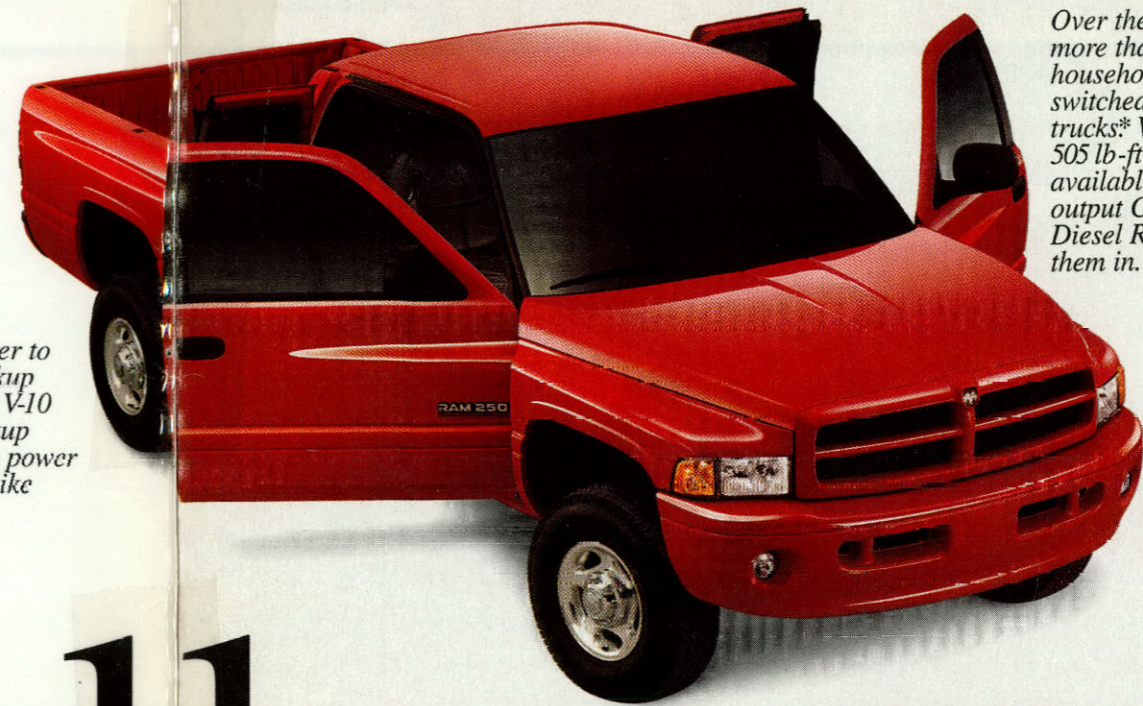
in the Panhandle

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ROBB WALSH'S **ETHNIC GAME FEAST**  
ON THE FARM WITH RICK BASS



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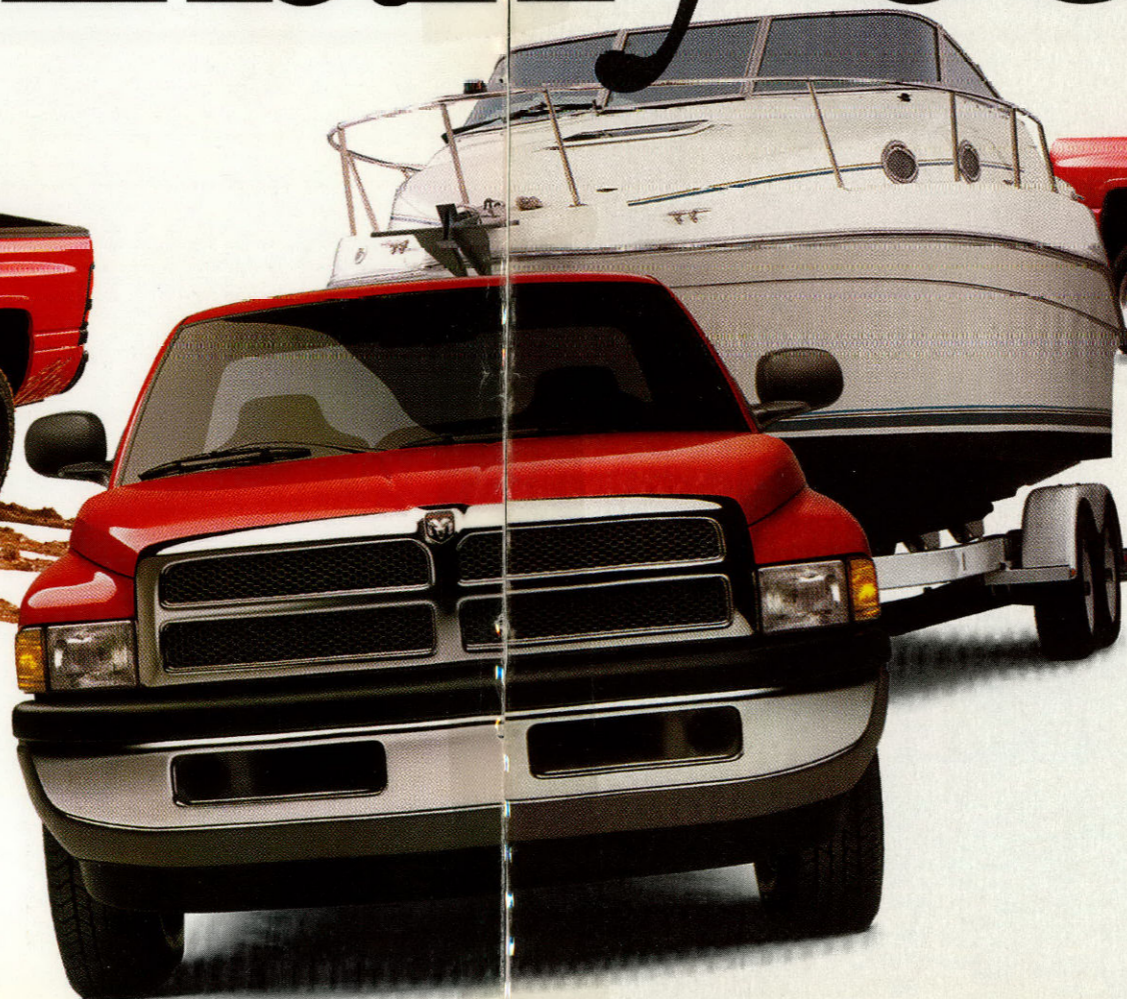
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# CONT

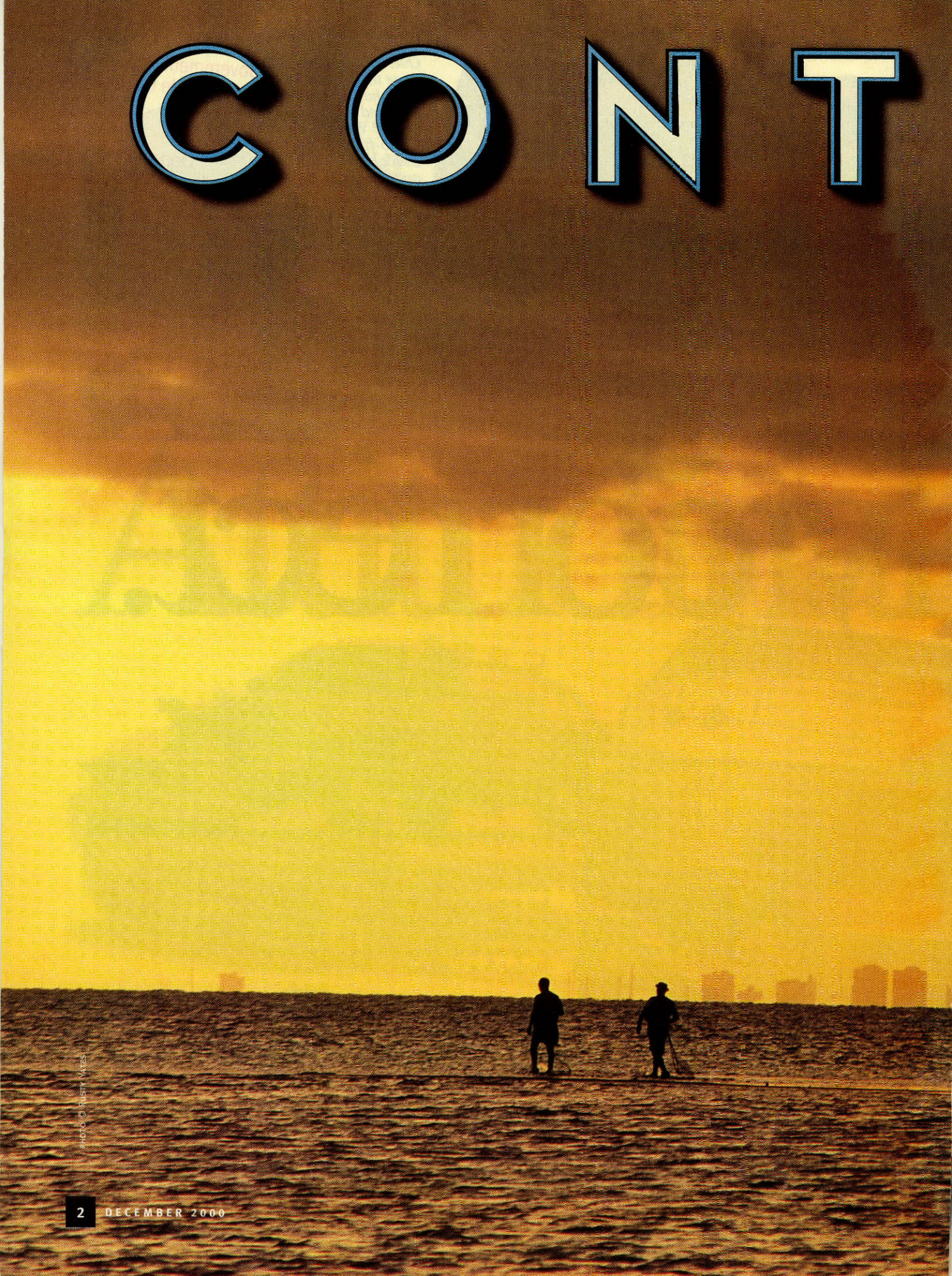


PHOTO © RUSTY WILES

# E N T S

DECEMBER 2010

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By John R. Meyer  
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**34** **The Farm**  
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A trip to the family farm brings time-honored rituals of fishing and catching fireflies – and the presence of those long gone.

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**Front:** December means pheasant season in the Texas Panhandle. See story on page 18. Photo © Wyman Meinzer. Canon F-1 camera, Canon 300mm f/2.8 lens, 1/250 second at f/4, Fuji Velvia film.

**Back:** Learn to make these venison chiles rellenos and other festive dishes using Texas game. See the story and recipes on page 24. Photo by Earl Nottingham. Nikon N90S camera, Nikkor 55mm 3.5 lens, Provia F film, strobe at f/16.

For the latest and greatest parks and wildlife information, check out our Web site <[www.tpwd.state.tx.us](http://www.tpwd.state.tx.us)>.

# AT ISSUE

From the Pen of Andrew Sansom



I loved reading Rick Bass' lovely piece about his father's farm, which you will find in this issue. Matter of fact, I've read it over and over, as my mother grew up on such a farm in Alabama and we went there every summer to visit my grandparents.

My grandmother taught me to fish in the big pond they built over the hill from the house and barns, and she made the best jam from wild plums we picked for her along the fence lines. The first time I can remember really feeling like a grown up was when my grandfather let me go out alone in the twilight and bring in the cows for milking. He taught me how to slap the rubber boots he gave me with a stick to drive the herd back from the pasture to the dairy.



**It was there that our family bonded in a way not possible in any other setting. It was there that we came to know the relationship of people and the land up close and personal.**

I regret that the farm was sold, like so many, after grandpa died and my own children never had the chance to experience it as I did, or as Rick Bass' daughters did in South Texas. For it was there that our family bonded in a way not possible in any other setting. It was there that we came to know the relationship of people and the land up close and personal.

My mother, too, has passed away, but I know that her simple upbringing, her absolute connection to the land, and her love of plants and animals was passed on to my kids through a power that overcame the fact that they never got there. And so, even though she is gone, the legacy of the farm is still in our family. I cannot visit a stock tank, a hay meadow, or a barn without her coming back to me as if she were standing right beside me or down on her knees working the garden.

Today, the joys of the farm are beyond the experience of most people in Texas because, for the majority of us, the connection to family-owned agricultural land is no longer there.



That is why we must never give up the fight to create alternative experiences on the rural landscape for families now living mostly in the cities of Texas and for those who continue to come.

The values to be found in such precious places are within our power to provide. We need only to commit ourselves to the task while they are still there to save.

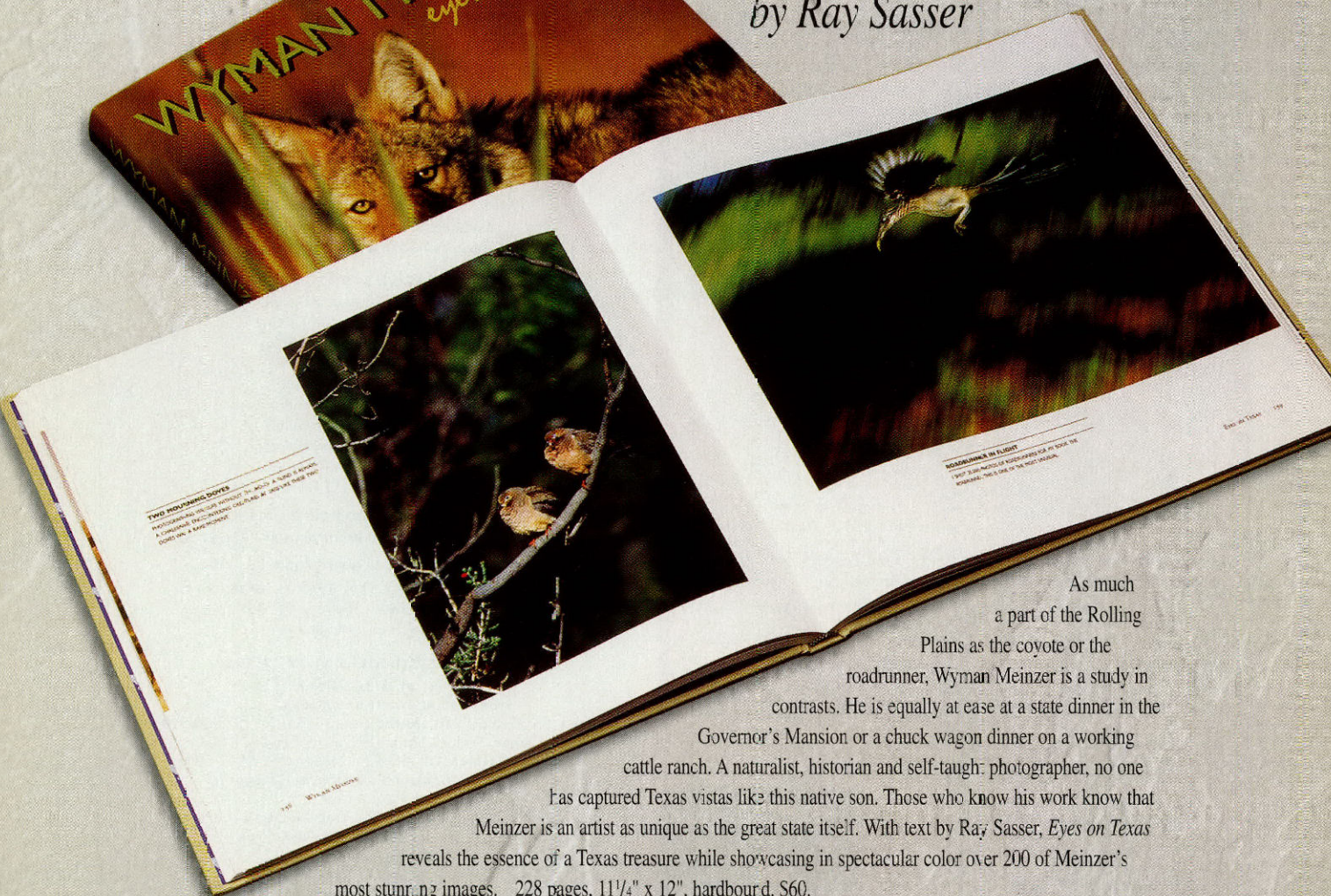
*Andrew Sansom*

TEXAS PARKS AND WILDLIFE MISSION STATEMENT:

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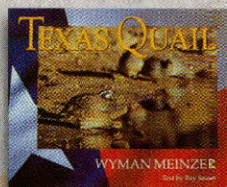
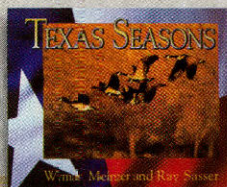
# A focus on the Lone Star State

The stunning images of  
Wyman Meinzer with text  
by Ray Sasser



As much a part of the Rolling Plains as the coyote or the roadrunner, Wyman Meinzer is a study in contrasts. He is equally at ease at a state dinner in the Governor's Mansion or a chuck wagon dinner on a working cattle ranch. A naturalist, historian and self-taught photographer, no one has captured Texas vistas like this native son. Those who know his work know that Meinzer is an artist as unique as the great state itself. With text by Ray Sasser, *Eyes on Texas* reveals the essence of a Texas treasure while showcasing in spectacular color over 200 of Meinzer's most stunning images. 228 pages, 11 1/4" x 12", hardbound. \$60.

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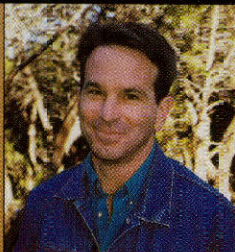
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Fort Worth native and former petroleum geologist **Rick Bass** is the author of 16 books of fiction and nonfiction, including a novel, *Where the Sea Used to Be*, and, most recently, *Colter: The True Story of the Best Dog I Ever Had*. Next year, Houghton Mifflin will publish a story collection, "The Hermit's Story." Bass lives with his family in northwest Montana's Yaak Valley, where there is still not a single acre of protected wilderness in the Kootenai National Forest, despite its being the wildest valley in the Lower 48. He works out of a one-room log cabin studio and plays an active role in the campaign to protect the last roadless areas on the public wildlands as designated wilderness. In this issue he writes about a trip with his wife and daughters back to the family farm in South Texas.



A staff writer at the *Austin Chronicle* since 1989, **Robert Bryce** writes frequently about politics, the environment, business and other issues. His work has appeared in the *New York Times*, *U.S. News and World Report*, *Salon.com* and the *Texas Observer*.

When he's not writing, Bryce spends much of his free time hiking and birdwatching on Austin's Barton Creek and swimming in Barton Springs. For this month's article on porcupines, his first for *Texas Parks & Wildlife*, Bryce spent hours reading about the habits and history of the quilly rodent. He even learned a riddle for his children, Mary, 7, and Michael, 5. Q: What did the young porcupine say when it backed into a cactus? A: Is that you, mom?

**Wendy Hodges** is currently working on her Ph.D. in the School of Biological Sciences at the University of Texas at Austin. Her research is on the natural history and comparative ecology of horned lizards throughout North America. She spent a year in Mexico conducting field work and had also worked on horned lizards in Texas, Arizona and California. In addition to her research, she works in the Section of Integrative Biology as an assistant instructor for general entomology, teaching undergraduate students how to collect and identify insects. In November 1990, she helped found the Horned Lizard Conservation Society (P.O. Box 122, Austin, Texas 78767), a national organization dedicated to horned lizard research and preservation. Her work has been featured in the *Wall Street Journal*, *Smithsonian* magazine, *Reptiles!* magazine and on ABC World News Tonight.



# TEXAS

The OUTDOOR MAGAZINE of TEXAS

DECEMBER 2000, VOL. 58, NO. 12

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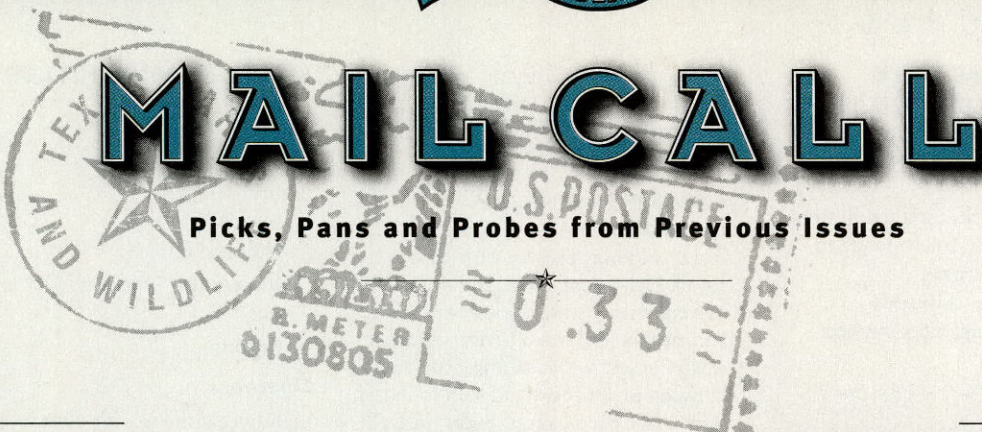
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Picks, Pans and Probes from Previous Issues

FORWARD

LETTERS

**T**HANK YOU, READERS, FOR THE MANY RECIPES you have sent us — some which are printed here in our holiday wild harvest issue. Your recipes are worthy of a cookbook, in their own right; I only wish we could have printed them all!

This multicultural game cuisine idea began nearly three years ago, when I first met TPW Large Game Program Manager Jerry Cooke and we discussed the many ethnic origins of Texas' wild game cuisine.

Robb Walsh brings the idea to fruition with an eclectic sampling of some of the diverse cuisines that make both Texas' culture and Texas' cookery a melting pot. In Texas, you can get it all fresh — from Texas ranch-style and classic American Southern to Vietnamese, Thai, Czech, German, Irish and a host of others as well as the Mexican, Cajun, Alsatian, Lebanese and French influences Walsh highlights in this issue. Those of us who enjoy wild harvest express ourselves and our diverse heritage in the kitchen and find a common ground in that most elemental of elements, food.

As we close out another year, it seemed fitting that I share a treasured family recipe with all of you who have so kindly shared with us. It is neither fish nor game, and guaranteed to please hunters and nonhunters alike!

**MAMAW GRACE'S JAM CAKE**

**Ingredients:**

- |                                      |   |
|--------------------------------------|---|
| 1 cup butter                         | 2 tsp. cinnamon                           |
| 2 cups sugar                         | 2 tsp. cloves                             |
| 3 eggs                               | 2 tsp. nutmeg                             |
| ½ cup strong black coffee            | 4 cups flour                              |
| ½ cup red wine, port or orange juice | 1 lb. raisins                             |
| 1 cup buttermilk                     | 1 cup homemade peach preserves            |
| 2 tsp. soda                          | 1 cup homemade blackberry jam, with seeds |

**Directions:**

Cream butter and sugar; add eggs and beat well. Beat in coffee and wine, port or orange juice. Sift 3½ cups flour with spices and add alternating with buttermilk mixed with soda. Dust raisins with remaining ½ cup flour; fold in raisins and preserves gently; add jam last. Bake in greased and floured tube cake pan at 325° for an hour and 50 minutes, or until a broomstick comes out clean. When completely cooled, frost with caramel icing.

**Caramel Icing:**

- |                   |                              |
|-------------------|------------------------------|
| ½ cup butter      | ¼ cup milk                   |
| 1 cup brown sugar | 3 cups sifted powdered sugar |

Combine first three ingredients and bring to a boil for two minutes, stirring constantly. Remove from heat and gradually add powdered sugar, stirring until smooth. Glaze cake and store in a tin in a cold place.

Thank you, from us all, for another wonderful year in your service.

*Suzanne Chest*

**QUAIL OR DOVE WITH RICE**

**Ingredients:**

- 8 quail or doves (about 2 pounds)
- 4 bacon strips, halved
- 2½ cups chicken broth
- ½ cup sliced green onions
- ½ cup minced fresh parsley
- 1 cup long grain rice (uncooked)
- 1 cup shredded carrots
- ½ tsp. salt
- ¼ tsp. lemon pepper seasoning

**Directions:**

In a large skillet, over medium heat, cook bacon until partially done. Remove bacon and drain, reserving two teaspoons of drippings. Brown quail in drippings. Remove and keep warm. Sauté carrots, onions and parsley in drippings until tender. Add broth, rice, salt and lemon pepper; bring to a boil. Place quail over rice and place one bacon strip on each. Reduce heat, cover and simmer for 25 to 30 minutes, or until rice is tender and quail is cooked.

**Yield:** 4 servings.

*Russell Ogburn  
Huntsville*

**BBQ MARINATED TERIYAKI PINEAPPLE DOVE DISH**

**Directions:**

Slice dove breasts vertically into separate pieces (almost). Soak in water overnight in refrigerator. Drain and place doves in cake pan or casserole dish. Cut small chunks of pineapple and place into slices of breasts. Completely submerge breasts in teriyaki sauce marinade. Refrigerate 1 hour or more. Place dish or pan on grill and cover for 45 minutes to one hour over low heat until teriyaki caramelizes. Remove cover and let the smoky aroma flavor the meat.

*Shannon Sare  
Lewisville*



## MAIL CALL

### ROAST GOOSE WITH GARLIC, ONION AND SAGE STUFFING

#### Ingredients:

- 1/4 cup (1/2 stick) unsalted butter
- 2 small onions, finely chopped
- 2 celery stalks, diced
- 5 garlic cloves, chopped
- 1 14-ounce bag cubed herbed stuffing mix
- 1 1/2 tsp. rubbed or ground sage
- 3/4 tsp. salt
- 1/2 tsp. dried oregano, crumbled
- 1/2 tsp. dried thyme, crumbled
- 1/2 tsp. pepper
- 1/2 tsp. Italian seasoning
- 2 eggs, beaten to blend
- 1 cup chicken stock or broth
- 11- to 13-pound goose, fat removed from cavity
- 1 lemon, halved
- 3 bacon slices

#### Directions for stuffing

Melt butter in heavy, large skillet over medium heat. Add onions, celery and garlic and sauté until soft, about eight minutes. Combine stuffing mixture,

sage, salt, oregano, thyme, pepper and Italian seasoning in large bowl. Stir in onion mixture and eggs. Add stock and mix well. Set aside.

#### Directions for goose:

Preheat oven to 450°. Rinse goose inside and out; pat dry with paper towel. Rub goose inside and out with halved lemon; season goose with salt and pepper. Fill main cavity and neck cavity loosely with stuffing. Run fingers between breast meat and skin to loosen skin. Place bacon slices under breast skin. Wrap goose in cheesecloth. Place goose on rack in large roasting pan. Roast goose 30 minutes. Reduce heat to 350° and continue roasting until meat thermometer inserted into thickest part to thigh registers 180° degrees, basting every 20 minutes with pan juices, about 1 hour 20 minutes. (Place stuffing in covered baking dish in oven during last 40 minutes.) Remove cheesecloth. Transfer goose to platter. Pass stuffing separately.

**Yield: 6 servings**

Mike Flannigan  
Houston

### HEALTHY PAN-GRILLED FISH

#### Ingredients:

- fish fillets, boneless
- minced garlic
- olive oil
- chopped onion
- fresh ginger (optional)
- salt
- pepper

#### Directions:

Lightly coat fillets with olive oil and season with salt and pepper. Heat non-stick frying pan (around medium-high depending on type of stove). Add onion, garlic, ginger and just enough oil to keep from sticking. Cook just long enough for the onions to get tender. Add fillets and cook with ingredients, flipping once just till fish is flaky, but do not overcook. Heat should be as hot as possible without burning onions. You will be able to adjust after a couple of fillets. Keep adding onions, garlic and ginger as you go, cooking as many fillets as needed. Serve immediately with your favorite side dishes. *Note: Any type of fish works well (bass, trout, redfish, etc.) but catfish seems to get tough due to texture of meat.*

Edie Salge  
Austin

### LOWFAT OVEN-FRY CATFISH

#### Ingredients:

- catfish fillets
- milk or beaten eggs and milk
- pepper sauce and or similar sauces
- salt
- pepper
- cornmeal
- spices (red pepper, cumin, etc.)
- non-stick cooking spray

#### Directions:

Dip fillets in milk or other mixture to which pepper sauce or other sauce has been added, if desired. Then dip fillets in cornmeal to which has had salt, pepper, and other spices added, if desired. Place in baking pan that has been coated with non-stick cooking spray. Also coat top part of fillets with spray. Bake at 500° for 15-30 minutes. No turning or basting needed.

Nora Butler  
Columbus

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## MAIL CALL

### SOUTHWEST SNAPPER

#### Ingredients:

- 1 pound red snapper
- 1/2 cup Pace picante sauce
- 1 medium tomato, chopped
- 1/4 cup sliced green onions
- 1/4 cup chopped cilantro or parsley
- 1/4 cup sliced ripe olives
- lime wedges

#### Directions:

Place fish in shallow baking dish. Sprinkle with salt and pepper to taste. Cover, and bake at 400° or until fish flakes when tested with a fork, about ten minutes per inch of thickness. Spoon picante sauce evenly over fish. Top with tomato and green onions. Bake uncovered until heated through, about five minutes. Sprinkle with cilantro or parsley and olives. Serve with lime wedges and additional picante sauce.

**Yield:** 4 servings

*Diana Phillips  
Austin*

### RYAN FALLS' GRILLED FISH

#### Directions:

Melt one pound butter and mix in one-eighth cup of each: garlic powder, chili powder, paprika, soy sauce and Worcestershire sauce. Lay fish on grill (scales on bottom side) and baste every three to four minutes with mixture. Shake on a little garlic salt each time you baste, forming a crust on the fish. For best flavor, cook until well done, when natural fish oil is cooked out, at least 30 minutes. (Soaking mesquite chips in water for a few minutes before putting in barbecue pit will cause fire to burn slower).

*Rosemary Falls  
Waco*

### CHOWDER

#### Ingredients:

- 4 slices bacon
- 1/2 cup thinly sliced celery
- 1/4 cup sliced green onions
- 2 cups peeled, cubed red potatoes (3 medium; 1/4" cubes)
- 1 can ready-to-serve chicken broth (14 -ounce can)
- 1/2 tsp. celery seed
- 1/4 tsp. dried dill weed

- 1/4 tsp. salt
- 1/8 tsp. pepper
- 3 T. all-purpose flour
- 2 cups milk
- 1 1/2 pounds fish or shellfish, skin removed, cut into 1-inch pieces
- 2 cups half and half, or for richer chowder use whipping cream
- 1 6 1/2-ounce can minced clams (do not drain)
- 1 10-ounce package finely chopped spinach, defrosted and drained (fresh is good)

*Note: You can use various kinds of fish (cod, perch, halibut, crappie, catfish, etc.) or shellfish (oysters, crab, clams) in combination or alone. Forget the calories! Serve with a good sourdough French bread and a hearty red wine.*

#### Directions:

In a six-quart Dutch oven or stockpot, brown bacon until crisp. Drain, saving two teaspoons of drippings. Set bacon aside. Add celery and onion to drippings. Stir constantly for three to five minutes over medium heat. Stir in potatoes, broth, dill weed, celery seed, salt and pepper. Simmer uncovered 10-15 minutes or until potatoes are tender. Combine flour and milk. Blend until smooth. Stir into broth mixture. Bring to boil over medium heat, then reduce heat to low. Add fish or shellfish. Simmer three minutes, stirring often. Add bacon, cream, clams and spinach. Cook over low heat (do not boil) five minutes. Enjoy!

**Yield:** 6-8 servings

*Dale Briggs  
Placerville, CA*

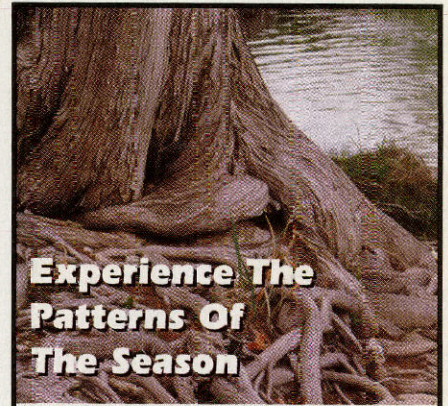
### RANCH/ONION BAKED CATFISH

#### Ingredients:

- catfish fillets
- Hidden Valley Ranch dressing
- canned French-fried onion rings
- Lawry's seasoning salt
- powdered red pepper

#### Directions:

Crush the onion rings. Sprinkle fillets sparingly with seasoning salt and to taste with powdered red pepper. Dip fillets in the dressing. Bread fillets with the crushed onion rings. Place in a baking pan, either greased or sprayed



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## MAIL CALL

with non-stick coating. Bake in a preheated oven at 375° for about 25 minutes, longer if fillets are thick.

*Harry Record  
Greenville*

### DEER ROAST

#### Ingredients:

- 5- 6- pound venison roast
- ½ cup cracked pepper
- 1 Tbsp. tomato paste
- ½ tsp. garlic powder
- 1 tsp. paprika
- 1 cup soy sauce
- ¾ cup red wine vinegar
- 1 Tbsp. cornstarch

#### Directions:

I use a large shank of a deer for a roast; it will turn out very tender and tasty. I always soak the deer meat in a mixture of water and ½ cup of vinegar to remove the 'wild' taste that is distasteful to some people. Drain well. Rub pepper over beef and press in with heel of hand. If you

like your meat spicy you can also use red pepper, cracked.

Place in a shallow baking dish. Place all remaining ingredients in a jar, place lid and shake. Carefully pour over roast and marinate overnight. Remove from marinade if desired. Depending on your taste, leave to marinate longer for stronger flavor. Bake at 325° for 20 minutes per pound for medium-rare. For best results use a meat thermometer. Add one cup water to meat juices after baking for a gravy, or thicken with one teaspoon cornstarch mixed with ¼ cup water.

*Rhoda Harper  
Summer*

### MARY'S JERKY

#### Ingredients:

- 1 roast, venison or elk
- ½ bottle soy sauce
- ½ bottle Worcestershire sauce
- ½ bottle Liquid Smoke
- 1 Tbsp. garlic
- 1 Tbsp. black pepper

#### Directions:

Partially frozen meat slices the best. You must slice it very thinly to jerk properly. Slice the meat thinly across the grain. Mix the seasonings together. Rinse and dry the meat slices on paper towels. If you like spicy jerky add pepper sauce or cracked peppercorns to the seasonings. Place the meat slices in a marinating dish or large zipper bag. Pour the seasonings over the meat to cover completely. For best flavor, marinate the meat all night.

Heat the oven to warm or 150°. Lay meat strips on a baking sheet and place in oven. Leave in oven overnight or 12 hours. Check and turn strips every few hours. Remove when completely dry. Do not allow them to become too crisp. The best method is to use a food dehydrator though an oven also works well.

My family begs for jerky!

*Mary Magnuson  
Summer*

*(Continued on page 66)*

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# SCOUT

NEWS AND VIEWS IN THE TEXAS OUTDOORS

LINDA ILSE CAN'T HELP herself. For the last three years, the doctoral candidate from Oklahoma State University has spent much of her free time combing through the rocky, cactus-ridden lands of Kickapoo Cavern State Park satisfying her obsession with porcupines.

And while Kickapoo's piñon pines are a porcupine's favorite snack food, Ilse is finding she doesn't have to travel all the way to Bracketville in order to find her prickly prey. For decades, porcupines have been confined to the arid regions of the Trans-Pecos. But today they are showing up across the state, from Zapata County

## PORKY'S BACK

**Biologists – and vets – are noticing a sharp increase in porcupines across the state.**

in the south to Austin to Paris in the northeast. One porcupine was recently found dead on a highway 60 miles east of Dallas.

Although biologists are welcoming the resurgence of the animals, they don't have an easy explanation for it. "We don't know why they are expanding," says Paul Robertson, a conservation scientist with Texas Parks and Wildlife. "But they are re-inhabiting range that

they previously occupied." Robertson thinks that the animals may have been hit by disease and began dying off. Now, with large predators like the mountain lion in low numbers, porcupines have an easier time surviving in their old haunts.

If the old joke about camels being horses designed by a committee has any verity, then surely the porcupine was designed by cartoonists. A wacky-

looking solitary animal with short legs and long quills, the porcupine is anomalous among rodents. While other rodents measure gestation times in weeks and give birth to numerous young, the porcupine gestates its young for seven months, at the end of which it bears just one offspring. Other rodents, like rats and mice, begin breeding within a few weeks of birth. Porcupines don't become reproductively active until their second year. "That's unheard of for a rodent," says Ilse. In addition, Ilse and other experts have begun noticing that, unlike other animals, the porcupine increases its range

*(Continued on page 13)*



# Water Hyacinth Woes

*The latest weapon against an aquatic exotic is one even Arnold Schwarzenegger could be proud of: the Terminator.*

**W**ATERHYACINTH is beautiful but deadly. With a lovely scent and showy purple flowers, early 19th-century gardeners couldn't resist placing these South American floaters in their water gardens. Waterhyacinth easily escaped into public waterways, spread throughout the southeast U.S., and is currently one of the most problematic



A thick mat of waterhyacinth covers Lake Livingston.

alien species in Texas. Waterhyacinth creates thick mats over water bodies, out-competing native vegetation. Boaters can't access their favorite fishing holes, and low oxygen conditions can lead to fish kills.

Historically, herbicides were a quick fix for vegetation control because they are

inexpensive, effective and easy to use. However, citizen groups increasingly voice their concerns over herbicide use, particularly where drinking water is involved. "We were trying to find alternative means to control vegetation without using chemicals," says David Stewart of the Texas-wide Sensible Management of Aquatic Resources Team (SMART), a coalition of 20 bass clubs, clean water and air organizations and conservation organizations. "We want chemicals to be the last thing used, not the first."

Enter the Terminator, a five-ton machine that whacks up waterhyacinth faster than you can say "alien species." The Terminator drives a blade over hyacinth at a rate of 1/2 to four acres per hour, and the chopped plants drift to the bottom of the lake. TPW and local water authorities now use the Terminator as

one alternative to broad-based herbicide application. The machine works only on waterhyacinth, but its inventor, David Penny, is researching a new blade that could make it effective on the hydrilla, another ubiquitous alien plant.

In 1998 and 1999, Penny "terminated" hyacinth on

25 miles of the lower Rio Grande, parts of which were entirely clogged. "It was like a sewer," he says. The work "totally changed the ecology of that river. It's not quite pristine, but you can see eight to 10 feet now." Wildlife has returned. The Terminator has also helped control hyacinth on lakes Conroe, Texana, Corpus Christi, Livingston and, most recently, Caddo.

TPW initiated the Aquatic Vegetation Management Task Force, which recommends using the least toxic vegetation control methods before more toxic ones like herbicides. "You can't put a price on people's health or the environment," says Stewart. However, TPW

biologist Mark Webb warns that mechanical control isn't a catchall answer. "Mechanical shredders are expensive to operate," says Webb. "They don't work well in shallow water, or in areas with stumps, trees, and boat docks."

Compared with giant salvinia, the latest aquatic nightmare, hyacinth infestations may be considered minor. Introduced in Texas in 1998, this kudzu vine of the aquatic realm can grow a new infestation from a single leaf fragment. Its prolific propagation may make mechanical control difficult to impossible. Engineers may just have to create Terminator 2.

— Wendee Holtcamp

## Desert Survival

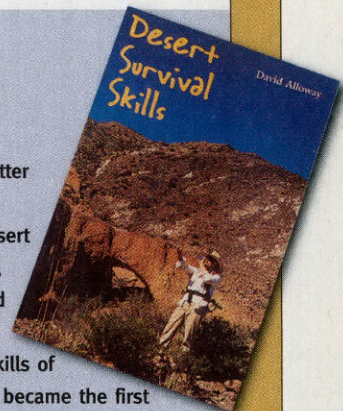
Move over, Survivor. David Alloway is the real thing.

If you're ever lost in the desert, you'd better hope you have one thing along: David Alloway. Named "the nation's leading desert survival instructor" by *Outside* magazine, Alloway is the lead instructor at Big Bend Ranch State Park Wilderness Survival School and director of David Alloway's Skills of Survival School in Terlingua. In 1996 he became the first non-Australian to compete in the 200-kilometer Pilbara Trek in Western Australia, considered by many to be the toughest survival course in the world open to civilians.

If you can't have Alloway, the next best thing is his new book, *Desert Survival Skills*. Written for the advanced desert survivalist, this humorous and highly detailed book covers the essentials like how to find water, how to orient yourself without a compass, and how to build a shelter and make a fire. It also delves into topics not normally covered, like vehicle repairs and how to make weapons (we warned you — it's for macho survival types).

In the end, though, "The brain is the best survival tool," he says. "Keep it alert, in the shade, in control, and be prepared to improvise."

— Elaine Robbins



(Continued from page 11)

by sending out juvenile females. "In most mammal cultures, it's the male juveniles who leave," she says.

But all of those oddities endear the animal to the zoologist, who is doing her dissertation on the animals' feeding habits. And she is quick to remind anyone who will listen that porcupines are not dangerous — except, of course, to curious dogs, who often end up with a snout full of quills in return for their curiosity.

To track the animals with radio collars, Ilse captures them by setting traps or by scampering up trees armed with a pole equipped with a syringe loaded with anesthetic. Once the animal is sedated, she lowers it to the ground. And how does she handle them? "Very carefully," she explains with a chuckle. So far, she hasn't been impaled by a single quill. The secret? "Welders' gloves," she responds. "And I always grab them by the tail."

So for all you porcupine-watchers out there, keep those welders' gloves ready. Porcupines may be coming to a neighborhood near you.

— Robert Bryce

## IS GALVESTON SINKING?

*The marshes of Galveston Island State Park have been subsiding at an astounding rate.*

**B**ELIEVE IT OR NOT, the land under Galveston Island State Park is sinking. Oil and gas drilling in the area has caused a lowering of the surface over the years, resulting in the literal drowning of the biologically rich marshlands north of the road that bisects the park.

When Texas Parks and Wildlife took over control of the area in the early 1970s, the park had about 1,000 acres of marshes — systems critical to fisheries and important habitat for shorebirds, waterfowl and other water birds, and migratory songbirds. But by the early 1990s, the area's recreational fishermen began reporting that these marshes seemed



Galveston State Park's marshes have been reduced from 1,000 acres in the 1970s to 100 acres in 1997.

to be disappearing. Analysis showed that indeed the area had sunk by 12 to 16 inches over the 30-year period between 1960 and 1990. By 1997 there were, alarmingly, only 100 acres left.

So state park regional resource specialist Ted Hollingsworth swung into action. He put together a task force with biologists from Texas Parks and Wildlife, U.S. Fish and Wildlife Service, and other state and national groups. The goal? To try to halt the disappearance of the marshes — and perhaps even restore some of what had been lost.

The scientists finally settled on a high-tech solution to the problem. They decided to use a product called Geotube to create both wave breaks across the mouths of the area's coves and to establish protective terraces throughout the area. Geotubes are large tubes (200 feet long and 30 feet

in circumference) made of a porous plastic textile purged with sediment dredged from the bay itself. "The water squirts out of the walls of the tube, leaving the sediment behind," says Hollingsworth. "Because of this, they are quite hard and stable. They are actually so massive that there is very little possibility that even a hurricane would roll or displace them."

Since the project was completed in May, park managers have started to see positive results. Says Hollingsworth, "Our main goal was to replace the biological values of the area that had been lost over the past 30 years." Black skimmers have already given the experiment high marks. At last count, 300 pairs of the birds were nesting in the new marsh — making this area the largest skimmer colony in West Galveston Bay in the past 10 years.

— Will Woodard

## FIELD NOTES

Looking for the perfect holiday gift for the outdoor enthusiast in your family? Making a New Year's resolution to see the sights of Texas? Whatever the reason, the Texas Conservation Passport is just right for the season. The passport gives holders one year of free entry to state parks and wildlife management areas. It also provides access to restricted public and private land, as well as opportunities to join exclusive wilderness outings, field trips and nature tours. Members also receive a newsletter and calendar of events, free historical park tours and discounts. Best of all, you'll have the satisfaction of knowing you made a difference to conservation in Texas. Purchase a \$50 Gold Texas Conservation Passport at Texas state parks or call 800-895-4248 to pay with a credit card.

# THE ALLURE OF THE NEW FISHING LURES

## Shake, Rattle and Roll By Gibbs Milliken

**L**URES HAVE UNDERGONE some amazing transformations in recent years, with the aid of new technology and materials. They now light up, flash holographic

patterns, emit rattling sounds, flutter at precise rates, suspend at specific water depths, and feel and smell exactly like something a fish would eat.

But while the point of most lures is to fool the fish into thinking they are food, some artificial lures do not look like anything in nature. They are, instead, intended to induce aggression in predator fish, causing them to attack out of anger or defense.

An entire industry has sprung up around the making of fishing lures. Manufacturers continually research and test new lures, and competition is fierce. designs are kept top-secret until they are introduced.

Lures are not just big business; they are also works of art. The Ukko Company of Finland handcrafts, finishes, tests and tunes each lure

individually. These expensive hardwood lures range in size from large 7<sup>3</sup>/<sub>8</sub>-inch floating/diving jerk baits like the **White Fish Big Jerk** (\$18.60, Ukko, 800-846-6226) to the tiny 1.2-inch **Black Plague Wobbler** (\$9.90, Ukko) sinking bait for ultra-light spin or fly casting. Yo-Zuri of Japan makes another line of high-end lures designed and made to high standards of performance and quality. Their new baits, like the **Crystal Minnow** (\$8.50, Yo-Zuri, 888-336-9775), have multiple internal rattles, highly reflective laser surfaces, and 3-D lifelike eyes.

Among the unique new lures introduced this year are the **Lit Lure Spinnerbaits** (\$6.28, JH Lit Lures, 616-427-7519). These lures have heads that light up with an aura from a red or green LED bulb powered by a tiny sealed battery. The battery lasts approximately 18 to 24 hours and can be turned off by removing it from its

snap-in closure. In murky waters or night fishing, these glowing orbs should prove attractive to bass, stripers and trout.

Some new lures are important innovations on old models. To catch wary large-mouths, you probably can't

get more realistic than the **Castaic Crawdad** (\$8.99, Castaic, 805-278-0155). This lure has naturalistic color, a hard thorax, and replaceable soft textured head, claws, and tail sections. This company also makes a series of very realistic swimming fishes that are the exact size, shape, color, and

Series are classic examples of crankbaits that attract by sound and action. They

have small rattle chambers with shot-pellets that produce sound as they rapidly wiggle on the retrieve. Similar lures like the new **Frenzy** (\$4.89, Berkley, 800-237-5539) lure group have undergone two years of field tests and fine-tuning before being manufactured and marketed.

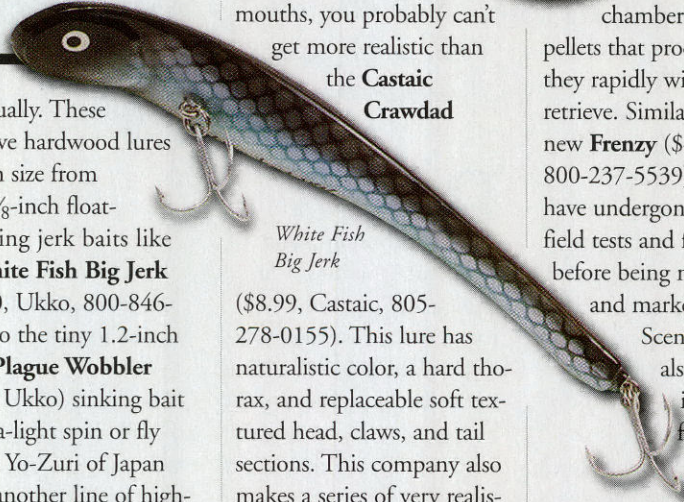
Scent and taste are also big factors in attracting fish. Some of the most important bait innovations are soft lure designs impregnated or sprayed with odors and flavors ranging from anise oils to shrimp and earthworm extractions. The **Salty Tuba Tube** (\$4.19 per 8-pack, Stanley Jigs, 409-876-5713) series, for example, are salt-injected throughout.

texture of several living fresh and saltwater baitfish.

Luremakers' research has shown that the low-frequency sound and motion vibrations sent out by moving lures is important. Some fish prefer lots of noise and movement produced by buzzbaits like the **Strike King** (\$2.99, Strike King, 800-467-5873) that skitter across weedbeds with large propellers thrashing the water surface to trigger ambush attacks from big bass. The **Rat-L-Trap** (\$4.99, Bill Lewis, 318-487-0352) 2000



Lit Lure Spinner



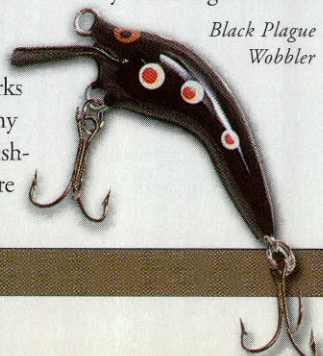
White Fish Big Jerk



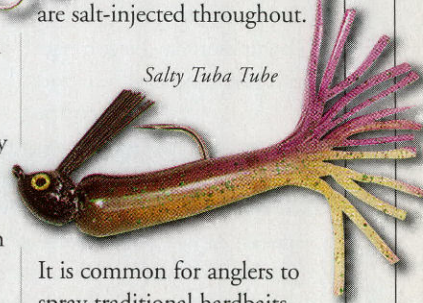
Castaic Crawdad



Bleeding Skinner



Black Plague Wobbler



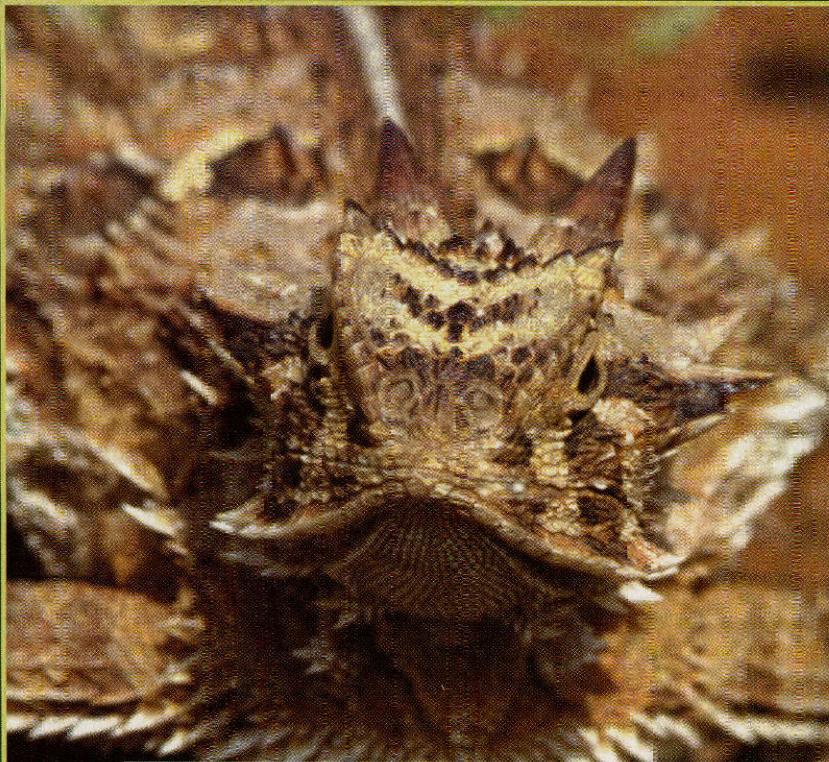
Salty Tuba Tube

It is common for anglers to spray traditional hardbaits with special attractants.

The shake, rattle, and roll of lures continues each season with new and improved variations. Supernatural in their dazzling colors, forms, and flash, they may in the end be designed to catch anglers as often as fish.

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# RAINWATER HARVESTING

More Texans are collecting rain for household water needs. By STEPHEN K. BEERS

WHILE YOU'RE watching summer skies and praying for rain, you can prepare for what to do once the rain gets here. Texans are capturing and storing rainwater in increasing numbers. A very old technology — rainwater harvesting — is reviving in the face of contemporary concerns about water conservation and pollution. The technique is especially appropriate for rural areas where no municipal water is available. From simple \$50 rainbarrels to \$10,000 high-tech systems, there are numerous options available to collect water onsite for self-sufficient household use.

In East Texas, normal rainfall can be sufficient to fill all household needs, but in drier West Texas, collected rainwater should be viewed mostly as a supplemental source. Central Texas is currently the epicenter of this movement back to the future. In the Hill Country, you can still occasionally spot a stone cistern from the 19th century, or a galvanized steel tank sitting beside an old weathered barn. But today's storage tanks are more apt to be polypropylene, fiberglass, ferro-cement, or concrete.

For drinking water, it is necessary to first channel rainfall off your roof through filtering and purification systems before sending it to storage. Given all the costs, a rainwater system for drinking



*This Austin home has been retrofitted with an eye-pleasing rainwater collecting system.*

water is generally not economical where city water is available. However, if the alternative is wells where the groundwater is of uncertain availability, brackish or "hard," then rainwater harvesting may be a good option. These systems can wholly or partially meet household needs with potable water of outstanding quality, frequently at costs comparable to drilling a well.

If you desire supplemental water for your lawn and landscape needs only, then you can dispense with purification systems. Even with access to city water, you can still save on water bills by placing rainbarrels under your roof downspouts to collect water for lawn and

garden needs. Large commercial projects are getting into the act, too — in some cases using stormwater runoff from parking lots to water their landscaping. The City of Austin is the only utility in the state that currently offers rebates on the cost of rainbarrels to their residential customers.

With rainwater, the need for expensive water softeners is eliminated. Water heaters and pipes last longer. Many swear by the taste, even compared to treated city tap water. It is virtually sodium-free, a plus for those on restricted diets. Rainwater is only slightly acidic, with a pH of near zero.

Chlorine bleach often gets used for a cheap and

easy disinfection method. Also available are filters, ultraviolet light, ozonation and reverse osmosis as approved, chemical-free means of treating rainwater.

For a total reliance on rainwater, the Texas Water Development Board says it is "imperative that you employ best conservation practices to ensure a year-round water supply." These include water-saving appliances and using native, drought-tolerant plants for lawns.

In their booklet *Rainwater Collecting for the Mechanically Challenged*, Suzy Banks and Richard Heinichen supply simple formulas for you to determine how much water you can collect, given the size of your roof and the average annual rainfall in your area. Appropriate system-sizing and conservation is important to get you through a period of low rainfall. Should the need arise, your storage tank can take deliveries from a water truck. Otherwise, just pray for rain.

*More information is available in TWDB's booklet Texas Guide to Rainwater Harvesting, available at <[www.twdb.state.tx.us](http://www.twdb.state.tx.us)>, or call 512-463-7955. To order Rainwater Collection for the Mechanically Challenged, send \$15 + \$3 shipping and handling to P.O. Box 1541, Dripping Springs, TX 78620; <[www.rainwatercollection.com](http://www.rainwatercollection.com)>*

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# HAVE A PHEASANT HOLIDAY

DECEMBER MEANS PHEASANT SEASON IN THE PANHANDLE, AS HUNTING PARTIES TAKE TO THE OPEN FIELDS TO FLUSH THE MAJESTIC BIRDS.

BY JOHN R. MEYER

**E**ACH FALL, PEOPLE FROM around the state and beyond converge on the Texas Panhandle for one of the state's shortest but most enthusiastically followed hunting seasons. Although there is a four-month coastal season for pheasants, the opportunity to pursue these birds in the open fields and grasslands of the Panhandle lasts for only two weeks each year.

The first ring-necked pheasants in the United States were released into the Willamette Valley of Oregon in the 1880s. By around 1940, these Asian imports had shown up in 17 Panhandle counties, having migrated in from Oklahoma, Kansas and Colorado, probably as a result of releases by private landowners, government agencies and citizens' groups.

Farming practices combined with geography to provide the birds with shelter and sustenance. Small farms meant an abundance of weedy fencerows and borrow ditches where pheasants could hide. Leftover or so-called waste grains provided the birds with a tasty and readily available

food source to supplement nature's own offering of wild plant seeds, insects and even small snakes.

But modern farming practices brought hard times for these birds. As farming became more mechanized and fields grew larger, farmers cleared roadside grass and brush and eliminated most year-round areas of cover. Pheasant populations suffered from the loss of nesting habitat and escape cover from predators. More recently, the change from wasteful irrigation practices to low-pressure center-pivot irrigation systems reduced or eliminated the tail-water pits from which pheasants drank.

In the last decade or two, though, land-use practices have begun to change again, this time more in the pheasants' favor. Conservation Reserve Program (CRP) lands are not farmed at all and have grown thick stands of grasses that provide important habitat. Playa lakes dot the Panhandle and cover approximately one percent of the land area of the southern Great Plains. Studies have shown the highest densities of pheasant nests to be around these natural





depressions. Because they are often not economical to farm, playas are frequently left undisturbed throughout the year. Ranchers allow many playas to go ungrazed. The resulting plant growth provides nesting cover and protection from predators. Surrounding fields of wheat, alfalfa, corn, sorghum and sunflowers provide ample sources of food when combined with the playas' plants.

Each December, anyone driving through areas around Hockley, Nazareth, Muleshoe, Hart or Dimmitt, to name just a few places, can easily spot groups of hunters walking across open fields. With five to 10 yards between persons, groups of hunters walk in unison from one end of a chosen area to the other in an effort to flush the majestic birds. The theory is that the string of hunters will come upon each bird in that given area and force it to take off in flight. But as anyone who has ever hunted pheasants knows, this is a rule the birds regularly fail to follow. A wise old bird that has experienced hunting pressure before will more than likely choose running over flying. The really smart ones will run to the side rather than straight away from the approaching hunters. Of course, there are also those birds that don't run or fly. They just stay tucked down under a tuft of grass or stubble and let the visually challenged hunters walk right past. Despite their magnificent coloring, the roosters are still surprisingly difficult to see on the ground when they remain still.

A close-working flushing dog is invaluable when hunting CRP land. Pheasants can sprint for hundreds of yards through tunnels beneath thigh-high grass hunters can barely wade through. A dog can submarine through the tangle and put birds hunters would never find on their own into the air.

To a novice, an open expanse of endless corn stubble may look less than promising for finding birds. It is that very field, though, that is prime territory. The waste grain littering that field is like a concentrated batch of pheasant candy. The birds leave CRP land or other cover early in the morning and head into the harvested fields to feed. Local farmers and ranchers can often provide tips on

where they've seen birds feeding. Though recently cut grain fields and CRP lands are typical areas to hunt, brush surrounding abandoned farm buildings, weeds along roads and fencerows, and railroad rights of way are also good places to check for these wily birds.

The wide-open nature of the region's

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## Ranchers allow many playas to go ungrazed, and the resulting plant growth provides pheasants nesting cover and protection from predators.

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terrain and the tendency of the birds to run or hide make it difficult for a single hunter or even a pair to cover an area of land effectively. Groups of six to 10 or even more hunters are better able to herd the birds and pressure them into flushing.

The use of vehicles to drop off and retrieve hunters at the ends of fields is

a great time saver and eliminates many miles of walking in a day's hunt. First, a few hunters are dropped off at the far end of a chosen section of land to serve as "blockers." Their presence keeps the birds from running down the rows away from the approaching hunters and into the next field. Once the blockers are in place, the rest of the group begins the pursuit from the other end of the field. Safety is always an issue with a group of hunters in close proximity. Hunters must shoot only at birds directly in front of them in their "zone of fire." As the walkers near the blockers, both groups must refrain from shooting at low-flying birds. When dogs are present, shots should be taken only after pheasants rise above the horizon.

Shooters must also identify the bird's sex before it gets out of range. Only the brilliantly colored, long-tailed males are legal to harvest, with a daily bag limit of three. Number four or six shot in a high brass load with a modified or full choke are typical choices of hunters in the region. Any kind of shotgun in 12, 16 or 20 gauge is adequate.

Last December, I was in Nazareth on opening day. Our group of hunters had the benefit of being guided by LeRoy Pohlmeier, a local farmer and rancher who has spent over 70 years in the area. We first went to a spot where he had seen

**Hunters walk in unison across a chosen area in an effort to flush pheasants. CRP lands are not farmed, providing good cover and making hunting difficult.**



PHOTO © DAVID J. SAMS

## Small Town Welcome

Small towns near Panhandle pheasant hotspots come alive each December. Many civic organizations put together opening weekend packages of food and lodging to welcome hunters to the area. One of the finest examples of such hospitality is in Nazareth. For the last 20 years, this town has relied on a remarkable show of teamwork among several of its civic clubs to create one of the best experiences available. The American Legion Auxiliary puts on a breakfast complete with fresh eggs, sausage, homemade biscuits and jelly. The Band Parents Association cooks lunch, and the Museum Committee prepares dinner. Members of the Lions Club organize the entire event and team up with members of the volunteer fire department and other locals to guide the groups of hunters.

Besides the good hunting and food, visitors from larger towns and cities get a rare chance to see the power of an entire community working together. The money raised by the Lions Club finances the majority of their charitable projects for the year, including college scholarships for graduating seniors, donations to the Lions Eye Bank and delivery of food to the elderly. The meals, one day of guided hunting, and another day of hunting on your own can be had for under \$200.

Several other towns in the region put on similar functions each year. Contact the Chamber of Commerce in Dimmitt (830-876-5205), Muleshoe (806-272-4248) or Nazareth (806-945-2285). If they cannot accommodate you in their town, they will be happy to direct you to a neighboring community with a similar event.



birds several days during the previous week. Two snows in the last five days had left thigh-deep drifts along the fencelines and at least a few inches everywhere else. Wandering lines of animal tracks covered the ground. Streaking through them all were the unmistakable footprints of one or more pheasants. Everyone loaded their guns and strung out in a line. Any lasting sleepiness I had in the dawn hour was eliminated when I broke through the thin crust of a snowdrift and filled my left boot with snow. We progressed down the field and back but found nothing, so it was back in the trucks and on to the next field.

We pulled up to a rectangular, 80-acre field of corn stubble and dropped off all but three of the 10 hunters in our group. They waited briefly and then started down the rows as we drove down to the other end to block. As we moved into position, the scurrying birds were already down the rows toward us. In predictably unpredictable fashion, a pair of roosters flushed wild well ahead of us and flew off to the side out of harm's way. The next bird came up about 30 yards in front of the advancing hunters and made the tactical error of flying obliquely along the line. A quick series of shots rang out, and the bird tumbled to the ground. The successful hunter

walked straight to the downed bird and picked him up for the day's first prize.

Few things can match the excitement aroused by a pheasant erupting out of nowhere and streaking off in flight. These naturalized citizens of the Panhandle provide hunters with a unique thrill many

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In predictably  
unpredictable  
fashion, a pair of  
roosters flushed  
wild well ahead  
of us and flew off  
to the side out of  
harm's way.

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people don't even realize is available in Texas. But it takes only one look at this flamboyantly colored bird bursting into flight to get hooked on pheasant hunting for a lifetime. ★

*John R. Meyer is a physical therapist in Lubbock. He grew up in Houston and spent time hunting and fishing near Milano, where his grandmother now lives.*

**Dogs are a real asset, both to flush hiding pheasants and to retrieve downed birds. When dogs are present, shoot only after pheasants rise above the horizon.**





PHOTO © DAVID J. SAMS



# MULTICULTURAL GAME CHEF

Forget venison roast. Here are some tasty Texas dishes with an ethnic twist.

Recipes and Article by **ROBB WALSH** • Photography by **EARL NOTTINGHAM**



Alsatian Venison Ragout  
See recipe page 33.

**M**Y BROTHER DAVE AND I ARE NOT very flashy sportsmen. With our borrowed equipment flapping around in the back of a Japanese pickup, we are what you might call suburban subsistence hunters. We hunt deer because we need the meat. Mainly we need it for extravagant dinner parties and our annual Super Bowl buffet, but hey, a lot of people are counting on us.

Our big buffet tends to include a lot of wild game dishes that are unique to Texas. I think most wild game cookbooks must be written in Canada or Minnesota — everything is stuffed with wild rice. Too bad more people don't know about Texas wild game cooking. The same ethnic groups that make the rest of our cooking distinctive have made Texas wild game cookery the most exciting in the country. You can find Tex-Mex venison chili, German venison sausage and Cajun wild duck gumbo here, along with specialties from each of Texas' other dozen ethnicities.

I find experimenting with ethnic wild game dishes a lot more fun than experimenting with recipes using plain old plastic-wrapped meats. Say you were going to put out a Middle Eastern spread with hummus, tabbouleh, cucumber-yogurt sauce, pita bread and olives. Roasted chicken tastes just fine with these condiments, but not as good as Lebanese-style grilled quail, seasoned with garlic and cinnamon. Marinated venison steaks, grilled and cut into strips with guacamole and grilled onions, make a much more exciting taco than beef fajitas. But you knew that.

We take wild game for granted in Texas. Non-hunting food lovers are very impressed when you serve wild game. After all, they can't get any at the store. My wine collector friends all have a special bottle socked away for just such an exotic dinner, and it tends to be a big deal French red wine that you would never have gotten them to open otherwise.

A couple of years ago, a chef from Germany named Frank Khachi was visiting us, and he did a guest chef appearance at a couple of our wild game dinner parties. What an eye-opener that was! Wild game is precious in Europe, and Frank treated it with a lot of respect. He insisted on butchering the deer himself so he could use the bones to make a venison demi-glace, which he served with a venison haunch roast and wild mushroom strudel. It may have been the best thing I ever put in my mouth. We had a Cline California Mouvèdre with that dinner, and it was good. But if I had it to do over again, I would invest in a really good Chateau-neuf du Pape.

Fortunately, Frank taught me how to make that venison demi-glace. And instead of grinding the scrap up into "hamburger," I got a German butcher to show me how to make several varieties of homemade venison sausage. I may not have a fancy deer rifle, but you should see my meat grinder with sausage stuffing attachment. A four-wheel-drive hunting vehicle wouldn't fit in my garage anyway, because that is where I keep my giant freezer chest. ★

ROBB WALSH *writes about food for the Houston Press. He also writes a food column for Natural History magazine and is a commentator on National Public Radio. A two-time James Beard Award-winner, he is the co-author of two Texas cookbooks: A Cowboy in the Kitchen, with Grady Spears, and Nuevo Tex-Mex, with David Garrido.*

## In the Test Kitchen



Chef Nick Cozza is a Spring 2000 graduate of The Italian Culinary Institute for Foreigners located in Costigliole d'Asti, Italy. He has also completed an apprenticeship at Il Principe Restaurant in Pompei, Italy, a Michelin One Star restaurant. The artful plating that Nick has refined in his career gives character to these wildlife dishes. Nick is currently operating his own catering business for Central Market and his private clientele.



Chef Elaine DiRico has worked in the health and nutrition business for more than 20 years. Life coach, public speaker and private chef, she is a recent contributor to *Texas Parks & Wildlife*, and has been instrumental in the addition of recipe cards that now appear in every issue. Elaine hosts a cooking club, and she recently traveled to Saltillo, Mexico, on a quest for the perfect mole. Elaine has also successfully raised a son to adulthood and is enjoying her most recent life stage to the fullest.

## Venison Sausage

Early histories of the Hill Country note that the German immigrants had a tough time in their first few years due to crop failures and the fact that they weren't very good with firearms. Luckily, they were great butchers, so they ended up specializing in processing wild game for others. In the old German towns of the Texas Hill Country, some meat markets will offer to turn your scrap into rehwurst (venison sausage) instead of venison "hamburger."

You can also make this sausage at home out of scraps and tough cuts like shoulder, or you can start with "venison-burger" if you already have some in your freezer. Just defrost it and add it to the freshly ground pork.

**Yield:** 3½ pounds

- 2 pounds fatty pork butt
- 1½ pounds venison shoulder
- 4 cloves garlic
- ⅓ cup fresh rosemary, loosely packed
- 3 tablespoons prepared mustard
- 2 tablespoons minced jalapeño pepper
- 2 teaspoons black pepper, coarsely ground
- 3 tablespoons kosher salt

For testing the seasonings:

1 teaspoon oil

For stuffing the sausage:

Medium hog casings

Coarsely grind the pork butt and venison together through a ¼-inch plate of a meat grinder. Add a little garlic and rosemary into the top of the grinder as you go so that they become well incorporated in the meat. In a large bowl mix the ground meat with the mustard, jalapeño, pepper and salt. Knead the mixture with your hands until everything is well blended.

In a small skillet, heat the oil. Form a meatball-sized piece of the mixture into a small patty and fry. Taste for seasonings, and adjust to your taste.

Soak the hog casings in lukewarm water. Stuff the meat mixture into the hog casings with a sausage stuffer or a pastry bag and tie into 4- to 6-inch links. The sausage will keep for 3-4 days refrigerated and up to 2 months frozen.

**To cook:** Prepare a smoker. Sear 4 or 5 links over hot coals for three minutes a side or until nicely brown. Move to indirect heat over a drip pan and smoke for 30 minutes or until cooked through.





## Venison Chiles Rellenos

Excavations at the Taddlock Site in the Upper Sabine River basin prove that venison was a primary food of the Caddoan tribes a thousand years ago.

Wild chile pequins were common then, too, so it's possible that something resembling chili was invented by the Indians. Several dishes of the Spanish and Mexican era such as *chile colorado* are also very close to what we call chili con carne. But it was the chuckwagon

cooking of the cowboy era that made this Tex-Mex classic famous. Chile con carne was easy to cook in a Dutch oven, and it required only chiles and beef — two ingredients that cowboys never ran out of.

### Makes 8 stuffed peppers

- 2 pounds venison, cut into 1/2-inch chunks
- 1/3 cup peanut oil
- 1 large onion, chopped
- 3 cloves of garlic, minced
- 2 large tomatoes, chopped (or one 16-ounce can)
- Purée of 2 ancho peppers

- 4 cups venison stock
- 1 tablespoon cumin
- 1 tablespoon dried Mexican oregano
- Salt to taste
- 8 poblano peppers, roasted and skin removed

Remove any gristle from the meat. Heat the oil in a large heavy pot over high heat and sauté the meat for 5 to 7 minutes or until lightly brown. Add the onions and garlic and cook for 5 minutes, or until the onion is translucent. Add the tomatoes, the chile purées,

stock and seasonings. Cook for one hour, adding water to keep the chili at a stew-like consistency. It will be done after an hour, but it will keep getting better as it simmers.

To stuff the chiles, preheat the oven to 350°F. Slit each pepper and carefully remove the seeds, leaving the stem intact. Stuff 8 peppers with 3/4 cup of chile each (or as much as they will hold). Place the stuffed peppers slit side up on a greased baking sheet and heat them in the oven for 8 minutes.



## Venison Stock or Demi-glace

The French base their fabulous sauces on stocks, which are meat broths made from the bones. These stocks can be boiled down, or reduced to produce a more intense flavor. This style of cooking takes a little more time and effort, but the results are worth it.

The French have always had a presence in Texas, and their cooking has always been much admired here. In 1839, the king of France sent his chargé d'affaires, Count Jean Pierre Isidore Dubois de Saligny, to Texas to discuss business with the politicians of the newly founded Texas Republic. Saligny brought with him a servant, a driver and his French chef de cuisine. It's a good bet that Saligny's chef was the first

in the state to make a decent venison reduction sauce. Saligny did a lot of entertaining at the French Legation in Austin. The museum located there today has an excellent re-creation of a French Creole kitchen of the 1800s.

To make your own venison stock-based sauces, you will need to ask the butcher who does your deer processing to save the venison bones for you. If the butcher will cut the bones into pieces and freeze them in 8-pound packages, this recipe will be pretty simple to follow.

**Yield:** About 2 quarts

- 8 pounds meaty venison bones
- 1 large onion, peeled and cut into eighths
- 3 carrots, peeled and coarsely chopped
- 1/2 can tomato paste



- 4 tablespoons blackberry preserves
- 1 bottle hearty red wine (such as zinfandel)
- 4 bay leaves
- 10 juniper berries (optional)

Preheat oven to 475°F. Place venison bones, onion and carrots in a large roasting pan. Roast in the oven, turning and scraping every 15 minutes until the onions and carrots are browned, about 45 minutes. (Be forewarned that your oven will probably smoke at this temperature unless it has been cleaned recently.) Smear the tomato paste and preserves onto some of the bones and return to the oven for another 15 minutes. When the bones are very brown, remove the pan from the oven. Transfer the contents of the roasting

pan into the roasting pan and scrape up the browned pieces. Pour the wine over the bone mixture. Add water to cover. Add the bay leaves and juniper berries. Bring to a boil and simmer for 1½ to 2 hours, or until the bones are clean, skimming occasionally. Pour through a strainer and discard the bones. Use immediately, or store frozen. (For convenient storage, pour stock into an ice-cube tray and then put the cubes in a plastic container and use as needed.)

To make venison demi-glace: Continue boiling one quart of the stock until it is reduced to about 1½ cups, or until it coats a spoon.

## Lebanese Grilled Quail

Grilling, usually on skewers, has always been a central part of Lebanese cooking. The cinnamon-based seasoning mixture is also typically Lebanese. The main migration of Lebanese to Texas occurred around the 1880s. Initially, the Lebanese congregated in big

cities, but because they often worked as itinerant clothing peddlers, traveling to remote regions that lacked access to retail stores, their culture became well known across the state.

- 4 quail (or 6 doves)
- 1 whole lemon, cut in quarters
- $\frac{1}{4}$  cup olive oil
- 4 cloves garlic, minced

- 2 tablespoons sea salt
- 1 tablespoon black pepper
- 2 teaspoons cinnamon
- $\frac{1}{2}$  teaspoon cayenne

Rinse the birds and pat dry. Season the inside of each bird with juice from a lemon quarter. Combine the olive oil and garlic and rub the mixture on each bird. Combine the salt, pepper, cinnamon and cayenne and

sprinkle over top, rubbing the mixture in. Marinate for several hours or overnight in the refrigerator. When ready to serve, start a charcoal fire. Grill the birds on metal skewers over a medium-hot fire, turning frequently for 15 to 20 minutes or until the meat is done through, but still rosy. Serve with tabbouleh, pita bread and cucumber-yogurt sauce.









## Wild Duck Gumbo

The Cajuns (or Acadians) came to Louisiana and Texas from Acadia, where the island now known as Nova Scotia was taken over by the British. Their French-Canadian cooking style was slowly transmogrified into what we now call Cajun cooking. Gumbo started out as an American Indian stew thickened with sassafras, also known as filé powder. The black slaves used okra and called the stew gumbo, which

is the word for the pod in some African languages. The Cajuns made it their own by thickening it with roux, the traditional French thickener made with flour and fat.

Texas Cajuns began arriving in the 1840s, when a large group settled along Taylor's Bayou in Jefferson County near Beaumont. Texas Cajuns still inhabit the rice farming regions of the Gulf Coast plains, which are the home of the state's best duck and goose hunting. Wild ducks or doves are a traditional gumbo ingredient.

Makes 12 servings or 3 quarts

- 2-3 wild ducks, cut into quarters
- 3 garlic cloves, lightly crushed
- 1 small onion, peeled
- 10 tablespoons unsalted butter
- $\frac{2}{3}$  cup flour
- 2 cups diced red bell pepper
- 2 cups diced green bell pepper
- 3 cups diced onion
- 2 stalks celery, diced
- 5 tablespoons Worcestershire sauce
- 2 tablespoons Tabasco sauce
- 1 bay leaf
- 2 teaspoons dried thyme leaves
- 2 teaspoons dried oregano leaves
- 1 teaspoon ground cayenne pepper

- 1 teaspoon ground white pepper
- 2 cups sliced fresh okra
- 1 pound andouille or other smoked sausage, sliced
- Sea salt to taste
- Freshly ground pepper to taste
- 6 cups cooked rice
- Pepper sauce

Simmer the ducks in 8 cups of water with the lightly crushed garlic cloves and the small onion for about a half hour. Remove from the pot and discard the garlic and onion. When the duck has cooled, remove the meat from the bones and discard the bones and skin.

In a large, heavy Dutch oven that will hold at least 8 quarts, make a roux by melting butter over medium heat and stirring in the flour. Whisk or stir constantly over medium heat for about 20 minutes (or longer), until the roux becomes a very dark brown color. (If black flecks appear in the roux, you have burned it. Throw it away and start over.) When the roux is the desired color, turn off the heat and add the peppers, onion and celery, sautéing until the vegetables are wilted, about 5 minutes. Next add the Worcestershire, Tabasco, bay leaf, thyme, oregano, cayenne and white pepper.

Stir to blend these ingredients. Slowly whisk in the strained stock a little at a time, making sure there are no lumps. Cook the gumbo over medium heat for 30 minutes. Add the okra, duck meat and sausage and continue cooking for another 30 minutes. Season with salt and pepper. The gumbo should be fairly thick.

To serve, mound a half cup of rice in the middle of the bowl. Ladle gumbo around the rice. Serve with pepper sauce if desired.

## Alsatian Venison Ragout

The province of Alsace has gone back and forth between France and Germany over the course of its history. Before World War II, it was German. Since World War II, it has been French. As a result of this back-and-forth nationality, Alsatian cooking has become an interesting blend of the two cuisines.

A group of Alsatian immigrants led by Henri Castro founded a community on the Medina River in 1844. They shot two deer on the banks

of the river on the first day of their arrival, and they have been eating venison ever since. The Alsatian community of Castroville, near San Antonio, was built to resemble an Alsatian village, and the unique architecture of the French-German immigrants can still be seen there. Their contribution to Texas cooking includes ragouts like this one.

### Serves 6

- 4 pounds venison shoulder cut into 1-inch cubes
- 3 cups red wine
- 1 cup red wine vinegar
- 4 onions, quartered

- 4 carrots peeled and sliced thick
- 10 peppercorns
- 1 large bay leaf
- 15 juniper berries (optional)
- 2 teaspoons sea salt
- 1 sprig fresh rosemary, chopped coarsely
- $\frac{1}{2}$  cup vegetable oil
- 1 quart venison stock
- 3 tablespoons flour

In a large non-reactive bowl, combine the venison with 2 cups of the wine, vinegar, onions, carrots and all the herbs and spices. Cover and let stand in the refrigerator for 24 to 72 hours.

Remove the meat and drain well. Strain the liquid and reserve the herbs, spices and vegetables. In a stew pot, heat oil over medium high heat. Toss the meat with the flour and brown it on all sides. Add the remaining red wine, the venison stock and the reserved herbs, spices and vegetables. Bring just to a boil, then lower the heat and cover. Simmer for  $1\frac{1}{2}$  hours or until the meat is very tender. Remove the bay leaf and juniper berries and transfer to a serving bowl. Serve with noodles, spaetzle or potato pancakes.



# the farm



A trip to the family farm brings time-honored rituals of fishing and catching fireflies — and makes the past feel present.

By RICK BASS Illustrations by JACK UNRUH

way there will be certain stretches of time when, for a little while, it will feel exactly as if I am walking in her every footstep: as if I am her, in that moment, set back in time — and enjoying it as I know she must have enjoyed it 30 or 40 years ago. And I wonder, is it just this way for me, or do others experience such feelings?

Buttercups, winecups and black-eyed Susans — before we had taken 10 steps, Lowry and Mary Katherine both had picked double-fistful bouquets and had braided flowers in their hair. Another 10 steps took us across the culvert that ran beneath the road. There was water standing in the culvert and in receding little oxbows on either side of the road, and as we approached, 10,000 little frogs went splashing into that muddy water. “Frog alert, frog alert!” we cried, and ran down to the mud’s edge to try to catch one, but there were too many, springing zigzag in too many directions; you couldn’t focus, and couldn’t chase just one, because their paths were crisscrossing so. There were so many frogs in the air at any one time that occasionally they would have midair collisions; they were ricocheting off each other. The mud around the shoreline of their fast-disappearing pond glistened, so fast was the water evaporating, and the mud was hieroglyphed with the prints of what might have been armies of raccoons, though it could also have been the maddened pacings of one very unsuccessful raccoon.

We caught one of the little frogs and examined it: the gray-brown back that was so much the color of the mud, and the pearl-white underbelly. I wondered why, when frogs sunned themselves, they didn’t stretch out and lie on their backs, the way humans do at the beach. I guess they would get eaten.

Finally we went into the farmhouse she loved so much. She had lived in it, and loved it, for only a few years before she fell ill, but had loved it so fully in that time that I still cannot step into it without feeling that remnant love of place. The house is thin substitute

IT WAS STILL THE END OF WINTER AT OUR HOME IN NORTHERN MONTANA, BUT down here in South Texas, in April, at my father’s farm, it was full-bore spring. It was a joy to me to realize that Lowry, who just turned three, would now have the colors and sights of this place lodged in at least her subconscious, and that Mary Katherine, just turned six, was old enough to begin doing some serious remembering. Some children, of course, hold onto odd-shaped bits and pieces of memory from a much earlier age, but around the age of six and seven, nearly everything can be retained — or at least that was how it worked for me when I was a child. It was like a kind of freedom — a kind of second welcoming Mary Katherine into the world. Now when I am an old man I will be able to say to her, “Remember when...,” and she will remember.

We had flown to Austin, rented a car, visited my brother, and then driven down into the brush country and toward the live oaks and dunes that lay in braided twists some 50 miles inland: to the farm. As we drove, Elizabeth and I talked and watched the late-day sunlight stretch across the green fields; the girls slept, tired from their travels, in the back seat. Angels. So much joy do they bring me that sometimes I wonder

if, since my mother is not here to love and know them, I carry also her share. Sometimes I glance at them, and love them fully and deeply, but then a second wave washes in over that one, as if she is watching them over my shoulder, and I feel it again.

What kind of mirth would they have had recounting, for the rest of their adult days, the time their father told them to chase and catch a skunk?

It used to give me a bittersweet feeling, but now I’m not sure what the word for it is. Gratitude, perhaps — to the girls, of course, but also to my mother.



THEY WOKE WHEN WE STOPPED TO OPEN THE GATE. WE DROVE THROUGH AND CLOSED THE GATE BEHIND US. WE parked the car there and decided to walk instead of drive the rest of the way to the farmhouse. We walked in the late-day light, the last light, down the white sandy winding road, beneath the moss-hung limbs of the enormous live oaks — trees that were five and six hundred years old. It’s so strange, the

against her absence, but with the exception of my own blood in my veins, and my memories, it is all there is, and I am grateful for it.

Elizabeth wanted to go for a run in the last wedge of light. After the long Montana winter we were nearly delirious with the gift of these longer days. So she laced up her running shoes and went on back up the road at a trot. Mary Katherine wanted to go fishing in the stock tank, so we rigged up a line and went off toward the pond, following the winding sand road and walking beneath those old trees.

We stood on the levee and cast out at the ring of flat water. Turtle heads appeared in the center of the lake, tipped like little sticks to observe us. In the clear water of the shallows we could see the giant Chinese grass carp, 30 pounds each. My parents had put them there when they first built the pond as a means of keeping algae from overtaking the pond. The carp are hybrids, so that they can't reproduce, though it's rumored they can live to be a hundred years old — and because they are strictly vegetarian, there was no chance of their striking at our spinnerbait. It was strange, though, watching the giant fish circle the pond so slowly, their dorsal fins sometimes cresting the surface like sharks, and knowing that we were fishing for something else, something deeper in the pond — fishing for fish-beneath-fish.

On the far side of the pond, a big fish leaped — not a carp, but a bass. We cast to it for awhile in the gathering dusk, but I was hoping that we wouldn't catch it. It's good for the girls to learn that you don't get something every time you go out.

A water moccasin swam past, its beautifully ugly wedge of head so alarming to our instincts that it seemed almost like a mild form of hypnosis — as did the eerie, elegant, S-wake of its thick body moving across the surface. There were floating four-leaf clovers that my parents had planted — a special variety in which every one had four leaves — and we stopped fishing for a moment and picked some for friends.

Across the field and the rise, we could see the cattle trotting in front of the blood-red sun, running from something. Against that wavering red light and the copper-fading visage of the pasture, it looked like a scene from Africa, some vast herd of wildebeests. The cattle passed from view, and then a few moments later, we saw the silhouette of Elizabeth jogging along the crest of the rise. She was what had spooked the cattle. Across the distance, we watched her run in that Mars-red light, the sun behind her, as seven years ago I had sat by this same pond with my mother and watched Elizabeth and my father ride

There will be certain stretches of time when, for a little while, it will feel exactly as if I am walking in her every footstep: as if I am her, in that moment, set back in time.

horses across the face of that sun.

We resumed casting. A mockingbird flew up and landed in the little weesatche tree next to us, not 500 yards away. As the sun's fireball sank as if into an ocean, the mockingbird began singing the most beautiful song — some intricate melody which, in the blueing of dusk, and then the true darkness, was one of the most beautiful serenades I've ever heard.

"Sing back to him," I told Lowry, and so she did. She sang her alphabet song there in the darkness: "Now I know my A-B-C's/Next time won't you sing with me?"

Finally we headed back toward the house, the mockingbird still singing. We saw a shuffling little object shambling down the sand road in front of us, and I cried "Armadillo! Chase him!" We set out after him in full sprint, but he was running in zags and weaving through the trees. We were almost even with him when I noticed the white stripe running down his back and was barely able to shout in time, "Skunk! Get back!"

Perhaps it was the four-leaf clovers. The skunk went his way, and we went ours. I had the strangest thought in my relief, however. I found myself wondering how, if we had been sprayed, the girls would have thought of me afterward, growing up. What if they grew up to be storytellers? What kind of mirth would they have had recounting, for the rest of their adult days, the time their father told them to chase and catch a skunk?

I remembered the time when I was about Mary Katherine's age when my cousin Randy was sprayed by a skunk. It was right around Christmas. We were all gathered up at Grandma and Granddaddy Bass's, in Fort Worth — my parents, brothers, and myself; Aunt Lee, Uncle Jimmy, and my cousins Rick, Randy, and Russell. I had already gone to bed — I think it was Christmas Eve — but Randy, being a few years older, was allowed to go down to the creek to check his trotlines and his Havahart trap one more time.

I had just nodded off to sleep when I awoke to the impression that all the doors in the house had been blown wide open by some awful force. All of the adults had just let out a collective roar — a primal group groan — and then there were gasps and more groans, and my uncle's voice, angry and above all the others, "Randy, get out of the house!"

Then the smell hit me. Even in the back room, it was stout. I hadn't known that an odor could be that powerful. It seemed that it would levitate the house. It certainly levitated the people in the house.

When I went out to ask what was going on, I recall a furious, sputtering inarticulation on the part of the grown-ups, until finally they shouted, in unison and choreographed with much arm-waving, "Randy!" — as if that said it all.



THIRTY-PLUS YEARS LATER, THE GIRLS AND I LET THE SKUNK TRAVEL ON HIS WAY, AND WE WENT OURS, STILL SWEET-smelling. We could see the glow of the

farmhouse through the woods and were striking toward it, holding hands and walking carefully in the darkness to avoid stepping on any skunks, when I saw a firefly blink once, then twice, in the distance. I shouted with happiness.

The girls had never seen fireflies before. I am not sure they had even known such creatures existed.

For the next hour, we chased them through the meadow, trying to catch just one. It seemed a harder task than I remembered from my own childhood — I remember filling entire lantern bottles with them — and I figured that it might be because it was still early in the spring and they were not yet blinking with full authority or intensity. We'd see only one firefly blinking, and always at some great distance. We'd break into a run, hoping to arrive there before the blink faded, but they were always a little too far away, and their luminescence lasted only a few seconds. We would leap at that last instant, toward the fading glow of gold — leaping with cupped hands and blind faith. Then we opened our hands cautiously in the silver moonlight to see if we had succeeded in blind-snaring one, like plucking a star from the sky.

As beautiful as the fireflies was the seamless with which Mary Katherine accepted unquestioningly the marvel of such a phenomenon. Yes, of course this was the way all silver-moon nights were meant to be passed, running and laughing and leaping for drifting, blinking low stars against a background of fixed, higher stars.

Eventually, we caught one. We went through the time-honored ritual of putting it in a glass jar and punching air holes in the top. We took it inside the house and turned off all the lights. This, I thought, is the world my daughters deserve. This is the right world for them.



LATER THAT NIGHT, AFTER A SUPPER COOKED OUT ON THE GRILL, AND AFTER THE GIRLS WERE ASLEEP, ELIZABETH AND I went for a long walk in the moonlight. It was the brightest, most severe, platinum

light I have ever seen. Highlighting certain things, the glare of that intense silver-blue light revealed more than would the normal broad light of day.

It didn't feel as if we'd been together nearly 20 years. Or rather, part of it did: the good part. Such strange brilliance.



THE NEXT DAY WE WENT FISHING. IT WAS WINDY, AND ELIZABETH'S STRAW SUN HAT BLEW OFF AND LANDED RIGHTSIDE UP ON the pond. We watched it sail quickly, without sinking, all the way across the little lake. Mary Katherine ran around to the other side of the lake and was there to fish it out with a stick when it arrived.

The mockingbird began singing the most beautiful song — some intricate melody which, in the blueing of dusk, and then the true darkness, was one of the most beautiful serenades I've ever heard. "Sing back to him," I told Lowry, and so she did.

She ran it back to Elizabeth, who put it back on and tied it tighter this time.

The joy of children catching fish: there's nothing like it. Most of the few fish we were catching were too little, and we kept throwing them back. Lowry's pink skin, her bright blonde hair, in that beautiful spring sun.

Mary Katherine kept wanting to keep some fish for dinner that night. We finally caught one that was eating-size, and as I put the fish on the stringer, I said, "It's your unlucky day, my little friend." And for the rest of the day, whenever we'd catch one, Mary Katherine would hop up and down and clap her hands, and say, "Oh, please let it be his unlucky day, oh please!"



THAT NIGHT, AFTER OUR FISH FRY, I TOOK HER INTO TOWN FOR AN ICE

CREAM CONE. LOWRY HAD ALREADY fallen asleep. I get so used to doing things with the girls together that I have to remember this: to always be there to spend some time alone with each of them. The special quality of those times is like the unique tone of sunlight early in the spring, seen dappled through a new-green canopy of emerging leaves. Or the light of late fall, when it lays down long again after the harsh bright summer.

It was dusk again, and nighthawks were huddled along the edges of the white sand roads as we drove slowly, twisting and turning, beneath the arched limbs of more old live oaks. Fireflies were out in the meadows again, and we rode with the windows down to feel the cool night air. The radio was playing very quietly — a jazz special, with the music of Sonny Rollins and Louis Armstrong — and I knew by the way Mary Katherine rode silently, happily, that she had never heard such music before.

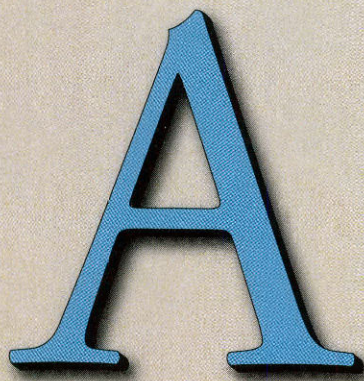
We got into the little town of Yorktown a few minutes before closing time. We went into the coolness of the air-conditioned Dairy Queen and I waited while Mary Katherine pondered her selection, deciding finally on a chocolate dip cone.

She ate on it the whole way home — back through the starry night, back through the fireflies, back to the rest of our waiting, sleeping family — just riding and listening, all the while, to that strange, happy, lulling music from so long ago.

I have never felt more like a father: never more in love with the world. ★







SEARING AUGUST SUN HAD BEGUN TO WANE ACROSS the mesquite flats along the Wichita River as I walked down the dusty road toward a meandering arroyo. I had spent hours the day before watching a pair of nesting roadrunners hunt for grasshoppers and lizards in the tall grass growing there. I thought that today I might get lucky and have another opportunity to film the antics of these birds searching out their favorite prey.

Stopping for a moment to check the store of film in my pockets, I noticed the male bird of the pair trotting leisurely behind me. Ahead, the rays of evening sunlight swept the yucca and three-awn landscape, casting long shadows across the parched rangeland. Nearing the ridge above the dry creek bed, I spotted what appeared to be a dark stone partially exposed in the sand. However, closer inspection revealed the tightly coiled figure of a western

## The Resilient Roadrunner

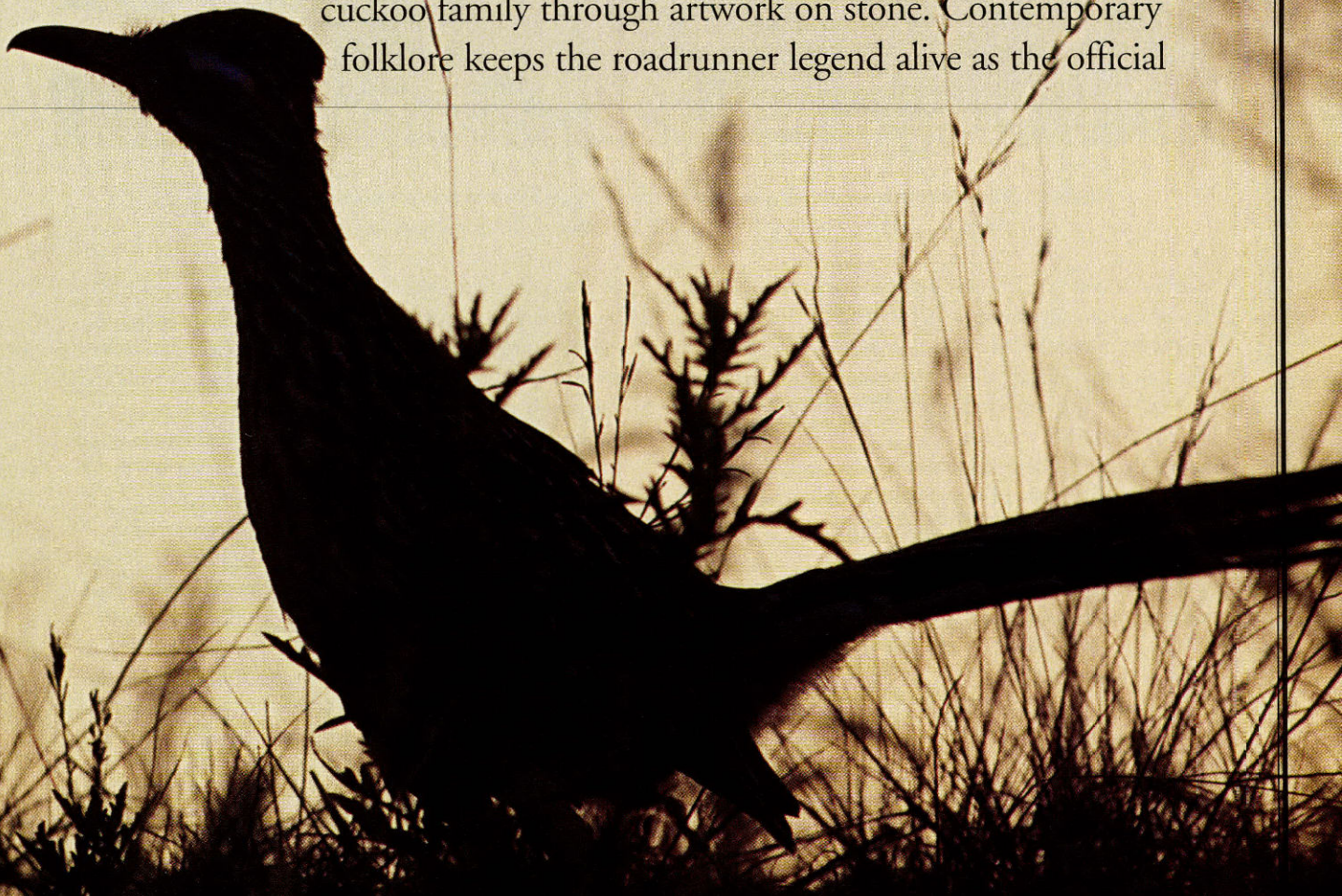
These gutsy, resourceful birds have earned the author's respect during 20 years of observation.

By WYMAN MEINZER

massasauga, a small and ill-tempered rattlesnake of the Texas plains, lying in a finger of late afternoon shadow.

Almost simultaneously the trailing roadrunner spotted the motionless reptile, and in a lightning burst of speed it dashed upon the rattler. With astounding boldness, the bird stabbed the snake's head with its beak, then tossed the stunned snake skyward. Within moments the confrontation was over, and the roadrunner, with the lifeless form of the rattlesnake dangling loosely from his beak, skittered easily away through the weed cover.

The roadrunner, often called the chaparral or paisano, has been a source of intrigue for people of the Southwest for untold centuries. Images of roadrunners killing snakes are often seen carved in rocky grottos, where centuries ago Native Americans explored their fascination with this fearless member of the cuckoo family through artwork on stone. Contemporary folklore keeps the roadrunner legend alive as the official







Tougher than it looks, the intrepid roadrunner stabs a snake, above, and field mouse, right, with its beak. The bird beats its prey's head against a rock until it is crushed, so it can swallow the prey whole.

state bird of New Mexico and favorite fowl of countless residents throughout the southwestern United States.

My own interest in the roadrunner began some 22 years ago when, on a cold January afternoon, a pair began to frequent the backyard near our home in Knox County. By springtime the pair had established a nest in a mesquite shrub and had begun to hunt the surrounding mesquites for insects and reptiles. As a fledgling photographer, I recognized the unique opportunity to explore the life of this bird. Thus began a photographic odyssey of 14 years that both enriched my life and furthered my understanding of a bird that has influenced Southwestern lore for more than 1,000 years.

The roadrunner is a member of the cuckoo family — the only one in the United States that is largely terrestrial in its travel. An incredibly efficient predator of insects and many species of reptiles, the bird is welcome in almost every region of the Southwest. But the chaparral has not always enjoyed such a favorable reputation. In the early 20th century, unfounded claims indicted the roadrunner as a serious predator on the nests of game birds such as bobwhite quail. As a result, a bounty was placed on each roadrunner killed. Until scientific research in the mid-1920s cleared these false accusations, countless numbers of these birds

were needlessly slaughtered. Even today, despite positive research findings and state and federal laws that prohibit the killing of a roadrunner, many individuals continue to believe the paisano to be a threat to some species of game birds and will readily destroy a roadrunner on sight.

After my initial contact with the nesting pair of roadrunners, it was four years before another roadrunner gave me the opportunity to study the natural history of the species. In the

spring and summer of 1982, I noted that the population density of roadrunners in the Rolling Plains was at its highest levels in recent memory. That spring another pair of birds attracted my attention and befriended me. I was amazed that

they accepted my presence around the nest and allowed me to accompany them on their hunts through the brush. I developed a respect for this bird that has endeared them to me for almost two decades. Every 10 to 15 minutes throughout each day, the adults would alternately leave the nest and embark on a foray for insects and reptiles. Rattlesnakes, lizards, insects and arachnids were fair game, and never did I see the adults waver from their attention to the four ravenous fledglings squabbling in the nest 15 feet up in a juniper tree.

By summer's end, I had accumulated hundreds of images

With astounding boldness, the bird stabbed the rattlesnake's head with its beak, then tossed the stunned snake skyward.



of roadrunner behavior, and I eagerly planned to resume my activities with this pair on the next nesting season. Little did I realize that it would be six years before I saw another nesting roadrunner. All species of wildlife, including the roadrunner, must endure some level of attrition within their ranks, and the bitter winter of 1982-83 proved disastrous to many creatures native to the Panhandle and rolling plains.

By the late 1980s, with the paisano population again on the rebound, I was told of the presence of a nest and once more established a bond with the mated pair. While studying these adults, I learned that indeed a nesting pair maintains a territory of about 22 acres and will defend the boundaries from other roadrunners. I also observed that, along with severe winter cold, roadrunner populations suffer significant mortality from depredating raccoons and feral house cats, not to mention the occasional hawk or bobcat that catches the normally wary bird off guard.

After many years of observing the roadrunner, I felt that I had seen almost everything these birds had to offer. Then one day a rancher called and told me that a white roadrunner had been frequenting his yard some miles from my home in Benjamin. He had not seen the bird in about a week, but he thought the oddly colored roadrunner would return. I had heard of two other white roadrunners during the past 20 years, but

had never had the opportunity to see them. Within days, the call came that the bird had indeed returned and was catching grasshoppers in the cowboy's backyard.

As I pulled into his driveway, I immediately spotted the cream-colored chaparral scurrying through the weeds in search of insects. After an hour or more of careful maneuvering in close proximity of the hunting roadrunner, I gained the bird's confidence. It soon allowed me the privilege of walking only a

**I gained the bird's confidence, and it soon allowed me the privilege of walking only a few yards' distance as it hunted grasshoppers.**

few yards' distance as it hunted the grasshoppers that infested the grassland around us. But as I shot my photos, I began to recognize the futility of its existence. With a color scheme so unusual in a near semi-arid environment, this young bird

would become a target for every predator in the area.

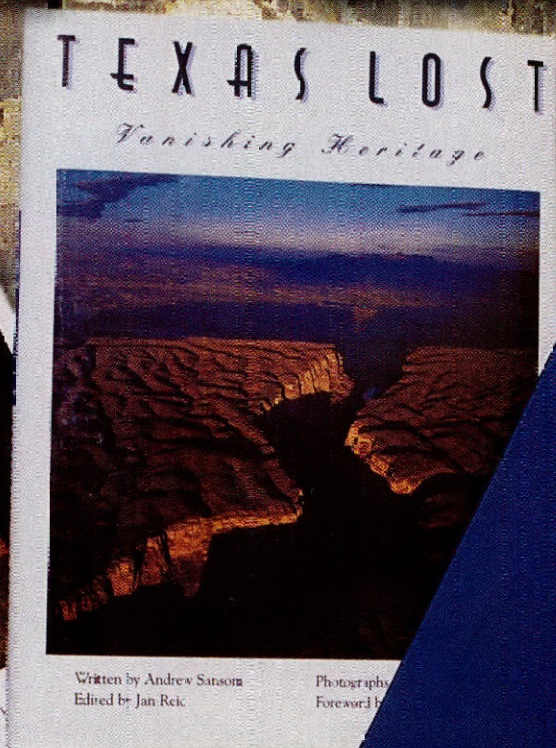
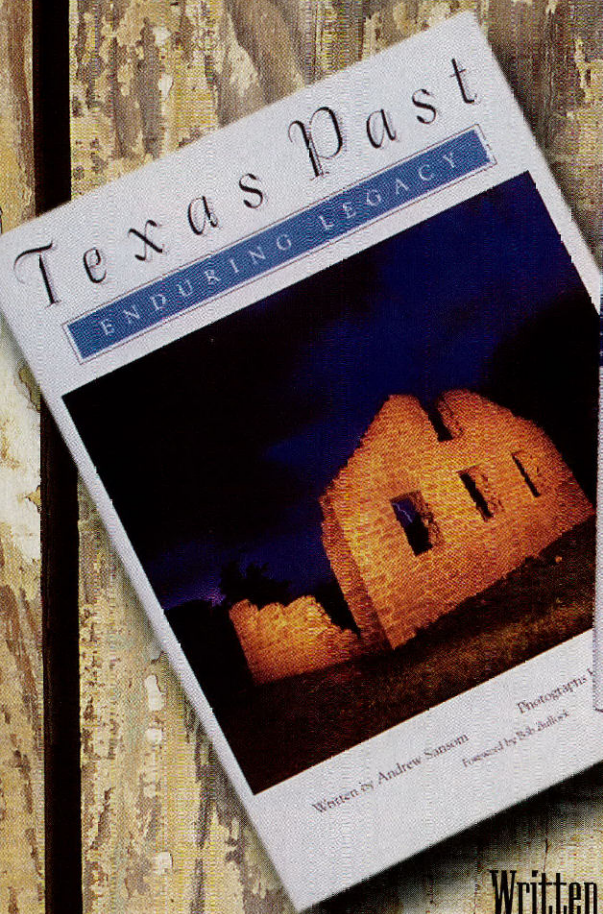
Before departing that evening, I stole one last glance at the slender chaparral as it stood panting in the shade of a gnarled mesquite. It was to be my last contact with the friendly white roadrunner. The cowboy never saw it again, either. But the images and memories of those few hours spent with this rare and trusting bird will remain with me for a lifetime. ★

*Frequent contributor WYMAN MEINZER's photos and observations of the chaparral are published in his book Roadrunner (Texas Tech University Press).*

**True to its name, the roadrunner picks up its stride to a ground-eating 20 inches when it runs. When casually trolling or engaged in a hunting foray, the stride is just six to eight inches.**



# SHARE THE LEGACY

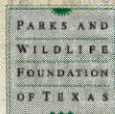


Written by Texas Parks and Wildlife Executive Director Andrew Sansom and lavishly illustrated with the photographs of Texas State Photographer Wyman Meinzer, *Texas Lost: Vanishing Heritage* and *Texas Past: Enduring Legacy* capture the magnificence of Texas as never before.

This limited edition boxed set is the perfect gift for any conservation-minded Texan - but why not order two? It's a thoughtful addition to your own library as well! The handsomely bound and dust-jacketed books are encased in a cloth-bound, embossed collector's case. Each book is 9" x 12" and full color throughout.

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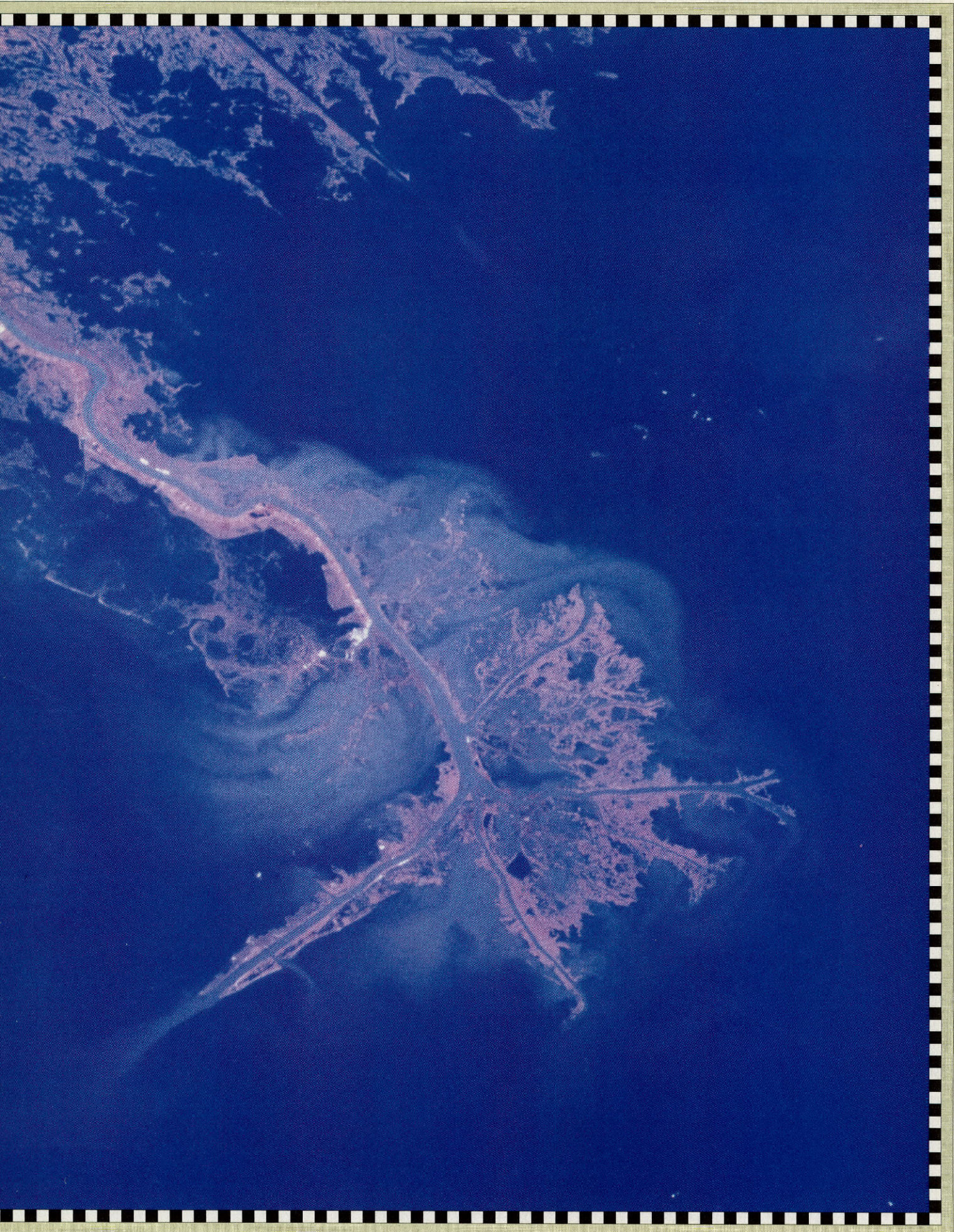
QUANTITIES ARE LIMITED. Please call 800-547-1726 to order; credit cards only, please. We accept MasterCard, VISA and Discover. Proceeds benefit the Parks and Wildlife Foundation of Texas, in support of Lone Star Legacy





# THE DEAD ZONE

**AN OXYGEN-STARVED, SEALIFE-KILLING ZONE THE SIZE OF NEW JERSEY APPEARS EACH SUMMER IN THE GULF OFF THE COAST OF LOUISIANA. IF THIS BLIGHT CONTINUES TO GROW, IT COULD SOON THREATEN THE ENTIRE TEXAS COAST. BY PHIL SHOOK**



**I**T WAS ON THE SECOND DIVE OF A research mission off Freeport on a July day in 1979 that Don Harper noticed that something wasn't right. At 70 feet, he was surprised to come upon a clear layer of water. When the sea floor came into view, he saw that it was strewn with dead worms and crabs and cottony bottom patches the size of dinner plates. A whiff of hydrogen sulfide penetrated his mask. "Worms were partway out of their tubes lying on the bottom all over the

place — these were all big animals," says Harper, a professor of marine science with the Texas A&M marine lab in Galveston.

What Harper had come upon unexpectedly — and later confirmed with subsequent dives and laboratory testing — was an oxygen-starved dead zone in the Gulf of Mexico that suffocates any marine life that can't escape its path. At the time, very little was known about these kinds of outbreaks other than anecdotal information of similar occurrences off the coast of Louisiana. Harper continued to make dives off the Freeport coast for seven years as part of an inspection of undersea salt domes. During that time, he encountered similar hypoxic zones at intervals of two years.

A few years later, marine biologists discovered off the Louisiana coast a wasteland that made Harper's apocalyptic scene seem minor by comparison. The same hypoxic conditions that Harper came upon had grown like a cancer off the Louisiana coast since 1985. Marine biologists gave the phenomenon a name worthy of a science fiction movie: The Dead Zone.

**Scientists collect samples of bacterial mat, which grows in hypoxic areas and caused the death of a blue crab, left.**

Harper and other marine biologists who have studied the blight over two decades believe the oxygen-starved dead zone the size of New Jersey that forms each summer off Louisiana's coast is a threat to the health and stability of the

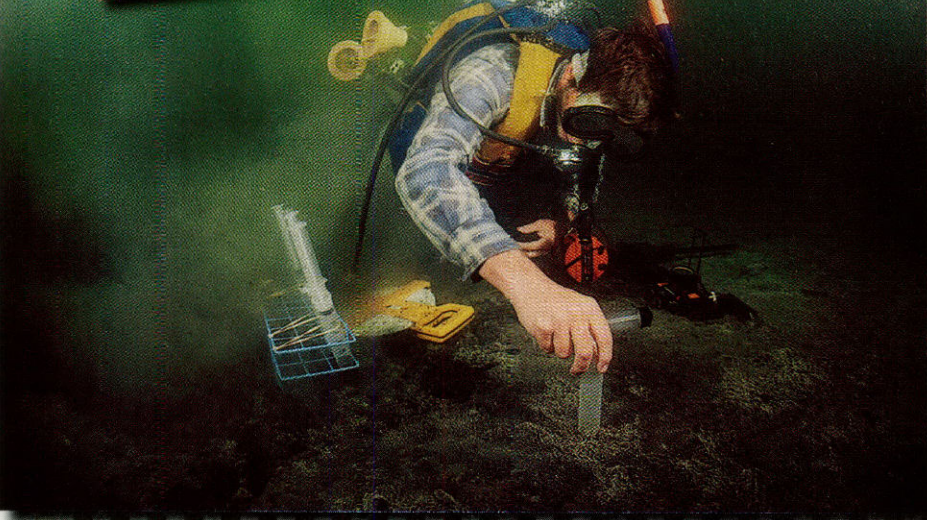
**THE 7,000-SQUARE-MILE HYPOXIC ZONE, SPAWNED BY AN OVERABUNDANCE OF NUTRIENTS FLOWING DOWN THE MISSISSIPPI, HAS BEEN TRACKED OFF THE LOUISIANA COAST FROM THE MOUTH OF THE RIVER ALL THE WAY TO THE TEXAS BORDER.**

entire western Gulf of Mexico. "If it continues to increase, it could affect the entire Texas coast down to at least the Corpus Christi area," Harper says. "And then you are talking about dead water on a massive scale, and the secession of some of the fisheries."

Spawned by an overabundance of nutrients flowing down the Mississippi River, the 7,000-square-mile hypoxic — low oxygen — zone has been tracked off the Louisiana coast from the river's mouth all the way to the Texas border.

Marine scientists have watched it move into deeper waters, and they fear it could spread as far south as the Texas Coastal Bend, killing or evicting every marine animal in its path.

The hypoxia that has occurred off Texas is "imported" from Louisiana and is not generated by Texas rivers flowing into the gulf, Harper says. He points out that the Mississippi River discharges hundreds of times more water than the local rivers, and the salinity of Lower Galveston Bay also is influenced more by the Mississippi.



"By and large the Mississippi controls the water salinity, the water clarity and everything else over here."

Shortly after Harper's encounter with hypoxic outbreaks in Texas waters, his research colleague Nancy Rabalais joined Louisiana Universities Marine Consortium and began a series of studies on the dead water zones. Rabalais, a co-discoverer of the massive dead zone off Louisiana, has compiled data and tracked the phenomenon for more than 15 years.

## THE SHAPE OF THINGS TO COME?

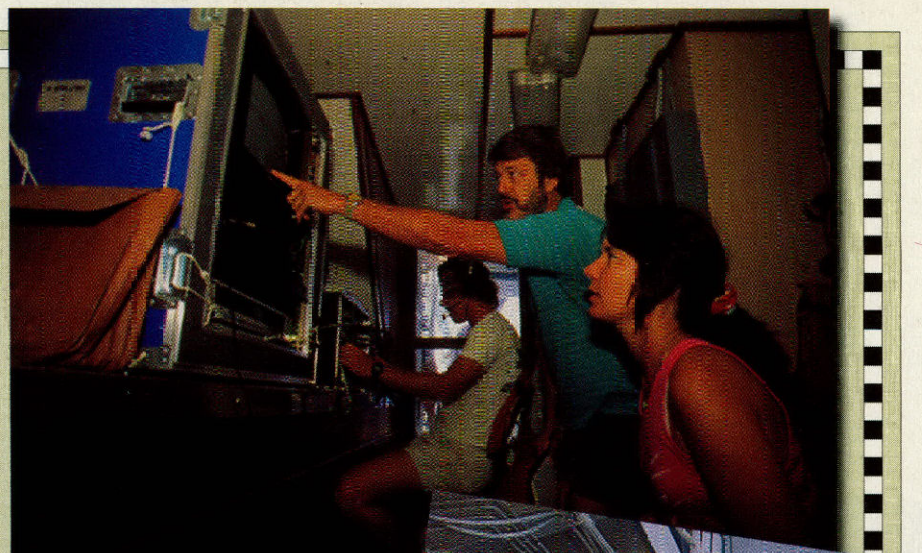
THE DEAD ZONE IS CURRENTLY A seasonal phenomenon. It appears off Louisiana waters around May, after floods have washed nutrients off river-side lands and carried them downstream by the Mississippi to the gulf. The condition disappears when winter winds break up algal blooms and move oxygen-rich water back into the area.

The size of the dead zone off Louisiana grew as large as 4,000 square miles in the period from 1985 to 1997. (It barely occurred at all during the drought year of 1988.) But the phenomenon attracted little attention outside scientific circles until 1993, a year of major flooding, when it doubled in size to more than 7,000 square miles. What followed also alarmed scientists. Since 1993, the dead zone exceeded 6,000 square miles each year, peaking at 7,032 square miles in 1995. It appeared to pull back slightly in 1998 to 4,800 square miles, but Rabalais said it merely changed shape, growing deeper as it narrowed and moving into deeper waters. "On the map it appears smaller, but the volume was about the same," she says.

The dead zone now extends out an astounding 55 miles into the gulf in some places, and to depths of 130 feet.

## DOWN OFF THE FARM

ONE OF THE 10 LARGEST RIVERS IN THE world, the mighty Mississippi drains 40 percent of the land area of the continental United States and dumps 580 cubic



**A device to test dissolved oxygen and other factors is deployed off the coast. Rabalais and Harper study a ROV monitor display of the hypoxic area.**

kilometers of water into the Gulf of Mexico every year. But in the process it also dumps a huge load of agricultural nutrients, some traveling 1,000 miles to the gulf. Most scientists agree that this nutrient load is one of the chief causes of the dead zone area. Other rivers that run to the gulf deliver agricultural nutrients, but none on the scale and volume of the Mississippi River.

The Mississippi River watershed carries more than 1.5 million tons of nitrogen, much of it washed from the fields of the Midwest farm belt, says Otto Doering, a professor at Purdue University. Nutrients like nitrogen and phosphorus are essential for healthy marine and freshwater environments. But an overabundance can trigger excessive algal growth (eutrophication), which results in reduced sunlight, loss of aquatic habitat and a decrease in oxygen dissolved in the water. Studies of water samples, sediments from the sea floor and other data show that the amount of dissolved nitrogen in the outflow of the Mississippi and the adjacent Atchafalaya Basin has tripled since the early 1970s.

Officials with the U.S. Geological Survey say sewage from urban develop-



ment along the Mississippi and its tributaries contributes only in a small way to the problem. A U.S.G.S. study estimates that 90 percent of the Mississippi River nitrogen comes from three sources: commercial fertilizers, livestock manure used as fertilizer, and plants such as soybeans that send nitrogen into the soil rather than take it out. "The size and duration of the hypoxic zone is very clearly driven by the nutrient load in the Mississippi River," says Donald Scavia, director of the Coastal Oceans Program at the National Oceanic and Atmospheric Administration (NOAA).





**A spider crab, above, and portunus crab, left, were suffocated by the lack of oxygen in hypoxic zones.**



*Through Endangered Seas.* “Out in the bay, scientists found an algae bloom of shocking proportions. Tiny phytoplankton in the water attained such dense concentrations that hydrogen sulfide gas began to rise out of the sea as dead creatures of all sorts decayed. Comb jellyfish and algae took over, and “fish stocks suffered a sudden, devastating crash.” Some 2 million fishermen lost their jobs in what may be the world’s first example of the death of a sea by eutrophication.

Scientists who have studied the Black Sea are concerned that the gulf dead zone could be following the same pattern toward disaster. If nothing is done to halt the expansion of the dead zone, they say, it could eventually become a permanent rather than seasonal blight on the gulf.

What would happen to the \$26 billion gulf fishery? Although data is lacking on the full impact of the dead zone on commercial fishing, the anecdotal evidence is disturbing. Some Texas shrimpers who set their trawls off Louisiana say it has driven many of their colleagues out of these waters or out of business. Fishermen have blamed the dead zone for reducing menhaden and shrimp catches. One thing is certain: shrimp lose a staple food source when the bottom-dwelling worms they feed on are killed.

And the loss to fisheries is not confined to the affected zone alone. Richard Moore, a commercial fisherman on the upper Texas coast, says that productive areas surrounding dead zones quickly become overfished when most of the fleet descends on the area.

Biologists are also concerned about other, more subtle effects on the ecology of the gulf. Because of the persistent annual occurrence of hypoxia in the Atchafalaya Bay area of Louisiana, Harper notes that there no longer exists what is called a climax community — a marine community that has gone through all of its changes and is in a steady state. “That is because everything is killed off every year,” he says.

Harper compares the effects of the seasonal appearance of hypoxia on the Texas-Louisiana Shelf with the burning down of a mature forest. “If you start from scratch, you have shrubs and grasses, big trees take over, and eventually you reach this climax community, which is the old-growth forest. If you burn it down every year, you don’t have a climax community old-growth forest. We are having the same effect [in the dead zone].”

## FISHING FOR SOLUTIONS

ALTHOUGH SCIENTISTS AGREE THAT cutting the levels of nutrients in the Mississippi River is the way to diminish the hypoxic zone, the best way to do so remains unclear. For example, should nutrient runoff be controlled closer to the mouth of the Mississippi or in the middle of the river drainage, where a significant amount of nutrients are deposited?

Remedies being studied include reducing agricultural sources of nitrogen by cutting fertilizer use or tightening controls on livestock waste. Scientists are studying new techniques for applying fertilizer in hopes of reducing runoff without sacrificing crop yields. Another solution may be to create wetlands or woodland buffer zones along the river to remove nitrogen naturally from the water before it reaches the gulf.

## WARNING SIGNS

IF YOU’RE LOOKING FOR A WORST-CASE scenario of what could happen in the Gulf of Mexico, you needn’t look any farther than the Black Sea. The sea, which supports everything from the Ukrainian fishing fleet to a resort industry on the Bulgarian coast, began to receive a massive load of nutrients starting in the 1960s, as development and agricultural pesticide use boomed along the Danube River.

After decades of decline, the Black Sea hit a low point in 1989. “A terrible stench of rotting eggs descended on the streets of Odessa,” as Colin Woodard describes it in *Ocean’s End: Travels*

But the attempt to make the needed large-scale changes in land use or agricultural practices presents significant political challenges. Agricultural communities and cities along the Midwest

**CURRENTLY A SEASONAL PHENOMENON, THE DEAD ZONE APPEARS OFF THE LOUISIANA COAST IN MAY, AFTER FLOODING WASHES NUTRIENTS OFF LANDS NEAR THE MISSISSIPPI AND CARRIES THEM DOWNSTREAM TO THE GULF OF MEXICO.**

farm belt are not likely to want to take on the cost of improving a coastal environment hundreds or thousands of miles away. Calls for reduced use of fertilizers also are coming at a time when prices for wheat, cotton and corn are high and there is pressure on farmers to increase their production.

Concern over the spread of the dead zone and its potential impact on the ecology of the Gulf of Mexico has gotten the attention of state governments, federal agencies and the White House, and there are a variety of initiatives underway to find remedies. The Mississippi Riverwise partnership is working with governmental agencies, farming organizations and commercial fishermen to find solutions. NOAA has compiled reports from six scientific teams that examined virtually every aspect of the problem, from causes to costs of various remedies.

The Clinton Administration has attempted to distill the newest discoveries about the dead zone into a single volume

for use by a task force of federal and state policymakers. The Committee on Environment and Natural Resources (CENR) has recommended a 20 percent cutback on fertilizer use by half of all American farms, along with converting 5 million acres of farmland to wetlands at a cost of \$4.9 billion a year. But using less fertilizer to meet this goal presents problems for farmers, some of whom call the 20 percent reduction draconian. One solution might be to offer compensation to farmers who turn riverside land into wetland reserves, creating a buffer that reduces the nutrient load draining out of the area. "The squabble now is between the marine interests down here and the agricultural interests in the breadbasket of the United States," says Harper.

Can the nation's farming and fishing interests afford a solution that will reverse the declining trend in North America's most productive sea? More to the point, can they afford not to? ★

*PHIL SHOOK is a freelance writer based in Houston who frequently covers Texas angling and fisheries issues.*

**This tube-dwelling anemone apparently was unharmed by hypoxic waters. But this has not been the case with many other organisms. The persistent annual occurrence of hypoxia affects the balance of the marine community.**



## HOW DOES IT HAPPEN?

**In the marine environment, a so-called dead zone, or hypoxic region, is created by a complex chain of events. When flood-driven, nutrient-bearing river water is pushed far out to sea by the velocity of a river the size of the Mississippi, it slides over the heavier, saltier water, forming a cover layer of dissolved nutrients.**

**Sunlight on the nutrients — dissolved nitrogen and phosphorus in this instance — kicks off a massive algae bloom in the surface water. The algae then become a bountiful food source for tiny crustaceans. Dead algae and waste material from the ravenous crustaceans settle to the ocean bottom, where they become food for oxygen-consuming bacteria.**

**As the bacterial appetite is satisfied, oxygen declines to levels too low to support most marine life. Any finfish or crustacean that can swim or propel itself out of the resulting oxygen-starved landscape does, but the more immobile ocean dwellers — such as clams, worms and starfish — are left to die. —P.S.**

**I**T'S 8:30 A.M., COOL AND OVERCAST, as I join a group of 25 at Seminole Canyon State Historical Park headquarters. As I look out over the rugged cliffs and boulders, I feel the pull of the ancient landscape, with its promise of secluded natural beauty, awesome vistas and glimpses of ancient Native American pictographs in shelters where only spirits now dwell.

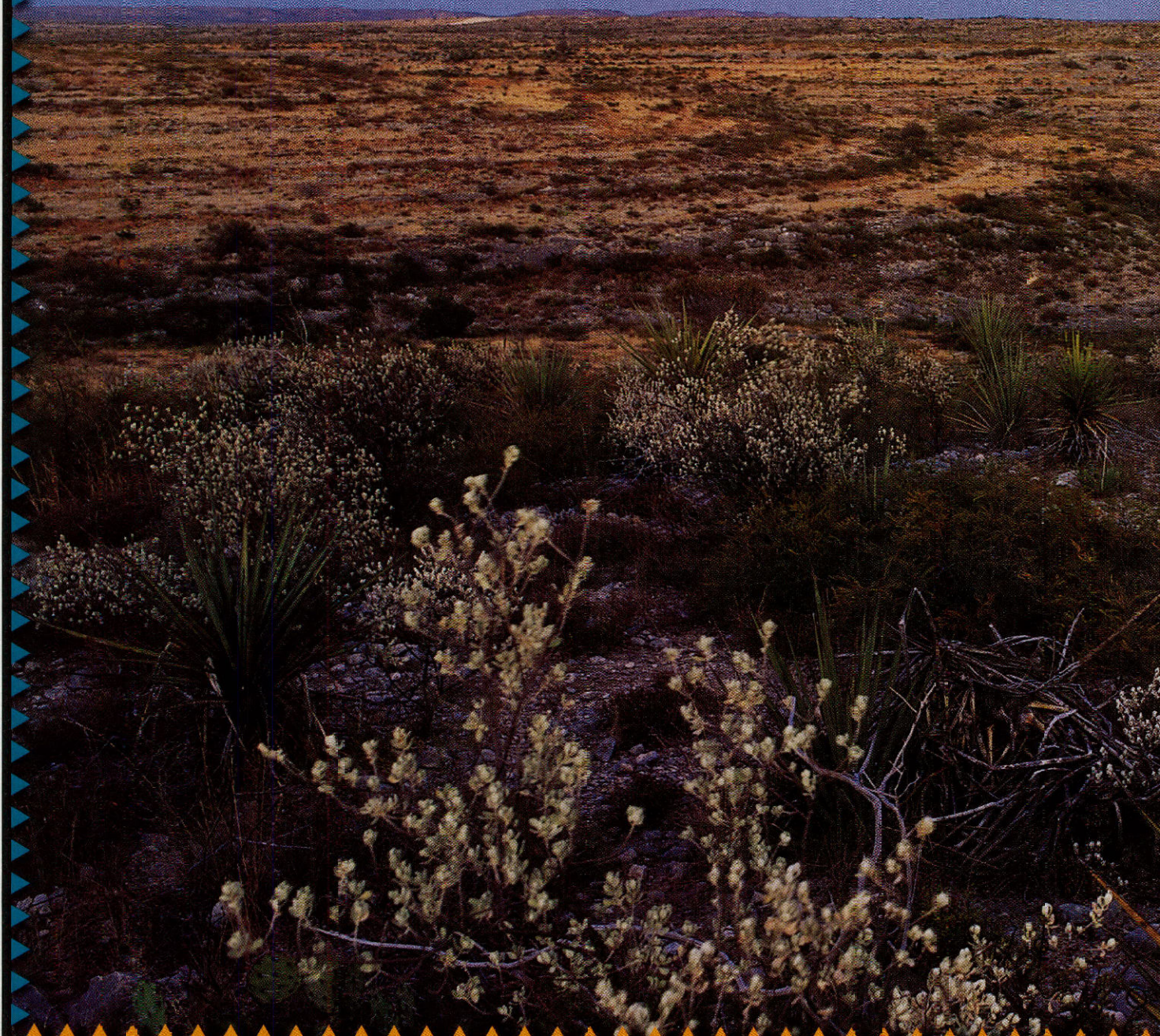
We are preparing for a hike deep into the canyon — a workout for body and soul. I look forward to a mystic journey,

but realism intrudes. Will I be able to handle the seven-mile trek through the deep canyon, over rocks and through thick brush? As a rookie on my first all-day hike, the fear of being “packed out” lurks in my mind.

Seminole Canyon has long been one of my favorite places, but as I begin this Presa Canyon Tour, one of several areas accessible to the public by special scheduled tours, I realize this is my first trip into the heart of this 2,200-acre park. On previous visits, I touched only

the surface, viewing the pictographs in Fate Bell Shelter and sculptor Bill Worrell's bronze statue “The Maker of Peace,” which overlooks the canyon.

The scenery alone makes the trip worthwhile, but the pictographs are the most compelling reason to visit the park. “The pictographs in Val Verde County are some of the best in the world, both in complexity and in beauty,” says longtime pictograph photographer and scholar Jim Zintgraff. Hidden in the canyons are 16 shelter sites containing images





# Spiritual Journey

A hike into Seminole Canyon State Historical Park brings the author face-to-face with 4,000-year-old cave paintings – and the beliefs of a long-vanished people.

**BY SUSAN COTTLE LEONARD**

radiocarbon-dated as old as 4,000 years.

We begin with a steep descent into the canyon, which in many areas is solid limestone, alternating with brushy patches. The sheer cliffs tower 75 to 150 feet into the sky, and the canyon appears to have been scooped out by prehistoric flash floods. The cliffs are streaked with gray and gold, known to geologists as "desert varnish." (The gray denotes areas where rainfall drips; the gold, areas with rare runoff.) The walls of the limestone canyon, which extend down thousands of feet, are 50 to 150 million years old, according to park manager Pancho Brotherton. Fellow hiker Dr. Jan Earle, a geology/anthropology instructor at Laredo Community College, points out honeycombed weathered limestone and

"natural cement" where erosion has made indentations in the limestone.

Our first stop is Fate Bell Shelter, a premier Pecos River-style pictograph site. Stylized handprints on the wall, presumably made when the artist painted the palms of his hands, scratched a design in the paint, and used his hands as a woodblock. Pictographs also extend across the back of the shelter in a 450-foot-wide panel that depicts shamans, deer, arrows and panthers. Drawings of shamans with heads of various animals predominate, suggesting a relationship between man and the natural world.

One scene, for example, shows birds flying beside two shamans, possibly depicting the guidance of feathered friends in hastening the soul's voyage from here to eternity. Another depicts a six-foot-tall human-like figure with antlers and feathered wings. The painting shows the shaman midway in his transformation from human to animal. His size and the waves emanating from his wings may signify the transcendence of the bird-deer incarnation, according to pictograph scholars.

But scholars can make only educated

guesses at what the pictographs convey. Like modern abstract art, pictographs are open to interpretation. Some believe the paintings are religious; others argue they depict ancient life, while others say they may simply be Archaic doodles. Says Zintgraff, "The paintings are examples of the mythology of the people of some

**"The pictographs in Val Verde County are some of the best in the world, both in complexity and in beauty," says longtime pictograph photographer and scholar Jim Zintgraff.**

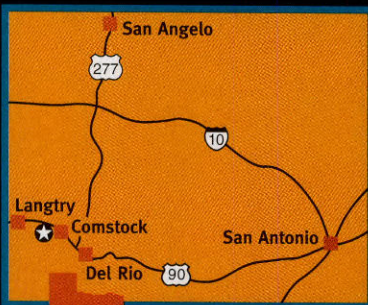
10,000 years ago, when man and animal were believed to be parts of a whole."

The shelter site includes a large boulder that served as a "Black and Decker workbench of the Archaic," according to Amistad National Recreation Area

### Getting There

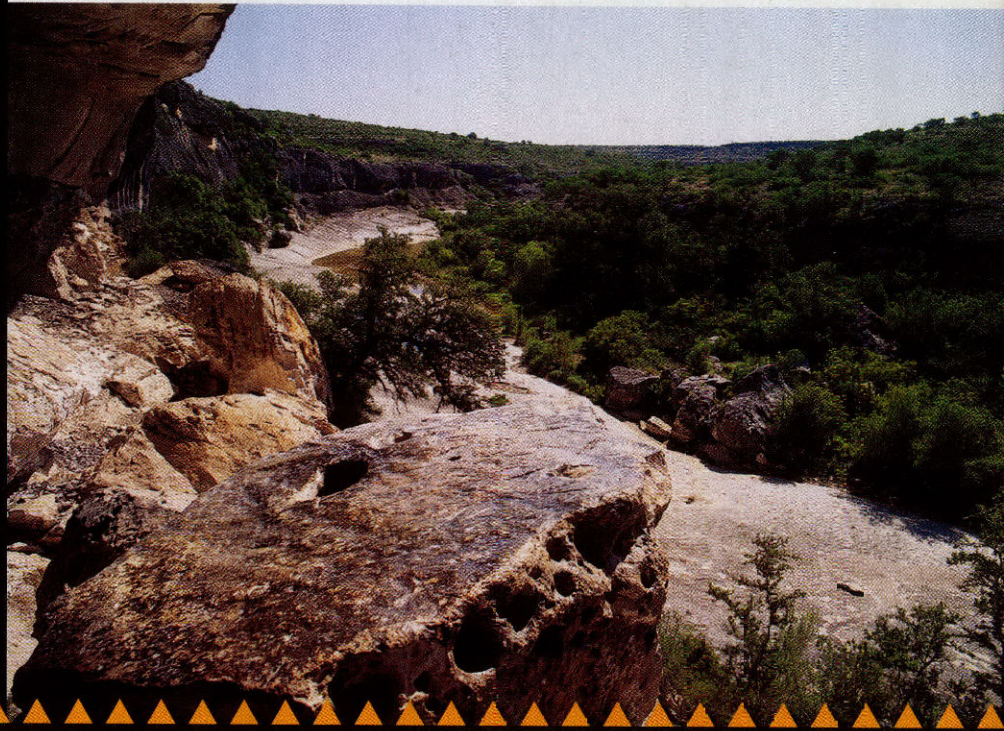
Seminole Canyon State Historical Park is in Val Verde County, 45 miles west of Del Rio on Highway 90, nine miles west of Comstock. Park hours are 8 a.m. to 5 p.m. daily. Fate Bell Cave Dwelling tours are held Wednesday through Sunday, at 10 a.m. and 3 p.m. The park has an interpretive museum, campsites, picnic area and eight miles of walking/biking trails.

Special guided hikes are available fall through spring. The Presa Canyon Tour is scheduled for Jan. 20, Feb. 3, March 24, April 21, Oct. 27 and Nov. 17, 2001. Reservations for guided tours (except Fate Bell) are required; call 915-292-4464 or visit the park Web site, <[www.tpwd.state.tx.us/park/seminole/seminole.htm](http://www.tpwd.state.tx.us/park/seminole/seminole.htm)>.



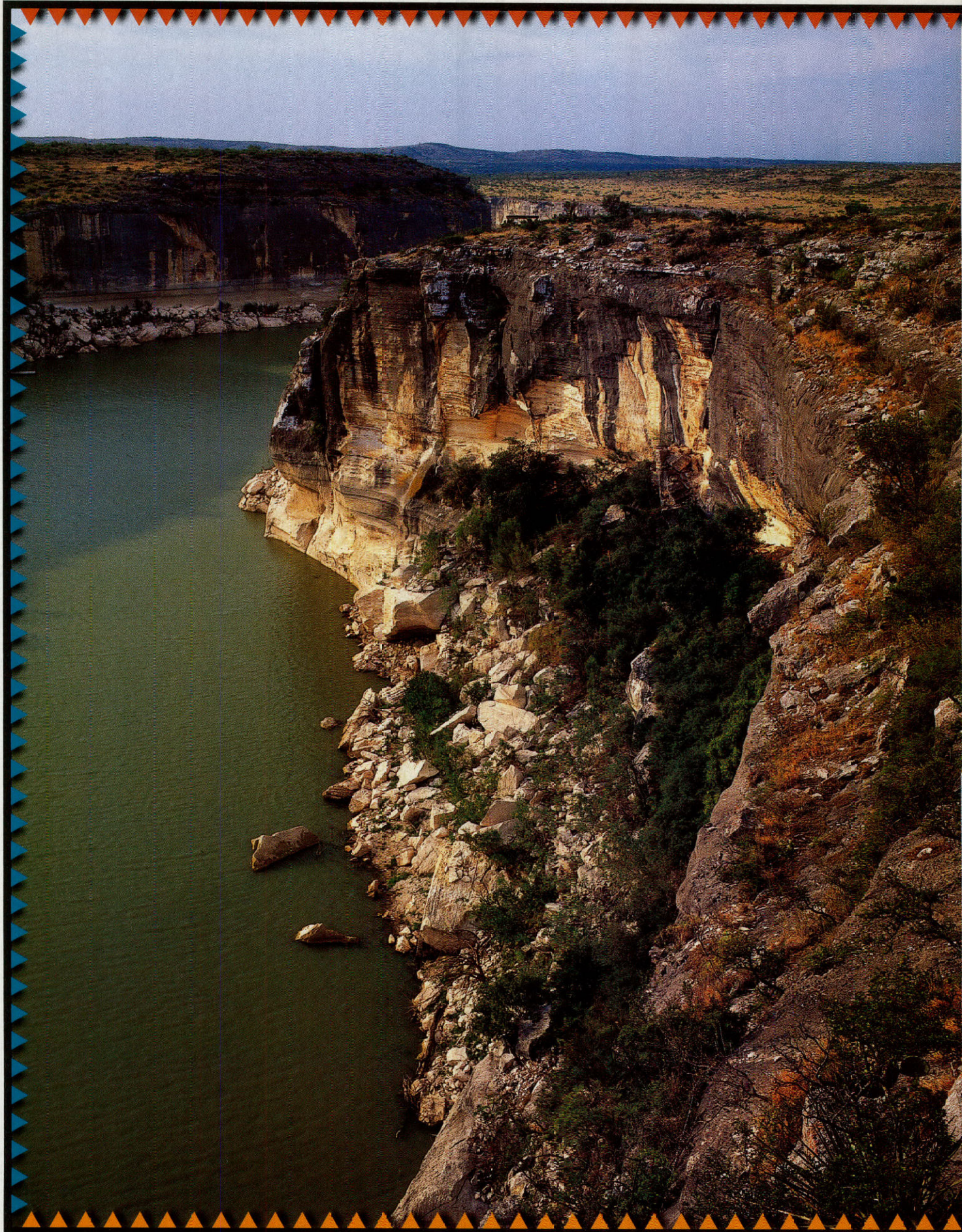
Map © Texas Parks and Wildlife Press, *Official Guide to Texas State Parks.*

**A large, flat stone known as the "polishing rock," below, served as a workbench in the Archaic period. The panther shaman, top right, appears in Panther Cave in various colors, sizes and guises — the biggest being the nine-foot-long El Gato Grande, bottom right.**





PICTOGRAPH PHOTOS © KYLE R. WOOD; CLIFF PHOTO © LANCE VARNELL



geologist Joe Labadie. "You can tell people sharpened tools there, talked about their children, hunting, the weather," he says. "It was a gathering place. It can almost speak to you, if you know how to listen."

Continuing the hike down into the canyon, I note the bottom growth, heavy compared to the sparse vegetation on top.

**I am particularly impressed with a two-ton boulder balancing on a tiny stem of limestone, like a basketball balancing on a golf tee.**

The area becomes more dense with button brush, Texas buckeye, walnut, mesquite, oak and even a wild grapevine. We must move branches from the path as we walk.

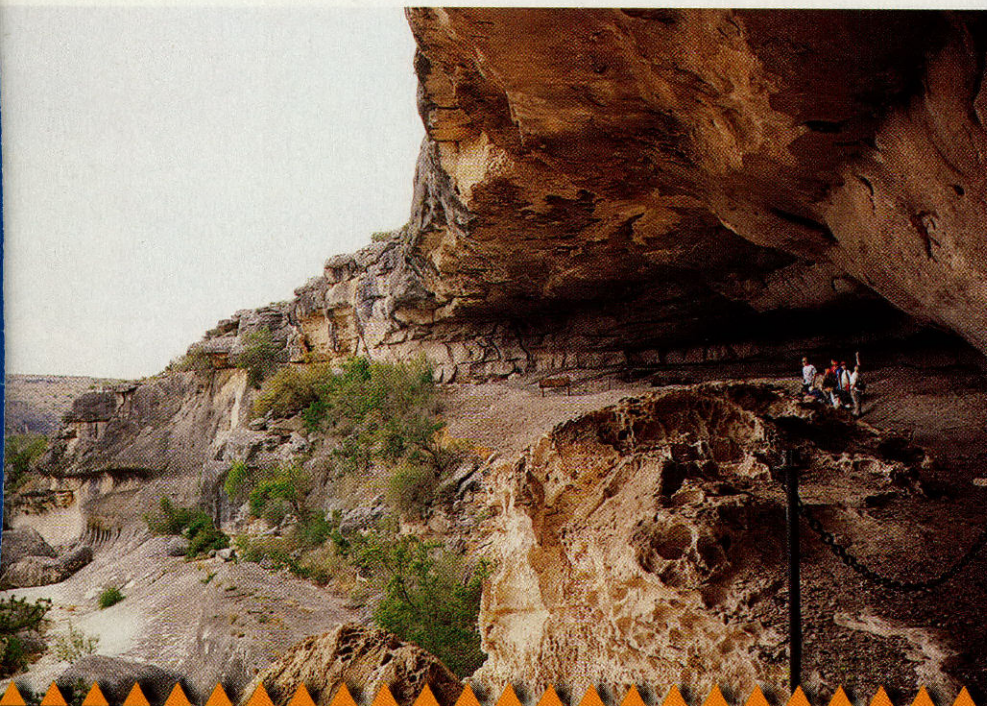
At midday, the temperature is about 75 degrees, and the canyon is virtually devoid of wildlife. A Texas earless lizard scampers onto a rock, then stands motionless under the admiring gaze of

the hikers, who marvel at the turquoise streak on its throat and underbelly before it disappears into the brush.

The air becomes warmer as we approach Black Cave, our break and turn-back point. I am glad I brought plenty of water; hiking is not to be taken lightly in the desert. Finally, we reach Black Cave and gaze up at pictographs drawn 20 feet high on the cave walls. "The original floor was much higher on the wall before the flood of 1954 washed it out," explains Tybor. "But they probably still used some type of ladder or scaffolding."

Although shamans are usually shown in a frontal pose with arms upraised, as in Fate Bell Shelter, Black Cave houses an unusual depiction, often called the dancing shaman. In this painting, two shamans, looking much like standing reptiles, appear to be facing each other with arms touching. Red and black spots outline their backs — marks that some scholars say represent hallucinogenic native seeds that may have been used to induce trance states. We make the steep climb up into the cave for a closer look into the distant past. "We are looking up into the ancient ocean floor," Earle says, pointing

**At the point where Seminole Canyon empties into Amistad Reservoir, left, steps lead up to Panther Cave, accessible only on specially scheduled tours when the water is high enough to allow boat access. Below, visitors study the pictographs in Fate Bell Shelter.**



## Galloway White Shaman Preserve

The White Shaman Preserve, on U.S. 90 one mile west of Seminole Canyon State Historical Park, offers a fine view of the Pecos River, but the main attraction is some of the most interesting and well-preserved pictographs in the Lower Pecos. "White Shaman Shelter is a pretty important place, like a church," says Rock Art Foundation president Greg Williams. He attributes the excellent condition of these pictographs to the direct sunlight, which prevents moisture seepage and enhances preservation.

Scholars have advanced many explanations of the White Shaman pictographs. Some say they depict a great shamanic resurrection. A feathered figure seems to assist with the White Shaman ascension, encountering obstacles along the way. Rebirth, enlightenment, the triumph of life over death, of good over evil — all are pictured on the stone walls. It is a moderately strenuous 90-minute hike down a winding rock trail to White Shaman Shelter. Dappled sunshine filters through the trees and rock overhangs. Tiny plants grow out of the solid rock walls along the path, and a few red monochrome pictographs of people appear, much like a child's stick-figure art.

Another attraction worth seeing at White Shaman Preserve is the "Enduring Spirit" solstice marker. The work of Kerrville artist Dean Mitchell, this 15-ton limestone Barrier Canyon-type shaman effigy sculpture has a white shaman cutout. Also worth seeing is Lifeways Village, a model of an Archaic surface camp dating from about 2500 B.C. The camp is a recreation by Comstock artisan Steve Norman, but the 15 to 20 original burned rock middens, or remnants of ancient cooking ovens, are original. Two bronze busts of Native Americans stand as a tribute to former inhabitants.

The preserve is owned by the Rock Art Foundation. It gives guided tours on Saturday at 12:30 p.m. or by appointment. Additional special tours are offered throughout the year. Call 888-762-5278 or 210-525-9907, or visit the Web site: <[www.rockart.org](http://www.rockart.org)>. — S.C.L.



out the shells of ancient sea creatures, called turrillites, embedded in the cave ceiling.

After lunch and a rest, we are ready for the hike back. The landscape remains primitive, stark and larger than life. I am particularly impressed with a two-ton boulder balancing on a tiny stem of limestone, like a basketball balancing on a golf tee. Over the years, erosion has

taken away the canyon floor and left the small, fluted limestone stem supporting the weight of the boulder. "The canyon looks like a big bathtub, with the bottom almost as wide as the top, where most canyons are V-shaped," says Earle. "This unusual profile is formed by water dissolving the rock instead of breaking it down into little pieces. This process, called dissolution, occurs here because of the calcite content in the rock; calcite may gradually be dissolved by rainwater."

This is a primitive world, where survival of the fittest takes on real meaning. Along with the pictographs, the canyon walls connect millions of years of the distant past to the present. Seeing this effect of nature's workings gives modern hikers much to ponder. What would it be like to survive in this environment, with access only to local plants and animals, rock shelters and scant water — at the mercy of nature's whims?

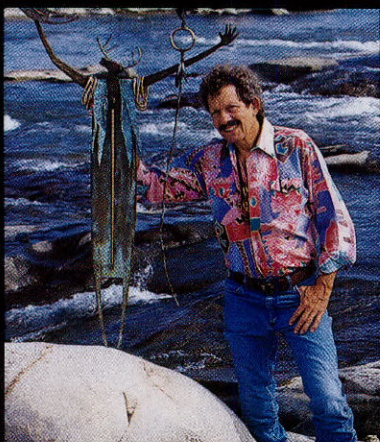
Sooner than we expect, we are on the flat limestone leading back to our starting point. It is 4:30 p.m., and after seven miles of walking, the steep steps leading up to the park headquarters pose the most difficult physical challenge of the day.

The entire hiking experience — with high canyon walls, stark vistas, gigantic boulders, shelters and pictographs — has indeed been a workout for body and soul. As "The Maker of Peace" looms, welcoming our group back to civilization,

**One painting, depicting a six-foot-tall human-like figure with antlers and feathered wings, shows the shaman midway in his transformation from human to animal.**

I feel I have traveled more than seven miles, more than one day. Looking out over the canyon, I feel like I am on top of the world, full of a deep sense of peace and of accomplishment. I have completed a mystic journey. ✧

SUSAN COTTLE LEONARD, a former reporter for the Del Rio News-Herald, is tourism and convention director of Del Rio.



### Making Peace

Llano River artist Bill Worrell combines his passion for archaeology, Native American culture and art in his bronze statue "The Maker of Peace," which overlooks Seminole Canyon. Worrell says that interpretations of ancient art inform his work, but those interpretations are guesses. The meaning of the Lower Pecos pictographs may forever remain a mystery.

Native Americans of this area are thought to have believed that a shaman is capable of entering altered states of consciousness. Therefore, Worrell depicts "The Maker of Peace" as the personification of the white-tailed deer, as shamans are often portrayed in the pictographs. The shaman's right shoulder is encircled by "the Golden Ring of Forever," the artist's depiction of eternity, the never-ending and cyclical nature of the universe and regeneration. The bird on the shaman's staff portrays the human soul, poised for flight.

The artisans at Deep in the Heart Art Foundry added their own touch when they cast the statue. Inside, hidden from human eyes, they placed a bronze heart.

— S.C.L.

After a rain, water collects beside the trail to Fate Bell Shelter in a spot that's usually dry, below. A shaman, right, is one of the Triad in a panel at the shelter. Black Cave (not pictured) offers a rare depiction of two shamans facing each other with arms touching.





PHOTO © LAURENCE PARENT

Texas'  
**HORNY TOADS**

**The decline of a true Texas native leaves only cherished memories of an age-old symbol of summer. By WENDY HODGES**

**L**ONG A SYMBOL OF CAREFREE summer days growing up in Texas, the horned lizard has now largely disappeared from much of the state's landscape. Children no longer find them as readily as in years past. Parents and grandparents exclaim that they haven't seen a horned toad in 20 or 30 years. This lizard's fate epitomizes the cumulative effects of our species on the environment: not only do we get rid of what is harmful, we are destroying things truly close to our hearts.

Three species of horned lizards make Texas their home. The Texas and mountain short-horned lizards are state listed as threatened species and protected from collection. The Texas horned lizard ranges in color from light tan and gray to dark rusty red. It is distinguished by beautiful yellow and white circles around pyramidal scales on its back. The mountain short-horned lizard is distinguished by head spines directed back toward the tail. It is generally dark brown or gray, often with red and blue highlights. This species can be found only at higher elevations in the West Texas mountains. It gives birth to live young rather than laying eggs in the ground. A third species, the roundtail horned lizard, is pale, matching the soil where it lives. It has dark neck patches, tail bands near its rear legs and four short occipital horns. The roundtail is restricted to the western half of the state,

where it lives primarily in canyons with rocky soils.

Historically, the range of the Texas horned lizard — better known as the "Texas horny toad," although it is not a toad at all — included the entire state, except for the easternmost counties of the Pineywoods. But now *Phrynosoma cornutum* has disappeared throughout East Texas (represented by a line extending from Fort Worth to Corpus

**Biologists suspect the invasion of fire ants in the 1950s is one reason for the decline.**

Christi), except for a few isolated and introduced populations. It also has disappeared throughout a large section of Central Texas, the Rio Grande Valley and North Texas.

Biologists suspect the invasion of fire ants in the 1950s is one reason for the decline. Scientists have documented direct attacks by fire ants on the nests of harvester ants, the primary food of the horned lizard. Horned lizards can eat as many as 200 or more ants a day. Nearly 70 percent of their diet consists of harvester ants, which they can eat because their blood contains a detoxifying agent against harvester venom. (Velvet ants, beetles, grasshoppers, pill bugs and

other arthropods round out their diet.) A horned lizard will travel from one ant mound to the next, eating ants along the trails. Since horned lizards do not eat fire ants, the displacement of native ants was a blow to horned lizard populations.

Aside from the invasion of the red fire ant, two other reasons have been suggested for the continued decline in the state's populations: habitat alteration or destruction by agriculture and urbanization, and the use of insecticides and other toxic chemicals on crops and to control fire ants. To help halt the decline, the Horned Lizard Conservation Society recommends avoiding pesticides (particularly those that kill ants), planting native vegetation and controlling fire ants with nonchemical means.

Many people think it's a myth, but horned lizards actually do squirt blood from their eyes. This behavior was recorded as early as 1651 by the Spanish explorer Francisco Hernandez. He wrote, "One extraordinary thing that exists in no other animal (as far as I know) is that if its head or eyes are pressed, or if it is struck carelessly, it vigorously shoots drops of blood ... up to a distance of three paces."

If threatened, the lizard is believed to squirt blood at large predators. A coyote or fox or dog that attempts to eat a horned lizard may find the lizard's blood distasteful or otherwise unpleasant, and may drop the lizard from its mouth or turn away, giving the lizard



an opportunity to escape. Smaller predators such as lizards, snakes, birds, cats and ground squirrels do not elicit blood squirting.

The habits of horned lizards vary somewhat depending on where they live. Northern populations of horned lizards are active primarily from late March to late October, though they can be seen on unusually warm winter days. In early spring and late fall, their activity is limited to midday, when temperatures are warmest. Throughout the summer months, activity is bimodal; lizards move about in early morning and an hour or two before sundown to avoid extreme heat.

During winter months, horned lizards bury themselves six to 12 inches below the soil surface, where they lie dormant until spring. In South Texas they are active from February to as late as December, and they hibernate at shallow depths of less than two inches.

Horned lizards exist in two worlds — aboveground and underground. In cooler climates they spend the night buried just below the surface of the earth or in a burrow.

They emerge at sunrise to heat themselves by basking in the early morning sun. Once their heads are warm, they heat the rest of their bodies by sitting with their backs turned toward the rising sun like a solar panel. Once they warm up, they begin to forage. They may spend some time digging a new burrow or head-bobbing at other lizards, perhaps a mate or invading competitor. Once the sun is directly overhead, horned lizards begin to seek shade. When even the shade gets too hot, they retreat underground, coming back out in the evening to forage

some more or dig around until dark.

In 1977 the Texas horned lizard became one of the first animals to be listed by the state as

threatened. In 1967, 10 years before the state's adoption of protective legislation for any threatened species, *P. cornutum* was banned by legislation from commercial and private sale. The measure may have slowed, but did not stop the decline. In declaring the Texas horned lizard as the state reptile in 1993, the Texas legislature noted a pattern. "Like many other things truly Texan," it observed, "it is a threatened species." ★

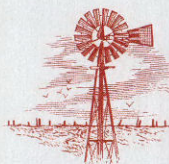
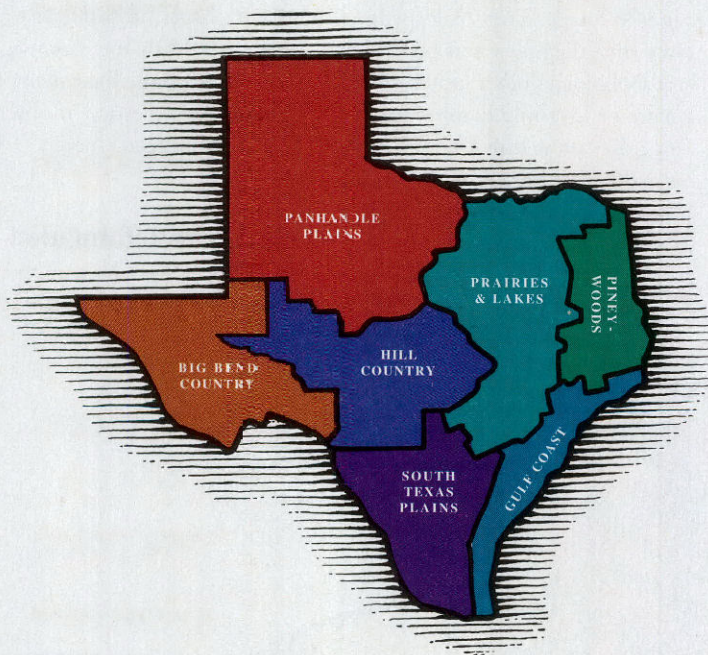
### For More Information

To find out more about horned lizard conservation in Texas, contact the Horned Lizard Conservation Society, P.O. Box 122, Austin, TX 78767, 512-306-0892. Landowners who are interested in participating in Texas Parks and Wildlife's Horned Lizard Watch Program may call 800-792-1112, ext. 7011 or visit the Web site: <[www.tpwd.state.tx.us/nature/education/tracker/horned\\_lizard/index.htm](http://www.tpwd.state.tx.us/nature/education/tracker/horned_lizard/index.htm)>.



# GETAWAYS

From Big Bend to the Big Thicket and the Red to the Rio Grande



## PANHANDLE-PLAINS

### DECEMBER EVENTS

- Dec.:** Llama Treks, San Angelo SP, San Angelo, by reservation, Jordan Llamas, 915-651-7346.
- Dec. 2:** Living History, Palo Duro Canyon SP, Canyon, 806-488-2227 x49.
- Dec. 2, 16:** Petroglyph Tour, San Angelo SP, San Angelo, 915-949-4757.
- Dec. 2, 16:** Longhorn and Bison Seminar, San Angelo SP, San Angelo, 915-949-4757.
- Dec. 2, 30:** Family Nature Hike, Palo Duro Canyon SP, Canyon, 806-488-2227 x49.
- Dec. 9:** Dinosaur Walk, San Angelo SP, 915-949-4757.

**Dec. 9:** Canyon Chat, Palo Duro Canyon SP, Canyon, 806-488-2227 x49.

**Dec. 9-24:** Pleasant season in 37 Panhandle counties, 512-389-4505.

**Dec. 9, 23:** Nature Hike, Palo Duro Canyon SP, Canyon, 806-488-2227 x49.

**Dec. 16:** Winter Nature Photography Workshop, Caprock Canyons SP & Trailway, Quiraque, 806-455-1492.

**Dec. 16:** Christmas in the Canyon, Palo Duro Canyon SP, Canyon, 806-488-2227 x49.

**Dec. 23:** Stargazing, Palo Duro Canyon SP, 806-488-2227 x49.

**Dec. 26:** Mourning dove season opens in the Central and South Zone, 512-389-4505.

**Dec. 30:** Canyon Critters, Palo Duro Canyon SP, Canyon, 806-488-2227 x49.

### JANUARY EVENTS

**Jan.:** Nature Programs, call for details, Abilene SP, Abilene, 915-572-3204.

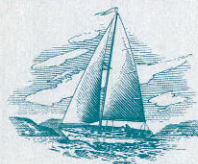
**Jan. 6, 20:** Petroglyph Tour, San Angelo SP, San Angelo, 915-949-4757.

**Jan. 13, 27:** Dinosaur Walk, San Angelo SP, San Angelo, 915-949-4757.

**Jan. 13:** Stargazing Party, Abilene SP, Abilene, 915-572-3204.

**Jan. 20:** Longhorn and Bison Seminar, San Angelo SP, San Angelo, 915-949-4757.

**Jan. 21-22:** Hunter Safety Course, Copper Breaks SP, Quanah, 940-839-4331.



## PRAIRIES AND LAKES

### DECEMBER EVENTS

**Dec.:** Early German Christmas, call for dates, Monument Hill & Kreische Brewery SHP, La

Grange, 979-968-5658.

**Dec.:** Historic and Scenic Tour, by reservation only to groups of 10 or more, Monument Hill & Kreische Brewery SHP, La Grange, 979-968-5658.

**Dec.:** Historical Tours, every Saturday & Sunday, Stephen F. Austin SHP, San Felipe, 979-885-3613.

**Dec.:** Bald Eagle Tour, every Saturday, Fairfield Lake SP, Fairfield, 903-389-4514.

**Dec.:** Kreische Brewery Tours, every Saturday and Sunday, Monument Hill & Kreische Brewery SHP, La Grange, 979-968-5658.

**Dec.:** Guided Tours, every weekend, Fanthorp Inn SHP, Anderson, 936-873-2633.

**Dec.:** Evening Campfire Programs, every Saturday, Stephen F. Austin SHP, San Felipe, 979-885-3613.

**Dec. 2, 9, 15, 16:** Trail of Lights, Monument Hill & Kreische Brewery SHP, La Grange, 979-968-5658.

**Dec. 2:** Sandhill crane season opens in Zone B, 512-389-4505.

**Dec. 3:** Christmas Celebration at Maxey House, Sam Bell Maxey House SHP, Paris, 903-785-5716.

**Dec. 9:** Pancakes With Santa, Stephen F. Austin SHP, San Felipe, 979-885-3613.

**Dec. 9:** Christmas Caroling and Hayride, Stephen F. Austin SHP, San Felipe, 979-885-3613.

**Dec. 9, 16:** Candlelight Christmas, Washington-on-the-Brazos SHP, Washington, 936-878-2213.

**Dec. 26:** Mourning dove season opens in the Central and South Zone, 512-389-4505.

### JANUARY EVENTS

**Jan.:** Historic and Scenic Tour, by reservation only, Monument Hill & Kreische Brewery SHP, La Grange, 979-968-5658.



**Jan.:** Kreische Brewery Tours, every Saturday and Sunday, Monument Hill & Kreische Brewery SHP, La Grange, 979-968-5658.

**Jan.:** Campfire Programs, every Saturday, Stephen F. Austin SHP, San Felipe, 979-885-3613.

**Jan.:** Historical Tours, every Sunday, Stephen F. Austin SHP, San Felipe, 979-885-3613.

**Jan. 6, 7, 20, 21:** Birds of the Brazos Hike, Stephen F. Austin SHP, San Felipe, 979-885-3613.

**Jan. 7, 14:** Kreische House Tours, Monument Hill & Kreische Brewery SHP, La Grange, 979-968-5658.

**Jan. 13, 20, 27:** Bald Eagle Tour, Fairfield Lake SP, Fairfield, 903-389-4514.

**Jan. 20-21:** Origins Of The Cowboy, Washington-on-the-Brazos SHP, Washington, 936-878-2213.

**Jan. 20-21:** Eagle Fest 2001, Emory, 800-561-1182.

**Jan. 20-31:** Vanishing Amphibians, Texas Freshwater Fisheries Center, Athens, 903-676-BASS

**Jan. 20:** Trout Clinic, Fort Parker SP, Mexia, 254-562-5751.

**Jan. 22:** Special light goose conservation season opens in the Eastern Zone, 512-389-4505

**Jan. 26:** Fish-It's Fine Food, Texas Freshwater Fisheries Center, Athens, 903-676-BASS



## PINEYWOODS

### DECEMBER EVENTS

**Dec. 2, 9, 16:** Victorian Christmas Train, Texas State Railroad SHP, Rusk, 800-659-3484 or 903-723-3014.

**Dec. 9:** Guided Nature Trail Hike, Village Creek SP, Lumberton, 409-755-7322.

**Dec. 9:** Christmas in the Park, Mission Tejas SHP, Grapeland, 936-687-2394.

**Dec. 9, 10:** Christmas Open House, Governor Hogg Shrine HP, Quitman, 903-763-2701.

**Dec. 16:** Floating the Forks,

Martin Dies, Jr. SP, Jasper, 409-384-5231.

**Dec. 26:** Mourning dove season opens in the Central and South Zone, 512-389-4505.

### JANUARY EVENTS

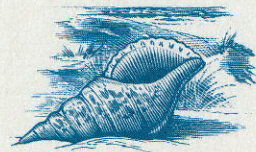
**Jan. 13, 27:** Guided Nature Hike, Village Creek SP, Lumberton, 409-755-7322.

**Jan. 5, 19:** Slide Show, Village Creek SP, Lumberton, 409-755-7322.

**Jan. 20:** Floating the Forks, Martin Dies, Jr. SP, 409-384-5231.

**Jan. 22:** Special light goose conservation season opens in the Eastern Zone, 512-389-4505

**Jan. 27:** Annual Kid's Fishing Day, Lake Bob Sandlin SP, Pittsburg, 903-572-5531.



## GULF COAST

### DECEMBER EVENTS

**Dec.:** Plantation house, barn and grounds tours, Wednesdays through Sundays, Varner-Hogg Plantation SHP, West Columbia, 979-345-4656

**Dec.:** Nature Programs, Brazos Bend SP, Needville, 409-553-5102.

**Dec.:** Hatchery tours by reservation, Sea Center Texas, Lake Jackson, 409-292-0100

**Dec. 2:** Pearl Harbor Ceremony, Battleship *Texas* SHP, La Porte, 281-479-2431.

**Dec. 2:** Yuletide Gathering, Armand Bayou Nature Center, Houston, 281-474-2551

**Dec. 2, 9:** Candlelight Christmas, Varner-Hogg Plantation SHP, West Columbia, 979-345-4656.

**Dec. 9:** Caroling at the Mansion, Fulton Mansion SHP, Fulton, 361-729-0386.

**Dec. 14, 30:** Whooping Crane Bus Tour, Matagorda Island SP & WMA, Port O'Connor, 361-983-2215.

**Dec. 15:** Christmas Bird Count, Armand Bayou Nature Center, Houston, 281-474-2551

**Dec. 16:** Caroling in the Park,

Lake Texana SP, Edna, 361-782-5718.

**Dec. 26:** Mourning dove season opens in the Central and South Zone, 512-389-4505.

**Dec. 28:** Intracoastal Whooping Crane Tour, Matagorda Island SP & WMA, Port O'Connor, 361-983-2215.

**Dec. 29:** Beach Combing and Shelling Tour, Matagorda Island SP & WMA, Port O'Connor, 361-983-2215.

### JANUARY EVENTS

**Jan.:** Plantation house, barn and grounds tours, Wednesdays through Sundays, Varner-Hogg Plantation SHP, West Columbia, 979-345-4656

**Jan.:** Tours, Tuesday through Sunday, Sea Center Texas, Lake Jackson, 979-292-0100

**Jan.:** Bird Walks, Every Wednesday through Saturday, Goose Island SP, Rockport, 361-729-2858.

**Jan.:** Weekend Nature Programs, Every Weekend, Lake Texana SP, Edna, 361-782-5718.

**Jan. 10:** Reenactment of the Spindletop Gusher, Beaumont, 409-839-2977.

**Jan. 12, 15:** Intracoastal Whooping Crane Tour, Matagorda Island SP & WMA, Port O'Connor, 361-983-2215.

**Jan. 13:** Beach Combing and Shelling Tour, Matagorda Island SP & WMA, Port O'Connor, 361-983-2215.

**Jan. 14:** History Tour, Matagorda Island SP & WMA, Port O'Connor, 361-983-2215.

**Jan. 18:** Whooping Crane Bus Tour, Matagorda Island SP & WMA, Port O'Connor, 361-983-2215.

**Jan. 22:** Special light goose conservation season opens in the Eastern Zone, 512-389-4505



## HILL COUNTRY

### DECEMBER EVENTS

**Dec.:** Gorman Falls Tour, every Saturday & Sunday, weather permitting, Colorado Bend SP, Bend, 915-628-3240.

**Dec.:** Walking Cave Tour, every Saturday & Sunday, weather permitting, Colorado Bend SP, Bend, 915-628-3240.

**Dec.:** Honey Creek Canyon Walk, every Saturday, Honey Creek SNA, Spring Branch, 830-438-2656.

**Dec. 1:** Discovering Tracks, Cibolo Nature Center, Boerne, 830-249-4616

**Dec. 2:** Crawling Cave Tour, Colorado Bend SP, Bend, 915-628-3240.

**Dec. 2:** Sandhill crane season opens in Zone B, 512-389-4505.

**Dec. 16:** Enchanted Rock Trail Project Day, Enchanted Rock SNA, Fredericksburg, 512-445-3862

**Dec. 17:** 31st Annual Christmas Tree Lighting Program, Lyndon B. Johnson SHP, Stonewall, 830-644-2252.

**Dec. 18:** Austin Fly Fishers meeting, Austin, 512-918-1832

**Dec. 26:** Mourning dove season opens in the Central and South Zone, 512-389-4505.

### JANUARY EVENTS

**Jan.:** Campfire Programs, Every Saturday, McKinney Falls SP, Austin, 512-243-1643.

**Jan.:** Ranger Talk, Every Saturday, McKinney Falls SP, Austin, 512-243-1643.

**Jan. 6-27:** Honey Creek Canyon Walk, Honey Creek SNA, Spring Branch, 830-438-2656.

**Jan. 6-28:** Gorman Falls Tour, Colorado Bend SP, Bend, 915-628-3240.

**Jan. 6-28:** Walking Cave Tour, Colorado Bend SP, Bend, 915-628-3240.

**Jan. 6:** Crawling Cave Tour, Colorado Bend SP, Bend, 915-628-3240.

**Jan. 8:** Late antlerless and spike buck season opens in 25 Edwards Plateau counties, 512-389-4505.

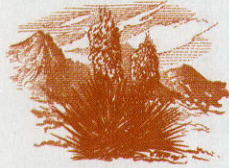
**Jan. 15:** Austin Fly Fishers meeting, Austin, 512-918-1832

**Jan. 18:** Medina County in the Civil War, Landmark Inn SHP, Castroville, 830-931-2133.

**Jan. 19-20:** Sam Bass Treasure Hunt/Mystery Game, Longhorn Cavern SP, Burnet, 877-441-2283.

**Jan. 21:** Enchanted Rock Trail Project Day, Enchanted Rock SNA, Fredericksburg, 512-445-3862.





## BIG BEND COUNTRY

### DECEMBER EVENTS

**Dec.:** Fate Bell Cave Dwelling Tour, every Wednesday thru Sunday, Seminole Canyon SHP, Comstock, 915-292-4464.

**Dec.:** White Shaman Tour, Every Saturday, Seminole Canyon SHP, Comstock, 888-525-9907.

**Dec. 1-3, 4-6, 8-10:** Fall Trail Ride, Big Bend Ranch SP, Presidio, 281-486-8070.

**Dec. 7:** Christmas Tea, Magoffin Home SHP, El Paso, 915-533-5147.

**Dec. 9:** Stories of Spirit, Magoffin Home SHP, El Paso, 915-533-5147.

**Dec. 11-26:** Fishing on the Rio Grande, Black Gap WMA, 915-376-2216.

**Dec. 16:** Christmas in the Garden, Barton Warnock Environmental Education Center, Lajitas, 915-424-3327.

**Dec. 26:** Mourning dove season opens in the Central Zone, 512-389-4505.

### JANUARY EVENTS

**Jan.:** Fate Bell Cave Dwelling Tour, Every Wednesday through Sunday, Seminole Canyon SHP, Comstock, 915-292-4464.

**Jan.:** White Shaman Tour, Every Saturday, Seminole Canyon SHP, Comstock, 915-292-4464.

**Jan.:** Bouldering Tours, every Saturday and Sunday, Hueco Tanks SHP, El Paso, 915-857-1135.

**Jan.:** Pictograph Tours, every Saturday and Sunday, Hueco Tanks SHP, El Paso, 915-857-1135.

**Jan.:** Phantom Cave Springs and San Solomon Cienega Tour, every Saturday, Balmorhea SP, Toyahvale, 915-375-2370.

**Jan. 1-31:** Quail Hunt, Black Gap WMA, Brewster County, 915-376-2216.

**Jan. 1-31:** Fishing on the Rio Grande, Black Gap WMA, Brewster County, 915-376-2216.

**Jan. 13:** Stories Of Spirit, Magoffin Home SHP, El Paso, 915-533-5147.

**Jan. 20:** Presa Canyon Tour, Seminole Canyon SHP, Comstock, 915-292-4464.

**Jan. 21:** Bird Identification Tours, Hueco Tanks SHP, El Paso, 915-857-1135.

**Jan. 21:** Upper Canyon Tour, Seminole Canyon SHP, El Paso, 915-292-4464.

**Jan. 22-26:** Advanced Wilderness First Aid, Barton Warnock Environmental Education Center, Lajitas, 915-424-3327.

**Jan. 26-27:** Living History Days, Fort Leaton SHP, Presidio, 915-229-3613.



## SOUTH TEXAS PLAINS

### DECEMBER EVENTS

**Dec.:** Christmas at Choke Canyon, call for events, times and dates, Choke Canyon SP/Calliham Unit, Calliham, 361-786-3868.

**Dec.:** Kiskadee Bus Tour, every Tuesday and Friday, Bentsen-Rio Grande Valley SP, Mission, 956-585-1107.

**Dec. 2:** Christmas Concert, Goliad SHP, Goliad, 361-645-3405.

**Dec. 2:** 12th Annual Pony Express Ride between Goliad and San Antonio, 361-645-3752.

**Dec. 2:** 19th Century Reenactors Frontier Rendezvous, Presidio La Bahia, Goliad, 361-645-3752.

**Dec. 3:** Dutch Oven Cooking

Class, Government Canyon SNA, San Antonio, 210-688-9570.

**Dec. 12:** Virgin of Guadalupe Mass, Goliad SHP, Goliad, 361-645-3405.

**Dec. 26:** Mourning dove season opens in the Central and South Zone, 512-389-4505.

**Dec. 30:** Sandhill crane season opens in Zone C, 512-389-4505.

### JANUARY EVENTS

**Jan.:** Kiskadee Bus Tour, every Tuesday and Friday, Bentsen Rio Grande SP, Mission, 956-585-1107.

**Jan. 22:** Special light goose conservation season opens in the Eastern Zone, 512-389-4505.

**Jan. 22:** Late antlerless and spike buck season opens in 30 South Texas counties, 512-389-4505.

## State Parks Offer Public Hunts

A number of state parks will offer special permit hunting this fall. As in the past, the specially controlled public hunts are scheduled for Monday through Friday, a slow time at most parks during fall and winter. Most parks will be open on Saturdays and Sundays for camping, picnicking and similar activities.

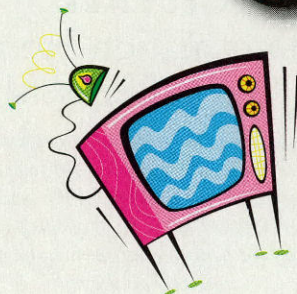
The following schedule lists the times and dates when public access is restricted. Call the park of your choice directly to make sure it will be open on the day you want to visit. Or call Texas Parks and Wildlife's information line, 800-792-1112, between 8 a.m. and 5 p.m. Monday-Friday. Press 3 for park information or 5 for public hunt information.

<b>Nov. 28-Dec. 1</b> Caprock Canyons SP 806-455-1492 Colorado Bend SP 915-628-3240	<b>Jan. 1-5, 8-12, 15-19, 22-26</b> Lake Brownwood SP 915-784-5223
<b>Dec. 5-7, 12-14, 19-21</b> Atlanta SP 903-796-6476 <b>Dec. 3-8, 17-22</b> Brazos Bend SP 409-553-5101 <b>Dec. 5-8</b> Caprock Canyons SP 806-455-1492	<b>Jan. 1-3, 3-5, 8-10, 10-12, 15-17, 17-19</b> Choke Canyon SP 361-786-3868 <b>Jan. 2-5, 9-12, 16-19, 23-26</b> Colorado Bend SP 915-628-3240 <b>Jan. 8-10, 10-12, 15-17, 17-19</b> Davis Mountains SP 915-426-3337
<b>Dec. 5-8, 12-15, 26-29</b> Colorado Bend SP 915-628-3240 <b>Dec. 4-7, 11-14</b> Devils River SNA 830-395-2133 <b>Dec. 3-8, 17-22, 25-29</b> Enchanted Rock SNA 915-247-3903 <b>Dec. 3-8</b> Fairfield Lake SP 903-389-4514 <b>Dec. 4-7, 10-15</b> Garner SP 830-232-6132	<b>Jan. 3-5, 8-10, 10-12, 17-19</b> Guadalupe River SP 830-438-2656 <b>Jan. 7-10, 14-17</b> Hill Country SNA 830-796-4413 <b>Jan. 2-5, 7-12, 16-19</b> Honey Creek SNA 830-438-2656 <b>Jan. 3-5, 8-12</b> Huntsville SP 409-295-5644 <b>Jan. 3-5, 10-12, 17-19</b> Inks Lake/Longhorn Cavern SP 512-793-2223
<b>Dec. 3-6, 10-13, 17-20</b> Hill Country SNA 830-796-4413 <b>Dec. 27-29</b> Huntsville SP 936-295-5644 <b>Dec. 10-15</b> Lake Houston SP 281-354-6881 <b>Dec. 4-8, 11-15, 18-22, 26-28</b> Pedernales Falls SP 830-868-7304 <b>Dec. 3-8, 10-15</b> Seminole Canyon SP 915-292-4464 <b>Jan. 9-11, 23-25</b> Big Bend Ranch SP 915-229-3416	<b>Jan. 6-7, 8-10, 10-12</b> Lake Houston SP 281-354-6881 <b>Jan. 2-4</b> Lake Mineral Wells SP 940-328-1171 <b>Jan. 7-12</b> Lake Whitney SP 254-694-3793 <b>Jan. 2-5, 8-12, 15-19, 22-26</b> Pedernales Falls SP 830-868-7304 <b>Jan. 8-12, 10-12</b> South Llano River SP 915-446-3994

SP	STATE PARK
SHP	STATE HISTORICAL PARK
SNA	STATE NATURAL AREA
WMA	WILDLIFE MANAGEMENT AREA



# SIGHTS AND SOUNDS



The Front Line of News and Views



## TELEVISION

### Look for These Stories in the Coming Weeks:

It's our first "Emmy Celebration," and throughout December we'll broadcast stories that have had the distinction of winning that prestigious award.

#### Dec. 3 - 10:

East Texas' rich outdoor heritage; a wilderness trail for people with disabilities; birdwatching at the garbage dump; a West Texas spring gone dry.

#### Dec. 10 - 17:

A summer camp for children battling cancer; Bela Karolyi's love for the outdoors.

#### Dec. 17 - 24:

Wildlife photographer Wyman Meinzer; cold-weather fishing; wildlife rehab in suburban Houston; Attwater's prairie chicken update.

#### Dec. 24 - 31:

Efforts to save Balmorhea Springs in West Texas; "Lucky," the turkey decoy; a family that hunts together.

### "TEXAS PARKS & WILDLIFE"

Winner of 12 Emmy Awards, our television series is broadcast throughout Texas on local PBS affiliates. In stereo where available.



Track coyotes with wildlife photographer Wyman Meinzer. Watch the week of Dec. 17.

**Amarillo:** KACV, Ch. 2 / Sat. 5:30 p.m.

**Austin:** KLRU, Ch. 18 / Sun. 10 a.m. / Mon. 12:30 p.m. KLRU-TOO, Cable Ch. 20 / Tues. 11 p.m., 12 p.m.

**Bryan-College Station:** KAMU, Ch. 15 / Thurs. 7 p.m.

**Corpus Christi:** KEDT, Ch. 16 / Sun. 11 a.m. / Thurs. 10 a.m. / Friday 11:30 p.m.

**Dallas/Fort Worth:** KERA, Ch. 13 / Fri. 1:30 p.m. Also serving Abilene, Denton, Longview, Marshall, San Angelo, Texarkana, Tyler, Wichita Falls, Sherman

**El Paso:** KCOS, Ch. 13 / Sat. 5:30 p.m.

**Harlingen:** KMBH, Ch. 60 / Tues. 8 p.m. Also serving McAllen, Mission, Brownsville

**Houston:** KUHT, Ch. 8 / Sun. 5 p.m. / Fri. 1 p.m. Also serving Beaumont/Port Arthur, Galveston, Texas City, Victoria

**Killeen:** KNCT, Ch. 46 / Sun. 4 p.m. Also serving Temple

**Lubbock:** KTXT, Ch. 5 / Sat. 6:30 p.m.

**Odessa-Midland:** KOVC, Ch. 36 / Sat. 5 p.m.

**San Antonio & Laredo:** KLRN, Ch. 9 / Thur. noon

**Waco:** KWBU, Ch. 34 / Sat. 3 p.m.

Schedules are subject to change, so check local listings.

## RADIO

### "PASSPORT TO TEXAS"

#### Your Radio Guide to the Great Texas Outdoors

Join Joel Block weekdays for a 90-second Journey into the Texas Outdoors. Producer Kathleen Jenkins. Check this listing for a station near you or tune in on our Web site:

<[www.passporttotexas.com](http://www.passporttotexas.com)>

**Abilene:** KACU-FM 89.7 / 7:06 a.m. & 1:44, 6:01 p.m.

**Amarillo:** KACV-FM 89.9 / 9:20 a.m.

**Austin:** KUT-FM 90.5 / 1:58 p.m., (12:58 p.m. Fr.), KVET-AM 1300 / 6:15 a.m. (Sat.) • *Austin American-Statesman's* Inside Line 512-416-5700 category 6287 (NATR)

**Beaumont:** KLVI-AM 560 / 5:20 a.m.

**Big Spring:** KBST-AM 1490 / TBA

**Brady:** KNEL-AM 1490 / 7:50 a.m. & 8:50 p.m., KNEL-FM 95.3 / 7:50 a.m. & 8:50 p.m.

**Bridgeport:** KBQC-FM 98.3 / 8:45 a.m. & 5:25 p.m.

**Bryan:** WTAW-AM 1150 / 5:45 p.m.

**Canton:** KVCI-AM 1510 / 6:40 a.m.

**Canyon:** KWTS-FM 91.1 / 6 a.m. - 9 a.m. hours

**Carthage:** KGAS-AM 1590 / 6:46 a.m., KGAS-FM 104.3 / 6:46 a.m.

**Center:** KDET-AM 930 / 5:15 p.m.

**Coleman:** KSTA-AM 1000 / 5:15 p.m.

**Columbus:** KULM-FM 98.3 / 7:20 a.m.

**Comanche:** KCOM-AM 1550 / 6:30 a.m.

**Commerce:** KETR-FM 88.9 / 10:15 a.m.

**Corpus Christi:** KEDT-FM 90.3 / 5:34



## SIGHTS & SOUNDS

p.m., KFTX-FM 97.5 / 5:35 a.m.

**Crockett:** KIVY-AM 1290 / 8:15 a.m.,  
KIVY-FM 92.7 / 8:15 a.m.

**Cuero:** KVCQ-FM 97.7 / 8:20 a.m.

**Dimmitt:** KDHN-AM 1470 / 12:31 p.m.

**Dumas:** KMRE-FM 95.3 / 10:30 a.m.  
KDDD-AM 800 / 10:30 a.m.

**Eagle Pass:** KINL-FM 92.7 / 7:15 a.m.

**Eastland:** KEAS-AM 1590 / 11:14 a.m.,  
2:14 p.m., KEAS-FM 97.7 / 11:14 a.m. &  
2:14 p.m.

**El Campo:** KULP-AM 1390 / 2:00 p.m.

**Fairfield:** KNES-FM 99.1 / 6:49 a.m.

**Floresville:** KWCB-FM 89.7 / 1:30 p.m.

**Ft. Stockton:** KFST-AM 860 / 12:50 p.m.,  
KFTS-FM 94.3 / 12:50 p.m.

**Freeport:** KBRZ-AM 1460 / 10:15 a.m. &  
7:45 p.m.

**Gainesville:** KGAF-AM 1580 /  
7:00 a.m.

**Galveston:** KGBC-AM 1540 / 1:45 p.m.

**Hallettsville:** KHLT-AM 1520 / 8:20 a.m.,  
KTXM-FM 99.9 / 8:20 a.m.

**Harlingen:** KMBH-FM 88.9 / 4:58 p.m.

**Hereford:** KPAN-AM 860 / 2:50 p.m.,  
KPAN-FM 106.3 / 2:50 p.m.

**Hillsboro:** KHBR-AM 1560 / 9:30 a.m.

**Houston:** KBME-AM 790 / 11:30 a.m.

**Huntsville:** KSHU-FM 90.5 / 11:55 a.m.

**Jacksonville:** KEBE-AM 1400 /  
7:25 a.m.

**Junction:** KMBL-AM 1450 / 6:46 a.m. &  
3:46 p.m., KOOK-FM 93.5 /  
6:46 a.m. & 3:46 p.m.

**Kerrville:** KRNH-FM 92.3 / 5:31 a.m. &  
12:57, 7:35 p.m.

**Lampasas:** KCYL-AM 1450 / 7:10 a.m.,  
KACQ-FM 101.9 / 7:10 a.m.

**Lubbock:** KXTQ-AM 950 / TBA

**Malakoff:** KLVQ-AM 1410 / 6:45 a.m.

**Marshall:** KCUL-AM 1410 / 7:10 a.m.,  
KCUL-FM 92.3 / 7:10 a.m.

**McAllen:** KHID-FM 88.1 / 4:58 p.m.

**Mesquite:** KEOM-FM 88.5 / 5:30 a.m. &  
2:30, 8:30 p.m. M-Th. (5:30 a.m. & 4:45  
p.m. Fr.)

**Midland:** KCRS-AM 550 / 6:43 a.m. &  
6:43 p.m.

**Mineola:** KMOO-FM 99.9 / 5:10 p.m.

**Nacogdoches:** KSAU-FM 90.1 / 3:00 p.m.

**Ozona:** KYXX-FM 94.3 / 12:09 p.m.

**Palestine:** KLIS-FM 96.7 / 6:20 a.m.

**Pecos:** KIUN-AM 1400 / 10:30 a.m.

**Point Comfort/Port Lavaca:** KAJI-FM  
94.1 / TBA

**Rockdale:** KRXT-FM 98.5 / 5:04 a.m. &  
5:50 p.m.

**San Angelo:** KUTX-FM 90.1 /  
1:58 p.m. (12:58 p.m. Fr.)

**San Antonio:** KSTX-FM 89.1 /  
9:04 p.m. Th., KENS-AM 1160 / 7:40  
a.m., 12:30 & 5:45 p.m.

**Seguin:** KWED-AM 1580 / 7:55 a.m.

**Sonora:** KHOS-FM 92.1 / 12:09 p.m.

**Sulphur Springs:** KSST-AM 1230 /  
4:45 p.m.

**Texarkana:** KTXK-FM 91.5 / TBA /  
noon hour

**Uvalde:** KVOU-AM 1400 / 5:33 a.m.  
KVOU-FM 105 / 5:33 a.m.

**Victoria:** KVRT-FM 90.7 / 5:34 p.m.,  
KTXN-FM 98.7 / 6:45 a.m.

**Waco:** KBCT-FM 94.5 / 6:10 a.m.

**Wichita Falls:** KWFS-AM 1290 / 6:15 &  
7:45 a.m.

**Yoakum:** KYKM-FM 92.5 / 8:20 a.m.

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# TEXAS

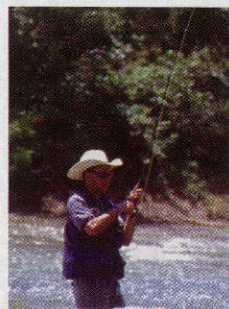
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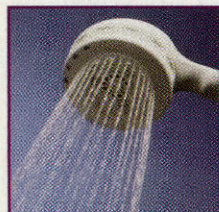
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# Scientist invents easy solution for hard water problems

*ClearWave is a revolutionary new product that solves your home's hard water problems without salt, chemicals or plumbing.*



**ClearWave helps solve hard water problems in the entire system, including pipes, water heaters, shower heads and appliances.**

I recently moved in to a new home, and I was disappointed to find that the water pressure was not as high as at my previous house. One of my neighbors told me the problem was hard water—that our water supply contains lots of minerals, like calcium and magnesium. This causes scales to build up in pipes, appliances, fixtures and even the water

heater. I asked him what he'd done about the problem. That's when he told me about ClearWave, a remarkable water conditioner that helps reduce scale buildup and helps prevent new scales from forming.

**An innovative solution.** ClearWave uses the latest microprocessor technology to electronically generate inaudible waveforms. They help keep calcium carbonate particles, or scale, dissolved in the water. The water treated by ClearWave continues to dissolve the scale as it flows through the pipes. Over time, it helps solve hard water problems in the entire system, from the water heater and pipes to appliances and shower heads. You'll find yourself using less soap and detergent, and your appliances will operate more efficiently. ClearWave works with all types of pipe and installs easily with ordinary household tools.

**No salt, no chemicals, no plumbing.** Pure water contains nothing but H<sub>2</sub>O. When it comes out of the ground, however, water is rich in a multitude of minerals, such as calcium and magnesium. In the past, there have been three basic methods used to control the problem of hard water and scale formation. One method is to remove the minerals through ion exchange, using salt. A second method involves adding chemicals, such as phosphates, to the water. Both of these methods change the makeup of the water and require the homeowner to continuously replenish the salts or chemicals—as well as performing periodic maintenance on the equipment. A third

method involves using magnets and electrostatic devices to cause electrical changes in the water that affects the scaling characteristics of the minerals. This method is similar to that used by ClearWave, with an important difference. The electric field generated by ClearWave is continually applied to the water, while a magnetic field relies on the movement of the water to produce the changes.

**What will happen.** As soon as it's installed, ClearWave starts to loosen existing scale in both the hot and cold water systems. After five days, the scale will begin to break down and come off water heater elements and tanks.

Most particles are microscopic and will flow through your water system, but some small, totally harmless particles may be visible in the water coming from the hot water tap. After 10 days, it should be noticeably


easier to wipe clean ceramic, plastic, glass and metal surfaces. By now, the quantity of bath soap, dish soap, laundry detergent and laundry softening agents can be reduced. Scale should have loosened on showerheads and frequently used appliances that boil water, like coffee makers. After 16 days, the scale in the water heater will have reduced to the point that water should heat up more quickly—with less energy needed to achieve the desired temperature.

After one to two months, you should notice a significant reduction in scaly crust and stains in toilets or under faucets, and no new crust should form. Mold that attaches to scale on shower curtains will disappear for good. Depending on the water hardness in the area, the full effects can take up 12 weeks, especially if the system has been heavily scaled for many years.


**Try it risk-free.** Why put up with the mess and hassle of hard water deposits when there's a simple, affordable solution. ClearWave comes with a three-year manufacturer's limited warranty and TechnoScout's exclusive risk-free home trial. If you are not satisfied for any reason, simply return it within 90 days for a full "No Questions Asked" refund.

### Solve hard water problems


**Hard calcium carbonate crystals**



**Scale build-up**




**ClearWave treated water**

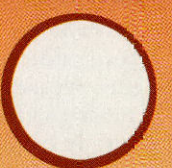


**Scale free**

- No salt or chemicals required
- No plumbing or maintenance
- Use less soap and detergent
- Appliances operate more efficiently without scale build-up
- Works with all types of pipe
- Easy to install



**The problem**  
Hard water causes scale build-up in pipes, water heaters, fixtures and appliances.




**The solution**  
The ClearWave water conditioner helps reduce scale build-up and helps keep new scales from forming.

### Where high tech hits home

For years, we have found high tech solutions from the innovators and brought them directly to you...months before they were available in stores. Now, TechnoScout.com is the high-tech, low-stress way to a better life.


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## MAIL CALL

(Continued from page 10)

### TACO SOUP IN A CROCK POT

#### Ingredients:

- 1 pound ground venison
- 1 small onion, chopped
- 4 ounces chopped green chilies
- 1 tsp. salt
- 1 package taco seasoning mix
- 1 package ranch-style dressing mix
- 1 14-ounce can hominy
- 3 cans stewed tomatoes, fresh
- 1 can kidney beans
- 1 can pinto beans
- 1½ cups water.

#### Directions:

Do not drain any liquids from canned goods. Mix all ingredients together in a large crock-pot and let it go. You can start this in the morning in the camper and supper is ready when you come in at dark. Great with crackers, cornbread or biscuits!

Mary Magnuson  
Sumner

### GUMBO LEDOUX

#### Ingredients:

- 1 bunch green onions, chopped
- 1 large onion, chopped
- 1 large bell pepper, chopped
- ½ bunch celery, chopped
- 1 large link of smoked deer sausage
- 1 large slice of coarsely chopped ham
- 4 cans okra gumbo mix

#### Directions:

Cook in a 12-quart pot. Boil (ducks or geese) in water until the meat almost falls off the bones. Reserve water. Remove skin and debone meat. Slice meat in bite sized parts.

Make roux from four Tablespoons bacon drippings and four Tablespoons flour. Brown flour carefully on LOW heat, stirring often and making sure not to scorch. When caramel color, set aside to cool. Brown onion, bell pepper and celery in a little oil. Add sausage and ham; cover with a little duck stock and cook 20 minutes. Add the rest of stock, fold in the roux, then add the four cans of gumbo mix. Add duck/goose meat. This is the time to add additional spices such as ¼ cup of parsley, two teaspoons garlic powder, ⅛

cup Worcestershire sauce, seasoning salt and red pepper to taste. Cook about two hours on low, stirring often.

Serve with rice. No filé is necessary.

Wally Bircher  
Hcuston

### VENISON STEW

#### Ingredients:

- 2 pounds stew meat, 1-inch cubes
- 1 large onion, sliced
- 1 clove garlic, minced
- ½ cup ketchup
- 2 tsp. Worcestershire sauce
- 2 tsp. salt
- 2 tsp. paprika
- ½ tsp. dry mustard
- 1 cup water
- ¼ cup flour

#### Directions:

Place meat in slow cooker. Cover with sliced onion. Add all remaining ingredients except water and flour. Dissolve flour in water and add last. Cook 9-10 hours on low. Serve over noodles.

Darlene Christianson  
Black River Falls, WI

### VENISON PARMESAN

#### Ingredients:

- 1 pound boneless venison steak
- ¼ to ½ tsp. garlic salt
- ½ cup dry Italian bread crumbs
- hot, cooked noodles
- 2 eggs
- ¼ cup water
- ½ cup all-purpose flour
- ¼ cup olive oil or vegetable oil
- ⅛ tsp. pepper
- 6 slices Mozzarella cheese
- ½ cup Parmesan cheese
- 1½ cups spaghetti sauce
- snipped fresh parsley (optional)

#### Directions:

Cut meat into six pieces; pound with a meat mallet to tenderize. Sprinkle with garlic salt and pepper. Combine bread crumbs and the Parmesan cheese in a bowl. In another bowl, beat eggs with water. Dip both sides of meat into flour, then into egg mixture. Then dip both sides of meat into the bread

crumb and Parmesan mixture; refrigerate for 20 minutes. Heat oil in a large skillet and brown meat on both sides.

Place in a greased 13"x9"x2" baking pan. Spoon two Tablespoons spaghetti sauce over each piece; cover with mozzarella and top with remaining spaghetti sauce.

Bake uncovered at 350° for 30 minutes, or until meat is tender. Serve over noodles and garnish with parsley.

Yield: 6 servings.

Lacey Tlustos  
Bryan

### FRIED SQUIRREL (A staple of early Texas settlers)

#### Ingredients:

- 2 young squirrels that have not bred  
OR 2 old squirrels that have been boiled until tender
- 2 cups flour
- 2 tsp. salt
- 2 tsp. pepper
- bacon drippings

#### Directions:

Cut squirrels into six pieces: two back legs, two front legs, upper and lower back. Soak pieces in milk. Combine salt, pepper and flour. Roll pieces in flour mixture and set in hot drippings. Fry until brown. Serve with biscuits, syrup and white cream gravy.

Lindsey Tlustos  
Corsicana

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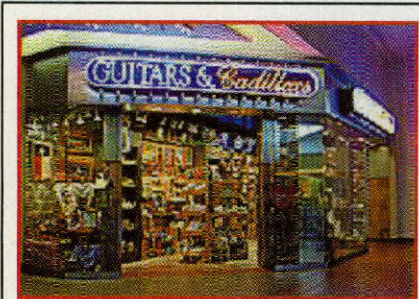
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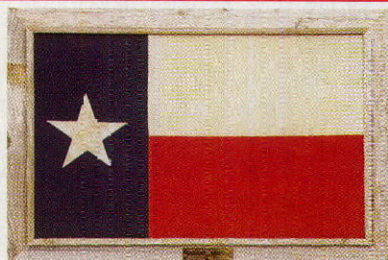
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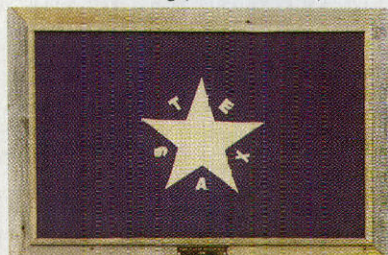


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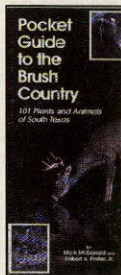
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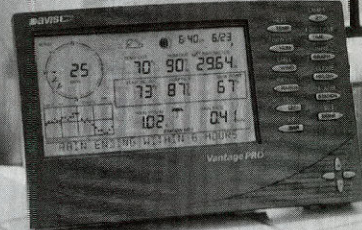
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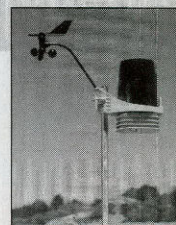
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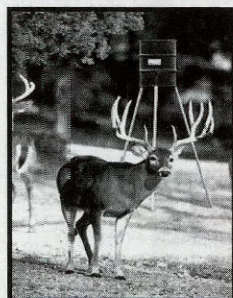
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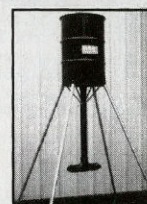
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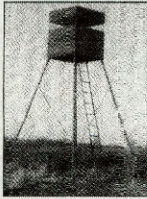
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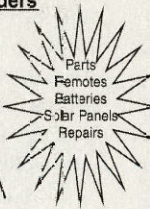
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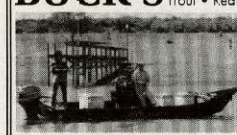


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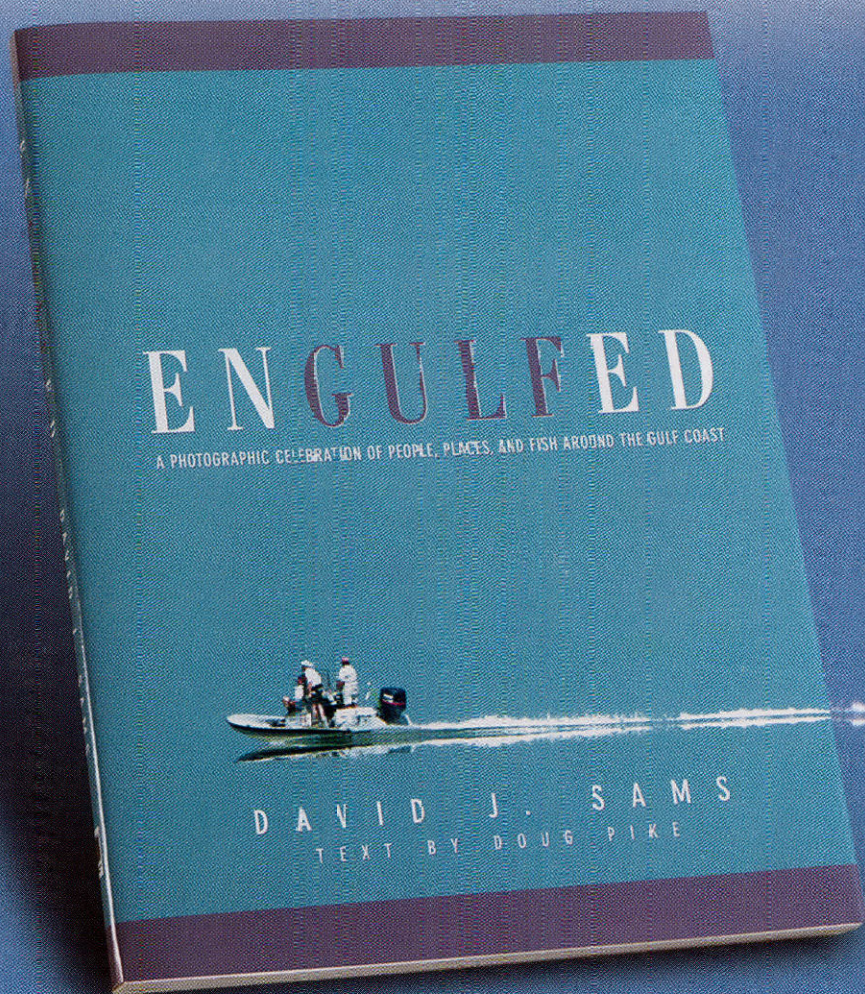


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