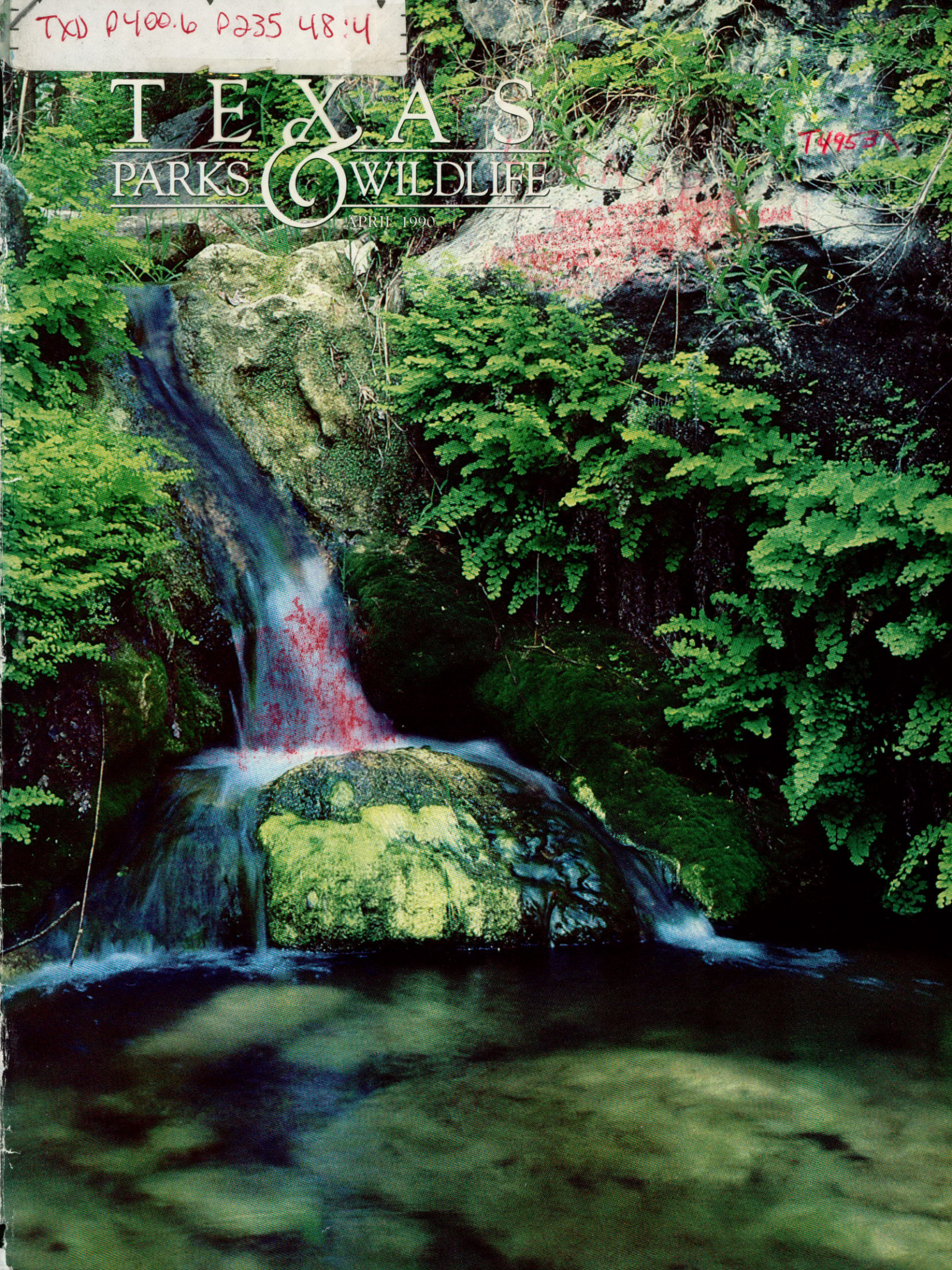


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# TEXAS PARKS & WILDLIFE

APRIL 1990

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# TEXAS PARKS & WILDLIFE

April 1990, Vol. 48, No. 4

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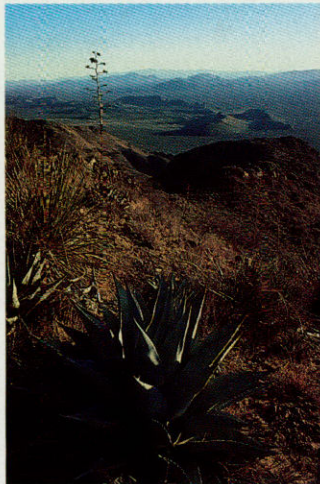
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*Dedicated to the conservation and enjoyment of Texas wildlife, parks, waters and all outdoors.*

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**COVERS—Front and Back:** Enjoy the sights, sounds and smells of spring at Pedernales Falls State Park. Freelance photographer Joe Liggio photographed this scene with a Nikon FM2, Nikor 55mm micro lens at f/16, 1/4 second on Kodachrome 64 film. See more scenes of spring beginning on page 28. **Inside Front:** Baby raccoons, born in April or May, follow their mother about when they are ready to leave the den and stay with the family group long after they are weaned. Freelance photographer Steve Maslowski used a Hasselblad, 80mm lens, f/11-16, 1/250 second on Ektachrome film.

# At Issue

I have great hopes for the 90s. Peace is breaking out in eastern Europe, apartheid's days are numbered and the Nicaraguan people have voted out the Sandinistas. Junk bond dealers either have been indicted or behind bars, and, yes, BMWs no longer are fashionable. The coming decade shows great promise.

Folks are starting to be more concerned about their fellow man and our fellow planet than they are with conspicuously consuming more of our resources. Perhaps it's just because my fellow baby-boomers are aging, or more than likely it's because our children already are starting to assert themselves and voice their opinions.

I have great hope for the children who will grow to maturity in the 90s. They will be the first generation in a

long while who have not grown up during a war or under the threat of one. They have some better role models in world politics than those of the 80s. The George Bushes, Vaclav Havel and Carlos Salinas are making things happen in the world. In many cases they lack the charisma and flash of their predecessors, but it's hard to accomplish much with just mirrors, particularly if there's no one at home behind the mirror. We now see that it is possible to change things in the world without firing a shot.

What gives me hope is that we can use some of our so-called "peace dividend" to begin cleaning up the planet earth's backyard. Individuals, developers, corporations and even nations can no longer get away with quick and—literally—dirty solutions to problems.

Germany's fabled Black Forest is being defoliated by their very industrial success. (I suspect it's the exhaust from those BMWs.) Canada will not tolerate acid rain caused by their friends to the south.

Our lead story this month is about a proposed park in the mountains of northern Mexico just across the Rio Grande from Big Bend National Park. Laurence Parent did the piece and has returned to the Big Bend area several times since his trip to the Sierra del Carmens last year. He reports something very disturbing—the clear West Texas air is getting dirty from prevailing winds that carry pollution up from industry in northern Mexico. I suppose it's a cruel justice of sorts for our industrial pollution blowing into Canada.

The problem in West Texas is nowhere near the magnitude of acid rain in the Northeast and Canada, but we can't let it get to that point.

I have hopes that this region not only will become a park on a grander scale than Big Bend, but that visitors will be able to enjoy the vistas through clear skies. I visited the Black Forest back in the mid-60s; I plan on returning someday and I'd like to see living trees there. I saw a cartoon recently that shows an affluent North American scolding a Brazilian farmer for cutting down the rain forest while the American's car idles, spewing exhaust.

Next month, we have stories on the red wolf, Mission Tejas' 300th anniversary, biking through the Davis Mountains, using artificial lures to catch bay fish, a Young Naturalist article on underwater viewers and a guide to state parks and their facilities.

—David Baxter



Laurence Parent

*A view of the Sierra del Carmen and Sierra Fronteriza from the Chisos Mountain Lost Mine Trail in Big Bend National Park. The haze from air pollution is limiting visibility in the Big Bend region.*



# LETTERS

## Amazed at the Reaction

When I wrote to you last June, I had planned to write an article about horned lizards and wanted some information about the lifestyle and habitat of these lizards.

I was surprised that my letter appeared on your Letters page in October, and absolutely amazed at the reaction of so many people (December). At least a dozen people telephoned me. Eastland people are particularly eager to tell me about Old Rip. TCU alums are diligent in supplying facts about their school mascot.

I loved Patrick J. Stark's cartoon about Old Rip's long confinement.  
Frances G. Yeargin  
Pasadena

## Not a Damsel

In "The Color Blue" (January), there is a photo identified as a damselfly that appears to be a dragonfly.

As I recall from my entomology days at Baylor University, a damselfly would probably have its wings folded at rest while a dragonfly would have its wings extended, as in your picture. My guess is that this dragonfly is from the darter family. (Even my four-year-old says it's a dragonfly!)

Clyde McKee  
El Paso

•Our field guide confirms your observation about the wings. Thanks for pointing this out, and congratulations on having such an astute four-year-old.

## Badger Encounters

Thanks for reviving what is now a pleasant memory with "Don't Mess With a Badger" (January). One early morning during deer season in 1936, my hunting buddy Jack Smith and I were driving from Laredo toward Dolores when a badger crossed in front of us and continued up a dry creek bed. For a reason I do not understand even now, Jack and I piled out of our old Model T and crawled through the fence in hot pursuit. Both of us had .30-30 saddle guns, although neither of us even thought of shooting at the badger.

We followed it for several hundred yards until the badger came to a sandstone outcropping that was too high for him to scale. The badger rose on his rear legs, turned toward us, snarled with ferocity and, belly against the ground, came at me with alarming enthusiasm. Jack and I headed back the way we had come at a speed that would have measured up well in Olympic competition. The badger followed, snarling and snorting. How long it followed I do not know, but by the time we scrambled through the fence at the road the badger was nowhere to be seen.

I haven't chased a badger in the 50-odd years since, and I do not have any intention of doing so in the future.

Kennedy M. Crockett  
American Ambassador, Retired  
Kingsland

Years ago I witnessed a fight between a badger and an English bulldog in Odessa. The bulldog appeared to gain the advantage by securing a hold on the badger's upper jaw at an angle that could cut off the breathing of the badger. It looked like a death hold, but the badger had its own ideas. It merely clamped down on the dog's lower jaw, then worked its long claws around the dog's mouth. The dog couldn't take it and released its grip; the badger loped off.

On the other hand, in 1921 I was asked by a friend to take care of a pet badger named Joe. I had never heard of a pet badger, but Joe lived in a hole under the front steps. He would sleep during the day, then come out during the cooler hours and look up and down the street to find a bunch of children at play, which he would join. Joe never tired of the children, and they loved him.

In time his proper owner returned and I was forced to give up my good friend and pet. I do believe he was the most loved pet I ever saw.

Willard Matthews  
Angleton

•Joe sounds like an exceptional badger. We enjoyed your story, but please let us reiterate: badgers are ferocious and fearless with a gripping bite. As we said in the title of our story, "Don't mess with a badger."



David J. Sams

## Wintering Eagles

You are to be commended for the excellent article on bald eagles (January). Most people did not realize Texas had a population of nesting southern bald eagles. We Texans are fortunate to have an increasing population of these rare birds, and if we all work together, perhaps we can preserve them for future generations to enjoy.

Don D. Nichols  
Crosby

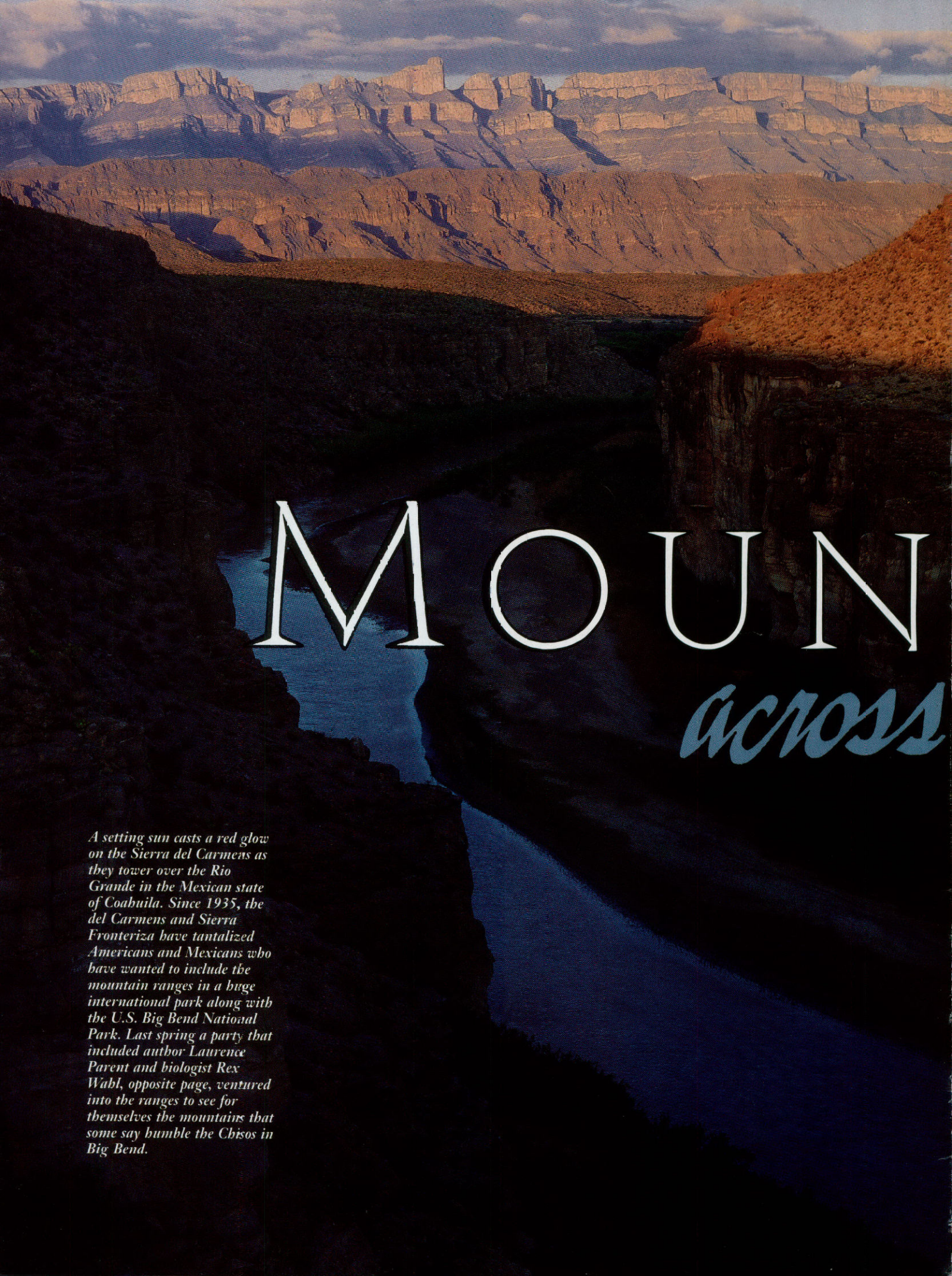
## A Way to Say Howdy

I'm ordering a subscription to be sent to an APO and on to Saudi Arabia, where it goes through the hands of everyone from the United States at that location. It is enjoyed by all and they wait anxiously for the next issue to arrive.

Thank you for such a lovely way to say howdy to some very homesick Texans.

Mary Bolt  
Palestine

*Texas Parks & Wildlife* welcomes letters to the editor. Please include your name, address and daytime telephone number. Our address is 4200 Smith School Road, Austin, Texas 78744. We reserve the right to edit letters for length and clarity.



# MOUNTAIN

*across*

*A setting sun casts a red glow on the Sierra del Carmens as they tower over the Rio Grande in the Mexican state of Coahuila. Since 1935, the del Carmens and Sierra Fronteriza have tantalized Americans and Mexicans who have wanted to include the mountain ranges in a huge international park along with the U.S. Big Bend National Park. Last spring a party that included author Laurence Parent and biologist Rex Wabl, opposite page, ventured into the ranges to see for themselves the mountains that some say humble the Chisos in Big Bend.*



# TAINNS

*the river*

Will Mexico's

## SIERRA DEL CARMENS

become a companion to

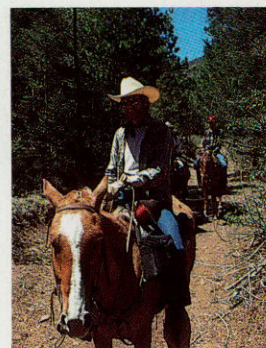
## BIG BEND

National Park?

Like a cardboard cut-out, the hazy monochrome outline of the Chisos Mountains loomed on the far northwestern horizon. To the west stretched an endless expanse of Chihuahuan Desert, punctuated only by distant mountain ranges the color of blued steel. The minuscule emerald ribbon of the Rio Grande snaked its way northeast from Mariscal Mountain to the mouth of Boquillas Canyon. In the foothills below, a grass fire smoldered, sending a plume of gray smoke high over the towering limestone escarpment of the Sierra del Carmen.

At my back, to the east, dense forests of ponderosa pine, Douglas fir and Arizona cypress cloaked the rugged slopes in sharp contrast to the shimmering desert 5,000 feet below. I had reached the crest of the Sierra Fronteriza in Coahuila, Mexico.

For years, the sheer escarpment of the Sierra del Carmen and the higher, more distant crest of the Sierra Fronteriza beckoned to me from across the river at Big Bend National Park. Rumors of pine and fir and aspen reached my ears. Whispers of black bears and tumbling mountain streams fueled my curiosity. Recently news leaked of a plan by the Mexican government to designate much of the area across the Big Bend as a Mexican national park or preserve. Big Bend might soon have a twin across the river, making it part of an enormous new international park. I had to go.



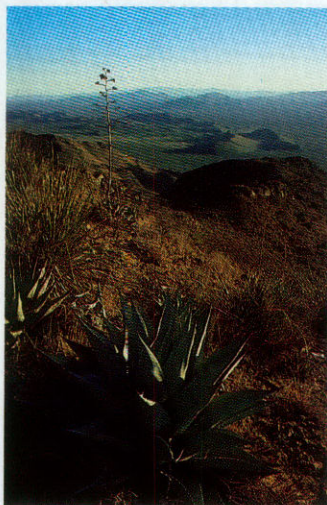
Article and photos by Laurence Parent



*Our explorers warm themselves in the chill Sierra Fronteriza morning with a campfire and coffee before saddling up. From left to right, wrangler Mario Falcon, Ken Kamon, Tim Chumley and Rex Wahl.*

**W**

ith some quick calls I set up a four-day trip with Terlingua outfitter Marcos Paredes, Mexican wrangler Mario Falcon, Texas Parks and Wildlife Department biologist Rex Wahl, and two friends that could come on short notice.



Early on the first morning we rowed across the river and drove to a corral at the edge of the Sierra del Carmens. After loading the mules and horses, we mounted up and started south along the base of the mountains to Cañon de Media Luna. After a rest break, we scrambled up a faint trail that ran virtually straight up the mountain.

The horses slipped and slid on talus slopes above cliffs and wicked-looking agaves, while low-hanging limbs threatened to knock me from my mount. The mules, meanwhile, tried to play tag with my horse. Since I'd been on a horse all of three times in my life, my enthusiasm weakened. I took a deep breath and hung on. The next day at lunch time, still intact much to my surprise, we reached the crest of the Sierra Fronteriza, the centerpiece of the proposed new park.

Since 1935, Mexican and American officials have attempted to create an international park on both sides of the Rio Grande. Even before Big Bend

was established as a national park in the United States, commissions were established in both countries to study the possibility. World War II and delays in establishing Big Bend National Park in Texas stalled the idea of an international park. At the end of the war, President Franklin Roosevelt and President Manuel Avila Camacho of Mexico again made an effort to create an international park, but failed. Succeeding decades saw several more unsuccessful attempts.

Several problems interfered with the park's creation. Past domination by the United States makes Mexico wary of any attempts to dictate its internal policies. Many Mexicans feel that they need to develop the area for timber, grazing and mining, rather than preserve the environment. Also, U. S. citizens control vast acreage in the area just south of the border. To be successful, the initiative to create a Mexican national park has to begin in Mexico.

Recently the governor of Coahuila, Eliseo Mendoza Berrueto, has been pushing hard for creation of some sort of park status in his state. He wishes to

*At left, agave eke out a tough living on the dry foothills of the Sierra Fronteriza, a contrast to the higher, wetter elevations that receive ample snow and rain.*

*At right, a bear's-eye view of the expedition. Black bears are fairly common in the Fronteriza, with their tracks and scat left in caves such as this one.*



improve the economic lot of the residents of northern Coahuila with tourism development, plus preserve the environment.

More than a quarter million people a year visit Big Bend National Park, which is largely desert. So the cool, lushly forested mountains just across the border might attract a significant number of those tourists if better access and facilities existed. Texans will drive for days to reach the cool mountain forests of New Mexico and Colorado. With a good road system, Texans could be hiking in fir and aspen along mountain streams in Mexico within two or three hours of Del Rio. Mexico has been very successful in attracting Americans to its beaches; why not to its mountains?

The State of Coahuila and the Mexican federal government have been discussing some form of federal

park designation in Coahuila. The State of Chihuahua has also expressed interest in adding some of its adjoining land to any park created. Various parts of the area may be designated national park, state park or some form of conservation district.

"I would like to see the area designated as a park with public access and protected resources," says Jim Carrico, superintendent of Big Bend National Park. He's realistic, however, and realizes that any Mexican park created will not be a carbon copy of Big Bend. People will still live in the park. Limited grazing, mining and timbering probably will continue in some areas. Carrico hopes that increased tourism will improve the area's economy enough to lessen consumptive uses.

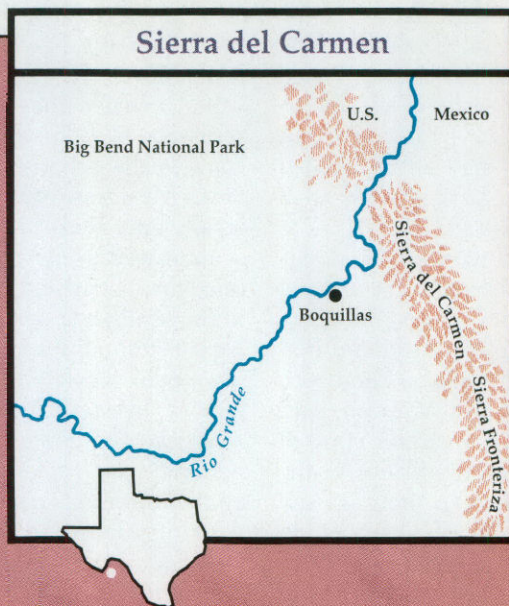
Creation of a park on the Mexican side of the Rio Grande also would ease

some of Big Bend's management problems. The increased tourism would provide jobs for the Mexican residents of Boquillas and other villages in the proposed park area, thus fewer Mexicans would need to cross illegally into Texas in search of jobs.

Improved living standards might reduce the incentive to become involved in the smuggling of drugs and other illegal commodities and lessened grazing would alleviate the constant problem of livestock straying across the river into Big Bend. Hence, the international park could help the Mexican and American park managements work together to solve common problems and protect each other's natural resources.

The possibility of giving such a large ecosystem some form of protection appeals to Carrico and others at Big Bend, which has 770,000 acres of





*Douglas fir grows in the cool, damp Fronterizas. The moisture and cooler elevations support such firs, along with ponderosa pines and Arizona cypress, forest similar to the mountains of New Mexico far to the north.*

How do you get to the Sierra del Carmens? The western edge of the mountains can be reached easily by crossing to Boquillas from Big Bend and driving 10 to 15 miles south on the main road to Muzquiz. Several side roads, passable by pickup, lead to trailheads at the base of the mountains.

Since there is no bridge at Boquillas, the easiest and shortest way to get a vehicle over is to cross the border at Eagle Pass or Del Rio and approach the area via Muzquiz. The old logging road, which climbs the southern end of the range, usually becomes impassable before reaching all the way into the mountains. The trailheads from the base of the mountains require a difficult climb up from the desert on paths that are steep, overgrown and difficult to find.

Rather than take your vehicle across, it may be easier to hire a local in Boquillas to shuttle you to the desired trailhead and pick you up several days later. Be sure

to carefully work out pickup times and places and all costs up front. Since the mountains are so wild and rugged and the trails can be very difficult to follow, it's best to hire a local guide, at least for your first trip.

Easiest of all, Marcos Paredes, through Far Flung Adventures of Terlingua, offers fully outfitted horse packing trips into the mountains several times a year. Austin photographer Todd Jagger is working on a book on the mountains which should give additional information when published.

Take plenty of food, maps, a compass, a first-aid kit and warm clothes even in summer. Unlike the Chisos or Guadalupe Mountains, there is plenty of water available (although it should be purified). Winters can bring heavy snowstorms; late summer brings frequent thunderstorms. Don't go alone. Use caution and common sense on your trip. It's a long way to help if you are injured.

areas on both sides of the river. The mountains cross the border, broken only by the narrow canyons of the Rio Grande.

The Sierra del Carmens really begin far up at the north side of Big Bend National Park. Known in Texas as the Dead Horse Mountains, the limestone range rises as it runs southeast, cut only by Boquillas Canyon. In fact, except for the pass at Persimmon Gap, mountains continue all the way north to Alpine. The Dead Horse Mountains are too low to support anything other than desert vegetation, but the slopes behind the massive limestone escarpment above Boquillas are high enough to support good grassland, pinyon pine and some ponderosa pine.

South of the escarpment rises the highest section of the Sierra del Carmen, known as the Sierra Fronteriza or Maderas del Carmen. From Big Bend, the Fronterizas appear as a hazy sawtooth of peaks rising above the limestone escarpment. Unlike most of the Sierra del Carmen, the Fronterizas formed from violent volcanic activity far in the past.

Rising to more than 9,000 feet in elevation, the Fronterizas receive far more rain and snow than the Chisos Mountains of Big Bend. The added moisture and cooler temperatures support a forest reminiscent of mountains in New Mexico. Lush wooded slopes of ponderosa pine, Douglas fir and Arizona cypress are interspersed with thick, grassy meadows. Perma-

Chihuahuan Desert. When combined with Black Gap Wildlife Management Area and the large, new Big Bend Ranch State Natural Area, more than one million acres of land on the Texas side of the river receive some form of resource protection. Adding one to two million acres on the Mexican side could create one of the largest pro-

tected ecosystems in the world.

The Rio Grande creates a political division between the United States and Mexico, but the lands on both sides are closely tied. People living along the border maintain close business and personal ties across the river. With a common ecosystem, the Chihuahuan Desert encompasses vast

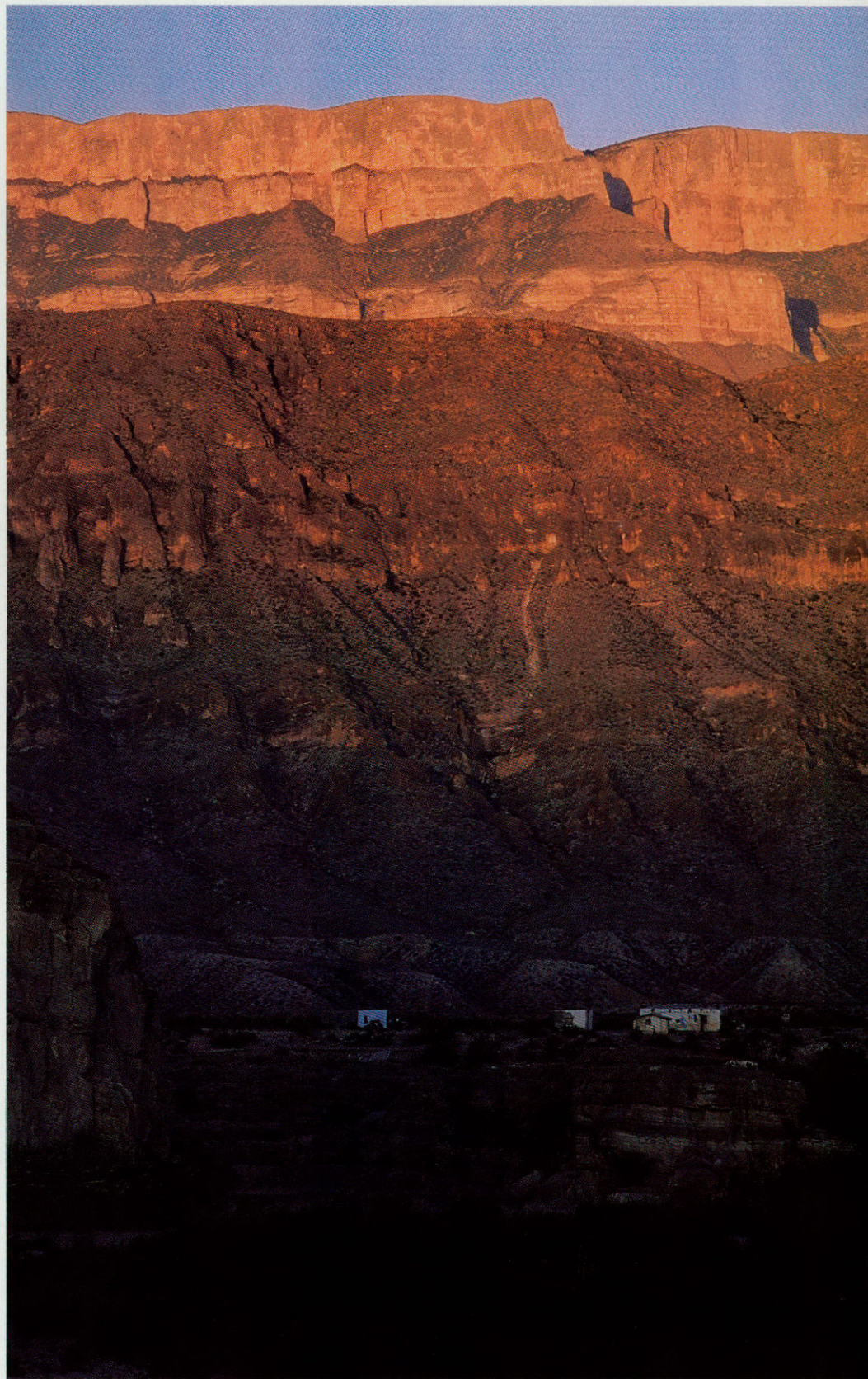


nent streams tumble down several canyons.

On our trip last April, the weather was dry with daytime temperatures in the 70s. Across the river, Rio Grande Village broiled with highs of 102 degrees. At night we huddled around the campfire to ward off temperatures in the 30s.

Our wrangler, Mario, described a close call that he had had in a winter snowstorm. "The sky suddenly closed in and the clouds came down while we were separated from our horses," translated our guide, Marcos. "We built a fire and stayed by it for three days, moving only once to find more fuel. We had no food or warm clothes. Everything was with the horses. My friend even tried to eat tree bark. More than two feet of snow fell."

When the weather lifted on the fourth day, the men struggled out of the mountains on foot through the drifts. Both got severe frostbite, not something you'd expect in the Big Bend country. Marcos once got caught in a February storm with snow drifting to four feet, and beat a hasty retreat down from the mountains. He no longer leads winter trips into the



*As you can tell from the map on the opposite page, the village of Boquillas has the Sierra del Carmen at their back door and the Rio Grande at the front with the Sierra Fronteriza farther to the southeast. There is no access by road to Boquillas from the American side, and Del Rio and Eagle Pass are hours away. This proposed park will take some effort to visit.*



Fronterizas. "If any place in the Big Bend is going to get bad weather," says Marcos, "those mountains are it."

The Sierra del Carmens have a more intact ecosystem than the Chisos Mountains. Mexicans logged part of the Fronterizas years ago, but much of the mountains remain virgin and the logged areas are regrowing well. No one lives in the mountains and no livestock grazes. The old logging road climbs up the south end of the mountains but is washed out. We saw no one on our trip. In 30 or 40 trips, Marcos has never encountered anybody.

Black bears roam freely through the Fronterizas unlike Texas where, except possibly for the Guadalupe Mountains, the bear has long since been exterminated. The few bears seen passing through the Chisos Mountains are thought to be wanderers from the Sierra del Carmen. We saw bear tracks and scat on our trip.

If any area qualifies as wilderness, the Sierra del Carmen does. The old logging road provides questionable access to the southern part of the range. Faint horse trails, covered with deadfalls and rockslides, lead to some of the rest. The northern part of the Fronterizas, riven by deep canyons and crowned by sheer peaks and rocky ramparts, looks virtually impassable by anyone except rock climbers and masochists.

"Will it finally become a park?" I

wondered as I struggled to remain on top of my horse during the steep descent from the Fronterizas.

After a recent visit, Phil Koepf, chief ranger at Big Bend, says that it should be. "The Chisos Mountains are just a suburb to the Sierra del Carmens," says Koepf.

For more than 50 years people have talked about creating an international park at the Big Bend of the Rio Grande. This time it may be close to reality. In the past year, power lines have been built into the village of Boquillas from Texas and electricity will soon flow. The road south from Boquillas past the Sierra Fronteriza to Muzquiz has been turned from a rutted bone-breaker into a bridged, drained and smoothly graded thoroughfare. Pavement may follow.

This time the impetus for the park comes from Mexico. The people at Big Bend stand ready to help in any way possible, but as Carrico said in a recent speech at a parks conference in Tucson, "In the end, it is a Mexican decision, as well it should be." \*\*

*Austin freelance writer/photographer Laurence Parent made a horseback trip into Mexico's Sierra del Carmen last April to bring us this story and photos of a mountain range many have only glimpsed across the river from Big Bend National Park.*

*Above left, an old logging mill sits abandoned in the Sierra Fronteriza. The area has been logged in the past, but much of the region remains untouched and the logged areas regrowing. The old logging road is washed out and provides only questionable access to the southern end of the mountains.*

*The smoke plume from a grass fire lifts into the twilight air at the Sierra Fronteriza, looking towards the Sierra del Carmen escarpment and beyond them the Chisos Mountains back in Texas.*





Grady Allen

## POSSUM KINGDOM

# Water and Spirits Are Back Up

by Mark McDonald

Time and Texans have their way with the truth, and a spinner of yarns never lets facts get in the way of a good story. But legend has it drought would visit near-West Texas and stay until the Brazos River slowed to a trickle between pools, especially in the stretch where Possum Kingdom Lake now soaks the limestone hillsides. During those parched periods, locals would find these pools to be full of catfish that, once speared and dressed, yielded meat that would keep for weeks in the family root cellar, since they were naturally preserved by salt in the Brazos.

It follows, then, that a particularly dry year in the 1880s sent a vicious spring tornado spinning through the Brazos bends, changing addresses on trees and boulders, sending natives underground. When danger passed, locals emerged blinking and stretching to discover that a 50-pound flathead had been slung into the top of a nearby oak and, still very much alive, was giving unwilling testimony as to the quality of fishing hereabouts.

Now, it seems history is repeating itself. Once again, recreation at Possum Kingdom Lake is, well, looking up.

After nearly a decade in the dumpster, the reservoir with the funny name and the storied past is rallying. In fact, there is such an upbeat note singing through the cedars—socially, economically, in all ways—lakeside residents have almost regained a sense of humor.

One survivor at Possum Kingdom who suffered through the triple-whammy of an oil industry bust in 1980 followed by the agonizing draw-down of 1987 and the tornado of spring 1989, said last year's storm "caused \$200,000 worth of improvements."

So it goes with Possum Kingdom these days.

Raising the water level, which was lowered 14 feet for two years in 1987 so engineers could work on the dam, raised everything from community spirit to fishing fortunes. Possum Kingdom, born in 1941, is full pool again, and at 19,800 surface acres, she is walking on her toes. The old girl is back, all the way back.

"It's amazing, the kind of turnaround we're seeing," says John Nash, who owns Nash-Hardwick's, a guide service/bait stand/filling station/convenience store on the lake's east side.



Mark McDonald

*Possum Kingdom is full pool again after being lowered 14 feet for two years. Its 19,800 surface acres stretch for 49 miles.*

"From the lean times, when it seemed like another business would fold every week, this is what we have been hoping for."

Sailing, water skiing and powerboating, never slowed by much more than public misconception, is under full sail again, Godspeed and a tail wind. Campers, bird watchers and hikers have rediscovered Possum Kingdom. Meanwhile, fishing flourishes, but more on that later.



Leroy Williamson

“We’d have 80 feet of water in some places and people would ask me ‘Is the lake still empty?’” says Kevin Van Duser, a year-round resident who runs a pest control service. “All along, we had places to put in a boat, but public perception killed us. Everybody thought the lake was closed.”

Thrown together by hard times, east side residents united with west side. A newspaper sprouted, the *Lake Country Sun*, and a Possum Kingdom Chamber of Commerce emerged with help from nearby Mineral Wells and Graham.

“This was no small feat, getting people pulling in the same direction,”

says Shawn Humphries, president of the new group. "Here you can look across the lake and see a person's house a quarter-mile away, but if you don't have a boat, it may be a 50-mile drive around to visit him."

Thus, Possum Kingdom is a deep, blue gap stretching for 49 miles from the dam to Salem Bend, just south of Graham, separating virtual next-door neighbors. Indeed, Possum Kingdom

may be the only place in Texas where every morning you can see Mom or Pop chugging across the lake in the family boat, in all weather, taking the kids to a public launch ramp where they meet the school bus.

But just as the lake is remote enough to hold wintering bald eagles and isolate people who might otherwise be fast friends, it beckons with all manner of facilities, public and pri-

## WHAT'S IN A NAME

To hear historians tell it, Possum Kingdom comes by its name honestly. Years ago, the area flooded by the lake was, quite simply, a haven for marsupials.

One of the most picturesque recreation areas in Texas is named after fuzzy little creatures that carry their young in tummy pouches.

Believe it, says grass-roots historian Mrs. Cyrus (Barbara) Gibson, a fourth-generation Texan whose

great-grandfather first came to the area from Arkansas in 1859. "The dam was named for Morris Sheppard, a government official way back, but nobody has ever known the lake by that name," says Gibson. "It just never caught on. Near as I can find, nobody ever called this part of the Brazos River anything but Possum Kingdom."

Today, Possum Kingdom, or "P-K" as locals call it, is so well-known, the name stands without even adding "Lake."

"This area has always been important for its fish and game," Gibson says, citing early diaries and records passed from generation to generation. "Comanches and Kiowas roamed what is now Stephens, Jack, Parker and Palo Pinto counties, following the animals."

These native Texans hunted deer, turkey, buffalo, mountain lions and wild hogs left behind by Spanish explorers, even black bear. Gibson has found eye-witness accounts of the now-extinct carrier pigeon using North-Central Texas as a migration route.

"They say the birds came through in flights that would block out the sun," says Gibson.

By the mid-1850s, adventurous Anglo fur trappers were visiting the area, mostly for its abundance of raccoon, beaver and you-know-what.

In spite of the fur trade, Possum Kingdom remained a tough neighborhood until after the Civil War. Records show that as late as 1867 a poor fellow was relieved of his scalp within sight of what is now Morris Sheppard Dam.

vate. At every turn, there are family-owned operations offering rustic cottages to luxury suites ranging from \$6 a night to \$150, plus acres of public camping at Possum Kingdom State Park.

Yet, generally the area retains a certain natural charm. Hell's Gate, for instance, still looms over the water, formidable as ever, and Devil's Island remains a favorite spot to savor a sunset. Climb a limestone bluff, and it is not difficult to imagine what Anglo fur trappers found in the 1850s when they first ran afoul of Kiowa and Comanche hunting parties. That, too, is another story.

Of more immediate concern to Possum Kingdom visitors is the fishing. Simply put, it has been good the past year or so, and is likely to get better.

Certainly Possum Kingdom is one of the most diverse fisheries in the state, offering largemouth bass, crappie, striped bass, hybrid stripers, smallmouth bass and, yes, those legendary catfish. All told, almost 1.1 million stripers have been stocked since 1976, moving angler Gordon Brandon to predict there is a 40-pounder in Possum Kingdom's near future. Another 345,000 smallmouths have been stocked since 1978, as well as more than a half-million fast-growing Florida largemouths.

To study the lake records—16.02



Leroy Williamson

*Morris Sheppard Dam was named for a government official, but the lake has always gone by Possum Kingdom, or "P-K" as locals call it.*





Robert Liles

pounds for largemouths, 31.6 for stripers, 15.12 for hybrid striped bass, 6.40 for smallmouths—is to see that, for overall quality, Possum Kingdom ranks with the best in Texas, maybe in the nation. Least surprised by this are Texas Parks and Wildlife Department fisheries biologist Bruce Hysmith, who manages fish in the lake, and John Nash, who guides visitors to those fish.

“Not many people fished it during the draw-down,” Nash says, “but there were still fish to be caught, and they were more concentrated.” Nash is so confident of the lake, he trolls with downriggers and soaks live shad with a standing guarantee to custom-

ers. In the months of May, June and July, if they don’t catch stripers, they don’t pay. The guide has given two free trips in four years.

Hysmith says patient anglers will soon realize the draw-down, which lasted from March 1987 to June 1989, was actually a blessing. As water receded, plants sprang up along the shoreline. Shad and other baitfish were forced out of their old hiding places into a more confined area with less protection from predators. Game fish ate well and often. Later, when water rose again, bringing fresh nutrients, Possum Kingdom reclaimed her old haunts, which by then were covered with vegetation.

*Erosion has left limestone formations such as Hell’s Gate standing in the lake (below). At left, trout are stocked in the Brazos River below the dam.*

Robert Liles



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# Possum Kingdom State Park

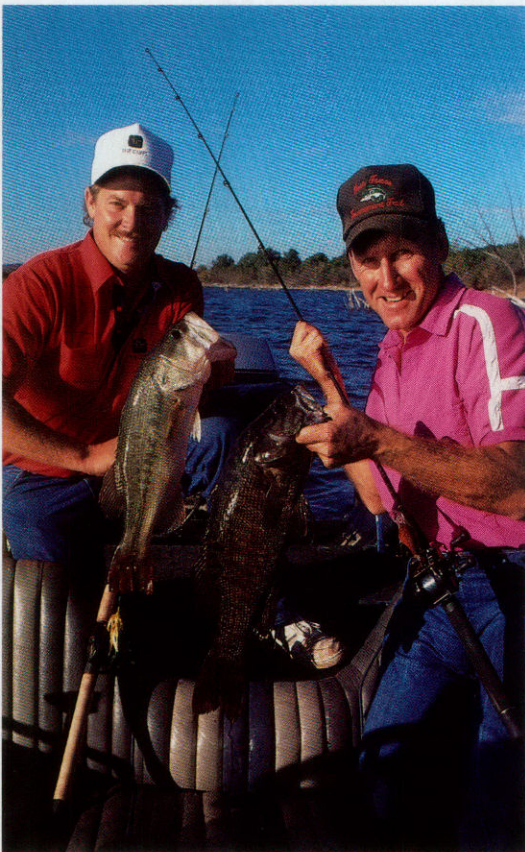
"There was so much new habitat, a fish could grow and die without ever seeing a lure," says Nash.

"It was like building a new lake," says Hysmith. "I would not be surprised to see a humongous bass show up, say 18 or 20 pounds."

For statistical proof, though, anglers will have to wait for TPWD studies.

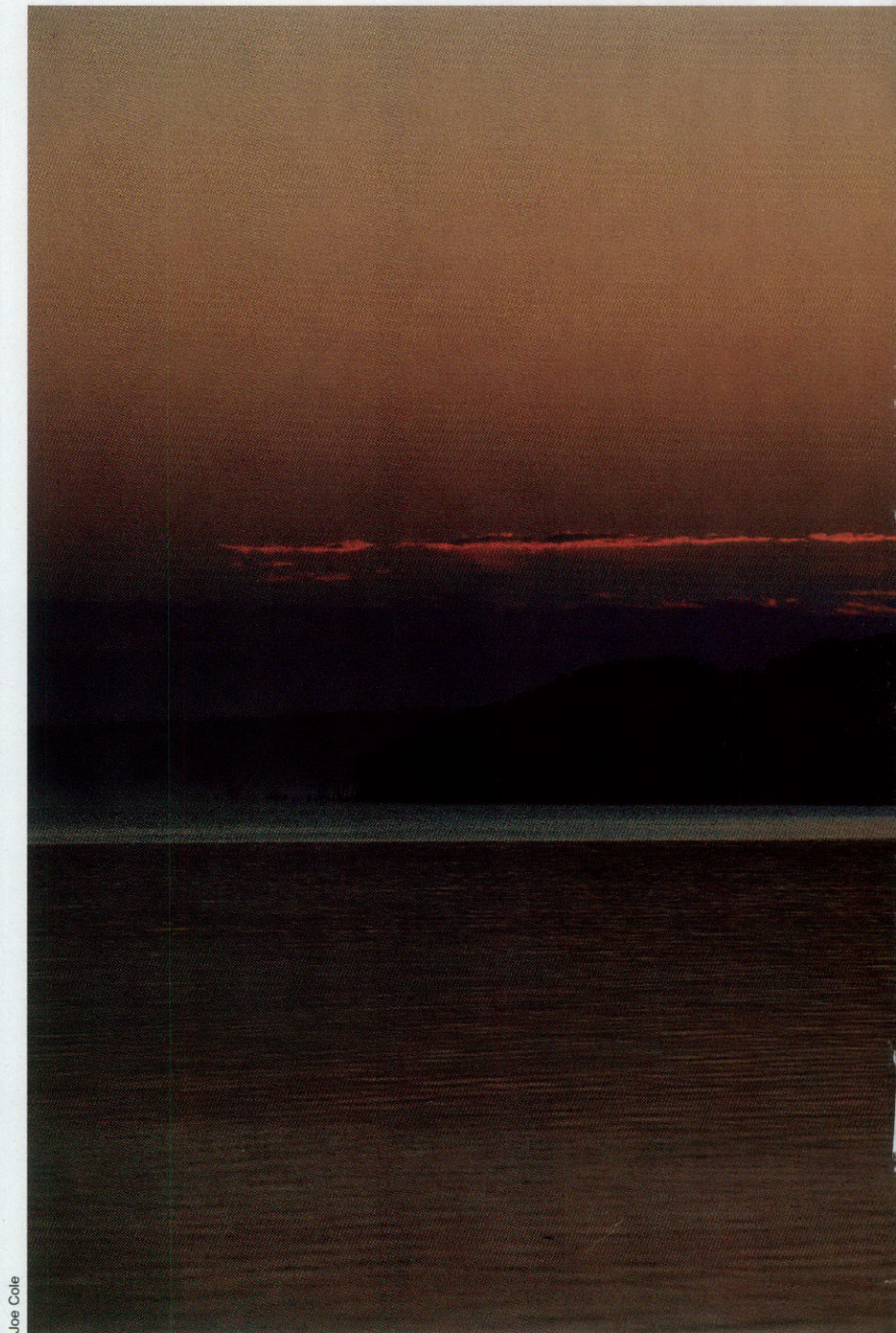
"We won't have any hard data until after our 1991 surveys," says Hysmith. Pity. This leaves Possum Kingdom visitors to conduct their own field rod-and-reel research. Practice, practice, practice. \* \*

*Mark McDonald is the outdoor editor for the Dallas Times-Herald and has had occasion to stomp around North Texas as part of his job. This is his first story for the magazine.*



Mark McDonald

*Guide John Nash (left, with a P-K large-mouth) guarantees his customers will catch stripers from May to July. Lake resident Gordon Brandon (right with a smallmouth) predicts there is a 40-pound striper in P-K's near future.*



Joe Cole

Possum Kingdom State Park (left and right) offers semi-rugged hiking, a lighted fishing pier, canoe rentals and a variety of campsites.



Joe Cole

For the camping family, Possum Kingdom beckons with a variety of natural and near-natural attractions, ranging from canoeing to hiking to chunking cow chips, all at a reasonable price.

Check into Possum Kingdom State Park on the lake's southwest side and choose from one of six cabins that include electricity, kitchenette and bath. If you own a tent or drive a camper trailer, request one of the park's 116 campsites, 56 with electricity and water hook-ups. If you travel in a motor home, some sites have cement pads for vehicles up to 35 feet long.

Indeed, the facilities have proved so popular, park officials advise campers to make reservations well in advance.

The park itself offers semi-rugged hiking, a lighted fishing pier and a concessionaire with canoe rentals. The first-time visitor may

be surprised to find a herd of long-horn cattle living in the park.

What's more, alert campers may see several species seldom found anywhere else. Most notable are the gopher tortoise, the Texas horned lizard of TCU athletic fame and the golden-cheeked warbler, which builds its nest from the shaggy, hairlike bark of cedar trees.

None, however, enjoys the whimsical celebrity of the Brazos water snake. This 16- to 24-inch serpent is not poisonous but when provoked, bites like a barracuda. The otherwise nondescript snake might have gone the way of the dodo bird if not for a colorful character of the 1920s who once collected them for cash, not science.

Enter Phillip "Snakey" Harter.

Oldtimers say the man lived in the limestone bluffs long-since flooded by Possum Kingdom Lake where he scratched out a living by

capturing snakes, lizards and other slithering creatures to sell to zoos and museums in the East.

When Harter, by now immune to rattlesnake bites, showed up on the shipping dock of the Mineral Wells rail station, his pockets squirming with life, locals gave him a wide berth. Turns out, some of his exports reached scientists who identified the Brazos water snake as an endangered species, a creature deserving of federal protection.

Thus, *Nerodia harteri* lives to this day, not in pants pockets, but within walking distance of your tent at Possum Kingdom State Park.

## FACILITIES

### Lakeside camping, RV, cabins

Bailey's Camp	817-549-1871
Bass Hollow	817-549-1802
Lakeshore Marina	817-549-2918
Lakeview Lodge	817-779-2522
One Mt. Place	817-779-2333
Possum Hollow	817-549-1873
P-K State Park	817-549-1803
P-K Lodge	817-779-2757
Rainbow Lodge	817-779-2933
Rock Creek Camp	817-779-2766
Sanbar Lodge	817-779-2922
Scenic Point	817-779-2366

### Lakeside Cafes

Bailey's	817-549-6388
Bass Hollow	817-549-1802
Bluff Creek	817-779-3911
Cruse Cafe	817-549-6752
Possum Hollow	817-549-1873
Scenic Point	817-779-2366

### Dive Shop

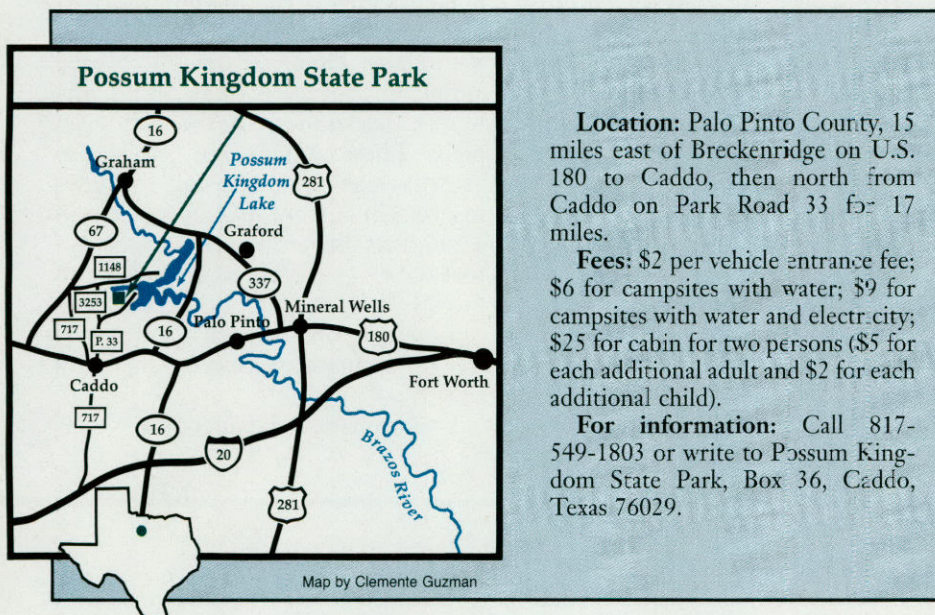
Scuba Point	817-779-2482
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### Fishing Guides

Paul Descoteaux	817-779-2757
John Nash	817-779-2391
Jerry Taylor	817-549-0072

### Key Phone Numbers

Brazos River Auth.	817-779-2321
East Side Ambulance	817-779-2191
P-K Chamber of Commerce	817-779-3915
TP&W Game Warden	817-549-1803
West Side Ambulance	817-549-6300



Map by Clemente Guzman

**Location:** Palo Pinto County, 15 miles east of Breckenridge on U.S. 180 to Caddo, then north from Caddo on Park Road 33 for 17 miles.

**Fees:** \$2 per vehicle entrance fee; \$6 for campsites with water; \$9 for campsites with water and electricity; \$25 for cabin for two persons (\$5 for each additional adult and \$2 for each additional child).

**For information:** Call 817-549-1803 or write to Possum Kingdom State Park, Box 36, Caddo, Texas 76029.

# How old is this fish?

A fisherman catches a large fish, and while admiring it he asks a companion, "How old do you think it is?" This is a question frequently asked by fishermen; most of them think large fish are older and small fish are younger.

However, biologists have learned that size is not always an indicator of a fish's age. For example, a 12-inch largemouth bass caught in the fall from a new reservoir may have been spawned during the spring and would be less than one year old. On the other hand, a bass the same length caught from a poorly managed lake could be four or even five years old.

How can two fish of the same size be so different in age? The answer lies in the different growth patterns of fish and mammals. A puppy grows to maturity in about a year, then it stops growing and remains about the same size for the rest of its life. This type of growth is called *determinate* growth, because the puppy is expected to reach a maximum size within a specific period. No matter how much the dog eats, it will not grow much after maturity.

Unlike mammals, fish can continue to grow after they reach maturity. This type of growth is referred to as *indeterminate* growth. If a fish gets enough food, it may continue to grow throughout its entire life. However, if food is scarce, a fish can survive for several years without growing. The rate of growth and ultimate size of the fish depend on factors such as species, food supply, level of competition and length of the growing season.

If fish growth is indeterminate and dependent on so many factors, how do

fisheries biologists determine a fish's age? They use three methods: the length frequency method, the known-age method or the anatomical structure method. Each of these methods has advantages and disadvantages.

In the length frequency method, biologists collect a large sample of fish of all sizes from a body of water. They measure them and record their total lengths. They group measurements according to size or inch groups and then prepare a bar chart showing the number of fish in each group. Several main peaks can normally be seen, corresponding to groups of fish of a certain age. If the collection is made after the spawning season, the peak corresponding to the smallest fish is assumed to be young-of-the-year or fish less than a year old. Other peaks represent fish spawned one, two or three years earlier, and so on. By looking at the size range of fish within each group, the biologist can assign an age to each fish.

The main advantage of this method is its simplicity; a disadvantage is that a large number of fish is required. Also, most fish-collecting gears do not catch fish of all sizes. The peaks can be difficult to recognize, and there can be a great deal of size overlap between ages. Because of these limitations, this method is used only when no other data exist.

The known-age method is used when fish are stocked in a new body of water for the first time, or when a new species is stocked in older reservoirs. Until they reproduce, it is easy to esti-

mate the fishes' age since we know when they were stocked. The advantage of this method is that exact ages are known. A disadvantage is that once they have reproduced, it is often difficult to distinguish stocked fish from their offspring. This method is most often used for species not expected to reproduce. For species that do reproduce, the stocked fish can be marked by clipping off a fin on each fish. By clipping different fins, several groups can be marked in the same body of water.

A more precise modification of this method is to install coded wire "pit tags." These tags are electronically coded and can be read by use of a tag reader when the fish are recovered. These tags are small enough to be used in the smallest fingerlings. The advantage of this technique is that the numerical code on each tag can identify individual fish. Disadvantages of both marking methods are the difficulty in recovering marked fish, especially in large populations, and the time and expense required for tagging.

By far the best method of determining a fish's age is the anatomical structure method. In 1759 Swedish scientist Hans Henderstrom discovered annuli, or concentric rings, on the vertebrae (backbones) of the European pike. These annuli are similar to growth rings on a tree trunk. In studying vertebrae from pike he stocked in a pond as fingerlings, he concluded that the rings represented a slowing of growth each winter. Thus each ring represented one year of growth and was an accurate measure of the fish's age.

Unfortunately, Henderstrom's dis-

by Richard A. Ott, Jr.

# Fish can't lie about their age to biologists.

covery was lost until biologists re-discovered it in the 1890s. Further research at that time showed that these rings were present on other bony structures such as scales, otoliths (inner ear bones), and cross sections of the spines. By looking at these structures with a magnifying glass or microscope, the annuli can be counted. A fish with no annuli is young-of-the-year; a fish with one annulus is one year old; a fish with two annuli is two years old,

etc. Even if a fish is growing slowly, it will have an annulus for each year of its life.

Growth of these structures was found to be proportional to the growth of fish. This fact allows biologists to estimate the size of a fish at earlier ages. Disadvantages of the technique are the necessity of killing the fish for otoliths removal, and difficulty in interpreting annuli from fish in heated reservoirs when growth re-

mains constant through the year, making the rings unreliable as age indicators.

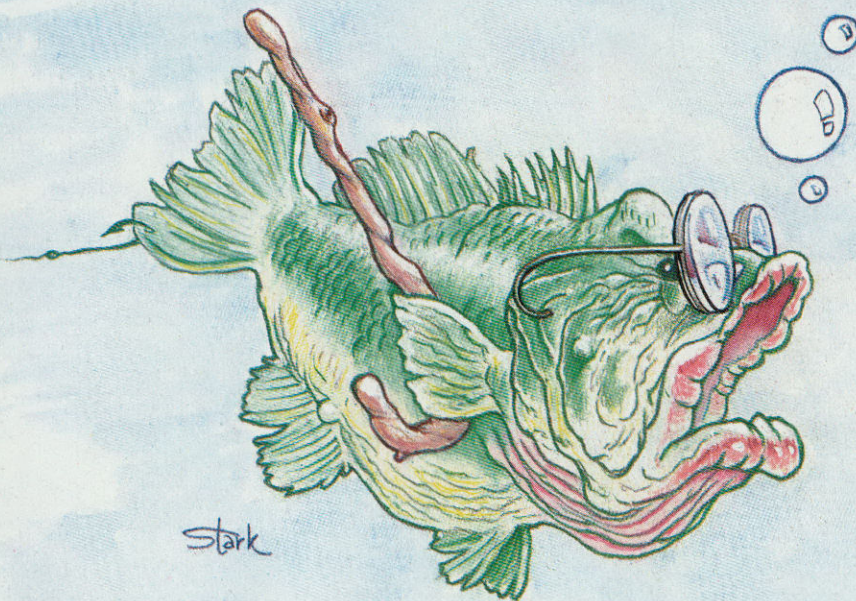
Establishing the age of fish is necessary to calculate their growth rate. Slow growth (particularly of small fish) indicates that a population has exceeded its food supply. Few fish will ever reach harvestable size under these circumstances, and many will die of natural causes. Anglers might catch a lot of fish, but they will be small. When biologists find this situation with bass, they might recommend a "slot" length limit to correct the problem. Smaller fish are thinned to allow faster growth, and larger fish are protected until they reach better quality size.

But extremely fast growth indicates that a population is deficient in reproduction or survival. Although anglers may catch a few large fish, catch rates are low. In this instance biologists could recommend minimum length limits to protect smaller fish and promote improved reproduction and survival.

The ability to determine a fish's age accurately and use this information to calculate growth rates is essential to the proper management of any fish population. Although none of these methods is perfect, each is an important tool to help Parks and Wildlife biologists do a better job of managing the state's fisheries. \*\*

*Richard Ott is a Parks and Wildlife fisheries biologist stationed at Tyler and this is his first contribution to the magazine. Staff cartoonist Patrick Stark has lightened our subject matter in the past few issues.*

"E-LECTRO-FISHIN? BAH!  
... BACK WHEN I WUZZA FRY..."



Cartoon by Patrick J. Stark



*Crowds of autumn give way to the melodies of spring.*

# Lost Maples

Why would anyone go to Lost Maples in the spring? It is the autumn, with its promise of crisp, Hill Country air and fiery maple foliage, that attracts more than half the park's annual visitors. Toward the end of each October, the steep limestone canyons echo with the crunch of hiking shoes on dry leaves, the gurgle of the Sabinal River and the calls of countless migratory birds. The scenery is so invigorating that it diverts the crush of admirers from the secrets hidden beneath the golden-leaved carpet.

"There's something magical about this place in the fall," says Park Superintendent Roy Heideman, "but people need to see Lost Maples in the spring, too." In April, damp morning fogs and balmy afternoon suns coax the *other* Lost Maples from its hibernation, unfolding its secrets with the lush turn of a new season.

Gone are the crowds and brilliant colors. Instead, a

green light suffuses trails densely canopied by maple, juniper, ash, sycamore, oak, basswood, chokecherry and hackberry. Wildflowers bloom near the banks of the Sabinal, and the scent of mountain laurel pervades the air. Musical little waterfalls cascade from maidenhair-covered seeps high up canyon cliffs, and the occasional hiker skips across the river on large, white stones. Armadillos, opossums,

raccoons, foxes and squirrels skitter about in an underbrush mixed with faded autumn leaves.

The stark contrasts of white cliffs, arid plateaus and green canyons surprise most new visitors. Lost Maples' 2,200 acres sit on a dissected margin of the Edwards Plateau. The Texas madrone grows on the warm uplands while down in the Sabinal Canyon, the Edwards Aquifer feeds three creeks,



*A rock split by a maple tree is one of the unusual sights to be found while exploring Lost Maples in the spring. At right is a fern- and moss-covered seep on a canyon cliff.*

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Article by Barbara Dunn, Photos by Stephan Myers/Collaborations

which in turn form the Sabinal River. Flowing between sheer cliffs and gravelly hillsides, the Sabinal's life-giving artery supports a verdant world.

In 1980, the National Park Service designated Lost Maples a National Natural Landmark. The park's canyon walls serve as a bastion against the winds and heat of the Edwards Plateau, and hikers and campers may

wonder if they've stumbled upon a secret Eden. More serious naturalists find that, in addition to the bigtooth maple for which the park is named, other plants and animals survive here that are rare, endangered or far from their natural habitat.

Bigtooth maples, also known as canyon maples, grow in the Rocky Mountains from Idaho through West Texas

and northern Mexico. Isolated stands remain in the Sabinal Canyon, Fort Hood in Central Texas, and the Wichita Mountains of Oklahoma. The Canada moonseed grows hundreds of miles from its usual locations. Even small numbers of javelinas and the elusive mountain lion survive at Lost Maples. The reason for this diversity and the park's name lie in the origins of the canyon itself.

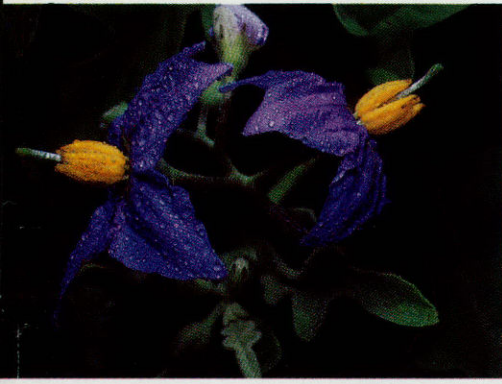
Pleistocene ice sheets gripped North America about one million years ago, bringing a moist and cool climate to central Texas. During this



*Visitors enjoy a view of the sparkling Sabinal River from the Maple Interpretive Trail. Springtime flowers include prickly pear blooms (above) and horse nettle (opposite).*







became known as the "lost" maples.

As a state natural area, Lost Maples was developed to conserve its natural and aesthetic resources. It has fewer facilities than some other state parks, only 30 campsites with electricity and eight primitive camping areas. Recreational activities include nature walks, camping, hiking, picnicking and birding. Spring brings the opportunity for intimate and secluded enjoyment of the park's natural wonders. You can camp in total isolation, or hike five miles without seeing another person.

The park has a two-trail system: the

developed 1,400-foot Maple Interpretive Trail and 10 miles of undeveloped trails. Visitors are provided with topographic maps that outline the trails and steepness of the terrain. Wear appropriate clothing and consider your physical condition before embarking on a hike. Some portions of the trails are strenuous. Because of the dense foliage and steep canyon topography, straying from the trails is strongly discouraged.

Half of the trails follow dry creekbeds, and the other half, including the Maple Trail, wind along the Sabinal

time, bigtooth maples migrated eastward from Mexico and the Rocky Mountains. As the ice retreated and the climate warmed, the maples became restricted to pocket canyons, and







and its tributaries. Even if you're not in sight of the river, you will intermittently hear the water flowing and spilling over rocks. Along the cliff walls, enormous growths of ferns cover seeps and run down rock faces along the water's path. If you look closely among the ferns, you may discover the pale petals of the stream orchid, *Epipactis gigantea*, which shares the moisture. The hard slap-splash of water on rock announces waterfalls long before they are seen. Some dribble and some pour from heights of 15 feet or more. Many hikers enjoy slipping off their shoes and resting their feet in the cool, massaging waters of the river.

An amazing experience is seeing the Sabinal sink beneath its own gravelly bottom at several points, then seep up again to resume its flow a hundred feet

downstream. "The river flows along until it hits gravel deposits that are more porous than the riverbed," says Heideman. "It flows under the deposits for a while, then comes up again when it reaches a place that's not as porous."

One of the most picturesque sites you'll ever see lies along Can Creek at a place called the Ponds. A primitive campground lies nestled between a sheer cliff and the creek. A 50-foot seep spring flows over protruding, fern-covered limestone into a large, oblong pond. The pond in turn pours over another waterfall to Can Creek. Luxuriant plant life and bass, perch, sunfish and turtles fill the pond's clear waters. At night, hundreds of fireflies perform a ballet just above the water, and white-tailed deer quietly roam about.

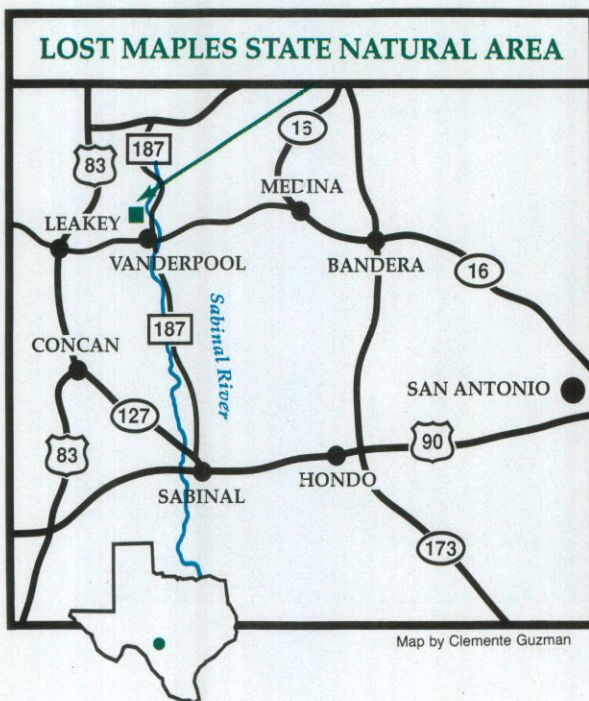
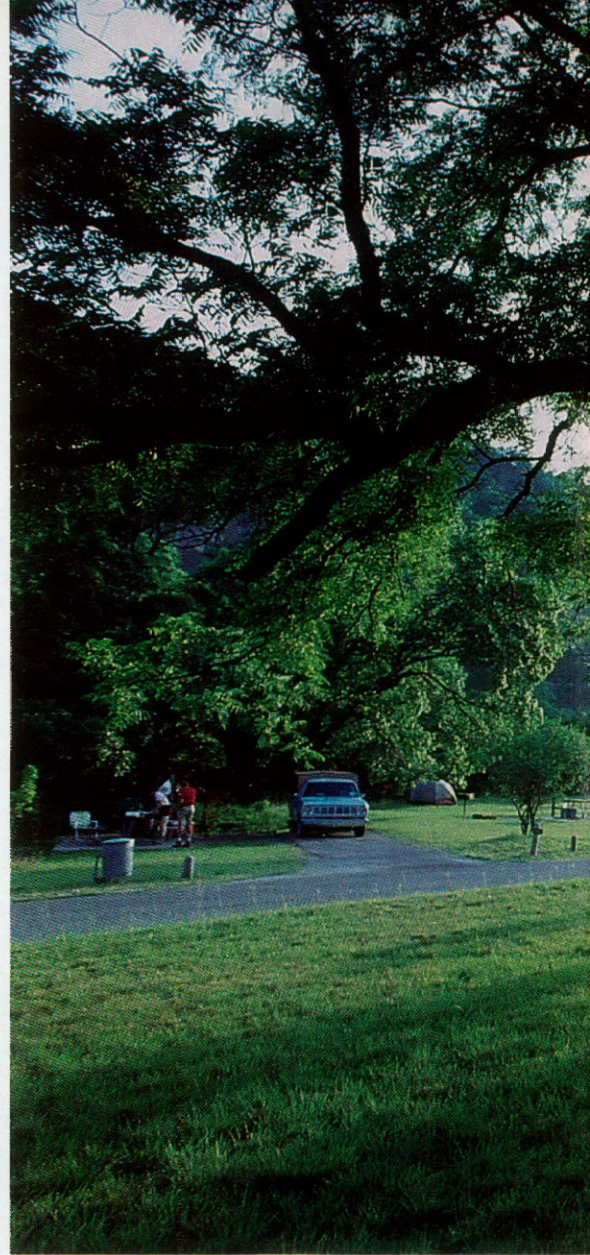


At several points the Sabinal sinks beneath a porous gravel deposit, then comes up again when it reaches a place that's not as porous (left). The giant epipactis orchid (top) is one of many unusual plants found in the park. Fishing is permitted at a spot known as "The Pond."

Away from the water, the park comes alive with the colors and sounds of spring. Bright yellow prickly pear cactus, purple horse nettle and vibrant red leather flowers bloom throughout the area. Crush the leaves of blue sage to smell its peppermint resin. From rocky crevasses, cañon wrens call to each other, mimicking the sounds of the streams below.

Amateur birders and ornithologists watch a number of rare birds, such as the black-capped vireo, that survive in the canyon. "People come from all over the country and the world to see the birds here," says Heideman. The golden-cheeked warbler is found only in certain areas of the Edwards Plateau and nests exclusively on the area's mature cedar stands. Green kingfishers, found only in a small area of southwest Texas, prefer to live near rivulets where pairs can sit on either side of the stream to fish.

Another, less noticeable, attraction at Lost Maples is a "genetic refuge" for native Guadalupe Bass. The clear waters of the Sabinal River and associated creeks running through the park have been stocked with pure-strain Guadalupe bass, a species that has been compromised because of hybridization with introduced smallmouth bass across much of its range.



**Location:** Lost Maples State Natural Area lies five miles north of Vanderpool and about 100 miles west of San Antonio. Take U.S. 90 west from San Antonio for about 60 miles, then turn north on Ranch Road 187 at Sabinal and proceed 37 miles to the park entrance.

**Facilities:** Lost Maples' day-use area has 20 picnic sites with parking spaces and a restroom. Extended-use facilities include 30 campsites with electricity, a restroom with showers, and eight primitive camping areas.

**Hiking:** The 10.5 miles of trails can be strenuous. Many have steep grades with loose rocks. Natural

hazards exist, so walk on designated trails only.

**Conservation:** Do not disturb, gather or harm any plants, animals, leaves, rocks or fossils.

**For information or reservations:** Call 512-966-3413 or write Lost Maples State Natural Area, Box 156, Vanderpool 78885.

**Autumn information:** Fall foliage usually lasts from the last two weeks of October through the middle of November. The park is extremely popular in fall, so call the park well in advance for reservations. Call 1-800-792-1112 to check on fall foliage, since conditions vary from year to year.



Guadalupe bass are found only in portions of the Guadalupe, San Antonio, Colorado and Brazos River systems. Fishery biologists hope the sanctuary will assure that a pure strain of this truly native Texas fish will be preserved for the future.

Whether you're a hiker, camper or naturalist, the secretive lushness of Lost Maples in the spring offers all its visitors a glimpse of Eden. Nature appears at her best, displaying a rare and elusive beauty unknown to the crowds of autumn. \*\*

*The Houston-based Collaborations team of writer Barbara Dunn and photographer Stephan Myers has contributed numerous articles to this magazine and other publications.*

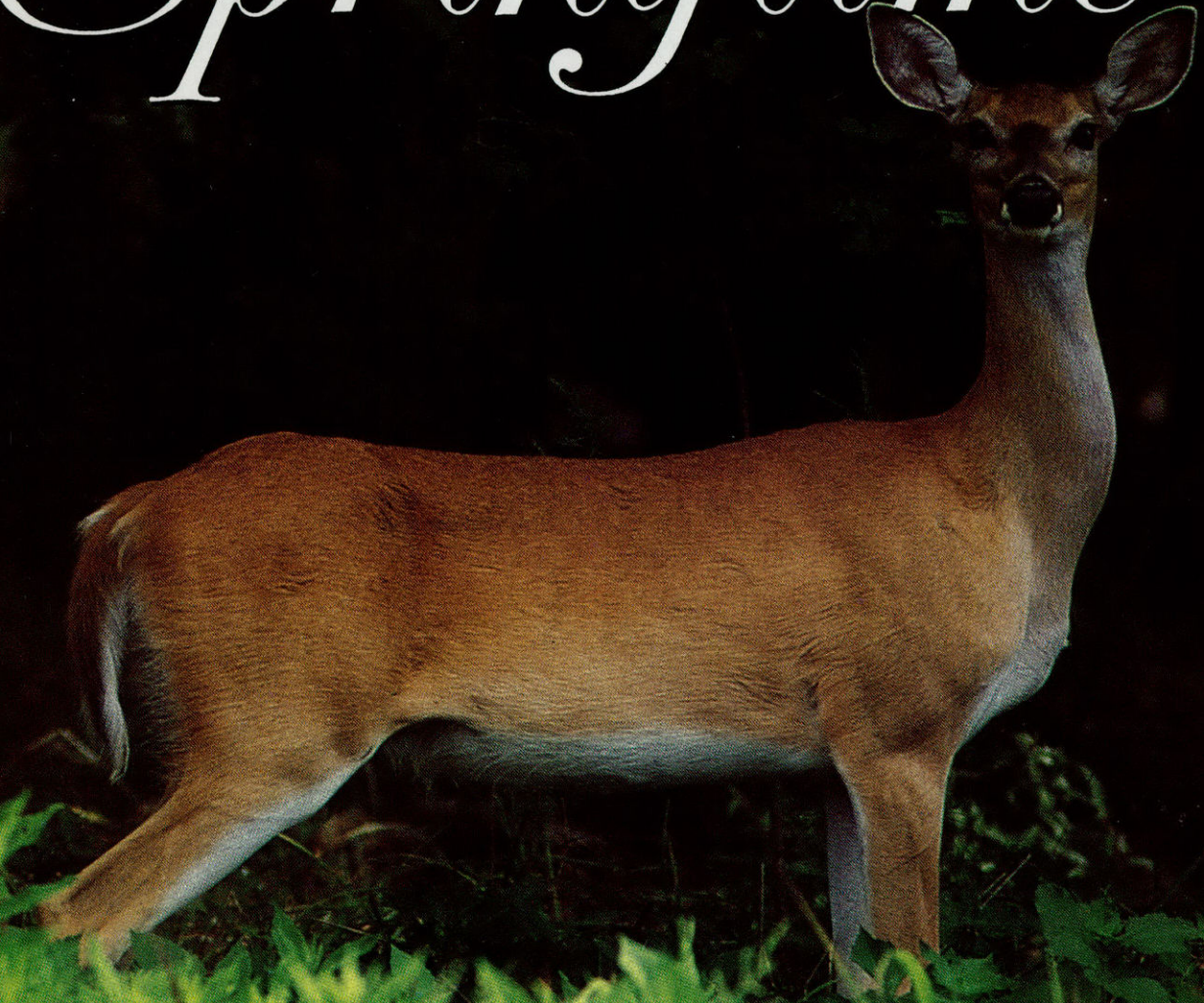


*The park's day-use area (above) has a view of the surrounding Hill Country. Flowers such as the red clematis (left) add color to the springtime landscape.*



TEXAS SEASONS

# Springtime



*A doe and her spotted fawn greet the spring morning.*

S

omeone once wrote, "The greatest beauty of the year travels spring." I can't argue with a statement that simply and eloquently describes my favorite season.

Spring is the time when earth reawakens. It's a time of gentle rains, sunny days and warming nights.

Never are the riches of the earth more apparent than in spring when flowers cover the land and wildlife replenish their numbers. Birds busily build nests, lay eggs and rear their young. There are new fawns, raccoons, opossums and all manner of other wild babies.

This is the season when photographers frantically attempt to record nature's profusion on film. But the camera can't record the freshness and the fragrance in the air. Nor can it capture the warmth or the marvelous feeling of being alive. These are the things that viewers of pictures must supply from their own memories.

Such glorious spring colors. Will I have enough film and enough time to capture all your beauty before you mature into summer? \*\*

Leroy Williamson



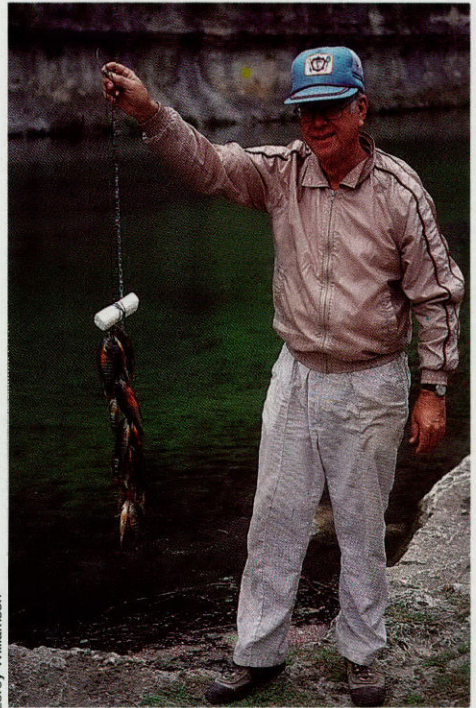
*The vibrant bloom of a yellow pricklepoppy is a harbinger of spring in South Texas.*

Stephan Myers





Kevin Painter



Leroy Williamson



Leroy Williamson



*Signs of spring include a chickadee perched among the blooms of a pear tree, a young opossum nestled in a hollow cavity and an angler displaying a stringer of bluegill sunfish.*





Stephan Myers



Dave N. Richards



Lloyd B. Hill



*The first warm spring day means it's time to head for the nearest swimming hole. Young javelinas strike out on their own while a baby bobwhite quail seeks shelter under its mother's wing.*



John Peslak



*Hungry cardinal chicks open wide for breakfast, and maidenhair fern surrounds a picturesque waterfall on the Blanco River near Wimberley.*

Leroy Williamson





*Baby nutria huddle together under a canopy of grass, raindrops lie suspended on a cobweb and a pair of Canada geese stand near a pond on a green May morning.*



John Peslak



Stephan Myers





*The colors of spring can be found from a sunrise over Padre Island to a field of wildflowers or the subtle golds of a butterfly. The deer mouse (opposite), a common rodent of West Texas, is found in large numbers in the spring.*



Leroy Williamson

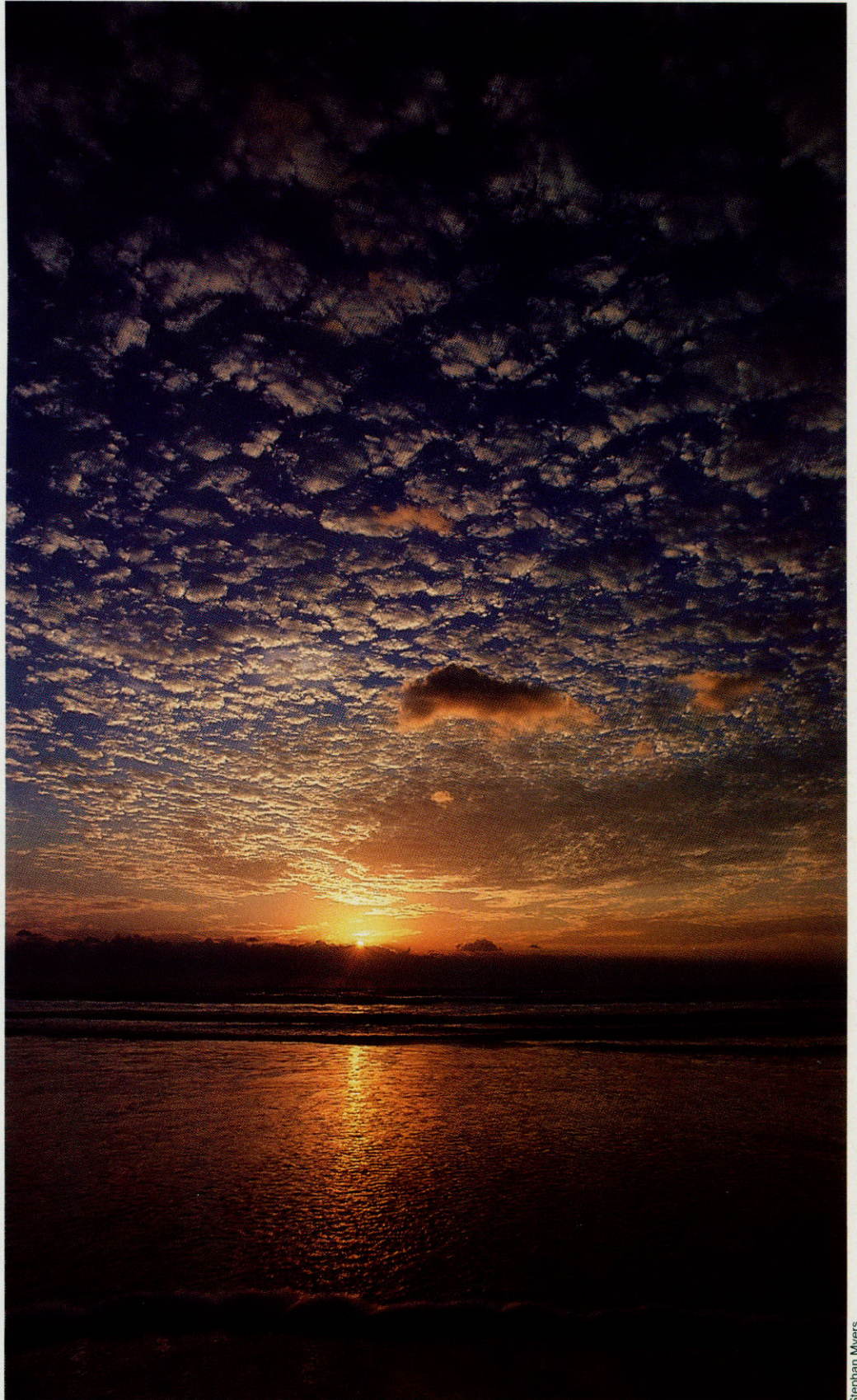




William H. Clay



Leroy Williamson



Stephan Myers

# Readers' Questions

by Leroy Williamson

**T**he response to "Picture This" has been great and a number of readers have written asking some interesting questions. From time to time I'll answer some questions of general interest in the magazine. I'll make a concerted effort to answer all questions with individual letters; just remember that I travel a lot performing my duties for the magazine, so my response time may lag a little.

Here are some of the questions I've received recently.

**Q**—*I have been a subscriber to your magazine many years and enjoy it very much. A few years ago, I read an article about calling animals with tapes, such as a rabbit in distress for predators and other tapes to call birds or deer. I'm interested in obtaining several of these tapes for photographic use. Can you tell me where I can purchase them?* Mike Sullivan, Plano.

**A**—Game-calling tapes are produced by two or three Texas companies and should be available at most large sporting goods stores. I use such tapes from time to time and purchase mine from Johnny Stewart Game Calls, P.O. Box 7594, Waco, Texas 76714, telephone 817-772-3261. They have a complete line of tapes as well as portable, weatherproof tape players and remote speakers.

**Q**—*For four or five years now, I have been shooting outdoor photos as a serious hobby, especially white-tailed deer on our lease in far West Texas. I have been using an Olympus OM2S camera with a Tamrom 60-300mm zoom lens, a 2X teleconverter, and I generally use a monopod. I have some success, but of course, also tons of prints that are bad or only so-so. I use regular 35mm print film and after the rolls are developed, I have the prints that I've gotten lucky on made into 8 x 10 en-*

*largements. Could I get better results (quality, sharpness, color) if I were to use a "Kodachrome-type" film and have slides/negatives made first? Or is color negative still best for the amateur?* Mike Leitko, Spring.

**A**—Your camera-lens combination is excellent for wildlife photography and using a monopod will certainly help you get sharper pictures. Using a tripod would be even better, but carrying a tripod can be a pain and you'll miss some pictures because you can't get set up fast enough. But the pictures you do get will be sharp, and using a tripod when you have your 2X extender on your lens is almost a necessity.

Deciding which film to use can be difficult. If your product is going to be a print for the scrapbook or an enlargement for the wall, I would stick with color negative film. Color nega-

tive film has far more latitude than slide films, so your chances of getting a good print are better. But getting a good print depends greatly on the color lab used.

If you ever want to have any of your pictures published, color slides would be best. Exposure for slide film is much more critical, but you get what you see—the lab doesn't interpret your slide film for color balance, they just process it and send it back to you. Sharpness and color are great if you do everything right. And excellent prints can be made directly from the slides or from a color internegative.

Now that I have you thoroughly confused, here is my straight answer. If my product were going to be color prints, I'd shoot color negative film and find a good lab or do my own darkroom work.

**Q**—*Your article on lenses (January)*

*Point and shoot cameras are terrific little machines and easily handle many subjects but . . .*



was very interesting. I am interested in taking wildlife pictures and frequently visit the King Ranch where I see deer, javelina and hawks just across the road. Would the following cameras give me a good close-up of the animals I see from maybe 20 yards away? 1. Olympus Quick-shooter with 35-70mm auto zoom with macro. 2. Minolta Freedom 90 with 35-90mm lens. 3. Nikon Zoom Touch 500 with 35-80mm macro lens. I also have a 35mm Petri single lens reflex which I haven't learned to use yet. Will it give more detail on a picture than a regular 110 pocket camera? George Garcia, San Antonio.

**A**—Point-and-shoot cameras are great for many picture-taking situations, but they don't have the lens power necessary for wildlife photography. Even at 20 yards, with the lens zoomed to 80 or 90mm, the image is not going to be what you want. A 35mm camera with something like a 70-120 or a 50-300mm would provide excellent results. By all means, learn to use your Petri camera and buy a zoom lens for it. Pictures from a 35mm camera will be far superior to those from a 110 pocket camera.

**Q**—I recently purchased a Canon EOS 650 camera with the idea it might be a good camera to use in some nature photography. In a photo of a platform bird feeder

(December 1989) you make reference to a 30-foot shutter release on an EOS 620. I am unable to find a remote release for EOS cameras more than about a foot long. Did you make up a cable of your own or do you know a source for a 30-foot remote release for EOS cameras? Also, do you know of any book with some basic suggestions on how to get started in nature photography? Graden Harger, Houston.

**A**—Remote extensions for the EOS cameras are made by Canon and should be available at any major camera store, either from stock or by order. The 30-foot extension costs about \$30 or \$35 and you will need the short, one-foot extension with the shutter release switch also. Total cost for both is about \$65. Some nature photography books that may be helpful are: "The Complete Book of Wildlife & Nature Photography" by Michael Freeman; "Photographing Wild Texas" by Erwin and Peggy Bauer; and "Wildlife Images" by John Wootters and Jerry T. Smith. Any bookstore should be able to obtain them for you.

**Q**—I recently bought a Bushnell Spotting Scope and in the accompanying literature they mention using the scope as a telephoto lens (with the additional purchase of about \$80 of accessories). Obviously, the setup will result in a very

small aperture with resulting slow shutter speeds, and would seem to be a good setup for motionless objects only. I wouldn't mind the slow speed if the resolution is tolerable for 3 × 5 prints. If you have any experience with this type of setup, what is your opinion? Kent Tompkins, San Antonio.

**A**—Shooting pictures through a spotting scope is less than ideal. We had a similar lens at Parks and Wildlife several years ago. Even though it was expensive, not one of our photographers ever got a usable picture from it. The aperture was f/13 at 1000mm and f/19 at 1300mm. Images were unsharp even though a heavy tripod and sandbags over the lens were used. Most people I know who have tried using spotting scopes for photography have not been happy with the results. However, if you don't want prints larger than 3 × 5, and you take extreme care when photographing, you may get some acceptable results. Personally, I'd rather apply that \$80 toward the purchase of a lens that was designed for photography. \* \*

... their lens power is usually not adequate to produce good wildlife images.



Leroy Williamson

### Don't Forget the 'Best of Texas Photo Contest'

Your entries must be submitted by August 15, 1990, color slides only. No more than one photo per category from each entrant. Here are the categories:

**Wildlife**—Any native Texas species

**Scenic**—Pictorial scenes of Texas

**Recreational**—People enjoying the Texas outdoors

**Macro**—Close-ups relating to nature and the outdoors

Winners will be published in the December 1990 issue. See the February issue for full details or write to us:

The Best of Texas Photo Contest  
Texas Parks and Wildlife Department  
4200 Smith School Road  
Austin, Texas 78744





Wyman Meinzer

# The Ill Wind of Spring

The prospects looked favorable for a day of good fishing as Terry drove away from his Knox County home in early May 1989, heading for a favorite fishing pond a few miles west of Benjamin, Texas. Although the barometric pressure had dropped, the low clouds that gathered unusually early on this spring morning didn't seem particularly threatening.

Graduate students from the School of Atmospheric Science at Texas Tech University were also on the road that morning, but with cameras and lenses rather than fishing rods. Data collected from the morning's surface and upper air data indicated that conditions were favorable for severe weather in the rolling plains east of Lubbock. A collision of warm, moist air with a cold front was imminent. As Terry drove leisurely to his secret fishing hole, meteorologists raced toward Knox County and a hopeful rendez-

vous with the most violent weather phenomenon known—a tornado.

The sound of the hook and bait hitting the water can be sweet music to the ears of a fisherman, especially when it's on a secluded fishing tank. Terry settled back to enjoy the day and relax after a week of farm work.

At about noon, the storm chasers from Lubbock stopped for lunch in Guthrie, 30 miles west of Benjamin. A storm was building to the southwest, so they decided to go south instead of to Knox County. Perhaps near Aspermont the ugly trunk of the twister would emerge from the parent cloud cover, affording the anxious meteorologists a view and perhaps photos of the funnel.

While the storm chasers were

having lunch, I returned to my home in Benjamin with my wife and two sons. We remarked that the storm looked particularly menacing, then got in the house since lightning was becoming dangerously frequent.

Meanwhile, the fish were biting as quickly as Terry could throw his line in the water, so he didn't notice the swirling white funnel that snaked from the wall cloud only 500 yards to the east. Suddenly the air became heavy and sullen. There was no wind, and even the spring songs of the many birds stopped abruptly. Suddenly aware of the unnatural silence, he looked to the east and saw the twister make contact with the ground.

Back in Benjamin, the siren echoed through the town as I walked to the door and looked to the west. There, just four miles from town, the black rolling trunk of the tornado rumbled across the rangeland. I delivered my family to the safety of a neighboring

---

by Wyman Meinzer



Paul M. Montgomery

*When low clouds gather in the springtime sky, Texans in the northern part of the state have learned to be alert for tornadoes. The tornado at left swept through the rural countryside near Benjamin, Texas, in May 1989.*

cellar, then took my camera and drove out to photograph this phenomenon that I'd seen only once before in my lifetime. For 20 minutes the twister meandered across the landscape dipping, rising and growing on its path to the north. Eventually the storm disappeared in a haze of rain miles to the west. For minutes I sat in quiet disbelief pondering the rare experience.

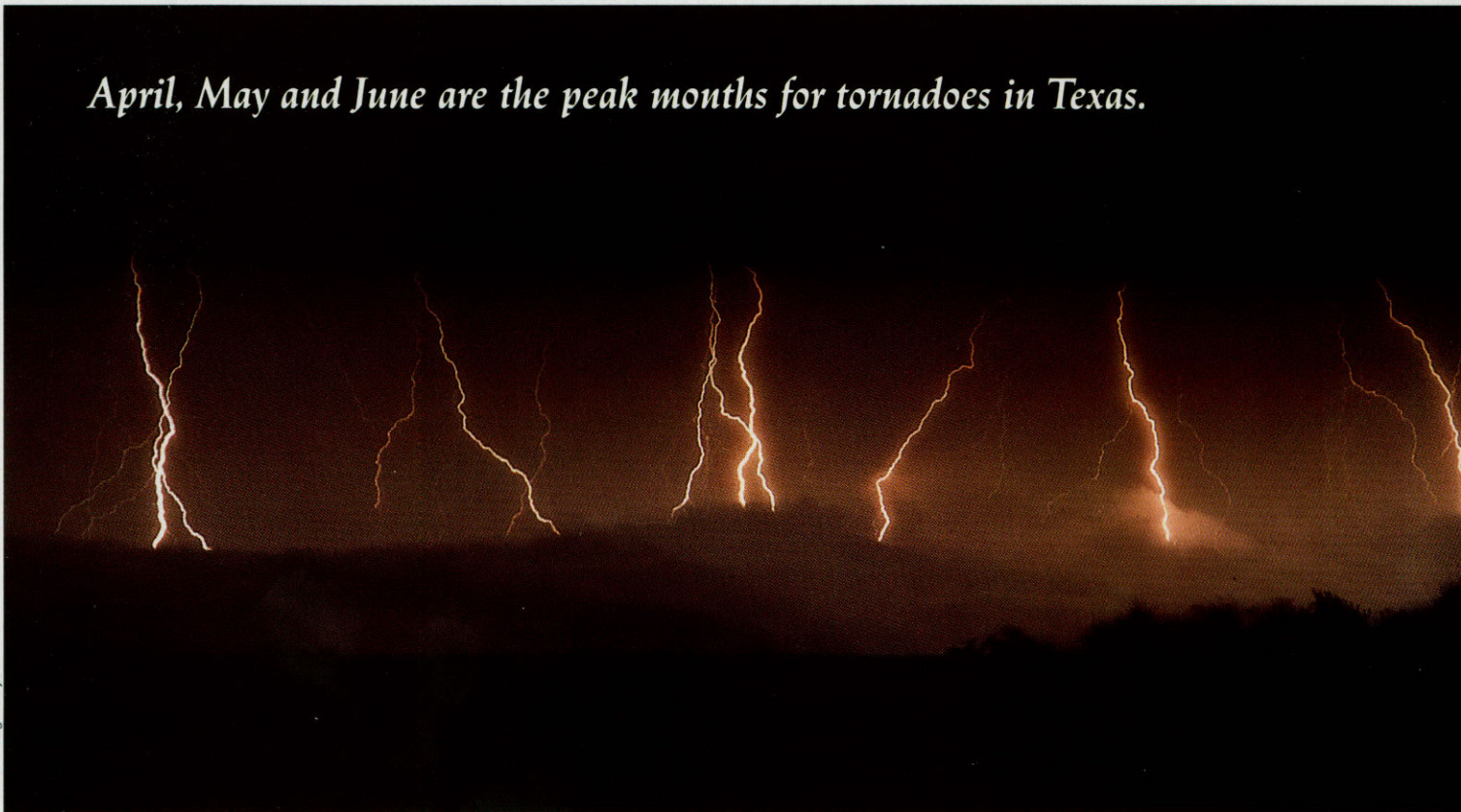
From March to July each year, people throughout northern Texas, Oklahoma and Kansas cast expectant eyes to the sky as storm systems rumble across the land, producing more than 700 tornadoes annually. Fewer people fall victim to these violent storms today than in years past thanks to advanced warning systems, but tornadoes still account for more deaths in the U.S. than any other weather phenomenon except lightning. Fortunately, my home and those of friends and neighbors were spared last May as the twister tore across the juniper- and mesquite-covered badlands and dissipated before reaching more settled areas.

Why do the central and east-central states suffer so many of these violent storms? "Tornado Alley," as this region is called, lies along the path of two major air masses. The polar mass, chilled by cold Canadian nights, moves into the U.S. and is channeled to the south by the Rocky Mountains. Tropical or Gulf air is being pushed progressively farther north by the longer, warmer days of spring.

As these two air masses meet somewhere over Texas, Oklahoma, Kansas or Missouri, the warm, moist air slides under the cold, polar air mass. In many cases the air masses stall at this point, trapping the warm mass under the Arctic "cap." Pressure begins to build against the polar cap as the super-heated air from the midday temperatures rises into the already warm atmosphere. For severe weather conditions to develop, a break or hole must occur in the polar cap and allow the super-heated air to explode into the cold troposphere. This often happens when the jet stream, high velocity winds in the troposphere,



## *April, May and June are the peak months for tornadoes in Texas.*



Paul M. Montgomery

*During unstable springtime weather, outdoor enthusiasts should keep an eye on the sky and stay tuned to weather reports. The foremost danger during an approaching storm is lightning.*

swings over the polar cap and "cracks" the lid. The moist, heated air then rushes into the troposphere, creating the towering thunderheads that are so familiar on warm spring afternoons. These thunderstorms are the womb from which tornadoes are born.

Tornadoes occur in the U.S. from March to July, with the peak months being April (15 percent), May (22 percent) and June (20 percent). The Texas and Oklahoma area is hit hardest early in the spring when the temperature contrast of the two air masses is extreme. As summer progresses, the more violent weather conditions move northward into the Dakotas. Although tornadoes do occur in Texas during the summer, the most violent ones occur in March and April.

It is thought that tornadoes form within thunderstorms as a result of wind shear, a phenomenon where low- and high-altitude winds blow simultaneously in the same storm but in different directions. For instance, the low-altitude winds tend to flow in a

southeasterly direction while the high-altitude, high-velocity winds generally flow west. These winds inside the thunderstorm flowing in different directions and velocities initiate a counterclockwise spin of the air mass. This "mesocyclone" initially spins on a horizontal axis but as the storm continues to build, warm, moist air is continually being sucked into the storm from near ground level, gradually forcing the mesocyclone into an upright position. As the storm grows, the mesocyclone slowly grows downward and finally protrudes from the thundercloud. Surrounding this swirling mass is a "wall cloud" that shrouds the cyclone until conditions allow the actual funnel to drop from the wall cloud and become the classic tornado.

Only about one percent of these thunderstorms actually produces a tornado, but the violence of these



Wyman Meinzer

*The intense, concentrated fury of a tornado can level houses in its path and pull a tree from the ground by its roots.*

*The day after a tornado hit Wichita Falls in April 1979. Houses in its path are no more than rubble, but those just yards to the side of the main path remained relatively unharmed.*

Wyman Meinzer



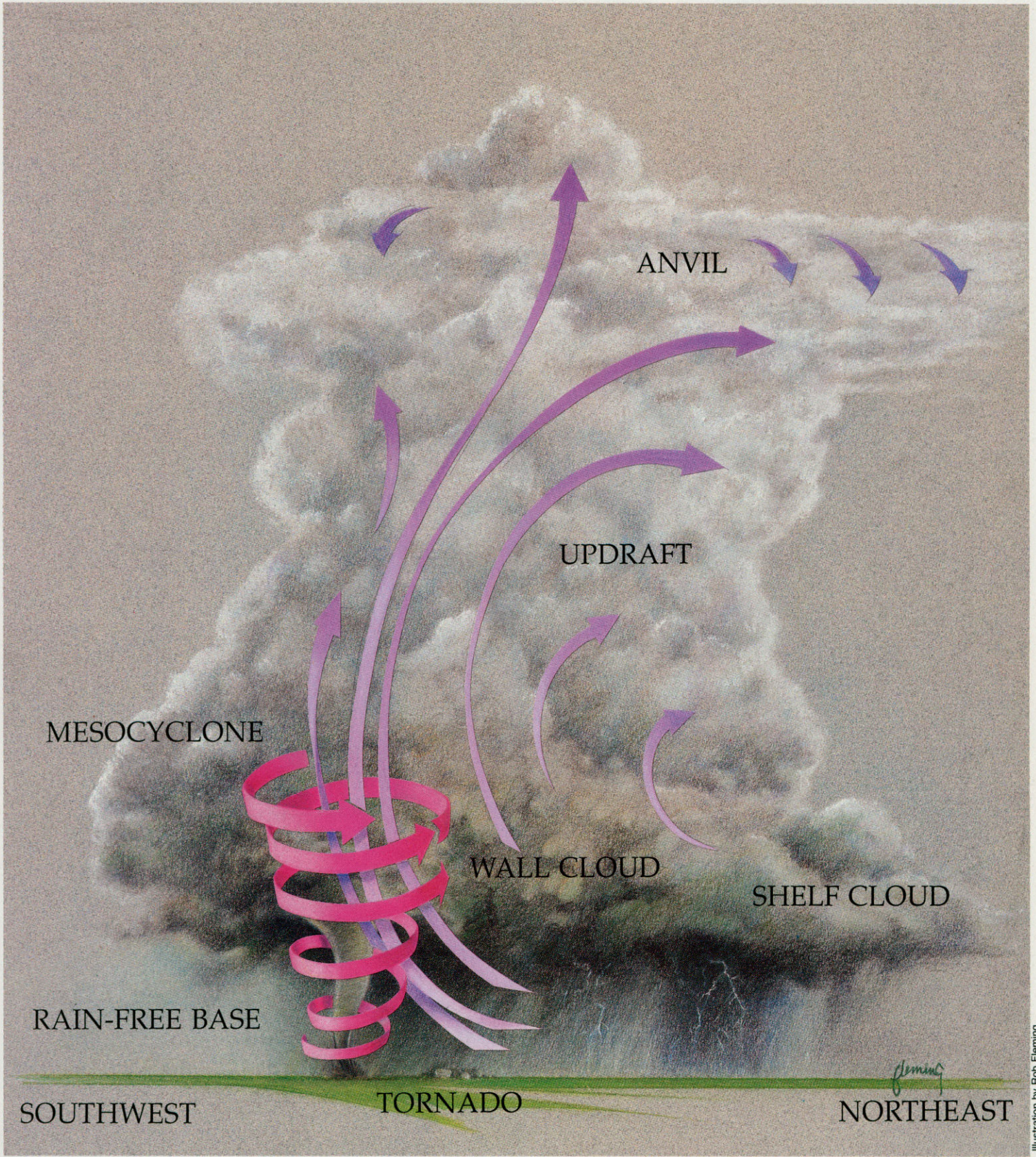


Illustration by Rob Fleming

Unstable conditions during a thunderstorm allow warm, moist air near the surface to rise. If prevailing winds change direction and speed with increasing altitude, air in the storm's updraft can begin to rotate. This forms a mesocyclone, which can spin off tornadoes. The wall cloud is the lower end of the mesocyclone. The shelf cloud marks the location of the gust front, where a cool downdraft caused by precipitation undercuts warm air ahead of the storm.

## TORNADO SAFETY PRECAUTIONS

Certain measures can be taken to increase the chance of survival in the event of a tornado. Here are some of the most important.

1. Keep your radio or television on and listen for the latest Weather Service warnings and advisories. If power fails, use a portable battery radio or the radio in your car.
2. Keep watching the sky, especially the south and southwest. (When a tornado watch is announced during the approach of a hurricane, however, keep in mind the tornado may move from an easterly direction.)
3. Your best protection is an underground shelter or cave, or a substantial steel-framed or reinforced concrete building.
4. If your home has no basement, take cover under heavy furniture on the ground floor in the center part of the house, or in a small room on the ground floor that is away from outside walls and windows. (As a last resort, go outside to a nearby ditch, excavation, culvert or ravine.)
5. In schools, move quickly (following advance plans) to shelter areas or to an interior hallway on the lowest floor.
6. In office buildings, go to an interior hallway on the lowest floor or to a designated shelter area.
7. In factories, move quickly (following advance plans) to shelter areas. Post a look-out, if this can be done safely.
8. In shopping centers, go to a designated shelter area. Do not go to your parked car.
9. Do not remain in a trailer or mobile home if a tornado is approaching. Take cover elsewhere.
10. Store all loose objects that can be blown around (trash cans, lawn furniture, etc.).
11. If advised that you are likely to be in the path of a tornado, and if time permits, electricity and fuel lines should be cut off.
12. In open country, move away from the tornado's path at a right angle. If there is no time, lie flat in the nearest depression with your hands shielding your head. Be alert for flash floods.



Paul M. Montgomery





short-lived whirlwinds can be devastating. Although no one has actually measured the velocity of a tornado, you can get an idea of their wind speeds from the structural damage to objects that have been built to withstand winds of known velocities.

*Rising warm, moist air during a thunderstorm can grow into towering cumulonimbus clouds. Electrical charges in the cloud separate, with the top becoming positively charged and the bottom negatively charged. A series of events eventually leads to the lightning we can see flowing from the ground to the cloud.*

A relatively new technology called Doppler radar has been successful in determining which storms are most likely to produce tornadic activity. By detecting the motion of precipitation (toward or away from the radar), it gives forecasters the edge when minutes count in warning people of an approaching dangerous storm.

Tornadoes are classified as weak, strong or violent. Weak funnels, with winds of around 100 m.p.h., are the most common, but they do relatively little damage. In the strong category, wind velocities of 100 to 200 m.p.h. are attained. These can do serious

damage to structures, and they often have a rolling, boiling appearance. Violent tornadoes, which attain velocities of 200 to 300 m.p.h., are generally massive in appearance and pose the greatest threat to life and property. Regardless of the size of a twister, when tornadoes come into contact with homes, vehicles and people, the results can be devastating.

Of course the best line of defense is to monitor weather conditions on radio or TV to determine if threatening conditions exist. People outdoors should plan carefully during the tornado season and be able to retreat quickly if storm clouds become threatening. The foremost danger to outdoor enthusiasts during an approaching storm is lightning.

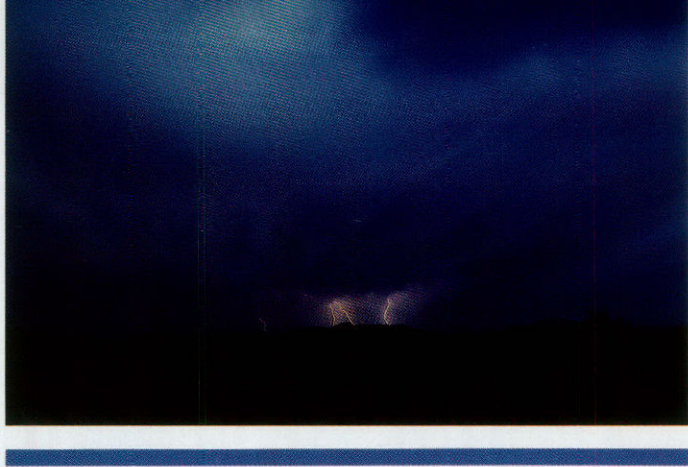
The tornado described at the beginning of the article was a model of unpredictability. Touching down on open rangeland, its initial course was east-northeast. Rising momentarily, it touched ground again and maintained a northerly course for about 15 minutes, leveling trees and shrubs for approximately two miles. The fisherman was lucky. Upon seeing the funnel descending from the wall cloud almost right above him, he jumped in his truck and drove directly away from it. (But remember, a vehicle is the worst place to be in a tornado.) As for the storm chasers from Lubbock, the decision to go south in Guthrie put them ten minutes behind the twister. By sheer luck, I was one of the few people who photographed this storm.

Although still an elusive phenomenon to meteorologists, more is known about the life cycle of these violent storms than ever before. With the continued development of the Doppler radar systems and other methods of detection, perhaps someday the riddle of these great storms can be solved. \*\*

*Long-time contributor Wyman Meizer might not contribute much longer if he continues to chase tornadoes. Wyman takes chances as part of his job and he gets excellent photos such as these from a tornado near his Benjamin, Texas, home last spring. Most ordinary mortals should take cover during a storm rather than hopping in their pickups.*



Keith Kingdon



Paul M. Montgomery

## Getting a Jump on Tornadoes

**W**e Americans have become somewhat blasé about weather forecasts. We're no longer dazzled by the flashy color weather radar graphics on the 10 o'clock news, and we're accustomed to watching a hurricane churn through the Gulf or a storm system make its way across the country.

Weather observations have become sophisticated in the decades since World War II. Satellite photos, radar and instruments carried aloft by hydrogen-filled balloons are among the high-tech tools that allow meteorologists to make reasonably accurate predictions about what tomorrow's weather will bring. But as Wyman Meinzer's story about the tornado points out, even experienced weather observers can be caught off guard by severe thunderstorms and tornadoes.

Meteorologists say there are as many as 2,000 thunderstorms in progress around the world at any given time. One storm in ten develops into what is classified as a "severe thunderstorm" with lightning, wind, hail and occasionally tornadoes. Losses from severe thunderstorms exceed \$1 billion each year in the United States.

Understanding of these dangerous weather phenomena has been slow in coming since many of the tools that supply atmospheric information aren't useful for tornadoes. For example, weather balloons, which collect information about conditions high in the atmosphere, are released twice a day, at dawn and around dusk. But thunderstorms can gain strength, form tornadoes, do considerable damage and

dissipate all within the 12 or so hours between balloon launchings. Measurement of atmospheric pressure changes is a useful tool for forecasters, but it's rare indeed for a storm to pass close enough to a weather station for reliable measurements to be made. And for obvious reasons, it is impossible for researchers to get inside a severe thunderstorm or a tornado to study it.

Laboratory modeling provided some early insight into tornadoes, said Dr. Richard Peterson of Texas Tech University's Atmospheric Science Group. "A lot of people have seen a model of a tornado at a science fair," he said. "In the 1950s and 1960s, the University of Oklahoma and the National Severe Storms Laboratory did some very sophisticated modeling in large chambers." Peterson said scientists would simulate conditions they believed were occurring in tornadoes, then inject smoke into the whirlwind to get "ideas about the range of possibilities" involved in a tornado.

Weather radar revolutionized forecasting by providing a continuous look at precipitation patterns across a large area. Since the 1970s a more advanced system known as Doppler radar has allowed scientists to look into severe storms electronically and solve many of the mysteries of tornado formation.

"Conventional weather radar sees where there's rain, but it doesn't see movement," said Peterson. "Doppler radar determines where there is motion; it sees wind coming and going. If

the area involved is relatively small—one mile or less—we can assume that the winds are rotating."

Doppler radar employs the Doppler effect, which was named for a 19th-century Austrian physicist. To understand the Doppler effect, imagine yourself standing beside a railroad track. As the train approaches you, the locomotive's whistle has a high-pitched sound. As the train passes you and heads away the pitch of the whistle seems to become lower. The actual sound of the train's whistle doesn't change, only your perception of it.

Similarly, Doppler radar can measure the speed and direction of cyclonic (rotating) winds by the shift in frequency between the storm echo and the microwave beam transmitted by the Doppler radar system. Different colors on the radar output indicate winds moving either toward or away from the radar, with strong contrasting colors indicating rotating winds.

"Doppler radar scans tens of thousands of feet up into the clouds," said Peterson. "It is a way to strip away the clouds and see what's going on." Thanks to Doppler radar, scientists now know that a large, spinning column of air known as a mesocyclone usually precedes the formation of a tornado, and that these rotating winds seem to form in the mid-troposphere, then build downward and upward.

It is believed that the Doppler system's ability to detect the swirling winds of a mesocyclone will lead to improved forecasting of tornadoes. Both conventional radar and Doppler radar detect what meteorologists call a "hook echo," an almost sure sign of tornadic winds inside a thunderstorm. "A hook echo is rain that is falling in a curtain that is wrapping around rotating winds," said Peterson. "So the presence of a hook echo depends on how rainy the storm is." But by the time the hook appears, the tornado might be only five minutes or so from touching down; often it has already done so. Needless to say, this leaves virtually no time to issue a warning to people in the path of the oncoming whirlwind.

Doppler systems, on the other hand, can detect a mesocyclone up to half an hour before a tornado forms. Meteorologists hope this will lead to more accurate and more focused predictions. Plans are underway to install

---

by Mary-Love Bigony

Doppler systems at many of the National Weather Service's stations during the 1990s.

On the horizon is a new technology known as Doppler lidar, which uses light beams instead of microwaves. It is hoped that Doppler lidar will reveal the wind flow in the core of the tornado.

A researcher at the New Mexico Institute of Mining and Technology believes small rockets hold the key to getting inside the core of a tornado. A light airplane flying near the tornado can launch rockets into the storm; instrument readings from the rockets are radioed back to the airplane. Experiments with this system have been underway for several years.

As spectacular as technological advances have been, there is still a place for human observation in the field of weather study. Peterson said that beginning in the 1970s, teams of weather observers organized at Texas Tech, the University of Oklahoma and the National Severe Storms Laboratory, among other facilities. Their mission was to go out into the field to observe and photograph severe thunderstorms and tornadoes. These "storm chasers," such as the ones Wyman Meinzer encountered in North Texas, monitor atmospheric conditions, then take off in a systematic search when conditions indicate a tornado is imminent. Their goal is to get still and motion pictures or videotapes of these spectacular phenomena to compare to radar readings. "We've gained a greater appreciation of the variety of things that can happen in a tornado, thanks to the storm chasers," said Peterson.

The University of Oklahoma is experimenting with an instrument package that storm chasers can place in the path of oncoming tornadoes. Developed by Al Bedard at the National Oceanic and Atmospheric Administration in Boulder, Colorado, the instrument package is designed to measure wind speed, wind pressure, atmospheric pressure and temperature directly under the tornado. Called the Totable Tornado Observatory, the instrument package has the apt acronym

of TOTO (remember the Wizard of Oz?).

Peterson explained that the TOTO, which resembles a heavily weighted oil drum, is placed in the back of a pickup truck that follows the team of storm chasers as they pursue a tornado. The storm chasers have the hair-raising job of getting ahead of the tornado, then deploying the TOTO in its path. Peterson points out that the nature of the TOTO limits its targeting ability, since the path of a tornado is narrow and it's hard to count on the storm's passing over a specific spot in the road. Nevertheless, in this day of high-tech wizardry, it's intriguing to picture people chasing after a tornado with a drum full of gadgets in the back of a pickup.

It shouldn't come as a surprise to anyone that computers have gotten in on tornado forecasting. Peterson said that a giant computer at the National Center for Atmospheric Research in Boulder, Colorado, uses mathematical equations to produce step-by-step, minute-by-minute weather predictions. "They do a mathematical simulation of a tornado model to see if it

will develop similar to tornadoes observed by radar and storm chasers," said Peterson. "A lot of what we know is the result of comparing observed atmospheric conditions to computer models."

Peterson said that the upshot of all this will be more accurate forecasts. "We're getting closer to defining areas where a vortex will form," he said, "and we're getting ideas that can be incorporated into forecasts. For example, if wind from the surface to the jet stream level is blowing in the same direction, tornadoes are less likely to develop than if winds are southeast at the surface, turning to the south a few thousand feet up and to the west even farther up."

We humans have mastered many of the elements of our environment. It is not likely that we will ever master the weather, but with the help of systems that are in place today, as well as technology that is still on the horizon, we may at least understand it one day. \*\*

*One thunderstorm in ten develops into what is classified as a "severe thunderstorm," with lightning, wind, hail and occasionally tornadoes.*





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Image size 6½" x 9".

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Gold-plated Medallion Edition  
\$265 with medallion and stamp.

Companion Edition Print

Image size 13" x 19¾".

Each \$225.

Delivery fall 1990.

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(Redfish)

by JOHN DEARMAN.

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but in no event will the  
edition size be less than 2100.

Image size 6½" x 9".

Each \$140 with stamp.

Delivery summer 1990.



## 1990 NONGAME STAMP PRINT

(Mearns' Quail)

by SHERRIE RUSSELL MELINE.

Signed and numbered edition limited  
to wholesale orders received by May  
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Image size 6½" x 9".

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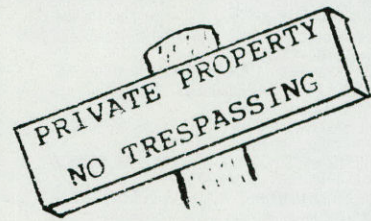
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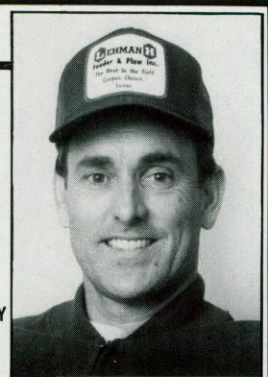
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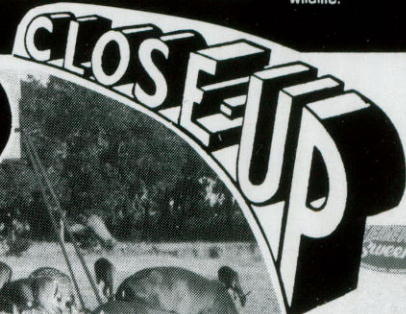
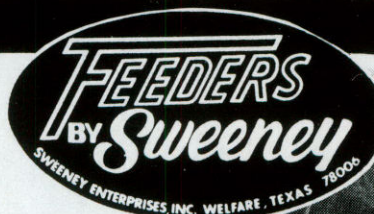
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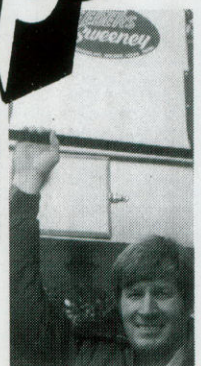
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Big Bend National Park is home to the main population of Carmen Whitetail Deer in the United States.

The group of deer in this painting are shown in their summer habitat amongst the Sotol and Century plants, with Casa Grande Mountain in the distance.

"Big Bend Summer" is now available as a limited edition print by J.D. McKay.

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# OUTDOOR ROUNDUP by Jim Cox

## TPWD Swaps Otters for Eastern Turkeys

The Texas Parks and Wildlife Department has shipped 40 river otters to West Virginia in a wildlife exchange that will bring 40 wild-trapped eastern turkeys to Texas.

Bobby Alexander, acting director of the department's Wildlife Division, said the wild-trapped otters were acquired from a private company in Louisiana with funds donated to the department by Texas forest products companies.

"This agreement is excellent for both states, and it will be a significant boost for our eastern turkey restoration program," Alexander said. "The forest products industry in East Texas donated a portion of their revenue derived from the Type II hunting program on their lands to assist the department in restoring wild turkeys to East Texas, and I am especially appreciative of their contribution to the program." Forest products companies participating include Temple-Inland, Kirby Timber Co., International Paper Co. and Champion Paper.

Once numerous in East Texas, eastern



Glen Mills

*Forty Texas river otters are now making their home in West Virginia.*

turkeys virtually disappeared from the region by the turn of the century. Past restocking programs have been limited by a scarcity of wild broodstock, a situation that has improved in recent years.

Release sites in 19 East Texas counties are slated to receive birds if sufficient numbers are available. They are Anderson, Bowie, Camp, Delta/Hopkins, Franklin, Freestone, Gregg, Henderson, Houston, Leon, Nacogdoches, Red River, Rusk, Smith, Titus, Trinity, Upshur, Walker and Wood.

## Rainbow Trout Sets New State Record

The Texas Parks and Wildlife Department's fish records committee has certified a five-pound, 15.2-ounce rainbow trout caught from the Guadalupe River during November 1989 as a new state record for the species.

Richard Ponce of New Braunfels caught the big rainbow in the Guadalupe downstream from Canyon Reservoir Dam on November 24. The department stocks rainbows in the river each winter. While most of the stocked fish are caught the same year, some occasionally are able to survive the summer and grow to larger sizes as Ponce's fish apparently did, biologists said.

The 23-inch-long fish replaced a five-pound, 12-ounce trout caught in May 1986 from the same stretch of the Guadalupe as the state record.

## Earth Day is Every Day in Texas State Parks

On April 22, 1970, more than 20 million people in the United States demonstrated their concern for the environment in an event that gave birth to the modern environmental movement. Virtually every community took part in the original Earth Day, which brought new laws and policies such as the Clean Air and Water Acts and the creation of the Environmental Protection Agency.

On April 22, 1990, Americans will mark the 20th anniversary of this watershed event. Earth Day 1990 will be celebrated statewide in Texas state parks with a variety of events and activities, according to Wilson E. Dolman, Texas Parks and Wildlife Department's parks director. "A Sunday in April at a state park is an ideal time and place to enjoy Texas' natural resources and focus attention on environmental issues," said Dolman.

Earth Day events are still being planned, but activities that are already scheduled are listed below. To find out what's happening on Earth Day, or to participate in local Earth Day planning, call the state park



David J. Sams

*The 1990 State Trout Stamp proved to be a big seller. Officials estimate sales of the \$5 stamp, required of all freshwater trout anglers, will easily surpass the 31,000-plus sold in 1989. The department stocked 58 sites, including 21 state parks, with more than 330,000 catchable-sized trout during the winter stocking period. Trout stamps and fishing licenses expire Aug. 31.*

nearest your home. For a list of all state parks write to Veronica Torres, State Park Information, Texas Parks and Wildlife Department, 4200 Smith School Road, Austin, Texas 78744. In Texas, call toll-free 1-800-792-1112. Out-of-state callers may call 512-389-4890.

"Blumenfest" at Lyndon B. Johnson State Historical Park is scheduled for April 28, 10 a.m. to 4 p.m. and April 29, 1 p.m. to 4 p.m. Activities will include a flower festival showing off fields of spring wildflowers with guided nature walks, short talks by guest speakers, slide shows and children's activities. Entrance is free. The park is located on U.S. Highway 290 near Stonewall. Telephone number is 512-644-2252.

"Sheep to Shawl" at Goliad State Historical Park is scheduled for Saturday, April 7, 9 a.m. to 4 p.m. Activities will include a living history demonstration of sheep shearing, wool carding, cleaning, spinning, weaving and dyeing. A shawl will be finished by the end of the day with the wool sheared in the morning. A sheep petting zoo will be set up for children. The demonstration is free, park entrance fee is \$2 per car. The park is located on U.S. Highway 183, ¼ mile south of Goliad. Telephone number is 512-645-3405.

"Spring Concert," also at Goliad, is scheduled for Sunday, April 22 at 2 p.m. A choral program of contemporary and traditional ecumenical selections will be performed by the Bee College Choir in the Mission Espiritu Santo chapel, known for its excellent acoustical qualities. Concert and living history demonstrations are free, park entrance fee is \$2 per car.

"Wildflower Days" at McKinney Falls State Park is scheduled for Saturday and Sunday, April 7-8, 9 a.m. to 5 p.m. A series of informal, outdoor and indoor classes on Texas wildflowers will be offered by state park biologists, Sierra Club leaders, specialists from the National Wildflower Research Center, noted authors and university professors. Guided walking tours of the park and a special arts and crafts activity for children are planned.

Activities are free, park entrance fee is \$2 per car. The park is located southeast of Austin, two miles west of U.S. Highway 183 south. Telephone number is 512-243-1643.

"Basket Making and Egg Dyeing the Old Fashioned Way" at Fulton Mansion State Historical Park is scheduled for Saturday, April 7, 9 a.m. to noon and 1 p.m. to 4 p.m. Easter was not widely celebrated in the United States until after the Civil War,



Glen Mills

*A weaving demonstration will be part of Goliad's "Sheep to Shawl" event in April.*

but the springtime custom of exchanging real eggs had been in existence for many centuries. An egg basket will be made of native plants and eggs will be dyed using onion skins, wildflowers and other natural ingredients. The demonstration is free, house tours are \$2 for adults and \$1 for children. The park is located three miles north of Rockport off State Highway 35 at the corner of Henderson Street and Fulton Beach Road. Telephone number is 512-729-0386.

### 'Rigs to Reefs' Program Gets First Donation

Sometime this year a 210-foot-tall section of an offshore oil rig will be sunk into the Gulf of Mexico, forming the first offshore artificial reef in the state's new "Rigs to Reefs" program.

The structure will be toppled and allowed to sink on its side in 195 feet of water at a site approximately 85 miles offshore from Galveston on High Island Block A-492.

The Rigs to Reefs program was authorized by Senate Bill 5, passed by the 71st Texas Legislature, directing the Texas Parks and Wildlife Department to "promote, develop, maintain, monitor and enhance artificial reef potential in Texas waters."

The first reef is a section of an offshore petroleum production platform donated by Transco Exploration Partners, Ltd. (TXP), which ceased production at the site in November 1987. The deck section and production facilities were removed in December 1989, and the remaining subsurface jacket section will create the artificial reef.

In addition to donating the structure, TXP has provided \$10,489 for the mainte-

nance of a marking buoy over the reef. The company also made the first donation to the newly created Texas Artificial Reef Fund in the amount of \$35,000.

"TXP has been an active participant for many years in the development of energy resources in the Gulf of Mexico," said John H. Lollar, president and chief operating officer of Transco Exploration and Production Co. "The Rigs to Reefs program allows Transco and other companies to turn otherwise unusable structures into artificial reefs that will have lasting value in helping to replenish fishing resources, develop reef mass and enhance marine life in the Gulf of Mexico."

### New Programs Give Anglers Recognition

Texas Parks and Wildlife Department officials say three new programs are giving recognition to fishermen while helping the agency learn more about the state's recreational fisheries.

Danny Lewis of Tyler, a statistician for the department's Fisheries Division, said the Water Body Record Big Fish Award and the Lunker Catch and Release programs are receiving increased attention from anglers.

The Water Body Record program had the greatest increase in certifications during 1989, Lewis said. "The program started in 1988, when the original list of records was compiled from state records and Big Fish Awards," Lewis explained. "Then 44 additional fish were certified during the remainder of the year."

This number more than doubled in 1989, with a total of 102 new records certified. The species with the most certifications was largemouth bass with 40, which attests to the fish's popularity, Lewis said. Others included striped bass, 15, and hybrid striped bass and smallmouth bass with eight each. Lakes Whitney near Hillsboro and Travis near Austin each had five new water body records during 1989.

The Big Fish Award program remained at about the same level of activity as the year before, with 106 certifications in 1989 compared to 107 in 1988. Largemouth bass accounted for 57 of the new awards, followed by striped bass, smallmouth bass and hybrid striper.

Lake Fork near Quitman provided the most Big Fish Awards with 20, followed by

*Continued*



# OUTDOOR ROUNDUP

Continued

E. V. Spence near Robert Lee with 19.

The Lunger Catch and Release program is slowly becoming familiar to Texas anglers who, by releasing their catch and reporting it to the department, can receive a medallion for the particular species of fish they caught. For convenience, all three angler recognition programs use the same fish record application form, which can be obtained from any department office or many retail fishing license outlets across the state.

Lewis said 12 anglers earned medallions for release of largemouth bass, and five of those were from Lake Fork.

Officials hope more anglers participate in all three programs in the future, especially the Lunger Catch and Release program. Lewis said he expects that program to grow because the medallions are attractive to collect, certification is easy since no certified weight or verification of species is required, and anglers are increasingly seeing the benefits of catch-and-release.

## TPWD, Other Agencies to Save Playa Lakes

The Texas Parks and Wildlife Department (TPWD) and four other state wildlife agencies have joined the U.S. Fish & Wildlife Service (FWS), Phillips Petroleum Co., Ducks Unlimited Inc. and the National Wildlife Federation to launch a five-year, \$1.3 million program to secure, preserve and enhance waterfowl habitat in

the country's playa lakes region.

Phillips Petroleum Co. will donate \$125,000 annually through 1994 for playa lakes management, which will be matched collectively by Texas, Oklahoma, Kansas, Colorado and New Mexico.

The Phillips donation is the largest single private cash donation to date for any wetlands conservation project involved in the North American Waterfowl Management Plan, according to John Turner, director of the USFWS.

The playa lakes region, which comprises 84 counties in the five states, contains about 25,000 natural ponds, called playas, that serve as crossroads for 32 species of ducks, geese and swans on their annual fall and spring migrations. The playa lakes provide food and resting areas during migration, while acting as critical breeding habitat and brood rearing areas for several species.

Ducks Unlimited is matching \$625,000 in Phillips' name for waterfowl enhancement in Canada, further completing the continental waterfowl restoration efforts.

## Nongame Print, Stamp Artwork Approved

The Texas Parks and Wildlife Department's Nongame and Endangered Species Conservation Fund will feature a painting of a Mearns' quail rendered by Sherrie Russell Meline the 1990 print, stamp and decal artwork.

The Parks and Wildlife Commission approved the artwork in recent public meeting in Austin. Signed and numbered editions are limited to wholesale orders received by May 31, 1990, officials said. No fewer than 475 prints will be available. Inquiries about the print should be directed to Collectors Covey at 1-800-521-2403.

Stamps and decals will be available after August 1, 1990 from department headquarters and state parks at \$5 each.

Revenue from sales of stamps, prints and decals is used to directly benefit the department's programs for nongame and endangered species. For more information on nongame resources, contact the department's Wildlife Division toll-free, 1-800-792-1112, ext. 4505.

Prints, stamps and decals of last year's artwork of an ocelot painted by Al Agnew are still available, officials said. The prints may be purchased from art galleries, and the stamps and decals are available from TPWD headquarters, 4200 Smith School Road, Austin, TX 78744, and from se-

lected state parks.

During December 1989 the first purchase of land for nongame and endangered species purposes was completed. The 207-acre tract at Smith Point in Chambers County is an extremely important resting area for birds that migrate across the Gulf of Mexico each spring. Because of an in-kind contribution from Oryx Energy Corp., and federal reimbursement, the acquisition was made possible with no net decrease in the nongame and endangered species fund.

## Archeology Awareness Week

You can dig being "A Guardian of the Past" as schools, museums and municipalities across the state celebrate the second annual Texas Archeology Awareness Week, April 8-14.

Initiated last year by proclamation from Governor Bill Clements, Texas Archeology Awareness Week is designed to focus attention on the state's outstanding and diverse prehistoric and historic archeological heritage.

Like similar programs in Arizona, New Mexico and other states, the Texas event stresses the urgent need for public support for archeological site preservation and for disciplined investigative techniques that help share information about vanished Texas worlds and cultures.

Throughout the state every year, thousands of archeological sites are destroyed by looting and private construction activities. As a consequence, the public is robbed of its right to better understand the events and circumstances that molded early Texas cultures over the past 10,000 years.

Local events range from site field trips, tours of archeological laboratories, special museum exhibits and educational workshops for participants of all ages. For information call 512-463-6090.

## INSIDE BACK COVER

A close-up look at spring reveals the bright yellows of a common sulphur butterfly perched atop a sneezeweed. Chief photographer Leroy Williamson took this photo on a ranch near Laredo with a Pentax LX, 100mm f/4 Pentax macro lens, 1/125 second at f/4 on Kodachrome 64 film.



Glen Mills

Natural ponds called playas serve as crossroads for ducks and geese on their annual fall and spring migrations.



