



TEXAS
PARKS & WILDLIFE
MAY 1990

A Guide to the State Parks
of Texas Inside



TEXAS PARKS & WILDLIFE

May 1990, Vol. 48, No. 5

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

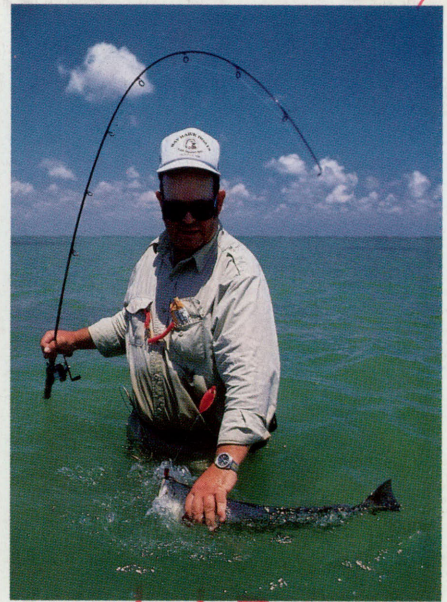
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COVERS—Front and Back: These yellow and brown Mexican hats, interspersed with Indian blankets, strike a perfect pose for chief photographer Leroy Williamson. Strong sidelight late in the afternoon adds depth and brilliance to the flowers. When photographing wildflowers, vary your approach from wide and medium shots to extreme close-ups. (See "Picture This" on page 40.) Leroy used a tripod-mounted Horseman VHR with 4×5 back, 150mm Caltar lens, 1/125 second at f/11 on Ektachrome 100 film. **Inside Front:** A waterscope allows you to spy on the underwater world. Learn how to make your own waterscope on page 46. Freelance photographer Stephan Myers used a housed Nikon F2, 20mm lens, 1/60 second at f/8 on Kodachrome 64 film.

At Issue

Turn to the center of this month's magazine and you will find a wealth of information about Texas state parks compressed into eight pages. This is the second year we've published this in time for our readers to make vacation plans to visit a state park. Texas has about anything your heart desires in the way of a park: recreational ones with the usual campsites and picnic tables; a railroad; saltwater fishing piers; historic buildings and natural areas left, as the name implies, natural.

After they pay their entrance fees, I wonder how many visitors give any thought to what's involved in opening a park? It would be an understatement to say that it's a long road from the day we buy park land to the day when the front gate swings open.

It takes years, money and patience. State parks for the most part differ from local ones in that state parks are resource oriented and local parks usually are facility oriented. Put in some campgrounds, restrooms, a road and maybe a pool or tennis courts and a

local park is ready for business. We acquire state park land because of the resource it represents. It may be one such as Lubbock Lake in the town of the same name that is one of the most significant archeological sites in the Southwest; we will have a story on Lubbock Lake in our October issue. Or it could be the recently opened Purtil Creek (see the December 1989 issue) southeast of Dallas. The attraction at Purtil Creek is simple—big bass. The park was acquired and developed for fishing, pure and simple.

Here is the sequence of events after we acquire land for a park.

1. A planning team develops a land-use plan.
2. Staff holds public hearings locally to get citizens opinions of the land-use plan.
3. Based on the public hearings, staff finalizes a master plan.
4. The master plan goes to the Parks and Wildlife Commission for their consideration.
5. Staff designs facilities.
6. Bids go out for construction.

7. Staff goes back to the commission for their approval of the bids.

8. Bids are awarded to contractors and work begins.

After the first ground is broken, it could take from 1½ to 2 years to get the park ready for the public.

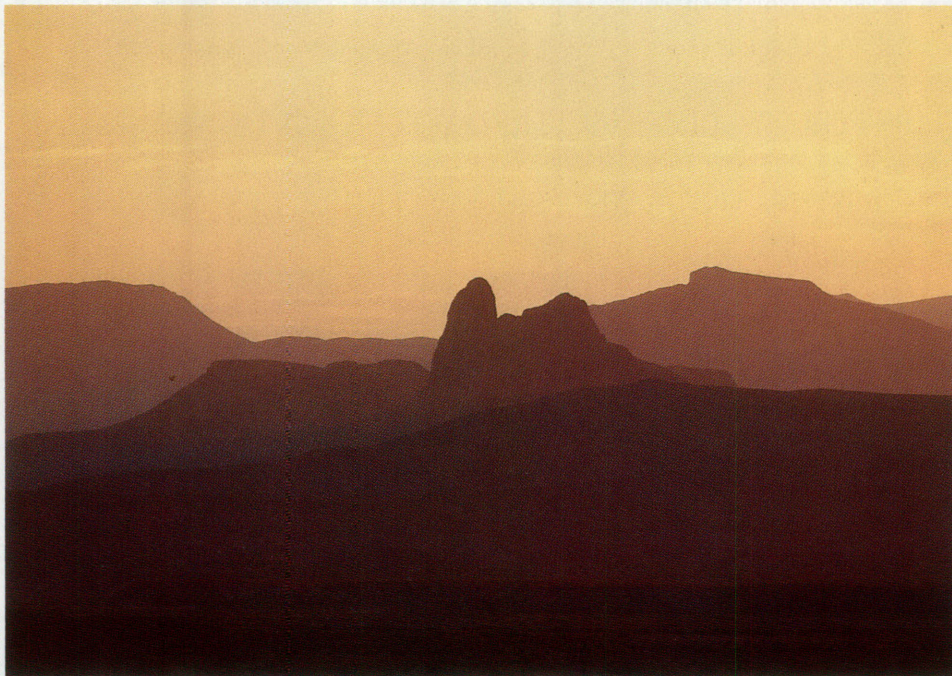
Sound complicated? Well, that outline is an oversimplification. Step number one is the deceptive part. All the phases of development are important, but the first step probably is the most important. We have two planning teams, consisting of a planner, assistant and draftsman. They are the first on the ground. The team has support from a civil engineer, biologist and archeologist, and depending on the site, help from Resource Protection, Fisheries and other divisions in this agency. It's their job to identify all the site's resources, and in the case of the huge Big Bend Ranch, or Devil's River (see the map on the center spread), that could be quite an inventory.

Their first obligation is to preserve the very resource that makes the park significant. The planning teams, and the designers who follow them, are dedicated to making sure the uniqueness of the park is not hurt by the public, but still give the public a chance to enjoy and understand what makes this park special. Balancing the demands of preservation and use can be a difficult chore.

But all this is our problem and our job. It's your job to get out into the parks this summer and enjoy them. Be sure and tell the parks staff you appreciate what they've done for you, and tell them you learned about their park in *Texas Parks & Wildlife* magazine.

Next month our stories include pieces on the Laguna Madre, scooter boats used to fish the shallow waters of the Laguna, 25th anniversary of the "Texas" drama in Palo Duro Canyon State Park, and more.

—David Baxter.



Glen Mills

Since acquisition of Big Bend Ranch, above, Parks and Wildlife teams have been hard at work to identify all the resources on its 215,000 acres. A land-use plan for the huge park comes next.



LETTERS

Sandhill Crane Hunting

I recently read in your magazine about the opening of sandhill crane season in Texas. After watching an episode of the PBS television series "Nature" on sandhill cranes, I was left with one question. Why on earth would someone shoot a sandhill crane, much less the bag limit of three per day, six in possession?

Mind you, I am not categorically anti-hunting. I understand why people hunt for meat and, to a lesser extent, I understand why they hunt for trophies. But what do you do with a previously beautiful and now dead crane? Do people actually eat them? Do they mount their long necks and beaks on the wall? Do they make headdresses out of their feathers? I just can't imagine.

Arthur L. Whipple
Austin

■ Sandhill crane hunters consider the pursuit of sandhills a fairly challenging proposition. Hunting methods for cranes are similar to those employed in goose hunting, including the use of decoys. While not a culinary prize winner, sandhill cranes are decent table fare. Incidentally, it is against state law to waste the edible meat of any game animal or bird.

Operation Game Thief

For quite a while I was aware of a deer poaching problem in my small Texas town. The guilty individuals were friends, and I tried many times to persuade them to change their ways.

This past year they became bold and began poaching every day to the point I could no longer stomach the destruction. I called the Texas Parks and Wildlife Department's Operation Game Thief number. I was concerned about my name being caught up in the report, but everything was handled professionally. Operation Game Thief protected my anonymity and acted swiftly to right the wrongs.

I encourage everyone who cares about our wildlife to call 1-800-792-GAME to report a violation. You will deal with a professional staff who, like you, cares about our state and its animals. Plus, you'll feel better about yourself and will be eligible to receive a reward.

Name Withheld by Request

Hats Off

As editor of a magazine that covers hunting and fishing in 17 Sunbelt states, I receive most of the state-produced wildlife and conservation publications. Being an Austin, Texas, native I surely am prejudiced, but *Texas Parks & Wildlife* is the most artful and striking of these magazines.

Your readers may be interested to learn that *TP&W* spreads Texas' good looks by providing for a small fee a wide range of photos to consumer magazines. Hats off to *TP&W*.

Larry Teague
Editor, *Southern Outdoors*
Montgomery, Alabama

A Fine Statesman

Your February issue, with Mary-Love Bigony's and Leroy Williamson's coverage of James Stephen Hogg, was especially interesting to me.

My dad, who died in 1937, grew up on a farm north of Quitman and boarded with a doctor's family while attending school in Quitman in the late 1870s. During that period there was a community spelling bee in which my dad "spelled down" Mr. Hogg, a self-educated man. In my college days he was the subject of one of my term themes. Oh, for more fine statesmen of his caliber!

Imogene McCreight Terry
Tyler

"Little Towns of Texas"

In 1929 or 1930 my family moved to Dallas. Up until then we had been Yankees, but after that we were confirmed Texans!

First we went to Vickery Place School and then to North Dallas High School. Sometime during those years we memorized a poem called "The Little Towns of Texas." I haven't seen that poem in print since that time, nor have I found anyone who has heard of it. I wonder if it is familiar to any of your readers?

My brother has just sent us a gift subscription to your magazine and I am glad to have it. I have lived away from Texas for a long time, but my Texas memories are pleasant and I always delight in returning.

Betty Griffith
Kingsport, Tennessee

■ Do any of you readers know the

poem Mrs. Griffith remembers? If so, please send it to us and we'll see that she receives it.



Steve Bentsen

Warm- or Cold-Blooded?

"Cactus Gators" in the March issue was very interesting, but I have a question about a statement on page 35: "Because alligators are endothermic, or cold-blooded. . . ." Endothermic and cold-blooded are opposites, are they not?

Heather Martin
Plano

■ You are correct. Endothermic means warm-blooded. Ectothermic, meaning cold-blooded, is the word that should have been used in that statement.

Picture This Correction

Oops! How did those digits switch places? In answering a reader's question about lenses (April issue), the answer included: "A 35mm camera with something like a 70-120 or a 50-300mm would provide excellent results." It should read: ". . . something like a 70-210 or a 50-300mm . . ." We'll be more careful in the future.

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.

A Cry for the Wolf

by Mary-Love Bigony

Of all the developments of the late 20th century that would cause our ancestors to shake their heads in bewilderment, one of the most puzzling would have to be efforts to restore the red wolf to the wild. Wolves were animals that settlers struggled diligently to remove from the landscape, animals they believed to be responsible for damaging their livelihood and disturbing their peace of mind.

Among the emotional baggage Europeans brought with them to the New World was a deeply ingrained fear and hatred of wolves. The wolf was a creature of legend and folklore, the Devil in disguise, a symbol of evil and violence. The myth of the werewolf—the ability of a human to transform himself into a wolf—has its roots in 5th-century B.C. Greece. On a more prosaic level, although the red wolf's preferred food is small animals, its occasional predation on the settlers' valuable livestock meant tangible losses for those hardworking people. They must have felt a sense of satisfaction every time they dispatched one of these predators.

Times and values change, and by the middle of the 20th century an understanding of ecological balance and the importance of every wild species had begun to take hold. But for some species that understanding came too late; for others, including the dreaded wolf, time was running out. In 1980 the red wolf was declared ex-

tinct in the wild, with the only surviving members of the species existing in captivity.

To most early-day Americans a wolf was a wolf. But in the middle of the 19th century, John James Audubon noted "that in the Southern United States there exists wolves structurally different from those in other regions." Despite similar observations by other naturalists, the red wolf remained a little-known animal. By the 1960s the red wolf's range, which once had covered a large portion of the southeast, had been reduced to a small area of coastal marsh in Texas and Louisiana.

Upon investigation, biologists discovered that not only had the red wolf's range shrunk, genetically pure animals were next to impossible to find. In 1973 the U.S. Fish and Wildlife Service launched a project that can only be described as daring: capturing every remaining wild red wolf, with the goal of eventually restoring the species to the wild. You can almost hear those early-day settlers clucking in dismay.

There was a time when red wolves roamed freely through the pine and bottomland hardwood forests of East Texas. Along the coast they chased muskrats and rabbits through the prairies and marshes. To the west, the red wolf's range reached the Edwards Plateau; toward the east it extended to the mid-Atlantic seaboard and north along the Mississippi River Valley to central Illinois and Indiana. Smaller than the better-known gray wolf, the red wolf is lanky and long-legged, a trait believed to be an adaptation to pursuing prey in river bottoms and coastal prairies. Red wolves have been described as moving in a more delicate manner than gray wolves, appearing to put less weight on their feet. Unlike gray wolves, which traveled in packs, red wolves are believed to have traveled in small family groups. The reddish color for which they are named was typical only for a certain population found in Texas. Most members of the species are a yellowish-brown or tawny color.

*Can the
red wolf
be rescued
from the
threshold
of
extinction?*



A litany of problems led to the near-demise of the red wolf, not the least of which was that all-too-common enemy of wildlife known as habitat loss. The early 1900s saw extensive land clearing, as well as draining of wetlands for agriculture. Roads were built into remote areas for logging, and reservoir projects inundated thousands of acres of the wolf's range. Record low deer herds in the southeastern United States in the 1920s coincide with the extinction of an eastern subspecies of the red wolf, leading to speculation that an absence of prey was partially responsible for the subspecies' demise. The 1920s also saw intensified forest clearing in East Texas. The *coup de grace* to an already fragmented red wolf population was aggressive predator control by county and state governments in the 1950s and 1960s.

Enter the coyote. Considerably smaller and more foxlike than the red wolf, the coyote is a more adaptable animal than either wolf species and less easily eliminated by predator control. Biologists speculate that the ranges of the red wolf and the coyote were once divided by a north-south line, but as red wolves were eliminated, coyotes easily filled in the gaps. Today, coyotes occur throughout most of the United States.

As red wolf numbers fell it became difficult for a lone wolf to find a mate. While a wolf's first choice for a mate is another wolf, it apparently will accept the advances of a coyote when another wolf isn't available. So while wolf and coyote populations existed side by side for thousands of years with little interbreeding, altered habitats allowed coyotes to move in and wolf/coyote hybridization to begin.

It is believed that hybridization began on the Edwards Plateau in the period of 1890 to 1906. The resulting animals, called a "hybrid swarm," began to push eastward. By the 1930s these hybrids had become established in East Texas and before long pure red wolves had their backs against the wall, or rather, against the Gulf of Mexico. In 1962, the possibility that the red wolf might become extinct was dawning, and on March 11, 1967, the federal government listed it as an endangered species.

In 1973, just a month before passage of the Endangered Species Act, the U.S. Fish and Wildlife Service established a formal recovery program for the red wolf and set up a headquarters in Beaumont, Texas, near the wolf's last stronghold. By that time the red wolf's range consisted of less than 900 square miles in Jefferson and Orange Counties in southeast Texas and less than 800 square miles in Cameron and Calcasieu Parishes in southwest Louisiana.

Biologists believed they would find a pocket of pure red wolves along the Texas-Louisiana coast, so the program's initial goal was to preserve the



Wyman Meitzer

The coyote (above) is considerably smaller and more foxlike than the red wolf (right). As red wolf numbers fell, the adaptable coyote moved into the wolf's range. Interbreeding between coyotes and wolves produced animals known as a "hybrid swarm," which pushed eastward and further diluted the red wolf's genetic integrity.

species in its remaining native habitat. But even in that limited area, there were more hybrids and coyotes than there were wolves. To make matters worse, it was virtually impossible in many cases to tell a pure wolf from a hybrid. Realizing that the few pure red wolves remaining in the wild would lose their genetic integrity to the rapidly increasing coyotes and coyote/wolf hybrids, man stepped in before the inevitable extinction occurred.

Switching its strategy from preservation to rescue, program officials determined that the only way to save the wolf would be to capture all the remaining animals, which would result in their extinction in the wild, and use them to establish a captive breeding



program for the species. According to the Fish and Wildlife Service, this "planned extinction," so to speak, could only be justified through the development of a long-range plan to return the species to its historic range.

Between 1973 and 1980, more than 400 animals were trapped in the 1,700 square miles along the Texas and Louisiana coasts. Only 40 of them were determined to be possible red wolves, and were shipped to the captive breeding/certification program that had been established at the Point Defiance Zoological Park in Tacoma, Washington. The only way to determine whether those 40 animals were pure red wolves was to mate them and study their offspring. Those studies

resulted in 23 animals being eliminated as hybrids, bringing the total number of pure red wolves in captivity to 17. Fourteen of those wolves became the breeding stock for the program, and every red wolf in existence today is descended from those 14 animals.

After eight years of capturing and examining possible red wolves, the Red Wolf Recovery Program called a halt to the roundup. For all practical purposes, the red wolf became extinct in the wild in 1980; the wolves at Point Defiance Zoo represented the hope for the species.

The first litters of red wolf pups were born at Point Defiance in 1977, and the captive breeding program has

expanded to other areas of the country. Roland Smith of Point Defiance explains that this strategy increases the carrying capacity, or the places to hold wolves. "Getting wolves to mate is not a problem," said Smith, "but we lack carrying capacity."

Each wolf receives a number at birth, and meticulous breeding records have been kept in a studbook at Point Defiance ever since the first wolf arrived. Today there are 16 facilities participating in the captive breeding program. "We're very selective about where the wolves go," said Smith, adding that most of them are moved each year and paired with different mates to increase the genetic diversity of the species.

The red wolf returned to Texas on March 22, 1983, when a mated pair was air-freighted to the Texas Zoo in Victoria. In February 1989, Fossil Rim Wildlife Center in Glen Rose received four pairs of red wolves to become the second Texas facility participating in the recovery program.

As wolf numbers increased through captive breeding, it came time to devise a plan for returning the animals to the wild. On November 3, 1976, a pair of wild-caught, adult red wolves was sent to Bulls Island, part of Cape Roman National Wildlife Refuge in South Carolina. After spending a month in an acclimation pen the pair was released. They wandered for nine days, leaving Bulls Island and going to nearby islands, before being recaptured. A second pair of wolves, released in January 1978, wandered Bulls Island and adjacent islands for eight months before being recaptured and returned to the breeding program. Both Bulls Island experiments were intended to be short-term projects to see what would happen when wolves were released into suitable habitat. They provided valuable information for future releases and, above all, proved that it was indeed possible to reintroduce red wolves to the wild.

In 1979 it was time for the real thing. The Red Wolf Recovery Program recommended the Tennessee Valley Authority's Land Between the Lakes area in Kentucky and Tennessee as a reintroduction site. Three years of interagency coordination followed,



Leroy Williamson

and late in 1983, public meetings were held in Tennessee and Kentucky. Public input was mixed, but the naysayers tipped the balance. Especially vocal were hunters and livestock producers, and the Tennessee and Kentucky state wildlife agencies ultimately rejected the proposal. From this long and unsuccessful ordeal, the Fish and Wildlife Service learned the importance of public education when it comes to reintroducing a predator to the wild.

In 1984, the Red Wolf Recovery Program turned its attention to North Carolina when the Prudential Insurance Company, through the efforts of the North Carolina Nature Conservancy, donated 120,000 acres along the North Carolina coastline. This sparsely settled area, which eventually became the Alligator River National Wildlife Refuge, had no livestock, no coyotes or feral dogs, and an abundance of small animals that are red wolves' favorite food. Most important, it was within the red wolf's historic range. Having learned a valuable lesson with the Land Between the Lakes experience, officials devoted a great deal of time to educational efforts in North Carolina, acquainting local residents with the wolf and the program.

This time all the pieces fell into place. On September 12, 1987, a pair of red wolves was released on the Alligator River National Wildlife Refuge, the first time in North American history that a species considered to be extinct in the wild was returned to a portion of its historic range. Three more pairs were released two weeks later. Following the 1988 breeding season, two of the wolves produced litters. One animal from each litter survived, becoming the first red wolves born and raised in the wild in over a decade.

Deaths among the released red wolves were anticipated, and just three months after the historic release at Alligator River, two of the females died. They were replaced with two females from the captive breeding project.



David J. Sams

Lanky and long-legged, most red wolves are yellowish-brown or tawny colored. The reddish color for which they were named was typical only for a certain population found in Texas.

Several months later the father and the mother of the two pairs that produced litters were found dead two months after the pups were born. The male had been killed by a car and the female succumbed to kidney failure. The surviving father and mother took over the rearing of their respective pups, much to the relief of biologists and the animals' many fans.

The newest chapter in the red wolf story involves the use of islands as propagation sites. Each wolf released on an island wears a radio collar that allows biologists to track them, said Roland Smith, and the animals are

moved off the islands at the end of each year and relocated. Smith said that wolves born on the islands seem to be especially well suited for mainland reintroduction.

In November 1987 the first island propagation site became active when a pair of red wolves was taken to Bulls Island in South Carolina, site of the 1976 and 1978 experiments. They bred in the acclimation pen and the adults and their two pups were released on the island in July 1988.

Later that month, biologists who were tracking the Bulls Island wolves noticed that the female had become

separated from the male and the pups. A search the next day found the female dead, floating in a canal. An autopsy showed that she had sustained major injuries from bite wounds, apparently by a large alligator. This was the first documented attack of an alligator on a wolf. The male took over care of the pups.

In September 1989, Hurricane Hugo slammed into Bulls Island with a 20-foot storm surge and 145 m.p.h. winds. A male red wolf and four pups, age six months, were on the island at the time and officials feared the worst but hoped for the best.

Cape Romain Refuge Manager George Garris, who had participated in the Bulls Island experiments in the 1970s, said the wolves have "amazing survival instincts." This was proven again following the hurricane. "We've seen the pups dig underground for cover when a storm is coming," said

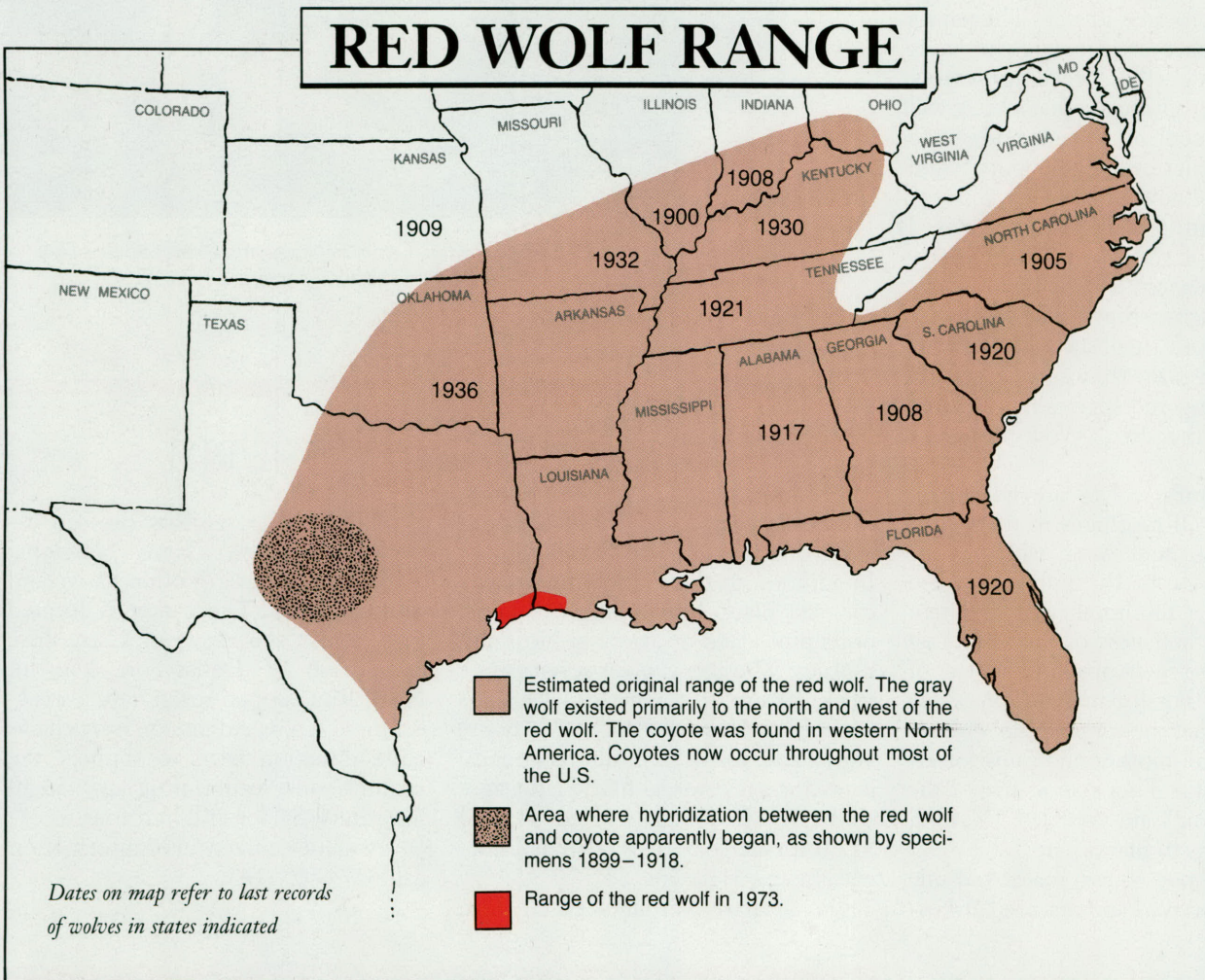
Garris. "During Hugo, the pups' radio signal disappeared so we thought that was what they were doing." Garris said the adult's signal never disappeared, so he assumes he was watching over the pups.

Following the hurricane the male was found dead, apparently from injuries sustained during the storm. "He took the full brunt of the storm," said Garris. The four pups not only survived, they were able to hunt on their own, although periodic food drops were made to supplement their diet. They appeared to be in good shape when they were recaptured in January. Garris said the story of pups' survival captured national headlines. "Paul Harvey even had a story about it," he said.

Two more island propagation sites have become active. A pair of wolves was released on Horn Island in the Gulf of Mexico off the Mississippi

coast in January 1989 and earlier this year the third island propagation site became active, Saint Vincent's Island in the Gulf of Florida.

At this time, the Texas Zoo in Victoria is the only place in the state people can see a red wolf, although the Fossil Rim Wildlife Center in North Texas expects to have a display area completed this year. The Texas Zoo's wolves live in an area at the back of the zoo directly across from the coyotes, and zoo director Jackie Mead points out that this arrangement allows visitors to compare the two species. In addition to participating in the propagation program, Mead sees the Texas Zoo as an important component of public education, and public response to the wolves has been overwhelmingly positive. "To be able to stand there and look at these magnificent animals has changed a lot of people's opinions about wolves," said Mead.



Texas Zoo has had three pairs of red wolves since 1983. The first pair produced a litter of six pups in April 1984. Four of them succumbed to the parvo virus and the remaining two were relocated to other breeding facilities. A second pair produced a litter of seven pups in April 1989. One died soon after birth, but the surviving six grew into adulthood at the zoo. Two of the wolves from the 1989 litter have been transferred to a breeding facility at Tampa, Florida, one has gone to Audubon Park in New Orleans and three pups and the mother are now at a captive breeding facility in Graham, Washington, outside Tacoma, which is administered by Point Defiance.

The zoo recently received a new female to pair with the remaining adult male. Mead said that while the male is a proven breeder, the female has yet to produce a litter. The pair is known to have bred during the January-February 1990 breeding season, and Mead is optimistic that a litter will be born this spring. "We would like to have her genes in the gene pool," said Mead of the new female.

Fossil Rim Wildlife Center received four pairs of red wolves in February 1989. The center, located on a sprawling 2,900 acres three miles southwest of Glen Rose, had successfully bred cheetahs, white rhinos and several other endangered species by the time it joined the Red Wolf Recovery Program.

Fossil Rim's wolves are housed in 40-foot by 60-foot pens in the Intensive Management Area, which is located away from the public to keep contact to a minimum and maintain the wolves' wariness of humans. Last spring one of them produced a litter of three pups. Fossil Rim's Bob Weekley explained that the center's staff did not approach the mother and pups for almost a week. "They had to live or die on their own," said Weekley. "Natural selection has to play a part."

All three pups—two males and one female—survived and matured at Fos-



Leroy Williamson

Dr. Evan Blumer of Fossil Rim Wildlife Center holds one of the red wolf pups born there in 1989. At right are the three pups and their parents.

TEXAS ZOO AND FOSSIL RIM

The six-acre Texas Zoo in Victoria is devoted entirely to Texas animals. In addition to the red wolves, visitors can see black bears, ocelots, coatis, porcupines, and a variety of birds and reptiles. The zoo is open seven days a week, 10 a.m. to 5 p.m. (on weekends from May 1 to September 30, hours are 10 a.m. to 7 p.m.). Admission is 50 cents for ages two to five; \$1 for ages six to 12; \$2 for ages 13 to 64; and \$1.50 for persons over 64. For information call 512-573-7681.

On a drive through Fossil Rim

Wildlife Center, visitors can see ostriches, giraffes, sable antelope, aoudads and a host of other native and exotic species. The center is located three miles southwest of Glen Rose (southwest of Dallas-Fort Worth). Fossil Rim is open seven days a week, 9 a.m. to 5 p.m. Admission is by charitable donation used to support the center's conservation programs: \$6.50 for adults; \$4 for children four to 11; \$6 for senior citizens. For information call 817-897-3147.

sil Rim. The two males remain there, and plans are underway to build a display area for the siblings, making Fossil Rim another place in Texas where people can get a look at these endangered mammals. Weekley said center officials are optimistic that three litters will be born this spring.

Today there are 109 red wolves in the wild and in captivity, all descended from 14 of the animals rescued along the Texas-Louisiana coast in the 1970s. “We’ve had wolves up here for 20 years, but in the last few years things

have really begun to take off,” said Roland Smith at Point Defiance. Biologists are getting a second chance to study an animal in the wild that was largely neglected during its heyday. The Red Wolf Recovery Program—a daring experiment to snatch a species from the threshold of extinction—has become the most successful endangered species captive effort in the United States. And the red wolf, once feared and despised, has finally gained the respect and dignity due a native American. * *



David J. Sams

by Laurence Parent

Last of the Gray Wolves

Until the mid-1800s, three subspecies of the gray wolf roamed freely across much of West and Central Texas, New Mexico, Arizona and Mexico. The smaller red wolf, now extinct in Texas, inhabited the eastern portion of the state. Before the arrival of the white man, the Mexican wolf, *Canis lupus baileyi*, is thought to have ranged from central Mexico north into the southern edges of New Mexico and Arizona and the western edge of the Trans-Pecos region. The Mexican wolf's range initially expanded somewhat as settlers exterminated the two other southwestern subspecies, *Canis lupus monstrabilis* and *mogollonensis*.

Even though the wolf has been painted with a reputation for evil by the popular press, there is no record of a human ever being killed by a wolf in North America. Unfortunately, however, wolves will at times kill livestock, probably because cattle and sheep are often more plentiful than wild game and easier to hunt. Early ranchers in the southwest quickly began campaigns to eradicate the wolf, leading to a decline in wolf populations by the late 1800s. The federal government began predator control programs in 1914, and the campaign soon became a crusade. No method was too cruel—wolves were shot, trapped, poisoned, clubbed, burned alive in their dens and even hung.

The wolf's extermination was aided by its own habits. Wolves range over great distances, usually following the same easy routes, such as valleys, roads and trails, making them easy to trap. Their pups are dependent for several

months, tying the parents to one area. So if one wolf is trapped or dies, its mate will often stay nearby and eventually be killed itself.

The eradication campaign was all too successful. By the 1920s, few wolves survived in the American Southwest. But settlement in north-central Mexico had come later than in the southwestern United States, allowing the wolf to survive longer there. However, by the 1930s and 1940s, Mexican ranchers began to use the same wolf-control methods that had been successful in the United States. In the 1950s, the U.S. Fish and Wildlife Service trained Mexican ranchers in the use of the poison 1080, and the wolf's fate was sealed.

Today, the subspecies *monstrabilis* and *mogollonensis* are extinct. The Mexican wolf, subspecies *baileyi*, is on the verge of extinction in the wild, with estimates of no more than 50 remaining. Records show the last wolf was killed in Arizona in 1960, in Texas in 1970, and New Mexico in 1976, the same year the Fish and Wildlife Service added the wolf to the endangered species list.

What few wild wolves remain are probably in remote areas of northern Mexico. In Candace Crane's article in *Animals* magazine, Mexican ecologist Julio Carrera describes the most likely location as being deep in a dangerous marijuana-growing area not used for ranching. "The caretakers of the last wolves in Mexico are the smugglers," he says.

The Fish and Wildlife Service has started a captive breeding program. The purpose of the program is to in-

crease the wolf's numbers enough in captivity to allow reintroduction into the wild. Although the wolves have bred well in captivity, reintroduction has met with heavy resistance by ranchers in Texas, Arizona and New Mexico and no releases have been made.

Biologists fear that the wolves have been in captivity too long already and may have trouble surviving in the wild. Most of the wolves were caught in the late 1970s and only one wild-caught





Laurence Parent

The Mexican wolf is the last surviving subspecies of the gray wolf. The few animals remaining in the wild are probably in remote areas of northern Mexico.

wolf is still alive. The offspring have never had to hunt to survive and may be losing their wild behavior. The longer they stay in captivity, the smaller their chance for survival.

Big Bend Natural History Association Director Rick LoBello believes that the Big Bend area, a possible reintroduction site, is not a complete ecosystem without the wolf. "Many people assume that local landowners oppose reintroduction," says LoBello, "but no one has ever verified that

assumption."

LoBello and others are working quietly with the ranchers to learn their concerns. LoBello opposes reintroduction that doesn't take into consideration the needs of landowners affected by wolves that leave the park. Money is being raised by groups such as the Defenders of Wildlife and the Mexican Wolf Coalition of Texas to compensate ranchers for any livestock losses caused by wolves. Radio-collaring would allow recapture of

wolves that wander out of the release area.

Will the lonely howl of the wolf ever be heard again in Texas? "It will depend on the efforts and concerns of public officials and the general public," says LoBello. **

Austin writer/photographer Laurence Parent is a steady contributor to this and other magazines. Last month he did the story on the Sierra del Carmen across from Big Bend.

Mission in the Kingdom of the Tejas

Spanish soldiers and priests arrived here 300 years ago.

As the sun's rays penetrate the pine forest of East Texas this month, they will illuminate a part of our history that occurred before the American Revolution. As long as 300 years ago, Spanish priests and soldiers came to the land of the Tejas. Where today children play and campers rest, there is a story as old and as colorful as the name itself, Texas.

As early as 1650, Spanish Captains Martin and Castillo were hearing stories of the vast "kingdom of the Tejas" occupying a large area to the east. Spain had laid claim to a vast area of land including what today is Texas, but little interest was shown in the area until Robert Cavalier, Sieur de La Salle, established Fort Saint Louis in 1685 on what is today Matagorda Bay. La Salle had planned to establish a French colony at the mouth of the Mississippi to promote trade along the entire length of the river. What resulted was a Spanish effort to both settle and secure the land they claimed.

The Spanish search for La Salle began in 1686, but by the time Alonso de Leon found Fort Saint Louis in March 1689, La Salle had ventured into the interior and had been killed. Only two of the few survivors of La Salle's command were found, but the Spanish response to the accidental incursion was to establish a line of defense against further French encroachment.

This historical account of the establishment of the Spanish missions in East Texas is drawn primarily from original Spanish documents compiled in 1936, in *Our Catholic Heritage*, by Dr. Carlos Castañeda, an eminent historian at the University of Texas at

Austin who is now deceased.

On March 26, 1690, de Leon left Monclova, Coahuila, Mexico, with 110 soldiers, a vast amount of stores, animals and arms, and four missionaries under the leadership of Father Damian Massanet. The expedition paused at Fort Saint Louis, burned it, and finding no further evidence of French habitation, continued northeast. On May 18, near the Trinity River, the expedition met a group of Nabadache Indians whom they had encountered the previous year, and who invited the Spaniards to come to their homeland on the Neches River.

The Nabadache were a Caddoan-speaking people, and members of the loosely knit Hasinai Confederacy, a group of allied Caddoan tribes occupying East Texas. The Spaniards used the Caddoan word for "friends"—*tejas*—as the name for all these peoples and for the land in which they lived. Consequently, the "land of the *tejas*" became "Texas."

On May 22, 1690, the expedition reached the first "rancheria of the Tejas," which stood "in a valley, surrounded by planted fields of corn, beans, pumpkins and watermelons." The next day a solemn procession was made to the second village and the home of the chief or governor. It was described as a "house built of stakes thatched over with grass, it is about 55 feet high, is round, and has no windows, daylight entering through the door only. In the middle of the house is a fire which is never extinguished. Ranged around one-half of the house, inside are ten beds, which consist of a rug made of reeds, laid on four forked





In 1935, the Civilian Conservation Corps built the structure below to commemorate Mission San Francisco de los Tejas, founded in 1690 by Spanish Franciscan priests. Although it is not a true replica of the mission, it serves to remind visitors of the Spanish and religious heritage of East Texas.



sticks. Over the rug they spread buffalo skins, on which they sleep.”

The priests were given their choice of location and a temporary chapel was constructed on May 24. After searching for a better location but not finding one, a more permanent church along with living quarters was built in the same place. It was consecrated on June 1. Fray Miguel de Fontcuberta, Fray Antonio Bordoy, and Fray Francisco de Jesus Maria Casanas remained with three soldiers, while the rest returned to Mexico. The priests were supplied with “twenty six loads of flour, twenty cows, two yokes of oxen, ploughs, axes and spades, and such miscellaneous necessities as chocolate and sugar.” Their duty was to become part of the agricultural life of the village, foster improvements, teach Christianity, and above all learn to speak Caddo.

Things began well and a second mission, Santissimo Nombre de Maria, was established among the Neches Indians, four to five miles away. The priests’ work progressed, but the winter of 1690–1691 brought a new disease to the Tejas—smallpox, which killed 300 people living around the Missions and nearly 3,000 in the surrounding villages. Fray Miguel de Fontcuberta died of a fever on February 5. The Nabadache became convinced that the Holy Waters of Baptism caused the sick to die. Fray Francisco Casanas caused more prob-



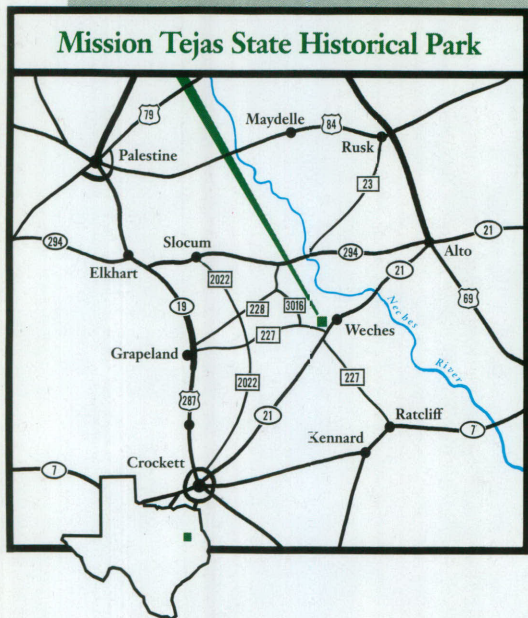
Located just 15 miles from Mission Tejas, Caddoan Mounds State Historical Park is the site of Indian life 1,000 years ago. Visitors can see replicas of the thatched dwellings that were the center of domestic activities in a Caddo Indian village.

lems by ridiculing the religious leaders, their sacred practices and sacred items, causing alienation and hostility.

The summer of 1691 brought a drought and despite their best efforts, the struggle to survive became more difficult. Aid from Mexico arrived in August, when Domingo Teran de los Rios arrived with desperately needed supplies. The Teran expedition went on to explore the country of the Caddochos to the northeast. When they returned on December 30, they had

almost completely exhausted their supplies and only a few of their horses were still alive. On January 9, Teran left, taking the missions’ supplies and horses and leaving behind nine soldiers to guard the three missionaries.

The summer of 1692 saw another drought and disease killed most of the cattle. It has been observed that “although crops had been planted with great hardships, the labor had all been in vain, because the first sowing was destroyed by floods and the second by



Location: Mission Tejas State Historical Park is located 21 miles northeast of Crockett and 12 miles southwest of Alto on Texas State Highway 21. The entrance to the park is near Weches, where Park Road 44 intersects Highway 21.

Facilities: Two historic structures, 12 picnic sites with cooking grills and fire rings; three campsites with water, tables, grills and fire rings; seven multi-use campsites with electricity and water; five campsites with water, electricity and sewer; covered group picnic area accommodates up to 72 people; playground area; two restrooms, one with showers; two miles of hiking trails,

one nature trail, and trailer dump station.

Fees: Entry per vehicle: \$2 per day; campsites with water, electricity and sewer: \$10 per day; campsites with water and electricity: \$9 per day; campsites with water only: \$6 per day; group picnic area: \$12 for 25 persons, \$24 for over 25 people (day use only).

For information and reservations: Call 409-687-2394 between 8:00 a.m. and 5:00 p.m. or write to Mission Tejas State Historical Park, Rt. 2, Box 108, Grapeland, Texas 75844. Reservations for any of the camping facilities can be made up to 90 days in advance.

the drought. The Indians had driven away the cattle . . . and the soldiers had been obliged to subsist on meat alone, while the padres had been fortunate to get one small corn cake twice a day for their subsistence. But what hurt the missionaries even more than the hunger and sickness was the indifference of the natives." The last reference pointed to the Tejas' reluctance to adopt Christianity.

The missionaries were in desperate need of food to survive and had decided to leave in July if help did not arrive. But on June 8, 1693, Father Massanet arrived with 97 pack loads of provisions and gifts for the Indians, allowing them to remain a little longer. In October, a Tejas chief warned Father Massanet of a planned attack and on October 25, 1693, supplies that could be carried were loaded and the heavy articles buried. The church was

burned to the ground as the small party left by the cover of night to return to Monclova in northern Mexico. Thus, the first Spanish effort to colonize East Texas came to a sad end.

More than 20 years later, in 1716, an expedition led by Domingo Ramon returned to reestablish the mission under the name *Nuestro Padre San Francisco de los Tejas*. Life again was difficult; few Indians stayed at the mission, crops did not do well and food became scarce. Conflict between Spain and France caused the mission to be abandoned in 1719 when warnings came that 100 French soldiers were on their way. By October the missionaries had made their way to safety along the San Antonio River.

When the war was over, the mission opened again in August of 1721 under

the name *San Francisco de los Neches*. Difficulties continued, with supplies and food in short supply. And as before, few natives adopted Christianity. In July 1730 the mission was relocated along the Colorado River in present Austin, then in March 1731 it was moved to the San Antonio River and consecrated as *Mission San Francisco de la Espada*.

As the Texas Centennial of 1936 approached, interest in Texas history grew. In 1934, a granite marker was erected at the location of the *Mission San Francisco de los Tejas*. The citizens of Houston County donated money to purchase 118 acres for the park site. Civilian Conservation Corp Company 888 of Weches built the commemorative log structure, roads, trails, the pond and picnic area. The Texas For-

The Rice Family Log Home was moved to Mission Tejas in 1974. Built between 1828 and 1838, it is one of the oldest structures in the area and is a good example of pioneer log housing.



Campers relax beneath the tall pine trees where priests and Indians toiled 300 years ago.



est Service operated the park as a demonstration forest to show good forest management practices. In 1957 the Texas Parks and Wildlife Department took control of the area and in 1974 relocated the Rice Family Log Home to the park for restoration and preservation as an example of early log structures in Texas.

Today campers relax where priests and Indians toiled 300 years ago. Nestled between the hills and under

the shade of the pine trees are campsites that provide a quiet escape from daily life. Reflect on the past at the Mission Commemorative structure or study how log cabins were built at the 160-year-old Rice Family Log Home. Trails wind through the hills to connect the different parts of the park. The nature trail loops around a two-acre pond that provides a variety of plants to see and study. The dogwoods blooming in the spring add a delicate

beauty to the woods, while the changing fall foliage completes the yearly cycle of colors in the forest. The covered pavilion is a popular spot for family reunions. At Easter, a sunrise service is held in the Mission Commemorative structure.

Nearby Caddoan Mounds State Historical Park includes a museum and walking trail that interpret the Southwesternmost village site and ceremonial center of the great Mound Builder Culture of eastern North America. A museum includes a life-size diorama depicting typical life at the early Caddo Site. The adjacent Davy Crockett National Forest includes hiking trails, a canoe trail, and a swimming area at Ratcliffe Lake.

Although 300 years have passed, the forest and the name remain. Come explore the hills where the Tejas once flourished and where the Spanish came to live. **

Tom Fisher is the superintendent of Mission Tejas State Park. This is his first story for the magazine. Historian Jerry Sullivan in our Parks Division helped us with the editing of this piece.

TRI-CENTENNIAL CELEBRATIONS

Plans are being made to commemorate the 300th anniversary of the establishment of Mission San Francisco de los Tejas. While the park is open for visitation throughout the year, special events are planned on four dates: May 19, June 3, July 7 and October 6. The Houston County Historical Commission initiated the activities for three dates and the Tyler Diocese of the Catholic Church is coordinating activities for June 3.

The May 19 celebration marks the arrival of the Spanish soldiers and priests in the "Tejas" Indian village. Among the planned activities are presentations by descendants of the Caddo Indians who lived in East Texas during Spanish colonial times. Interpreters from the Mission Espiritu Santo at Goliad State Historical Park will demon-

strate activities from the Spanish Mission time period. Local school children will be involved in developing presentations.

On June 1, 1690, the Mission San Francisco de los Tejas was consecrated by celebrating the Feast of Corpus Christi. On Sunday, June 3, 1990, the Tyler Diocese will host their Third Annual Pilgrimage to the Mission Site. A bilingual Mass will be celebrated to commemorate the founding of Christianity in Texas and will be followed by a covered dish dinner with entertainment.

The July 7 celebration recalls that on July 4, 1935, the park and its facilities were dedicated. Activities will include presentations by several county historical commissions dealing with the settlement of Texas and its establishment as a

nation. The program will start with a depiction of the Spanish Trail Blazers by San Jacinto County. Representatives of Leon County will represent the Spanish Colonial time period. Nacogdoches County will portray the Texas Freedom Fighters while Walker County representatives will depict the Creators of the Republic. Trinity County will wrap up the presentation with Makers of the 28th State.

On October 6 the Houston County Historical Commission will sponsor the 18th Annual Pilgrimage, which will include a variety of presentations throughout the day organized around the theme "History 1-2-3 How Mission Tejas Came to Be."

The public is invited to these activities, which commemorate the founding of the mission 300 years ago. For more details call or write Mission Tejas State Historical Park.



Trails wind through Mission Tejas's hills to connect the different areas of the park. The nature trail loops around a two-acre pond that supports a variety of plants.



Mission Tejas's 118 acres share the rich scenic beauty of adjacent Davy Crockett National Forest.

Spirit of Cooperation Restores Wildlife to Hopkins County

by Leroy Williamson

There is a contagious excitement loose in Hopkins County. It is primarily the result of one man's involvement in organizing local landowners and creating a wildlife cooperative for the restocking of white-tailed deer and eastern turkey in what is best known as the dairy capital of Texas.

When R. L. "Dick" Stevens moved back to Texas from Arkansas, where he had organized landowners and worked with the Arkansas and Missouri game and fish agencies to improve wildlife conditions there, he immediately suspected that he could do the same thing in Hopkins County. But it wasn't easy. There were no deer left in this dairy country and there hadn't been a wild turkey in the area for nearly 100 years.

At first, the local landowners weren't interested. Yes, they liked to hunt, but they all had leases in New Mexico, Colorado or other areas of Texas. As Stevens became better acquainted with the local residents, they began paying a little more attention to what he was saying, but there was still considerable doubt that a successful restocking program could be implemented.

Parks and Wildlife officials, how-

ever, didn't think such a restocking program was doubtful. In fact, they said flat out that it was impossible.

"There's too much open grassland in the area and not enough cover and browse plants that deer need," said David Sierra, the local Parks and Wildlife biologist.

"Too many outlaw hunters," said local game warden Frank Ricketson. "If deer were stocked, there would be more illegal hunting than I could control."

Outlaw hunters were a problem. Everyone in the area knew that, but the attitude of the landowners toward wildlife was perhaps an even bigger problem. If a deer occasionally wandered into the area, the first landowner who saw it shot it, because he knew if he didn't his neighbor would when it got to his place. This was a place where wildlife had no chance to survive.

It was just such an incident that finally got the local landowners riled up

White-tailed deer emerge from a wooded area to browse in the open fields. Many dairy farmers have planted food plots and installed feeders for the deer.



Leroy Williamson



Leroy Williamson

Dick Stevens (center) convinced landowners to band together to create the Winterfield-Stouts Creek Wildlife Management Area.

enough to pay Stevens a visit and talk seriously about his proposal for getting the area stocked with deer. While many men in the area were away from home on hunting trips, a nice buck wandered into the rolling hills of this dairy country. One man who hadn't

gone hunting saw the deer, happened to have his rifle with him, and decided he'd just put that deer on his table.

When the other hunters returned from their trips and found out what had happened, a group of them went to see Dick Stevens and formed the

Winterfield-Stouts Creek Wildlife Area. At the first meeting Stevens was elected president and more than 5,000 acres of land were signed up. Ten days later, the organization had enrolled 23,000 acres.

Stevens contacted the Parks and Wildlife Department and biologists Dr. Joe Campo and David Sierra came out to meet with the group, tour the country and look at the habitat conditions.

"We looked at herbaceous plants and found that what deer liked to eat, the local farmers had been beating with hoes most of their lives," Stevens said. "We couldn't even spell herbivores and didn't know what the biologists were talking about until they showed us."



At the end of the meeting, Campo informed the group that if their application were approved it would be 2½ years before they would get their first deer, but he was almost certain of disapproval.

Sure enough, the application was disapproved. Further contact with the biologists, assuring them that land-owners would plant food plots and



Eastern turkeys adapted quickly after being released, using the coastal bermuda fields for nesting. With plenty of creek bottoms and wooded areas, the turkeys have remained at the original release site.

Leroy Williamson



Tim W. McAlary

protect the deer, did not reverse the decision. But Stevens, being a man of action as well as a man of vision, got in his car and went to Austin to visit with Bobby Alexander, the acting director of the Parks and Wildlife Department's wildlife division. About 2½ months later, the Winterfield-Stouts Creek area received its first shipment of white-tailed deer.

"We didn't know they were supposed to be released quietly," said Stevens, "so we had a crowd. We notified radio and TV stations, newspapers, let school out and bussed the kids to the release site so they could see the deer.

"I believe," Stevens added, "that is the secret of our success. We got everybody involved and everyone is helping to protect our new wildlife. Why, some of our worst outlaw hunters are now patrolling the roads to prevent what they used to do."

With the introduction of deer into the area came a new era of cooperation between the communities of Como and Pickton. Residents were involved in a joint venture and the results were immediate. People could see deer. Dairy farmers might get a

glimpse from their barns or houses of deer browsing on their property. Wives began accusing their husbands of spending more money on the deer than they were spending on their business. Indeed, many deer food plots were planted and fenced to keep the cattle away from them. Deer feeders went up around houses as well as in pastures. Roads are patrolled daily and sightings of deer are recorded and the information passed on to Parks and Wildlife biologists.

But that wasn't enough. Dick Stevens and the Winterfield-Stouts Wildlife Cooperative wanted eastern turkeys to roam the area again. Stevens called Austin and after some discussion and another review, an agreement was reached to stock some turkeys in the area.

Eighteen turkeys were released, again before a large audience and the media. The excitement level in the area increased exponentially. An area that just a short time before had no deer or turkeys now had both.

"In that first nesting season," said Stevens, "those 18 turkeys multiplied into 76 birds. They nested in the coastal bermuda fields about 100 to

150 yards from the woods on a little rise or terrace," he added.

Many of the hens were flushed from their nests during the hay-mowing season, but large areas of unmown grass were left around the nests and not one hen abandoned her clutch of eggs.

The Winterfield-Stouts Creek Wildlife Cooperative now has more than 100,000 acres and 350 families enrolled. They are beginning the third year of a five-year restocking program and will receive more deer and eastern turkey. Hunting will be permitted at

the end of the five-year stocking period. When the season opens again, there will be a new respect for game laws and the enforcement of them.

In January, the organization held a four-county meeting at the Pickton Community Center to encourage other areas to begin similar associations. Parks and Wildlife Commission Chairman Chuck Nash, Bobby Alexander and a host of department biologists and law enforcement personnel attended the meeting and had words of encouragement for future assistance to the wildlife cooperative or other co-

operatives that organize.

President Dick Stevens turned his gavel over to the newly elected president, Don Brumley, owner of the Brumley Dairy Farm and a native of the area.

"We are just one of a thousand communities in East Texas and we're just ordinary people doing ordinary things," Brumley said. "Through Dick Stevens and the Texas Parks and Wildlife Department, we have a vehicle to make life better for future generations. The introduction of deer into the Winterfield-Stouts Creek

Leroy Williamson



Landowners patrol the roads day and night, assisting the local game warden in protecting the restocked wildlife.

Wildlife Area has brought this community even closer together and it has put our focus on wildlife, something we have taken for granted and abused.

"Our new approach and attitude toward wildlife and the environment will be reflected in the area from now on. We have learned that we must give back more than we take so future generations may enjoy the things we have known," Brumley concluded.

Dick Stevens is by no means stepping out of the picture. Instead, he has his sights set on all of East Texas doing the same thing that Hopkins County did.

And what about local Hopkins County game warden, Frank Ricketson, who said he would not be able to control all the illegal hunters? Now he thinks he has the easiest job in Texas, especially since he gets so much help patrolling the roads.

"If it can be done in Hopkins County," Ricketson echoes, "it can be done anywhere." **



Leroy Williamson

Deer releases attract big crowds in Hopkins County. Families, landowners and school children gather to get a look at the animals.

MAKING TRACTS

"Making Tracts for Texas Wildlife" is a new program of the Texas Parks and Wildlife Department which provides an opportunity for Texans to make significant contributions to the improvement of wildlife habitats across the state. The program encourages private landowners to band together and cooperate in management activities toward common wildlife goals. The formation of individually developed Cooperative Wildlife Management Units is central to the success of "Making Tracts." These wildlife "co-ops" can receive assistance with cooperative management agreements and wildlife management recommendations

from the Private Lands Enhancement Program of the Wildlife Division.

TPWD provides assistance to persons wanting to include wildlife management considerations in present or future land practices. This service is strictly advisory and is provided without charge to cooperating land managers.

The goal of the Private Lands Enhancement Program is to provide expertise to land managers in the preservation and development of wildlife habitat and the proper management of the various wildlife populations which use that habitat. Through this effort, the department hopes to

slow or reverse the decline in quantity of the state's wildlife habitat and improve the quality of the remaining habitat. The Private Lands Enhancement Program promotes cost-effective management practices, which will prevent waste or depletion of the wildlife resource, provide aesthetic and economic benefits to the landowner, and offer increased opportunity for public use of renewable natural resources.

Persons interested in participating in "Making Tracts for Texas Wildlife" or receiving technical wildlife assistance through the Private Lands Enhancement Program should contact Kirby Brown, Program Director for Private Lands Enhancement, 4200 Smith School Road, Austin, Texas 78744.



A Guide to the State Parks of Texas

Come and enjoy a **Texas State Park!** Everything you want, from deserts to seashores, prairies to forests, mountains to marshes, is waiting for you. The unrivaled heritage of this proud land comes alive in a Spanish mission, a Victorian mansion, a frontier fort or a revolutionary battleground.



QUESTIONS AND ANSWERS

When are the parks open?

Most parks are open every day, all year. Parks with overnight facilities close at 10 p.m. to day-use visitors. Day-use-only parks are open 8 a.m. to 5 p.m. Some historical parks are closed Mondays and Tuesdays. A few parks are closed during the fall public hunts, for Christmas, or for annual maintenance projects. Contact each park or Austin Headquarters for schedules.

Is there a fee for using the park?

Most parks require a nominal daily entrance fee. A facility-use fee is also charged depending on what facilities are used. Refer to the **Fee Schedules** section and the corresponding charts on the following pages.

No fee will be charged for individuals entering and leaving the park when the purpose of entry is to bring individuals to the park who have paid the per person entry fee.

Are Annual and Group Permits available?

Yes. Refer to **Annual Permits** section for details.

Are Senior Citizen discounts available?

A **State Parklands Passport** exempts all persons 65 or older and veterans with 60 percent VA disability from paying an entrance fee. Passports are available at most parks and at the Austin Headquarters. Those eligible must apply in person with proper identification and proof of age or disability.

Is there a parking fee?

Only if visitors exceed the two-vehicle limit (a combination of motor vehicles and trailers) for **campsites, cabins, and shelters**. A \$2.00 per day fee is charged for each vehicle over the two-vehicle limit. Boat trailers and small utility trailers do not count. Excess vehicles must be parked in areas designated by the Park Manager.

Can I make reservations?

Yes, and reservations are recommended for overnight facilities, group facilities and the State Railroad—especially during the busy summer months. Write or call each park between 8 a.m. and 5 p.m., daily. Refer to **Reservations** section for specific details.

Can group facilities be reserved?

Yes. Drawings are held annually on January 11th for groups to reserve buildings during the year from February 1 to January 31. After the drawings, it's first-come, first-served. Refer to **Group Facilities** section for more information.

What's the check-out time for overnight facilities?

2 p.m. at most park facilities; 12 noon at Indian Lodge and Landmark Inn.

Do overnight facilities have capacity limits?

Campsites and screened shelters are designed to accommodate up to eight persons.

Cabin capacities are posted in each cabin and at park headquarters. Room capacities for Indian Lodge, San Solomon Springs Courts, and Landmark Inn are posted in the rooms and at the registration desk.

Is firewood available?

Gathering firewood within the parks is not allowed. However, firewood can be purchased from concessioners at selected parks.

Are pets allowed in the parks?

Yes, but they must be confined or on a leash no longer than six feet. Pets are not allowed in public buildings or swimming areas.

Are parks and facilities handicapped-accessible?

Yes. Most parks have facilities accessible to the handicapped. Request specific information from Austin Headquarters.

Do you accept credit cards?

No.

ANNUAL PERMITS

A **\$25 ANNUAL PARK ENTRANCE PERMIT** is valid at most parks (passenger-carrying buses not eligible).

\$4.00 DUPLICATE ANNUAL ENTRANCE PERMIT for additional vehicles.

A **\$13.00 RESTRICTED ANNUAL PARK ENTRANCE PERMIT** is valid at one (1) park designated at time of purchase (passenger-carrying buses not eligible).

\$1.00 REPLACEMENT FOR ANNUAL, RESTRICTED ANNUAL, OR DUPLICATE.

These permits may be purchased at any state park where applicable and at Austin Headquarters.

A **\$25.00 ANNUAL GROUP ENTRANCE PERMIT** is valid for youth groups (18 years of age and under) at all parks where applicable. Each permit is valid for up to 50 persons. Park entry may be by motor vehicle (no limit on number of vehicles), bus, bicycle or on foot. Write to Austin Headquarters for required application form.

Additional facility-use fees are still required.

NOTE: TO BE VALID, ENTRANCE PERMITS MUST BE PERMANENTLY ATTACHED IN LOWER LEFT-HAND CORNER OF VEHICLE WINDSHIELD, ABOVE OR TO THE RIGHT OF THE VEHICLE INSPECTION STICKER.



Families enjoy picnicking, camping and water sports at Lake Corpus Christi State Park in South Texas. Several of the park's campsites are located on the waterfront.

Stephen Myers

RESERVATIONS

How do I make reservations?

Stop by or call the park headquarters between 8 a.m. and 5 p.m. daily, or write.

How far in advance may I reserve a facility?

90 days is the maximum advance reservation permitted for campsites, cabins and screened shelters. Reservations for Indian Lodge, San Solomon Springs Courts and Landmark Inn are made in the same manner prescribed for cabins, but for as much as 12 months in advance. Designated group facilities may be reserved up to 12 months in advance. Refer to **Group Facilities** section for details.

Is a reservation fee required?

Yes, if reservations are made more than 10 days in advance. The reservation fee is equal to one day's fee for each facility reserved and will be applied to the total fee due upon registration. Telephone reservations will be held only five days to allow receipt of the reservation fee.

What about cancellations and refunds?

If a reservation or any part of a reservation is cancelled at least 72 hours before the arrival date, the reservation fee will be refunded; otherwise, the fee will be forfeited.

Reservations made 10 days or less in advance will be cancelled at 6 p.m. on arrival date unless late arrival privileges have been arranged with the park.

Can I guarantee my reservation for late arrival?

Yes, but you must call the park headquarters between 8 a.m. and 5 p.m. either on the day of arrival or the day before to arrange late arrival privileges. (This is required only for reservations with no fee.)

Can I reserve a specific site?

For campsites and shelters:

No. However, your request may be considered if, on arrival, (1) the site will accommodate your equipment, and (2) no user fee has been paid for it. Reservations for adjoining or adjacent facilities will be honored subject to availability.

For cabins:

Preferences will be honored if available; confirmations will be made by facility number. The department reserves the right to change assignments if confirmed cabin is out of service upon arrival.

How long may I stay at a facility?

14 days, continuously.

GROUP FACILITIES

Drawings are held annually on January 11th to reserve designated group facilities for the year beginning February 1st–January 31st. After the drawings, it's first-come, first-served. Then, reservations may be made as explained in **Reservations**.

The drawings are held at the respective park headquarters at 10 a.m.

Each group may submit only one entry but may list four dates in order of preference as alternatives, should the dates of their first choice be unavailable.

Groups should obtain an entry blank from a park with group facilities and leave the completed form at the park headquarters beginning December 1st.

Participants will be notified as soon as possible if the reservation is confirmed. A reservation fee in the amount of one day's user fee must be received by the park by 5 p.m. January 31st. Otherwise, the reservation will be cancelled.

The reservation fee is applied to the total fee which is due upon arrival.

If the group facility reservation is cancelled at least 72 hours before the arrival date, the reservation fee will be refunded; otherwise, the fee will be forfeited.



STATE PARK DIRECTORY

PHONE

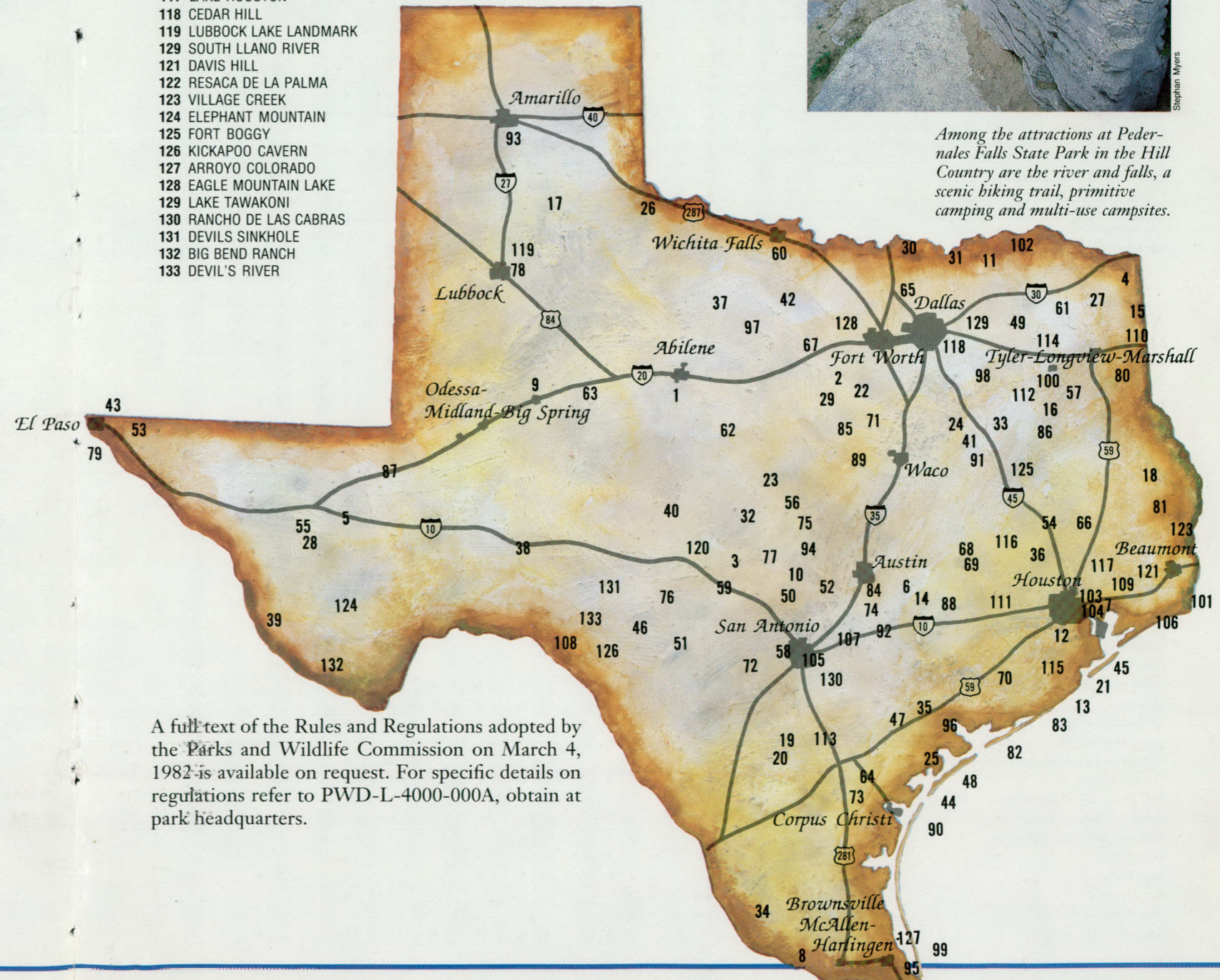
- 1-800-792-1112 TEXAS PARKS AND WILDLIFE
(Texas only) Austin Headquarters
512 389-4890 4200 Smith School Road, Austin 78744
- 915 572-3204 1 ABILENE Route 1, Tuscola 79562
817 799-2446 2 ACTON c/o 1601 East Crest Dr., Waco 76705
512 997-4379 3 ADMIRAL NIMITZ MUSEUM P.O. Box 777, Fredericksburg 78624
- 214 796-6476 4 ATLANTA Route 1, Box 116, Atlanta 75551
915 375-2370 5 BALMORHEA Box 15, Toyahvale 79786
512 321-2101 6 BASTROP Box 518, Bastrop 78602
713 479-2411 7 BATTLESHIP TEXAS 3527 Battleground Road, La Porte 77571
512 585-1107 8 BENTSEN-RIO GRANDE VALLEY P.O. Box 988, Mission 78572
- 915 263-4931 9 BIG SPRING Box 1064, Big Spring 79720
512 833-4333 10 BLANCO Box 493, Blanco 78606
214 583-5022 11 BONHAM Route 1, Box 337, Bonham 75418
409 553-3243 12 BRAZOS BEND 21901 FM 762, Needville 77461
409 737-1222 13 BRYAN BEACH c/o Galveston Island State Park, Route 1, Box 156A, Galveston 77554
512 237-2241 14 BUESCHER P.O. Box 75, Smithville 78957
214 679-3351 15 CADDO LAKE Route 2, Box 15, Karnack 75661
409 858-3218 16 CADDON MOUNDS Route 2, Box 85C, Alto 75925
806 455-1492 17 CAPROCK CANYONS P.O. Box 204, Quitaque 79255
409 384-5231 18 CASSELLS BOYKIN c/o Martin Dies, Jr. State Park, Route 4, Box 274, Jasper 75951
512 786-3868 19 CHOKE CANYON (Calliham) Box 2, Calliham 78007
512 786-3538 20 CHOKE CANYON (South Shore) Box 1548, Three Rivers 78071
713 471-3200 21 CHRISTMAS BAY c/o TPWD, 105 San Jacinto Street, La Porte 77571
817 645-4215 22 CLEBURNE Route 2, Box 90, Cleburne 76031
915 628-3240 23 COLORADO BEND Box 118, Bend 76824
817 562-5751 24 CONFEDERATE REUNION GROUNDS c/o Fort Parker, Route 3, Box 95, Mexia 76667
- 512 729-8633 25 COPANO BAY Concessioner, P.O. Box 39, Fulton 78358
817 839-4331 26 COPPER BREAKS Route 2, Box 480, Quanah 79252
214 645-2921 27 DAINGERFIELD Route 1, Box 286-B, Daingerfield 75638
915 426-3337 28 DAVIS MOUNTAINS Box 786, Fort Davis 79734
817 897-4588 29 DINOSAUR VALLEY Box 396, Glen Rose 76043
214 465-1956 30 EISENHOWER Route 2, Box 50K, Denison 75020
214 465-8908 31 EISENHOWER BIRTHPLACE 208 East Day, Denison 75020
915 247-3903 32 ENCHANTED ROCK Route 4, Box 170, Fredericksburg 78624
- 214 389-4514 33 FAIRFIELD LAKE Route 2, Box 912, Fairfield 75840
512 848-5327 34 FALCON P.O. Box 2, Falcon Heights 78545
512 645-2020 35 FANNIN BATTLEGROUND Fannin 77960
409 873-2633 36 FANTHORP INN P.O. Box 296, Anderson 77830
915 762-3592 37 FORT GRIFFIN Route 1, Albany 76430
915 836-4391 38 FORT LANCASTER P.O. Box 306, Sheffield 79781
915 229-3613 39 FORT LEATON P.O. Box 1220, Presidio 79845
915 396-2358 40 FORT MCKAVETT P.O. Box 867, Fort McKavett 76841
817 562-5751 41 FORT PARKER Route 3, Box 95, Mexia 76667
817 567-3506 42 FORT RICHARDSON P.O. Box 4, Jacksboro 76056
915 877-1528 43 FRANKLIN MOUNTAINS P.O. Box 200, Canutillo 79835-9998
- 512 729-0386 44 FULTON MANSION P.O. Box 1859, Fulton 78358
409 737-1222 45 GALVESTON ISLAND Route 1, Box 156A, Galveston 77554
512 232-6132 46 GARNER HCR #70, Box 599 Concan 78838
512 645-3405 47 GOLIAD P.O. Box 727, Goliad 77963
512 729-2858 48 GOOSE ISLAND Star Route 1, Box 105, Rockport 78382

- 214 763-2701 49 GOVERNOR HOGG SHRINE Route 3, Park Road 45, Quitman 75783
512 438-2656 50 GUADALUPE RIVER HC 54, Box 2087, Bulverde 78163
512 796-4413 51 HILL COUNTRY Route 1, Box 601, Bandera 78003
512 438-2656 52 HONEY CREEK c/o Guadalupe River, HC 54, Box 2087, Bulverde 78163
- 915 857-1135 53 HUECO TANKS Rural Route 3, Box 1, El Paso 79935
409 295-5644 54 HUNTSVILLE P.O. Box 508, Huntsville 77340
915 426-3254 55 INDIAN LODGE Davis Mountains State Park, Box 786, Fort Davis 79734
- 512 793-2223 56 INKS LAKE Route 2, Box 31, Burnet 78611
214 683-4850 57 JIM HOGG Route 5, Box 80, Rusk 75785
512 226-4801 58 JOSE ANTONIO NAVARRO 228 S. Laredo, San Antonio 78207
- 512 257-5392 59 KERRVILLE-SCHREINER 2385 Bandera Highway, Kerrville 78028
- 817 528-2211 60 LAKE ARROWHEAD Route 2, Box 260, Wichita Falls 76301
214 572-5531 61 LAKE BOB SANDLIN Route 5, Box 224, Pittsburg 75686
915 784-5223 62 LAKE BROWNWOOD Route 5, Box 160, Brownwood 76801
915 728-3931 63 LAKE COLORADO CITY Route 2, Box 232, Colorado City 79512
- 512 547-2635 64 LAKE CORPUS CHRISTI Box 1167, Mathis 78368
214 292-1442 65 LAKE LEWISVILLE Route 2, Box 353H, Frisco 75034
409 365-2201 66 LAKE LIVINGSTON Route 9, Box 1300, Livingston 77351
817 328-1171 67 LAKE MINERAL WELLS Route 4, Box 39C, Mineral Wells 76067
- 409 535-7763 68 LAKE SOMERVILLE (Birch Creek) Route 1, Box 499, Somerville 77879
409 289-2392 69 LAKE SOMERVILLE (Nails Creek) Route 1, Box 61C, Ledbetter 78946
- 512 782-5718 70 LAKE TEXANA P.O. Box 760, Edna 77957
817 694-3793 71 LAKE WHITNEY Box 1175, Whitney 76692
512 538-2133 72 LANDMARK INN P.O. Box 577, Castroville 78009
512 547-2635 73 LIPANTITLAN c/o Box 1167, Mathis 78368
512 398-3479 74 LOCKHART Route 3, Box 69, Lockhart 78644
512 756-4680 75 LONGHORN CAVERN Concessioner, Rt. 2, Box 23, Burnet 78611
- 512 966-3413 76 LOST MAPLES HC01, Box 156, Vanderpool 78885
512 644-2252 77 LYNDON B. JOHNSON Box 238, Stonewall 78671
806 762-6411 78 MACKENZIE Director, Parks & Recreation, City Hall, Lubbock 79408
- 915 533-5147 79 MAGOFFIN HOME 1120 Magoffin Avenue, El Paso 79901
214 836-4336 80 MARTIN CREEK, Route 2, Box 20, Tatum 75691
409 384-5231 81 MARTIN DIES, JR. Route 4, Box 274, Jasper 75951
512 983-2215 82 MATAGORDA ISLAND P.O. Box 117, Port O'Connor 77982
713 471-3200 83 MATAGORDA PENINSULA c/o Region 8 Headquarters, 105 San Jacinto St., La Porte 77571
- 512 243-1643 84 MCKINNEY FALLS 7102 Scenic Loop Road, Austin 78744
817 435-2536 85 MERIDIAN Box 188, Meridian 76665
409 687-2394 86 MISSION TEJAS Route 2, Box 108, Grapeland 75844
915 943-2092 87 MONAHANS SANDHILLS Box 1738, Monahans 79756
409 968-5658 88 MONUMENT HILL/KREISCHE BREWERY Route 1, Box 699, La Grange 78945
- 817 853-2389 89 MOTHER NEFF Route 1, Box 58, Moody 76557
512 749-5246 90 MUSTANG ISLAND P.O. Box 326, Port Aransas 78373
817 729-5253 91 OLD FORT PARKER Route 3, Box 746, Groesbeck 76642
512 672-3266 92 PALMETTO Route 5, Box 201, Gonzales 78629
806 488-2227 93 PALO DURO CANYON Route 2, Box 285, Canyon 79015
512 868-7304 94 PEDERNALES FALLS Route 1, Box 450, Johnson City 78636
- 512 943-1172 95 PORT ISABEL LIGHTHOUSE P.O. Box 863, Port Isabel 78578
512 552-4402 96 PORT LAVACA Concessioner, P.O. Box 434, Point Comfort 77979
- 817 549-1803 97 POSSUM KINGDOM Box 36, Caddo 76029
214 425-2332 98 PURTIS CREEK Route 1, Box 506, Eustace 75124
512 761-9807 99 QUEEN ISABELLA Concessioner, P.O. Box AK, Port Isabel 78578
- 214 683-5126 100 RUSK/PALESTINE Route 4, Box 431, Rusk 75785
409 971-2559 101 SABINE PASS BATTLEGROUND P.O. Box 1066, Sabine Pass 77655
- 214 785-5716 102 SAM BELL MAXEY HOUSE 812 South Church Street, Paris 75460
713 479-2431 103 SAN JACINTO BATTLEGROUND 3523 Highway 134, La Porte 77571

- 713 479-2019 104 SAN JACINTO MONUMENT 3800 Park Road 1836, La Porte 77571
512 229-5701 105 SAN JOSE MISSION 2202 Roosevelt Ave., San Antonio 78210
- 409 971-2559 106 SEA RIM P.O. Box 1066, Sabine Pass 77655
512 379-4833 107 SEBASTOPOL P.O. Box 1500, Sequin 78156-1500
915 292-4464 108 SEMINOLE CANYON P.O. Box 820, Comstock 78837
713 456-9350 109 SHELDON LAKE Route 5, Box 563A, Houston 77044
214 935-3044 110 STARR FAMILY 407 West Travis, Marshall 75670
409 885-3613 111 STEPHEN F. AUSTIN P.O. Box 125, San Felipe 77473
214 683-2561 112 TEXAS STATE RAILROAD P.O. Box 39, Rusk 75785 (1-800-442-8951)
- 512 786-2528 113 TIPS c/o P.O. Box 398, Three Rivers 78071
214 597-5338 114 TYLER Route 29, Box 29030, Tyler 75706
409 345-4656 115 VARNER-HOGG Box 696, West Columbia 77486
409 878-2214 116 WASHINGTON-ON-THE-BRAZOS Box 305, Washington 77880

Closed pending development

- 117 LAKE HOUSTON
118 CEDAR HILL
119 LUBBOCK LAKE LANDMARK
129 SOUTH LLANO RIVER
121 DAVIS HILL
122 RESACA DE LA PALMA
123 VILLAGE CREEK
124 ELEPHANT MOUNTAIN
125 FORT BOGGY
126 KICKAPOO CAVERN
127 ARROYO COLORADO
128 EAGLE MOUNTAIN LAKE
129 LAKE TAWAKONI
130 RANCHO DE LAS CABRAS
131 DEVILS SINKHOLE
132 BIG BEND RANCH
133 DEVIL'S RIVER



A full text of the Rules and Regulations adopted by the Parks and Wildlife Commission on March 4, 1982 is available on request. For specific details on regulations refer to PWD-L-4000-000A, obtain at park headquarters.



Among the attractions at Pedernales Falls State Park in the Hill Country are the river and falls, a scenic hiking trail, primitive camping and multi-use campsites.

Stephen Myers

FEE SCHEDULES

See Facilities and Activities charts ■ All fees subject to change without notice.

A. Park Entrance Fees

- per motor vehicle (includes aircraft) \$ 2.00 per day
- per person—applicable only when park entry is on bicycle, foot, or boat
 - Adults/each \$.50 per day
 - 12 yr. & under/each \$.25 per day

3. Buses (passenger-carrying)

	# of Persons	Cost
Adults	1-11	\$.50 ea. (min. \$2.00)
	12-47	\$ 6.00 per bus
	48 or more	\$10.00 per bus
12 years of age & under	1-29	\$.20 ea. (min. \$2.00)
	30 or more	\$ 6.00 per bus

Holder of Parklands Passport are not counted in determining occupancy of a bus.

B. Historic Site Fees

- Charge is only for conducted tours
- Adults \$ 2.00
 - Children 6-12 yrs \$ 1.00
 - Under 6 yrs Free

All student groups sponsored by colleges, universities and public or private schools offering accredited courses are admitted for a single fee of \$1.00 for the entire group.

C. Historic Site Fees

- Charge is only for conducted tours
- Adults \$ 1.00
 - Children 6-12 yrs \$.50
 - Under 6 yrs Free
 - Buses (20 min.) per person \$.50

All student groups sponsored by colleges, universities and public or private schools offering accredited courses are admitted for a single flat fee of \$1.00 for the entire group.

D. Fishing Piers

—\$1.00 per rod, pole, throwline, etc. Valid for 24-hour period beginning at 5 a.m. on day fee is paid.

E. Purtis Creek

—boat fee is \$5.00 per day. Maximum of 50 boats on the lake. Call the park for reservations.

F. Longhorn Cavern

- Adults \$ 5.00
- 4-12 yrs \$ 3.25
- Under 4 yrs Free
- Organized Groups (20 min.) \$ 2.50 ea.

G. Colorado Bend

- user fee (plus entrance fee; see A. Maximum 300 vehicles)
- Adults \$ 2.00 per day
 - Children 6-12 yrs \$ 1.00 per day
 - Under 6 yrs Free

H. Cassells Boykin

- Campsites \$ 4.00 per day

Note: Fees based on type of site occupied regardless of utilities used. Capacity requirements will be observed; parties requiring larger accommodations must obtain additional facilities.

I. Train Fares

- Texas State Railroad State Historical Park only
- Adult—round trip \$ 8.00
 - Child 3-12 yrs—round trip \$ 6.00
 - Adult—one way \$ 6.00
 - Child 3-12 yrs—one way \$ 4.00
 - 2 yrs of age & under Free
- Reservations: stop by, write, or call toll-free (Texas only) 1-800-442-8951, 8 a.m. to 5 p.m. daily

J. Indian Lodge

- Davis Mountains State Park
- Single \$30.00
 - Double \$35.00
 - Double w/two beds \$40.00
 - Suite w/two beds \$45.00
 - Each additional adult \$ 5.00
 - Each additional child 6-12 yrs \$ 2.00
 - Children under 6 Free
- (Includes towels, linens, maid service, phone and television)
- Indian Lodge is closed for a two-week period beginning the second Monday in January of each year. Check-out time is 12 noon. Hotel tax applicable.

K. San Solomon Springs Courts

- Balmorhea State Park
- One person \$25.00
 - Each additional adult \$ 5.00
 - Each additional child 6-12 yrs \$ 2.00
 - Child under 6 Free
 - Extra cost for kitchen unit \$ 5.00
- (Includes towels, linens, and television)
- Check-out time is 2 p.m. Hotel tax applicable.

L. Landmark Inn

- One person \$25.00
 - Double (2 persons) \$30.00
 - Each additional child 6-12 yrs \$ 2.00
 - Children under 6 Free
- (Includes towels and linens)
- Check-out time is 12 noon. Hotel tax applicable.

M. Cabins

- 1-2 persons \$25.00
 - Each additional adult \$ 5.00
 - Each additional child 6-12 yrs \$ 2.00
 - Children under 6 Free
- (Includes towels and linens)
- Check-out time is 2 p.m. Hotel tax applicable.

N. Screened Shelters

- \$12.00
- Capacity is limited to eight persons.

O. Campsites

- Backpacking \$ 4.00
- Equestrian \$ 4.00/6.00
- Primitive \$ 4.00
- Campsites w/water \$ 6.00
- w/water, elec \$ 9.00
- w/water, elec, sewer hookups \$10.00

Freewheeling in West Texas

by Buddy Gough



The road rises like a wall. Vision compresses tunnel-like. There is only the bike, and the pavement is immediately beneath the tires.

Geared to the lowest low, the pedals seemingly spin three revolutions for every turn of the thin, spoked wheels.

Pump, pump, pump. Puff, puff, puff.

Hard to believe that actress Angela Lansbury could get away with a fitness video glibly promoting cycling as geriatric exercise. Had she been toiling up this steep slope in the thin air of the Davis Mountains, it would have been murder she spoke.

Then . . . sigh . . . the summit reached, sweet but short. A chance to gulp air, to notice the rich green of sun-splashed oak, juniper and piñon pine crowding the narrow roadway, to catch a quick glimpse of mountain vistas beyond—all too brief before a sudden, dizzying downhill plunge.

Dan Collins

The Davis Mountains provide a scenic route for cyclists.

Vision again zooms from macro to micro, to flashing spokes and white knuckles on handle bars. Above the wind's roar, a worrisome chatter chirps from the front axle.

A sharp bend sweeps left, down and down, spinning wheels got to go round. Wind-flattered cheeks stretch into death mask grin, bugged eyes watering at warp speed. Touch the brakes, gently, gently, first the rear, then the front. Lord have mercy!

And, finally, the coaster ride of rolling foothills, running top gear along a highway stretching in hoop-de-doo to the horizon. Sight and soul expand to magnificent mountain panoramas, to air clean and cool and to pedals that respond to a feather's touch mile after mile.

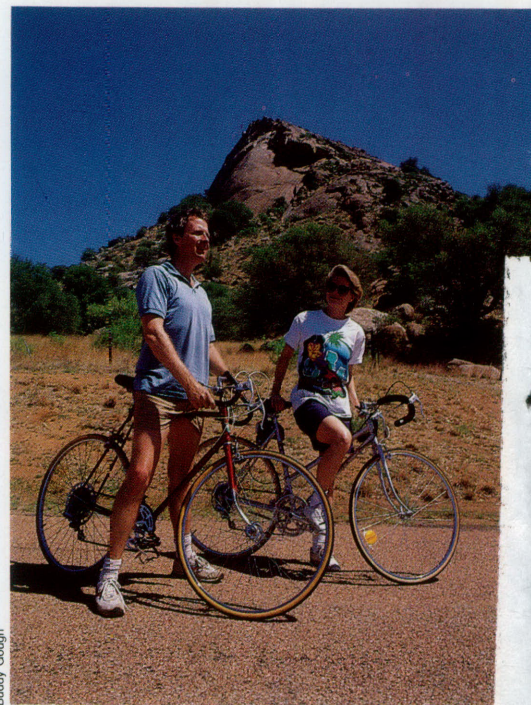
Praises be for the pump and circumference of the Davis Mountains Scenic Loop, a 74-mile circular run that is arguably the finest cycling route in the

state. For those with a passion for two-wheeling in the great outdoors, the loop has it all:

A Natural High: Rising from foothill grasslands to forested mountain plateaus and canyons, the roadway is the highest in Texas, reaching elevations from 4,844 feet to 6,270 feet as it swings through the second-highest mountain range in Texas.

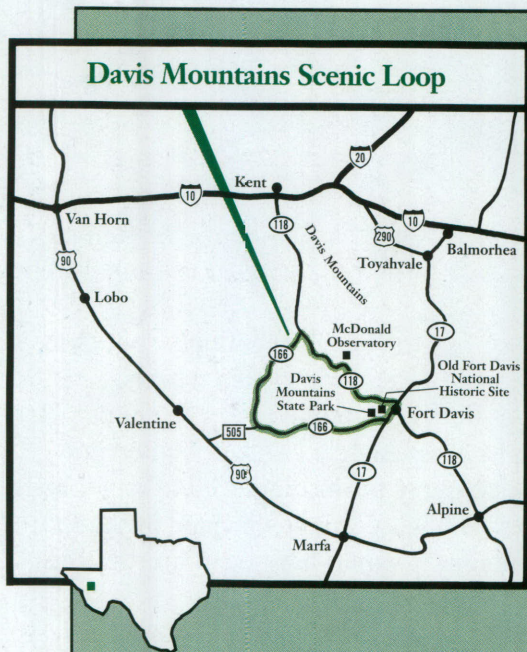
Great Climate: Dry mountain air where brilliant blue skies are not cloudy all day, except on those infrequent occasions when thunderheads pile against the mountain peaks in spectacular fashion. But most of all, an area of air-conditioning at altitudes where temperatures can range 10 to 15 degrees cooler than the desert far below.

Rare Solitude: Imagine a ribbon of highway looping through 74 miles of natural terrain unbroken by any town, not even a Stop 'n Go or mom-and-pop grocery, nothing except an occa-



Buddy Gough

Dry mountain air and comfortable temperatures make the 74-mile Davis Mountains Scenic Loop one of the best cycling routes in the state. Above, the cyclists pause before the Point of Rocks on the final 25-mile run of the loop.



Notes for the Cyclist

When we first considered making the loop, we thought it might be ideal for an overnight trip. However, a lack of camping areas proved a major problem. Although there are 10 roadside parks around the route, these have signs warning against camp-

ing. Nor are there any private campgrounds in the middle sections of the run.

A further complication was the absence of a sure supply of water from the observatory around to Point of Rocks, other than the questionable quality that could be obtained at isolated windmills or begged from infrequent ranch houses.

On the other hand, a single-day circuit was beyond our level of fitness and our equipment. During an annual bike race held around the loop, the 74-mile distance has been covered in as little as 3½ hours by the fittest of the fit, and that race is run clockwise around the loop, placing the most difficult sections at the end. Thus, six to eight hours would seem about the pace for serious and seasoned cyclists.

For more leisurely touring, the loop is great for shuttling with a follow vehicle or for easy half-day to full-day roundtrips from Fort Davis or the state park.

A cycling event to consider is

the annual Cycle Fest that will be held in September. It features a day of tours, ranging in lengths of 10, 25, 50, 75 and 100 miles, followed on the next day by a round-the-loop bike race. Cost to attend is projected to be less than \$18. For particulars call David Ham at Peyton's Bikes in Midland, 915-669-1718.

Preferred camping in the area is Davis Mountains State Park; reservations are recommended spring through fall; call 915-426-3337. Next best is the Prude Ranch, headquarters of the Cycle Fest, 915-426-3201.

Foremost lodging is at the picturesque Indian Lodge in the state park. Built by the Civilian Conservation Corps in the 1930s, the lodge offers fireplaces for chilly nights and a swimming pool to soothe aching cyclists on warm days; reservations are recommended; call 915-426-3254.

A variety of lodging is available in Fort Davis, ranging from rooms in a historic inn to cottages.

sional ranch house, windmill or roadside park; where an hour may pass between the passages of vehicles, mostly driven by friendly and unhurried locals who are accustomed to giving cyclists a wave of a hand and a wide berth.

Superb Scenery: Views of some of the highest mountains in the state, including Mount Livermore, at 8,382 feet, as well as Mount Locke and the jagged peaks of Sawtooth Mountain. Plus the green of the ponderosa and piñon pines of scenic Madera Canyon; the oak and walnut hardwoods of stream drainages and the lush, golden grasslands of the foothills, all in vivid contrast to rocky, mesquite- and cactus-infested desert far below, and all the endowment of the aforesaid thunderstorms that bless the mountains' higher altitudes with greater rainfall.

Abundant Wildlife: A range where

the deer and antelope play, and bird-watching is exceptional.

Absorbing Side Trips: Davis Mountains State Park, the old Fort Davis National Historic Site, the famed McDonald Observatory and the historic town of Fort Davis.

My wife Kathryn and I, and another San Antonio couple, discovered it, all last spring when we arrived sight unseen to bike the Scenic Loop over a weekend campout at Davis Mountains State Park. Being on the sissy side of cycling and equipped with two run-of-the-mill 10-speeds of marginal condition, our intention was to alternate cycling in comfortable 10- to 15-mile stretches in a leapfrog manner.

After a hot desert crossing on Interstate 10 between Ozona and Balmorhea, we climbed into the foothills of the Davis Mountains along Highway 17 and arrived in downtown Fort

Davis to notice . . . trees, tall cottonwoods that testified to the town's long history as a source of spring-fed water along the Overland Trail, the old "way West."

Among the old historic buildings of the Trans-Pecos town, the lucky will soon discover the old Fort Davis Drug Store, which has an old-fashioned soda fountain offering delicious malts. The drugstore, we learned, is as good a spot as any to begin and end a tour of the loop, with a chocolate malt, of course, to fortify the start or reward the finish.

Proceeding in the manner of accidental tourists, we took the loop in counter-clockwise fashion—north on Highway 17 to Highway 118, left on 118 to Highway 166 and left again, looping back to Highway 17, a couple of miles south of Fort Davis—not all at one time, nor even one day.

Leroy Williamson



On a pleasure-pain (downhill-uphill) basis, we rated the sections of the loop as follows:

PUMPING IRON: Approximately 17 miles from Fort Davis past the state park to the McDonald Observatory. The first mile takes the cyclist past the restored frontier bastion of Fort Davis, nestled impressively against the volcanic outcroppings of a high, humping hillside. This is a site worth visiting, but it's too soon to stop now. Turning left on 118, the cyclist finds the tree-lined bed of Limpia Creek to his right and ahead, a roadway that winds uphill for three miles to the en-

trance of the park. For the fit, this is vigorous but short-lived aerobic training. For us, the entrance to the park looked mighty inviting.

However, stretching ahead at that point is an inviting downhill run that appears as alluring as a Venus flytrap to an insect. The slalom course runs about five miles, sweeping past the Prude Ranch Summer Camp to the base of Mount Locke where ecstasy turns to agony.

The next six miles to the McDonald Observatory is a twisting torture course of hard and continuous uphill, pumping iron cycling style. It's here

the cyclist recognizes that the ideal bicycle for the loop is a touring model with 15 to 18 speeds. Fortunately, there are a couple of scenic overlooks with picnic shelters where the cyclist can take a breather and enjoy a vista across a forested mountain valley to the heights of Mt. Livermore.

Approaching the white domes of the observatory, the cyclist comes to the junction of FM 78, a short turnoff to the observatory's visitor's center, the last public restrooms and water source for the next 60 miles. The interpretive center is worth a visit and especially merits a sundown return for



the popular "star parties." (The clear and exceptionally dark skies of the Davis Mountains are noted for stargazing excellence.)

Ahead on 78, however, is a mile and a half of precipitously steep switch-back reaching to the 6,270-foot peak of Mt. Locke and the site of the huge telescopes. The cyclist of gumption will go as a test of strength and will, not to mention a chance to see the observatory and one of the finest wide-angle views of the mountains.

Here will come the first great temptation of the loop tour.

BLAZING SADDLES: The cyclist

Buddy Gough



Stephen Myers

Sawtooth Mountain's jagged peaks dominate the scenery for the first 10 miles of the trip (left). Water ripples over the rocks of a creek following a Davis Mountains thunderstorm.

who has labored to the top of Mt. Locke will be tantalized with the idea of turning back on the spot, to plunge like an eagle from the mountaintop, swoop past the visitor center, and continue in a sizzling spiral to the bottom of the mountain. He may have to bite the bullet a bit in the climb back to the park, but from there it's smooth sailing downhill to Fort Davis and a chocolate malt.

Common sense says the run should be attempted with only the most dependable of equipment, a helmet and possibly body armor.

But for the determined cyclist of a Westward-Ho mind, the next section is . . .

BREAKING AWAY: The 14 miles from the observatory west past Madera Canyon to the junction of Highway 166 is where cyclists can begin to hit stride in a continuation of mountain terrain dominated by juniper, piñon and ponderosa pine. Except for a couple of steep but short climbs and a mile-long low grade leaving Madera Canyon, it's practically all fast downhill coasting, including several stomach-flipping drops.

A must stop is forested Madera Canyon, regarded a scenic highlight of the loop. A large, shady picnic area at the canyon is ideal for R&R and good birdwatching. Along this stretch is where we witnessed one of the afore-

Tips for Beginning Cyclists Planning a Trip to the Davis Mountains

Unless you live in some of the hillier parts of Texas, you probably are not accustomed to alpine-style cycling with extended climbs and fast downhills. Before you go to West Texas, you should practice riding some hills several times a week. If you live in Houston or other flat areas, you can try what Dutch cyclists do in their flat country—ride into a strong head wind, which will simulate some of the resistance gravity creates while climbing a hill.

There are several parts of your bike that also must be in excellent shape. It's a good idea to take your bike to a good bike shop for a checkup before your trip. Be sure to tell the shop personnel where you are going. They can check your bike and recommend any changes that should be made before you tackle the big hills.

Hopefully you have a bike that fits correctly; you should be able to straddle the top tube with one to three inches of clearance. A bike that fits you is easier to control and more comfortable. Wheels must be true; even a slight wobble in a wheel during a fast downhill run can cause serious wobbling and instability. Brakes must be in perfect mechanical condition: not only should both the front and rear brakes work correctly but the brake pads should not hang or rub on the wheel rim when the brake is not being applied; this can be an unwelcome handicap while climbing a hill.

If you own an inexpensive department store bike, get rid of the tires that came with it and buy a good, light-weight, high-pressure set from a bike shop. Good tires will be more dependable and much lighter, which will make hills easier to climb. Inflate the tires to recom-

mended pressure. Too little air can pinch the tube between the tire and rim, the most frequent cause of a flat. Use presta valved tubes; they are easier to pump up and always carry a small frame pump, plastic tire-changing irons, a spare tube and a patch kit when you ride.

Make sure the bearings in the wheel hubs, headset and crank bottom bracket are adjusted correctly and have grease in them. If any of the bearings fail in remote areas such as the Davis Mountains, you would have a very long walk. Make sure the combination of chain ring and freewheel gearing is adequate for your degree of fitness and terrain. Always have a bail-out gear—one gear smaller than you think you need.

There are some basic pieces of attire that are absolutely necessary for extended cycling. Every experienced cyclist knows that it's not IF you crash, but WHEN. Always wear a helmet when you ride; it can save your life. Helmets are now light-weight, inexpensive and cool in the summer. A good pair of padded cycling shorts can prevent chafing. Bicycle saddles also now have gel inserts for added comfort. If you

plan to ride more than 30 miles, special touring shoes with stiff soles under the pedal area can help keep your feet from becoming sore or numb. Padded cycling gloves can protect your hands from numbness and discomfort from road shock. The most comfortable position while climbing a hill is to rest your hands on the tops of the brake levers; good bicycles have padded rubber hoods over the brake handles for this purpose. Cheaper bicycles should be fitted with these hoods.

Unless you are a highly trained cyclist, after two hours of continuous cycling your muscles will run out of energy stores. After the first hour, start eating snack foods high in carbohydrates such as bananas or cookies, or drink carbohydrate sports drinks such as Gatorade. This will extend your cycling ability and your comfort. Always carry two large bottles of fluid with you. The weather may be cool in the Davis Mountains, but it is exceedingly dry and dehydration is a danger.

Good cycling technique is necessary in order to comfortably and efficiently climb hills and negotiate fast downhills. Try to pedal in circles in a fast cadence, at least 80

Leroy Williamson



Fort Davis National Historic Site provides an interesting side trip for cyclists.

or 90 revolutions per minute. Toe clips and straps on the pedals will help you ride efficiently. Most beginners pedal too slowly in too big a gear, which is hard on the muscles and knees.

It's a good idea to have a bike shop properly adjust your saddle height and position, stem and bars. Many people ride with a saddle much too low, which is inefficient and hard on the back and knees. While sitting squarely in the saddle, without stretching the leg out, your heel should lightly touch the pedal with the crank arm at 6 o'clock. If you rock in the saddle while you pedal, lower the seat slightly.

When climbing, make certain your shoulders and arms are relaxed; a lot of energy is wasted with stiff arms. Start up the hill in a gear smaller and easier than you think necessary. You will then spread your effort evenly, thus saving energy for the end of the hill.

For safety, you should know which brake lever controls the front and rear brakes. Hard braking with only the front brake can cause a bad fall. If you have to stop quickly, shift your weight to the back of the saddle, apply the rear brake hard and then the front brake. While cornering, particularly downhill, do your braking before the corner, raise your inside pedal, put most of your weight on the outside pedal and lean your bike into the corner and coast through the turn.

As an operator of a legal vehicle in the State of Texas, a cyclist has rights and responsibilities. You should always ride as far to the right of the road as practical. Two abreast is permissible, as long as you do not impede traffic. If you hear a car approaching from the rear, drop back in single file.

Cycling enthusiast June Secrist is an administrator in our Park Operations. She is an officer in Austin Cycle Association, and a licensed United States Cycling Federation racer. She bikes to work and logs about 7,000 miles a year.



Laurence Parent

Cyclists from the flatter areas of Texas should condition themselves before heading for the Davis Mountains or Big Bend, shown here.

mentioned thunderstorms pile against the mountains, bringing lightning, wind and whipping rain, causing us to appreciate how chill high elevations can become when the sun disappears behind clouds and rain gear is nowhere to be had.

But wrapped in its own solitude in a surrounding of vast expanse, the highway rolls on forever, or so it seems.

EASY RIDER: The section from Highway 166 to FM 505 takes the bicyclist from the forested mountains into the rolling grasslands of the foothills. Dominating and captivating the eye the first 10 miles is the jagged stone bulk of Sawtooth Mountain.

At this point, the cyclist can be assured that the most difficult climbs are behind. There are a couple of low and longish grades before Sawtooth, as well as a low hill and grade or two above, but the true character of this pleasant stretch is relaxing, roller-coaster cruising over closely spaced gentle hills and dales. And although the best of the scenery is also behind, the route ahead doesn't do anything but get easier.

DELIVERANCE: By the time the erstwhile cyclist passes FM 505 in the final, 25-mile run of the loop, he's smoking in high gear toward Bloy Camp and onwards to the Point of Rocks, a huge, red pinnacle popular

with rock climbers and a historic spot along the old Overland Trail. Here a scenic roadside park invites pause to reflect on the journey and, perhaps, the opportunity to watch climbers, tiny as insects, scale the pinnacle's bald face. Through most of this section, the miles melt away across gently sloping grasslands where the pedals spin to a feather's touch. One grade to climb before Point of Rocks, and the cyclist is home free to downtown Fort Davis . . . and, of course, a chocolate malt.

That just leaves one parting mention.

THE GREAT ESCAPE: From Fort Davis to Balmorhea exists possibly the second-greatest cycling run in Texas, approximately 36 miles of super scenery and fast, downhill cruising. There is a tough half-mile pump to Wild Rose Pass near the start, then a low, mile-long grade at about the 15-mile mark, and finally two short hills to climb around the 30-mile point. All the rest is wild. **

Buddy Gough is the outdoor editor of the San Antonio Light and has contributed stories to the magazine in the past. This story is a departure from the usual fare for an outdoor writer, but with a Masters in English and a couple years in Catholic seminary, Buddy is not your usual outdoor writer.

Flowers, Flowers, Flowers

by Leroy Williamson

It's flower time in Texas, and with the multitude of flowers comes a desire to capture this glorious scenery on film. Although we give it our best shot, often our pictures fall short of the image desired. What goes wrong? How can such a colorful subject be lost in the transfer to film? Perhaps a better question is, "What can I do to make my flower pictures better?"

First, let's consider how most flower pictures are made. We're out for a drive, perhaps to see this year's crop of wildflowers. We spot a pretty field of flowers, stop, jump out of the car and snap a couple of pictures. This scenario may be repeated several times during the drive and we have a confident feeling that we have recorded some beautiful images. Later, when our pictures come back from the processor, we're often disappointed in some or all of our photos. The lighting wasn't good, the flowers just don't show up like we saw them, and there were many colors that just didn't show up.

Let's look at some ways of improving your wildflower photographs.

Photographing large fields of flowers can be difficult. We want to record the panorama our eyes see, but unless the flowers are super thick with lots of color, our pictures may be a little weak. But by no means am I implying that you refrain from trying to capture the panorama of flowering fields. Definitely try to capture this scene on film, preferably in the early morning hours or late afternoon when the light is good. High noon and the immediate hours on both sides of it are the least desirable for most photography. After you have made a few exposures of the big scene, let's move in closer.

Closer is better much of the time. Look around the huge field of flowers for smaller patches that will yield some closer, more detailed pictures. Nature creates some wonderful scenes that make naturally well-composed pictures. Look for flowers around rock clusters or growing beside dead trees. Include a fence post or perhaps even a friend or family member. Flowers and

water always are good together. Look for flower reflections in water, or find a picturesque creek with flowers lining the banks. There are hundreds of possibilities. I'm encouraging you to look before you click.

Now that we have taken some fairly close shots, let's move in really close.

Perhaps nothing is more beautiful than a full-frame portrait of a single



Leroy Williamson



Leroy Williamson

Fields of wildflowers (above) can make spectacular photos, especially when the flowers are thick. (Horseman VHR camera with 4x5 back, 150mm lens, Kodak Ektachrome 100 film). Portraits of individual flowers (left) will capture color and detail not seen in wider shots. To get close use a macro lens, screw-on close-up diopter lens, extension tubes or bellows. (Pentax AF 400T auto-flash combined with existing light. Exposure 1/60 sec. at f/32.)

flower—or better yet, a part of one flower. Yes, you'll need more specialized equipment to get close. A macro lens will get some excellent pictures of individual flowers. To get closer requires the use of extension tubes or bellows and a little more effort, but the results are certainly worth it.

If getting close is something new for you, I hope you will try it. Close-up photos do require a little more work, especially when using extension tubes or bellows. A tripod is essential and a flash that can be used off-camera is most useful. Focus is critical and depth-of-field is shallow, even at minimum apertures of f/16 or f/22 where you're likely to be working. Most late model 35mm single-lens reflex cameras (SLR's) will take care of all ex-

posure problems automatically, allowing you to concentrate on framing, composition and focus.

Unfortunately, most point-and-shoot cameras are limited in their ability to get close, although some do have macro-focus capability. Composing close-ups with a point-and-shoot is a little more difficult than with an SLR since the viewfinder does not show exact framing for the picture. However, some rather miraculous pictures can be made with these small electronic marvels.

Regardless of the photographic equipment you have, it is capable of making better pictures if a little thought and planning precede the shutter release. **

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

Choosing and Using Saltwater Lures

Article and photos by Larry Bozka

In the ever-changing world of saltwater fishing, one thing remains certain. The more things change, the more they stay the same.

Used to be, coastal fishermen could walk into a tackle store and find virtually every artificial lure on the market in a six-foot section of shelf space. Meanwhile, across the aisle, the local bass anglers had their pick of enough crankbaits, spinnerbaits, buzzbaits, worms and jigs to fill every double-decker tackle box in town. Bass fishing, in particular tournament fishing, was on a roll.

That was the early '70s. And today, bass fishing remains a favorite pastime of many Texas fishermen. Difference is, coastal fishing is now on a roll of its own, and the proof is on the shelves of the state's tackle stores.

The saltwater lure industry has come of age.

Ironically, freshwater lure manufacturers deserve most of the credit for the change. Bass-related research and development not only furthered technology, it also afforded a generous dose of that knowledge and innovation to the makers of saltwater lures.

No wonder, then, that most of today's larger lure companies manufacture both freshwater and saltwater baits. When you get right down to it, the two are often close to identical. Similar or otherwise, there are more baits than ever from which to choose.

That's good news for veteran lure fishermen, but it can be more than a bit intimidating for beginners. It shouldn't be.

There are three basic types of saltwater fishing lures: lead-headed shrimptails and grubs, plugs and spoons. To regularly use any or all of these with success, the fisherman has to first do some pre-trip homework.

The assignment is to understand and then capitalize upon quality fishing conditions. With experience, the saltwater angler anticipates and recognizes the necessary blend of light wind, moving tide, reasonably clear water and abundant baitfish.

Nevertheless, even the best spot on the bay won't produce fish without the right lure and the proper technique. Again, the angler's decision hinges upon several variables, not the least of which is the size of the fish desired.

LEAD-HEADED SHRIMPTAILS AND GRUBS

These, it's safe to say, are the artificial lures you would need if you found yourself abandoned on a deserted tropical island. If there's a game fish in the world that won't hit a lead-headed, soft plastic shrimptail or grub, it hasn't yet been discovered.

A fish goes after a soft plastic bait because it looks natural. When the predator strikes the lure, the rod-induced deception goes one deadly step further.

The soft-bodied artificial *feels* natural.

Striking fish tend to hold onto the lure for an extra second or two, and as a result the fisherman gets more time to react. The delay has cost many an unsuspecting game fish a sudden and forceful trip to the landing net.

The jig head normally weighs between $\frac{1}{4}$ and $\frac{1}{2}$ ounce, enough to carry the airborne lure through all but the stiffest winds. Because of the lead head, the lure sinks quickly.

Beneath working flocks of seagulls, where larger fish tend to suspend deeper than their schoolie-sized counterparts, shrimptail jigs and grubs are the best choices. However, these lures are not restricted to deep-water fishing.

Fishermen on the upper Texas coast often rig shrimptail jigs below popping corks, sometimes in tandem with a live shrimp. On the skinny-water flats of the Laguna Madre, lead-headed shrimptails were solely re-



sponsible for the creation of special “rattling” floats, most notably guide Bob Fuston’s “Mansfield Mauler.”

The fluorescent orange Mauler is actually a modified crappie fishing cork. Threaded onto a stiff wire center, the float is fitted with red plastic beads and small barrel swivels on each end. The lure is tied onto a short leader, just long enough to keep the bait above the bottom and out of the grass. When the float is popped with a light twitch of the rod tip, the lure mimics not just the movement but also the sound of a tail-snapping shrimp.

Lead-headed shrimptails cost considerably less than plugs and spoons, but they don’t last nearly as long. Soft plastic, of course, is much more vulnerable to fish teeth than hard plastic or metal.

Theories regarding the “best” color are a continuing source of debate, but coast-wide, strawberry wins by a landslide. Other leading contenders for the title include root beer, smoke metal-flake and white.

Although plenty of trophy-class trout have been taken on shrimptails and grubs, most of the specks caught on the lures are considerably smaller. Consider the feeding habits of speckled trout, and the reason becomes obvious.

Small trout eat lots of small bites; big trout eat very few large bites. Yearling “school trout” feed primarily upon shrimp and other small crustaceans, and do so until they reach five pounds or so.

At that time, their dietary preference shifts to mullet and other baitfish. Accordingly, the lure of choice for big fish is a mullet-imitating plug.

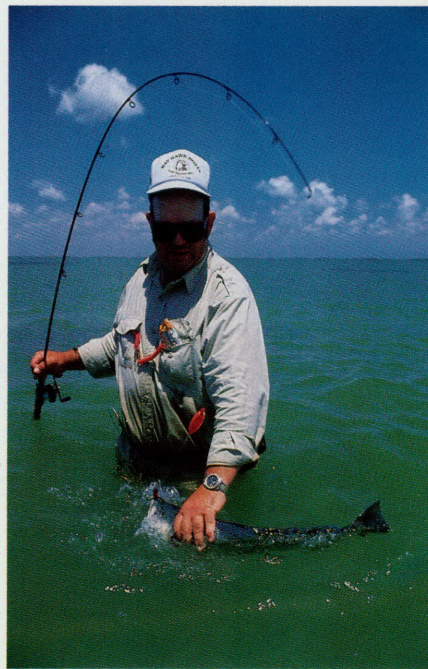
PLUGS

Saltwater plugs come in a wide array of shapes, sizes and colors. Which model to choose depends upon where you fish.

Naturally, sinking plugs are best suited to deep-water situations. They’re a favorite of spring and fall surf waders, as well as boaters who drift fish the open-water oyster reefs from Mesquite Bay northward. Along the shallows to the south, it’s a different scenario and a different story.

From Rockport down to Port Isabel, you’re in topwater territory. Matter of fact, topwater plugs are rapidly gaining notoriety throughout the upper half of the coast as well, and for good reason. As producers of big fish, topwater plugs have no equal.

Big speckled trout and redfish are partial to very shallow water. This is



Guide Doug Bird used a Mansfield Mauler clicker cork and strawberry shrimptail to fool this Laguna Madre speckled trout.



“Snake-tail” worms (left) are good choices for summer fishing, when speckled trout and redfish go for faster-moving baits. Jig heads for soft plastics can be painted different colors (above). Soft plastic baits are inexpensive when compared to other lures, making it easier to stock a variety of body styles and colors (right).



especially true during the early spring and late fall, when the warmth of the shallows offers temperature-sensitive baitfish a reprieve from the cold.

Large schools of mullet congregate in water less than two feet deep. Concentrated and relatively confined, the vulnerable baitfish are soon followed by sluggish but hungry redfish and trout. These are by no means easy fish to catch, nor are topwater plugs easy lures to fish.

Topwaters are finesse baits, and are much more difficult to master than either lead-headed jigs or spoons. The trick is to determine the correct combination of lure, color and retrieve, and even more important, to remember and repeat the productive technique after the excitement of landing the fish.

Whatever the type, plugs are available in a veritable rainbow of colors. Fortunately, there's no need to stock the entire spectrum. Chrome, gold and black are all proven producers, preferably with a black back. In extremely clear water, try clear or blue-bodied versions.

The jointed minnow, or "broken-back" plug, is currently the top-ranking topwater in Texas. Though it's classified as a topwater, the shallow-lipped plug is actually a floater-diver.

"Stick baits," also known as "jerk baits," are true topwaters, and rank a close second to the broken-back. Aside from a few models that sport fore and aft propeller blades, these are unadorned and inactive lures that don't do anything they're not forced to do via the rod tip.



Jointed "broken-back" plugs (above) imitate mullet and are potent lures for trophy-class speckled trout.

Sinking plugs (left) are especially well suited to surf fishing, as they cast long distances and run fairly deep.

True topwater plugs have no lip (far left), as compared to floater/diver plugs, which do (immediate left).





If it's an easy-to-fish lure you're after, try spoons instead.

SPOONS

Spoons are without question the simplest of all artificial lures to fish. They're also among the most versatile.

Because of their concave shape, the solid metal lures wobble incessantly when retrieved. They also catch and reflect light like no other type of fishing lure, even in sandy or off-colored water. Better yet, spoons cast like bullets.

Because of its nonstop spin and flutter, a spoon must be fished on a snap swivel or behind a barrel swivel and leader. Skip the swivel, and the lure will promptly twist your fishing line into a hopelessly tangled mess.

Big spoons weighing a half-ounce or more have long been synonymous with Texas surf fishing. Smaller models in the quarter-ounce range, especially weedless versions, are equally well suited to fishing the flats.

In either situation, the lure allows the fisherman to cover a great deal of

water in a short period of time. Many plug enthusiasts, in fact, use spoons to locate fish before switching to their favorite finesse bait.

Standard spoon finishes include gold, silver and copper. A red or yellow bucktail is a valuable addition to the lure, because it not only hides the hook but also provides a tantalizing flash of color.

Spoons have been around for a long, long time. When Capt. James Cook visited the Sandwich Islands (1771-1778), he noted in his journal that the natives fished with spoon-type lures fashioned out of seashells. The world has changed dramatically in the 200-plus years since Cook's travels, but in the world of saltwater sport fishing one thing, again, remains certain.

The more things change, the more they stay the same. **

Houston-based outdoor writer and book publisher Larry Bozka is the former editor of Texas Fisherman magazine. He knows a thing or two about fishing.



Spoons (left) were used on the Texas coast before any other type of lure, and are still a standard item in the tackle boxes of the state's saltwater fishermen. Guide Bob Fuston (above), who invented the Mansfield Mauler clicker cork, shows why the Mauler-and-jig combo is his favorite.



Window in the Water

by Ilo Hiller

Photos by Stephan Myers

There's a fascinating world of nature waiting to be discovered in any body of water—pond, lake, stream, river or bay. Aquatic plants and the creatures that live among them are there for any curious naturalist to study. However, even though the water might be fairly clear, other conditions may still hide this underwater world from view. Wind and waves ripple the surface and distort the view, and sunlight is reflected into our eyes like a mirror.

To look through these surface barriers, we must find water that is clear, calm and shaded from the glare of the sun. Unfortunately, these perfect conditions may not exist when or where we want to look beneath the surface. We need a window that allows us to see through the surface barriers.

One device that will allow you to spy on the underwater world is called a waterscope. It consists of a viewing window fitted

in a watertight frame that can be pushed an inch or so beneath the water's surface to eliminate the ripples and glare.

Simple, temporary waterscopes are easy to make out of common objects found around the house—clear plastic wrap combined with cardboard milk cartons, plastic bottles or coffee cans.

The least durable waterscope can be made from a half-gallon, cardboard milk carton. Cut off the top and bottom of the carton and throw them away. Tape the bottom cut edges of the remaining center section with masking tape so they will be smooth. Place a piece of the thickest, clear plastic wrap you can find over the bottom end of the carton and make sure it is large enough to extend two or three inches up the side of the carton. A rubber band will hold the plastic wrap tight to the sides and it can be taped to the carton to make it more waterproof. The plastic wrap must

When you use a waterscope to open a window in the water, you may see a school of sunfish swimming among a forest of water plants. And if you don't find something to catch your interest in one place, you can move to another spot and get a different view of the underwater world below the surface.

be smooth and free of wrinkles over the bottom opening.

To use this milk carton waterscope, tilt it a bit as you slip one of the bottom corners into the water. This keeps air from being trapped between the plastic and the water and gives you a clear viewing window. Make sure the entire bottom of the carton is at least an inch beneath the surface, but don't push it down too deep or water will creep up past the rubber band and get inside the milk carton. Water on the inside defeats the purpose of the waterscope. Pushing it too deep makes the plastic wrap bulge into the viewing window and distorts the view. If the plastic wrap tears and the carton hasn't fallen apart, it can be covered with a new piece of plastic wrap and used again.

A more durable waterscope can be made from a gallon plastic bottle, but the small neck opening provides a one-eyed view as if you were looking through a telescope. To turn the plastic bottle into a waterscope, cut off the bottom and then clean the bottle thoroughly (especially the spout if the jug once held bleach). Tape the bottom edge so it will be smooth and not tear the plastic wrap used to cover it. A large rubber band will hold the plastic wrap in place while you tape it to the outside of the jug. The plastic wrap over the bottom opening should be smooth and free of wrinkles. Tilt the bottle slightly as you slip the bottom into the water to eliminate trapped air. Look through the neck of the bottle to view the underwater world. If and

A temporary waterscope is made by stretching a piece of plastic wrap over one of the open ends of a coffee can. Substituting a piece of clear acrylic plastic makes a more durable waterscope with a clearer view. Water pressing against plastic wrap causes it to bulge upward and distorts the view.

when the plastic wrap tears, replace it with a new piece.

A three-pound coffee can will provide a larger viewing area when both ends are cut out. It also can be turned into a deluxe waterscope by substituting a round, seven-inch diameter, 1/8-inch piece of clear acrylic plastic for the plastic wrap. (The piece of hard plastic will probably cost around \$4, and the tube of waterproof contact cement about \$1.50.)





The acrylic plastic comes with adhesive paper on both sides to protect it from scratching. Remove the paper from one side and center the coffee can directly on the exposed plastic. There will be about a half-inch lip of plastic extending all around the bottom of the can. With the contact cement tube, squeeze a line of glue around the outside edge of the can where it touches the plastic. Make sure the contact cement touches both the can and the plastic. This should seal and waterproof the edge.

Allow the contact cement to dry overnight. Then remove the protective paper from the outside of the plastic bottom and push the can down into a container of water to test for leaks. If any water enters the inside of the can, mark the spot, thoroughly dry the can and apply more contact cement on the outside edge in that area. Allow the cement to dry and test it again. Continue to apply more glue and test the waterscope until it no longer leaks. Even though this coffee can waterscope can be



built by a child of six, it can be messy and is best done outside under adult supervision.

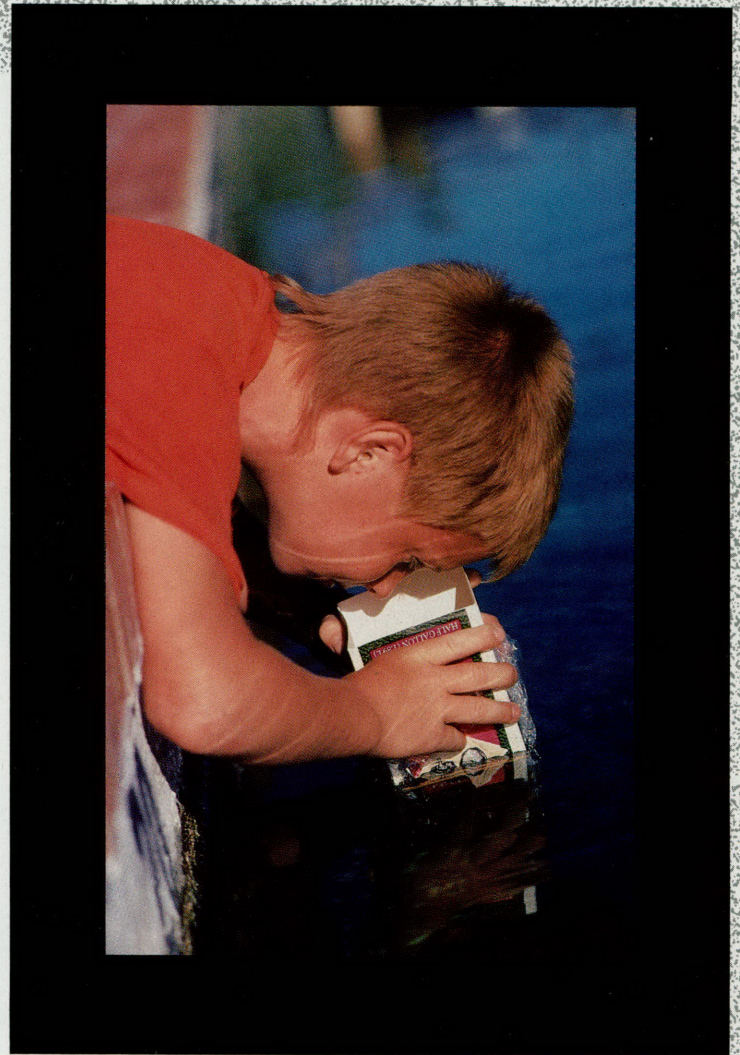
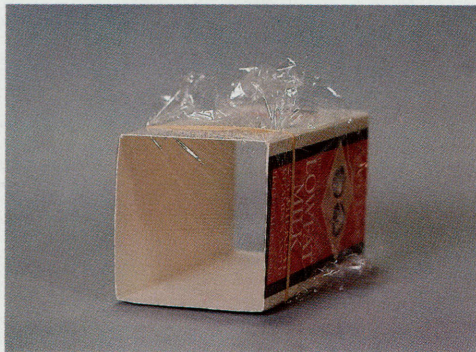
A hard acrylic plastic bottom also can be glued to the bleach bottle waterscope, but you still will be limited to a one-eyed view unless the top portion of the bottle is cut off. The plastic bottle is not as rigid as the coffee can, but it does not rust. A bottomless bucket, waste basket or garbage can also can be turned into a waterscope.

No matter what type of waterscope you make, we hope you enjoy peering into the secret world of water. You may be surprised at the amazing things you are able to see. And if the viewing isn't exciting in one place, you can always move to another spot and open another "window in the water." **

If the surface is calm you can get in the water and enjoy a split-level view—above and below. Make sure no water gets inside the waterscope.

A pier extending out over the water makes a good platform for viewing things that may be seen in deeper water, especially when no boat is available to take you away from the shore.

Editor's Note: Be sure to follow safety rules around water. If you cannot swim, wear a life jacket and take a buddy or a member of the family along in case of an accident. When using your waterscope from a boat, always wear a life jacket. We wouldn't want anything to happen to any of our young naturalists.



A waterscope also can be made from a cardboard milk carton. Although it is the least durable, its waxed surface provides some waterproofing.

In the clear waters of the San Marcos River you may see a snail shell lying on the bottom among some other shells and rocks.

Whether you choose to use your waterscope in a pond, lake, river or stream, there is always a fascinating underwater world awaiting you.



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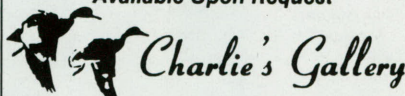
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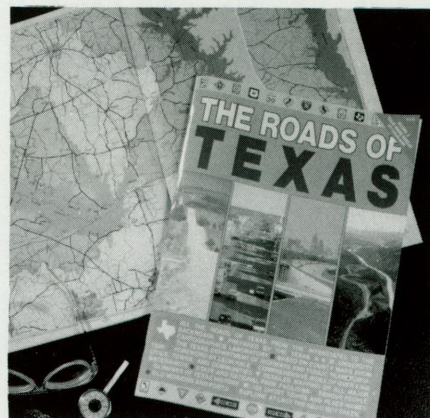


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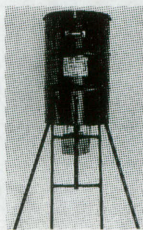


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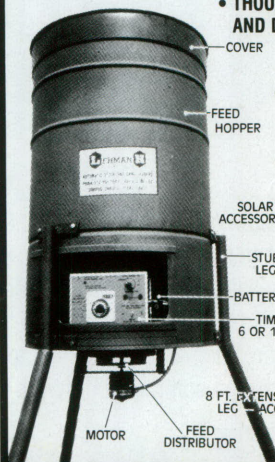
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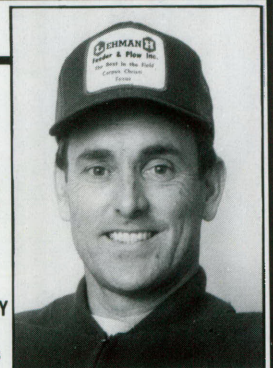
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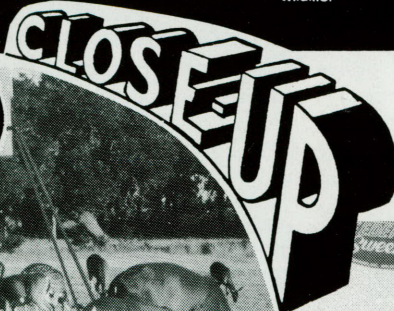
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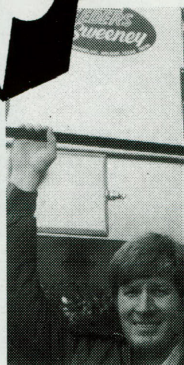
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OUTDOOR ROUNDUP by Jim Cox

Texas Urban Forestry Conference and Awards Program Set for May

The Texas Urban Forestry Council announced the Fourth Annual Texas Urban Forestry Conference and Awards Program has been set for May 9-11, 1990, in Houston. The Hyatt Regency West Hotel will be the site as arborists, landscape architects, city officials and interested citizens from across the state gather to discuss the use of trees in the urban environment.

This year's conference will include a tour of some of Houston's successful tree projects and presentations on topics ranging from global warming to urban forest soils to community tree planting promotions. The highlight of the conference will be the presentation of the Texas Urban Forestry Awards at the banquet held on Friday, May 11. Two of last year's recipients, Al Korenek of Houston and the City of Wichita Falls, received national recognition for their efforts as National Arbor Day Foundation Award winners.

For more information about the conference or awards program, contact Tom Boggus, Texas Forest Service, College Station, Texas 77843-2136 or call 409-845-2641.

Nash Names Seven to Shrimp Panel

Chuck Nash, chairman of the Texas Parks and Wildlife Commission, has announced the appointment of a seven-member Shrimp Advisory Committee to advise the department on matters related to shrimp management in the state's coastal waters.

Committee membership representing the bay, bait and gulf shrimp industries as well as conservation interests will include Jan Harper of Freeport, chairman; C. L. Standley of Dickinson, vice chairman; David Aparicio of Palacios, Leon Bateman of Rockport, Leslie Sanders of Seadrift, Walter Zimmerman of Port Isabel and Alan Allen of Austin.

"Texas has begun a new era in management of the valuable shrimp fishery," said Nash. "The members of this committee

have a unique challenge to ensure that the successes of the past will be continued and new management measures will be developed to preserve the long-range vitality of this critical natural resource." Nash said the appointees represent a balance of interest groups which will be able to deal with the complexities of the fishery.

The Parks and Wildlife Commission established the Shrimp Advisory Committee in a public hearing in Austin November 2, 1989. Under legislation passed in 1985, the commission now has authority to manage the shrimp fishery. Prior to that time the shrimp resources were managed under statutory authority that required action by the Texas Legislature.

Visitors Name Longhorn Calves at Ft. Griffin

Names submitted by park visitors have been selected and assigned to the 1989 crop of longhorn calves that were registered and branded as part of the state's official herd, according to Lester Galbreath, herd manager and park superintendent at Ft. Griffin State Historical Park.

"The calf naming process gives me a long list of names, and allows the public to be personally involved with the official herd," Galbreath said. Park visitors are currently submitting names to the list for the 1990 calves.

Texas writer J. Frank Dobie may have preserved the longhorn breed from extinc-

tion when he assembled a small herd for the state during the 1920s. Today descendants of that herd are pastured at six state parks in addition to Ft. Griffin.

Included in the current yearlings is a steer born on March 2, Texas Independence Day, to Lady Griffin, the 1987 national champion senior cow. The calf has been named "Texas Independence."

In 1876 cowboys started driving cattle past Ft. Griffin on the Western Trail to Dodge City, Kansas. During that first year, about 108,810 head were herded past the fort, bringing the wild ways of trail driving to the already rough frontier town near Ft. Griffin. An estimated 10 million head of longhorns were driven north through that area.

Today Ft. Griffin's historical relationship with the Texas longhorn continues with the preservation of both the historic fort and the longhorn herd. The park offers a self-guided tour of the fort's ruins as well as camping, picnicking and fishing in the Brazos River.

Information on the longhorns may be obtained by contacting Galbreath at (915) 762-3592, or by writing the park at Rt. 1, Albany, TX 76430.

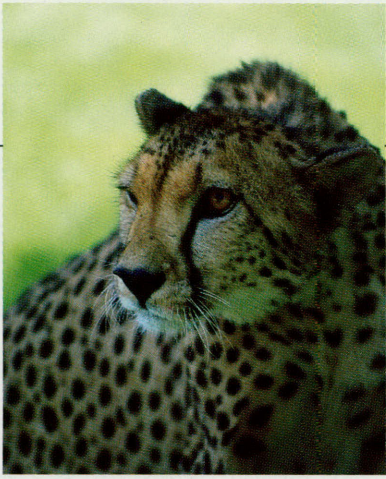
'Large Animal' Law Goes into Effect

Effective March 8, 1990, persons who possess lions, tigers or any of 13 other large animal species in Texas are required

Ft. Griffin visitors got to exercise their creativity in naming calves of the state's longhorn herd.



Glen Mills



Leroy Williamson

You now need a permit from the department to keep or transport large wild animals such as this cheetah.

to obtain a permit from the Texas Parks and Wildlife Department (TPWD).

Law enforcement officials said legislation establishing the permit system was a response by the 71st Texas Legislature to an increasing number of attacks by captive wild animals on humans in recent years.

A Restricted Wild Animal Permit is required to possess lions, tigers, ocelots, cougars, leopards, cheetahs, jaguars, hyenas, bears, lesser pandas, binturongs, wolves, apes (gibbons, chimpanzees, orangutangs, gorillas), elephants or rhinoceroses. This permit is not required for the possession of wild animals if the person holds another valid state (Texas) or federal permit authorizing the breeding or exhibition of wild animals.

Ocelots, jaguars, black bears and red and gray wolves are currently classified as endangered species and may be possessed only under the authority of a Scientific Collecting Permit, Zoological Permit or Endangered Species Propagation Permit and are therefore excluded from the requirement for a Restricted Wild Animal Permit.

Before a Restricted Wild Animal Permit may be issued, certain facility requirements for holding cages must be met and verified by a veterinarian and authorized TPWD personnel. It is unlawful to possess or transport restricted wild animals without a valid permit and unless the animals are confined in cages which meet the minimum construction requirements.

The fee for a Restricted Wild Animal Permit is \$100 for each animal up to five animals. The fee may not exceed \$500 regardless of the number of wild animals possessed.

Permit application forms and information on permitting requirements may be obtained from TPWD headquarters, 4200 Smith School Road, Austin, TX 78744, by telephone toll-free 1-800-792-1112 ext. 4633, or from any TPWD law enforcement field office.

Oystering Violations Dropped in 1989-90

Low oyster populations and stiffer penalties for oystering violations may have combined to reduce cases filed against oystermen by game wardens this year.

Law enforcement officials of the Texas Parks and Wildlife Department reported a 75 percent reduction in cases filed during the first three months of the current oyster season compared to the same period a year ago.

Capt. Jim Robertson, director of coastal law enforcement, said game wardens made 134 arrests during the first three months of the season, November through January, compared to 527 arrests during the three-month period the year before.

Robertson said cases filed for taking oysters from polluted waters and taking

undersized oysters also declined by more than 100 percent during the period.

Robertson said stricter penalties for oyster fishing violations were passed by the Texas Legislature during its recent session. "One example of a stricter penalty is a fine of up to \$2,000 and up to one year in jail for taking oysters at night in a polluted area," he said. "A second offense carries a punishment of a fine up to \$5,000 and up to 10 years in prison." The possibility of increased penalties and low oyster populations due to low salinities in major oyster producing bays are probably the two main factors in the reduced illegal activities, Robertson added.

Open season for taking oysters from Texas waters is November 1 through April 30. Oysters must be at least three inches long and be taken from public waters approved by the Texas Department of Health.

Law enforcement officials say stiffer penalties plus a shortage of oysters combined to reduce oystering violations during the season that closed April 30.



Glen Mills

Regular Seminars Planned at Kerr Wildlife Area

Officials of the Texas Parks and Wildlife Department's Wildlife Division will conduct white-tailed deer management seminars on the first Friday of each month through November at the Kerr Wildlife Management Area, according to biologist Bill Armstrong.

Armstrong said more than 29,000 persons have attended the management programs, tours and seminars at the area since 1977. "With the increased popularity of the programs, we felt it would be helpful to schedule them for a definite time each month," he said. Each seminar will begin at 1:30 p.m., and reservations are re-

quested as in the past. Each will be limited to 50 persons.

Armstrong said the programs stress combined livestock and range management practices which include rotational grazing systems and prescribed fire as well as deer nutrition, genetics and population control programs. It stresses a systems approach to deer management, he said.

The popularity of these programs was demonstrated by attendance at two open programs held in January and February, when 43 and 78 persons attended.

Persons or groups wishing to learn more about white-tailed deer management and Hill Country ecology can contact personnel of the Kerr W.M.A. at (512) 238-4483.

OUTDOOR ROUNDUP

Continued

Unauthorized Releases Hurt Turkey Program

The unauthorized release of pen-raised turkeys in two East Texas counties has caused state wildlife officials to cancel plans to release wild eastern turkeys in those areas next year.

Texas Parks and Wildlife Department officials said they discovered that pen-reared birds were released along Big Cypress Bayou and Boggy Creek in Morris County and around Ferndale Lake in Camp County.

"Releases of this kind are harmful to eastern turkey restoration efforts in addition to being illegal," said biologist Dr. Joe Campo of Marshall, eastern turkey species leader. Campo said the pen-reared birds tend to reduce the inherent wildness in wild turkeys, and they also can introduce diseases into wild populations. "Pen-reared birds can genetically pollute wild populations by interbreeding, causing the offspring to be less able to survive and reproduce in the wild," Campo said.

Wild eastern turkeys historically occupied most of East Texas, but were virtually eliminated by 1900 due to market hunting and loss of habitat. Early efforts to stock pen-reared and non-native turkeys in the region failed to establish a single population, Campo said.

The department has stocked 65 areas in

"Well-meaning but misguided efforts by a few individuals should not be allowed to jeopardize wild turkey restoration in East Texas," said Campo. He added that if the department is able to obtain some 400 wild-trapped birds each year as planned, most of the state's suitable eastern turkey habitat will be stocked by 1994.

Commission Approves Two New Coastal Preserves

The Texas Parks and Wildlife Commission and the School Lands Board have approved adding Armand Bayou and Christmas Bay to the state's system of coastal preserves.

The Texas Coastal Preserves System was established by agreement between the Texas Parks and Wildlife Department (TPWD) and the Texas General Land Office (GLO) to protect sensitive and unique coastal areas. The commission also adopted management plans for South Bay and Welder Flats, already designated as coastal preserves.

Officials said qualifying state-owned (mostly submerged) lands are leased to the TPWD, and top management priority is given to fish and wildlife resources. Cooperative agreements then are sought with owners of adjacent lands to buffer the preserves from outside harm. The areas are designated "wildlife management and scientific areas" to empower the TPW Commission to make and enforce rules necessary to protect ecological communities in the preserves.

Dr. Larry McKinney, director of the TPWD's Resource Protection Division, told the commission the concept of coastal preserves began in 1987 with discussion among staff members of the TPWD, GLO and conservation groups. The system was approved in 1988.

McKinney said the nominations of Armand Bayou and Christmas Bay were supported by the Galveston Bay National Estuary Program as demonstration projects. "The program also provides funding for studies to demonstrate that such areas can be managed and protected to assure the continued productivity of the estuary," he said. "Similar means could then be developed for all of Galveston Bay, the most productive of Texas estuaries."

Sen. Lloyd Bentsen dedicated the new preserve units on February 24. "You don't need to be an expert to understand that the destiny of the Galveston region is closely linked to the bay," Bentsen said. "The

Galveston estuary has long been a source of life and livelihood for a region encompassing millions of Texans and some of the most important industries and recreational facilities on the Gulf Coast."

Bentsen added, "The General Land Office and Parks and Wildlife Department deserve a lot of credit for taking steps to preserve it. We don't want to turn Galveston Bay into another Lake Erie. We must keep Galveston Bay viable. We must keep it productive. We must become stewards of this resource and manage it in a way that preserves it for our descendants."

Rollin MacRae, TPWD coordinator of the Coastal Preserves Program, noted that the program now includes units from the lower, middle and upper coast, each unique in its own way. South Bay, located at the extreme southern end of the Laguna Madre, is a shallow hypersaline lagoon, densely vegetated with seagrasses and extremely rich in fish and wildlife.

Welder Flats is adjacent to San Antonio Bay, MacRae said. It contains both deep water and shallow flats, intermixed with privately owned islands, marsh and uplands. The area is used by a small flock of whooping cranes during the winter.

Christmas Bay is a relatively isolated embayment with little development pressure at the western end of the Galveston Bay system, while Armand Bayou is a tidal bayou in the Galveston Bay System surrounded by the Houston urban complex, but buffered by 2,500 acres of protected lands.

INSIDE BACK COVER

The red wolf once wandered over a large portion of the southeastern United States. In the 1970s, the last red wolves were captured from a small area along the Texas-Louisiana coast and placed in a captive breeding program, making them extinct in the wild. Now the descendants of those wolves are being returned to the wild. At this time, the Texas Zoo in Victoria is the only place in the state where people can see this endangered animal. Read more about the Red Wolf Recovery Program on page 4. Chief photographer Leroy Williamson photographed this red wolf at the Texas Zoo using an Olympus OM-4, 85-250mm Zuiko lens, 1/60 second at f/5 on Kodachrome 64 film.



Leroy Williamson

These may look like wild turkeys, but they are not. Illegal releases of pen reared turkeys can jeopardize eastern turkey restoration efforts in East Texas.

23 East Texas counties since 1979, with most of the birds being trapped from the wild in other states. The current estimated eastern turkey population in East Texas is about 3,000 birds.

Campo urges landowners and sportsmen to not release pen-raised turkeys.



