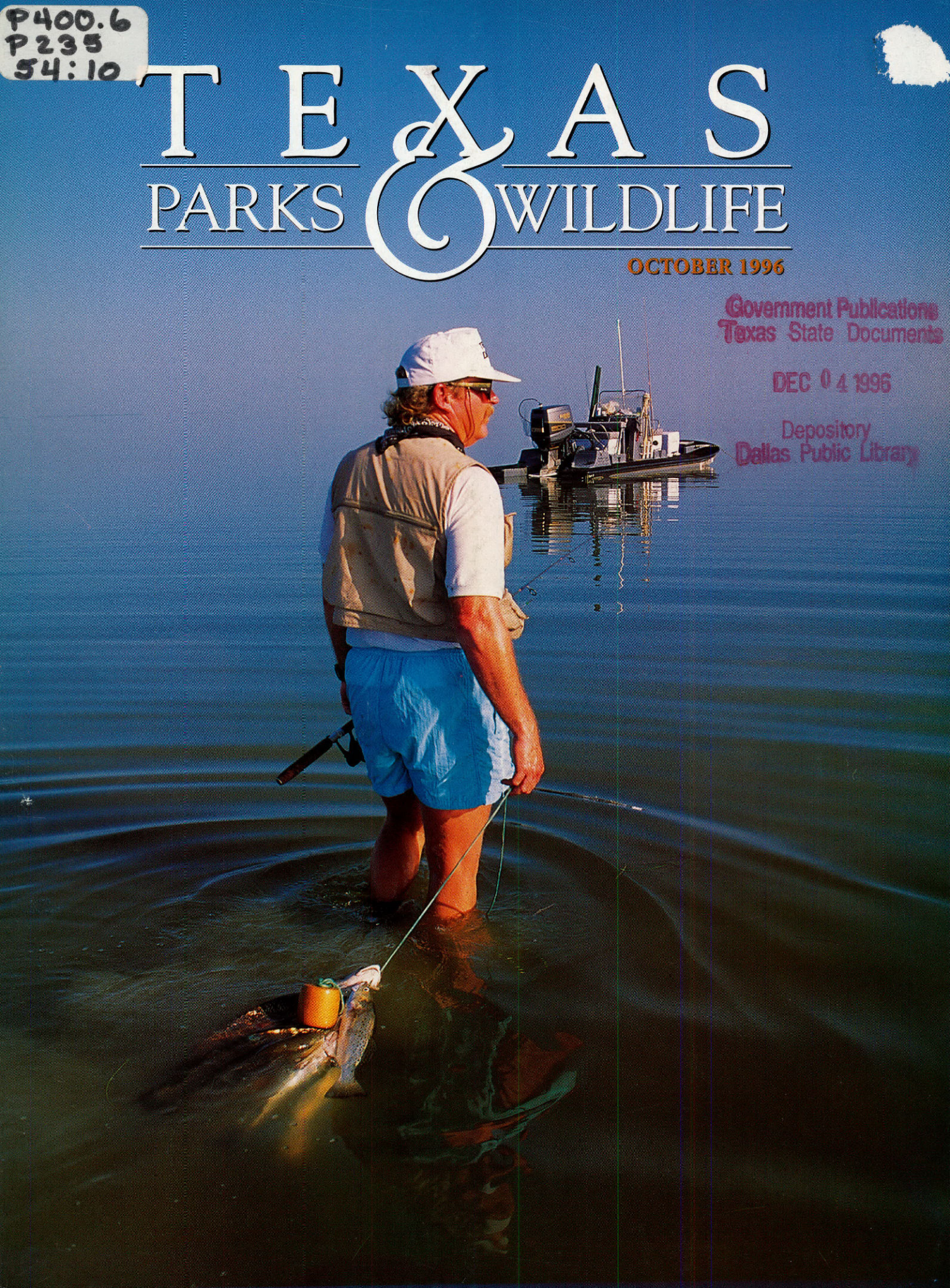
TEXAS PARKS & WILDLIFE

OCTOBER 1996



We wrote a new rule book. Then we bound it in leather.

Dodge Ram is the truck that changed the rules and rewrote the book on full-size pickups. And now it's available in a handsome leather-bound edition.

Countless durability tests have resulted in a leather-trimmed interior that's luxurious, yet stands up to the kind of punishment Ram tends to take. It's more stain resistant and easier to clean than most cloth interiors. And best of all, you'll find it in the roomiest regular and club cabs you can get. In the truck with the largest, most powerful gas engine you can get – the Magnum® V-10 – or the most powerful diesel on the market, the 5.9 liter Cummins.

Dodge Ram boasts the most available payload and towing, too. And when you consider that for the past two years Ram has received Strategic Vision's Total Quality Award™ for "Best Owner Experience" in a full-size pickup†...well, you're bound to like it. Leather or not. For more information call 1-800-4-A-DODGE. Or visit our Web site at http://www.4adodge.com

†Won Strategic Vision's 1995 and 1996 Total Quality Award™ in its class. Based on Strategic Vision's 1995 and 1996 Vehicle Experience Studies™ of 31,440 ('95) and 35,652 ('96) Oct.-Nov. new vehicle buyers of 170+ ('95) and 200+ ('96) models after the first 90 days of ownership.

America's Truck Stop The New Dodge

AT ISSUE

In September we stood on the cliffs at a place called Cinco Tinajas in Big Bend Ranch State Park. Normally, the five desert pools that give this spectacular site its name are reflections at the bottom of a deep gorge. On this day, however, thanks to autumn rains, the chasm had become a reverberation chamber amplifying the rush of floodwaters in the desert evening.

Throughout our magnificent system of state parks and wildlife management areas, magic moments such as this aren't experienced by most of the people who visit these places because they occur in the off-season. I never will forget the first time I saw whooping cranes at Matagorda Island. The October day was wet and cold enough that you had to button up pretty tight to stay halfway comfortable. But the memory of the pageantry of the regal white birds in stark contrast to the slate sky and tawny gulf cordgrass makes me want to be back out there right now, and the brisker the better.

So it is that every year about now, the waters come to the desert in west Texas and the haunting cry of the most famous endangered creatures in the world herald the annual procession of millions of living things that make their way to Texas.

As our stories in this issue on birding in the Rio Grande Valley and the migration of the monarch butterfly portray, some of the most spectacular outdoor experiences in Texas occur at times when the crowds are gone. In addition, fall and winter can actually be the most comfortable times to be outside in Texas. Finally, you'll find prices generally lower at Texas state parks and every dollar that you spend, winter or summer, contributes to the Texas economy and is reinvested directly into conservation and outdoor service for you.

So this year, as it gets cooler in Texas, you may get lucky and see a wintering bald eagle snatch a fish from a Texas lake or even observe the stately courtship dance of the whooper, which has occurred each year in our marshes for millennia. And chances are, you will have the comfort and serenity that comes from having the place to yourself.

ANDREW SANSOM, *Executive Director*

IN NOVEMBER

© PAULETTE OWENS

Deer hunters say rattling up a big buck is one of the most exciting aspects of the sport. In the November issue we'll whet your appetite for the upcoming deer season with some tips on antler rattling.

GHOSTS OF THE LOWLANDS

Woodcocks are shy, secretive and mysterious to the general public; but then, so are woodcock hunters.

LAKE TEXANA STATE PARK

A wooded oasis on the grassy Coastal Plain, Lake Texana State Park near Edna offers a full card of activities, including wildlife watching, camping and fishing.

TAKING CARE OF ROVER

Just like human athletes, hunting dogs need care and conditioning to be ready for the hunting seasons.

A CALL TO HORNS

A new study casts some light on antler rattling techniques and timing that get the best results.

TEXAS'S FIRST DEER HUNTERS

Before Anglo colonists arrived in Texas, Native Americans used a variety of creative hunting techniques for white-tailed deer.

TEXAS PARKS & WILDLIFE

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© WYMAN MEINZER

PAGE 18

© GEORGE HOSEK

PAGE 32

© LARRY DITTO

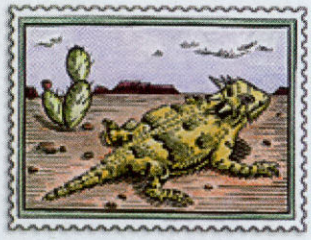
PAGE 40

DEPARTMENTS

COVERS

Front *A Laguna Madre wadefisherman heads back to his boat with a string of spotted seatrout. See wadefishing story on page 32. Photo © Grady Allen, Nikon F4 camera, Nikkor 28-70mm lens, f8 at 1/125 second, Fuji Velvia 50 film.*

Back *Monarch butterflies that migrated from the United States and southern Canada cluster on tree limbs at their central Mexico wintering area. See story on page 24. Photo © William H. Calvert, Nikon 35mm camera, 55mm Nikkor 3.5 lens, f8 at 1/60 second with flash, Kodachrome 64 film.*



Sorry, La Grange

In the article "Fishing the Pressure Cooker," about Lake Fayette (August) we incorrectly identified Fayetteville as the county seat of Fayette County. La Grange is the county seat, and we apologize to both cities.

Seasickness

"The Old Heave-ho" in the July issue was very interesting and informative, as many of your articles are.

The paragraph that dealt with over-the-counter and prescription medications should have added that, as with any medication, there are potential side effects. Meclizine and Dimenhydrinate, mentioned in the article, can cause mild to severe drowsiness, which can decrease a person's alertness and, in some cases, grossly impair judgment.

Also, the scopolamine patches no longer are available by prescription.

Hard peppermint candies are another home remedy to try. They're inexpensive and work great.

Don F. Thomas, R.N.
Dayton

Author Melissa Maupin: "The scopolamine patch, Transderm Scop®, manufactured by Ciba Consumer Pharmaceuticals, was available at the writing of this article but not at its publishing date. According to the manufacturer, 'during recent testing of finished Transderm Scop® production, a variance from the manufacturing quality standard was detected, which may have resulted in a reduced product efficacy, not product safety. [In other words, the product may not have been powerful enough to produce the desired effect.]' Products already on the market are not affected. Ciba is working to resolve the problem and plans to make the product available again by the first quarter of 1997.

"I guess, until that time, boaters either will have to try some of the other cures and medications mentioned in the article or find a big tree to sit under."

Getting What You Pay For

I would like to say "cheers" to Roger Carter, whose letter appeared in the August issue. Regarding the price increase for the Texas Conservation Passport, he hit the nail square on the head when he said, "Those who complain...don't appreciate."

I've been visiting state parks ever since I can remember, but being a full-time college student with a job, I can't go as often as I would like. But even if I can go only four or five times a year, I still will continue to buy the Conservation Passport. (I also just renewed my subscription for two more years.)

I'm not a rich man, but I believe in "user pay." Society cannot continue to look to government or private industry for funding. If park visitors expect any kind of development, enhancement or cleanup of the lands we hold dear, we must be the ones to supply financial support. Our children and grandchildren are counting on it.

Jason W. Owen
Burleson

Statues

"A Hero's Birthplace" in the July issue was interesting, but the following statement is incorrect: "Just beyond the theater, a statue of Zaragoza—the only statue of a Mexican hero in the United States—casts a commanding gaze over the rolling countryside."

Zaragoza's statue may cast a commanding gaze, but he is not the only Mexican hero so honored in the United States—maybe in Texas, but not in the United States. In downtown Tucson, Arizona, there is an imposing equestrian statue of Francisco (Pancho) Villa. Granted, he may not be a solid choice of a hero for all Mexicans, but he did capture the admiration and respect of large numbers of Mexicans as well as many Americans. Just why his statue is in Tucson (he never set foot in the town) is something of a mystery.

In El Paso, a city Villa often visited, he is regarded both as a hero and a villain. There is a project underway in El Paso to erect 12 statues to honor significant people who left their mark on the area. Whether or not to include Pancho always stirs up a hornet's nest.

Clinton P. Hartmann
El Paso

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To manage and conserve the natural and cultural resources of Texas for the use and enjoyment of future generations.

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ABC AUDITED

I would like to point out that a statue similar to the Zaragoza statue mentioned in the article is in the Main Square of Laredo, Texas. Also, in Washington, D.C., there is a statue of Benito Juárez, president of Mexico while Zaragoza was fighting the French. There is another statue of Juárez in Crystal City, Texas, and I am pretty sure there must be others in the U.S.

Dr. José Juan de Olloqui
Coyoacan, Mexico

Middle Ground

I have subscribed for about 10 years now and always enjoyed the magazine, particularly the vivid photography. Over the years I have noticed the conflict between the hunters and the anti-hunters over the content. I must say the editors appear to be doing a fine job of staying on the middle ground and satisfying both groups.

It has frequently occurred to me that the role of the magazine should be to educate and guide Texans about the state's resources. Then each individual can best decide how he wants to enjoy those resources. Why doesn't the magazine have more stories on wildlife and game habitat, life cycles, food preferences, supplemental feeding, land management etc ? That way, whether hunter, photographer or wildlife watcher, each person can increase his success at his chosen endeavor.

Before closing, I want to thank you for the great coverage and photos of the Texas Panhandle region. I was raised on the Gulf Coast, but have lived in the Northern Panhandle for nearly 10 years. It's nice to see your magazine show the rest of the state the beauty and diversity of the Panhandle. I can attest that most South Texans really do not know much about it.

Jim Elzner
elznerjf@xit.net

Texas Parks & Wildlife magazine welcomes letters to the editor. Please include your name, address and daytime telephone number. Our address is 3000 South IH 35, Suite 120, Austin, Texas 78704. Our fax number is 512-707-1913.

Letters preceded by this symbol came to us via e-mail. Our e-mail address is: magazine@tpwd.state.tx.us.

We reserve the right to edit letters for length and clarity.

OCTOBER

OCT.: ✹ BAT EMERGENCE TOUR *each Thursday and Saturday, Old Tunnel WMA near Fredericksburg, 210-995-4154*

OCT.: ROCK ART TOURS *each Saturday and Sunday, Hueco Tanks SHP near El Paso, 915-857-1135*

OCT.: INTERPRETIVE HORSEBACK RIDES *second Sunday of each month, Hill Country SNA and Running R Ranch. Call the park at 210-796-4413 or the ranch at 210-796-3984*

OCT. 1-JAN. 15: SQUIRREL HUNTING SEASON IN MUCH OF EAST TEXAS

OCT. 1-FEB. 23: JAVELINA HUNTING SEASON IN CERTAIN COUNTIES

OCT. 2: FATE BELL CAVE DWELLING TOUR, *Seminole Canyon SHP near Del Rio, 915-292-4464*

OCT. 4, 5: PREDATORS—FRIEND OR FOE?, *McKinney Falls SP at Austin, 512-243-1643*

OCT. 4-6: FIFTH ANNUAL TEXAS WILDLIFE EXPO, *TPWD headquarters, 4200 Smith School Road in Austin, with exhibits, activities, demonstrations and more, 512-389-4472*

OCT. 4-6: WOMEN'S WILDERNESS SURVIVAL WORKSHOP, *Meridian SP near Meridian, 817-435-2536*

© LARRY DITTO

Robert and Cecilia Mumford will open the nature trail on their ranch near Mission to visitors during November. See South Texas birding story on page 40.

OCT. 5: CIVILIAN CONSERVATION CORPS COMPANY 817 REUNION, *Mother Neff SP near Belton, 817-853-2389*

OCT. 5: ROMANTIC STARLIGHT EVENING TRAIN RIDE, *Texas State Railroad SHP at Rusk, 1-800-442-8951*

OCT. 5: SIDEWALK ASTRONOMERS, *Dinosaur Valley SP near Glen Rose, 817-897-4588*

OCT. 5: ADULT BACKPACKING, *Colorado Bend SP near Bend, 915-628-3240*

OCT. 5: NIGHT HIKE, *Cleburne SP near Cleburne, 817-645-4215*

OCT. 5, 6: CIVIL WAR REENACTMENT, *Fort Griffin SHP near Albany, 915-762-3592*

OCT. 5, 12: ETHNOBOTANY WALK, *Honey Creek SNA near Bulverde, 210-438-2656*

OCT. 5, 13: ✹ WALKING BIRD TOUR, *Matagorda Island SP, 512-983-2215*

OCT. 5, 19: BIRDING TOUR, *Choke Canyon SP Calliham Unit near Three Rivers, 512-786-3868*

OCT. 5, 19: DINOSAUR WALK, *San Angelo SP at San Angelo, 915-949-4757*

OCT. 5, 20: OUTDOOR DUTCH OVEN COOKING, *Honey Creek SNA near Bulverde, 210-438-2656*

OCT. 6: ✹ BEACHCOMBING AND SHELLING TOUR, *Matagorda Island SP, 512-983-2215*

OCT. 10: DEVIL'S WATERHOLE CANOE TOUR, *Inks Lake SP near Burnet, 512-793-2223*

OCT. 11-20: CELEBRATION WEEK, *Lubbock Lake Landmark SHP near Lubbock, 806-765-0737 or 806-742-1116*

OCT. 11, 12: TEXAS SNAKES, *McKinney Falls SP near Austin, 512-243-1643.*

OCT. 12: NATURE HIKE, *River Legacy Park in Arlington, 817-860-6752*

OCT. 12: WILD BIRD REHABILITATION, *Dinosaur Valley SP near Glen Rose, 817-897-4588*

OCT. 12: ANIMAL REHABILITATION, *Cleburne SP near Cleburne, 817-645-4215*

OCT. 12: "CRITTERS THAT GO BUMP IN THE NIGHT," *Meridian SP near Meridian, 817-435-2536*

OCT. 12: ✹ WALKING TOUR, *Ray Roberts Lake WMA near Denton, 817-627-2970*

OCT. 12: STAGECOACH RIDES, *Fanthorp Inn SHP at Anderson, 409-873-2633*

OCT. 12: BIRDING, *Las Palomas WMA in the Lower Rio Grande Valley, 210-383-8982*

OCT. 12: SIX-MILE HIKE, *Pedernales Falls SP in Bandera County, 210-868-7304*

OCT. 12: ✹ MIGRATORY BIRD TOUR, *Guadalupe Delta WMA near Victoria, 512-576-0022*

OCT. 12-13: ANNUAL FALL ORIENTEERING MEET, *Bastrop SP at Bastrop, 713-484-1391*

OCT. 12-13: "JUSTICE IN THE AFTERMATH" *symposium on WWII war crimes, Admiral Nimitz Museum and Fredericksburg High School, Fredericksburg, 210-997-4379*

OCT. 12, 19: "HUNTERS OF THE NIGHT," *Cooper Lake SP Doctor's Creek Unit near Sulphur Springs, 903-884-3833*

OCT. 12, 19: TRAILER TOUR *of Mother Neff SP near Belton, 817-853-2389*

OCT. 12, 26: PETROGLYPH TOUR, *San Angelo SP at San Angelo, 915-949-4757*

OCT. 12, 26: BAT FLIGHT OBSERVATION, *Devil's Sinkhole SNA near Rocksprings, 210-563-2342*

OCT. 12, 26: PRIMITIVE CAVE TOUR, *Kickapoo Cavern SP near Brackettville, 210-563-2342*

OCT. 16: BUS TOUR, *Big Bend Ranch SP, 512-389-8900*

OCT. 18, 19: WORLD OF EAGLES, *McKinney Falls SP at Austin, 512-243-1643*

OCT. 19: HARVEST SATURDAY *Halloween celebration with hayrides, pumpkin hunts and stories, Big Spring SP at Big Spring, 915-263-4931*

OCT. 19: OTTINE FALL FEST, *Palmetto SP near Gonzales, 210-672-3266*

OCT. 19: BUS TOUR, *Big Bend Ranch SP, 915-229-3416 or 915-424-3327*

OCT. 19: ✹ MIGRATORY BIRD TOUR, *Mad Island WMA near Bay City, 512-576-0022*

OCT. 19: "NATURE'S NATURAL WILD THINGS," *Fort Parker SP near Mexia, 817-562-5751*

OCT. 19: "MURDER ON THE DISORIENTED EXPRESS," *Texas State Railroad SHP at Palestine, 903-723-2896*

OCT. 19: ADULT ORIENTEERING, *Colorado Bend SP near Bend, 915-628-3240*

OCT. 19: MOUNTAIN DULCIMER CONCERT, *Cleburne SP near Cleburne, 817-645-4215*

OCT. 19: MOTORIZED FALL FOLIAGE TOUR, *Caprock Canyons Trailways SP near Quitaque, 806-455-1492*

OCT. 19: FALL TRAIL RIDE AND CAMPOUT, *San Angelo SP at San Angelo, 915-949-4757*

OCT. 19-20: CHEROKEE HERITAGE FESTIVAL, *Caddoan Mounds SHP at Alto, 409-858-3218*

OCT. 19, 26: LOWER EDWARDS PLATEAU ECOSYSTEM WALK AND MUSTANG GRAPE JELLY COOKING, *Honey Creek SNA near Bulverde, 210-438-2656*

OCT. 19, 26: PRESSA CANYON ROCK ART TOUR, *Seminole Canyon SHP, 915-292-4381*

OCT. 20: BIRD IDENTIFICATION TOUR, *Hueco Tanks SHP near El Paso, 915-857-1135*

OCT. 20: FALL '96 ESCONTRIAS INTERPRETIVE FAIR, *Hueco Tanks SHP near El Paso, 915-857-1135*

OCT. 20: ROCK THE RIVER CLEAN CELEBRATION, *Austin, 512-472-3282.*

OCT. 23, 26: "HERB LORE FOR HALLOWEEN: SPELLS AND INCANTATIONS," *Martin Dies, Jr., SP at Jasper, 409-383-0144*

OCT. 25: KISKADEE BUS TOUR, *Bentsen-Rio Grande Valley SP near Mission, 210-519-6448*

OCT. 25-27: THIRD ANNUAL OPEC FISHING

Holiday Gifts for Those Who Love Texas Naturally.

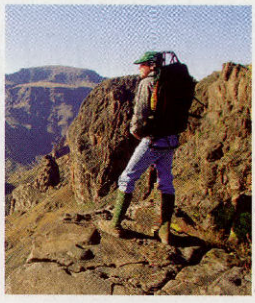
© Richard Reynolds

Give Your Friends a Beautiful Texas Christmas

© Wyman Meinzer

Readers get the scoop on affordable quail hunting along with annual hunting forecasts.

This holiday season, when you give friends and family *Texas Parks & Wildlife* gift subscriptions, you're giving the most natural gift of all — Texas. Wide open, tall cotton, genuine, original Texas. And for only about a dollar a month!



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With a copy of *Texas Parks & Wildlife* in hand, your friends and family will finally know their Big Thicket from their Big Bend, and where to go and what to do all over the state. They'll know what to expect before they get there, because they'll have studied the first-class photography and superior writing that fill the pages of each magazine.

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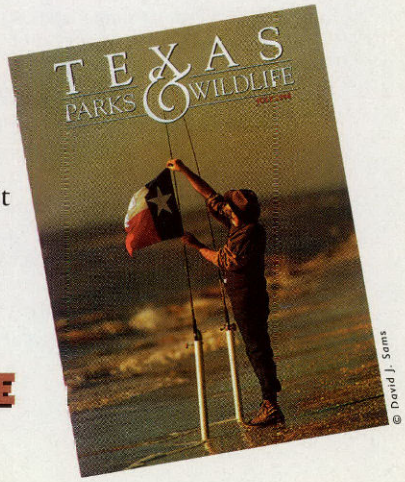

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TOURNAMENT, *Falcon State Park at Falcon Reservoir, 210-848-5327*
OCT. 25-27: "FOSSILMANIA XIV," *sponsored by the Austin and Dallas Paleontological Societies, Somervell Co. Expo Center, Glen Rose, 214-327-9281*
OCT. 25-27: HALLOWEEN SAFETY FEST, *Bentsen-Rio Grande Valley SP, 210-519-6448*
OCT. 26: CELEBRATION OF THE "WEDDING OF THE CENTURY," *of Miss Josephine Magoffin and Lt. William Glasgow in 1896, Magoffin Home SHP in El Paso, 915-533-5147*
OCT. 26: SATURDAY NIGHT MOVIES & POPCORN, *Mother Neff SP near Belton, 817-853-2389*
OCT. 26: HALLOWEEN PANCAKE BREAKFAST, *Stephen F. Austin SHP at San Felipe, 409-885-3613*
OCT. 26: LIVING HISTORY SPECIAL EVENT, *Fort Lancaster SHP near Sheffield, 915-836-4391*
Oct. 26: HAUNTED HALLOWEEN HIKE, *Martin Dies, Jr., SP at Jasper, 409-383-0144*
OCT. 26: KIDS' WILDERNESS SURVIVAL, *Cleburne SP near Cleburne, 817-645-4215*
OCT. 26: MOUNTAIN BIKE RACE, *Caprock Canyons SP near Quitaque, 806-455-1441 or 806-455-1121*
OCT. 26: ✸ MIGRATORY BIRD TOUR, *Peach Point WMA near Bay City, 512-576-0022*
OCT. 26: ✸ BIRDS, *Ray Roberts Lake WMA near Denton, 817-627-2970*
OCT. 26: PALO DURO TRAIL RIDE, *Palo Duro Canyon SP, 1-800-817-0521*
OCT. 26: BIRDING TOUR, *Alazan Bayou, 409-384-5231.*
OCT. 31: HALLOWEEN GHOST WATCH, *Sebastopol House SHP at Seguin, 210-379-4833*

NOVEMBER

NOV.: ROCK ART WALK-ABOUT *each Saturday and Sunday, Hueco Tanks SHP near El Paso, 915-857-1135*
NOV.: LOWER EDWARDS PLATEAU ECOSYSTEM WALK *each Saturday, Honey Creek SNA near Bulverde, 210-438-2656*
NOV.: FATHER OF TEXAS CELEBRATION, *Stephen F. Austin SHP at San Felipe, 409-885-3613*
Nov.: BALD EAGLE TOURS *each Saturday, Fairfield Lake SP near Fairfield, 903-389-4514*
NOV. 1-3: WOMEN'S SMALL BUSINESS WORKSHOP, *Meridian SP at Meridian, 817-435-2536 or 435-6060*
NOV. 2: AQUATICS ADVENTURE, *Honey Creek SNA near Bulverde, 210-438-2656*
Nov. 2: BUS TOUR, *Big Bend Ranch SP, 512-389-8900*
NOV. 2: HALLOWEEN HAYRIDE, *Lake Somerville SP near Somerville, 409-535-7763*
Nov. 2: VOLKSMARCH, *Fort Parker SP at Mexia, 817-562-5751*
NOV. 2: OLD WEST ROUNDUP, *Texas State Railroad SHP at Palestine, 1-800-442-8951*
NOV. 2: FORT LEATON/BIG BEND RANCH SP TOUR, *Presidio, 915-229-3416*
NOV. 2: PARK PROMENADE SQUARE DANCE EXHIBITION, *Cleburne SP near Cleburne, 817-645-4215*
NOV. 2-FEB. 23: STATEWIDE QUAIL HUNTING SEASON
NOV. 2-JAN. 5: WHITE-TAILED DEER AND TURKEY FIREARMS HUNTING SEASON IN ROUGHLY THE NORTHERN TWO-THIRDS OF TEXAS
NOV. 2: NIGHT SKY VIEWING, *Fort Griffin SHP near Albany, 915-762-3592*
NOV. 2: WILDLIFE CALLING TOUR, *San Angelo SP at San Angelo, 915-949-4757*
NOV. 2-3: LIVING HISTORY DAYS, *Fort Stockton, 915-336-8525*
NOV. 2, 9: MESQUITE BEAN AND CACTUS JELLY COOKING, *Honey Creek SNA near Bulverde, 210-438-2656*
NOV. 2, 9, 16: AUTUMN COLOR RUNS, *Texas State Railroad SHP, Palestine, 1-800-442-8951*
NOV. 6, 13, 20, 27: MUMFORD TRAIL AND TREVINO RANCH TOUR, *Bentsen-Rio Grande Valley SP near Mission, 210-519-6448*
NOV. 7-10: ARROYO COLORADO AND RESACA DE LAS PALMAS WMA BIRDING TOURS *in the Lower Rio Grande Valley, 210-519-6448*
Nov. 8-10: PRIVATE GUIDE TRAINING, *Big Bend Ranch SP, 915-229-3416*
NOV. 9: WORLD WAR II REENACTMENT AND ENCAMPMENT, *Texas State Railroad SHP, Rusk, 1-800-442-8951*
NOV. 9: ✸ WALKING BIRD TOUR, *Matagorda Island SP, 512-983-2215*
Nov. 9: WILD BIRD REHABILITATION, *Dinosaur Valley SP near Glen Rose, 817-897-4588*
NOV. 9: COWBOY MUSIC AND POETRY, *Cleburne SP near Cleburne, 817-645-4215*
NOV. 9: PETROGLYPH TOUR, *San Angelo SP at San Angelo, 915-949-4757*
NOV. 9: VOLUNTEER WORK WEEKEND, *Honey Creek SNA near Bulverde, 210-438-2656*
NOV. 9, 23: PRESSA CANYON ROCK ART TOUR, *Seminole Canyon SHP near Del Rio, 915-292-4381*
NOV. 9-JAN. 12: WHITE-TAILED DEER AND TURKEY FIREARMS HUNTING SEASON IN MOST OF SOUTH TEXAS
NOV. 9-JAN. 19: SPECIAL WHITE-TAILED DEER AND TURKEY FIREARMS HUNTING SEASON IN 18 SOUTH TEXAS COUNTIES
NOV. 9-FEB. 23: FIREARMS TURKEY SEASON IN BROOKS, KENEDY AND KLEBERG COUNTIES
NOV. 14: DEVIL'S WATERHOLE CANOE TOUR, *Inks Lake SP near Burnet, 512-793-2223*
Nov. 14, 16: TRAIL RIDE, *Big Bend Ranch SP, 713-486-8070*
NOV. 15: BUS TOUR, *Big Bend Ranch SP, 915-229-3416 or 915-424-3327*
NOV. 16: MAKING CHRISTMAS ORNAMENTS, *Stephen F. Austin SHP at San Felipe, 409-885-3613*
NOV. 16: STARGAZING, *Cleburne SP near Cleburne, 817-645-4215*
NOV. 16: BIKE RIDE, *Choke Canyon SP South Shore Unit near Three Rivers, 512-786-3868*
NOV. 16: STARGAZING, *San Angelo SP at San Angelo, 915-949-4757*
NOV. 16: ✸ BEACHCOMBING AND SHELLING TOUR, *Matagorda Island SP, 512-983-2215*
NOV. 16: PRIMITIVE LIVING SKILLS DEMONSTRATION, *Caddoan Mounds SHP near Alto, 409-858-3218*
NOV. 16: DINOSAUR WALK, *San Angelo SP at San Angelo, 915-949-4757*
NOV. 17: BIRD IDENTIFICATION TOUR, *Hueco Tanks SHP near El Paso, 915-857-1135*
NOV. 22-24: DESERT SURVIVAL WORKSHOP, *Big Bend Ranch SP, 915-229-3416*
NOV. 23-DEC. 8: WHITE-TAILED DEER FIREARMS HUNTING SEASON IN CERTAIN PANHANDLE COUNTIES
NOV. 23: MACEY'S RIDGE HIKE, *San Angelo SP at San Angelo, 915-949-4757*
NOV. 23: TURKEY SHOOT FREETHROW CONTEST, *Choke Canyon SP Calliham Unit near Three Rivers, 512-786-3868*
NOV. 23: FALL FOLIAGE TOUR, *Cleburne SP near Cleburne, 817-645-4215*
NOV. 23-DEC. 8: FIREARMS HUNTING SEASON FOR MULE DEER IN SOME PANHANDLE COUNTIES
NOV. 23, 27, 30: "YESTERDAY'S FRAGRANCE FOR TODAY'S WORLD," *Martin Dies, Jr., SP near Jasper, 409-383-0144*
NOV. 28: VICTORIAN CHRISTMAS, *Starr Family SHP in Marshall, 903-935-3044*
NOV. 28: THANKSGIVING BUFFET, *Indian Lodge in Davis Mountains SP near Fort Davis, 915-426-3254*
Nov. 30: "TWILIGHT STAGECOACH TO FIRESIDES," *Fanthorp Inn SHP in Anderson, 409-873-2633*
NOV. 30-DEC. 15: FIREARMS SEASON FOR MULE DEER HUNTING IN THE TRANS-PECOS

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

✸ The activities marked with this symbol are available to people who have a Texas Conservation Passport, which may be purchased at most state parks, Parks and Wildlife offices, Whole Earth Provision Co. locations in Austin, Houston and Dallas and REI in Austin and Dallas.

Check the Texas Parks and Wildlife Outdoor Annual for hunting season dates in your county. The Outdoor Annual is available wherever hunting and fishing licenses are sold.

Blazing Bike Trails

Bicycling organizations are helping themselves by constructing mountain bike trails in state parks. One of the best is at Tyler State Park, where an 11-mile race course has generated knobby-tire action and spinning turnstiles.

© MICHAEL JAMES

With fall foliage as a backdrop, mountain bike racers round a bend in a race at Tyler State Park, where volunteers have helped build extensive bike trails.

They may not look like the sleek, airy bicycles used for road racing, but nothing on a mountain bike is there by chance. With their knobby, high-traction tires, handlebars upturned like goat horns for pulling and twisting, miniature shock absorbers and tiny clipless pedals, these rugged little bicycles are built for punishment. And as devotees will tell you, a bicycle that has to carry its rider up bumpy 70-degree grades or across axle-deep, muddy ditches has no room for frills.

Tyler's Tommy McAllister is an avid mountain biker and one of the chief planners behind the Tyler State Park mountain bike trail project. He likes to point out that twigs in the face, mud-spattered legs and even occasional spills are all part of the game. "Mountain bikers like their trails technical," he said with a grin.

"From the technical standpoint, the Tyler State Park mountain bike trail is probably the toughest in the Texas tournament series," added Tyler Bicycle Club president Roger Singleton. "We laid out this trail for serious mountain bikers. We also took the time to clean out trash that had been lying around for years. Now lots of people come here to ride the trail just for fun. We plan to add a family biking trail segment in the near future."

The park's 11-mile mountain bike trail was built almost entirely with labor and materials donated by the Tyler Bicycle Club, according to Singleton. Since the trail's completion two years ago, attendance at Tyler State Park has skyrocketed—and not just at scheduled biking events.

Watching contestants whipping single-file around tree-lined switchbacks and rocketing down grades at 20 miles per hour, an environmentally concerned spectator might wonder about the impact of bikes on the park. But Bob Sanford of the Tyler Bicycle Club said environmental impact was considered when the trail was designed.

"We've built bridges over several of the wet areas to keep them from getting wallowed out, and we reroute sections of the trail periodically to allow recovery," Sanford said, pointing out a 50-foot stretch of bridge built entirely by his club. "The club puts in a lot of time keeping the trail maintained in a clean and safe condition."

The challenge of Tyler State Park's bike trail draws mountain bikers from far and wide. Robert "Mac" McNeely of West Monroe, Louisiana, competed in a March 5, 1995, race sponsored jointly by the Tyler Bicycle Club and WSI, a California-based bike manufacturer.

"There's a major-league difference between road biking and mountain biking," McNeely said. "Road biking is a team sport. In mountain biking, it's really biker against nature, one-on-one. The best rider always wins in a

mountain bike race."

As in other competitive sports, off-road bicycling devotees can spend a lot of money on sophisticated, high-tech equipment. Expert-class racers favor very light bicycles built with titanium and magnesium alloy frames, which can cost thousands of dollars. Bryan Seti, promotions manager for Diamond Back bicycles, said "The growing popularity of the sport allows a lot of research money to be invested into mountain bike design."

But not everyone races with the latest space-age equipment. Many mountain bikers begin with what McNeely calls "retrograde," or low-tech, gear. Even differences of sex and age seem to disappear as riders don colorful, friction-reducing slick clothing and goggles. Some wear special nose clips to flare their nostrils for strenuous breathing. NORBA, the North American Off Road Bicycle Association, which certifies local races, requires all competitors to don impact-absorbing helmets.

At the start of a race, the relays of contestants make a wind like a flock of huge birds as they speed to the trail entrance. But at many points along the course the bikers seem to be in slow motion. Grunting and puffing their way up the steepest incline on the Tyler trail, they stand on the pedals as they cross the rough spots. The more experienced racers know not to give in to the seductive exhilaration of the plunge on the downhill side. Treacherous greenbrier vines may wave in the path as if reaching out to draw blood from careless cheeks, and slick polished roots wait to throw unwary riders.

But minor cuts and bruises get little sympathy. "We probably look a little crazy to actually seek punishment like this," McNeely said with a laugh. "But the camaraderie is great—and we have a heck of a good time."

BY VINCE BRACH

For More Information

NORBA, the National Off Road Bicycle Association, publishes an informational pamphlet for newcomers to the sport of mountain bike racing. Write or call them at NORBA, 1 Olympic Plaza, Colorado Springs, Colorado 80909, 719-578-4717.

Your local bicycle shop may be active in mountain bike events and can help you with equipment. Myron and Susie Brown, owners of Bicycle Country in Giddings, are enthusiastic commercial sponsors of NORBA's Texas races. "There were more than 1,000 scheduled events in Texas in 1995," Myron said, "and there are more than 2,000 competitive Texas mountain bikers—not to mention the thousands of other casual and recreational cyclists. If you like to smell the flowers while you're on your bicycle, get out and try a Texas mountain bike trail!"

Tiny Town Hosts Big Bike Race

Mountain bikers queue up for a race at Bluff Creek Ranch near Warda east of Austin.

© MARK S. RUTKOWSKI

Bluff Creek Ranch, located in the small Central Texas hamlet of Warda 60 miles east of Austin, has become the home of Texas's largest mountain bike races over the past four years. The Texas Cup Mountain Bike Finals race will be held in conjunction with the American Mountain Bike Challenge National Finals and the Pan American Mountain Bike Championship there on November 9-10. The National Off Road Bicycle Association (NORBA) has chosen Warda for these prestigious races due to consistently well-run organization and hospitality. Riders and spectators will be coming from all over the nation and western hemisphere to compete on the nine miles of mostly shaded but challenging trail.

One of the most popular spectator and rider sections is "The Bidet," a water trap that allows riders the option of taking the high and dry road or a shorter route through a foot of water. Previous races literally have been won when the faster but definitely wetter route was taken by a pursuing rider who would pass the dry-riding competitor.

The course is good for spectators as it winds tightly through a 200-acre rectangular layout with no point on the course being more than a half-mile from the central finish area. It is designed for high-speed riding through the winding single track that gives the racer a visual perspective similar to the air bike chase scene in the movie "Return of the Jedi." There have been recent additions to the course with well-placed double tracks to allow passing by faster riders at points where congestion may develop.

Family participation is encouraged with a free children's ride and race on November 9. Primitive camping is available for mountain bikers only as well as fishing in two of the stock tanks at the ranch.

Buescher State Park is 23 miles and Bastrop State Park 34 miles from Warda, offering alternate camping venues. The neighboring towns of Giddings and La Grange have several motels for those not wishing to camp. For more information about the race contact Myron Brown at Bicycle Country in Giddings, 409-542-0964. For more information about mountain biking and camping at Bluff Creek Ranch in Warda, call 409-242-5894.

BY PAUL K. NOLAN, M.D

Compact Disc and Cassette to Benefit Parks

Enjoy the sounds of nature while riding in your car or sitting in your living room, and benefit state parks at the same time.

A Dallas company has released an audio compact disc and cassette of nature sounds recorded in Texas, with a percentage of the sales going to Texas state parks. "Exploring Texas State Parks" is a one-hour digital recording featuring a wide variety of natural sounds including Hill Country waterfalls, waves crashing on the beach and bird calls. "We believe that Texas State Parks offer a wide range of natural sounds that reveal their beauty and character," said Heidi Templeton of Kokopeli Productions.

The CDs and cassettes are available at several state park stores. They also may be ordered from Kokopeli Productions, P. O. Box 816211, Dallas, Texas 75381-6211, telephone 888-406-0139, fax 214-620-0811. Compact discs are $14.99 each and cassettes are $12.99 each.

What's Your Favorite Hike?

There are miles and miles of hiking trails that wind through Texas, from the expansive West Texas vistas of the Big Bend region to the thick, green forests of the Piney Woods. Are you an avid hiker? Now's your chance to help choose Texas's 10 best hiking trails.

Write us a letter and tell us about your favorite hiking trail. You even can send in a non-returnable snapshot or two if you have some. We'll tally the votes for Texas's 10 best hiking trails and publish the results, along with a selection of quotes and snapshots, in our May 1997 issue.

Mail your letters to: Hiking Trails, *Texas Parks & Wildlife* magazine, 3000 S. IH 35, Suite 120, Austin, Texas 78704.

Deadline for submissions is December 31, 1996.

Reach Out and Hook 'Em

With this long-distance fishing gear, even the average caster can throw a lure almost into the next area code.

BILL REAVES

Pictured above are three sizes of the "Launcher," a weighted float that allows anglers to cast fly-sized lures or baits up to 100 yards without tangles. Below the launchers are some lures favored by inventor Roger Seiders.

Have you ever stood helplessly on the shoreline, watching schools of game fish slamming shad on the surface about 50 yards beyond your maximum casting distance?

This is an especially familiar lament for those who enjoy fishing in the tailrace areas below dams, but can't quite fling a lure across the channel to that sweet spot, and for surf anglers who would love to be able to cast beyond the third sandbar where a big one is bound to be lurking.

Of course, with a strong rod and oversized lure or lots of lead sinkers a person can muscle a bait pretty far out there. But what if the fish are hitting tiny forage fish and turn their noses up at heavy, fast-sinking lures or bait?

The solution to this dilemma may emanate from an unlikely source.

Roger Seiders, a lanky former school teacher, heads a family-operated rod-building supply manufacturing company at his home in Driftwood, southwest of Austin. His long-distance casting float, simply called the "Launcher," resembles a saltwater popping cork. But when teamed with a nine- or 10-foot graphite rod of the correct action and one of the new wide-spool spinning reels spooled with light monofilament line, the rig allows a person with average casting skills to routinely make 75- to 100-yard casts.

Seiders is quick to acknowledge that the Launcher's design was not entirely his idea. "I was working a tackle show in Houston in the late 1970s when I happened to meet a guy named Lewis Brannen," said Seiders. "We both were interested in long fishing rods for distance casting." Brannen, who lived at Granite Shoals near Lake LBJ, also had experimented with modified popping corks while fishing for white and striped bass below Highland Lakes dams. Retiree Art Di Giovanni, who also lived at Granite Shoals, provided some valuable rigging advice and inspiration before his death in 1995.

"We modified popping corks every way you could imagine, tying the line and leader on various swivel arrangements," said Seiders. "We still had problems with the leader wrapping around the line and the float when we made a cast."

After a great deal of trial-and-error, Seiders and Brannen stumbled onto the correct arrangement. They tied both the line and leader to the top ring of a single swivel on a bullet-shaped, weighted float. With this arrangement they could use a long (five- or six-foot) leader and fling a lure as light as a streamer fly without tangles.

Seiders' ultimate long-distance rig is a 10 1/2-foot graphite rod with whippy action, a wide-spool spinning reel, eight- to 14-pound monofilament line and the largest (five-inch) Launcher that weighs 1 7/8 ounces.

"The good thing about this system is that a person of average casting ability can make up to 100-yard casts with just a little practice," Seiders said. "My father, who is 82, easily casts clear across the Colorado River below Inks Lake Dam." The Launcher also is a tremendous boost for those confined to a wheelchair or with other physical disabilities. In addition, the Launcher is a great way for kids to enjoy fishing success, he believes.

Launchers are available at many tackle stores or by mail from Seiders' factory. While Seiders also builds and sells custom rods designed to cast these prodigious distances, he points out that similar equipment can be found at tackle shops. "Steelhead" type rods used by salmon fishermen in the Northwest, and "popping rods" normally used by coastal trout and red drum anglers, can be adapted to Launcher use if the correct weight and length is selected.

An expedition to the tailrace area below Max Starke (Lake Marble Falls) Dam in May 1995 demonstrated the deadly effectiveness of a well-balanced Launcher rig. Upon our arrival at around 8 a.m., some half-dozen anglers were lined up by a railing adjacent to the main discharge channel, casting into the swift waters.

The anglers were hooking an occasional

white bass, but the action obviously was slow. Brannen, brandishing his 10 1/2-foot Launcher rig, climbed atop a small boulder and with little apparent effort sailed his Launcher and 1/16-ounce white jig clear over the channel, past a concrete abutment on the far side and some 40 yards into the swirling waters of the stilling basin beyond.

We watched the Launcher bobbing along as Brennen began his retrieve. The lure, a torpedo-shaped white jig weighing barely more than a streamer fly, trailed 10 feet behind the red-and-white Launcher. As the lure came out of the stilling basin and crossed a ridge of submerged rocks, a white bass struck. That successful cast was followed by a half-dozen more, each resulting in a fish caught or strike missed.

Having proved his point, Brennen stepped down from his perch and handed the rod over to a bystander to try. Even the more coordination-challenged members of our group eventually managed to work up to nearly 100-yard casts after a few tries.

The casting motion is not the usual quick snapping movement normally used with shorter spinning rods and standard lures. Instead, the rod is gently swung to the rear and then brought forward in one smooth motion, and the Launcher is sent on a high, rainbow arc instead of a line drive trajectory. When the Launcher is a few feet from its target, the caster feathers the reel spool with his index finger for a gentle splashdown. This also allows the leader and lure to stretch out smoothly beyond the Launcher.

While Launcher fishing is keenly adapted to tailrace fishing, it also has a myriad of other applications. It offers a huge advantage in areas where boating is not allowed, such as on some state park lakes. Brannen proved that point on one occasion at Brazos Bend State Park south of Houston, where he caught a 10-pound-plus largemouth bass on a plastic worm tied behind a Launcher. He was able to heave a cast to a mid-lake weedbed that defies fishing with ordinary tackle. Launchers also are useful for boat anglers casting for schooling fish in open waters, where a close approach would spook the school, and for coastal flats waders who often need to make long casts to reach wary redfish.

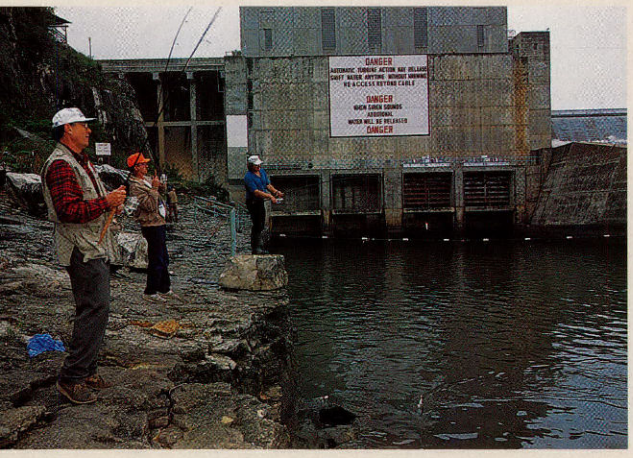
Seiders said he has experimented with some of the new small-diameter monofilament lines, but they failed to perform as reliably as the standard lines manufactured by Stren, Berkeley and others. Although he hasn't tested them, Seiders said some of the new single-strand or braided polymer lines that advertise high strength and small diameter may make even longer casts possible. However, he doesn't plan to change. "The standard monofilaments have a lot of stretch to them, and I think that's important to keep from breaking fish off in the current," said Seiders.

Seiders said in spite of numerous testimonials from satisfied anglers, many still don't realize how a Launcher differs from other terminal tackle. "When they see how much additional water they can cover, and that they can cast lightweight lures and baits 70 to 100 yards, I think they'll get interested pretty quickly," said Seiders, adding that the Launcher "impresses friends, stimulates the user's ego and is just plain fun to use."

To receive a catalog on the various sizes of Launchers, rod building supplies or custom rods, write Seiders at the Flex Coat Co., P.O. Box 190, Driftwood, TX 78619, or call 512-858-7742.

BY JIM COX

Two anglers employ the long-distance Launcher casting technique to hook a pair of white bass below Max Starcke Dam.



BILL REAVES

Dallas Bass Tournament Benefits Fishery Center

Professional bass tournament angler Randy Dearman, who lives at Lake Livingston, apparently found the murky waters of Dallas' White Rock Lake to his liking recently as he and his amateur partner Robin Hilburn won first place in the Texas Black Bass Unlimited (TBBU) Conservation Fishfest fundraising tournament.

Dearman's team not only put together the heaviest string, at 14.31 pounds, but he also set a lake record with an 8.41-pounder.

A total of 12 teams of tournament pros and their amateur partners were joined by more than 100 children who were fishing along the banks of the urban lake for tagged sunfish worth prizes, according to Clell Guest, a Texas Parks and Wildlife Department fishery supervisor from Fort Worth.

The night before the tournament, TBBU hosted a fundraising banquet during which John L. Morris, founder of Bass Pro Shops donated $50,000, half of which will go toward final construction of the TPWD's Freshwater Fisheries Center in Athens.

From past fundraisers, TBBU has donated $103,760 toward construction of the fisheries center and $43,000 to mark the Trinity River channel with buoys on Lake Livingston. Funds raised from this year's TBBU activities will be used for habitat improvement projects being conducted on Lakes Conroe, Livingston and Lewisville in cooperation with the TPWD and the U.S. Army Corps of Engineers' Lewisville Aquatic Ecosystem Research Facility.

Furry Fliers

Few East Texans ever have seen a live flying squirrel, since the secretive rodents confine their remarkable tree-to-tree sailing act to nighttime hours.

Like leaves blown through the trees by a ghostly wind, flying squirrels launch themselves into the night air between the water oaks bordering my Tyler home. As they scamper along the branches overhead in search of acorns, their shrill chittering cries punctuate the darkness. Yet, while these soft-furred, beautiful creatures are plentiful in East Texas—even in cities, as long as there are stands of oak trees—few people ever have seen one alive.

Unlike bats, which have wings and really do fly, "flying" squirrels actually are accomplished gliders. Breathtaking "flights" of 30 meters between trees are not unknown, although shorter distances are the rule. A concealed fold of thin, fur-covered skin stretches between the squirrel's wrists and ankles to form a gliding surface. Launching itself from a tall tree, a flying squirrel relies on its huge eyes and superb night vision, actively controlling its glide with its flattened, rudderlike tail and tacking movements of its wrists. In nature and in captivity, flying squirrels often seem to make games of gliding for the sheer sport of it. As if performing for an audience, a flying squirrel often executes something of an upward turn at the bottom of its glide for a feather-soft "touchdown."

Flying squirrels do not hibernate during the winter, but instead gather in groups of a dozen or more in woodpecker holes, bird houses, and other shelters. Three to four pink, hairless young are born in early spring after a 40-day gestation period. Their development is surprisingly slow compared to other rodents of similar size, but the young must be well-developed when they leave the nest in order to cope with the hazards of "flying." Six weeks after birth, the young squirrels begin to follow their mother out of the nest to forage and soon are making short flights of their own.

Flying squirrels store great caches of acorns, hickory nuts and other durable foods. However, they also are fond of insects, and make short work of the largest katydids with their spearlike lower incisors. These teeth, which show plainly even when the squirrel's mouth is closed, can puncture fingers when the squirrel is defending itself. Many people find these animals so appealing that the urge to keep them as pets is hard to resist, but like all wild things they are better off left wild.

Populations of five flying squirrels per acre are not uncommon, making them more abundant than their conspicuous diurnal relatives. Some warm evening, take the time to watch the oak trees near your home as dusk fades. Concentrate on areas where you hear elfin squeaks, and you may be rewarded with a glimpse of one of nature's more spectacular aerial acrobats.

BY VINCE BRACH

New Funding May Help Save Prairie Chickens

In what amounts to a last-minute effort to save the Attwater's prairie chicken from extinction, the National Fish and Wildlife Foundation has provided a $40,000 cost-share grant for an ongoing captive breeding project.

The Texas Parks and Wildlife Department will match the two-to-one matching grant with $80,000 from other sources, including a contribution by Central Power and Light Co. to the Parks and Wildlife Foundation of Texas and a contribution from the Zoological Society of Houston.

Biologists are locked in a last-ditch effort to save the coastal prairie species, whose numbers dwindled to an estimated 42 birds in the wild earlier this year—a 38 percent decline from 1995. Captive birds being held at four captive breeding sites produced 120 chicks this year, and 78 were released back into the wild during July and August at the Attwater's Prairie Chicken National Wildlife Refuge near Eagle Lake. A portion of the birds were fitted with radio-tracking devices so biologists can monitor the released birds' location, movement and survival.

The TPWD has a long history of involvement in the recovery effort for the species, including conducting annual censuses and cooperative ventures with private landowners to restore habitat.

Responding to inquiries from people who wanted to help, the TPWD launched the Adopt-a-Prairie Chicken program last year, in which anyone can sponsor a chick for one year for $25. All funds support efforts to raise birds in captivity in hopes of reintroducing them into the wild. To contribute, send a check to Adopt-a-Prairie Chicken, Endangered Resources Branch, Texas Parks and Wildlife Department, 3000 IH-35 South, Suite 100, Austin, Texas 78704.

Cedar Hill Birding Day a Big Success

About 200 birding enthusiasts identified more than 100 species of birds during Cedar Hill State Park's First Annual Grand Slam of Birding held during May.

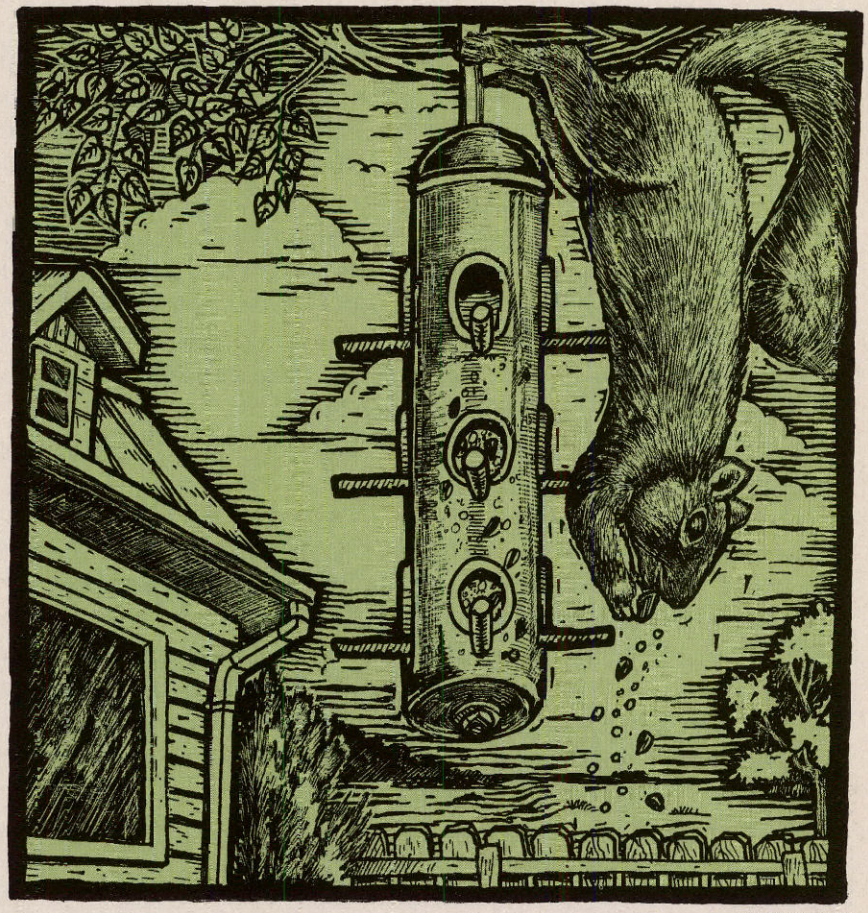
Park Ranger Corey Griffith said the one-day event was organized to focus on the plight of neotropical birds and their habitats.

Griffith said the number of species would have been higher except for high temperatures and gusty winds.

The expert team class was won by the Dallas Audubon Society, whose members spotted 67 species. Tom Peal won the expert singles with 47 species and Rena Lewis was top novice with 45. To find out about next year's event call Griffith at 214-291-5728.

Wanda Blankenship's New Age training didn't prepare her for the angst of squirrel-snaring.

BY EZRA WARD



© GORDON RICKE

Ever since Kevin had bought her the bird feeder, Wanda Blankenship's favorite pastime was sitting at her dinette in the kitchen alcove, watching the birds come and feed on the birdseed she put out for them. Every weekday morning—after Kevin had already left for his job as a Texas Parks and Wildlife Department game warden, but before she had to open her beauty salon at 10—Wanda sat in the alcove contentedly, watching her little avian friends and reading magazines about the latest New Age fads.

These were quiet, peaceful times for Wanda. She had sold Moonsong's three puppies and used the money to replace much of her prized blown glass collection, which had been destroyed in the unfortunate disaster that occurred when she had tried to use an electric breast pump on the giant Saint Bernard. She loved her little blown glass treasures so much that, to make her morning moments perfect, she had moved the etagere that held them into her breakfast alcove.

And then the squirrels came. Wanda looked up one morning from an article she was reading on "alphabiotics" and there was a squirrel, clinging grotesquely to the feeder, which was swinging back and forth on the rope that fastened it to a branch above. The squirrel was stuffing its cheeks with seed and spilling most of it to the ground, where another squirrel greedily gathered it up.

Wanda was outraged. She threw open the window and shrieked at them. "Stop it! Stop it! That's for the little birds!" Startled, the squirrels froze and watched the window intently for a moment; but, perceiving no real threat there, they returned to their thievery.

Wanda then went outside and ran at the squirrels, which succeeded in running them off, if only temporarily. But this act also alerted Moonsong and her Saint Bernard mate, Ariel, to the presence of squirrels in the yard, which had added consequences. Like any dog, the two huge Saint Bernards regarded the intrusion of squirrels into the yard to constitute a major threat to both themselves and the family they protected. They barked uproariously

The next morning, the squirrels returned. This time they took turns climbing down the rope to raid the feeder, while Moonsong and Ariel, helpless to prevent it, barked so noisily that every window in the Blankenship home rattled. Wanda's tranquility was destroyed.

Over a period of several days, she tried everything she could think of to stop the marauding squirrels. She greased the rope; she placed sheet metal around the trunk of the tree; she tried sprinting into the yard repeatedly at the sight of the squirrels, screaming at them while heaving Kevin's basketball in their direction. Nothing worked. The squirrels were relentless.

Wanda became so distraught that, one evening, she broke down and cried on Kevin's shoulder. Kevin responded by swearing an oath to dispatch the squirrels to their final reward with his air rifle. But Wanda refused to permit it. "They're just little furry animals," she wailed, and began sobbing again.

"They're rats with bushy tails," Kevin muttered, but he relented. That's when he proposed attempting to catch the squirrels with a snare. "I used to catch rabbits with a snare when I was a kid," he said. He showed Wanda how to make a snare from stout twine. She stopped crying and felt better, because she had a plan.

"What do we do if we catch one?" she asked.

"I don't know," he said carelessly. "Just let it run around awhile and then turn it loose, I guess. Maybe it will scare them enough that they'll stay away from the feeder." But the truth was that Kevin just wanted to calm Wanda down; he thought there was hardly any chance she would actually catch a squirrel.

The next morning, Wanda crept outside in

the gray light of dawn right after Kevin left, and carefully set her snare right on top of the bird feeder. She ran the twine down to the ground, across the grass and up to a window in her kitchen alcove, where she passed it under the screen and inside. Then she went back in the house and took her seat at her dinette with a cup of coffee in one hand and the piece of twine in the other.

She didn't have long to wait. Before her first cup of coffee was half gone, a squirrel began inching down the rope toward the feeder. She waited until it squatted atop the feeder and reached toward the seed, then yanked her end of the string. The snare worked perfectly, drawing taut around the squirrel's middle.

"Gotcha!" Wanda yelled exultantly.

The startled squirrel leaped to the ground and ran in panic this way and that, its progress stopped each time when it reached the end of the length of twine. Standing in her alcove, Wanda held tightly to the string and played the squirrel like an angler playing a big fish. It was a comical sight and Wanda giggled until she was out of breath.

But then she began to wonder what to do next. She couldn't just let the squirrel loose, leaving the twine on it; but she couldn't think of how to get it off, either. Holding on grimly with one hand, she used her free hand to pick up the telephone and dial the Blue Plate Cafe, where she knew Kevin was having breakfast.

"Well, Mr. Smartypants," she told her husband when he came on the line. "What am I supposed to do with this squirrel now that I've caught it?"

"You caught one?" Kevin asked incredulously.

Wanda started to respond, but before she could speak, Ariel rounded the corner of the house in the yard, spotted the squirrel, and charged, barking loudly. "No!" Wanda screamed, fearing the worst and dropping the telephone receiver.

Trying to pull the squirrel to safety, Wanda began yanking in the twine as rapidly as she could. The squirrel obliged by racing straight toward her, leaping into the air and landing right on the screen, with Ariel in hot pursuit.

Without a thought, Wanda unlatched and opened the screen window just as Ariel rose on his hind legs to snap at the frenzied squirrel. With Wanda pulling on the twine, the squirrel was pulled to the edge of the screen and, spying the opening and seeming safety inside, it leapt into the kitchen alcove.

Waiting for it was Moonsong, who had been dozing in the living room but was drawn to the alcove by all the ruckus. Moonsong roared and charged at the small gray intruder, who nimbly sprang onto the middle shelf of the etagere holding the blown glass collection.

Wanda, who had dropped the string, had only time to gasp and clap both hands to her face before Moonsong hit the etagere with explosive fury, toppling it and scattering glass figurines everywhere. "No! No!" Wanda wailed as the etagere and its contents crashed to the floor.

The squirrel, meanwhile, darted out of the kitchen, raced down the hall and dove under Wanda and Kevin's bed. It was still there when Kevin burst in through the front door a moment later to find out what was happening. After comforting a weeping Wanda for the second loss of her blown glass collection, he put on heavy gloves, gathered up the hapless squirrel, and released it outside.

Kevin got rid of the bird feeder and replaced it with a hummingbird feeder, which the squirrels left alone. Soon, Wanda once more enjoyed her mornings in her little kitchen alcove. And there on the etagere were the beginnings of her third effort at a blown glass collection, this one financed by the sale of two of Kevin's favorite hunting rifles. She had objected, but Kevin insisted; he said it was the only way he could assuage his guilt, since snaring the squirrel had been his idea.

If you have an outdoor story you'd like to share with Ezra Ward, jot it down and send it to his attention at Texas Parks & Wildlife magazine, 3000 South IH 35, Suite 120, Austin, Texas 78704.

But don't be surprised if it looks somewhat different if Ezra decides to use it and you see it in print through the lives and adventures of his characters. Ezra and the folks in Three Corners, after all, have their own way of looking at things.

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CORPUS CHRISTI KEDT, Ch. 16	Thursday 7:30 Friday 11:30
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EL PASO KCOS, Ch. 13	Sunday 6:00
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SEPTEMBER 29–OCTOBER 6: Making history come alive; the science of trail building; High Plains game wardens.

OCTOBER 6–13: Birding in the Rio Grande Valley; a fishing tournament where every kid is a winner; historical Roma on the Texas–Mexico border.

OCTOBER 13–20: How many visually impaired people are enjoying the outdoors; a woman who's made a career of collecting shells; mountain lions.

OCTOBER 20–28: Los Caminos Reales; coyotes; how game wardens enforce laws in the woods.

RADIO SCHEDULE

PASSPORT TO TEXAS
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Join Joel Block weekdays for a 90-second journey into the Texas outdoors on "PASSPORT TO TEXAS." Kathleen Jenkins, Producer

Check this listing for a station near you.

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AUSTIN / KUT-FM 90.5 / 1:58 p.m.; 12:58 p.m. (F)
Austin *American-Statesman's* Inside Line 512-416-5700 category 6287 (NATR)
BIG SPRING / KBST-AM 1490 / 7:35 p.m.
BRENHAM / KWHI-AM 1280 / 6:50 a.m.
BRYAN / WTAW-AM 1150 / 5:45 p.m.
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COLUMBUS / KULM-FM 98.3 / 7:20 a.m. & 5:20 p.m.
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CROCKETT / KIVY-FM 92.7 / 5:15 p.m.
EAGLE PASS / KINL-FM 92.7 / 7:15 a.m.
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EL CAMPO / KULP-AM 1390 / 2:05 p.m.
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GALVESTON / KGBC-AM 1540 / 1:45 p.m.
HARLINGEN / KMBH-FM 88.9 / 4:58 p.m.
HEREFORD / KPAN-AM 860 & FM 106.3 /2:50 p.m.
HILLSBORO / KHBR-AM 1560 / 9:30 a.m.
HOUSTON / KTRH-AM 740 / 10:40 a.m.
HUNTSVILLE / KYLR-AM 1400 / 9:30 a.m. & 5:26 p.m.
JACKSONVILLE / KEBE-AM 1400 / 7:25 a.m.
KERRVILLE / KRNH-FM 95.1 / 9:57 p.m.
KILGORE / KHYM-AM 1060 / 10:00 a.m. & 1:00 p.m.
LA GRANGE / KVLG-AM 1570 / 5:45 p.m.
LA GRANGE / KBUK-FM 104.9 / 5:45 p.m.
MARSHALL / KCUL-AM 1410 & FM 92.3 / 7:15 a.m.
MCALLEN / KHID-FM 88.1 / 4:58 p.m.
MIDLAND / KCRS-AM 550 / 6:43 a.m. & 1:43 p.m. & 6:43 p.m.
MINEOLA / KMOO-FM 96.7 / 5:20 p.m.
MONAHANS / KLBO-AM 1330 / 8:50 a.m.
PECOS / KIUN-AM 1400 / 10:30 a.m.
ROCKDALE / KRXT-FM 98.5 / 5:04 a.m.
SAN ANGELO / KUTX-FM 90.1 / 1:58 p.m.; 12:58 p.m. (F)
SULPHUR SPRINGS / KSST-AM 1230 / 11:15 a.m.
TEMPLE / KTEM-AM 1400 / 8:46 a.m.
TEXARKANA / KCMC-AM 740 / 12:15 p.m.
UVALDE / KVOU-AM 1400 / 7:18 a.m
WEATHERFORD / KZEE-AM 1220 / 6:30 a.m. & 8:10 a.m. & 5:15 p.m.
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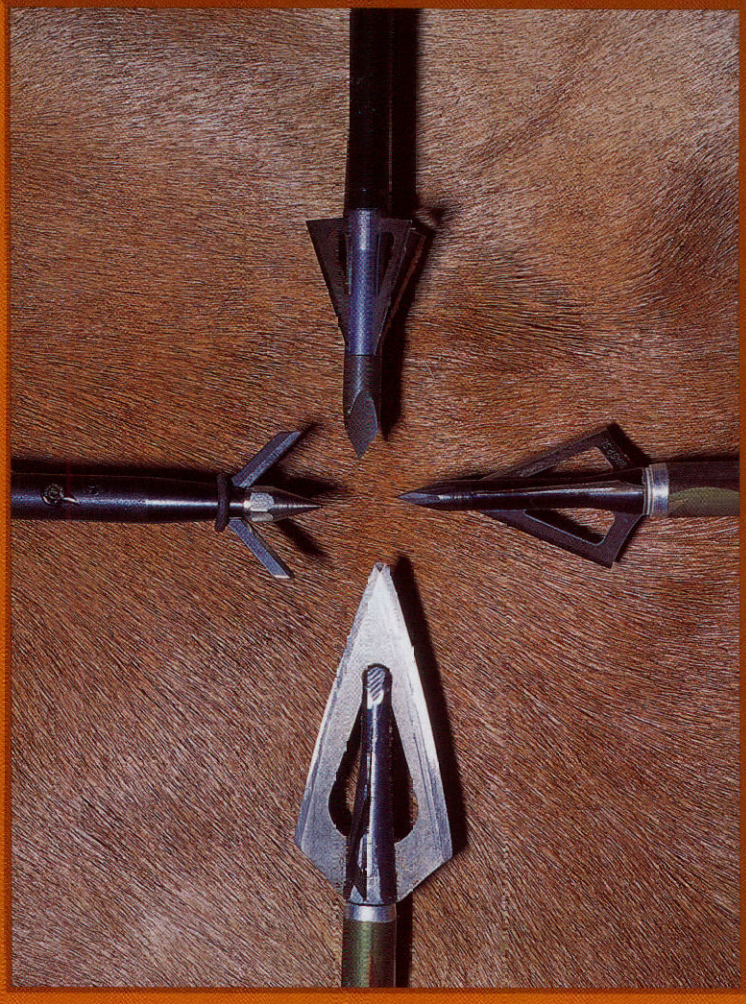
FULL DRAW ON



THE PLATEAU

© WYMAN MEINZER

Bowhunters believe their way of hunting white-tailed deer is the most rewarding, and most agree that the Edwards Plateau, with its brushy hills and valleys, is the best place to do it.

by Larry D. Hodge

© GRADY ALLEN

It isn't always this easy, but a little woodsmanship combined with camouflage clothing can result in a surprisingly close shot at a big whitetail buck.

If you've ever dreamed of hunting white-tailed deer with stick and string instead of a high-powered rifle, now is the time, and Texas is the place. Archery equipment never has been more accurate or easier to use, bowhunting has gained widespread acceptance and Texas offers the nation's largest deer herd as quarry.

The Edwards Plateau stands out as a bowhunter's dream. Since a bow has an effective range of only 25 yards or so, archers either must develop extraordinary hunting skills or have a plethora of potential targets in order to be successful. The Edwards Plateau's estimated 1½ million whitetails means bowhunters there have the opportunity to see more deer, and have more possible shots, than perhaps in any other place on earth.

A TPWD bowhunting study conducted during the 1990 season confirmed that the Edwards Plateau—commonly referred to as the Hill Country—is Texas's premier place to archery hunt. While the statewide success rate for bowhunters was 18 percent, bowhunters in the Edwards Plateau scored an impressive 25 percent rate.

Bowhunters took an estimated 5,700 deer in the Edwards Plateau in 1990. Compared to the near 200,000 deer killed in the region by gun hunters, that figure seems insignificant. The amount of sport and enjoyment derived from bowhunting, however, is out of all proportion to the number of animals harvested. A bowhunter's vehicle could well sport a bumper sticker reading, "Bowhunters Have More Fun."

In large part, that heightened enjoyment springs from a paradox: bowhunters fail far more often than they succeed. Therefore, they must hunt longer and more often in order to kill a deer. The challenge of bowhunting is what appealed to bowhunter and outfitter Wyatt Birkner of Uvalde, who serves on the executive council of the Lone Star Bowhunters Association. "I took up bowhunting because I like to hunt," Birkner said. "I had gotten to the point where I could end my deer season in a day or two with a rifle. But I like to spend time in the woods and watch animals, and bowhunting lets me do that." In truth, bowhunting forces the hunter to spend more time in the woods, because even the most experienced bowhunter will trudge back to camp empty-handed most of the time.

A major benefit of bowhunting is the knowledge gained about animal behavior. "I've learned a lot about how vocal whitetails are," Birkner said. "When you are bowhunting, you may be close to eight or 10 animals, and you learn to understand the signals they send each other."

Those signals may be the key to bowhunting success. While many bowhunters dread being surrounded by several animals at the same time, fearing that multiple sets of eyes will detect any motion, Birkner welcomes such situations. "I want lots of animals around, because they will watch each other instead of you," he revealed. "When a group of does comes in, for example, pick out the alpha doe. She'll be the one in charge. If another group comes in, the two alpha does will decide which one is dominant. You only have to watch those two to know what's going to happen. Then bucks will start showing up, the younger bucks first. One young buck will dominate the rest. Watch him. When he lowers his head and puts his tail between his legs, get your bow ready, because the boss buck is coming in."

Making the decision to draw on a big buck perhaps is the most nerve-wracking part of bowhunting, because it is then that almost everything can go wrong. You may move too much or too fast and be spotted. Your bow or seat may squeak. The arrow may fall off the rest and clatter against the riser. The whisper of bowstring against cloth may spark a stampede. It's at this juncture that Birkner feels bowhunters can use knowledge of deer behavior to great advantage.

"A dominant buck acts like he has a force field around him," he said. "Other deer may see you and run, but he won't. He'll see deer run away and think, 'I ran

them off.' This holds true only for dominant bucks and only if the deer that bolt do not blow, but the point is that you do not have to worry about spooking the deer. Just watch the one you want to shoot and take care not to let it see you."

Doe behavior also sends out cues to the bowhunter. "When a dominant doe lowers her head and puts her ears back, there is about to be a confrontation," Birkner said. "That's the time to draw and shoot, because all the deer will be paying attention to her. You can get away with almost anything."

Most of the time, however, whitetails let the hunter get away with nothing. "The number-one reason hunters tell me an animal got away is, 'My bow only squeaked a little,'" Birkner laughed. "Bowhunters are at such close range even the rustle of a sleeve when you draw the bow can frighten deer. You must be absolutely silent."

Birkner also advised that hunters give whitetails credit for their intelligence. "They pattern us faster than we pattern them," he suggested. "They know when we're hunting and when we're in camp. If you want to succeed, do things other hunters on the place aren't doing. If most of them are hunting from tree stands, hunt from the ground. Sleep in, and go hunting when everybody else returns to camp at midmorning."

Some bowhunters think that when November arrives it's time to hang up the bow and quiver and break out the rifle. Many, however, prefer to continue bowhunting right through the end of the season. Perseverance and patience can pay off, especially if the bowhunter tailors hunting techniques to match the monumental changes wrought in buck behavior by raging hormones.

"I used to live near Bay City, and deer there started the rut cycle in September," Birkner said. "You could rattle for bucks when bow season opened in October. In the Hill Country, you can rattle by the end of October, and South Texas picks up near the end of November. The late pre-rut is the easiest time to rattle up a mature buck, because he won't be with a doe. Later in the rut you are more likely to rattle up a young buck, because the older ones are with does."

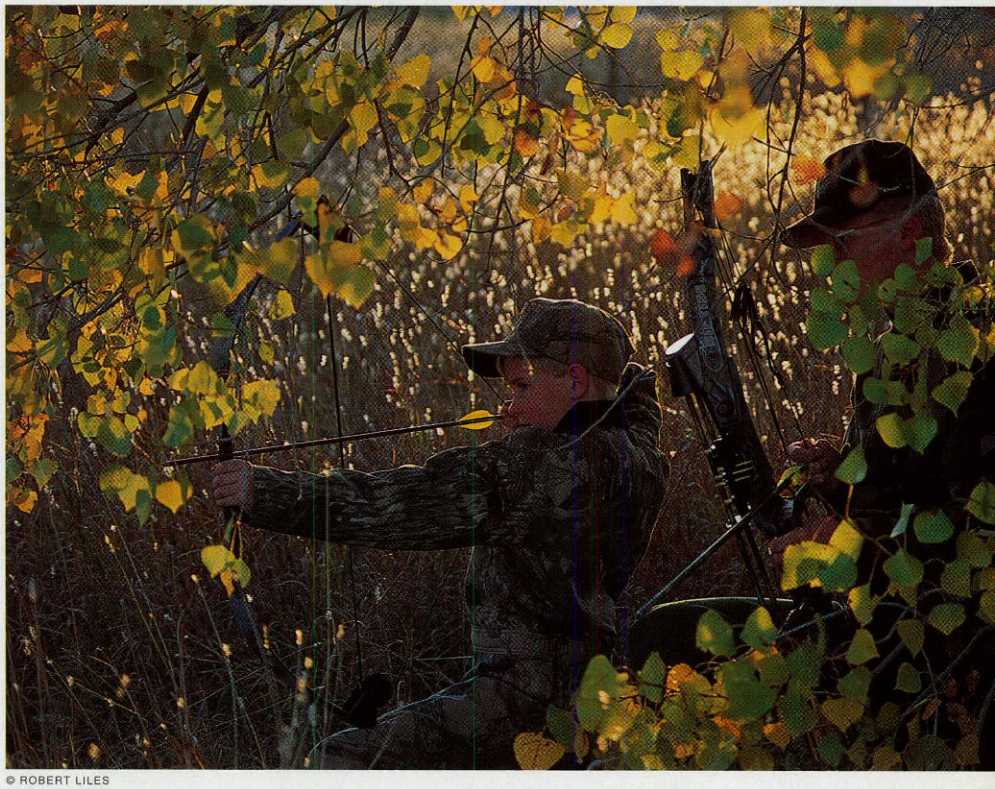
October hunting strategies in the Hill Country should take into account what bucks are most interested in during that time: food. "Bucks are fairly active during this early pre-rut period," Birkner said. "They are feeding more than normal to fatten up for the coming rut. You need to hunt prime food sources, mainly oak trees. The Lacey and white oaks are the preferred species. If there is a good acorn crop, deer often will refuse to come to corn feeders."

Come mid-November, Hill Country bucks go into the rut. Behavior patterns change radically, and an area that once was flushed with bucks suddenly may be barren. "Hunt where the does are, not where you had been seeing bucks," Birkner said. "I'd rather have six does out in front of me than a corn feeder. They are the best bait there is."

During the actual rut Birkner prefers to use grunt calls to attract mature bucks. "If a buck is with a doe, and he hears you grunt, you are too close for him to tolerate, and he may respond and give you a chance for a shot," Birkner said. "It's the most exciting way I know of to hunt."

In December deer behavior changes again as the rut tapers off in the Hill Country. The bowhunter needs to change hunting strategies as well. "Go back to hunting food sources," Birkner advised. "The bucks will be run-down and will be feeding. At this point they won't move far from bedding areas, and you need to hunt food sources near those spots where they like to stay."

Perhaps the most important thing you can do to improve your whitetail hunting is to practice hunting and shooting skills year-around. "Years ago, I tended to be an October-only bowhunter," Birkner said. "I was mildly successful, but I didn't consider myself to be very dangerous." Now Birkner hunts small game in the off-season and shoots in 3-D archery tournaments, sometimes wearing his hunting gear and always using the equipment and techniques he hunts with. "It helps to make things happen the same way they will in the woods," he said. "Even in tournaments, for example, I try to make no noise when nocking an arrow."



© ROBERT LILES

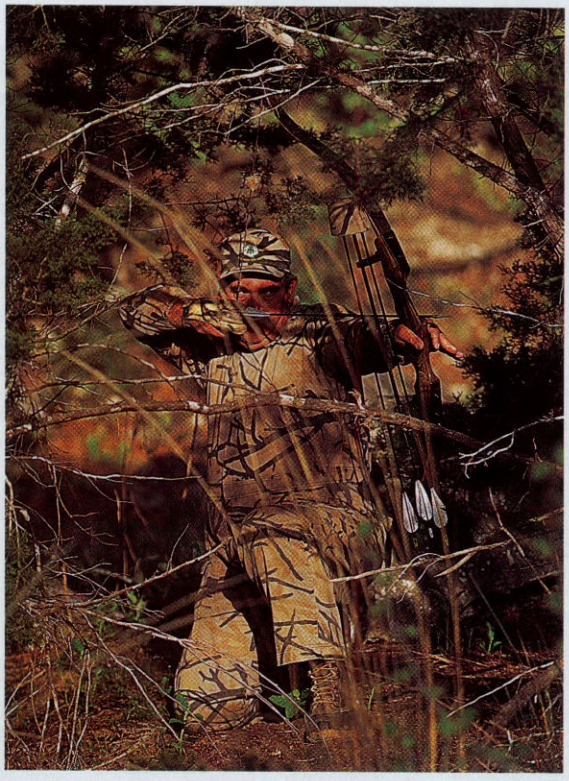
Modern compound bows use a system of pulleys to lessen the force required to hold the bow at full draw, making it easier for youngsters to use them.

Birkner has been bowhunting for 31 years, and while he now hunts only does and mature bucks, he has killed only one Pope and Young record book-quality buck in that time. He prefers to hunt the Hill Country's abundant bucks rather than Brush Country monsters for a reason that has everything and nothing to do with hunting.

"I like to hunt the Hill Country because it is beautiful and is a challenge to hunt," he said. "I don't trophy hunt *per se*. I hunt for fun situations. I think bowhunters need to remember that we started bowhunting because we wanted more challenge and more fun. Sometimes we turn hunting into a job by trying to kill a Pope and Young buck. Just enjoy yourself, and the trophy bucks will come." ★

LARRY D. HODGE of Mason has been bowhunting for only four years but has made several decades worth of mistakes.

Many bowhunters such as Wyatt Birkner of Uvalde, below, are going back to the practice of using recurve bows, often without sights or other accessories, to make the hunt more sporting.



© LARRY D. HODGE

TOOLING UP

While Wyatt Birkner has hunted with compound bows with speed cams, peep sights and all the bells and whistles, he has concluded that simpler is better and now shoots a recurve. "It's fast and easy to shoot," he said. "I shoot instinctively [without sights], and it's the best tool for the job for me. However, a compound bow can be super. It's like a magnum rifle. Properly used, it can deliver power I can only dream of with a recurve. But I think most hunters have too many aids—sights, releases and so forth-and these things actually become a hindrance to hunting," he said.

"The emphasis on fast bows causes problems, too," he added. "A fast bow tends to be noisy, and even an arrow traveling 300 feet per second still is going only a quarter the speed of sound." Whitetails have a reaction time somewhere close to zero and can actually "jump the string" and duck under an arrow fired from just 15 yards away.

A compound bow with sights probably is the best bow for a beginner, however, because it offers accuracy and power coupled with a short learning curve. Many hunters begin with a compound and, after honing hunting skills, regress to a recurve or longbow for the same reason rifle hunters become bowhunters: it's more of a challenge.

While speedy and expensive bows take center stage, Birkner believes the single most important piece of equipment the bowhunter has is mounted on the business end of an arrow: the broadhead. "Pick the best broadhead and tune your equipment to shoot it, rather than pick an arrow for speed and then look for a broadhead," he advised. Birkner is fanatical about broadhead sharpness. "The sharper the broadhead, the shorter the blood trail," he said. Birkner hones his broadheads successively with 300-, 600- and 1,000-grit knife sharpening stones and then strops them on leather lubricated with oil.

While many people believe a broadhead that will shave is sufficiently sharp, that does not satisfy Birkner. "Hold a rubber band taut, not stretched tight, between thumb and forefinger, and slide your broadhead between its strands," he said. "If it will cut the rubber band, it will cut blood vessels—they have about the same elasticity."

As far as the rest of his gear is concerned, Birkner always wears rubber-soled boots to avoid leaving scent. He is not sold on cover scents. "Most animals have smelled every commercial cover scent available," he said. "I try to be as clean and scent-free as possible. I use baking soda on my clothes and may rub an aromatic plant from the area on my clothes. I do like the scent eliminator sprays. I don't think they totally do away with your scent, but they make it weaker, and the animal may think you are farther away than you are or have left the area." Birkner also leaves his leather belts and wallet, which absorb sweat and scent, in the hunting camp.

As for attractants, Birkner will use a tarsal gland taken from a buck killed on the ranch where he is hunting. "Deer know each other by scent as well as we know each other by sight," he said. "A buck has probably smelled the buck the gland came from, and he may investigate."

While new camouflage patterns appear on the market as regularly as post oaks drop their leaves in the fall, Birkner does not rush out to buy every new offering. "Good camo is very important," he said. "I like the ones that tend to be 'nothing'—sticks and limbs on a plain background. Many camouflage patterns become a dark green blob at a distance, and your human shape jumps out."

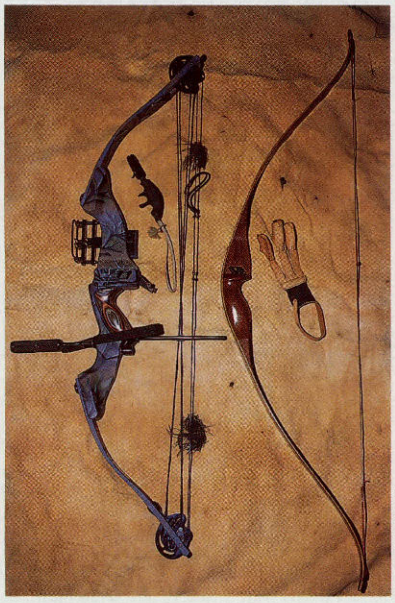
While Birkner is quick to adopt any innovation that improves his effectiveness as a bowhunter, such as carbon arrows, he believes relying on equipment to compensate for lack of hunting skill is an unfortunate trend in bowhunting today. "In the last 10 to 15 years, there has been more

Many hunters who formerly used guns now are taking up bowhunting because it puts them in close touch with nature and can allow them to extend their hunting season over a longer period.

© DAVID J. SAMS

emphasis placed on arrow speed, sights and the like and less on hunting skills and knowledge of wildlife," he said. "I have no beef with advances in equipment, but we should be relying more on our skills to be successful hunters."

The recurve bow, below right, was used for decades before the compound bow, below left, was developed. Compounds offer the advantage of a lighter pull when fully drawn.



© ROBERT LILES

GETTING STARTED

This magazine will probably hit your hands no more than two weeks before the opening of archery season. That's not typically enough time for you to get started and practice bowhunting; however, an archery shop can set up and tune a bow for you and have you shooting fairly accurately in a matter of hours. Daily practice will tighten up your groups to the point you can be effective on opening day. (Warning: A compound bow is a precision instrument that requires specialized equipment and knowledge to assemble, fit to the user and tune for accurate shooting. Do not attempt to do so yourself unless you are an experienced bowsmith.)

One of the kindest things you can do for yourself and the animals you will hunt is to take a bowhunter education course. The International Bowhunter Education Program teaches responsibilities, ethics, hunting methods, equipment, when and where to shoot, field dressing game, safety and first aid, survival and animal recovery. The 10-hour, $8 course is taught by volunteer instructors throughout the state and meets bowhunter education requirements throughout the United States, Canada, Africa and many European countries. For information, contact the Texas Parks and Wildlife Department at 800-792-1112 or the Lone Star Bowhunters Association at the numbers below.

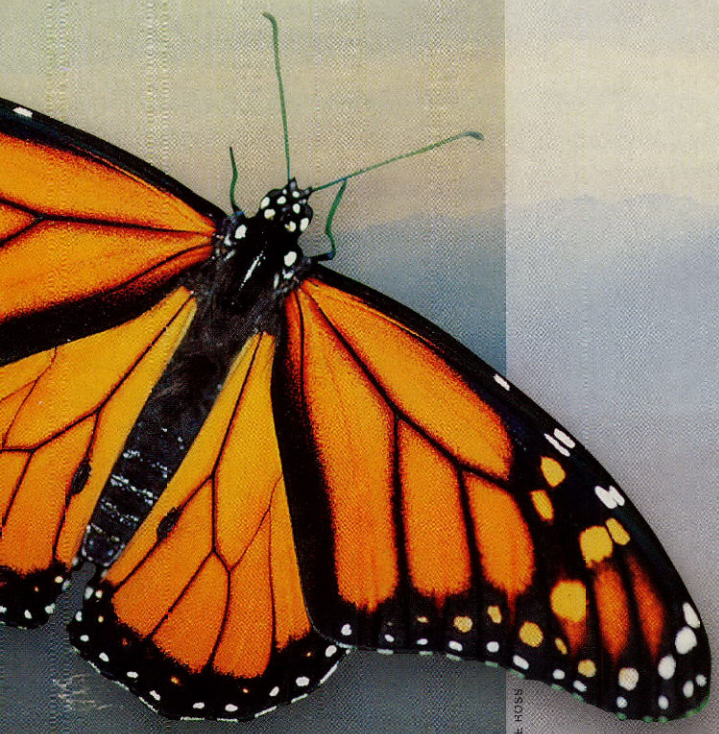
Texas bowhunters formed the nonprofit Lone Star Bowhunters Association (LSBA) in 1974 to preserve and promote the sport in Texas. The LSBA and local archery clubs across the state sponsor 3-D shoots and other events. The LSBA publishes a bimonthly magazine and scores a variety of game for inclusion in the Texas Bowhunting and Bowfishing Records System. Its annual awards banquet, regional tournaments, state shoot and Texas Bowhunters Jamboree provide many opportunities to learn from experienced bowhunters.

You may contact the LSBA for membership information at P.O. Box 2610, Lufkin, Texas 75902-2610. For information on bowhunter education courses, call Jim Davis at 512-396-3641. For general information on the LSBA and its activities, you may contact the area coordinator nearest you:

- **Gary Oden**, Pecos, 915-343-2801
- **Bubba Schmidt**, San Antonio, 210-557-5160
- **Drew Anderson**, Pasadena, 713-472-2210
- **Ray Gilbreath**, Waco, 817-881-1919
- **Bobby Duke**, Henderson, 903-854-4677


Miracle

of the Monarchs



© STEVE ROSS

© WILLIAM H. CALVERT

Scientists still are baffled at how monarch butterflies unerringly navigate their way to wintering areas in Mexico without any guidance except some mysterious genetic inheritance.

by William H. Calvert, Ph.D.

With a wingspan of just 3½ to 4½ inches, the monarch butterfly seems too delicate a creature to make the arduous, 3,000-mile journey from the northern U.S. and southern Canada to the mountains of Central Mexico, background.

© WILLIAM H. CALVERT

One of nature's most astonishing sights is a "butterfly tree" covered in an orange and black tapestry of migrating monarchs.

An often little-noticed event is about to occur in many parts of Texas. One of nature's most colorful creatures, an orange, black and white-spotted butterfly, is migrating from summer breeding grounds in the northern United States and southern Canada to its winter home high in the mountains of Mexico's Transvolcanic Belt. Near the end of September, it will enter the northern parts of Texas. People throughout much of the state will see monarchs during October and part of November, then these butterflies will leave us and disappear into Mexico's Sierra Madre Oriental.

This is the story of the migration of the monarch butterfly. Why does this insect make such a remarkable two-part journey of some 3,000 miles from Nova Scotia to Central Mexico? The answer is deceptively simple—to escape the winter cold and the decline of its food plant, the milkweeds. How it navigates across most of the North American continent and finds nine tiny areas in Central Mexico that it never has seen before is unknown.

Most insects cannot fly the long distances that migratory birds fly. Instead, insects have evolved an ability to tolerate the cold, timing their development so they are in life stages, such as eggs or larvae, that are less affected by winter temperatures. They also may dehydrate themselves, thus ridding themselves of water that could freeze and kill them. Others produce a kind of antifreeze that keeps the remaining liquids from freezing.

But the monarch butterfly is especially different. Like birds, it can fly long distances to escape potentially lethal cold temperatures and the absence of food. But the monarch is not a bird; it's not even a vertebrate. It is an insect whose nervous system is very much smaller and different from a vertebrate. With its tiny brain, it guides itself thousands of miles over terrain it never has seen before to locations in the high mountains of Central Mexico where it never has been before.

Monarchs tend to migrate in pulses helped along by cold fronts. When winds oppose them, they linger in low, riparian woodlands and, if available, feast on nectar-producing fall flowers. But the moment the winds turn back around from the north, the butterflies catch a rising parcel of warm morning air, ride it high into the sky circling lazily, and then soar off in a southerly direction in much the same manner as hawks and vultures.

During afternoons they descend from heights sometimes beyond our vision to feed in flower fields. Favored nectar plants in Central Texas are goldenrods, bonesets and gay feathers in fields, or frostweeds and cowpen daisies near forest edges or in moist canyons. In North Texas you are likely to find them feeding on golden crowbeard, goldenrods, bonesets, asters, and heliopsis (ox eye). About dusk they stop feeding and fly toward the silhouettes of trees. Within the canopies of trees, they search for each other and may gather in roosts if they are numerous. Some years these roosts can cover the branches with an orange tapestry that astonishes those fortunate enough to witness one of these "butterfly trees."

The following morning the sun heats the butterflies and the roost breaks apart. They fly off to feed again or, if the winds are right, they are off once more on rising thermals to heights often beyond our vision. This process continues for approximately two months. The monarchs begin to arrive at their destination in the high fir forests of Central Mexico around the first of November.

The packing of individuals in the Mexican overwintering sites is enormous. Estimates are that tree boughs may contain 15,000, possibly as many as 20,000, individuals. Colonies are estimated to contain between 5 and 6 million butterflies per acre and have been as large as 10 acres. The phenomenon of millions of butterflies in the air at once is indescribably awesome. On warm days in late February or March, millions are in the air at the same time, forming what clearly is one of the biological wonders of the world.

Considerably less is known about the spring migration. The spring population is much smaller than the fall population, and hence, monarchs are much less noticeable. Many die during both the fall and spring migrations from predators, collisions with automobiles and simple exhaustion. During winters with mild temperatures, an estimated 10 to 15 percent of monarchs that reach the overwintering areas in Mexico never leave, becoming victims of bird and mouse predators or freezing temperatures and starvation. During winters when freezing temperatures penetrate the forest canopies, many millions of monarchs succumb to the cold. Such a die-back occurred last win-

ter, when an estimated 10 to 20 percent were killed. In Texas, spring migrants seem to restrict themselves to prairie areas and rolling plains where most of the milkweeds—the plants on which they feed and lay their eggs—are located.

Monarch Life History

There are two populations of monarchs in North America, excluding those that don't migrate but breed more or less continuously in southern Arizona, Florida, Texas and Mexico. A western population breeds on the slopes and valleys of the Sierra Nevada and other western ranges. The far larger eastern population's main breeding areas are located in the northern United States and the southern Canadian provinces. It is the eastern population of monarchs that, each fall, migrates south and southwest across the continental United States east of the Rocky Mountains and funnels through Texas, the Mexican Sierra Madre Oriental then to Mexico at the approximate latitude of Mexico City.

The monarch breeds four or five times per year. Almost every generation involves some migratory movement. In the spring they are found as adults and larvae mainly in the southern United States. By late spring most have left the Gulf coastal states and are breeding farther north. By the beginning of June they have reached Minnesota and Massachusetts. These are the latitudes at which the greatest quantities of their host plant, the milkweeds, are found. They continue to breed in the northern states and southern Canada all summer.

Hormones responding to decreasing day length and colder temperatures tell monarchs born in the early fall not to reproduce but to begin the immense journey across North America. They arrive at the overwintering areas in November, remain until March of the following year and then return to the southern United States to lay eggs on freshly sprouted milkweeds.

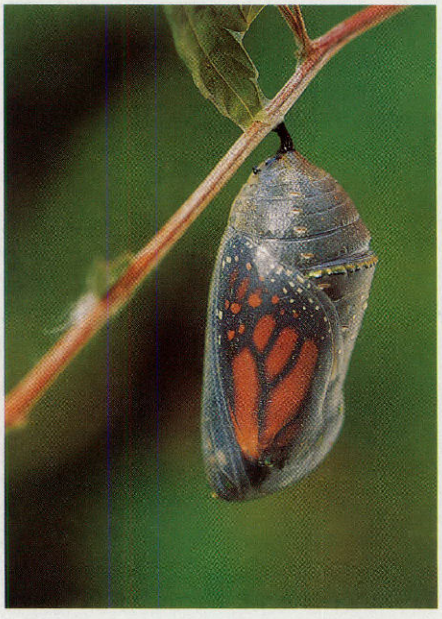
Life spans, which also are hormonally determined, vary greatly and depend on the time of the year. The generation that migrates to Mexico and back to the southern United States lives at least eight months. The spring and summer generations live only four to six weeks depending on the ambient temperatures at which they develop.

The Migration Through Texas

Because Texas is situated between the principal breeding grounds in the north and the overwintering area in Mexico, our state perhaps is the most important state in the migration. Monarchs funnel through Texas both in fall and spring. During the fall they use two principal flyways. One, which traverses the center of Texas, is about 200 miles wide and centered on a line that stretches from Wichita Falls to Eagle Pass. Monarchs enter the Texas portion of this flyway during the last days of September. By the third week of October, most have passed through into Mexico.

The second flyway is along the coast where monarchs fly, roughly from the third week of October well into November. The monarchs that use this flyway are fewer in number than those that use the central flyway. The coastal monarchs likely are from east of the Mississippi, while the ones that use the central flyway are likely from the midwestern prairie states. In selected places monarchs may be seen migrating in the tens of thousands. Look for the largest numbers during the second and third weeks of October in west central Texas, from San Angelo to Brackettville to Eagle Pass. Seminole Canyon State Historical Park near Del Rio is an especially good place to look. Many locations along the Devils, Frio and Llano rivers also are good. Call ahead to parks in the area to find out if the monarchs have arrived. If they are there you must move quickly. They will stay in an area in hot, moist weather, but leave immediately with a passing cold front. ✯

WILLIAM H. CALVERT of Austin is an independent monarch researcher and coordinator of the Texas Monarch Watch.



Monarchs produce a smooth white larva with yellow and black rings, right. The black and orange wings can be seen in the pupa at far right.

Habitat Changes Threaten Monarch Butterflies

Monarch butterflies, like all living creatures that share habitats with humans, are constantly challenged by one human-induced habitat change after another. Two factors in Texas are affecting their population numbers. The first and perhaps most serious is the imported fire ant. Fire ants arrived accidentally in Mobile, Alabama, from Brazil during the 1930s. Now, 60 years later, they have spread through much of the southern United States from North Carolina to Texas, an area where monarchs returning from Mexico in the spring are expected to lay eggs that will become the first spring generation. Fire ants are especially prolific on Texas prairies where their colonies have multiple queens and may reach densities of 200 to 800 mounds per acre.

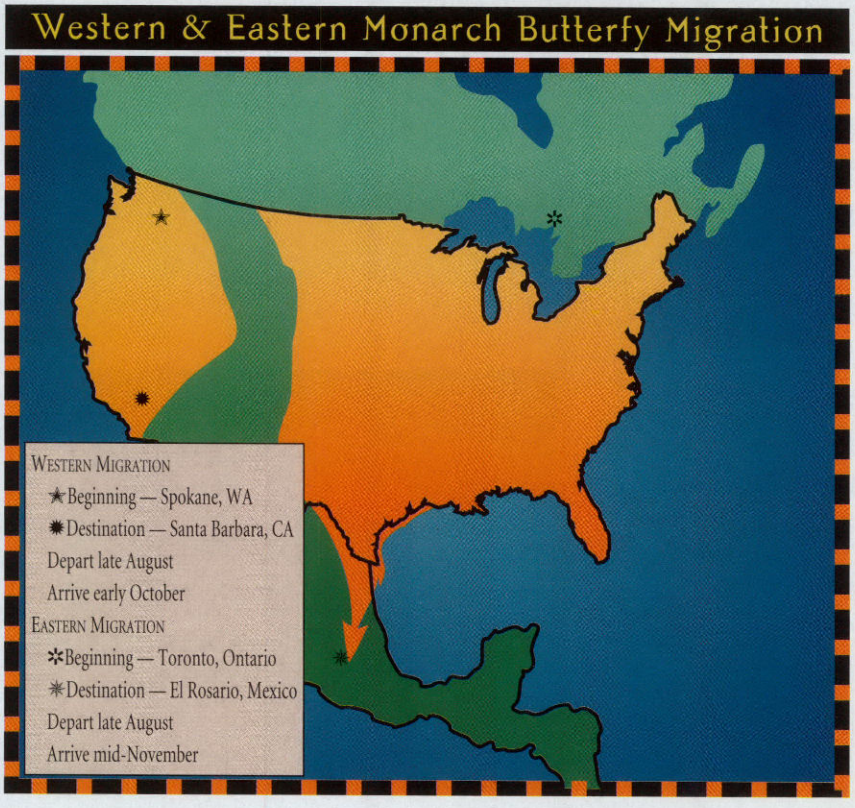
Imported fire ants feed on arthropods. Dr. Chris Durden of the Texas Memorial Museum has monitored butterfly populations since before the arrival of fire ants. He reports a 50-percent decline in butterfly abundance from pre-fire ant levels. Species most affected are those that feed near the ground on grasses or low herbs as does the monarch.

For monarchs, the first spring generation of 1995 appears to have fizzled badly. Early reports in late March and early April indicated a bumper year for monarchs returning from Mexico. In early April, a prairie pasture near Luling full of the monarch host plant, *Asclepias oenotheroides*, yielded a high count of 2,000 monarch eggs in a two-acre pasture. Unfortunately, the same field also contained more than 1,000 fire ant mounds. Some of the milkweeds were growing up through fire ant mounds. That field did not produce a single monarch adult. Indeed, the tiny first instar larvae and possibly the eggs were attacked by fire ants; no advanced stage larvae ever were found. Calls to the monarch hotline did not indicate the expected resurgence in first spring generation adult monarchs that would be expected from the many eggs laid.

The distribution of prairies in midwestern prairie states suggest that the monarchs that breed on Texas prairie milkweeds are the progenitors of monarchs that will breed later in the spring and summer in Oklahoma, Kansas, Nebraska and farther north. If the devastation of monarch populations near Luling is indicative, the first spring generation reared within the fire ant zone must make only a small contribution to the monarch recolonization of prairies farther north. No evidence exists as yet for similar effects in areas farther east where fire ants also are abundant, but eastern fire ant colonies tend to be single-queened and are not as dense as those on Texas prairies. Monarchs returning from Mexico may begin to over-fly areas of intense fire ant infestation and lay their eggs in fire ant-free areas. If this happens, Texas will be deprived of one of nature's great spring spectacles.

Another potential problem for monarchs is the ever-increasing tendency in Texas to "improve" pastures by removing "weeds" with herbicides. Unfortunately for monarchs, the milkweed is such a weed. Dr. Barron Rector, a Texas A & M University range scientist, argues that a sociological change is responsible for the change in attitude about pasture management. Once part of large ranch holdings where herbicides were too expensive to be practical, many pastures now belong to urbanites anxious to escape on weekends to the quiet and beauty of the country. These people are interested in operating their small holdings as economically as possible and actively pursue agricultural exemptions. To qualify they must run a minimum number of livestock on their pastures. The vagaries of Texas weather, particularly periodic droughts, insure that the only way that this can be done is by treating the pastures with herbicides and planting high-yield grasses. No one imagined that laws set up to encourage farming and ranching would adversely affect monarch butterflies and other creatures dependent on native prairies.

The days seem numbered when one could travel 100 miles never leaving a bed of flowers. Herbicides will affect more than monarchs. Virtually all of our popular butterfly species such as the painted lady, the buckeye, numerous species of swallowtails and hairstreaks feed on herbaceous plants in the Texas prairies and Hill Country.



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Unseasonable snowfalls can insulate the monarchs from the colder surface temperatures and most will recover.

The Texas Monarch Watch

In Texas there is an ongoing study to learn about the monarch butterfly. The Texas Monarch Watch is a nonprofit enterprise, the purpose of which is twofold: to learn as much about the biology of the monarch butterfly as possible using volunteers to extend the range of observation throughout the whole of Texas, and to use the monarchs to teach basic concepts of ecology, and reproductive and migration biology.

There are two "watches" per year. One coincides with the return of migrants to Texas in the spring from their Mexican wintering grounds and the second is during fall with the main migration through Texas from northern breeding grounds to the wintering sites in Mexico. Volunteers keep a daily calendar of the presence and abundance of monarchs in their area and raise or capture butterflies, tag them and release them with the hope that someone down the line will find them and report the tag number. These two activities allow researchers to trace the movement of migrants through Texas. Researchers hope to be able to estimate yearly variations in population size and correlate this with biotic and abiotic factors occurring in the breeding and wintering areas and in the migration pathway.

This fall volunteers will scan the skies during a two-day period and count butterflies to determine the length and breadth of the main migratory pulse. Observation dates will correspond to a cold front and will be announced on the monarch hotline. The results of these efforts are published in two newsletters per year preceding the spring and fall migrations.

The Texas Monarch Watch is sponsored by the Nongame and Urban Wildlife Program of the Texas Parks and Wildlife Department with support by the Margaret Cullinan Wray Charitable Lead Annuity Trust. The Texas group works closely with the national Monarch Watch coordinated by Chip Taylor at the University of Kansas in Lawrence, Kansas. For more information about the Texas Monarch Watch program, call the monarch hot line at 800-468-9719 or 512-326-2231 in Austin.

Monarch Haven

BY BETTYE NICHOLS

Abilene Zoological Society has welcome signs out for monarch butterflies, the "State Insect" of Texas. The society established Monarch Haven to encourage planting monarch-friendly plants for the butterflies' spring migration from Mexico and their return flight in the fall.

Havens for the monarchs will be promoted each year in the Abilene area. Participants are listed in the Monarch Haven Registry and they receive a Monarch Haven certificate. Their locations are pinpointed on a map, now on display at the Abilene Zoo. There is no membership fee.

Receiving the first Monarch Haven Award for exceptional dedication to the preservation of monarchs this year was Dyess Air Force Base. Floyd Ball, deputy chief civil engineer at Dyess who accepted the award, said, "At one time almost all of Dyess' 6,000 acres were mowed like a golf course. But that has gradually changed and nature has returned to the land."

He said that some of the land now has been untouched for the past 20 years and native plants and mesquite have returned, bringing wildlife with them. Turkeys, foxes, bobcats and quail are routinely seen roaming the property.

Dyess' environmental involvement is especially important at this time, when the monarch butterfly is trying to establish itself after a bitter storm cut into the population in winter 1995-96. Large quantities of wildflower seeds along with the beneficial milkweed plants for monarchs were planted at Dyess.

Ruth Addington, Abilene Zoological Society board member, has been a leader in establishing many wildlife-related projects, including Monarch Haven. She is particularly interested in encouraging the cultivation of local milkweeds, the only plant on which monarchs lay their eggs when traveling from Mexico through Texas in the spring.

Jim Fleshman, director of the Abilene Zoo, said "If the deforestation in Mexico continues at the current rate, monarchs could be extinct within the next 10 years. This local effort can have a global impact. We just need to get more people involved."

The award was given during Wildflower Day, sponsored by the Native Plant Society and Abilene Zoological Society.

Guidelines for establishing a monarch haven along with garden tips are available by writing to Monarch Haven, P.O. Box 60, Abilene, Texas 79604.

BETTYE NICHOLS is a member of the Abilene Zoological Society Board of Directors.

Huge colonies of monarchs winter in Mexico and, on warm winter days in February and March, millions are in the air at the same time.

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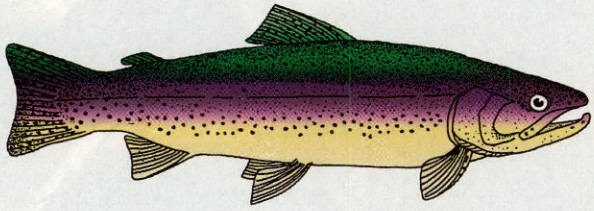


One step into the clear waters of a shallow Texas bay puts a wadefisherman miles ahead of boat-bound anglers in terms of pure fishing enjoyment.

by Larry Bozka

© GRADY ALLEN

It doesn't take a lot of high-tech equipment or special skills to enjoy wadefishing, as demonstrated by the youngsters above, fishing the sun-dappled waters of a Texas bay.

From a mile and a half away the big flats boat looks like a child's bathtub toy, its silhouette bobbing on a glaring, watery horizon. We got here minutes after sunrise, reveling in the light southeast breeze, concentrated baitfish schools, nonexistent crowd and clear waters that are the stuff of every wade fisherman's dreams.

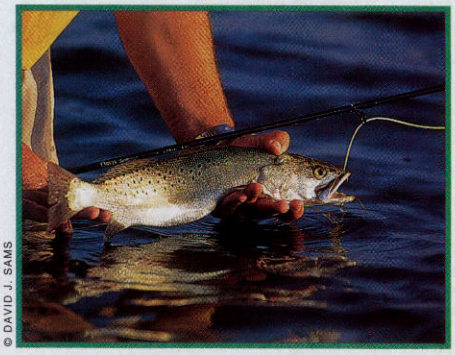
Capt. Jim Atkins wheeled the roaring 24-footer through a narrow and winding pass that juts off the Land Cut near Baffin Bay and into this nine-mile stretch of grassy shallows known by the locals as "The Graveyard." Now, a little over an hour later, we're each immersed in our own world.

At one time, Nine-Mile Pass didn't exist. Redfish and speckled trout would enter here during high tide phases and become stranded when the water receded. If the water remained too low for too long, salinity levels eventually would reach a lethal point at which the captive predators no longer could survive. With the opening of the pass, that all changed. But the name remained the same.

The Graveyard, as much as anywhere else, defines beyond a reasonable doubt why a coastal fisherman who owns a perfectly good boat will abandon the comfortable and often costly confines of that boat and bail overboard to pursue fish on foot. Most people assume that waders wade because they don't own boats. Fact is, a great many own boats so they *can* wade.

These people will tell you, and rightfully so, that there is no more effective way to approach a skittish school of redfish or trout than by getting into the water and chasing it down. They'll also tell you that there's no other method that is nearly so enthralling.

I stand this morning under the cloud-laced dome of what best could be described as Texas's own version of Montana's "Big Sky" country. Life is everywhere. We've seen deer browsing and coyotes rambling on the shorelines, and flock after flock of colorful shorebirds milling



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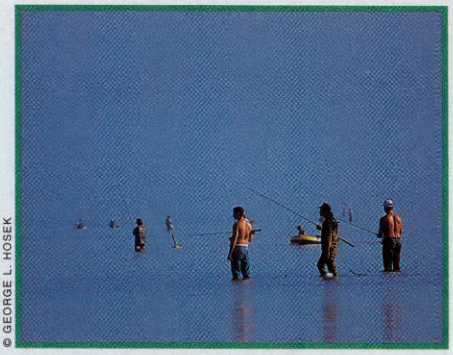
Spotted seatrout, commonly referred to in Texas as speckled trout, may be the target of most wadefishing effort, along with red drum.



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When the fish are biting, popular wadefishing areas along the Texas coast can get a bit congested as anglers try to cast lures or live shrimp in front of a trout or redfish.

© DAVID J. SAMS

The resurgence of red drum (redfish) in Texas bays has rekindled interest in wadefishing, and many flats anglers are going after the hard-pulling fish with flyfishing gear.

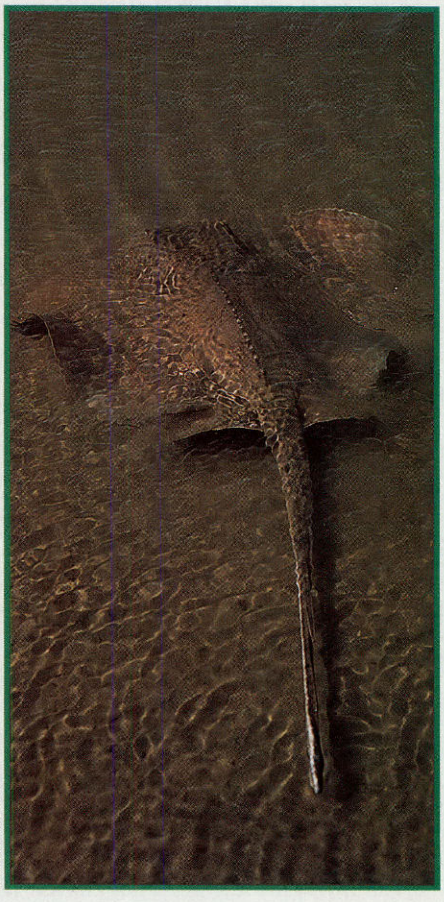
about on spoil banks. One small, solitary island held several dozen roseate spoonbills, brown pelicans and skimmers.

Below me, a tiny blue crab dog-paddles its way over my canvas wading boots. A thick line of mullet showers over the sand bar to my left; behind them, a school of small black drum follows closely. About a half-mile back I almost ran into a pair of manta-like cownose rays. The deep brownish hue of their wings looked like what might have been big redfish until we got within a few feet of each other, recognized the problem and went our own ways.

Far too few Texans have seen the face of the Texas coast from the deck of a shallow-water flats boat. They can't miss what they can't see, and what they're missing is something that must be seen to be appreciated. All the same, you have to be looking for it. Part of the picture exists above the water, part of it below. Wade fishermen, from a unique perspective, see it all.

No other form of fishing puts the angler more in touch with the quarry and its environment. From the moment a wader's feet first make contact with the sandy bottom of a Texas bay, the task at hand changes dramatically. Being *in* the water, as opposed to being *on* the water, is a challenging and one-of-a-kind undertaking that is growing in popularity among the better than 600,000 Texans who enjoy saltwater fishing every year.

In lieu of all the aesthetic arguments, wadefishing more than holds its own within the coastal fishing community for one very important reason. Compared to other approaches, it is incredibly effective. For every fish caught from a boat slowly drifted past nearby potholes and reefs there are several more waiting for the angler who is willing to wade. Wade fishing is quiet. It's meticulous. It's a solitary undertaking that allows for a lot of time to unwind and reflect. Over time, for many, it becomes a chess game-of sorts. The figuring out is the fun.



© GRADY ALLEN

Wadefishermen need to watch out for stingrays. By wearing waders and shuffling their feet along the bottom, anglers can avoid the painful strike of the ray's tail.

© DAVID J. SAMS

Above: *Most wadefishing is done during daytime, but a lantern's light can be an effective way to attract bait fish and, in turn, predator fish such as spotted seatrout.*
Right: *Successful wadefishing often depends on visual clues such as depth variations and the presence of such features as oyster reefs and weedbeds.*

© RUSTY YATES

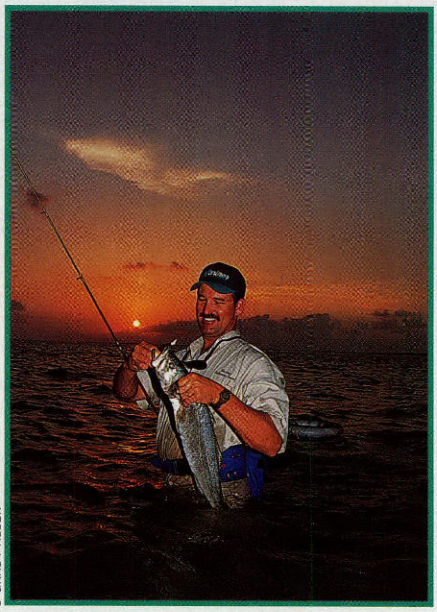
This is a visual sport. Here, without a quality pair of polarized sunglasses one might as well be stone-blind. Glare-cutting shades reveal an incredibly active underwater world chock-full of tell-tale signs that, to the educated eye, provide the key to world-class fishing action. The ability to read the water puts fishermen in the elite 10 percent of practiced anglers who catch 90 percent of the fish.

Like a camouflaged still hunter who tediously stalks white-tailed deer along the brushy fringes of South Texas senderos, the coastal wader relies on sight and instinct. The indicators, although everywhere, often are subtle. Perhaps it's a change in water color, or a slight dropoff along a shoreline or reef that's just a tad deeper than the surrounding terrain. The wade fisherman's feet transmit the story as sand goes to shell and shell goes to mud. The pungent, watermelon-like aroma of feeding speckled trout may punctuate the breeze suddenly. Baitfish might go from calm to nervous to outright frantic. Cast now, ask questions later.

There may be "slicks" in the distance, oily patches of shiny surface water created by feeding fish that gorge themselves and regurgitate excess food. Scouting flocks of laughing gulls might suddenly zero in on a specific area and plummet like diving fighter planes to hit surfaced shrimp that have been herded to the top by a school of feeding gamefish.

The thin, dark, dorsal fin of a 28-inch speckled trout might knife through the surface as, immediately ahead, glass minnows, shad and mullet race for cover. Perhaps you'll spot the speck's shadow as it slowly eases out of the grass and over the clean sand bottom. If you're lucky, you'll see the redfish "tailing." Grubbing out worms, shrimp and crabs, the hungry redfish roots and shovels the silt-layered flats bottom with its blunt nose. In the process its tail rises out of the water like a blue-tinged flag that, when unexpectedly spotted, hits you with all the impact of a 10-point buck staring you in the face from a mere 15 feet. Or perhaps, as is the case today, the signs might not be quite so subtle.

This morning we see the fish, sometimes only a rod length away, as they slide off the shallow grass banks into the deeper holes of the flats with the gradual rising of the late-summer sun. One moment the lime-green water is still; seconds later small squads of two-foot-long redfish blast through like so many bronze-sided torpedoes. The pulse races, the hands shake uncontrollably and at this moment I remember once again how wadefishing the flats is the equivalent of hunting with a rod and reel. Atkins calls it "stalking," and it's easy to understand why. We might as well be fishing in a huge aquarium. Seemingly from nowhere, the fish suddenly are all around me. Mud boils,



Top: *The sporting qualities of spotted seatrout can be seen here as an Aransas bay speck leaps in an effort to avoid capture.* **Middle:** *Big spotted seatrout like this one are a prize for Texas wadefishermen. The species has made a remarkable comeback in recent years because of restrictive regulations and the absence of killing frosts.* **Below left:** *Wading, rather than fishing from a boat, puts the angler in close touch with nature, making it easier to approach wild creatures, including trout and redfish lurking in the shallows.*

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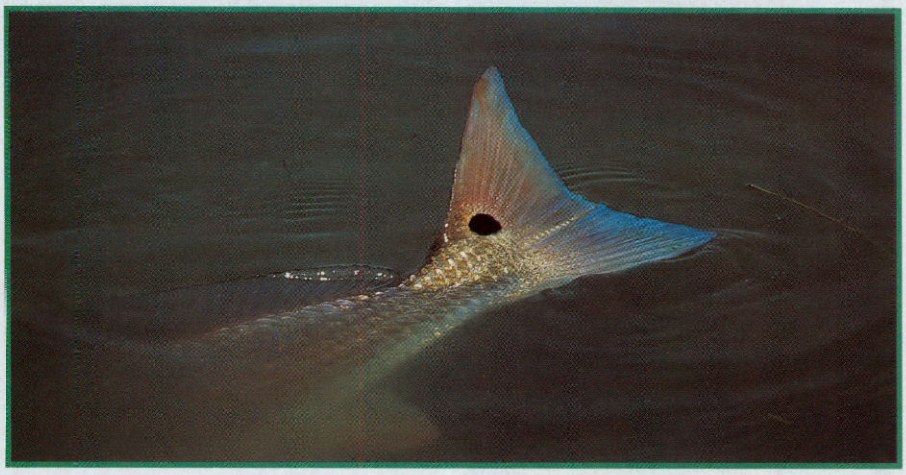

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Top: *Properly attired wadefishermen often bristle with equipment, including rods and reels, bait buckets net and combination floating tackle holder and fish well.* **Above:** *The sight that sets wade anglers' hearts aflutter is the tail of a red drum breaking the surface, indicating that the fish is rooting the bay bottom for a meal and might be in the mood to strike a bait or lure.*

exploding cloud-like puffs of disturbed bottom sediment detonated by redfish that kick their tails into high gear as they sense my presence and rapidly pop up on all sides. I realize I am standing in the midst of a fair-sized school of reds, some of which easily are in excess of the 28-inch slot limit legal maximum. To move is to spook them even more, so I freeze in my tracks. My left leg sinks at an alarming rate into the gooey sand muck of a small bottom hole, but I right myself and stay where I am, struggling to maintain a precarious balance while looking for approaching fish.

The reds come through two and three at a time. A hulking trio, oblivious to my presence, swims by downwind to the right. Taking advantage of their favorable position, I regain my footing and whip the silver spoon ahead of and beyond the fish in order to crank the flickering lure directly back into their paths. Two of the slowly cruising fish ignore it, but the third cannot resist.

I watch the broad-shouldered redfish as he angrily pulses his gill plates in anticipation of the strike. His erect dorsal fin, strongly supported by thick, sharp-pointed spines, rises high as the fish attacks. Had the bucktailed metal spoon been the injured baitfish it's meant to imitate, it would have been dead on impact. Striking redfish take no prisoners.

The treble hook pierces the leathery jaw and the red reacts violently to the resistance of monofilament restrained by a graphite rod. Line rapidly melts from the reel and, for the moment, it's just me and a big redfish amid a beautiful aquatic wilderness some 30 miles from Corpus Christi.

There is a distinct difference between fighting a fish from a boat and doing it the way I am now. From the elevated platform of a boat the angler has more of an advantage. With the fish below and the fisherman above, the steep angle of the line and the leverage it provides is considerably more pronounced. The angler who stands in the water must fight the fish on its own level. The parallel angle of the line to the water allows the red to run straight away, and it does, in strong and relentless surges that threaten to snap the line with every kick of the tail. I back off the reel drag, release a pound or two of tension and allow the fish to strip even more line from the spool. There are no oyster shells, no rocks or debris to sever the monofilament, and as such there's no reason not to let the tiring but still hard-fighting redfish have its way. It peels another 10 yards or so of line from the reel and then, as quickly as it struck, comes free. The line goes slack.

Jellied knees support me as I retrieve the lure. When you lose a fish as magnificent as this one, you don't cuss. You salute.

There are a great many redfish in the Graveyard on this glorious August morning. More, in fact, than I have seen in many, many years. I recall the mid- to late 1970s, when redfish were at an appalling low due to netting pressure, and can only delight in the profound and remarkable difference that progressively tightened regulations, the construction of saltwater fish hatcheries and designation of reds as game fish have made in the past two decades. The Texas coast is a success story that has provided a model for many other states, and no one has been better able to witness it than the wade fisherman.

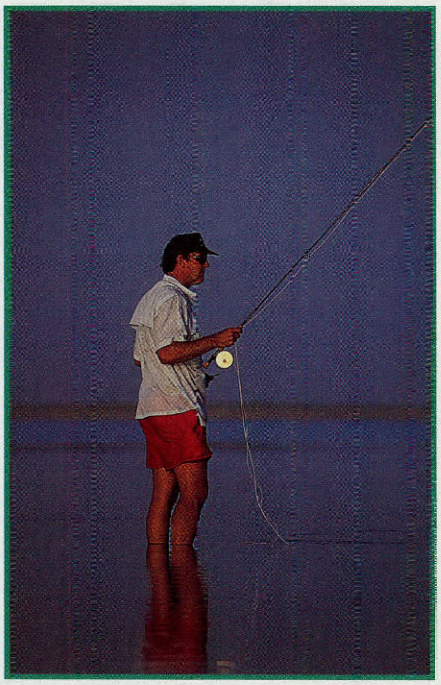
The intimacy of wadefishing is without equal. I recall a trip last fall to "The Windmill" on East Galveston Bay's north shoreline with Capt. Pat Murray, a young but accomplished fishing guide who lives on the shores of Tiki Island. The half-day excursion dispelled any doubts I might have had as to the positive results of Texas coastal conservation efforts.

Murray and fellow guide David Wright put me on a half-acre piece of wind-sheltered shoreline that kept us busy fighting heavyweight redfish for better than three hours. Whether on the deeper waters of the Upper Coast or the calf-deep flats from Rockport on south, wadefishing opens the window to a world unknown to the vast majority of Texas fishermen.

The sport calls for a small but important arsenal of specialized gear. A wadefishing belt is mandatory, rigged out with a rod holder, lure pouch, quick-release 15-foot nylon stringer and pliers. Newer models come with widened rear sections that provide much-needed back support. A basic selection of soft plastic shrimptail and shadtail jigs, spoons and plugs in the lure box topped off with a small bottle of drinking water are all that's needed to prepare the wader for an extended walk on the flats.

To avoid the threat of stingrays, experienced wade fishermen carefully shuffle their feet along the bottom as they walk. The strange-looking but dangerous rays almost invariably will swim out of the way of an angler who moves in this fashion. For those still in doubt, there are stingray leggings made out of ballistics cloth that fit over one's shoes. The threat of being hit by a ray exists, but for those who move slowly and exercise caution that threat is minimal. It's certainly not enough to keep an angler from taking up the sport; the odds of being in an automobile accident on the way to the bay are far greater than the danger of being hit by a stingray.

Wade fishing provides wonderful exercise. Even though the fisherman should be in reasonably good shape before hiking across the flats, wading is not nearly as exhausting as it sounds. For one thing, the effective wader moves slowly. The angler who gets in a hurry is wasting both energy and the opportunity to thoroughly cover the water being waded. For another, he or she is usually so intent on reading the water and soaking in the surroundings that the steady exertion of wading goes virtually unnoticed—until, of course, the day after the workout.



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Above: *A flyfisherman's reel shines like a beacon, reflecting rays of the setting sun on a Texas bay.*
Below: *While the nonfishing public may think anglers wade because they have no boat, avid waders say they prefer the quiet and peacefulness made possible by wading.*

With fall upon us, we now are privy to the year's finest wadefishing. The hunt for October reds is legendary among waders. Aggressive schools of speckled trout are spurred into feeding by the advent of the season's first cool fronts while spawning redfish congregate in massive numbers within proximity of coastal passes. Within the next month or so, the fall flounder run will go into gear as the bizarre-looking but delectable flatfish begin to make their way from shallow bays to the depths of the Gulf.

Winter means smaller crowds and clearer waters. Insulated neoprene waders keep the fisherman warm as he delves into a world that to this day still is unknown to most.

It's a world everyone should experience at least once. ★

LARRY BOZKA is editor-at-large of Texas Fish & Game *magazine, and is currently producing and conducting a statewide series of multi-media fishing seminars and videotapes on basics of inshore saltwater angling.*

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VALLEY *of the* BIRDS

BIRDERS FROM ALL OVER THE NATION ARE FLOCKING TO THE LOWER RIO GRANDE VALLEY, WHERE THEY ARE GREETED BY HUNDREDS OF COLORFUL BIRD SPECIES AND A VALLEY CITIZENRY THAT FINALLY IS CROWING ABOUT ECOTOURISM.

by Arturo Longoria

"We got word that a jacana had been spotted in the Rio Grande Valley, here at Bentsen-Rio Grande Valley State Park, so we caught the quickest flight down to Texas, booked a motel in McAllen and reserved a rental car. We sure didn't want to miss this...."

The year was 1978, or thereabouts. The man I was speaking to had, 24 hours earlier, been sitting in his living room in New Haven, Connecticut, when he got the news—via one of many international birding networks—that a rare Mexican water bird had been sighted in deep South Texas. He wasted no time, or expense, in journeying, along with his wife and youngest child, the 2,000 miles to glimpse the creature. As we observed the northern jacana, with about 15 other birders who likewise came from distant places, I was impressed that so many people would (and could) stop whatever they were doing and trek across the country just to see a bird.

Of course, it's no secret that the lower Rio Grande Valley of South Texas has been called the greatest birding spot in the United States. But that knowledge seems to have been confined—for more years than most will admit—to folks outside the area. For decades the birding mecca of the Rio Grande Valley, where two major migration flyways converge and where many tropical birds reach their northernmost ranges, remained undiscovered by a majority of its residents.

Call it increased environmental awareness, or plain economic expediency, but deep South Texas has at long last found its own birding wonder: when the birds flock to the Valley, the bird watchers follow. Mix the two together and it comes out green, but in more ways than one would think.

© GRADY ALLEN

Well-traveled birders know that the lower Rio Grande Valley is one of the best places in the country to pursue their avocation.

The Rio Grande Valley has been sitting on an untapped source of income called nature tourism. Nature tourism is the fastest growing segment of the travel industry, averaging a 30 percent annual increase each year since 1987. Worldwide nature tourism sales totaled $238 billion in 1994. In the Rio Grande Valley, nature tourism has the potential to funnel millions of visitors into the region. This creates opportunities not only for business, but also for those who have fought so hard during the past two decades to preserve rapidly vanishing native habitats.

"Nature tourism will help promote wildlife and plants, which adds to our quality of life," said Lisa Williams of The Nature Conservancy's Mission chapter. "And if we can get the business community to understand that, then all the better."

Unfortunately, unbridled habitat destruction for agricultural use, and recently by urban sprawl, has account-

ed for the loss of millions of acres of prime native brushland in South Texas. But the upsurge in nature tourism has created a new interest in habitat. After all, without habitat there can be no birds. Now that members of the business community have sided with conservationists, the long road back to saving the unique thorny woods of South Texas may have begun.

"We're creating habitat in city parks, and we're supporting the efforts of others to establish wildlife areas," said Terri Bortness of the Harlingen Chamber of Commerce, which sponsors an annual birding event. This year will mark the third Rio Grande Valley Birding Festival in Harlingen. The promoters have subtitled it, "Tropical Birds of the Border." It will be held November 6–10, featuring seminars, field trips, programs for children and a trade show. Some 2,000 birders from 41 states and Canada attended the Harlingen festival in 1995. Total economic impact of the event was estimated at $1.5 million. Bortness believes the 1996 event probably will surpass the $2 million mark.

Practically every town in the Rio Grande Valley—which forms the bottom leg of the Great Texas Coastal Birding Trail—now has some sort of nature tourism project in mind. Figures provided by the Texas Department of Commerce show that nature tourism dollars contribute significantly to the $23 billion tourists pump into the Texas economy each year. Some cities, such as McAllen, have established task forces to study the best "eco-friendly" ways of profiting from the onslaught of bird watchers who visit during peak bird migration periods. McAllen has set a tentative festival date for April 26–29, 1997. They plan to feature not only birds, but wildflowers as well. The green jay has been selected as the city's birding symbol, and the anacahuite, *Cordia boissieri*, will be the official native plant. Mission, named after the old Spanish "La Lomita" mission, has taken advantage of yet another Rio Grande Valley migration event: the annual passage of butterflies through South Texas.

"We sponsor the Border Botanical and Butterfly Festival," said Viola Espinosa of the Mission Chamber of Commerce. The festival, which has a target date of the last weekend in March, includes butterfly seminars and tours, and conferences on landscaping with South Texas native plants (see *Texas Parks & Wildlife*, February 1992).

At the other end of the Valley, the Brownsville Convention and Visitor's Bureau has plans for an international birding festival sometime in early April 1997. The festival will include birding tours both in the Brownsville area and across the Rio Grande in Mexico.

"As it is now, we have hundreds of tourists who come to our area with the express purpose of bird watching," said Jeff Johnson of the BCVB. "Our city landfill is well known as a spot to view Mexican crows, and the campus of the University of Texas–Brownsville (Old Fort Brown) and our golf course have significant populations of yellow-headed parrots and green parakeets."

But what about the birding tourists who just want a solitary experience in South Texas, away from the fanfare of festivals and organized tours? A good place to start would be at Bentsen–Rio Grande Valley State Park west of Mission.

"More than 300 bird species have been seen here," said park office manager Elizabeth Mikulencak. She added that the park averages 450,000 visitors per year, of which at least half come from other states for the express purpose of bird watching.

"We've added a blind for wildlife photography and observation in the trailer area, and we have plans to build another blind overlooking the lake," said Mikulencak. "We've also started a summer youth education program that teaches everything from the basic principles of conservation to how to build a bird house."

In addition, birders can take the park's kiskadee bus tour.

"We have two tours—a west tour and an east tour," Mikulencak said. "Both are day tours, and they cost $20 per person. The east tour goes as far as the Weslaco area, and the west tour goes to Falcon State Park at the northern edge of Starr County." Bicycle rentals for the day or by the hour also are available at the park, she said.

South of San Juan, off the Old Military Highway, bird watchers find another birding paradise at Santa Ana National Wildlife Refuge, where 388 bird species have been identified.

"Some of the recent sightings include the golden-crowned warbler, the clay-colored robin, and the masked duck," said refuge biologist Karen Westphall.

© GEORGE L. HOSEK

At four feet tall, the **GREAT BLUE HERON** *is one of the Valley's many striking birds. It can be found near ponds and rivers throughout the state.*

© GEORGE L. HOSEK

The growth in birding and other nature tourism activities has provided an economic incentive for habitat protection and restoration.

She added that more than 100,000 people—70 percent of them from out of state—visit Santa Ana each year and, according to survey data, those visitors spend an estimated $14 million yearly on hotels, restaurants, gasoline and other purchases in the Rio Grande Valley.

"We (U.S. Fish and Wildlife Service) are strong on education—especially on the benefits of restoring diverse habitats," Westphall said.

In fact, the most highly touted USFWS habitat restoration project in the country is the Lower Rio Grande Valley National Wildlife Corridor, which runs along the Rio Grande from south of Brownsville in Cameron County to Falcon Dam in Starr County. At nearly 65,000 acres, the corridor contains a number of lateral offshoots that send woodland tentacles into the upland brush areas of Cameron, Hidalgo and Starr Counties.

"We call it 'The System,'" explained Mary Lou Campbell of the Frontera Audubon Society. "And the idea is to establish a broad area of habitat for birds and butterflies, as well as mammals. It involves the efforts of not only the U.S. Fish and Wildlife Service, but the Texas Parks and Wildlife Department, the Texas General Land Office, the International Boundary and Water Commission and many of the local irrigation districts."

The largest contiguous tract of undisturbed birding habitat in deep South Texas, with nearly 45,000 acres, and the area that boasts the greatest number of bird sightings, is Laguna Atascosa National Wildlife Refuge in northeastern Cameron County. It hosts about 48,000 birders yearly, 79 percent of them from out of state. These birders contribute an estimated $5.6 million to the local economy.

"The record stands at 401 bird species sighted here at Laguna Atascosa," said USFWS biologist Kevin Stephenson. In addition to sighting such rare birds as the orange-billed nightingale-thrush, which usually confines itself to Mexico, the refuge also has established an on-site program for breeding the endangered aplomado falcon.

"Many of the (aplomado) falcons we've raised and released here at the refuge not only have nested nearby, but have dispersed west towards El Sauz in Starr County," Stephenson said.

Maintaining spectacular birding and a strong nature tourism market in the Rio Grande Valley ultimately will depend on the quality of available habitat. The TPWD has taken a leading role in encouraging individuals to plant trees and woody and herbaceous shrubs on private lands, and also has spent considerable resources acquiring wooded tracts to be used for bird watching and for dove and small game hunting.

"We have 23 units (in the Valley) with more than 6,000 acres of land so far," noted biologist Gary Waggerman. He said that more land acquisition is in the works.

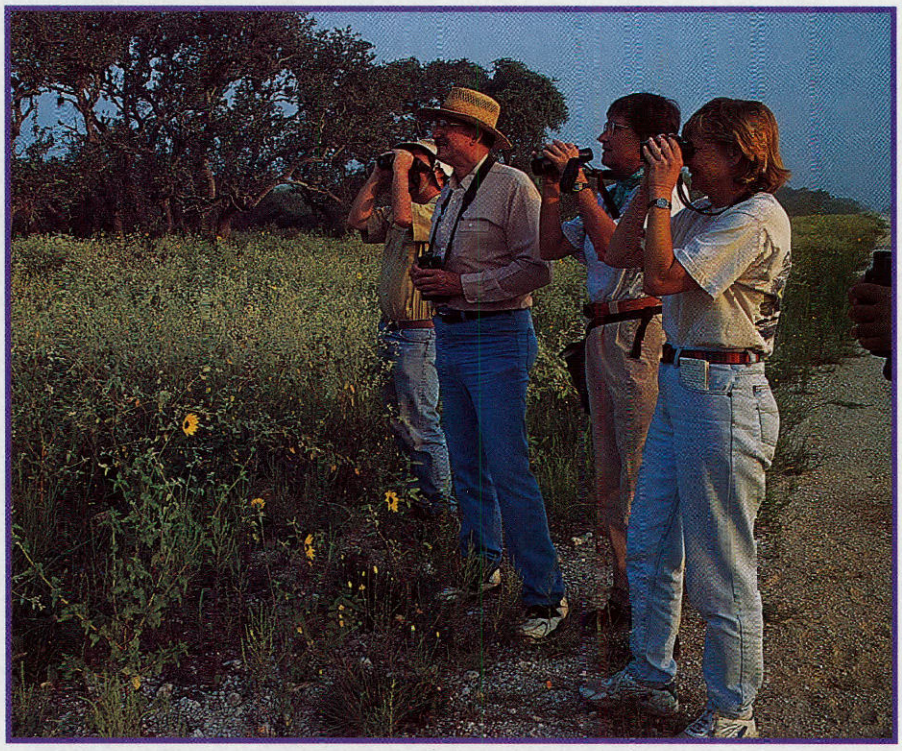
You might say that Texas in general,

© BOB PARVIN

Each year more than 100,000 people, 70 percent of them from out of state, visit the Santa Ana Wildlife Refuge, where 388 bird species have been identified

and the Rio Grande Valley in particular, has awakened to the fact that Americans seem to be demanding a greater access to nature. Perhaps we've finally realized that the best form of therapy is the tranquillity of the woods—or maybe we are redirecting our collective lives away from the rat race, with its ever decreasing quality of life, and toward a simpler outlook and disposition. Either way, more and more people are being drawn toward natural places—where shaded paths replace asphalt, where singing birds are not drowned out by honking horns, where green, not gray, is the predominant color. Quiet places. Peaceful places. As long as the business community keeps that in mind, and remembers that in the world of nature tourism more trees and shrubs and less concrete and steel is better, then it will be okay. ★

ARTURO LONGORIA teaches biology at South Texas Community College in McAllen.



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The Kenedy Ranch at Sarita is one of the best birding spots in South Texas, an area known for outstanding birding. The ranch will be a stop on the lower section of the Great Texas Coastal Birding Trail.

Avian Highway

by Arturo Longoria

The Great Texas Coastal Birding Trail will make it easy to find and enjoy some of the nation's finest birding opportunities along the Texas coastline.

The 500-mile Great Texas Coastal Birding Trail will establish viewing areas at feeding, roosting and nesting points. The central portion of the route—the first to be completed—contains almost 100 officially sanctioned bird watching locales that provide bird watchers a place to enjoy a respite from their travels.

The Great Texas Coastal Birding Trail has been called one of the most important birding habitat networks in North America. The 500-mile route—stretching along the Texas Gulf Coast from north of Beaumont to the Rio Grande Valley—establishes viewing areas at feeding, roosting and nesting points, thereby encouraging the preservation of woods and wetlands for both migrating and endemic bird species. The trail, which is the first of its kind in the United States, also offers bird watchers from around the world excellent opportunities to observe birds intersecting along two major migration flyways. In addition, the lower third of the trail provides outdoor aficionados rare glimpses of the tropical birds that range no farther north than deep South Texas.

With an avian species count of nearly 600, Texas ranks high in the nature tourism circuit. With the Coastal Birding Trail, the state's nature tourism revenues are expected to climb even higher.

© GRADY ALLEN

The Big Thicket National Preserve marks the beginning of the upper coast section of the Great Texas Coastal Birding Trail.

© DAVID VINYARD

Birders on the upper coast section of the trail might be lucky enough to see a **WOOD STORK**, *which reaches the westernmost portion of its range in East Texas.*

Sponsorship for The Great Texas Coastal Birding Trail comes from both the public and private sector. To date, the Texas Parks and Wildlife Department, Texas Department of Transportation, U.S. Fish and Wildlife Service, National Parks Service and a consortium of Texas coastal communities, businesses, landowners and conservation groups have provided support and promotion for the project.

The list of birding sites along the trail continues to grow, as work begins on the upper and lower coast. The central portion of the route now contains close to 100 officially sanctioned bird watching locales. Each locale—clustered along or near U.S. Highways 77 and 281—provides bird watchers a place to take in the scenery and enjoy a respite from their travels.

The trail is divided into three main sections. The **UPPER COAST** section, to be finished in 1998, encompasses the area from the Big Thicket National Preserve north of Beaumont to San Bernard National Wildlife Refuge south of Freeport. Major birding sites along the Upper Coast section include the Lower Neches, J.D. Murphree and Texas Point Wildlife Management Areas (WMA) east of Beaumont, as well as High Island and McFaddin National Wildlife Refuge south of Port Arthur. Some of the more popular sites between Galveston and Houston include the Armand Bayou Nature Center, Atkinson Island WMA, the Anahuac National Wildlife Refuge and the Candy Abshier Wildlife Management Area. Along with the San Bernard NWR, the Peach Point WMA forms the lower edge of the Upper Coast section.

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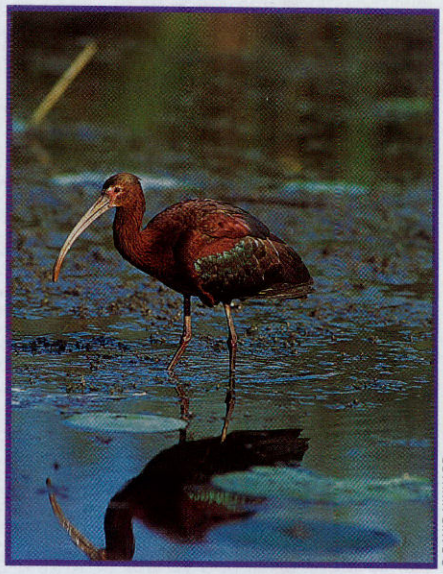


© DAVID VINYARD

Common in the western U.S., the **ORANGE-CROWNED WARBLER**, *above, winters in Texas.*

The **WHITE-FACED IBIS**, *above right, is found in Texas along salt marshes and brushy coastal islands.*

A boardwalk across the tidal flats at Aransas National Wildlife Refuge is an excellent place to watch birds, right.

© ROBERT W. PARVIN

The **CENTRAL COAST** segment—now being completed—begins at three well-known birding sites: Big Boggy National Wildlife Refuge and Mad Island Wildlife Management Area near Bay City, and Lake Texana State Park near Edna. Other unique birding places along the Central Coast segment are Guadalupe Delta Wildlife Management Area east of Victoria, the Aransas National Wildlife Refuge, the Redhead Pond Wildlife Management Area near Corpus Christi and Padre Island National Seashore.

The **LOWER COASTAL** section, begun in 1996, swings south from big ranches

such as the King Ranch at Kingsville and the Kenedy Ranch at Sarita, then fans out to include the Rio Grande Valley. With some of the most prolific birding spots in the country, this region boasts such famed birding areas as Laguna Atascosa National Wildlife Refuge near Rio Hondo, Santa Ana National Wildlife Refuge near San Juan and Bentsen–Rio Grande Valley State Park at Mission. Clustered in between are a scattering of birding habitats including several units of Las Palomas Wildlife Management Area, as well as other special tracts where thousands of tropical birds flock.

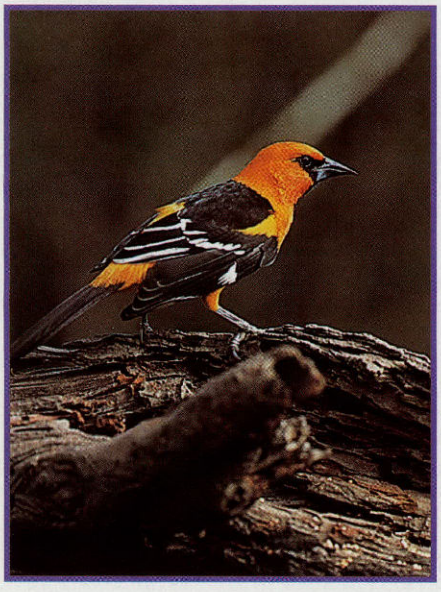
For more information about the Great Texas Coastal Birding Trail call the Texas Parks and Wildlife Department at 1-800-792-1112. To get a map of the trail, visit one of the Travel Information Centers operated by the Texas Department of Transportation. For the location of an information center call 1-800-452-9292. ★

© LARRY DITTO

A bird of Mexico and Central America, the **GROOVE-BILLED ANI** *is found in the U.S. only in the Lower Rio Grande Valley.*

© LARRY DITTO

Open groves of palms, mesquite and cacti are habitat for **CRESTED CARACARAS.**



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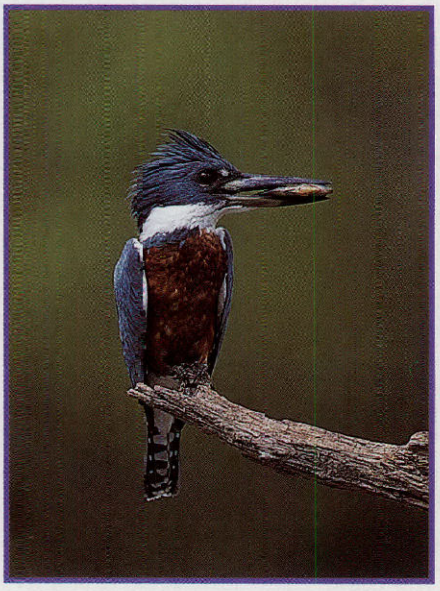
Santa Ana National Wildlife Refuge and the Brownsville area are the best places to see the **ALTIMIRA ORIOLE**, *also known as the Lichtenstein's oriole.*



© LARRY DITTO

Laredo and Falcon Dam are the places to find the 13-inch **RINGED KINGFISHER**, *the largest of the three kingfisher species found in the U.S.*

© LARRY DITTO

The colorful and vocal **GREEN JAY** *is found from the lower Rio Grande Valley south through Mexico and Central and South America.*

When the Spaniards crossed what we now call the Rio Grande Valley of South Texas they found a land teeming with wildlife and a diversity of plants rivaled only by tropical rain forests. In some respects deep South Texas was very much like a rain forest. The fertile delta region at the base of the Rio Grande was a mosaic of ponds and lakes interspersed with nearly impenetrable riparian woods. Old Spanish documents speak of the hazards of wandering too far into the monte without the aid of Indian guides, who themselves depended on narrow, weaving trails they had cut in order to negotiate the thorny woodlands.

Although much of the land in deep South Texas remained relatively unscathed through the 19th century, the beginning of the 20th century saw unrestrained habitat clearing; and by the mid-1930s most of the rich delta had been turned into farm land, bereft of the tall trees and lush understory that once had prevailed.

With the onslaught of woods-clearing in the upland regions beginning in the mid-1960s, the sprawling South Texas brushlands became a thing of the past. Now less than four percent of the monte remains. The USFWS and TPWD have initiated programs to replace the brush—both riparian and upland—that was bulldozed in years past. But both agencies agree that reclaiming native habitat ultimately will depend on the will of the people who live in the region.

One of the most inspiring projects focusing on restoring native habitat is the South Texas Private Lands Initiative created in 1993. The project joins The Nature Conservancy and the TPWD with the primary goal of helping private citizens create natural habitats on their lands.

The success of the project so far proves that many Valley citizens want to return to the good ol' days of *mucho monte verde.*

"So far we've replanted about 5 1/2 acres on our 40-acre farm," said Ralph Brooks of La Feria, a participant—with his wife Janet— in the South Texas Private Land Initiative. A former school teacher and

© LISA WILLIAMS

© LISA WILLIAMS

Like many South Texas tracts, Ralph and Janet Brooks's ranch near La Feria was cleared for agriculture, far left.

The Brooks have replanted about 5 1/2 acres of their 40-acre farm with trees and woody shrub seedlings provided by The Nature Conservancy, above.

farmer, Brooks readily admits that he took part in the brush-clearing frenzy that once overwhelmed the Valley.

"We were interested in putting back what we'd destroyed," Brooks says. "After I cleared the land, I figured we shouldn't have done it. We should have leased it for dove hunting instead, because it would have been one of the greatest places in the country for hunting."

But Brooks, who as a young boy in 1925 moved from Georgia to the Valley, said he's always loved the brush. "When I was away for awhile, I really missed the mesquites."

Over a year ago they planted 750 trees and woody shrubs with seedlings provided by The Nature Conservancy.

"We like the sabals and the ebonies, and we've got several coral bean trees as well," Ralph Brooks says. He adds that the anacahuites bloomed this year, and that the retamas and mesquites have fared exceptionally well.

To date, 22 landowners have participated in the project, and nearly 700 acres have been replanted in native brush. Of course, many other small tracts—some no larger than a back yard—have been planted with South Texas native species. There are even people like Robert and Cecilia Mumford who have begun nature tours for local school children on their small wooded tract on the outskirts of Mission.

"We're offering birding tours and we're giving the kids chances to plant seedlings on our four acres, because if we don't teach the children about the importance of our native habitat then they won't want to save it," said Cecilia Mumford.

Throughout the Rio Grande Valley people are realizing that reintroducing native vegetation not only enhances bird watching and the beauty of the area, but it also provides a practical landscaping scheme. After all, South Texas native plants can get by on considerably less water than most non-native vegetation.

Community Bird Sanctuary Program

Texas Partners in Flight (TX PIF), an organization made up of conservation agencies, organizations, businesses, private landowners and citizens, is developing a Community Bird Sanctuary Program for towns and cities interested in learning how they can increase bird populations in their area and become designated as a bird sanctuary community. TX PIF is also developing a state conservation plan to assist in reversing declines for all Texas's bird species.

If you would like to receive information about this organization and these programs, contact TX PIF, c/o Texas Parks and Wildlife, 4200 Smith School Road, Austin, Texas 78744 (E-mail address is criley@access.texas.gov).

For More Information

The Nature Conservancy, *South Texas Office*: 210-580-4241

Santa Ana National Wildlife Refuge: 210-787-7861

Harlingen Chamber of Commerce: 1-800-531-7346

McAllen Convention & Visitors' Bureau: 210-682-2871

Mission Chamber of Commerce: 210-585-2727

Brownsville Convention and Visitors' Bureau: 1-800-626-2639

Laguna Atascosa National Wildlife Refuge: 210-748-3607

Bentsen-Rio Grande Valley State Park: 210-585-1107

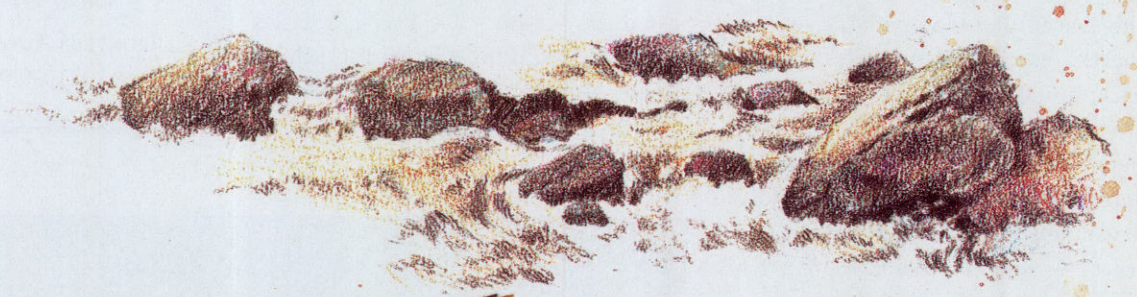
Frontera Audubon Society: 210-968-3275

© LARRY DITTO

Habitat preservation and restoration will benefit future generations of birds such as these black-bellied whistling ducks.

Lower Canyons of the Big Bend

For members of the Fleming family, annual river trips down the Lower Canyons of the Rio Grande were more than holiday outings; the rugged and sometimes dangerous passages were a crucible for building family relationships in one of nature's grandest arenas.



BY DARYL AND DAVID FLEMING

In March 1976, when members of the Fleming family first traveled the Lower Canyons of the Rio Grande, fewer than a thousand people ever had floated or canoed that section of the river, described almost a hundred years ago by Robert T. Hill as separating "a hard portion of Texas from a similar and still harder portion of Mexico." That year, mystery was everywhere. Evidence of man was cold, ancient, absent or eerily unexplainable. All that really was known was the trip would take about six days, cover perhaps a hundred miles (maybe more) of river, and that the river runners would be entirely on their own. No viable exit point existed between put-in at the La Linda toll bridge where RR 2627 ends, and take out at a place called Dryden Crossing where the old Bootleggers' Highway disappears in the sand dunes of Mexico.

But it was this mystery, this last place in Texas, that drew the Fleming brothers to the Lower Canyons. Raised on a blackland farm near San Marcos, our childhood was Texas of the Fifties, the drought years, in which one developed a reverence for flowing water, that most precious of resources. We grew up in a

time when nature was an intimate and active force. In the Lower Canyons, we discovered a place where nature still is awesome and intimate and active, where heat and dust can almost speak words, where connections with the past are dramatic and pervasive, where the spirit is made so elastic that simple things, in contemplation, reveal truths that echo in the consciousness forever.

In March 1976, brothers Robert, David and Greg, along with Dick, a friend of Greg's, made the first venture from the Big Bend into the Lower Canyons. The next summer, brothers Mike and Daryl would join the trip. In the years that followed, Robert's son Jeff, a nephew, Trey, father Malcolm, father-in-law J.C. Walters, various friends, such as Bruce Engelhardt, and then daughters, Rachel, Bethany, and Sarah, and Daryl's son Stephen would complete their own rites of passage. The trip from La Linda to Dryden Crossing divides itself into a record of six days.

For 20 years we have made the trip from La Linda to Dryden Crossing, and adventures have blurred and blended together. Memories and speculations have become welcome passengers in each boat. But regardless of the year, the river journey remains a record of six days in one of the last great wild places of Texas.

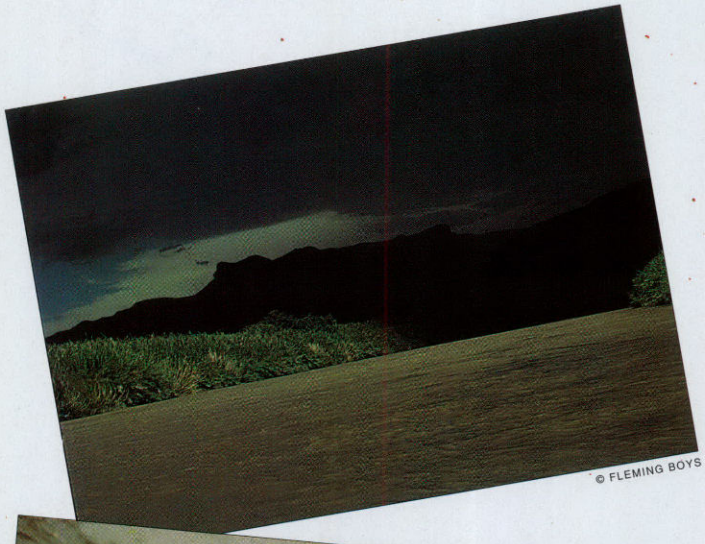
day one

Arrangements have been made to meet a shuttle driver who will travel with us to La Linda and then drive our vehicle to the take-out point downriver at Dryden Crossing. In the early years, it was at Dryden Mercantile with Bill TenEyck, a tall, lanky man who could chew tobacco and drink coffee at the same time while seeming to manage all of West Texas from behind the counter of his small mercantile. In the days before river running became so popular, he looked at our efforts in a bemused, fatherly way. We wanted his advice. His blessing.

In those days, our shuttle driver would sit with us at the now-abandoned cafe in Marathon while we ate fried eggs and gravy with biscuits, drinking as many cups of coffee as our stomachs would allow. He would be curious but detached. He had fished the river. He had known people, mostly railroad linemen, who had camped on the river, but who always had that solid justification of fishing and hunting, not just floating.

La Linda is our next stop, some 70 miles away. With the declaration of the Lower Canyons as a Wilderness Area in 1978, it became necessary to enter Big Bend National Park and get a river permit at either Persimmon Gap or Panther Junction. Rangers diligently checked all gear to be sure it met their specifications. Such inspections are rare or non-existent today. If you are on that stretch of river, you should know what you are doing.

It is past midday and the sun is hot on the rocks of the grav-



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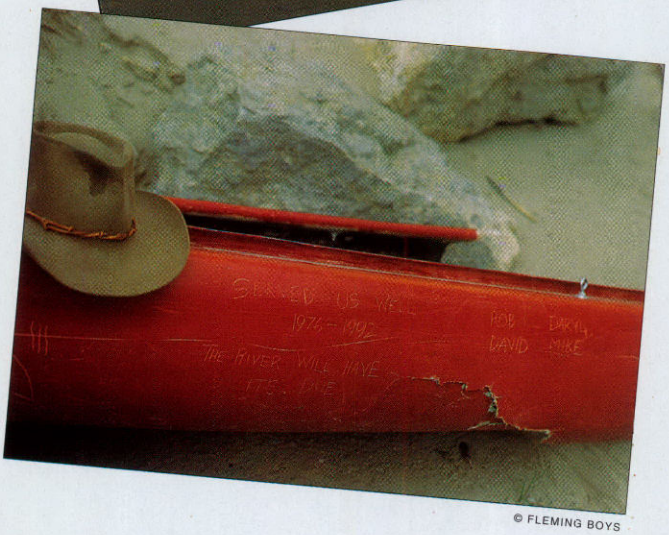

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There is a sense in this primitive isolation of the imminence of accident, injury, even death. Like shadows along the river's edge, it is deep or shallow according to the place...

el bar as we slowly load our canoes with water and the food and gear that will sustain us for the next week. We tie down our gear while our canoes bob gently in the muddy river, make a final check of the truck and trailer and send our driver on his way, successfully disconnecting ourselves from any sort of retreat. We move into the current, sweeping under the bridge and into the left-turning bend below the old fluorspar mining operations in Mexico. Our minds and bodies test the water, the equipment and the partnership in the canoe. Already, the beauty of the desert and river is overpowering.

After covering six miles on the river, the sun is a tangible heat like the bottom of an iron. We cannot help being tired and express it in familiar terms. We cannot help but think ahead to the miles we must cover before darkness. We cannot help feeling unsheltered and unprepared. We do not understand this transition when our lungs lose their breath and replace it with desert air and how, from then on, each separate point of us is altered and we become, not visitors, but inhabitants.

We pull out at first shade. The river changes its identity with the solemnity and subtlety of a woman. Years that we could name each rock and turn have given way to years where new turns appear and rocks rearrange themselves in the fast water.

On the 1994 trip, Daryl's daughter Sarah looks back at him from the front of the canoe and asks if it will rain. He says it probably will. She asks if there will be lightning. He knows she is terrified of lightning. Some, he says. They paddle on in silence. He thinks back to the year when his brother Greg was in front and two great storm systems collided above them on the river and how they crossed a line between bright sun and total darkness and the temperature dropped 60 degrees and it rained so hard they could not breathe and the river flowed backwards.

We pass the rock ledge near Maravillas Creek where one year we ate catfish and softshell turtle and it rained hard in the night and we sat on the bare rocks in the open and laughed at every silly thing we could think of because we were so scared.

The first night on the river is usually spent somewhere within the boundaries of the Black Gap Wildlife Management Area. Making camp is its own ritual of sorting and placement. The kitchen is set up and the coffee is put on. Wet clothes are shed and shaken and hung to dry. Bedrolls and cots are set up. We let the day's heat and work settle out of us. We drink coffee. Supper is made and the hot pans are set to the side with wide metal spoons to scoop the food out onto tin plates.

Water is heated for the dish-washing next to a fresh pot of coffee, coffee that will be drunk slowly with cigars and conversation, or quietly as stars clear the eastern mountains in Mexico like lighted birds lifting in a slow, dark air. Sheet lightning flickers like insects from unseen clouds and the cattle and goats and horses and burros begin moving and eating and calling each other across the river. At some common, inaudible signal, we drift to our bedrolls. One world lets go of another and we are there on the river.

day two

There is a partner reliance that is established quickly, and is law on the river. Partners are responsible for each other first, for the boat second, for each other's gear, third. They work not as two, but as one in two different places at the same time. In long stretches of river, the level of reliance rises. If anything happens, it is up to those two to save themselves, their boat and their gear.

In mid-afternoon, we approach Big Canyon. The ruins of a rock house, once visibly prominent, no longer are a landmark pulling us down the long lake before the turn that will take us into the canyon. The same is true with other man-built landmarks we have counted on through the years. Even Asa Jones' pump house near San Rocendo Canyon is leaning precariously toward the cliff's edge. Perhaps in a few short years, only those of us who have been long on the river will remember that auspicious sentinel.

We have gone 30 miles since our trip began. Formations pass. Side canyons. Rock strata. Places with names like El Recodo creek, El Reliz creek, Oso Canyon, Cueva de la Puerta Grande. They are part of our language now. The team begins to work smoothly, the rudder, the pull, the draw, the backwater—all those shiftings of the paddle in the water that make the canoe respond outside the command of the river; the strokes that give us control and movement and often, hope.

day three

Anyone who travels this stretch of the river knows that he will get a certain distance if he stays on it long enough, despite heat or chill or storm or injury. The test of endurance is salted with good humor, steadiness, and a continuous and high level of alertness. It is not just staying on the river for 26 miles in low water with a headwind, it is doing so with grace and cheerfulness.

Now in the big canyons, we do not cover so many miles a day. Hot springs are evident along this stretch of river, the two largest being across from Asa Jones' pump house and at the mouth of San Rocendo Canyon. We refill our canteens and water jugs at the springs. Purification tablets are added for safety.

There is not a more critical job of team work on the river than lining a canoe through rough water. At San Rocendo Canyon, the river's force becomes a brutal challenge. We beach our craft on the muddy banks of Mexico. Fifty-foot ropes are secured to the bow of the boats. Several of us move into critical points along the side of the rapid, staggered from the upper to lower end. We are in the fast water, braced against rocks. The boat and securing rope will be fed cautiously, stern first, to each person downriver, who then releases it to the next. At

the bottom, the canoe is swung into the backwater and then pulled ashore and tied.

In 1986, one canoe tilted, filling with water. The pull was so great that Mike could not hold it, and it was swept down river. It is only in the wilderness that such an accident has enormous consequences.

day four

It is at Palmas Canyon that we most often feel the change in rhythm. We accept the river's pace and more rightly feel the water and the landscape. Perhaps it is our willingness to leave the river and explore the canyons and rock cliffs that make our travel slower. We take cactus- and thorn-laden trails up to rock shelters whose ceilings are blackened with recent and prehistoric smoke. Their occasional appearances create the ghost towns of the Rio Grande. Alone on the high slopes, in openings of dark fissures, it is possible to feel the ancient ones moving inside or hear the gravel sliding as they approach. Sometimes, to remain too long is indecent.

Late afternoon. We are tired. Up ahead the river turns and there are the high cliffs of Burro Bluff and the muffled roar of Upper Madison rapids. The afternoon sun has turned the cliffs orange. The river is in gray shadows with the fractured orange reflection. The nerves tense as we move cautiously to the Mexican side, ready at any moment to leap out and pull the canoe to shore. We have lost two boats to this rapid. We know its force. We move gently as though approaching an angry bull.

It is possible to line the boats at low water, but most often they are emptied and packed up over the rocks and put in downriver and reloaded. The path over the rocks is precarious and takes all of our energy. We move leaden and laden with very little talking. The wind comes up in the evening shadows, and we camp at the base of the rapids on a rock ledge.

Daryl sets up his kitchen, laying out the night's meal. David sets up his cot, and unpacks his river journal. He makes a few notes. His face and hands are a deep red, flushed from sunburn and heat. Mike takes his fishing gear and casts among the rocks near the foaming rapid. Robert finds the first aid kit, rummaging for tweezers to pull the nagging needles of the spineless cactus from his shoulder. Greg pulls driftwood and splintered mesquite into a pile for a fire that might or might not get made. Bruce, a frequent companion, changes into dry clothes and sits facing the wind. The skin of his face is gripped tight around the bones of his skull. David puts his journal down, going to the first aid kit for mercurochrome to doctor Malcolm's hand torn by carrizo cane as he pulled himself to shore after the canoe capsized. Bats flit in the air and the ocotillo on the low canyon rim make a clicking noise. The water over the rocks makes a sucking sound and intermittently, a hollow bump. "The ghost canoe," says Robert, and we do not laugh.

day five

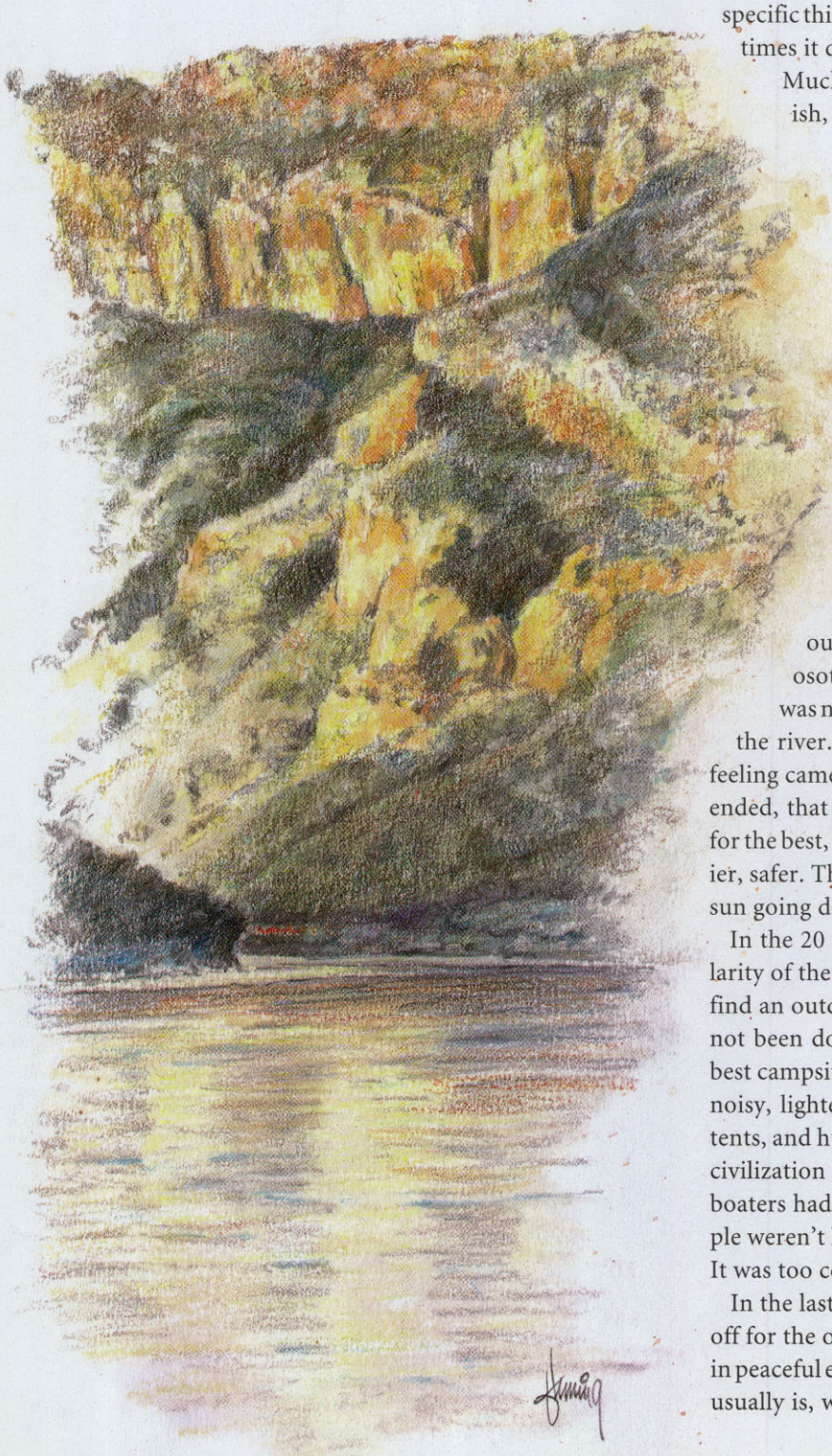
There is a sense in this primitive isolation of the imminence of accident, injury, even death. Like shadows along the river's edge, it is deep or shallow according to the place, but it is there to the extent that each member of the group has to believe that each other member is not careless or foolish, that he knows what he is doing and can take care of himself.

Five hundred yards from Burro Bluff, as David and Bruce coast along with the river, the keel snags fast on rough rocks. The canoe pivots, snags again and goes over, throwing Bruce and David in the river downstream, trapped underneath the canoe. Although shallow, the water forces the canoe across David's body, cracking two ribs and binding his shoulders, making it difficult to catch air. Before the capsized boat can pass over him, Bruce slides free and, with all his strength, he kicks the boat around so that it is lined up with the current again, and David and Bruce both roll free to the deeper, churning water below.

Lower Madison Falls. The others have lined their canoes through the rocks. Greg and Daryl look at the rapid. It is still two days from takeout. They cannot afford to lose their boat and gear. There are boulders in the current. They move slowly forward. Greg turns and holds out his hand. Daryl takes it in a firm grip. They do not speak. They are both poised, easing into it. The adrenaline pumps, making the breath shallow and fast. As the nose dips and the canoe is at a 45-degree angle, Daryl sees Greg disappear under water and then he goes under, emerging only seconds later, seeing Greg outlined against the sky and then falling again and they are both pulling, feathering, resting, dodging the rocks and coming clean at the bottom, shouting, and jumping free of the boat in the still water, hugging each other and laughing. Brothers.

Perhaps we know that other rhythms have been revived, something from our childhood together. Something of bravado and affection and respect. Those old patterns of who is older and wiser and funnier.

San Francisco Canyon and its confluence with Washboard Canyon several hundred yards from the Rio Grande represent a major watershed. For us, it represents the last night of the river trip. So many stories originate from this campsite: the floods we have seen bursting into the Rio Grande and causing the river to run upstream; the dry gravel bed we camped in, purifying river water over a campfire; the copperhead snake going relentlessly toward our father's cot and him shouting, "You think one of you boys could get that blasted thing;" the storms when we had to relocate our camp to higher ground in the middle of the night; Bruce and David keeping watch, hearing voices and footsteps of ghost travelers; and mostly,



the easy camaraderie of friends who have survived a physical and mystical journey. Whose laughter pays tribute to both the courage and the frailty of actions and individuals.

day six

On every trip, we take a group picture on the last morning. Individually we see the sadness and the defeat of certain years when it took all of our strength to participate. We go seeking specific things from ourselves and from each other and sometimes it does not work. The river changes. We change.

Much of the last 17 miles is a blur. The canyons diminish, giving way to the low, gray, limestone walls. Mile markers are given in terms of ranches and grazing pastures. Here and there, gravel roads run down to the river. Fishermen cruise up and down the lower stretch checking trotlines. Sheep herders and vaqueros walk and ride the low slopes. Beer cans and plastic bottles float in the backwash.

In June 1995, when the Fleming brothers, a daughter, a son, and a friend finished tying the gear onto the trailer behind the truck that would take them home again, they turned and faced a brilliant orange sunset, the sky layered with the remains of a thunderstorm. A steady wind blew across the low hills, under the shed once filled with iron beds and jonboats and tables and chairs and outboard motors and old ranch vehicles. In the creosote brush the soft wind took on a sad sound. There was no evidence that any livestock grazed there or across the river. There was no other living thing in sight, and a feeling came over the group that more than just this trip had ended, that the river and desert had somehow, and perhaps for the best, been left for something closer, more civilized, easier, safer. There was just the landscape, and the wind and the sun going down.

In the 20 years we have been running the river, the popularity of the run increased to the point that it was rare not to find an outdoor organization or boating enthusiast who had not been down the Lower Canyons of the Rio Grande. The best campsites, those close to springs, were crowded, littered, noisy, lighted. Outfitters in chefs' hats with string quartets, tents, and hundreds of pounds of ice took their usual share of civilization bubbles down the river. By the end of the 1980s, boaters had been fired upon upriver. People were hurt; people weren't hurt. People had a good time; people were bored. It was too cold. It was too hot. It was too far.

In the last few years interest has waned; business has fallen off for the outfitters and shuttle services; the river lies empty in peaceful endurance. There was a misunderstanding, as there usually is, when people think adventure is a spectator sport,

and hundreds of people looked in the wrong place for what they thought they wanted to see. But with the sportsman's eye beginning to turn away, there is a danger that other forms of civilization, more insidious, more harmful and ultimately more destructive may be moving along the edges of that muddy current. Increased demands on the river from urban and agricultural areas has already significantly altered a once fertile and life-giving ecosystem. Entities from Colorado to New Mexico, Texas, and Mexico all have claimed their part of the river, greatly limiting what happens below. Untreated human waste from Ciudad Juarez and chemical plants on both sides of the border enter the flow. Rains flush even more sewage from drainage canals into the Rio Grande. A river that once was depended on for drinking water and game has become dangerous even for swimming.

There is a one-dimensional way of seeing that our society teaches us concurrent with language and motor skills. It is similar to, but not the same as, the habit New Yorkers develop of avoiding eye contact with their fellows on the street. Modern man tends to perceive in terms of immediate usefulness, entertainment or possibility of ownership. Beyond those qualities, there is no depth, and very little reality. When the Flemings, and others like them, travel the river, they see not only the immediate rush or drift of rippled or foamed water, but also flowing water in its elemental symbolism and utility. They see not only the vegetation, but also its ultimate ability to sustain wildlife or threaten personal comfort. They see the vast panorama of geologic time, and are aware of the simple, harsh, lovely, brutal history of those peoples who came to this lonely place and lived along the river in sunshine and storm until it could no longer sustain them. They do not seek entertainment as much as they seek connections with dramatic nature, their own past, the past of peoples long gone.

They will continue to return to that river and that country, and will educate their children the way they know how. They will teach them to love that place, and respect the responsibility to preserve it. It is a responsibility we all share—the odyssey of the family of man.

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Daryl Fleming is a local storyteller and director of theater at San Marcos High School. David Fleming teaches English at Seguin High School and is the author of two novels, Summertime *and* Border Crossing. *Rob Fleming is a designer/illustrator at the Texas Parks and Wildlife Department.*

A second generation has joined the Fleming brothers on the river trip they have made every year since 1976. The first father/daughter trip in 1994 included, from left, Daryl and daughter Sarah, Bethany and father David, Rob and daughter Rachel.

"Best of Contest" Winner

This photo of a buff-bellied hummingbird visiting a Turk's cap blossom proved to be worth $3,400 in the 1996 Valley Land Fund Photo Contest. Half the prize money went to photographer Charles Melton of Boulder, Colorado, and half went to landowners John and Audrey Martin of Edinburg. The 1996 contest awarded $100,000 in prize money to winning photographer/landowner teams. The contest is held to showcase the wildlife of the Lower Rio Grande Valley and encourage landowners to preserve vanishing native brush habitats.

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