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Young pines inch their way higher in formerly burned areas of Bastrop State Park.

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THE YEAR OF STATE PARKS: BASTROP STATE PARK

Rolling With the Punches

Neither rain nor fire nor collapsing dams can knock out Bastrop State Park.

by Melissa Gaskill

PLUS: 10 State Parks for Biking
Page 32

PHOTO BY SONJA SCHMIDTKE / TPWD

ON THE COVER: *New pine trees start to take root as recovery continues at Bastrop State Park. Photo by Earl Nottingham / TPWD*

BACK COVER: *A northern pintail comes in for a landing at a pond near Victoria. Photo © Gary Kramer*

34 Safe on the Shore

Beach-nesting birds need our help to protect their young.

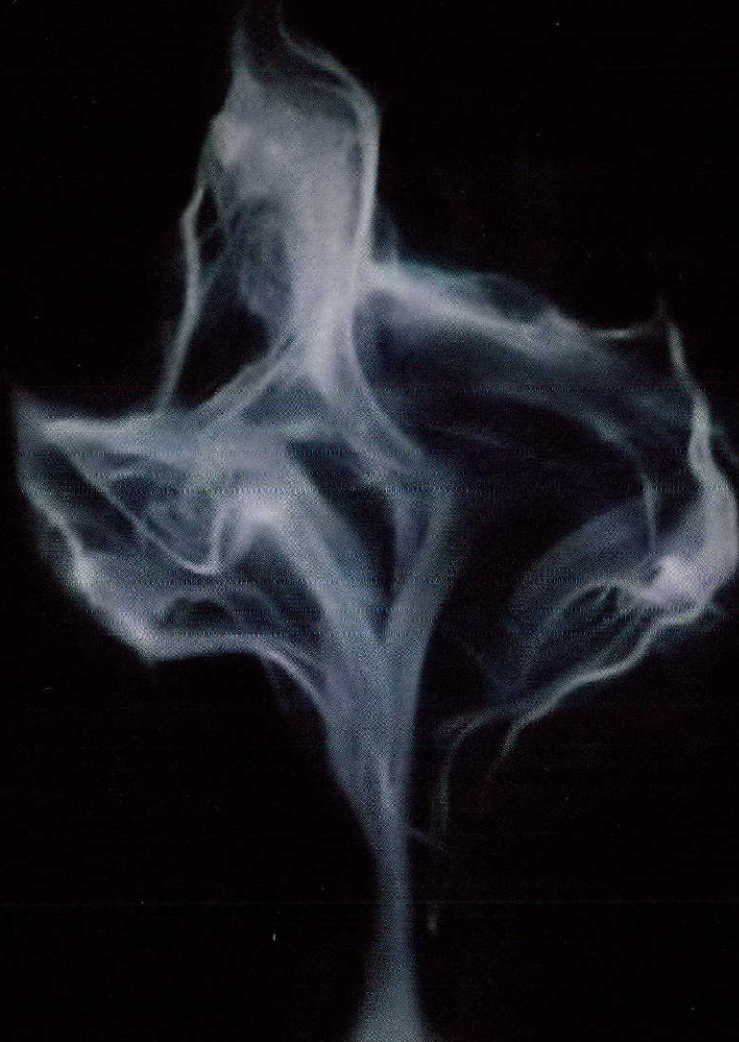
by Kacy L. Ray

40 The Unknown Army

Buffalo Soldiers connect kids with Texas history beyond the textbook.

by Sheryl Smith-Rodgers

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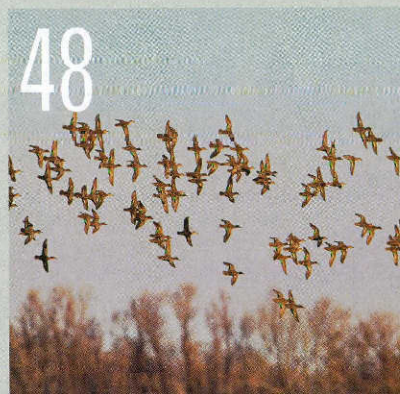
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↑ "BUFFALO SOLDIERS TOOK PRIDE IN THEMSELVES. THEIR LIFE WAS HARD. THEY GOT UP EARLY, TOOK CARE OF THEIR HORSES, BATTLED IN UNKNOWN PLACES AND WORKED IN THE HEAT, NEVER KNOWING IF THEY'D MAKE IT BACK ALIVE. BUT THEY SAW THEIR WINDOW OF OPPORTUNITY AND WALKED THROUGH IT."

— LUIS PADILLA



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FROM THE EDITOR

MY CHILDHOOD BEST FRIEND was a forest-green Schwinn with white trim. Her stout tires and sturdy frame never left me stranded, no matter how far I wandered. She probably belonged to my sister first, which only added to her “big girl” allure. No banana-seated, rubber-horn-blaring child’s bike, my sophisticated ride sported hand brakes and a speedometer.

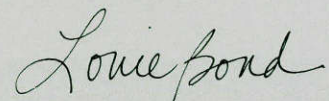
A solitary child, I was separated by years from my older sisters and by unintended alienation from neighborhood kids (I was the odd creature who didn’t attend the local public school). When restlessness overcame my appetite for books, that bike became my magic carpet to adventure.

Most every summer day or weekend, I’d roll her out of our one-car garage, pump some air into those tires and check the grease on the chain that rolled steadily on a single track as long as my skinny legs kept pumping. And, in that wondrous time of youthful energy, they could propel me all day long.

Bikes have changed, of course, as have the times. But there’s still no freer feeling than the wind whipping through your hair as you speed effortlessly down that tough hill you just climbed. There’s still no more wondrous feeling than sneaking up on a jackrabbit who’s too intent on some tender grass to notice your silent approach.

While some cities are embracing veloways and bike lanes, it’s still hard to beat taking your family or friends and a handful of two-wheelers out of town to a state park. Whether you’re a serious endurance athlete looking to challenge yourself on the endless and unyielding desert terrain of Big Bend Ranch State Park or a young family looking for a shorter, paved ride to see Valley birds at Bentsen-Rio Grande Valley State Park, you can find your perfect ride(s) at a Texas state park. Online resources like the *Texas Parks & Wildlife* magazine app, the Texas State Parks Official Guide app and the TPWD website can help you make your selection.

Not everyone’s passion involves wheeling through the woods, so Sheryl Smith-Rodgers takes us on a recumbent bike tour of San Antonio’s iconic landmarks. We haven’t forgotten that this time of year, Texans are heading to the field to shoot dove, so TPWD expert Steve Hall helps you take the first steps in this month’s Get Out (Page 56). Chief Photographer Earl Nottingham’s haunting portraits accompany a profile of our beloved Buffalo Soldiers program for history buffs, and beachgoers can learn how to protect vulnerable shorebird nests on Page 34.



Louie Bond, Editor

MAKING A COMEBACK IN BASTROP

IT LOOKED LIKE ARMAGEDDON, or at least what I always pictured it to be. A giant mushroom cloud, billowing vast plumes of thick, black smoke that could be seen for dozens of miles away, seemed ready to swallow the area whole. Giant flames shot up in the air like oversized bottle rockets, catching everything in their wake on fire, including the towering pines of the surrounding forest.

As forest fires go, it was as impressive and ominous in look and destruction as they come, at least for our neck of the woods.

It was Labor Day weekend of 2011. The place, of course, was the fabled Lost Pines of Bastrop, that magnificent stand of loblolly pines isolated from the big East Texas woods by 100 miles or more. Record drought preceding the fire had dried out the forest like a tinderbox, so much so that foresters with the Texas A&M Forest Service characterized the condition of trees as the driest they had ever recorded.

The heart of the conflagration was Bastrop State Park, a place built by the men of the Civilian Conservation Corps and cherished by generations of Bastrop families and other Texas families since the late 1930s. When it was all said and done, more than 95 percent of the state park had been burned. Saved from the fire were areas around the old golf course, the cabins, some campsites and some riparian areas where the soils held a little more moisture than the surrounding sandy hills.

It has been five years since that catastrophic fire. Suffice it to say, a lot has happened since then. As if the big fire itself wasn't enough, the park has endured other substantial affronts — record floods, massive erosion, another fire, the washout of the dam on the park's signature lake and the shuttering of the golf course. Just when it felt as if we were about to turn a corner on our fire recovery efforts, another incident popped up with yet more damage, more challenges and more costs.

Alas, as one old friend wryly remarked with the height of understatement, "If it ain't the windmill, it's the pump."

Thankfully, what isn't damaged, broken or destroyed is the resilience and spirit of the men and women who proudly steward Bastrop State Park. Led in no small part by the husband and wife team of Jamie and Greg Creacy, along with hundreds of other staff, volunteers and donors, restoration and recovery plans are being carried out in great earnest and with great success. Erosion control structures have been installed on the hillsides, thousands of loblolly seedlings have been planted, exotic vegetation has been controlled, habitat has been enhanced for rare and imperiled species, new bridges, trails and fences have been built, and myriad research projects have been launched to help us better understand the post-fire effects on the park's landscape.

I often say that the Texas Parks and Wildlife Department shines the brightest during our darkest hours. The accompanying article from Melissa Gaskill on the five-year anniversary of the fires at Bastrop undoubtedly underscores that sentiment. The state park, while admittedly a very different-looking place than before, is a veritable beehive of goings-on, not only with the business of restoration, but also with the activities of visitors, who have come back in droves to witness the process of bringing the forest back.

The nature of our business at TPWD, both stewardship and outdoor recreation, depends a lot upon the whims of Mother Nature. And while we can't control what weather she brings us, we can ensure that her bounty is there for all Texans, now and to come, to enjoy, savor and experience. I hope you will take time to do just that at any of your state parks or wildlife management areas across Texas.

Thanks for caring about our wild things and wild places. They need you now more than ever.



EXECUTIVE DIRECTOR

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FIELD GUIDE *to* BASTROP COUNTY

ISSUE
No 09



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A skunk named Spot was rescued and raised by a New Mexico Game and Fish officer.

SKUNK TALE DIDN'T STINK

Having enjoyed the account of Bob Dowler's skunk studies authored by the witty Russell Roe for the June issue ("The Big Stink"), I have for you a plaint and a tale. Sadly, my scratch-'n'-sniff page was defective. Nary a whiff could I obtain. It was a crushing disappointment, I assure.

Perhaps your staff can get a kick out of my friend Spot the spotted skunk. As a career officer for New Mexico Game and Fish, my dear late brother Jack was occasionally foster parent to hard-luck wild youngsters that stood to benefit from his kind heart and rural acreage.

Spot was such a guest. Once healed from the operations imperative for a live-in boy skunk, and having matured in the company of humans and companion animals, the little guy went on to fulfill his intended destiny as ambassador for his kind. As such, he captivated and educated classrooms and boardrooms with his curiosity, energy and endearing cuteness. If you're into that sort of thing.

Spot adopted my niece Rachel at first backscratch. Illustrating the fellow's typical morning: a warm-up ball chase; a squirming, squealing hand tussle; and an eager tour of the grounds in search of a tasty insect (they all are) and the ideal potty nook. Tired then, a tummy rub to wind down and a warm cuddle. After an exhausting half-day, a nap.

INSECT EDUCATION

Texas Parks & Wildlife magazine increases our knowledge on many matters, and the "Parenting, Beetle Style" article in the June issue was interesting and informative (in a gory sort of way).

We came across a roundneck sexton beetle (burying beetle) at our place a

few miles east of Quitman in August 2008. We identified the critter using the internet but did not know the story about it. We saw it that one time and not since. There are a variety of interesting and unusual insects and other critters out here, and we recall what the woman from whom we

J.M.HERRING
Odessa

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bought the property said when we described the beetle. Her words were to the effect that "if you can imagine it, sooner or later it will show up."

Thank you for furthering our "insect" education, and for producing an outstanding magazine.

JOE AND DIANA MELE
Quitman

DIFFERENT FEEL FOR THE COVER

I loved the tactile surprise on the back and front of the June 2016 issue. How nice! I noticed it the moment I took my magazine out of the mailbox.

KATHY ADAMS CLARK
The Woodlands

A FAN OF PHOTO ESSAYS

I greatly enjoy your magazine and read it cover-to-cover every month. I especially enjoy your photo essays, and the "One in a Million" article in the May 2016 edition was very good. The picture of the albino red-winged blackbird in a huge flock was great.

Several years ago, I saw what looked like a flying snowball going over my house. When I went back to our patio, I saw a beautiful albino hummingbird on my feeder. We saw him off and on for about a week. Thank you for a great magazine.

RON GREEN
Arp

Expanding the Flower Gardens



PHOTO © ESSE CANCELMO

IMAGINE AN UNDERWATER

FAIRYLAND, studded by “castles” of multi-hued coral as far as you can see. Amid the yellows and oranges and greens and blues swim an equally astonishing array of marine wildlife: barracuda, parrotfish, angelfish, manta rays, loggerhead turtles and, in the summer, breathtaking whale sharks. Best of all, this beyond-your-wildest-imagination wonderland is only 100 miles off the Texas coast.

After 30 years of scientific study, the National Oceanic and Atmospheric Administration is proposing to expand the Flower Garden Banks National

Marine Sanctuary to protect additional critical Gulf of Mexico habitat.

The NOAA plan lays out five expansion scenarios, ranging from no expansion of the 56-square-mile sanctuary to one plan expanding protection to a total of 935 square miles. In NOAA’s preferred scenario, the sanctuary would expand to 383 square miles to include 15 reefs and banks that provide habitat for recreationally and commercially important fish, as well as a home to 15 threatened or endangered species of whales, sea turtles and corals.

The public is invited to comment on this proposal until Aug. 19. Public meetings were held in Texas, Louisiana and Alabama in July. Comments collected during this process will be used to develop a final environmental impact statement.

For more details about the expansion, or to download the draft environmental impact statement, please visit flowergarden.noaa.gov. ★

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JULY 31–AUG. 6:

El Paso's underground owls; kingfisher photography; fish feeding.

AUG. 7–13:

Hooked and cooked; Gorman Falls; night sky photos; dinosaur tracks; zebra mussels.

AUG. 14–20:

Oil spill recovery team; purple martins; desert crawlers; black bears.

AUG. 21–27:

State park yoga hike; moving mule deer; wintering ducks; blooming mountains.

AUG. 28–SEPT. 3

Big Thicket preservation pioneer; butterflies at risk; Enchanted Rock.

SEPT. 4–10:

Hogs gone wild; family traditions at Garner State Park; Texas Water Safari.

SEPT. 11–17:

Outdoor social club; cave people; frog pond; leading the wardens.

SEPT. 18–24:

A sinking ship; pronghorn research; camping basics; biking Cedar Hill.

SEPT. 25–OCT. 1:

Pecos pupfish; Buffalo Soldiers; tree stand safety; prairie dogs; Monahans sunset.



Music Fest to Aid State Bison Herd



ROBERT EARL KEEN will headline the 6th Annual Texas State Bison Music Festival on Sept. 17. The all-day event features some of Texas' greatest Americana and Texas country music artists, arts and craft vendors, food and fun for all ages.

Proceeds from BisonFest will help restore the Texas State Bison Herd to its historic range at Caprock Canyons State Park, where visitors can celebrate the cultural and natural history of the Panhandle.

In 1878, famed cattleman Charles Goodnight and his wife, Mary Ann, brought the descendants of this Texas herd back from the brink of extinction. Goodnight captured wild bison in the canyons surrounding the Caprock Escarpment during the height of the infamous bison slaughter. (At one time, there were 30 million to 60 million bison roaming North America, but by 1895, there were a mere 541 animals remaining.) Caprock Canyons State Park has developed an aggressive management plan to restore the park landscape and wildlife to their natural state.

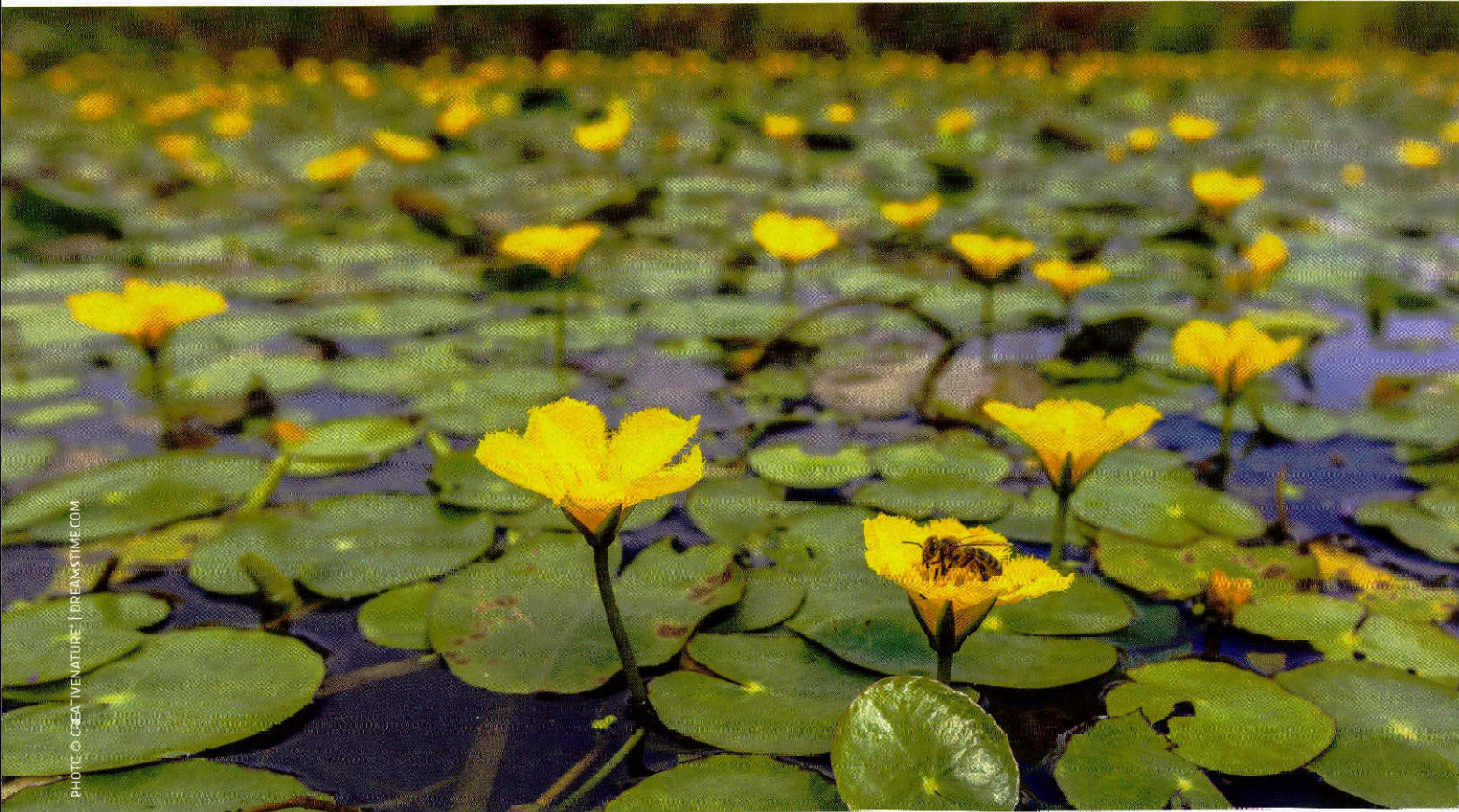


PHOTO © GREAT VENTURE | BRENASTIME.COM

INVASIVE FLOATING HEARTS are like the animated broomsticks plaguing Mickey Mouse's nightmares in *Fantasia*. When the sorceror's apprentice chops the attacking broom in two, each half rises up to double the assault. And so on, exponentially. Wake me up!

BREAKING HEARTS

When aquatic flowers take over, Texas lakes get strangled.

BY LARRY D. HODGE

One of the latest threats to Texas waterways comes in two forms and has been found in two water bodies. Yellow floating heart (*Nymphoides peltata*) infests Moss Lake near Gainesville, and crested floating heart (*Nymphoides cristata*) has invaded Caddo Lake. Despite their pretty names, they are unwelcome visitors, hitching a ride from Asia through the aquarium business.

The plants are closely related, so they have a lot in common. Both sport showy flowers and somewhat heart-shaped floating leaves, reproduce rapidly, and prefer slow-moving rivers, reservoirs and ponds.

Yellow floating heart flowers resemble those of native species such as little floating heart and spatterdock. Crested floating heart flowers are white and have a ruffle lining the center of each petal, which distinguishes the plant from native species.

Yellow and crested floating heart, like giant salvinia, are capable of rapidly covering the entire surface of



PHOTO © THOMAS261 | DREAMSTIME.COM

the water, outcompeting native plants and creating areas with low oxygen levels, unsuitable for fish. Thick mats of floating and submerged leaves can make it difficult to swim, ski or paddle in infested areas.

Floating heart reproduces in a variety of ways: daughter plants that break off and float to new areas, rhizomes and tubers that can be spread by boats and anchors, and seeds that can be spread by currents and by attaching to feathers or fur. This plant is determined!

That tenacious ability to spread by fragments makes control of floating heart by physical removal difficult, since cutting or pulling the plants creates small pieces that can escape and spread. There are no known biological controls such as insects, and grass carp (used for giant salvinia) don't feed on the plant. Use of herbicides to control floating heart has shown limited success even with repeated applications. Eradication requires killing the underwater tubers.

Texas Parks and Wildlife Department aquatic invasive species biologists monitor and chemically treat infestations of invasive plants, but prevention is the best method of control. Boaters should clean, drain and dry their boat when moving it from one body of water to another. The only sure way to halt the spread of invasive species is never to introduce them in the first place.

More information on invasive species in Texas can be found at www.texasinvasives.org ★

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ORANGE BELLIES

Shrinking habitat threatens the fierce black-spotted newt.

BY EVAN BARE AND RICHARD KLINE

“NEWTs DON’T KNOW THAT THEY’RE SMALL,” my colleague informs us as we hike through South Texas’ Sabal Palm Sanctuary. “They are serious predators — in their minds, they are lions!”

While you wouldn’t want to be a creature smaller than one of these lions — er, newts — they are entirely harmless to humans. In fact, researchers have discovered that newts are good indicators of a healthy environment.

Even when a black-spotted newt (*Notophthalmus meridionalis*) is right in front of you, it can be hard to see. With an olive-green back that is speckled with black spots (hence the name) and striped in gold, this tiny hunter blends convincingly with its surroundings. When camouflage fails to work against predators, the newt has a secret weapon in its arsenal: the unken reflex. The black-spotted newt can rear up to expose a bright orange underside, warning predators that it is toxic to eat.

Black-spotted newts grow to a length of 3 to 4 inches, with drier skin and a more rugged lifestyle than their cousins, the salamanders. Dry scrubland

surrounded by mesquite and cactus may sound like an amphibian’s nightmare, but low-lying areas like these can hold water and transform into busy ecosystems after a rainstorm.

The newts’ life cycle is tied to these ephemeral aquatic environments. After heavy rains, newts quickly turn from voracious predators to amorous courtiers, seeking mates and submerged aquatic plants to lay eggs.

Our orange-bellied native faces many threats, and in light of these, the black-spotted newt is listed as a threatened species in Texas and endangered in Mexico. Agricultural fields, asphalt and concrete now cover ephemeral ponds once used for breeding, so there are few places left for the newts to lay eggs. Once-continuous habitat is now fragmented, and worldwide epidemics of chytrid fungus and ranavirus have taken a heavy toll on amphibians.



Above: Black-spotted newt larvae have frilly gills, four short legs and a tail.



COMMON NAME

Black-spotted newt

SCIENTIFIC NAME

Notophthalmus meridionalis

HABITAT

Ephemeral pools from southern Texas to tropical areas of Veracruz, Mexico

DIET

Aquatic insects and crustaceans

DID YOU KNOW?

Newts lay between 40 and 100 single eggs.

For those of us who live in the Rio Grande Valley, the black-spotted newt is a high-priority conservation species in our own backyard. Newts are sensitive to poor water quality and vegetation conditions, so a pond with newts is a healthy pond.

Researchers from the University of Texas Rio Grande Valley, Gladys Porter Zoo and the San Antonio Zoo are currently studying population size, seasonal movements, reproduction and genetic relatedness.

If you see a newt, please post it at www.inaturalist.org/projects/herps-of-texas or contact Richard Kline at richard.kline@utrgv.edu. ★

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PHOTO © LARRY DITTO

COMMON NAME

Milkweed

SCIENTIFIC NAME

Asclepias species

SIZE

Species generally range from 1 to 5 feet tall.

DID YOU KNOW?

The white fibers of milkweed can be used to efficiently absorb oil from offshore spills.

MONARCH'S MILK

What's behind the buzz to plant more milkweed across Texas?

BY JASON SINGHURST

EVERYONE'S PLANTING MILKWEED THESE DAYS. Monarch numbers are on the decline, in part because there's not enough food — native milkweed, in particular — along their marathon migration route. Planting milkweed is the gift that keeps giving, as pollination of plants by butterflies is vital to our food supply.

During spring and early summer, striking flowers attract photographers and admirers as well as the monarchs to green milkweed (*Asclepias viridis*) and antelope horn milkweed (*Asclepias asperula*). These central and eastern Texas species are very important to the life cycle of those tiger-orange butterflies, as monarch larvae (caterpillars) feed only on milkweed. Female monarchs also search for milkweed to lay their eggs.

Crossing through the Rolling Plains and High Plains of Texas and New Mexico en route to Mesa Verde National

Park in southwest Colorado, my family tolerated my frequent stops to take photos of milkweeds. I submitted the shots to the Texas Milkweeds and Monarchs iNaturalist project (www.inaturalist.org/projects/texas-milkweeds-and-monarchs). This project's goals include promoting the importance of wild and planted milkweeds (*Asclepias* species) to monarchs in Texas, documenting the distribution of native, wild milkweed in Texas, and quantifying the changing importance of different milkweed species to monarch caterpillars throughout the year.

As we traversed through the plains, we drove through several summer rain showers. These summer rains encourage the growth of several milkweed species that frequent these landscapes during the hottest months of the year.

If you happen to be traveling through the Rolling Plains and High Plains this summer, remember to bring your rain jacket. Don't be surprised if a thunderhead arises across the plains and provides you with a wonderful backdrop and the fresh smell of rain on the horizon while you encounter summer milkweeds. ★



PHOTOS COURTESY OF NOPMAN FLAGG AND PAM WILLIAMS / LADY BIPID JOHNSON WILDFLOWER CENTER

On our trip, we encountered three milkweed species that have been recorded as feeding sites for monarch larvae:

Top: Sand milkweed (*Asclepias arenaria*) in dunes and sandhills, with blooms of lateral or solitary pale-green flowers.

Middle: Engelmann's milkweed (*Asclepias engelmanniana*) in sandy and rocky or calcareous soils along creeks and canyon rims, with small flowers that are pale green or flushed with purple.

Bottom: Broadleaf milkweed (*Asclepias latifolia*) in prairies on sandy, clay or rocky calcareous soils. Flowers are pale green to yellowish, mostly hidden by the leaves.

Learn to differentiate all 38 milkweed species in Texas with the help of the free TPWD guide "Identification of Milkweeds in Texas" (tpwd.texas.gov/milkweed).



THE STAGE IS SET FOR THE CALL OF THE WILD

One of many of the residents of Saint Francis Wolf Sanctuary



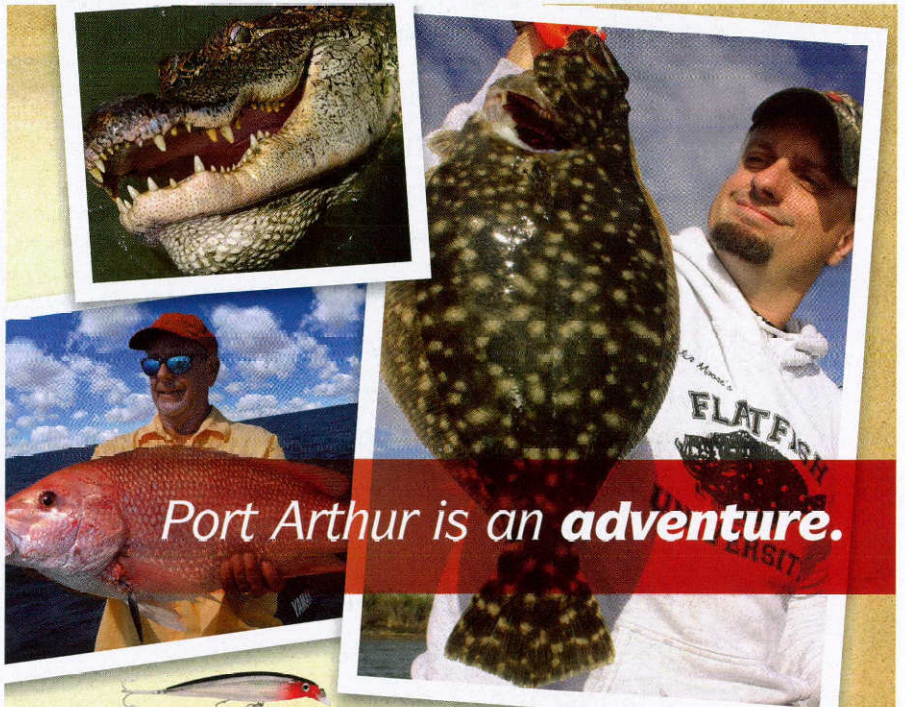
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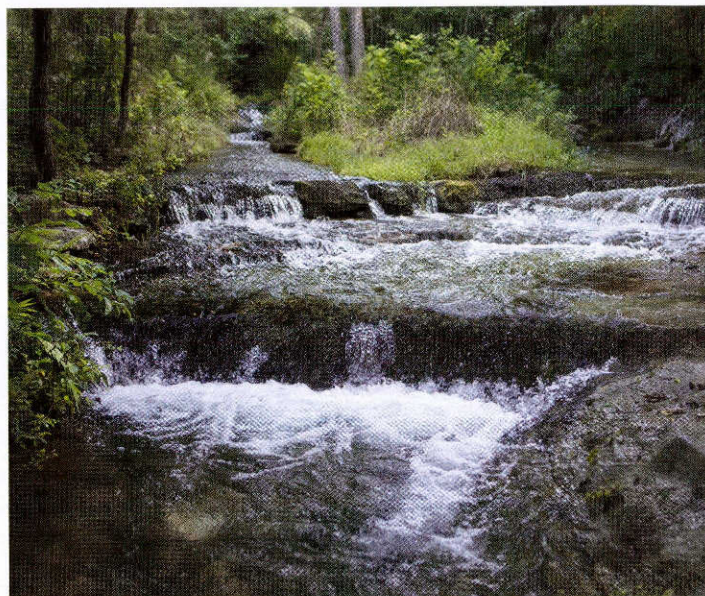
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PHOTOGRAPHING MOVING WATER

The silky effects of water can add a touch of magic to a photograph.

BY EARL NOTTINGHAM

SOMEHOW, THE IDEA OF TEXAS having an abundance of verdant, fern-framed creeks and waterfalls seems almost foreign. However, with the recent higher-than-normal rains, runoff has filled tributaries, regenerated springs, and raised creeks and rivers to full and sometimes overflowing levels. The abundance has caused headaches for many people but also has presented scenic possibilities for outdoor photographers. In fact, water in almost any form can make a landscape photograph even better.



Basically, there are two approaches to photographing moving water. Either shoot it very fast — or very slow. Shooting at very fast shutter speeds (1/500th second or faster) stops most motion and maximizes the clarity and perception of raw power by freezing the motion of each water droplet. Conversely, shooting at very slow shutter speeds gives us that “silky” artistic quality often seen on calendars. It’s that silky (or laminar) effect that many photographers prefer, but it’s often one of the most elusive to capture.

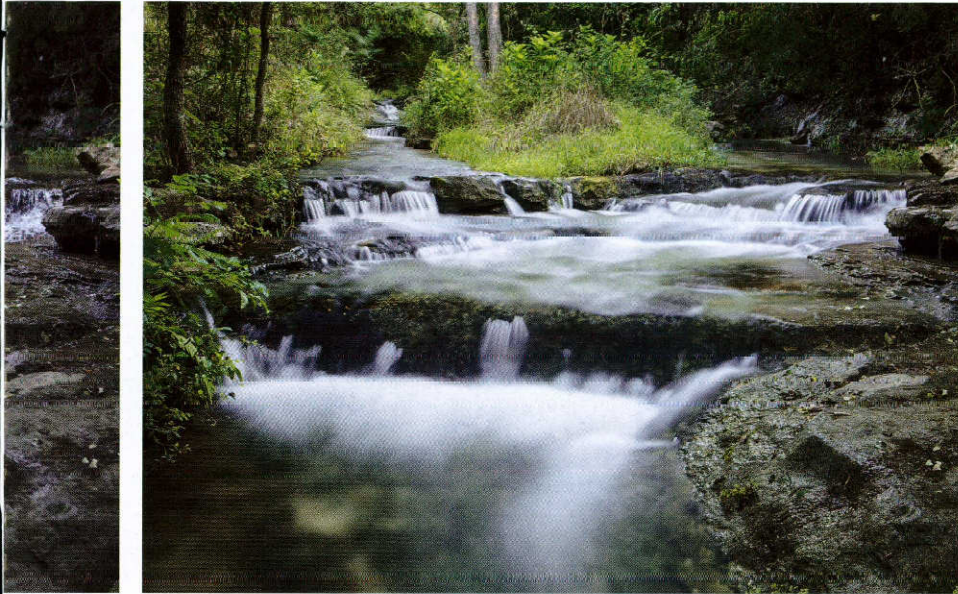
The secret to getting flowing water to render as a silky effect is to use a slower shutter speed than you would normally use on an outdoor photo. This typically means manually setting the exposure to shoot at shutter speeds of around one-half second to two seconds — or slower, depending on the speed of the flow.

These slower speeds mean that a tripod is an absolute must to eliminate any camera movement. An electronic or physical cable release is also helpful to minimize any vibration from touching the camera. Alternately, you can set the camera’s shutter delay for a couple of seconds, which will allow you to hit the shutter button and step away from the camera.

If you prefer using the camera’s automatic settings, you can choose the shutter speed priority setting, marked “S” on some cameras and “Tv” on others. With these settings, the camera will choose the appropriate aperture to achieve the correct exposure with the shutter speed you have selected.

However, because of the very slow exposure, there is a point where the lens aperture cannot close down enough to balance the exposure, and this runs the risk of an overexposed image. Many cameras will give you some type of flashing overexposure warning.

Setting your camera at its lowest ISO will also help lower the exposure sensitivity. A screw-in polarizing filter becomes useful here by cutting down on the amount of light entering the camera by approximately two f-stops. There are neutral density



PHOTOS BY EARL NOTTINGHAM / TPWD

filters that cut down on light even more. One filter even cuts light by 10 f-stops, which can give you an exposure time of several minutes, resulting in some extremely interesting possibilities.

Another consideration in capturing the beauty of water's flowing and swirling patterns is shooting in lighting that best captures the nuances of the delicate tonal highlights and colored reflections on the water's surface. Usually this means shooting in the soft, non-contrasty light of an overcast day or later in the evening when the sun dips low, rendering the silky water flow with pastel colors reflected from the sky above or from surrounding vegetation. Be aware that it is very easy to overexpose flowing water and lose delicate highlight details, so be prepared to shoot a couple of slightly darker exposures to produce that one image that gives you the sense of being able to "feel" the water.

Our friend the polarizing filter once again becomes useful with its ability to not only cut down on the amount of light entering the lens for those slow exposures but also to control the bright reflections from the water and add color to surrounding vegetation. Just rotate the filter to get the level of enhancement that looks good to your eye. ★

Left: Shooting with a fast shutter speed stops the motion of the water, freezing each drop.

Right: Shooting with a slow shutter speed gives the water a silky, flowing quality.

Please send questions and comments to Earl at earl.nottingham@tpwd.texas.gov. For more tips on outdoor photography, visit the magazine's photography page at www.tpwmagazine.com/photography.

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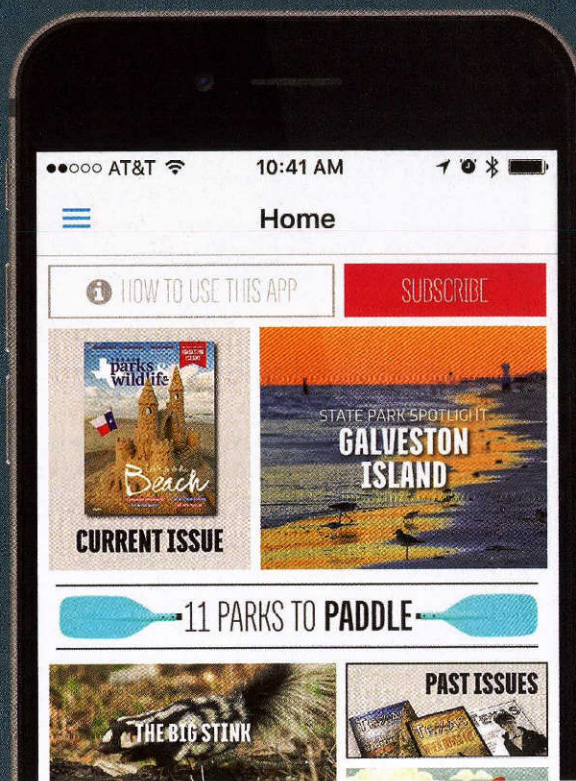
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THERE'S AN APP FOR THAT

Let your smartphone enhance your next outdoor escapade.

BY JENNIFER BRISTOL



HAVE YOU EVER walked past a beautiful patch of flowers and wished you'd known their names? Maybe you just reeled in a fish and immediately needed to find out the size and bag regulations for that species. Well, there's an app for that.

As a matter of fact, there's an app for all kinds of outdoor exploration. It's easy to get information about our natural world in real time with the power of a personal computer in your pocket — your smartphone.

Planning an outdoor adventure is half the fun. Perhaps you saw a great article in the *Texas Parks & Wildlife* magazine app and want to plan a trip to visit the park that captured your attention. You can use the Texas State Parks Official Guide app to find campgrounds and cabins. The NOAA Weather Radar app will let you check the weather around the state so you know what to pack or what areas of the state to avoid. Waze, a GPS navigation app, can help you avoid heavy traffic to maximize your outdoor time.

Once it's finally time to relax at the park, you

might be surrounded by an array of unfamiliar plants, birds, animals and stars. There are apps for that, too, of course. Leafsnap allows you to identify plants in the area, Birdsnap is for the birds, CritterTrax helps with recognizing animals, and Sky Guide tells you what constellations, planets and comets might be overhead at a certain location and time.

Once you have accurately identified a plant, bird or animal, now you can record your findings. Texas Nature Trackers, eBird and iNaturalist are all citizen science apps that allow biologists and other scientists to better understand migration and life patterns of various mammals, birds, reptiles and other critters, using your data.

Above: *Texas Parks & Wildlife* magazine app.
From left: *Texas State Parks*; NOAA Weather Radar; Waze; Leafsnap; Birdsnap; CritterTrax; Sky Guide.



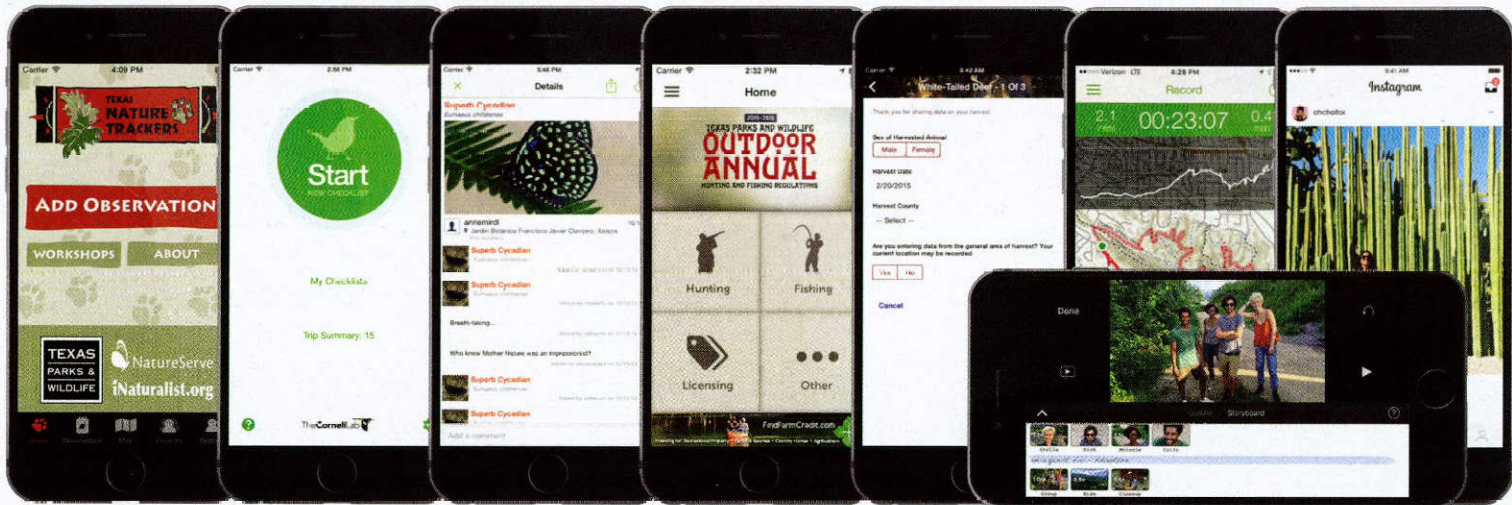
Hunters interested in harvesting seasonal birds, mammals and fish can check opening dates, bag limits and more with the Outdoor Annual app (Texas hunting and fishing regulations) and then record the harvest with My Texas Hunt Harvest. Find the best fishing spots across the state with the Texas Lakes and Fishes app.

Sometimes we get a little disoriented when walking through the woods. But if you turn on a GPS tracker at the start of your journey, you'll have a better chance of knowing how to safely get back to

your car or tent. Before you set out on a hike or bike ride, plan your adventure by using the AllTrails app to find hiking and biking trails. You can even share your itinerary with other people so they know where you will be and when they can expect you to return.

How best to share the wonders you found and adventures you enjoyed? If you recorded some of your escapades, iMovie is a fun way to create mini-movies to share with friends and family. Instagram and other social media also offer means to share the amazing memories you've made. ★

From left: Texas Nature Trackers; eBird; iNaturalist; Outdoor Annual; My Texas Hunt Harvest; AllTrails; Instagram; iMovie (horizontal).





NATURAL MISSION

San Antonio's trails offer a walk (or ride) on the wild side.

BY SHERYL SMITH-RODGERS
PHOTOS BY CHASE FOUNTAIN



Plan a trip to San Antonio, and a typical itinerary might include the Alamo, River Walk, Spanish missions and other iconic attractions. But not ours. Lovers of nature, we want to explore instead the oft-ignored “outdoorsy” side of the state’s second-largest city.

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7.75 hours

It’s no easy task, though, choosing from among San Antonio’s many public parks, trail systems, natural areas, educational centers and guided tours. My husband and I are game to experience what we can in three days. The question is, will two nearly-past-their-prime adults survive?

Our first stop is the western half of Phil Hardberger Park, a 311-acre natural area bisected by Wurzbach Parkway in northwestern San Antonio. Once a dairy farm, it is one of the few remaining undeveloped tracts in the city. It was purchased through a bond program and opened to the public in 2010. Hardberger

Park offers two dog parks, playscapes, picnic tables, 6 miles of trails and 30 acres of restored grasslands.

On a Sunday morning, we’ve nearly got the place to ourselves, save for a few joggers and dog walkers. We nose around the ultra-modern Urban Ecology Center, which houses a meeting hall, a classroom and restrooms. Equipped with solar panels and a rainwater collection system, the center utilizes pervious pavement (instead of traditional, nonporous asphalt) and vegetated ditches (bioswales) that filter heavy rainfalls.

Time to hit some trails. Thank goodness for our

smartphones — without paper maps, we rely on a trail app during our excursions. At a fork, we check the app, then take Oak Loop, a 0.8-mile natural-surfaced trail that cuts through thick woodlands edged with native grasses and plants. I spot Lindheimer's senna, soft-hair marbleseed, velvet-leaf mallow, Buckley's yucca and tasajillo. Rosebelly lizards skitter through the leaf debris.

Around a bend, we meet up with local residents James and Tina Hudec, walking their dog, LuLu.

"We come here a lot," says James, a brewmaster at Alamo Beer Company. "In the evening, owls hang around

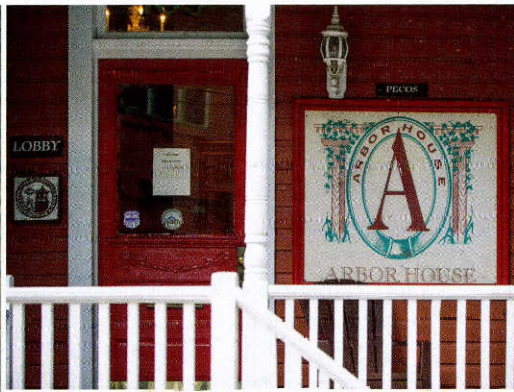
Wurzbach Parkway will connect the park's two sides, allowing wildlife and people to cross. Today, we get back into our car and drive to the east side. On the weekend, parking spots fill up, so we're happy to find one. We enjoy sandwiches at a concrete picnic table, then wander past a playscape teeming with families. At a cut-limestone facility called the Trailhead, we note restrooms and water faucets.

What next? The 1 mile Water Loop Trail? We open our app and choose the shorter Geology Trail, surfaced interchangeably with concrete and crushed granite. When we come upon the North Salado Creek Greenway,

More recently, the Walker family ranched on the land from 1905 until 1972. Today, the park offers a playscape, a pavilion, hiking trails, picnic tables and portable toilets.

Drinking fountains, too. However, they're temporarily off today. I assure James that I'm fine (not really) as we pause by a park sign to rest. Then a bicyclist in a neon green shirt rolls up alongside us. We chat, and I mention the water being off. When the young man pulls out water packs, I can't believe my good fortune. Can we pay him for them?

"No, that's what I do — help people," explains Adrian Gismé, smiling. "I'm a trail steward. We're



FEATURED ATTRACTIONS (LEFT - RIGHT):

- ★ San Antonio River at Pearl complex
- ★ Mission San José
- ★ Arbor House Suites
- ★ Medina River Natural Area

within this loop. When I hoot at them, they hoot back."

No owls this morning, but we do spot a crested caracara perched atop a barren live oak. Later, my husband points out a ladder-backed woodpecker, drilling into a honey mesquite for insects. Along the wide trail, bluebonnets, Drummond's wild onion and annual phlox have begun to bloom. Despite the noise of nearby traffic and jets overhead, the park still feels remote.

In the future, a land bridge over

we check our trail app and decide to take the wide concrete path to Walker Ranch Historic Landmark Park. Since it's on our itinerary, why not hike instead of drive?

The North Salado Creek Greenway, part of the city's current 52 miles (and growing) of networked greenway trails, parallels Salado Creek for 2.4 miles. Bicyclists zip by as we cross under Wurzbach Parkway and head south. Abundant red buckeyes, glossy leaved with buttery yellow flower clusters, pique my interest. Huisache, honey mesquite and live oaks provide shade from midday sunshine. A drink of water sounds good.

Nearly an hour later, a vintage windmill standing in a grassy meadow indicates that we've reached Walker Ranch. Archaeologically rich, the site is believed to have been a part of a ranch called Monte Galvan in the 1700s that supplied the mission later known as the Alamo.

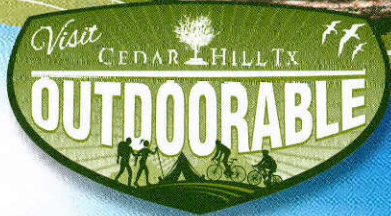
hired by the city to patrol the greenway and interact with visitors. We carry water packs, first aid and bike repair tools."

What a relief. I'm well fortified for the return walk back to Hardberger Park. (Lesson learned: Always take water.)

Day one, done. Pleasantly exhausted, we head to Arbor House Suites, four two-story Queen Anne Colonial Revival homes located near downtown. After beef enchiladas and fish tacos at Tomatillos Cafe, we unwind in chairs set in the inn's lushly vegetated courtyard, strung with tiny lights. For breakfast, our host has left a wicker basket filled with goodies.

Day two starts north of downtown at a storage complex, where Steve Wood runs his San Antonio Bike Tours company. By reservation, Steve leads a variety of two-, four- and six-hour jaunts. We've registered for the four-hour River and Missions trip. So

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Left: Mitchell Lake Audubon Center gives San Antonio residents a place to interact with nature. This bird haven consists of wetlands, ponds and upland habitats.

Right: San Antonio has more than 140 miles of trails, many along rivers and creeks.

have David and Becky Blassingame of Houston. Steve rolls out four three-wheeled bikes, outfitted with filled water bottles, high-flying neon orange flags and black nylon seats that resemble lawn chairs.

“Bet you haven’t seen a trike since you were kids,” Steve says while we strap on helmets and two-way radio headsets. “Recumbent tricycles are much safer than bicycles because no balance is necessary. They’re also more comfortable because of the seat’s laid-back design.”

First, we newbies take a trial spin to test our handlebar brakes and gear shifters. Steve explains safety rules, then climbs into his white velomobile, a recumbent trike topped with a hard, streamlined shell. (Picture a miniature white blimp on wheels, with a man’s head poking out.)

“OK, here we go!” he says over the radio. “Single file, everyone! When we’re in traffic, remember to get into side-by-side parade form.”

One block away, we turn onto the Museum Reach of the River Walk, the city’s wildly popular network of riverside sidewalks. Along the 1.3-mile stretch, we glimpse the San Antonio Museum of Art, the Pearl Brewery and cool artwork, such as giant long-eared sunfish hanging beneath the Interstate 35 bridge. Throughout our trip, Steve, a certified San Antonio guide, tells us about nearly everything we see.

“The San Antonio River has had human habitation for more than 10,000 years,” he says as we pedal beside the river. “Artifacts have been

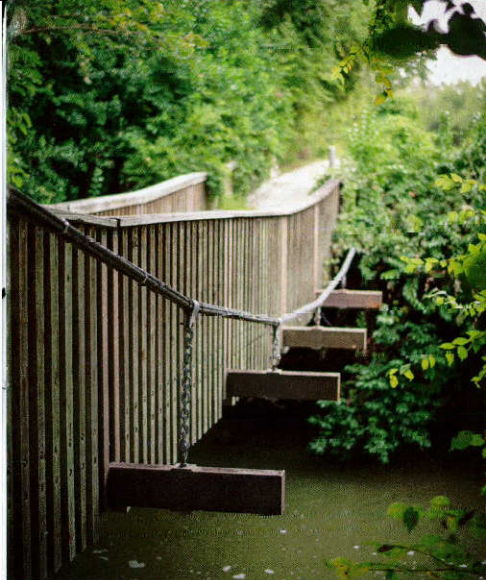
found at both of the spring heads. The primary spring head is on grounds of Incarnate Word University north of us. To our west, San Pedro Springs Park is the second-oldest public space in the nation. Only Boston Commons is older.”

Back on asphalt, we tool down North Main Street and bump across the Main Plaza to the San Fernando Cathedral, which still retains some of its original 1740s walls. From there, Steve guides us through the King William Historic District, once a prominent 19th century neighborhood of fashionable homes. Most are still private homes; a few are open for tours.

We cross Guenther Street and get back on the River Walk. Past the Blue Star Arts Complex, the landscape transitions to open skies, rolling hills and grassy riverbanks. A train rattles along a nearby track, and we pass the old Lone Star Brewery. Up hills, I pedal hard to keep up. Oh well, someone has to be last.

Seven miles later, we pull up to Mission San José, founded in 1720. Yikes, I can barely stand when we dismount from our trikes. On wobbly legs, I trail behind as we tour the Spanish mission on foot. As we go, Steve tells us how people once lived within the mission’s walls and points out the mysterious Rose Window, hand-carved from stone.

Next stop, Fruteria La Mission, a Mexican fruit stand. Steve orders a large *copa de fruta* (fruit cup) for us to share. It’s packed high with cubed watermelon, jicama, strawberries, coconut, pineapple, cucumber and melon. He also buys a cup of *fresas con crema* (strawberries with cream). Seated at a picnic table on a covered porch, we use wooden picks to



spear fruit. Delicious!

The return trip back takes us past Mission Concepción, along the River Walk, through neighborhoods and back in downtown traffic. Nearly five hours later, we return to Steve's storage unit. I survived the 18-mile round trip. Barely. But so worth it.

To complete our day, we visit nearby San Pedro Springs Park, designated as a city reserve in 1852. In the past, the park hosted a camel stable, a visit by Sam Houston, a small zoo and a natural history museum. We drag ourselves across the grassy grounds and admire the gnarled live oaks and spring-fed swimming pool. Look out, Arbor House Suites, here we come!

Another day? We can do this. Today, we head south of Interstate 410 to Medina River Natural Area, where we meet Don Pylant, park operations supervisor.

"We have so much out here, but not many people know about this place," he says. "It's a big birding area because we're on the flyway. Plus, 7 miles of the Medina River Greenway System, which is part of the city's network of paved trails, runs through our park."

For nearly two hours, we tour the natural area on foot. Pecan, roughleaf dogwood, cottonwood and hackberry trees grow along the Rio Medina Trail, which soon follows the murky, fast-moving Medina River. Ruts left by frontier wagon wheels traveling El Camino Real remain visible in a limestone riverbank now used by anglers. Erect dayflowers, purple leatherflower, prairie verbena and

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(210) 628-1639, mitchelllake.audubon.org

Texas nightshade have begun to bloom.

The park's best-kept secret is the Cottonwood Group Campsite. Six tent pads, a covered pavilion, vault toilets and a barbecue pit rent for \$20 a night. Access is by reservation only.

Our last stop is nearby Mitchell Lake Audubon Center, once a wastewater treatment site that's now a 1,200-acre natural area with a lake, wetlands, ponds and upland habitats. Pollinator and native gardens surround the visitors center, a historic 1910s home moved from the McNay Art Museum.

"Our mission is to connect people with nature through conservation and education with a focus on birds and their habitats," director Sara Beesley explains. "Through our outdoor programs, we also promote getting kids back outside."

The center, which lists more than 300 bird species, hosts at least five bird walks every month. We've arrived in time for one led by educator Jake Stush. So has mom Christy McGrew of San Antonio and her four kids. At an overlook on the Bird Pond, Jake points out coots, grebes and blue-winged teal. Someone spots a diamondback water snake, nearly hidden beneath us in a clump of black willow branches.

An hour later, we collapse into our car and high-five. Us, over the hill? Not a chance! (Epilogue: Full recovery took a few days.)

Sheryl Smith-Rodgers is a freelance writer, photographer and naturalist who lives in the Texas Hill Country.

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PHOTO: MICHAEL SLOAT

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Rolling With the Punched

Neither rain nor fire nor collapsing dams can knock out Bastrop State Park.



HISTORIC LANDMARK

Bastrop State Park earned National Historic Landmark status in 1997, in large part because of the extensive Civilian Conservation Corps work in the park.



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The first punch came in
the form of a wildfire in
September 2011 that raged
across 34,000 acres and
affected 96 percent of the
park. Firefighters heroically
saved the park's historic
cabins using water and
firebreaks, but thousands
of trees burned, along with
vast swaths of grasses and
other vegetation.

PHOTO BY SONJA SOMMERFELD / TPWD

BY MELISSA GASKILL



Stairs on the Yellow Trail connect the Piney Hill camping area to the beautiful Red Trail along the creek.

The next punch came in May 2015, when heavy rains washed out a dam and drained a 10-acre lake.

The third blow: the Hidden Pines Fire, which ignited Oct. 13, 2015, and burned 4,500 total acres, including some within park boundaries.

The latest punch came this year when Bastrop experienced a damaging flood on the one-year anniversary of the 2015 Memorial Day flood, forcing the closure of park roads and campgrounds.

Yet the park, while perhaps a bit battered and bruised, still bustles with activity. Visitors book cabins and campsites, picnic in day-use areas, hike many of the trails and cycle happily down hilly Park Road 1C between Bastrop State Park and its neighbor, Buescher State Park.

In fact, as recovery efforts continue, park staff point to positives that rose from the ashes.

"It's an exciting time to think about the future of the park and what it will be," says Jamie Creacy, superintendent of the Lost Pines complex, which includes Bastrop

and Buescher state parks. "It has our wheels turning to make good decisions for recreation and conservation going forward."

One obvious positive result of the crises: An army of volunteers helped replant 1.5 million pine seedlings. More people feel connected to the park than ever before.

The fires also provided a hands-on learning opportunity for emergency responders and restoration experts, Creacy points out, helping them better prepare for future disasters. It also created research opportunities. The Texas Parks and Wildlife Department has partnered with Texas A&M University, the University of Texas, Texas State University, St. Edward's University and the University of Missouri on projects examining how wildfire affected animal and plant communities, soil moisture and the water cycle.

Immediately after the 2011 fire, scientists mapped its intensity to help figure out how to best facilitate recovery. In the most intensely burned areas, no pines survived to provide seed for natural regrowth, so replanting was focused on those spots. Monitoring revealed that seedlings planted in areas with standing dead trees did better than those placed in cleared areas.

They also found that areas in the park where prescribed burns took place before the fire fared better and recovered more quickly.

Another TPWD-funded study examined tree rings to determine historic fire patterns in this area.

"The fire killed the oldest trees at Bastrop and made them available for fire history research we otherwise couldn't have done, because we'd have to cut trees down," says Greg Creacy, TPWD regional natural resources coordinator (and Jamie's spouse). "We're taking advantage of drought-killed trees for fire history studies at other state parks as well."

Tree rings in Bastrop revealed that, before settlers came, lightning strikes

or Native Americans ignited fires every six or seven years.

"This ecosystem evolved with fire, which is a natural event," Greg says. "The 2011 fire was so intense because long-term fire suppression left an incredible amount of fuel available to be burned. Couple that with a record-breaking drought, and all you needed was a spark. And that's what we got. We began a prescribed burn program in 2002, but you can't undo 100 years of fire suppression in just a few years."

Recovery efforts focus on helping along what would happen naturally.

"Over the next few decades, eventually pines would spread out and fill in even the most heavily burned locations, produce seed and fill in more gaps, and so on," Greg says. "But we didn't want to wait that long, and the public didn't want to wait that long to get the pine forest back. That's why planting is part of our recovery plan."

For the most part, standing dead trees and downed trees have not been cleared in the park.

"For us, it is an ecological question," Jamie says. "The look of it is not as important as the potential negative effects of removing them."

Dead vegetation provides nutrients to replenish the soil and habitat for young plants and wildlife. Clearing would also require heavy equipment, which could damage the soil.

Wildlife returned to the park immediately after the 2011 fire.

"Deer and birds came back very quickly," Jamie says. "The species composition has changed somewhat, though. For example, we had forest owls before, and now we have more grassland owls. We have lots of woodpeckers. We saw a huge increase in small mammals right after the fire."

Bastrop's "Lost Pines" are part of a 70-square-mile stand of loblolly pine and hardwoods separated from East Texas pines by approximately 100 miles. After persisting here for

From top: An intense wildfire ravaged much of Bastrop State Park in September 2011; volunteers have helped plant 1.5 million pine seedlings in areas affected by the fires; the park swimming pool, open from May to September, has been cooling off families for generations; flooding damaged portions of the park in 2015 and 2016.



PHOTO BY ALAN FISHER / TPWD

more than 18,000 years thanks to sandy soils and a layer of clay that holds water, the Lost Pines became genetically unique.

For the past couple of years, park staff members have been harvesting seeds from the remaining trees in Bastrop State Park and have been using this seed source for their tree planting operations.

Twelve of 13 Civilian Conservation Corps-built cabins remain available for rent at the park, and surviving trees still shade the area around them. The park also offers 35 full-hookup sites, 19 campsites with water and electricity, 16 with water only and seven walk-in sites with water nearby. Primitive campsites remain closed pending restoration and improvements on backcountry trails. Plans also are underway for a replacement dam to restore the lake, a process that will take a few years.

"The wildfire presented us with an opportunity to keep the landscape open and in a more natural, historic state," Greg says. "We're seeing natural pine regeneration, and many of the pines we've planted are already 10 feet tall. In another 10 years, it's really going to look like a forest again."

In the meantime, saplings push up from the rubble, wildflowers brighten open areas, and birds sing in the remaining 80-year-old pines on the hillsides. You can't keep a good park down. ★

Melissa Gaskill of Austin is writing all 10 cover stories for the Year of State Parks series.



PHOTO BY EARL NOTTINGHAM / TPWD



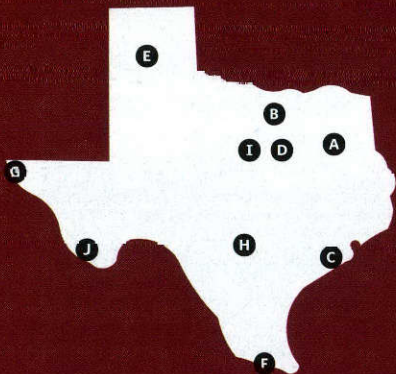
PHOTO BY EARL NOTTINGHAM / TPWD



PHOTO BY EARL NOTTINGHAM / TPWD

10 PARKS WITH PEDAL POWER

Whether you've got the whole family biking a gentle paved path along the lake or you're a thrill seeker on a marathon ride with adventurous friends in the wilderness, there's a state park trail for you. From this issue's cover park, Bastrop State Park, there's a challenging 12-mile pedal through the rolling hills of the recovering Lost Pines that ends up at Buescher State Park. Here are a few of the other best parks in Texas to explore on two wheels.



By Dale Blasingame

A TYLER STATE PARK →

Great fall color, a spring-fed lake, a serene pine forest and 10 miles of biking trails make this park popular with mountain bikers. Well-marked, varied trails (mostly single-track, rarely overcrowded) offer plenty of climbs and descents.

↓ B RAY ROBERTS LAKE STATE PARK

The park's beloved Greenbelt Corridor spans 20 miles along the Elm Fork Branch of the Trinity River, from Lake Lewisville to the Ray Roberts Dam. Other areas of the park feature 23 miles of multi-use trails.



PHOTO BY CHASE FOUNTAIN / TPWD



PHOTO © TPWC

ⓐ BRAZOS BEND STATE PARK ↓

Twenty one miles of trails await you, around the lake and through the hardwood forest. The Elm Lake Loop affords the best opportunity to see the park's amazing array of wildlife on your ride, including alligators, river otters, bobcats and more than 300 bird species.

ⓑ CEDAR HILL STATE PARK

Mountain bikers designed this trail for themselves, so it's no surprise that the twists and turns and climbs and descents of the 12-mile DORBA (Dallas Off Road Bicycle Association) Trail are considered some of the state's best. Ride the trails clockwise; likers do the opposite.



PHOTO BY CHASE FOUNTAIN / TPWD



PHOTO © LAURENCE PARENT

Ⓒ FRANKLIN MOUNTAINS STATE PARK →

Practically in the heart of El Paso, you'll find some of the most rugged trails in Texas. There are more than 100 miles of trails, from easy-to pedal jeep roads to steep single-track. Carry water and a cellphone and bring a friend — it's remote.

← Ⓔ PALO DURO CANYON STATE PARK

The breathtaking second-largest canyon in the country offers a biking-only trail (Capitol Peak Trail). The trail to the landmark Lighthouse formation ends with a steep hike, and the 15-mile Palo Duro Canyon Cruise through the park on the paved road includes an uphill ride back to the park entrance.

Ⓕ BENTSEN-RIO GRANDE VALLEY STATE PARK

This birder's paradise is mostly smooth sailing on paved roads. The wildlife viewing makes it a "bucket list" kind of excursion for visitors from around the world. Bike with a ranger (guided tour program) on Thursday mornings.



PHOTO © LAURENCE PARENT



PHOTO © ERICH SCHLEGEL

Ⓖ GOVERNMENT CANYON STATE NATURAL AREA

This mountain biking haven on the northwest side of San Antonio offers extensive trails in the Backcountry for a rocky challenge. The Frontcountry has trails suitable for beginners or for a warm-up ride. The park is open Friday through Monday.

Ⓙ LAKE MINERAL WELLS STATE PARK

The Lake Mineral Wells Trailway is a 20-mile stretch of reclaimed railroad bed that's now a gently curving, relatively flat trail connecting Weatherford and Mineral Wells. Another 13 miles of biking trails can be found inside the park; hikers and equestrians share these trails with you.

← Ⓚ BIG BEND RANCH STATE PARK

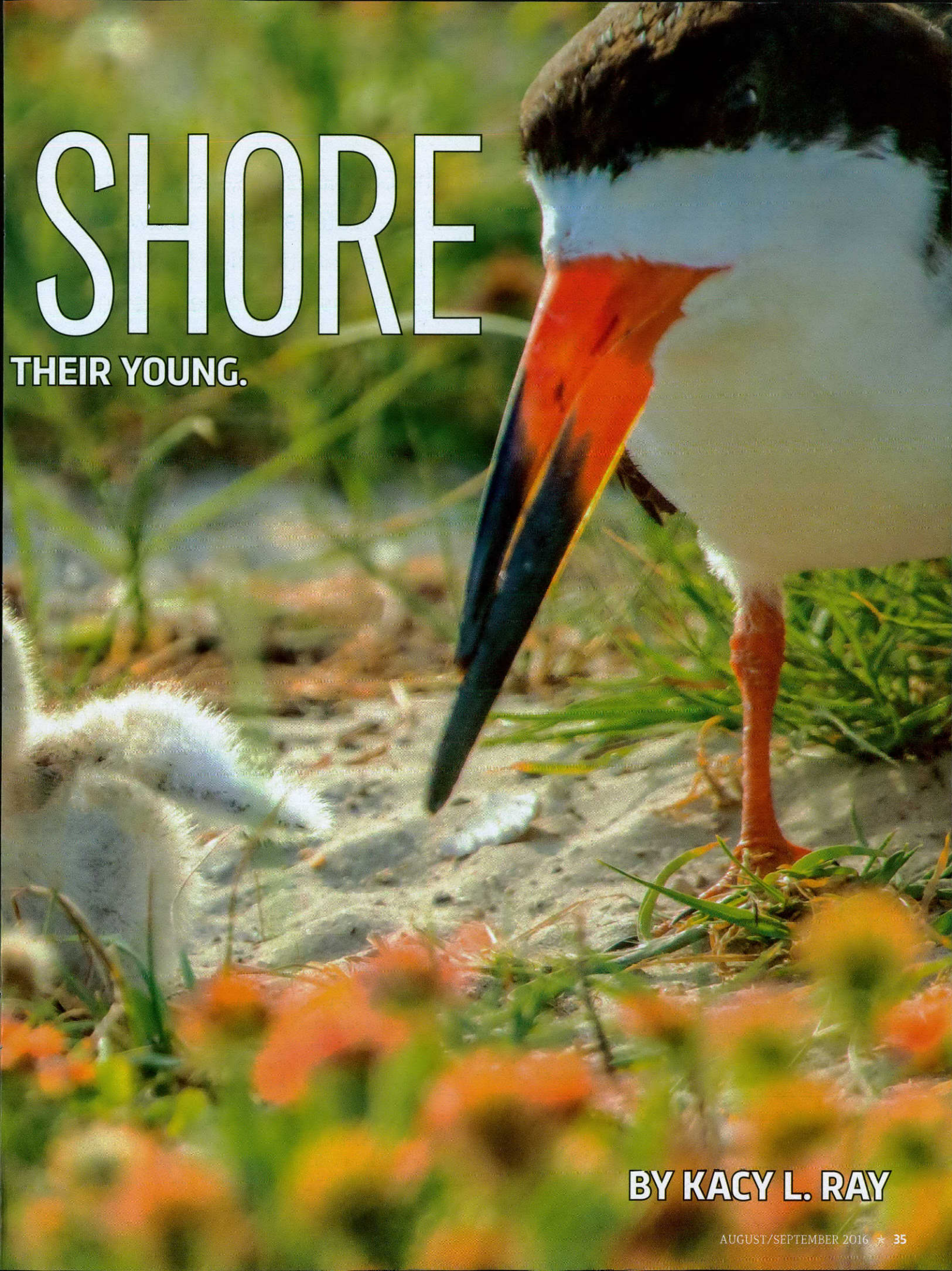
If you're made of tough stuff, head west for 200+ miles of rocky trails at Big Bend Ranch. Where else can you have the desert to yourself? The park is home to the Chihuahuan Desert Bike Fest and to one of only two International Mountain Bicycling Association "Epic" rides in Texas.

SAFE ON THE

BEACH-NESTING BIRDS NEED OUR HELP TO PROTECT



PHOTO © CISSY BEASLEY



SHORE

THEIR YOUNG.

BY KACY L. RAY

The sun begins to peek out from the Gulf horizon, sending its first tendrils of morning warmth across the water and the sprawling sandy beaches of the Texas coast. Just above the high tide line and beyond the dunes, gulls and least terns shout greetings and warnings to one another.

It's June, and least terns hide their small, speckled eggs and camouflaged chicks on the sandy beach, fending off gulls and other predators. Chicks emerge from their eggs wet but quickly dry to a soft, downy coat. Within hours, the least tern chicks scamper after their parents begging for food while nearby plovers learn to fend for themselves.

Wilson's and snowy plovers stealthily lead their downy broods of flightless chicks through dunes, low-lying beach vegetation and an array of beachgoers and vehicles, searching for the perfect fiddler crab flat or ephemeral pool where their young can forage until they learn to fly. These secretive, sandy-colored plover broods have been known to travel several miles on foot to find safe places to forage.

As these birds work to raise their young, they face the

dangerous weather elements typical of the Gulf Coast — hurricanes, tropical storms and flooding — as well as increasing human encroachment. Nesting bird populations are declining because of these natural dangers and the effects of coastal development and oil spills.

The birds are running out of places to raise their young safely, but we can help them if we know what to look for and what to do.

FENCES FOR THE FRAGILE

The American Bird Conservancy, the Coastal Bend Bays and Estuaries Program and the Houston Audubon Society (supported by the Texas Parks and Wildlife Department and the U.S. Fish and Wildlife Service) work together to implement local programs in the Corpus Christi, Galveston and High Island coastal regions.

When critical nesting areas are identified, they're protected with temporary signs and fencing. The sites are monitored throughout the breeding season to determine the success (or failure) of these birds' breeding attempts.

Thanks to a grant from the National Fish and Wildlife Foundation, some new sites in the Freeport-Matagorda region recently opened with the help of the Gulf Coast Bird Observatory. CenterPoint Energy is donating bollards (short vertical posts) to protect the dunes and the sensitive nesting habitat at Bryan Beach.

"It won't impact beach driving," says Susan Heath, avian conservation biologist for the observatory. "It's win-win for birds and people."

MEASURING SUCCESS

How do we know how birds are faring over time? Biologists monitor the reproductive output of the birds to gauge their welfare. Many of these birds return to the same sites year after year to raise their young. Scientists count them, determine the number of breeding pairs for comparison with previous years, and track the success or failure of some nests.

If nests are failing because predators have killed chicks or humans are disturbing them, land managers and



PHOTO © DELANINA LEBLANC

Above: A least tern chick and egg wait in their beach nest for their parents to return. Their coloration helps them blend with their surroundings, but they still remain vulnerable to predators and other threats.



PHOTO © SETH PATTERSON



PHOTO © ROB CURTIS / THE EARLY BIRDER



PHOTO © JOHANN SCHUMACHER



PHOTO © ROLF NUSSBAUMER

Above: A Wilson's plover sits on its egg-filled nest, a simple scrape on the beach in a clump of vegetation.

Left: Wilson's plover eggs share a nest on the beach; a sign warns beachgoers of a bird nesting area; a black skimmer protects its chicks.

Previous spread: Black skimmer parents feed their young chick.

SPOTLIGHT ON SPECIES

All of Texas' beach-nesting birds are protected by state law and the Migratory Bird Treaty Act (see "Under Our Wing" on Page 48). They also carry varying conservation statuses under the U.S. watch list, a management instrument designed to promote conservation actions for declining bird species.

■ **Red List:** Birds have a declining population with limited geographic ranges and a high vulnerability to threats including climate change, coastal development, predators and human disturbance.

■ **Yellow List:** Birds have restricted ranges or declining numbers.

■ **Birds are a U.S. Fish and Wildlife Service Bird of Conservation Concern.**

PHOTO © ROLF NUSSBAUMER



Wilson's Plover

Some beach-nesting birds congregate in large, noisy colonies, but this plover chooses to be alone. This solitary nester blends in well with its beach surroundings. If you get too close to the bird's nest or young, it will feign injury, called a "broken wing display," to lure you (or predators) away. Wilson's plovers are ultra-secretive compared to other plovers; you'll be lucky to catch a glimpse of their broods running through grasses in search of fiddler crabs, their preferred food.

PHOTO © SETH PATTERSON



Snowy Plover

This pale-colored solitary nester can be difficult to spot because it closely matches the color of sand — a nice perk when you nest on the open, sandy ground. Like Wilson's plovers, the snowy plover will also do broken-wing displays if a threat is too close for comfort. Snowy plovers will mate with different individuals up to three times a season, meaning they can have up to three non-concurrent broods (families) each year.

PHOTO © ANTHONY LOUWIERE



American Oystercatcher

The charismatic American oystercatcher sports a long, carrot-like bill, perfect for prying open shellfish. This solitary nester will not stand for intruders, as evidenced by its high-pitched queep that escalates into a trilling crescendo if you get too close. You can keep track of a day in the life of this unique bird by following the Gulf Coast Bird Observatory's blog, the Oystercatcher Diaries, at gulfcostbirdobservatory.wordpress.com.

PHOTO © ANTHONY LOUWIERE



Black Skimmer

Another charismatic and elegant colonial beach-nester, this bird skims the water with its bill open, fishing for prey. Unfortunately, this species has faced a steeper decline than others in Texas. "There is long-term breeding season survey data indicating that the Texas population of black skimmers has declined as much as 70 percent since the 1970s," says Owen Fitzsimmons of the Coastal Bend Bays and Estuaries Program. "This is very alarming, especially since the downward trend is showing no real signs of leveling off."

PHOTO © JOHANN SCHUMACHER



Least Tern

These small yet boisterous terns have no problem telling anyone to get out of their nesting colony. Their preferred method of defense is cooperative in nature — they gang up on intruders (called "mobbing") with behaviors such as vocalizing loudly, dive-bombing and defecating. You won't have any trouble knowing when you're too close to their nesting area.



PHOTO © SETH PATTERSON

biologists can respond by using electric fencing to keep out predators or increasing education at heavy traffic sites. Public awareness is the key to reducing human disturbance of beach-nesting birds.

Another piece of the reproductive puzzle is to determine how many chicks of each species are fledging, or making it to the point of flying. So family groups are followed — from a distance — until the young fledge, keeping track of their ages and development over time. Many plovers are banded with unique colors for identification.

As we learn more about the reproductive habits and success rate trends of these birds, we can determine more effective conservation measures to bolster their declining populations.

PROTECTING A TEXAS TREASURE

In Galveston, Freeport and Matagorda, curious beachcombers now can safely observe the birds and chicks in critical nesting areas through spotting scopes and learn about their plight from posted signs. Humans, through local and national conservation groups, have taken on the duty of stewards.

“Through our partnership with ABC and Houston Audubon, we are able to better understand our environment and create unique experiences for visitors through environmental interpretation like nest site stewardship,” says Kelly de Schaun, executive director for the Galveston Island Park Board, which manages East Beach in Galveston. “Our partnership provides benefits for beachgoers and birds alike.”

Nest stewardship is essential to the birds’ survival. Ground-nesting birds are extremely vulnerable to predators such as gulls, coyotes and raccoons; they are also very sensitive to human activity on the beach. When predators or people flush adult birds from their nests, eggs and chicks are exposed and defenseless to this array of threats, so the scene often ends in death. People also can unknowingly step on nests and young birds because they blend in with the color of the sand.

Birds are an integral part of our coastal experience, a Texas treasure to be preserved for generations to come. The next time you’re on the beach or near a nesting island, don’t forget to pause for a moment to enjoy the sights and sounds of these beautiful birds — from a safe distance.

For more information, visit www.HelpGulfBirds.org. ★



PHOTO © SETH PATTERSON

American oystercatcher

HOW YOU CAN HELP

We can help these imperiled birds while on the beach or near islands where birds are nesting. The nesting season generally runs from February through August each year.



AVOID POSTED NESTING AREAS ON THE MAINLAND AND ISLANDS. A good rule is “Fish, swim and play from 50 yards away.”



KEEP CHILDREN AND PETS AWAY FROM NESTING AREAS. Keep dogs on leashes so they don’t roam freely in nesting areas.



MOVE AWAY FROM NESTING BIRDS IF THEY INCREASE VOCALIZATION, FLY OFF THEIR NESTS OR DIVE-BOMB YOUR HEAD. These are all signs that your activity is disturbing the birds.



DISPOSE OF FISHING TACKLE PROPERLY. Birds become entangled in old fishing line and lose legs or die.



IF YOU SEE SOMEONE DESTROYING NESTS OR DISTURBING A NESTING AREA, CONTACT TPWD AT (800) 792-GAME (4263).

Kacy Ray is the Gulf conservation program manager at the American Bird Conservancy.



TPWD outreach assistant Allen Mack portrays a Buffalo Soldier with the banner of the 9th Cavalry's K Company behind him.

Opposite: Former Buffalo Soldiers program leader Ken Pollard.

THE UNKNOWN ARMY

PHOTO BY BILL REAVES / TPWD



Buffalo Soldiers connect kids with Texas history beyond the textbook.

*Words: Sheryl Smith-Rodgers
Photography: Earl Nottingham*

“So, who were the Buffalo Soldiers?” Surrounded by schoolkids at Blanco State Park, Luis Padilla, who’s portraying a first sergeant with the U.S. 9th Cavalry, poses the question while rocking back and forth on his heels. He’s “riding” horseback, outfitted in 1870s military jacket, black knee-high boots and a muskrat hat that covers his ears. Beside him, a third-grade girl wearing a too-big military jacket and campaign hat mimics his every move.

Instantly, hands shoot up in the air, and a chorus of young voices shouts out the answer.

“The first professional black soldiers in the U.S. Army!”

Padilla grins and gives his volunteer sidekick a thumbs-up. From beneath her wide-brimmed hat, she grins back.

Chalk up another successful history lesson for the Buffalo Soldiers Heritage and Outreach Program with the Texas Parks and Wildlife Department. In its 20th year, the program seeks to accomplish two main goals: interpret the pivotal role that Buffalo Soldiers played in American history, and encourage people to spend more time outdoors, especially in state parks.

“But we’re not just telling a ‘black’ story,” Padilla, the program supervisor, tells me later. “It’s a ‘we’ story. We’re living historians, not re-enactors, who also talk about vaqueros, Native Americans, Seminole scouts, frontier women and other cultural groups in Texas during the late 1800s.”

HISTORICAL PERSPECTIVE

Throughout the Civil War, thousands of African Americans fought and died for the Union. Yet those same men, who'd proven themselves on the battlefield, returned home to find they were still treated much like slaves. Meanwhile, the nation's Army, downsized after the war ended in 1865, wasn't large enough to handle growing tensions on the Western frontier, where Indian wars and other dangers threatened settlers and their families.

Though some people still doubted the combat abilities of black soldiers, the Army needed to beef up its ranks. As an experiment, Congress in July 1866 formed six new regiments made up of black troops led by white officers. (Later, the Army consolidated four infantry units into two.) Ultimately, the 9th and 10th Cavalry and the 24th and 25th Infantry Regiments would serve on posts that stretched from Texas to the Dakota territories.

For the first time ever, former slaves and freedmen, most of whom were illiterate, could work as professional soldiers and earn the same monthly \$13 that white soldiers received. What's more, the job came with food, clothing, shelter and a basic education. Recruits signed up in hopes of bettering their lives.

They succeeded, but it was no easy task. The black soldiers faced hostile enemies, extreme weather, infectious diseases, rugged terrain and plenty of prejudice. Often the very people whom they were sent to protect treated them with outright contempt. Still, the troops, even when meagerly fed and supplied, stoically and heroically performed their assigned duties. They escorted stagecoaches and trains, protected mail carriers, scouted out and mapped new regions, fought Indians, constructed forts and bridges, and tracked down bandits and cattle rustlers.

The soldiers endured the harshest of conditions with few complaints. Under fire, they showed little fear, only courage, cool restraint and the fiercest kind of determination. (Desertion rates among black soldiers ranked among the lowest in the Army.) Nothing seemed to be able to rattle the black soldiers in blue wool uniforms. That fighting spirit likely reminded the Indians of their revered buffalo (bison). So did the black men's dark eyes and hair. As early as 1872, the troopers became known as Buffalo Soldiers.



Above: TPWD volunteer Jonathan Hopkins, 9th Cavalry.

Below: TPWD seasonal employee Cale Carter, 25th Infantry.



Above: The uniform of the Buffalo Soldier.

Below: Volunteer Nathaniel Booker, Camp Mabry Company A 9th Cavalry.



CONNECTING WITH THE PAST

Ken Pollard, now retired after 30 years with TPWD, won't forget the day that changed his life in 1990. As a maintenance supervisor in Abilene, he oversaw a western region that included several frontier posts. On a stop at Fort Griffin State Historic Site, Pollard asked why vintage photographs of black men hung on a wall in the visitors center.

"The park manager told me about Buffalo Soldiers," Pollard says. "In all my years, I'd never heard of them before. That's when I first connected with them."

His ties deepened when he dug back and learned that several of his own ancestors had served as Buffalo Soldiers. Soon Pollard joined the Old Fort Griffin Memorial Regiment, which presented Buffalo Soldier programs at schools and special events. He also became involved with Abilene's Soldiers in Blue Committee, a volunteer group dedicated to retelling the Buffalo Soldier story.

"At the time, a lot of African

American history focused on slavery, picking cotton and slaughtering hogs," Pollard says. "I realized that a part of our history was not being represented in TPWD's interpretive programs."

Department officials agreed. In 1995, Pollard transferred to Austin, where he was assigned to develop a new statewide educational program.

"TPWD purchased the copyright from the Soldiers in Blue Committee, and we got to work," he says.

For 15 years, Pollard led the department's Buffalo Soldiers Heritage and Outreach Program, which coordinated and produced living history events for schools and other groups. To ensure accurate portrayals of life on the frontier, he and research historian Vicki Hagen spent hours delving into historical materials to learn what Buffalo Soldiers ate, what they packed and how they spent their leisure time. At events, Pollard wore the dark blue jacket and sky blue trousers of a 9th Cavalry soldier, while Hagen, dressed in long-sleeved blouse and floor-length skirt, depicted a frontier woman.



With time, more volunteers signed up to help. Within TPWD, Pollard successfully recruited staff from other divisions, such as law enforcement, wildlife and state parks, to participate in outreach programs. Statewide, Pollard partnered with Buffalo Soldier groups and community organizations.

"To get the program more in the public eye, we involved as many people as we could," he says. "Whenever we could, we tied our programs into local history."

The far-reaching network of

volunteers and resources broadened the program's scope. In 1999, a Buffalo Soldier color guard participated in Gov. George W. Bush's inauguration parade. That same year, Pollard and Hagen and other Buffalo Soldier historians worked with the 76th Legislature to have July officially designated as Buffalo Soldiers Heritage Month. They also helped to develop the Texas Buffalo Soldiers Heritage Trail, part of a statewide heritage tourism initiative.

In January 2005, Pollard and his staff coordinated the Huff Diary Wagon Train Project, a three-week

trek in horse-drawn wagons that retraced a route taken in 1849 by William P. Huff on his way to the California Gold Rush. The hands-on history project involved sixth-graders from Texas and California who made the 650-mile trip and read Huff's journals along the way.

"It took a year to plan," Pollard recalls. "For nearly a month, the kids rode in wagons and camped out. We had dust storms, freezing temperatures, sleet and frozen mud. But the trip was an amazing learning experience."

Whatever project or event Pollard



Pictured: Allen Mack describes the life of a Buffalo Soldier to new "recruits."

took on, he always added his own special touch.

"I'd ask the kids, 'What is your gift? What are you good at doing?'" he recalls. "I wanted to instill a sense of pride in themselves, like the Buffalo Soldiers did. I told them that education was crucial for achieving their dreams and bettering their lives."

MOVING FORWARD

Back at Blanco State Park, a crowd of third-graders has gathered at the canvas tent of Ricky Dolifka, a TPWD outreach assistant who portrays a white officer with the U.S. 9th

Cavalry. On a wooden table, he's laid out a collection of old-time baseballs, mitts and bats.

"We had a lot of time to relax and play games," Dolifka tells the students. "We learned how to play baseball from officer Abner Doubleday, who's believed to have invented the game and commanded the 24th Infantry at Fort McKavett."

After the baseball history lesson, he teaches the kids how to play trap ball, an old English game that uses a soft leathery ball, a wooden paddle and a levered wooden trap. Even the teachers try their hand at stomping

the ball into the air, then whacking it with a paddle.

At another tent, the third-graders listen as Clifton Fifer, a retired Kerrville teacher dressed as a Seminole scout, tells a Native American legend about a turtle and demonstrates how Indian shamans used a whip to remove arrows from victims. While Fifer plays a wooden flute, three students accompany him, beating a drum and shaking rattles.

At a third tent, Allen Mack (another TPWD outreach assistant) teaches the kids how to identify wildlife by their hides, scat and tracks.



Left: Lee Reed portrays Cathay Williams, a woman who posed as a man to serve as a Buffalo Soldier with the 38th U.S. Infantry.

Opposite: TPWD outreach assistant Ricky Dolifka, 9th Cavalry.

Below: TPWD volunteer Courtney Runnels, 9th Cavalry.

“Where do you think this poop comes from?” he asks, holding up a rubberized specimen. “A meat eater? Plant eater? Come on, even if you’re wrong, you’ll get a fist bump!”

Giggling, several kids wave their hands in the air and holler an answer. Everyone’s smiling in the small crowd.

“Our programs are about having fun and learning,” Padilla says.

Like Pollard, Padilla recalls the day his own life took a turn. As a temporary clerk hired in 2006, he was entering data in a computer when Pollard, his supervisor, walked into the office, outfitted in his cavalry uniform.

“I asked why he was dressed like that,” Padilla says. “I’d never heard of a Buffalo Soldier before. Ken tossed a book at me and said, ‘Read this.’”

The historical narrative written by William and Shirley Leckie about Buffalo Soldiers intrigued Padilla. He stayed on another half-year at TPWD and was hired full-time to work with the program. When Pollard assigned him a uniform and a soldier history, Padilla knew he’d found his calling.

“I portray a sergeant with the 9th Cavalry,” Padilla says. “I use my own story as a backdrop. Like me, not all Buffalo Soldiers were from Texas. On the frontier, what they saw was brand new and multicultural to them. I was born in New York and raised as a city boy in Austin, and I come from a mixed background. Plus, I didn’t know anything about the outdoors. I tell kids that the Buffalo Soldiers saw a window of opportunity, and they walked through it. Their life is the same in that they can walk through windows of opportunity, but it’s up to them to take the steps, like I did with this job.”

After Pollard retired in 2010, Padilla stepped up as director.

“We’re taking Ken’s program and adding to it to reach a new generation, especially minorities,” he says. “We use hands-on activities, like fishing, to show kids how the Buffalo Soldiers fished. Then we give them the tools to fish themselves. We use history as an empowering tool to tell kids to get

outside, explore and seek adventure, like the Buffalo Soldiers did.”

Selton Williams, a TPWD maintenance mechanic who portrays a soldier with the 9th Cavalry, has volunteered with the Buffalo Soldiers program since 1994.

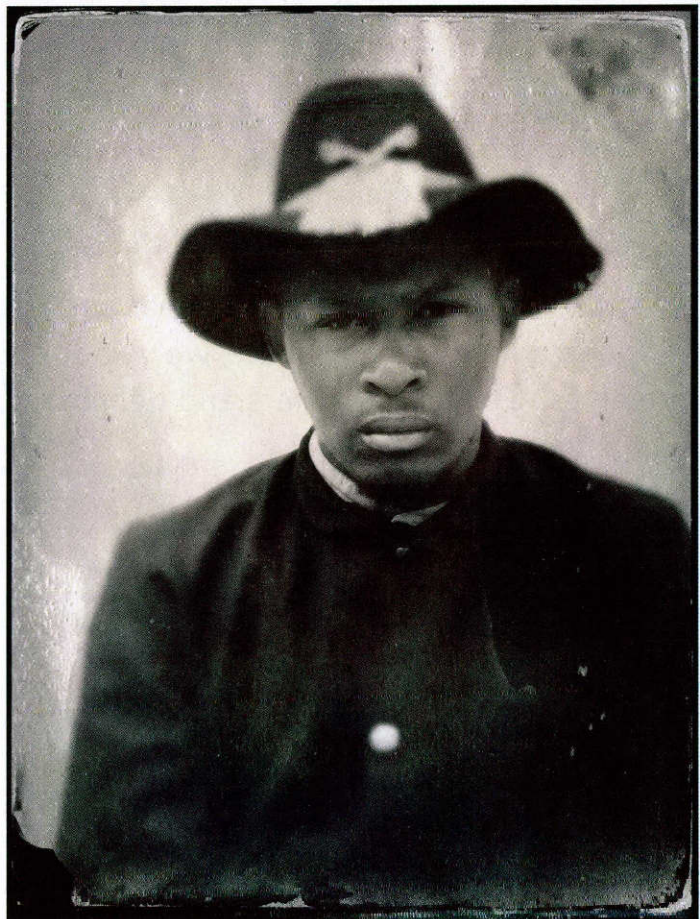
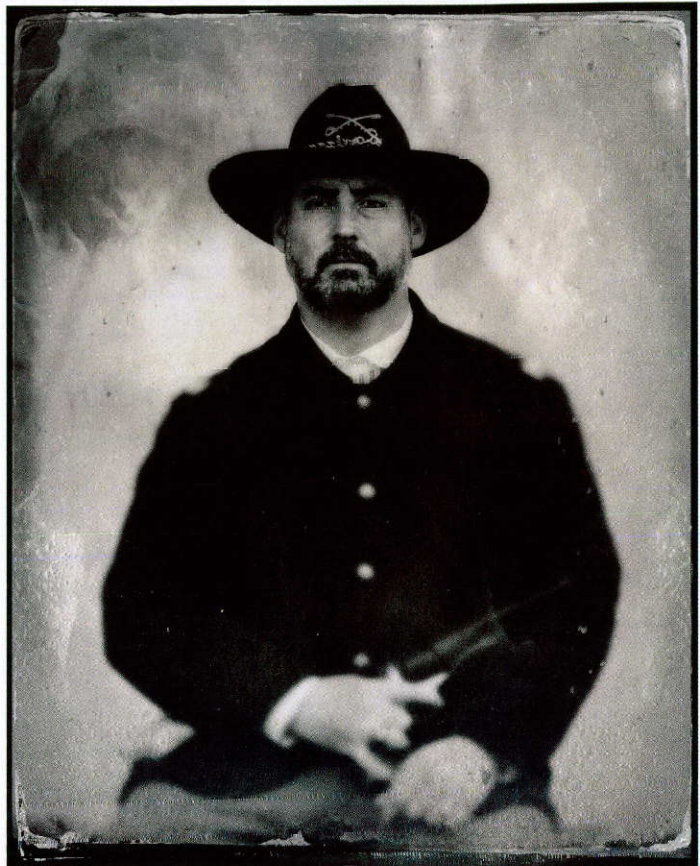
“A lot of people don’t know about Buffalo Soldiers,” he says, watching the Blanco students load back up on buses. “The more you can educate them, the more history comes alive — particularly for black kids, so they can better understand their own significance in history.”

Later, Williams, Fifer and other volunteers head home. Not Padilla, Mack and Dolifka. They’re bunking overnight in the canvas tents that they’ve set up at the park. In the evening, they share stories about Buffalo Soldiers with campers who wander over to their encampment and with visitors who come by the following day.

Outfitted as a sergeant, Horace Williams, who serves as president of the Camp Mabry Buffalo Soldiers Company A 9th Cavalry, breaks out some Buffalo Soldier grub — hardtack, beans and brick tea. Across the grounds, Kevin and Sharon Biscoe with the Killeen Buffalo Soldiers Motorcycle Club work a “frontier” photo booth, where visitors can put on a wool jacket and pose on a wooden horse. Cale Carter, a TPWD seasonal employee dressed as an infantry soldier, stands ready to discuss the essentials of outdoor survival, then and now.

“Buffalo Soldiers took pride in themselves,” Padilla reflects. “Their life was hard. They got up early, took care of their horses, battled in unknown places and worked in the heat, never knowing if they’d make it back alive. But they saw their window of opportunity and walked through it. That window of opportunity has passed from Ken to me. Like the Buffalo Soldiers, I want to keep it open for whoever comes behind me.” ★

Sheryl Smith-Rodgers is a writer living in the Texas Hill Country.



UNDER OUR WING

Celebrating avian protection on the 100th anniversary of the Migratory Bird Convention.



By Shaun Oldenburger

PHOTO © CARY KRAMER

Birds are an integral part of life in Texas and beyond. Since the earliest of days, their meat and eggs have provided a handy food source; we've adorned ourselves with their feathers and delighted to their colors and warbling.

Though we often don't look beyond these attributes, birds provide important environmental benefits, including insect and rodent control, pollination and seed dispersal. Birds of all feathers play a critical role in the Texas economy, supporting recreational opportunities that create jobs and generate millions of dollars in revenue. Birds are used as iconic symbols throughout our cultural and spiritual lives.

Texas and the United States have historically worked to preserve our feathered friends — especially

migratory species — so we don't "love them to death." Laws and regulations strive to seek a balance between our needs and their preservation.

A PIGEON IN EVERY POT

As European settlers populated Texas in the 1860s, wildlife was abundant. Cities and larger towns were established, and the demand for meat grew. Lack of refrigeration and limited local supplies of fresh meat created a niche business for market hunters from Brownsville to Galveston to Dallas.

Waterfowl and upland game birds were targeted, but so were shorebirds, sparrows, grebes, bluebirds and other species. In the 1870s, passenger pigeons were on the menus of some of Austin's finest dining establishments near the Capitol grounds. Well into



PHOTO © TOM HAUSLER

the 1880s, passenger pigeons would fill the skies in the Pineywoods and venture as close to the Capitol as Bastrop during southward migration. By the early 1900s, they were gone, victims of overhunting.

ARE RULES NEEDED?

In 1879, Texas passed its first statewide general game law, providing protection for songbirds and prohibiting the hunting of quail and doves during their breeding seasons. Two years later, prairie-chickens and turkeys were added to the legislation. Although 130 counties declared themselves exempt from fish and game laws over the next four years, a group of highly vocal conservationists formed to advocate politically for the protection of birds and their habitats in Texas.

Plume hunting — the hunting of wild birds to harvest feathers, especially decorative plumes sold for ornamentation — occurred during this time along all the rivers of East Texas and the rice prairies of Texas. Nesting colonies on islands along the Gulf Coast, including those of brown pelicans, were raided for their eggs and feathers. Due to these activities, Texas passed legislation in 1891 to protect gulls, egrets, herons and pelicans (and their eggs).

Railroad expansion created avenues for market hunters to get their bounty quickly to markets in Galveston, San Antonio, Waco and other major metropolitan areas. Shooting competitions among wealthy Texans became popular during this time, and shoots on the Gulf Coast prairies took a toll on local populations that measured in the thousands of birds in a weekend. Hunting was a free-for-all that couldn't continue without consequence.

WINDS OF CHANGE

In response to this widespread, unregulated take of (mostly migratory game) birds, an independent Texas Audubon Society formed in 1899 in Galveston. Tragically, the great Galveston hurricane of 1900 virtually eliminated the group, since nearly all

the original members perished.

Habitat change was occurring across Texas, and by 1900, eastern bluebird numbers were a concern for many people across the southeastern United States, including Texas

In response to Texas grassroots efforts, the Texas Legislature passed regulations in 1903 to limit the timing, species and bag limits of many birds targeted by market hunters, and market hunting was outlawed. The following year, 1904, saw the reformation of the Audubon Society — a strong voice to defend the welfare of all birds.

CROSSING STATE LINES

By the early 1900s, a majority of states had laws and regulations that protected various bird species. However, biologists and conservationists were becoming increasingly concerned about the effects of a large majority of these birds crossing state boundaries and even international borders. Protection was needed all along the route, from the breeding grounds in the north to the wintering areas in the south. A new awareness was taking hold that a pintail flying across Matagorda Bay in December could well be affected by conditions for nesting the following spring on the prairies of North Dakota or Saskatchewan.

In 1914, the last living passenger pigeon — Martha — died at the Cincinnati Zoo. The unregulated take of migratory birds was about to come to a close in the United States and beyond. Two years after Martha's death, the United States and Great Britain (signing for Canada) inked the Migratory Bird Convention, providing a uniform system of protection for birds that migrated from Canada to the United States. The convention also established hunting season regulations and prohibited the hunting of insectivorous birds and other nongame birds. The convention's date — Aug. 16, 1916 — marked a new beginning for migratory birds that would ensure protection for generations to come.

The signing of this convention laid the groundwork for more protection

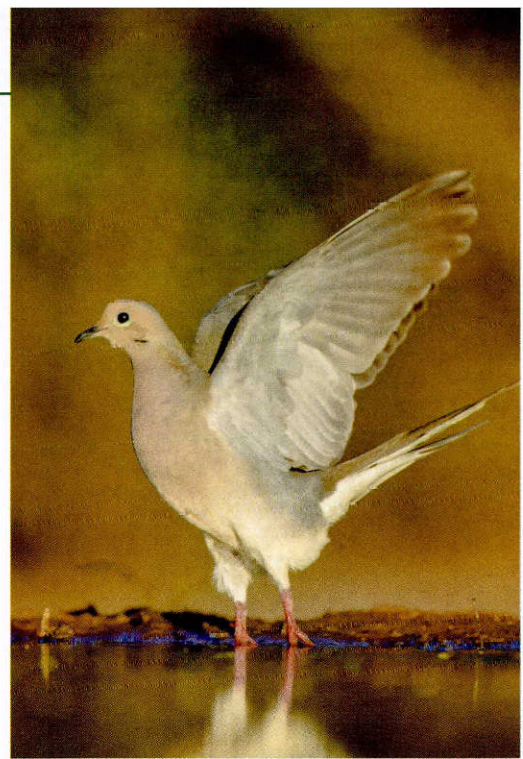


PHOTO © LARRY DITTO

Opposite page: In the early 1900s, the need to protect birds such as northern pintails and whooping cranes along their migration routes led to the passage of new game laws and the creation of wildlife refuges.

This page: Texas' first statewide game law limited hunting of mourning doves and other birds.

of birds throughout North America and beyond. Later, Mexico (1936), Japan (1974) and Russia (1978) signed similar conventions. Following the passage of the Migratory Bird Treaty Act by Congress in 1918, all migratory birds and their nests were protected under the law.

Many national wildlife refuges were established to protect wintering or staging migratory birds, especially waterfowl. In 1935, the first national wildlife refuge in Texas was established to protect the sandhill cranes' wintering grounds. That same year, only 38 whooping cranes were counted wintering along the Gulf Coast of Texas. Aransas National Wildlife Refuge was established in 1937 for their protection.

WORKING TOGETHER

With more than 600 species of birds, no other state enjoys the diversity of species and landscapes that Texas has to offer. Recent surveys indicate that bird watchers spend nearly \$41 billion in their pursuits across the United States. Of 29 million Texas residents, nearly

11 percent consider themselves bird watchers at some level.

Today, state and federal biologists work with countless private landowners across the state to implement wildlife-friendly practices and habitat management on their properties. These public-private partnerships affect more land in Texas every year. Committed, conservation-minded landowners across the state drive the current conservation movement in Texas, and the future of migratory birds here rests squarely on their shoulders.

In 2015, the Texas Legislature allowed increased expenditures from the Texas Migratory Game Bird Stamp Fund, paid for primarily by duck and dove hunters. The Texas Parks and Wildlife Department can now fund habitat-based restoration projects on wildlife management areas and other locations for the protection of migratory game birds, as well as shorebirds and other wetland-dependent wildlife. Waterfowl hunters

continue to purchase federal duck stamps, which allow for the purchase of fee-title acquisitions and conservation easements into the national wildlife refuge system in Texas and beyond.

Today, TPWD manages 47 wildlife management areas and 95 state parks, nearly 1.4 million acres providing habitat for migratory birds across Texas.

Conservation of migratory birds continues today with efforts to increase native grasslands across the blackland prairie to bolster scissor-tailed flycatcher, eastern meadowlark and loggerhead shrike populations. Public agencies and nonprofit, nongovernmental organizations work cooperatively to identify measures that will conserve, preserve and protect playa lakes in the Panhandle for wetland-dependent bird species. Countless projects across Texas continue to increase both habitat quality and quantity for these species.

We'll never again see a passenger pigeon or Carolina parakeet fly over the skies of Texas. Without

the measures that stopped the unregulated harvest of birds and continued loss of their habitats, who knows what sounds we would hear tomorrow as dawn breaks in Texas?

What else might we have lost? Would waterfowl hunters be able to wade in a coastal marsh at Mad Island Wildlife Management Area in hopes of bagging a drake pintail? Would a bird watcher be able to snap a photo of a great kiskadee at Estero Llano Grande State Park?

We all have a part to play in the continuing success. The next time you hear or see a bird, think about the past and what the next 100 years may hold in store. Support local bird groups, build backyard habitat, buy a federal duck stamp and keep informed about legislative matters that affect wildlife. Together, we can make sure birds are here for all to enjoy for generations to come. ★

Shaun Oldenburger is TPWD's migratory shore and upland game bird program manager.

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help protect human eyesight from the harmful effects of solar radiation light. This superior lens technology was first discovered when NASA scientists looked to nature for a means to superior eye protection—specifically, by studying the eyes of eagles, known for their extreme visual acuity. This discovery resulted in what is now known as Eagle Eyes®.

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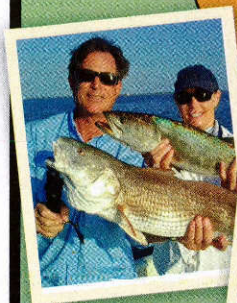
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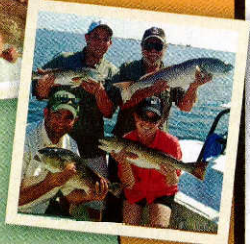


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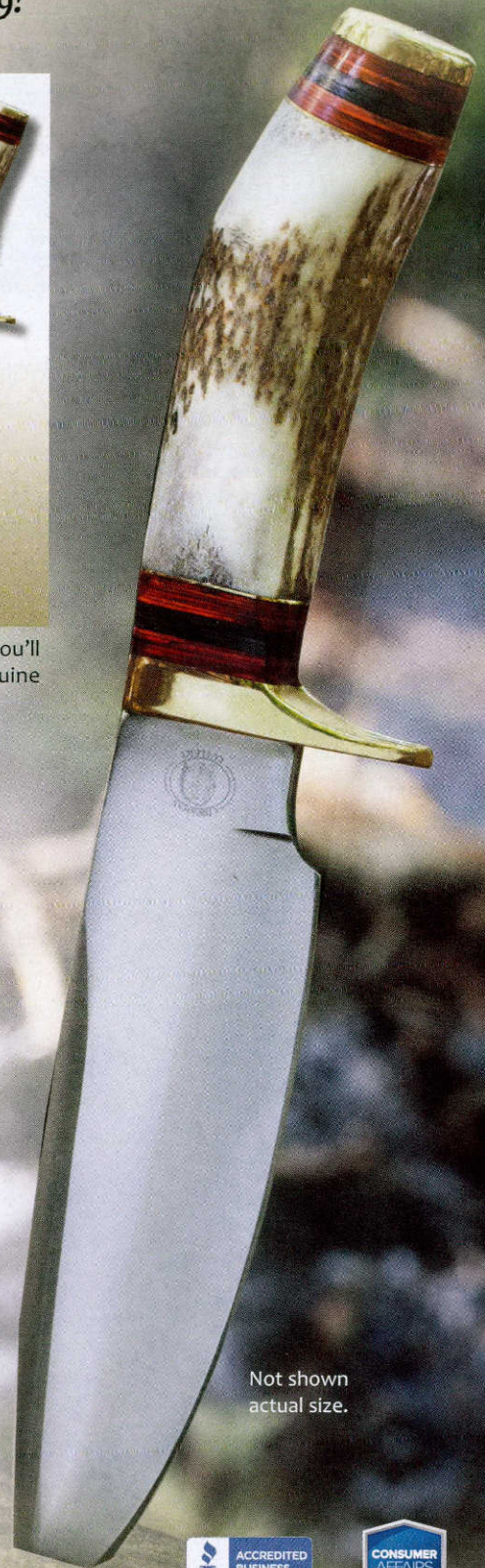


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Dove Hunting



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WHEN IT COMES to dove hunting, Texas is at the top of the flight.

With nearly 7 million doves harvested annually and more than one-third of a million dove hunters participating, Texas boasts more than one-quarter of all doves harvested and almost one-quarter of all dove hunters in the United States. While mourning doves still reign supreme at more than 5 million harvested yearly, nearly 1.8 million white-winged doves are also taken, and they continue to expand their range.

“Texas is the end of a funnel where doves from Montana to Minnesota migrate to on an annual basis,” notes Shaun Oldenburger, TPWD dove program leader.

It’s not easy to hit this fast-flying quarry, so it’s best to “practice practice practice” shooting sporting clays to prepare for doves, perhaps the most challenging birds in wing shooting. For more information, visit tpwd.texas.gov/dove.

By Steve Hall

GEAR UP



SHOTGUNS AND AMMO: 12- or 20-gauge, over-and-under, “plugged” pump and semi-automatic shotguns loaded with 8 lead or 6 to 7 ½ steel shot are most commonly used. Test various types of shot

in your gun to see how they pattern. Use and carry only ammo that matches your shotgun gauge. Non-toxic shot is an option that reduces lead’s impact on all wildlife.



NECESSARY GEAR: Go with camouflaged game vests or waist-strap dove bags that hold several boxes of shells/spent hulls with a lined game bag. Bring swivel-style buckets or folding chairs for sitting and coolers for bottled water/snacks and bagged dove meat.



DOGS: A trained retriever reduces wounding loss and provides years of great joy and companionship.



WATER, SUN AND BUGS: Proper hydration and sun/insect protection in tall grasses and marshy areas are the two biggest concerns. Plan for it.



GAME CARE: Take a small, portable game care kit (with knives and shears) afield, including disposable gloves. Carry baggies for dove meat and a waste sack for entrails/feathers.



CAMO AND BLAZE ORANGE: Birds see color, so many hunters wear camo but increase safety by using blaze orange, especially on public lands.

QUICK TIPS



SAFETY FIRST!

Learn and follow all hunting regulations. Communicate with your hunting companions; stick to your safe zone of fire. Avoid shooting at low-flying birds, especially around other hunters and your sporting dogs.



MUZZLE CONTROL:

Always point the muzzle of your shotgun in a safe direction and unload when you are no longer hunting.



DOVE ID: Be sure of your target before raising your shotgun.

Learn to identify non-target dove species and birds that resemble doves in flight such as American kestrels, shorebirds and other protected species.



SHOOTING SKILLS:

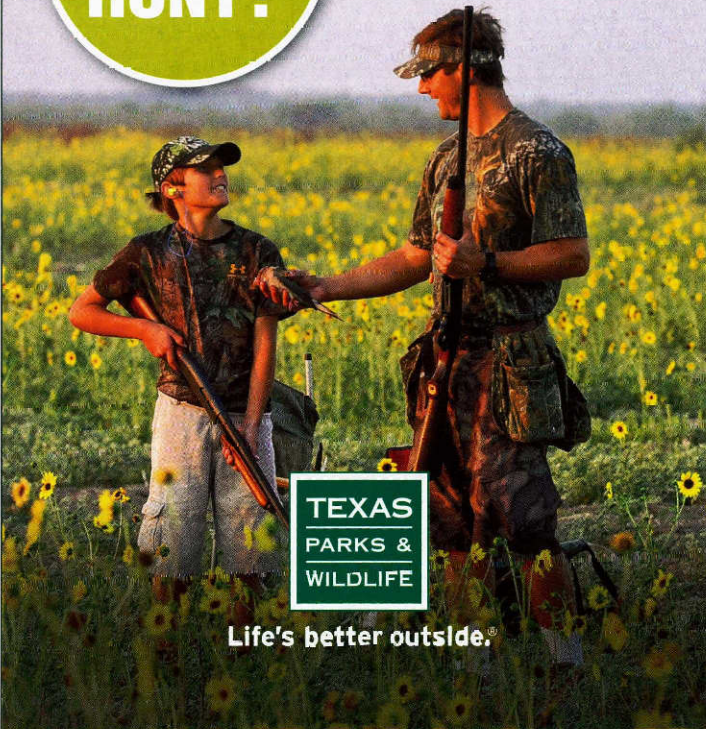
Improving shooting skills (proper stance, target focus and adequate leads) will help you bag more birds, reduce wounding loss and increase safety. Practice shots from a variety angles. Learn to estimate distance and know your effective range (usually within 30-40 yards).

DOVE HUNTING 101 WORKSHOPS:

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The Bastrop County Complex Fire of September 2011 was the most destructive wildfire in state history, burning 34,000 acres and destroying 1,600 homes. The wildfire affected 96 percent of Bastrop State Park. About a year after the fire, *Texas Parks & Wildlife* photographer Chase Fountain took this image of two majestic pine trees, still standing, but with burn scars as a reminder of the massive wildfire that swept through the park. Since 2011, volunteers have planted 1.5 million loblolly pine tree seedlings.

TOOLS: Nikon D35 camera, Nikon 20-35mm f/2.8 lens, f/13 at 1/100th of a second, ISO 200.



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