

# TEXAS

## PARKS & WILDLIFE

APRIL 1966

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

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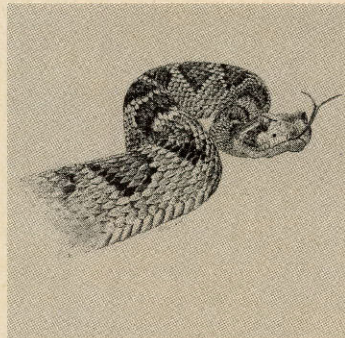
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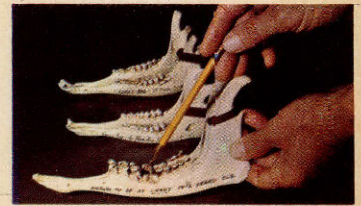
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# TEXAS

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**FRONT COVER:** Wonders of nature can be found by observing a grasshopper eating a daisy. Photo by Leroy Williamson.

**BACK COVER:** Cottontail in Texas bluebonnets is definitely an indication that spring is here. Photo by Wayne Tiller.

**INSIDE FRONT:** Pirouette of a snapping turtle proves that grace is often found in strange places. Photo by Leroy Williamson.

# Science Makes Sense

**S**CIENCE is a fantastic but confusing process to the layman. It unlocks the secrets of the universe, but the problem is to make them readily understandable to the vast majority. Scientists can prove a theory beyond a shadow of a doubt, but unless the public involved is convinced of this discovery, its application is often greatly hindered.

Game biologists work their college-trained fingers to the bone to prove and discover modern game management theories, but have trouble converting this data to information the public can comprehend and use. Through biological means, technicians may demonstrate a finding to be true 99.999 percent of the time, but this particular knowledge is useless unless it is accepted by the community.

Such is the plight in the age-old question of stocking lakes and reservoirs with hatchery-reared bass. Through the years the practice of releasing small fish in stocked waters has been shown to be ineffective. Yet, more and more requests for such service are continually received by the Department.

Proof that this is money poured down a rat hole is found in a few statistics. First, we start with the proven fact that bass are prolific spawners—so prolific that 100 female brood bass in a five acre pond at the San Angelo hatchery produced a total of 1,038,000 young in a single season.

Taking this average of 10,000 young each and cutting it to a conservative half of 5,000, we can make

some additional observations. In a hypothetical 10-acre pond in which only 10 brood bass spawn successfully, this production would total 50,000 bass—and in only 10 acres of water!

These 50,000 bass cannot possibly grow to catchable size in a 10-acre pond. Aside from just finding room to swim in these crowded conditions, they must find food, shelter, and refuge from various predators. The surviving number of bass will be cut down to the number this particular lake will support under the existing living conditions.

Now, let us assume that the owner of this lake makes arrangements to obtain 2,000 bass fry to “stock” this fishin’ hole. As the 2,000 fry hit the water of that lake, they will be entering an overcrowded and very competitive situation. Why do they have a better chance of survival than the naturally produced young? They don’t. Actually, they have less of a chance, due to the soft life they led in the hatchery. They did not have to worry about food or shelter, and predation in hatcheries is naturally kept at a minimum. When they hit that 10-acre lake, their chances for survival are very, very slim.

What this line of reasoning points out is that once a population of fish is established—either in a large lake, small pond, creek or river—adding more fish is only feeding those already present. And that’s mighty expensive fish food.

Rather than adding more fish to an already crowded fish society, lake

managers should consider a more comprehensive management program. Watershed soil conservation measures will help keep the water clear and free of silt, and fencing livestock out of the pond perimeter will protect the lake from constant agitation.

But even under the most ideal conditions, a lake usually will become overcrowded or rough fish will become dominant sooner or later. When this happens, the recommended cure is draining or otherwise complete removal of all fish life, and then, and only then, restocking.

In larger lakes and reservoirs, extensive renovation projects are still too expensive and not considered feasible unless a lake can be treated during drouths while the volume of water is greatly reduced. Research seeking solutions other than complete renovations are currently underway in Texas as well as other states, but progress is slow. Some possible solutions seem promising in the fluctuation of water levels, introduction of predator species, and partial renovation of the water where troublesome fish spawn.

The Parks and Wildlife Department maintains an extensive fish hatchery system to supply fish for restocking purposes. The hatchery system is necessary to replenish fish populations lost in periodic drouths and to stock new or extensively renovated waters. But continued stocking of an established lake is useless without a comprehensive management program.

—Editor



# CALL OF A RIVER

by Ben M. Nolen

**E**XHAUSTING tests of time and the endless ingenuity of the white man have failed to alter the basic design of the American Indian's canoe. Of all the implements developed and used by the Indians, none have survived the years of change as has their legendary mode of transportation.

Much of the true charm of this growing sport is realized as the craft slides into calm water while the first rays of sunlight penetrate the darkness in the East. Cruising deftly through placid, mirror-surfaced waters, the canoeist can find the full freedom of nature and attain the peak of adventure.

Canoeing was once thought to be something enjoyed by Texans on vacation in states in the North, West, and East, but now it has arrived in Texas. From the reports of sales by boat dealers, it has come to stay. Our State is blessed with almost any type of stream or water to fill the bill

for any canoe addict. One can find water varying from the deep waters of the larger rivers, as they slow down to enter the Gulf of Mexico, to the white-water canyons of the rushing Rio Grande.

Recently our group packed up and left Dallas to explore the Colorado River from La Grange to Columbus in three canoes, consisting of Kenneth and Ruben Chambers in a 17-foot Aluma Craft, Steve Merideth and Tommy Rogers in a 17-foot Grumman, and Bob Narramore and myself in an 18-foot Old Town. The entire trip is floatable without portages, although our boats did drag bottom a number of times.

We launched our canoes into the clear waters of the river west of La Grange at 10:15 a.m. on Saturday morning. Much of that morning, previous to launch time, had been spent taking a car down to the debarkation spot near Columbus. In this way, we would have transporta-





tion back to get the other car which we would leave at the launch site.

Passing under the highway bridge south of La Grange was like slipping into another world. This would be the last road crossing we would see until we reached Columbus, 35 miles downstream. Although we had left a proposed itinerary of the trip with our families, and had made camping arrangements with the owner of some land adjoining the river at a point about halfway to our destination, the last sight of civilization was a thought-provoking experience for all of us.

Floating leisurely, fishing, joking, and just generally enjoying ourselves, we marveled at new sights around every bend. After the first ten miles, we came upon a noon camp of Houston Scout Post #885. This troupe, headed by Dick Huntoon, had ten canoes, and were just out to enjoy a weekend on the river. This was the first time some of these Boy Scouts had been in canoes, yet they paddled as if this were an everyday occurrence.

Pushing the Scouts behind, we pushed on downstream, where we had made arrangements with the landowner to spend the night. Luckily this spot was below the Scouts and would let us go on ahead in the morning to do some serious fishing in undisturbed waters.

Reaching our camp, we quickly

got the canoes pulled out of the water, the gear unpacked, and a fire started for the evening meal. There is nothing to compare with a good meal prepared around an open campfire. At the time, nothing could have tasted better than hot beef stew and pork and beans, topped off with fruit cocktail, and washed down with boiled river water coffee.

After dinner, we sat around the campfire watching the full moon rise and swapped tall tales. This, I believe, is a high point on any trip into the outdoors. It is a time for relaxing after a hard day and a good hot meal. It is time to quietly meditate and talk about the day's happenings and tomorrow's possibilities.

Six o'clock came early, with a slight morning chill in the air. However, Ken quickly had the fire blazing and the coffee hot again. Our dehydrated foods were quick to prepare and soon we were eating our way through a hot breakfast of sausage, eggs, and hash browns. By the time the last of our group had finished breakfast, the pots and pans had been washed, the gear stowed in the canoes, the garbage buried, and the fire crowned, and we were ready to get back on the water.


Heading down those last 16½ miles, fishing was good almost immediately. I hooked and landed the first bass and a few minutes later

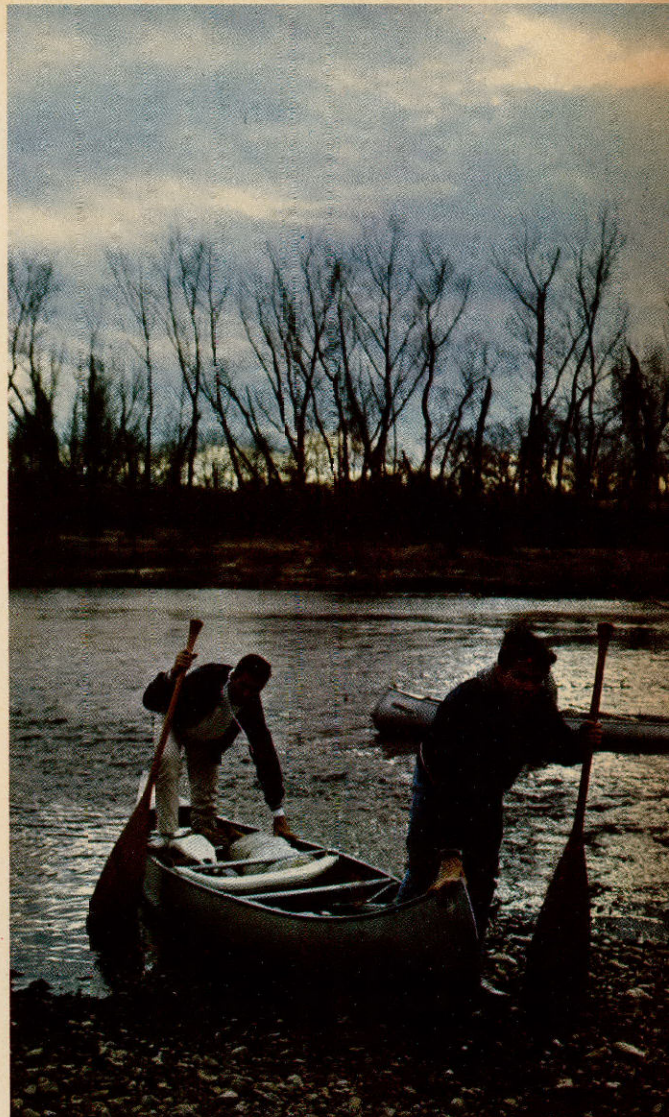
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*"Floating leisurely . . . we marveled at new sights around every bend."*

 **CALL  
OF A  
RIVER**



*"Reaching our camp, we quickly got the canoes out of the water, the gear unpacked, and a fire started for the evening meal."*



*"There is nothing to compare with a good meal prepared around an open campfire."*

by Ray Hart

# *Post Oak Proving Ground*

**E**ARLY EFFORTS of wildlife biologists in Texas to carry out sound research were handicapped by the fact that this work had to be done on private land, leased on short-term agreements.

Intensive research on wildlife species requires control of the land, the livestock grazing pressure, and the game populations, as well as careful studies of the food habits of these various animals. Since Texas is divided into several major soil and vegetative types, the idea was conceived that the State should purchase management areas in each of these major types.

Acquisition of land for the present-day Gus Engeling Wildlife Management Area began in 1950. It was first known as the Derden Wildlife Management Area, as the major portion of the land was formerly owned by Mr. M. J. Derden. Subsequently, Gus A. Engeling, one of the first biologists assigned to the





area, met a tragic death at the hands of a duck poacher in the Catfish Creek bottoms on December 13, 1951. Following this unfortunate incident, the Wildlife Area was renamed in memory of him.

The Gus Engeling Wildlife Management Area is located 20 miles northwest of Palestine and 40 miles southeast of Corsicana on Highway 287. The sprawling 10,981.10 acre area is owned and operated by the Texas Parks and Wildlife Department as a wildlife research and demonstration station for the Post Oak Region of eastern Texas.

The Engeling Area is very typical of the region. It consists of about 8,000 acres of densely wooded land crossed by Catfish Creek and nine tributary spring branches. Adjacent are 2,000 acres of relatively open land.

The Engeling Area is devoted primarily to wildlife management, which includes both wildlife re-

search and wildlife harvest. However, certain agricultural practices are involved, to demonstrate the necessity for coordination between wildlife and agricultural management since both are part of the land-use plan.

Various research jobs are in progress at this time. The objective of one such job is to determine the extent of competition for forage between deer and cattle on native oak woodland range. Information on this subject is needed by ranchers in the locale who desire to have as many cattle as possible and still maintain a good deer crop.

A track count method of censusing deer has been developed and tested on the area. The "cruise line" census technique, which is best adapted for use in the central portion of the State did not give reliable results in the densely wooded Post Oak Region. The vegetation is so thick that adequate visibility was not

available for this type census. The track count method, however, has proven to be statistically sound for deriving certain trend information for this portion of the State that was otherwise unknown.

Other research objectives on the Engeling Area include: (1) determining the average daily range (by season) of white-tailed deer in the Post Oak Region; (2) collecting a series of known-age jawbones for use in accurately determining the ages of deer harvested; (3) demonstrating the proper use of fire as a tool to improve woodland game habitat; and (4) conducting a tame deer bite or food habits study.

The tame deer bite study is based on the use of "Radar," an 18-month-old tame buck deer. He is kept in a large pen at the area headquarters, and has been trained to load and unload upon command into a specially equipped 4-wheel drive pickup. This facilitates transporting

Sprawling 10,980-acre area serves as an experimental and demonstration area for modern game management.



periments on the use of controlled fires have been proven of value in game management in the Post Oak region.



Known-age jawbones of deer yield data necessary in determining the age of hunter-killed animals.

Radar to pre-selected range sites so observers can record his browsing preferences, bite by bite. The use of a small portable tape recorder enables a biologist to record pertinent data as fast as the deer can take individual bites.

The Engeling Area has been available to manage public hunting since 1955. Deer and squirrels are the only animals presently included in this program, although limited populations of other game are present. Public fishing is permitted under certain restrictions.

For deer hunting, prospective hunters write to the Parks and Wildlife Department in Austin, asking for an application card for the public hunts on the management areas. The card, when filled out, is returned to Austin. A public drawing is held there, and persons lucky enough to have their names drawn are sent permits, stating the dates they may hunt.

Since public deer hunting began on the Engeling Area in 1955, 2,932 persons have hunted. They have harvested 1,170 white-tailed deer, for an overall hunter success of 36.54 percent.

The public hunts are an integral part of the management program and provide valuable information otherwise unobtainable. Each deer killed is brought to a check station, where biologists obtain information on whole and dressed weights, antler development, age, and the presence or absence of parasites. Information

on reproductive capacity is also obtained, and a portion of the stomach contents is taken to supplement the food habits information obtained by the bite method.

Public squirrel hunting began on the Engeling Area in the fall of 1961. From 1961 through 1965, 429 hunters have participated in these hunts. Hunters have harvested 1,993 squirrels, for an average 4.65 squirrels per hunter.

Hunters obtain one-day permits for squirrel hunting. On a predetermined, well advertised date, a specified number of permits are issued at the area office on a first-come, first-served basis. Hunters can either telephone or come in person, but each individual must obtain his own permit.

Detailed records are kept of man-hours spent actually hunting during both the deer and squirrel hunts. This type of information is valuable in the management of any game species. Squirrels killed are processed through the check station in much the same manner as deer. Information on weights, age and sex ratios, and food habits is recorded.

The Engeling Area is a veritable haven for wildlife of many species other than deer and squirrel. Catfish Creek, which is the eastern boundary of much of the area, is flanked by large expanses of thick woods and marshes. The creek supports a rich fish life, and is also inhabited by alligators and snapping turtles. Beaver and mink frequent

the native creek woodlands, and the ever-present raccoons are numerous.

The marshes adjoining the creek provide feeding and resting places for thousands of wood ducks, mallards, and other species of waterfowl.

Fishing is also available on the area except at night and during the public hunts. In addition to Catfish Creek, there are two small, well-stocked, man-made lakes available for the use of fishermen.

Large numbers of people derive great aesthetic satisfaction from the Engeling Area. Many a child in East Texas has seen his first "real live deer" on a weekend drive through the region, and persons interested in birds come from many miles away to observe the many songbirds in their natural surroundings. Early on a cool, foggy morning, the steady hammering of pileated woodpeckers can be heard in the creekbottoms. A colony of American egrets using the creek woodland margins attracts many ornithologists each year.

The area is also blessed with large numbers of less popular forms of wildlife, the reptiles and amphibians. These range in size from the diminutive ground rattlesnakes to largest of all Texas amphibians, the alligator! Although an alligator occasionally removes the lines of fishermen, it is still unlawful to kill one within the boundaries of the area. Too, many an early-morning or late-evening fisherman has smoothed out his chill-bumps after listening to the noise an amorous 'gator makes during the breeding season.

Most species of poisonous snakes common to East Texas may be found on the Engeling Area. The cottonmouth moccasin, the copperhead, and the ground rattler are the more common ones; a limited number of large canebrake rattlesnakes is also present.

Texans are beginning to recognize wildlife as a valuable resource, both in terms of money and pleasure. It is the intent of the Parks and Wildlife Department, utilizing its trained biologists and wildlife management research areas, to evolve conservation and management practices which will help assure that native Texas wildlife will remain for future generations. \* \*

Steve yelled that he had the second. The fish continued to strike until the south wind became too strong during midmorning. The bass were fierce fighting fish since their whole lives had been spent fighting the current.

As the day wore on we became more and more pessimistic about the reliability of the weather report we had heard the day before. The wind picked up and swung out of the north, the clouds rolled in over us, and then it started getting dark. Even under these less than ideal conditions, we continued to be fascinated by the scenery, excitement of an occasional stretch of fast water, and the number of wild animals.

Our finishing point, the highway bridge west of Columbus, did not come any too soon for it started to rain when we were about a mile up-river and we were beginning to get wet. But no sooner had the boats been loaded than another trip was being planned. For the moment, the sunburns and the blisters were forgotten and the question was where and when to go next.

When planning a canoe trip, five important factors must be considered: equipment, food, knowledge of the river, overnight accommodations, and preparation of an itinerary. While equipment and food are the more obvious, the others are just as important, if not more so.

A 17 or 18-foot canoe, preferably made of aluminum for our shallow rock and stump infested streams, is recommended over the shorter and heavier models. Although the shorter canoes may be lighter, they limit your activities in many respects. First, your carrying capacity is cut because of the small size. Second, when carrying a load of equipment and supplies, the smaller craft will draw more water, thus requiring more energy for paddling and also making it necessary to walk in shallow water, which could be floated in a larger canoe. Third, the longer canoe is faster and generally easier to handle.

Paddles should be governed by the person's reach, not his or her

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# Long Shots Short Casts

Compiled by Joan Pearsall

**LOADED CRUNCHIES:** Carrots top all other vegetables in their ability to pick up insecticide residues from the soil, a spokesman for the U. S. Food and Drug Administration told the Professional Entomologists Association recently. Nearly all such residues are in the peel of the carrots which sometimes have higher pesticide residues than the soil in which they grow, although the reverse also can be true.

**SUBURB BOOM:** Suburbs have pushed ahead of cities in total population for the first time in history, says the Urban Land Institute. Suburban population reached 68 million in 1965, compared with 61 million in central cities.

**FINISHING TOUCH:** When refinishing your fishing rod, remember that a pipe cleaner is just the right size to varnish under the guides where small brushes won't reach.

**LOOSE STREWS:** The national organization, Keep America Beautiful, Inc., reports that oddities are commonplace when it comes to litter. Among dead animals picked up along highways are dogs, cats, monkeys, cattle and sheep. Chicago's 90 miles of freeway in one month yielded 50 dead animals, including a sack of kittens and several crates of chickens. National Park officials regularly de-litter the thermal pools of Yellowstone. One batch of litter from one geyser included about \$150 in coins. A Texas highway official listed the following picked up along roadsides: a transistor radio (playing), a loaded revolver, a fully-equipped doctor's satchel, a case of beer, a tombstone and an artificial leg. A recent survey turned up the surprising fact that local residents are far worse offenders than tourists, and that most littering occurs within 25 miles of home.

**WATERFOWL WHIRLYBIRD:** A helicopter, recently acquired by the Bureau of Sport Fisheries and Wildlife, is proving to be an effective tool in the management of ducks and geese. It is to be used for waterfowl population surveys, habitat and production studies, crop depredation control, observations of hunter activity, and law enforcement work. A spokesman for the Bureau said, "For the first time, Bureau biologists and law enforcement agents can really follow the flight patterns of the birds they are trying to protect, going where the birds go, and seeing what they see."

**COUNT DOWN:** The Cocoa, Florida, area slipped seven species below its 1964 record during the last Christmas Bird Count. A count of 197, recorded Dec. 28, 1965, was still high enough to retain the national championship in Cocoa. Freeport, Texas, was close with 193; San Diego, California, a hairbreadth third with 192.

## Nimble Nibbler

**M**OST POPULAR of all game animals in the United States is a little animal that holds that title not only from a hunter's point of view but also in folklore and custom. The lovable bunny springs to mind particularly at this season, in his important role in connection with Easter eggs, but at any time of the year in Texas he provides a rewarding challenge to the sportsman.

In this State, there are three resident species of cottontail rabbit, the most numerous and most widely distributed being that of *Sylvilagus floridanus*, or Eastern cottontail. A number of sub-species are to be found in different localities, giving rise to some variation in color and size, but all have in common that distinctive white powderpuff of a tail from which they get their common name.

Generally, they are dark brown to buff-gray in color, frequently with a white spot on the forehead; underparts are white as well as the tail, which is from one and a half to three inches long. The ears, between two and three inches long, are only slightly shorter than the head. One third of the length of the hind leg is taken up by the foot. Overall body length is from 14 to 19 inches, and weight is around three pounds, the female being slightly larger than the male.

Two complete hair molts, or pelage changes, occur each year. Rabbits meticulously groom themselves, to keep their hair healthy. This hair is easily soaked, so the animals seek shelter from rain, and avoid dew.

Bones in the forelegs are so placed that the paws cannot be used easily to aid feeding; therefore, the pliable lips are the main means of maneu-

vering food into the mouth. The double row of sharp, prominent front incisors, so important in chewing, grow constantly. Continual grinding keeps them in control, but in freak cases where this does not occur, they can continue growing until they have the appearance of tusks.

As an aid in this animal's highly developed hearing, the long ears can be swiveled backward and forward, to catch the slightest sound. Apart from a seemingly blind spot in not being able to see directly ahead, it has extremely keen sight, also. Large, protruding eyes, placed at the sides of the head, give almost a complete circle of vision.

A rabbit signals alarm by stamping feet. An indication of the animal's sense of touch is its ability to feel and be warned by these and other vibrations. The sense of smell only seems important during the breeding seasons, when it enables the sexes to track down and recognize each other.

A rabbit has almost twice as many taste buds as does a man. However, the creature falls short in the vocal department. A nursing rabbit may grunt softly or even purr, and the males in breeding season may growl or chirp. The only time they really broadcast to the world is with the bloodcurdling, plaintive scream of terror that signals a predator has them in its clutches. Calls imitating this sound are a valuable aid to hunters of such predators.

Unlike the hare that prefers open country, the cottontail's choice is for brushy country with lots of cover. European rabbits live in colonies of burrows, or warrens; those of the New World do not burrow, but use ones made by other animals, such as

armadillos, as shelter in emergencies.

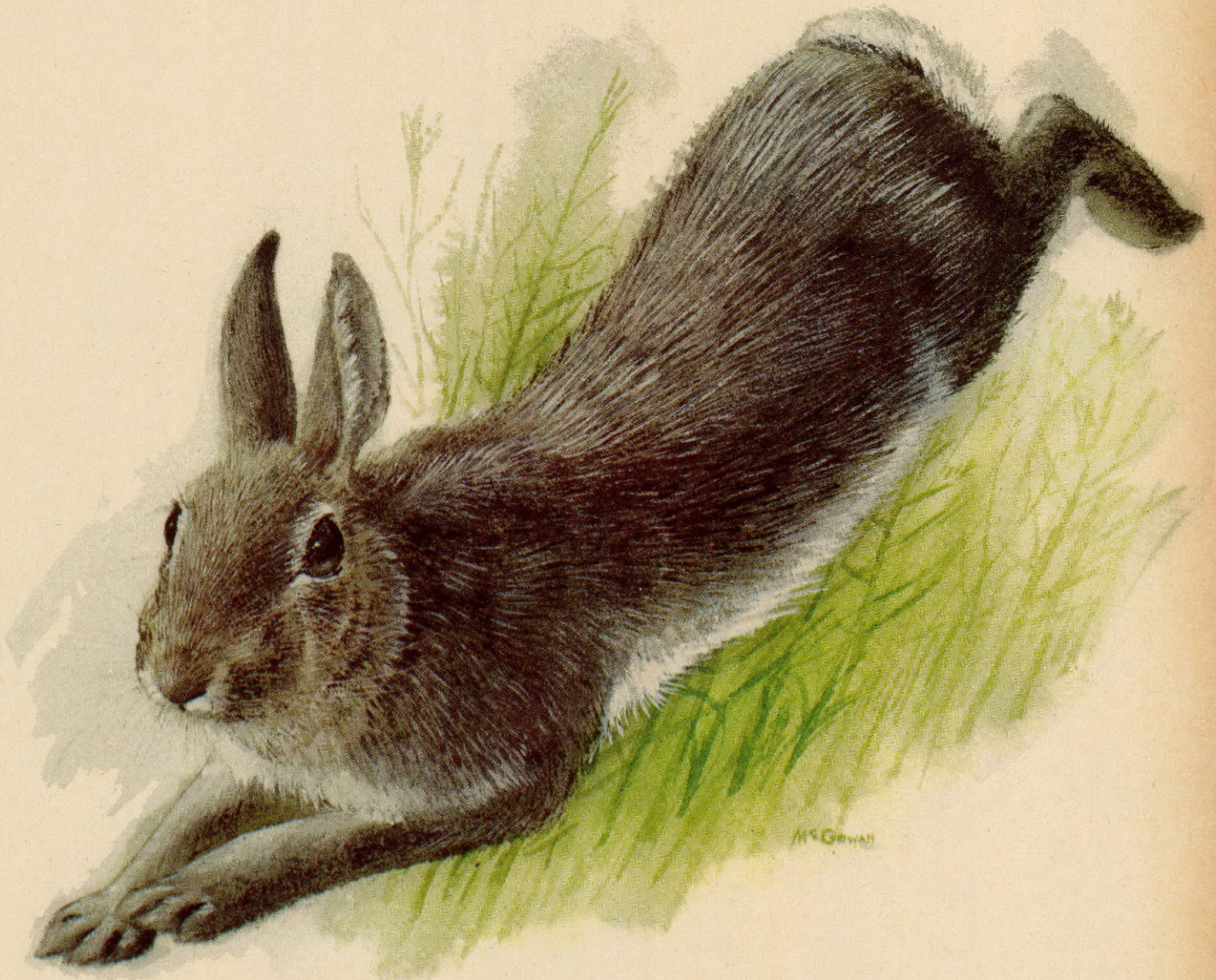
In spite of their reputation for speed, which is heightened because of running in a zigzag pattern, they can seldom exceed 18 miles an hour. A method commonly used to escape danger is that of "freezing," the animal remaining absolutely still, knowing its coat will blend with the surroundings.

When a rabbit hops, it uses the forefeet then brings the back ones up just behind. When traveling faster, it jumps with the forefeet coming down one after the other, and the hind feet following on ahead. This results in odd-looking tracks, having the hind footprints in front of those of the forefeet, which has sometimes confused people into tracking a rabbit in the wrong direction!

Bark and twigs form the winter diet for rabbits. In warmer months, there is a varied menu of grasses, roots, young shoots and herbs, and even fruit, such as orchard windfalls. They have been observed eating snails and some insects, but this animal is predominantly vegetarian. Often they put a strain on their popularity among farmers and gardeners by nibbling tender young shoots and ruining crops. A fence, buried six to eight inches deep, and two or three feet high, is the only safe method of protecting a garden; the wire mesh should be no larger than one and a half inches in diameter.

The hours of twilight—early morning and early evening—are mainly when the rabbit is most active.

Although a rabbit's potential life span is 10 years, life is so full of hazards that 85 percent do not live to complete their first year. The remainder, however, is ample to main-



tain the species. The cottontail's only effective defense, as far as its race is concerned, is its impressive reproductive ability. Breeding season is from February until September, with from four to five litters per year, averaging three to six young at a time.

Rabbits are promiscuous and territorial. Females have a plot of about two acres, from which they will

drive out any trespassing females. Territory of a male is from eight to 30 acres. It will cover that of several females, and overlap the territories of other males. Fights are common among males during breeding season, resulting in a peck order which allows the dominant male the greater number of females.

Gestation is about 28 days. A week before giving birth, the female

prepares the nest—a saucerlike depression in the earth, three or four inches deep and about eight inches across. She lines it with mouthfuls of soft, dead grass mixed with hair from her breast, and also makes a small blanket of grass and hair to conceal the nest and keep it dry and warm. After birth, the female covers the young with the blanket, and

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# San Jacinto, Houston's Decisive Move



Display Courtesy Fort Worth Children's Museum

by Gary Todd

**S**HOULDERING THE DESTINY of his countrymen on March 6, 1836, Sam Houston headed west from Washington-on-the-Brazos. The roaring of cannons and screaming of dying men which rang within the Alamo that same morning were muted by distance, and for a while he was spared from the anguishing accounts. He had been commander-in-chief only two days when he set out to arrange his country's meager defenses against a massive, well-trained Mexican army.

Traveling five days by horse across rain-swollen rivers and over primitive roads, he reached Gonzales and took charge of some 350 men who had preceded him there, hoping to rescue the Alamo defenders. The news of the Bexar disaster reached him as he arrived. When it was confirmed on the 14th, he turned back eastward, beginning his long retreat—the long, desperate road toward victory.

Before leaving Gonzales, he ordered two pieces of artillery thrown into the Guadalupe River since there were no means of transporting them. His baggage wagons had been given to the citizens evacuating Gonzales.

In the line of retreat, the army became sponge-like, soaking up men en route and spilling others. Six hundred men were in ranks when Houston reached the Colorado River on March 17, pursued by Mexican General Ramirez Sesma. After March 26, however, with Houston withdrawing toward the Brazos River and with news of Fannin's fate spreading, many of the men left the army to help their families, and numbers were drastically reduced. Many others who were on their way to join the army also turned back to help their families.

Houston continued into April, leading the force first to San Felipe, then north along the Brazos River to a point known as Groce's (near the present city of Hempstead) where he camped and received reinforcements and artillery. The citizens of Cincinnati, Ohio, had shipped two six-pound cannons known as the "twin sisters" to Houston, and they were given a warm welcome in camp.

Meanwhile, Generalissimo Santa Anna, who by then had joined Sesma in pursuit on the Brazos, got word



## Houston's Decisive Move

continued

that the Texas government lay in nearby Harrisburg and decided to pursue. Finding Harrisburg almost totally abandoned, he turned on New Washington, arriving there on April 18th, and on his next move, he was to encounter Houston's forces near what is now San Jacinto.

Houston, who had broken camp at Groce's, marched to Harrisburg, arriving on the 18th. There, he learned



that Santa Anna planned to move to Anahuac via Lynch's Ferry. On April 20, the Texans moved to within a half mile of Lynch's Ferry and halted in the cover of timber. The men were engaged in slaughtering beef when Santa Anna was reported approaching in battle array.

As General Houston prepared for battle, Santa Anna took position with his infantry and artillery in the center, occupying an island of timber and with his cavalry covering the left flank. The artillery consisted of one double fortified medium brass twelve-pounder, and it opened on the Texas positions. Then the Mexican infantry advanced upon Houston but was repulsed by numerous discharges from the Texans' accurate artillery.

There was no more action, outside of a few scattered skirmishes, until 3:30 p.m. on April 21. Santa Anna chose a camp site backed by the shore of San Jacinto Bay. In the words of Mexican Colonel Delgado, the site was less than desirable, affording the Mexicans no retreat.

The Mexican forces arranged themselves in this way: the right flank of infantry moved up, occupying the timber on the south bank; the left side was fortified by an embankment five feet high, made of packs and baggage; artillery was moved into an opening in the embankment.

At 9 a.m. on April 21, Mexican General Cos and 500 men arrived to reinforce Santa Anna's forces, and they were greeted with drum rolls and much jubilation. Santa Anna instructed the reinforcements to sleep.

With the arrival of General Cos in Santa Anna's camp, the Texans expected a Mexican attack. Mexican numbers had risen to about 1,400 or 1,500 compared to about 780 Texans. But when the Mexicans began fortifying rather than moving to attack, the Texans decided to attack, and formed themselves into four divisions. The first regiment, under Colonel Burleson, was assigned the center; the second under Colonel Sidney Sherman formed the left wing; the artillery under Colonel George W. Hockley was positioned at the right of the first regiment; and four companies of infantry, under Lieutenant Colonel Henry Millard, sustained artillery on the right. The cavalry, numbering 61 under Colonel Mirabeau B. Lamar, was placed on the extreme right.

Houston ordered a strategic bridge destroyed thus cutting off any possibility of escape, and then ordered a parade of commands. The troops reportedly were in excellent spirits and anxious for combat. Some, no doubt, were hoping to avenge the deaths of their fallen countrymen at the Alamo and Goliad.

The Texas cavalry was first dispatched to the front of the enemy's left for the purpose of attracting attention. The artillery advanced and took station within 200 yards of the enemy and commenced firing with grape and canister. Colonel Sherman commenced the action on Texas' left wing, and the whole line advanced in double time, with war cries including "Remember the Alamo!" and "Remember Goliad!"

Santa Anna was, in his own words, in a "deep sleep"

when the attack was sprung. The bugler on the Mexican right sounded the Texas advance, as the Texans closed in, yelling furiously. The Mexican camp was taken completely by surprise, many of the soldiers being asleep. Panic-stricken and in utter confusion, they fled, some to the water's edge and some to the prairie. Many were shot trying to swim to safety in the bayous, and others were closely followed by the Texas cavalry onto the prairie where they were caught and shot.

Howling Texas forces met little resistance as they dashed lightning-like through the deserted camp. Victory came within approximately 20 minutes, though some of the prisoners were not returned to the camp until the next day. The Texas cavalry had charged and routed that of the enemy on the right, and Captain Karnes led the pursuit of the fugitives across the prairie. Hand-to-hand combat at the breast-work lasted only a few minutes, and the Texas riflemen were forced to use their weapons as clubs.

During the following three days, all of the prisoners and supplies were moved to Houston's camp.

Comparative statistics were staggering. Houston reported less than 5 dead and fewer than 25 wounded. At the same time, Mexican losses reportedly ran 630 dead, 208 wounded, and 730 prisoners. His Excellency, Santa Anna, was not captured until April 22, as he had escaped to a prairie and changed his clothes.

On the 22nd, Santa Anna, well disguised in stolen clothing, was brought into Houston's camp unrecognized by his captor. Reportedly, Mexican prisoners' exclamations gave away his identity. He agreed to cease hostilities, withdraw remaining Mexican forces across the Rio Grande, and restore all property taken by Mexican soldiers. In return, uncaptured Mexican troops were assured safe passage to Mexican territory during their retreat. Santa Anna was held prisoner until late 1838, when he was sent to Washington, D. C.

Mexican prisoners were removed by ship from the area and taken to Galveston Island where they were held until mid-August. They were finally released, April 25, 1837.

Though Mexican claims to Texas did not end until 1846 after the Treaty of Guadalupe Hildago, Texans, with great relief, turned their attention to rebuilding their ravished land under a sovereign flag. Strong new leaders of the Sam Houston stature were to arise in Texas to impress their names on her dynamic history and to shape her destiny.

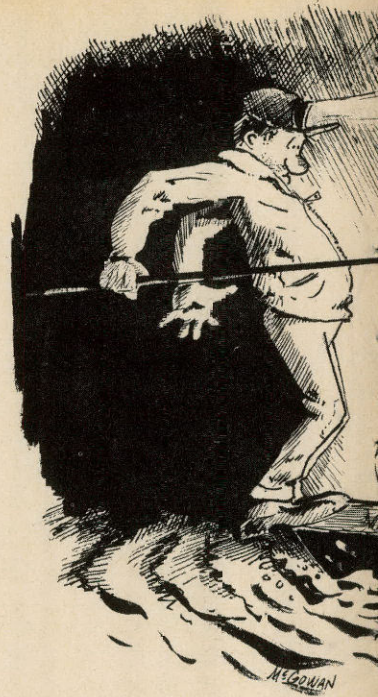
#### NOTE:

San Jacinto battleground, a State park of 460 acres, located on the Houston Ship Channel, contains the world's tallest monument, an excellent museum, the Battleship *Texas*, and picturesque picnic areas. For a nominal fee, visitors may view the battleground area and the surrounding industrial center from a vantage point high atop the 507 foot tower.

A short drive east from Houston via highways 225 and 134, the park is a definite requisite for the student of Texas, American, or Mexican history, and a popular stop for tourists and photographers.

# Smoked Carp

by Richard Sturdivant



**F**UMBLING, groping in the pitch blackness, I somehow got the telephone receiver up to my ear. Then after I reversed the contraption to get the earpiece in the right place, my buddy, Ken, came through loud and clear. "The thermometer is down but my blood pressure is up. Let's go gigging."

Being a true friend and remembering that the good book says, "If a man asks you to go a mile with him, go two," I told him I would be by just as soon as I opened both eyeballs.

I had one leg in my long-handled drawers and was fumbling with the other one when my wife asked, "You crazy or something? It's below freezing and you don't have a windshield in that wreck you call an automobile. You're running on the inner tubes and there's probably ice on the roads."

But no true sportsman would dream of staying when a buddy calls for help. It was my duty to aid him. So I kissed my loving wife goodbye and set out on my errand of mercy.

After straining the battery to the limit of endurance, the engine finally caught on a couple of cylinders, coughed, and caught again. I backed out of the drive with two cylinders chugging fairly regularly. The other two would come in just as soon as it warmed up a little, I hoped.

As I ground into low and labored up the street I could feel the air moving around my face and ears. My mouth began puckering and my eyes narrowed to slits as I gained speed heading for Ken's. The water

from my eyes felt like little icicles snaking around my head, trying to gain the refuge of my ears.

Ken was waiting by the window. He had heard me coming a block away. By the time I got there he was on the front porch picking up the gig and carbide headlight. When he put them in and slammed the rumble seat lid, the noise echoed through the sleeping neighborhood like a snore in church. Dogs started barking, babies started crying, and lights flicked on in the surrounding houses. But we didn't care; we were headed for the river.

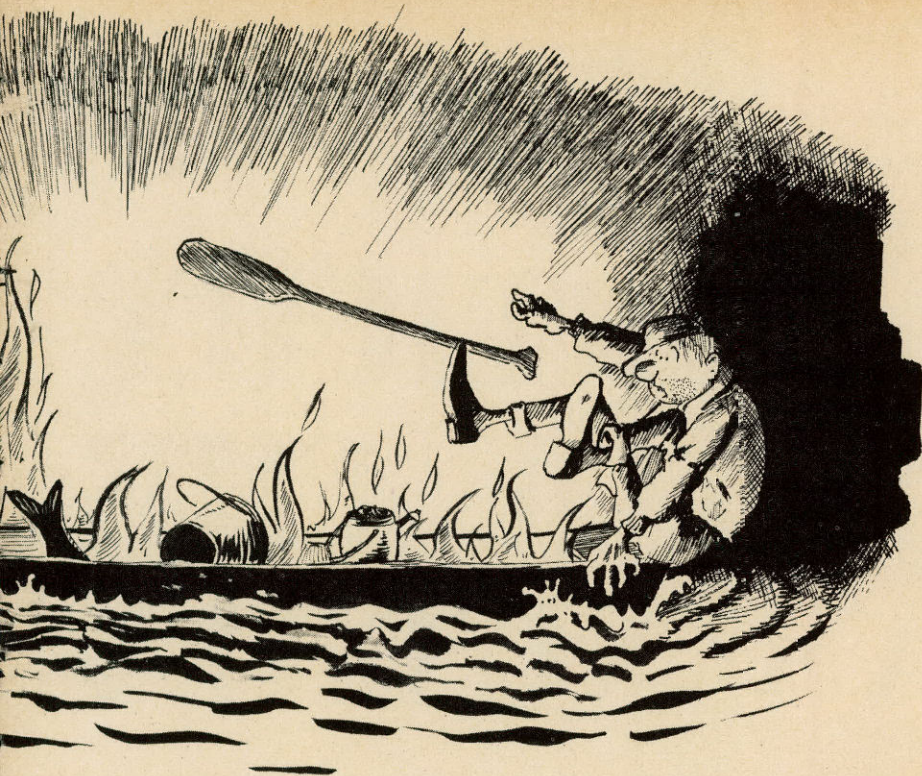
By the time we reached the old pump house where our boat was stowed, neither of us could talk very well. Our mouths just wouldn't form the words clearly when our cheeks were so stiff. But in a few minutes of standing still and rub-

bing our faces, we regained a little circulation.

"Hey," exclaimed Ken as he opened the rumbleseat, "Here's a can of gas! Let's put some sand in this five gallon bucket, soak it with gas, and have a portable heater. It sure will feel good out there in the boat."

But look as we might, there was no sand to be found, only mud. We talked about putting a little gas in the bucket by itself and lighting it, but decided not to as it would prob-





ably burn the bottom out of the bucket. So we just threw the bucket and gas can in the boat, hoping to find some sand later. After all, only sissies needed a fire, anyway.

Ken stood in the bow of the cypress, flat bottom boat looking ahead for unwary carp. His carbide light scanned the water first on one side of the boat and then on the other. All it illuminated was swaying weeds and a few lonely perch. I manned the paddle and tried to scull noiselessly along, quietness being essential to keep from scaring the fish.

The only audible sound was the chattering of my teeth, which, to me, sounded like one of John Phillip Sousa's best snare drummers. How I wished I could have really laid down on that paddle and worked up a little steam. I knew, though, that Ken was having it worse than I.

He had to stand motionless, gig poised for an instant throw. I imagined it to be like posing for a statue of Lady Godiva Crossing the Yukon. Occasionally he would rack all over from a big shudder which he just couldn't hold back. When he did, the headlight danced all over, warning fish for a hundred yards that we were coming.

Finally, I could stand it no longer. "Let's light some gas in this danged bucket anyway. I'm freezing. You couldn't throw the gig if you did see a fish."

"Sounds great to me," he said, "but it will probably burn the bottom out. Lets put some of this ice water from the lake in the bucket and float a little gas on top."

Man, it worked like Internal Revenue. That fire even made me glad I was on the lake and not home with Mama. My corpuscles started fraternizing again and I knew my wife wouldn't be widowed tonight. But just as we got to feeling alive, the fire went out. The gas had burned and nothing was left but a smoky bucket half full of water.

"No sweat," Ken announced, "I'll just put more gas in and we can get back with the gigging."

Apparently the fish approved of this last maneuver as we giggered several in the next hour. Our spirits were soaring up there with the bullbats and mosquitoes when the fire went out for the umpteenth time.

"This is for the birds, feeding this hungry bucket every time I turn around," I said. "I'm going to put more gas in and we won't have to feed it so often." This time I poured

at least three inches of gas in the can and tossed in a flaring gopher.

"Great balls of fire! We're putting out smoke and heat like Mount Vesuvius," I yelled, "We got a real steamship now."

Then Ken hollered, "Hey, the stuff is jumping out of the can. Put a lid on it."

"Whatcha gonna use for a lid, a dead carp?" I called. "Throw it overboard. It's splashing fire in my boat."

"Throw it over yourself, wise guy," he yelled as he perched on the gunwale like an owl on a small twig. "I've already been burned twice by it."

The fire had heated the bucket until the water started boiling. As the bubbles rose to the surface and popped, they splashed burning gasoline over the sides of the can and into the boat. These in turn fell between the floorboards into the bilge, where they floated on the water, sloshing back and forth under our feet. "Fit punishment for anybody who would go out in a leaky boat," thought I, as I did a jig to keep from setting my pants legs on fire.

"Gimme the paddle, Ken," I pleaded. "Maybe I can lift it out by the bail. This in the bilge will go out in a few seconds."

This idea was short-lived, when Ken yelled, "Watch it, Stupid. You're splashing it all over the boat. DROP IT!"

I dropped it all right, but it didn't clear the boat. The can hit on the gunwale, balanced for an eternity, then neatly decided to warm us some more. It tipped to the inside, cascading a flaming cataract into the already burning bilge.

"Get up on the seat, Graceful. Maybe we can fight it," yelled Ken.

"I've got too much in this tub to let it burn," I bawled back. "Stand on the side with me and we'll swamp it."

The theory may have been OK but the workings were terrible. As the side settled almost to water level, the water and fire in the bilge also settled under us. We had burning gasoline all around us, forcing us to abandon ship for the cool comforts of the still, dark lake. Goodbye boat. Goodbye gig. Goodbye light.

● continued on page 24



# PORTRAIT OF THE TEXAS NUTRIA

**T**EXAS has been handed the opportunity of producing mass quantities of nutria, and the temptation is to turn down nature's offer. In fact, many persons suffering damage to their gardens, crops and flower beds by these hungry rodents, will not hesitate to vote "No." As with any other so-called "pest species," we must be sure before we render a verdict.

We call them nutria; back home in South America they are known as coypu. Women who buy them as trimming on gloves or bag may have seen a label reading "mutation mink."

There would be little benefit in buying a bound book on the nutria question, because the animal is in a loose-leaf status at present. There are two sides, the good and the bad, to the question of nutria benefit and detriment. Both sides have much data to support their views.

Now, in 1966, we pause to wonder if we've been landed with a liability or if we can find a means to turn the debit to credit.

In the case of the prolific, destructive yet beneficial, ugly but interesting nutria, it is not wise to be hasty with final decisions on this subject where you might be wrong no mat-

ter which way you happen to turn.

It all began in the early 1930's when a biologist in Louisiana, E. A. McIlhenny, brought experimental nutria to Avery Island and caged them in "escape proof" pens. Thanks to a hurricane which blew down the barriers, the nutria escaped into the surrounding areas.

From the escape moment forward, they began to multiply like a teacher with a piece of chalk, and they spread like mayonnaise. Purported to be a cure for weed-choked lakes, others were released throughout the South. Today, almost every area of Texas is either blessed or overrun by them.

To begin with, we criticized the introduction, worried that our muskrats were being wiped out by an animal that consumed the same food as our principal fur-bearer, thus ruining the 'rat market for all time. The nutria invaded the muskrat nests, and muskrat traps began to choke with nutria.

About this time we studied, observed, and even corrected the name. Coypu was actually the proper name for the animal, and the fur was nutria.

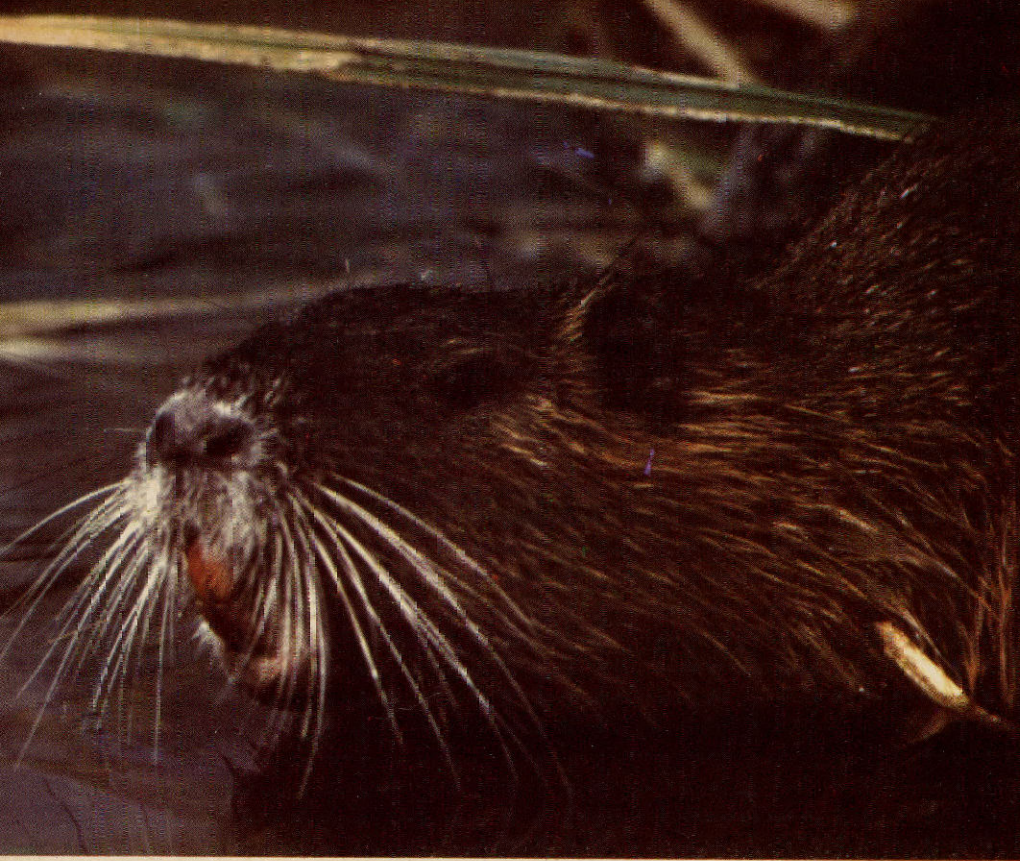
They are a shade of reddish-brown along the top side, and

black-brown on the under side. The undercoat is a soft bluish-gray. A portion of the dorsal fur is spoiled by the mammalary glands being high on the sides, so much so that the young are able to nurse while the mother lies on her stomach.

The male reaches sexual maturity at about 8 months, females in slightly less time. The gestation period is from 127 to 145 days, with two litters produced per year or, more properly, five litters in two years. Usually, from 2 to 9 young are in a litter, and occasionally as many as 13. The tiny young are fully developed, with teeth, open eyes, furred body, and webbed feet, allowing them to take to the water within 24 hours after birth. Average longevity in the wild is thought to be about four years.

On a projected basis, a half-dozen coypu may produce more than 600,000 heirs within ten years.

A twilight animal, it begins seeking food during the late afternoon, using the same trails each day, and always coming back to the nest before the early-morning sun rises. It examines its food with its paws, which are very sensitive to the slightest touch. In swimming, the short ears may be closed over the ear



by W. R. Long

openings to exclude all water.

In short, it may be described as having a grizzled-gray appearance, a head like an enlarged muskrat, ears like a cat, tail like an opossum, webbed feet like a duck, teeth like a beaver . . . and an appetite like a horse!

Coypu produce a volume of fur; weighing up to about ten pounds or more, this animal's dense fur was not in great demand for a time, but later became more popular. Some few individuals have been reported as weighing almost fifty pounds. While this is not an official weight of record, it shows that such a large animal might produce vast quantities of fur.

In Louisiana, where the animal is probably more numerous than in Texas, a total of 436 pelts were marketed during the 1945-44 trapping season. By the 1951-52 season the take had jumped to 78,422 pelts, and the marshes were filled with busy little nutria making more nutria. During the past two or three years nutria pelts have been marketed at the rate of over a half-million annually. Trappers, at first, complained because the original five dollar pelt dropped to about one dollar, but quantity seemed to be making up

for lowered prices paid per pelt.

Could it be that a valuable fur-bearer has been added to the list of economic assets in Texas without many persons realizing its presence or value?

Alaska, Washington and Oregon, three states with an introduced nutria population, condone the animal's presence; Louisiana now praises it highly!

Harvesting of nutria meat might net the trapper about 25¢ per carcass, materially adding to his take, and stimulating more trapping. The flesh may be consumed by humans, and nutria barbecue is delicious. It may or may not be in demand by manufacturers of dog food and mink food, depending on whether or not industry develops a synthetic food.

To the sporting public in Texas, the animal is already meeting with favor. They are fun to hunt, exciting when dogs are used, and there always seems to be game.

At this stage there is little or no need for control except in those areas where nutria have damaged crops or other planted areas. Biologists are now working on a toxin to prevent this depredation and remove only those individuals taking a free ride on man's efforts.

Nutria live near the water, making burrows above waterline or on floating masses of vegetation. Water seems to be necessary to produce prime fur, and those animals raised in captivity usually have a poor quality pelt that sells at much lower prices than those of animals trapped in the wilds.

So, for the trapper, the meat industry, for milady's garments, for use as laboratory experimental animals, and for sport hunting, the nutria is of definite value.

In cases where over-populations exist, the nutria seems to be subjected to disease, a factor that may enable populations to govern themselves and stay within the tolerable levels of man without other control measures becoming necessary. Internal parasites are also known to take their toll, especially in areas of heavy concentrations.

Local problems sometimes develop where large populations of the animal occur, and certainly crop damage is keeping the animal in disfavor, especially in rice-producing sections. And too, crops may not be the limit of their appetites.

On Lake Dallas, a nutria mutilated some decoys left in a duck

● continued on page 27



wild poppy

flowering straw



lazy daisy

# Just Wild about April

**B**URSTING forth in all its glory, spring produces wild-flower blossoms seemingly in an effort to make up for the time lost through the long cold winter. Brilliant hues of reds, blues, oranges, pinks, and other colors decorate Texas hills, valleys, and dales like a scattered rainbow.

In the more arid regions of the State, blossoms breathe a freshness into the outdoors that is unmatched in any other season. Wherever a drop of rain has fallen, a plant races with the imminent dry season in an



camphor plant

bluebonnets



by Wayne Tiller

effort to mature, bloom, and make seeds before relinquishing its place in the sun to more heat-tolerant cactus or mesquite.

During this effort of nature to announce the start of another growing season, even the prickly and thorny kinds of plant decorate themselves with a flush of color. Yuccas generate milk-white shafts of blooms that proudly stand above the menacing daggers; and cacti greet spring with blossoms so ravishing they seem to cancel the spiny threat of the family.

In the plains and Panhandle, pastures often take on a quilted patchwork appearance with yellows and blues showing predominance over others. Although seldom reaching very high, many of these ground-huggers make up in perfume what they lack in size.

Panoramic colors come to life in the more central regions of our State where rainfall is a little more abundant. Travelers through this region are often amazed at the deep blue of a body of water in a valley, only to have the water turn into a

sea of bluebonnets. These sights are so impressive they stimulated the 27th Legislature to adopt the bluebonnet as the official State Flower in 1901.

Other flowers run a close race with bluebonnets for displaying broad vistas of brilliant color. Blankets of red poppies and Indian paintbrush; yellow bladder-pods, buttercups, and dandelions; and pink evening primrose are but a few of the flowers that form vast oceans of blossoms.

Deeper into East Texas where a

# Just Wild about April continued



yellow primrose



pitcher plant

higher annual rainfall provides more moisture, a wide assortment of flowers awaits. They struggle for a few rays of sunshine in a wooded creek bottom or under a mantle of whispering pines, and although few in individual numbers, they are a delight in their variety and grace.

Flower styles range from delicate blooms that appear to be light blue stars in an all green world, to spectacular shafts that seem to glow like torch fires standing in the dimly lit forest floor.

Trees also get into the act of dressing up the colorful world of the Texas outdoors. Many species make a great effort, but few can match the famous shows of the redbuds, dogwoods, and magnolias. When these are in full bloom, travelers come for miles to enjoy the spectacular show of blossoms and the pungent perfume.

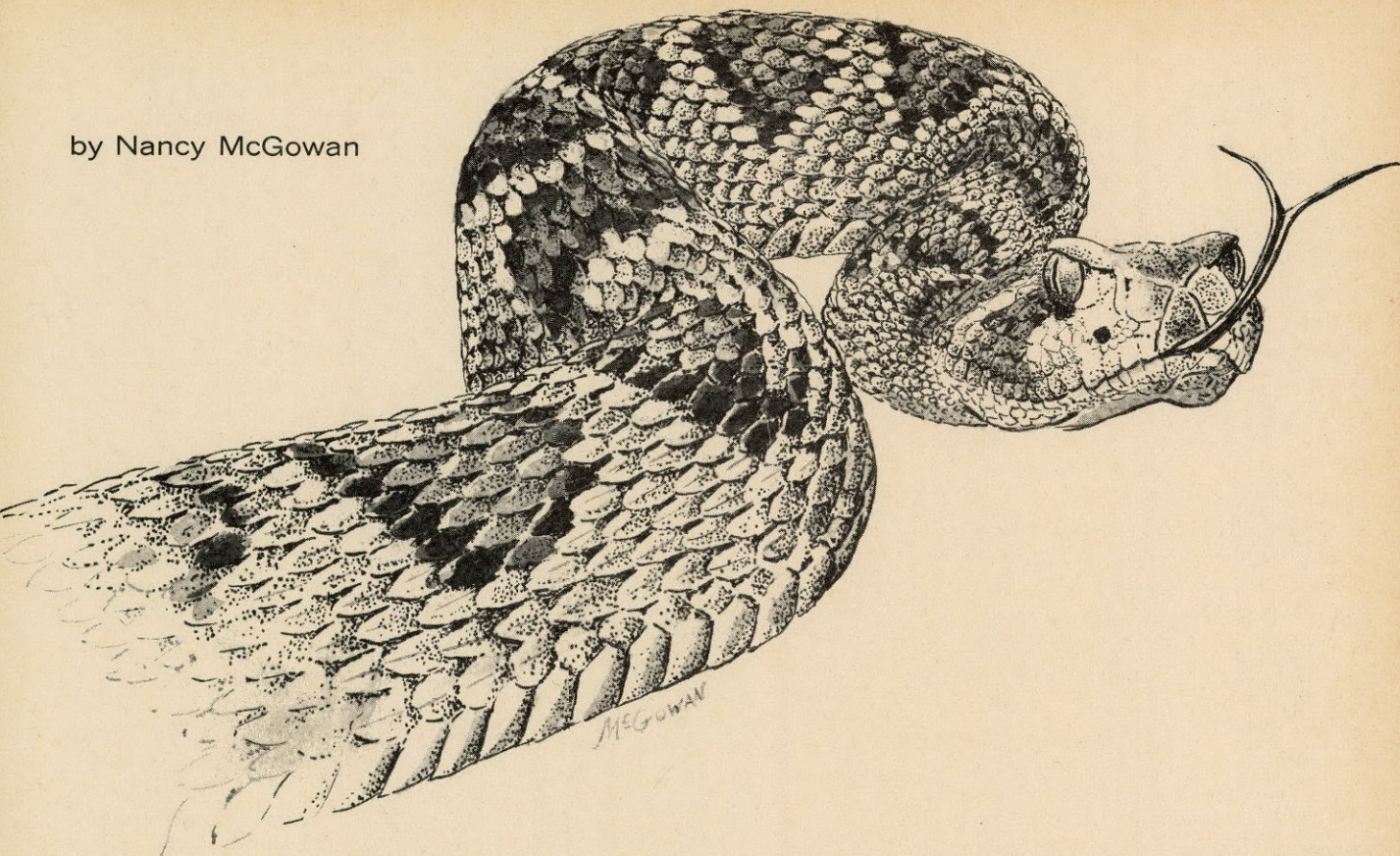
Many cities and interested organizations sponsor flower trails during the height of the blooming season. Bluebonnets, being the State Flower, rate special billing, but motorists enjoy the total panorama. With over 5,000 different kinds of wildflowers declaring Texas as their native home, spring is indeed an extra special season. \*\*



Centaurea



by Nancy McGowan



# SNAKE SNIFFER

Literature and folklore have combined to lend sinister import to anything concerning snakes. A snake's tongue particularly has gained notoriety as an instrument of evil. Perhaps the oldest belief is that it is a venomous stinger, and a variation is that the flickering tongue contains fangs.

The tongue consists of joined tubes ending in pointed tips of such gossamer thinness it can scarcely be felt upon the hand. It is no more a stinger and fang bearer than our own tongues.

Another notion is that the snake uses the tongue to thoroughly coat a victim with saliva to make swallowing easier.

The smallness and narrowness of any snake's tongue proves it inadequate to coat even a tiny rodent. The belief probably arose, and is nourished, by discovery of a snake which has regurgitated its latest meal. If disturbed, a snake which has recently eaten will promptly regurgitate its burden. One look at the carcass all slick with saliva and stomach juices might lead one to assume it had been coated before it was swallowed.

The snake's tongue is a specialized aid to the reptile's sense of smell. The delicate tips fit into paired olfactory indentations in the roof of its mouth. Odors in the form

of dissolved gases in the saliva, or dust particles, are conveyed by the tongue to the pits. These pits, called Jacobson's organs, assay the tongue's information.

The snake's sense of smell is not limited to the Jacobson's organs, for its nose is also sensitive. The combination of the two provide the snake with a superior sense of smell.

Mammals respond to a new odor by rapid inhalation. A snake, being coldblooded, breathes less often, so its nose is not always reliably in contact with the outside air. Unaffected by temperature, the tongue takes over the offices of sniffing, and reports its finds to the olfactory pits in the mouth. Thus a snake can trail its prey or its mate like a hound, or assess its surroundings.

Some snakes, particularly a rattler, take full advantage of the tongue's scare value. In its striking coil, the rattler protrudes its tongue to the utmost, slowly waving it in a sinister arc.

When a snake is engaged in striking or feeding, the sensitive tongue is safely tucked away in the floor of the mouth.

While some people believe the snake's tongue is only good for witch's brew, to a snake it is a specialized tool with which it can all the better lick the world. \* \*

## Smoked Carp ~~~~~

~~~~~ continued from page 17  
GOODNIGHT, it was COLD.

Lucky for us, the shore was close. My leather jacket sure wasn't any substitute for waterwings, and my leather boots were trying to walk out on the bottom instead of swimming with me. Ken was sputtering something about weeds holding him back, but I still don't see how he could feel them through his wool jacket and two pairs of pants.

As we touched bottom heading for shore, the mud clutched at our feet, trying to slow us down. It couldn't have slowed me if it had been twice as deep. I wouldn't stop for anything—not even to take a last look at the heater with the voracious appetite, eating my boat.

As much as I had cussed my Model A in the past, I sure was glad to climb in and hear the engine roar, on both cylinders. Just the noise felt warm. We soon found this was strictly an illusion, though, as the wind whipped through the windshield frame while we sped for home.

I pulled up in front of Ken's for him to jump out, but he was frozen to the seat. Thank goodness the seatcovers were rotten: he pulled loose fairly easily. Where he had been was a big patch of dirty cotton surrounded by fraying edges of old seat covers. Heading for home, I wondered if it were possible for cars to think. For if this one could, it was getting even with me for a lot of mean things I had said about it in the past.

Did our wives sympathize with us? Heck no. They just hoorawed us for coming in emptyhanded. They said they knew we would have some kind of wild alibi. This must be what the preacher meant when he talked about "for better or for worse."

The next day we had the last laugh anyway, when a friend brought me some smoked carp. He had found the boat floating down the lake, smoked, stinking, and full of cooked carp, but otherwise all right. He had brought one of the fish by in exchange for the story of what happened. I wouldn't tell him, but invited him for a gigging trip next week to see for himself. \*\*

# What Others Are Doing

by Joan Pearsall

**SUCCESSFUL DISCUSSION:** More than half a million acres of land are available to upland game hunters in Idaho that ordinarily would be closed by landowners. This bonus hunting is the result of 11 years of effort by the Idaho Landholder-Sportsman Council composed of interested landowners, agricultural leaders, sportsmen, and state and Federal agency spokesmen. Meeting twice a year, it serves as an idea source and a sounding board for continuing educational programs in good outdoor behavior for all recreationists, particularly hunters and fishermen. The Council furnishes free signs to Idaho landholders covering such diverse directives as hunting by permission, no hunting, close the gate, and many others. More than 150,000 signs have been distributed. Similar regional councils are being planned throughout the state to work on local problems. The Idaho approach to improve landowner-sportsman relationships can be adapted to any state or lesser area. Interested groups may obtain full information about the workings of the Council by writing to the Idaho Fish and Game Department at Boise.

**FINE SIGNS:** Within three days of each other, new clean streams acts were signed into law in Alabama and Pennsylvania last summer. Alabama's new anti-pollution bill puts new controls on the dumping of harmful wastes into waterways, rivers, and streams. Pennsylvania's new law was aimed largely at acid mine drainage, a feature omitted from their original Clean Streams Act passed in 1937. In a recent national survey, Pennsylvania led all states in streams polluted with mine drainage, with a total of 2,906 miles. Some estimates indicate that that state is continuing to lose

streams to acid mine wastes to the extent of 100 or more miles each year.

**CLEAR THINKING:** Instead of planting his corn right to the edge of the road, in an area that is known for highway kills and numerous deer crossings, a thoughtful Pennsylvania farmer planted a strip of sorghum, a low growing crop about 30 feet wide between the road and his corn. This gives the motorist a chance to see the deer before they come bursting out onto the road.

**BOATER BONUS:** California boaters will soon begin sharing in one of the biggest bonanzas the sport has received anywhere. The General Assembly there has determined that \$4 million per year is due the Small Craft Harbors revolving fund from the motor vehicle fuel fund. The money will begin turning into boating facilities during the 1965-66 fiscal year. Now that their fuel tax dollars are to be used exclusively for boating, Golden State boaters will no longer be entitled to claim fuel tax refunds.

**EFFECTIVE EFFORT:** Europe, with its great population densities, has done much to build recreation into the environment. Holland is constructing a national network of bicycle trails. In Scotland, the right of the public to walk over the privately owned moors goes back centuries. In Scandinavia, busses going from the city to the countryside have pegs on their sides on which people can hang their bicycles. Car ownership is rising all over Europe, but in the planning of their roads and the posting of them, Europeans make a special effort to provide for that segment of the population interested in walking or cycling.

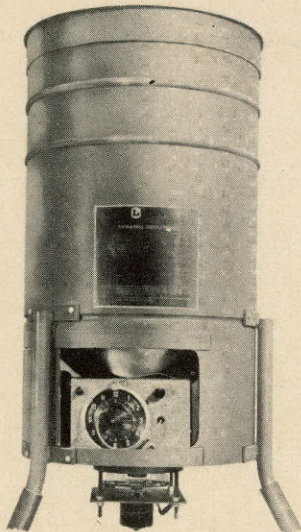
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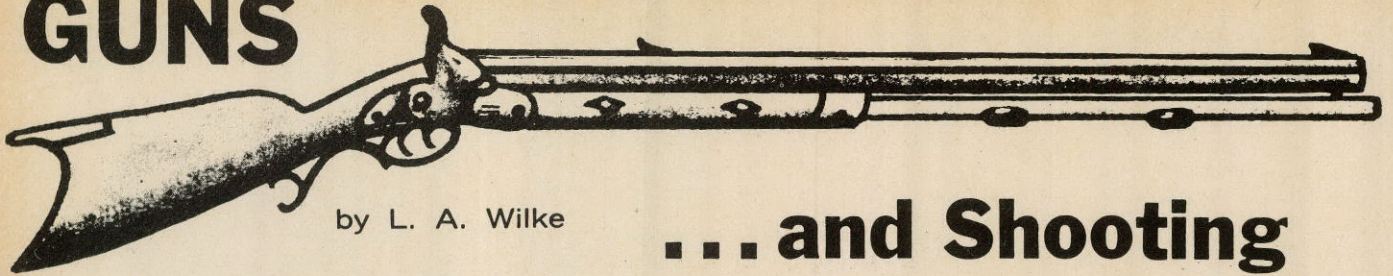
Pond  Lake  Dock or Beach Area  
Approximate size of area to be treated

Name \_\_\_\_\_

Address \_\_\_\_\_

City \_\_\_\_\_ Zone \_\_\_\_\_ State \_\_\_\_\_

# GUNS



by L. A. Wilke

## ... and Shooting

The Colt revolver wasn't conceived in Texas, but it grew up and got its education in the Lone Star State.

Perhaps that's why a new and beautiful book, "Samuel Colt Presents," is so interesting to all who collect or even own guns.

This book, published by the Wesleyan University Press of Middletown, Conn., contains more than 200 plates on 313 pages with descriptions of the various model Colts, from the earliest model developed by Capt. Samuel Walker of the early-day Texas Ranger force. These guns were all displayed by the Wadsworth Antheneum of Hartford, in probably the most sig-

nificant collection of handguns ever put together.

In the collection were two guns now owned by Texans, Harry C. Knode of Dallas, who has contributed information for this page in previous years, and Charles Schreiner III, of Mountain Home, near Kerrville. Their rare guns were loaned to the Wadsworth show and were photographed, and the pictures reproduced in this wonderful volume in a handsome slip-case. It sells for \$15, but for anyone interested in collecting old Colts, it is a real bargain.

The story of Capt. Walker's part in the development of the Colt revolver back in 1840, has always intrigued me, along with others who have studied the progress of firearms.

Not many know that Samuel Colt once moved to Texas, and took up

residence at Galveston and hoped to get a Texas patent on his revolver. From Galveston he sent four pistols to Austin. Those four guns were used by Texas Rangers in a battle with Comanches in October 1840, after they had been tested in 1839.

After they were proven in battle a quantity of the guns was ordered and they received their severest test in other battles with the Comanches. Since then the Colt revolver has been the principal arm of the Texas Ranger.

Guns for the Wadsworth Antheneum display were loaned by eminent collectors from all over the United States.

Harry Knode and Charles Schreiner III are two of the best known collectors of Colts in the Southwest. Since it is impossible for everyone to view their guns, this collection of pictures has become very worthwhile, both to gun buffs and libraries in need of reference material.

The gun lent by Schreiner is an old Navy or belt pistol with detachable stock, engraved in the same style as the pistol. Although a muzzle loader, it has the same lines that make the famous Colt frontier model famous today.

Harry Knode's old Colt pistol was similar in appearance. Loading tools, including bullet mold, powder flask and percussion cap container are intact, and it is displayed in its original case. Approximately 10,000 of this model were produced, but few are available today.

In the display also were guns from the personal firearms cabinet of Samuel Colt, which had been presented in 1905. In addition, Her Majesty Queen Elizabeth II of England consented to the loan of pistols from Windsor Castle. Others came from various historical societies and museums from all over the world. \*\*



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### CUSTOM GUN SHOP

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Portrait of Texas Nutria ————— continued from page 19

blind overnight. The U. S. Fish & Wildlife Service reports a shotgun stock gnawed by the non-selective creatures, and on Lake Tyler they chewed holes in several fiberglass boats left overnight on the lake. They have also destroyed levees and dikes in their search for hidden roots, and while constructing burrows. On Eagle Lake, where a few were released to reduce aquatic vegetation, they ended up in the fields.

There's no denying the destructive tendencies of the coypu, and there's just cause to believe local problems might now exist in some areas, or may occur on a wider basis in the future. The question seems to be whether or not a workable solution might be found toward a goal of turning the already existing population into something tolerable and beneficial. No quick or easy solution should be expected, but the problem awaits attention.

One Port Arthur sportsmen's club staged a nutria barbecue a few years

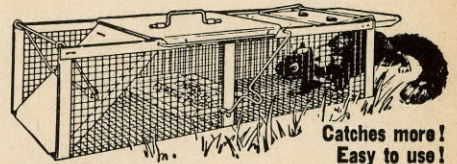
ago, and the members competed for prizes for the hunter who could bring in the most meat. The prize, a shotgun, was awarded to an individual who harvested a total of 177 animals in two days. Everyone present tried the meat in various degrees from a nibble to a gobble, but the club had a good portion of the original 750 pounds of barbecue left over.

There are those who believe that any exotic, bird or animal, is harmful. Considering the exotic starling, the carp, or the English sparrow, perhaps this belief has merit. However, the exotic pheasant is now the leading game bird in several western and mid-western states. The red fox is an exotic to Texas, but furn-

ishes a great amount of sport. The chukar is an exotic to Nevada, but leads the state vote in popularity. Who can accurately tell, at this stage, about the nutria?

Thus far, the animal has proved to be an expensive pest in localized situations, but also in that same area brings in a pittance from fur sales. But it may well be that, after more time, and after more research has gone into the various problems, Mr. Nutria may yet emerge with a better image in the doubting eye of the public. \*\*

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# Nimble Nibbler

continued from page 11

waits far enough away not to attract danger to the nest, but near enough to act as decoy away from it, if necessary. At sundown and dawn, the mother returns to feed the young. Her milk is very rich in butterfat, about four times as much as the average cow's milk.

At birth, baby cottontails are naked, blind, and completely dependent upon their mother's care. Hair grows rapidly; between the sixth and eighth days the eyes begin to open and the ears to move. The young ones start to move about and squeal. At two weeks, each weighs about three and a half ounces, they have a fully developed coat, and have started venturing from the nest. In another week or so, they are completely weaned and, since the mother is very likely soon to give birth again, they quickly learn to fend for themselves.

Even with the mother's protection, less than half the young cottontails will grow to leave the nest. Sometimes, nests get flooded from heavy rains, and the young drown, or get chilled. Nests are also destroyed by fire, plowing, mowing machines, or cattle. Many predators prey only on nestling cottontails, since the adults are too large or fast. Among these are crows, snakes, owls and shrews, even armadillos.

The enemies of grown rabbits are legion. To name a few, they include fox, weasel, bobcat, mink, badger, skunk, opossum, various hawks and golden eagles. There are also a number of parasites, internal and external, that plague the cottontail. Of the diseases to which it is subject, tularemia is one that can be transmitted to man. Usually, this is only contracted by direct contact with an infected animal, and the best protection, when handling any rabbits, is to wear rubber gloves. If it is infected, the meat is still fit for human consumption, when it is thoroughly cooked.

Without all these natural controls, populations of the prolific rabbit could explode alarmingly, as happened in Australia. That continent had good cause to rue the day some settlers introduced them. With little to check them, the bunnies multiplied there until they became a na-

tional headache.

Man, of course, is a formidable predator. In this country, there is more hunting of cottontails than for any other small game species, with more than 25,000,000 being killed each year, throughout the nation. Expensive equipment is not required, and it is usually not necessary to travel far. Dogs are commonly used for hunting, the most popular being the beagle.

Hunting is usually better when the barometer is steady or rising, as the rabbits are more inclined to seek shelter in colder weather. Best places to look for them are brush piles, patches of honeysuckle, and fence rows. In Texas, the cottontail may be hunted the year around.

Shrinking habitat is one thing that could accomplish what hunting and natural curbs do not, and that could tilt the scales against the productive rabbits' ability to maintain adequate

numbers. Expanding human population leads to less natural acreage, and in some areas this has had a noticeable effect. Research is leading to better management, however, in such farming practices as allowing vegetation to grow up in ditches, fence rows, and pond edges, and partially severing some branches of coniferous trees, to provide cover.

The small amount of encouragement, where needed, seems well worth while. Honored through the ages, and over the world, in literature and even religion, to this day Brer Rabbit is held in high regard. The fur of our native cottontail is of little value, but he provides sport and meat for many. And, certainly not least, a great deal of enjoyment may be had from just watching him. After all, at this time of the year, there are few more pleasant or symbolic sights than that of a band of frisky young cottontails scampering in the Spring sunshine. \*

## Your Texas State Parks

| RECREATIONAL AND SCENIC PARKS |                                        | Located Near The Town of | Camping Permitted | Shelters | Group Facilities | Trailer, Sweeper, or Power Hookups | Trailer, Water, Toilet, and Electricity | Restrooms and/or Showers | Cabins | Picnicking | Groceries | Food | Fishing | Swimming | Boats for Rent | Water Skiing Permitted | Boat Ramp | Golf | Saddle Horses | Museum |
|-------------------------------|----------------------------------------|--------------------------|-------------------|----------|------------------|------------------------------------|-----------------------------------------|--------------------------|--------|------------|-----------|------|---------|----------|----------------|------------------------|-----------|------|---------------|--------|
| ABILENE                       |                                        | BUFFALO GAP              | •                 | •        | •                | •                                  |                                         |                          |        |            |           |      |         |          |                |                        |           |      |               |        |
| ATLANTA                       | (No Developments)                      | QUEEN CITY               |                   |          |                  |                                    |                                         |                          |        |            |           |      |         |          |                |                        |           |      |               |        |
| *BASTROP                      |                                        | TOYAHVALE                | •                 |          |                  |                                    |                                         |                          |        |            |           |      |         |          |                |                        |           |      |               |        |
| BASTROP                       |                                        | BASTROP                  | •                 |          |                  |                                    |                                         |                          |        |            |           |      |         |          |                |                        |           |      |               |        |
| BENTSEN - RIO GRANDE VALLEY   |                                        | MISSION                  | •                 |          |                  |                                    |                                         |                          |        |            |           |      |         |          |                |                        |           |      |               |        |
| BIG SPRING                    |                                        | BIG SPRING               | •                 |          |                  |                                    |                                         |                          |        |            |           |      |         |          |                |                        |           |      |               |        |
| BLANCO                        |                                        | BLANCO                   | •                 |          |                  |                                    |                                         |                          |        |            |           |      |         |          |                |                        |           |      |               |        |
| BONHAM                        |                                        | BONHAM                   | •                 |          |                  |                                    |                                         |                          |        |            |           |      |         |          |                |                        |           |      |               |        |
| BRAZOS ISLAND                 | (Open Gulf Beach, No Developments)     | BROWNSVILLE              |                   |          |                  |                                    |                                         |                          |        |            |           |      |         |          |                |                        |           |      |               |        |
| BUESCHER                      |                                        | SMITHVILLE               | •                 |          |                  |                                    |                                         |                          |        |            |           |      |         |          |                |                        |           |      |               |        |
| CADDO LAKE                    |                                        | KARNACK                  | •                 |          |                  |                                    |                                         |                          |        |            |           |      |         |          |                |                        |           |      |               |        |
| CLEBURNE                      |                                        | CLEBURNE                 | •                 |          |                  |                                    |                                         |                          |        |            |           |      |         |          |                |                        |           |      |               |        |
| DAINGERFIELD                  |                                        | DAINGERFIELD             | •                 |          |                  |                                    |                                         |                          |        |            |           |      |         |          |                |                        |           |      |               |        |
| DAVIS MOUNTAINS               |                                        | FT. DAVIS                | •                 |          |                  |                                    |                                         |                          |        |            |           |      |         |          |                |                        |           |      |               |        |
| EISENHOWER                    | (Modern Boat Marinas, No Developments) | DENISON                  | •                 |          |                  |                                    |                                         |                          |        |            |           |      |         |          |                |                        |           |      |               |        |
| FALCON                        |                                        | FALCON                   | •                 |          |                  |                                    |                                         |                          |        |            |           |      |         |          |                |                        |           |      |               |        |
| FT. PARKER                    |                                        | MEXIA                    | •                 |          |                  |                                    |                                         |                          |        |            |           |      |         |          |                |                        |           |      |               |        |
| GARNER                        |                                        | CONCAN                   | •                 |          |                  |                                    |                                         |                          |        |            |           |      |         |          |                |                        |           |      |               |        |
| GOOSE ISLAND                  |                                        | ROCKPORT                 | •                 |          |                  |                                    |                                         |                          |        |            |           |      |         |          |                |                        |           |      |               |        |
| HUNTSVILLE                    |                                        | HUNTSVILLE               | •                 |          |                  |                                    |                                         |                          |        |            |           |      |         |          |                |                        |           |      |               |        |
| INKS LAKE                     |                                        | BURNET                   | •                 |          |                  |                                    |                                         |                          |        |            |           |      |         |          |                |                        |           |      |               |        |
| KERRVILLE                     |                                        | KERRVILLE                | •                 |          |                  |                                    |                                         |                          |        |            |           |      |         |          |                |                        |           |      |               |        |
| LAKE BROWNWOOD                |                                        | BROWNWOOD                | •                 |          |                  |                                    |                                         |                          |        |            |           |      |         |          |                |                        |           |      |               |        |
| LAKE CORPUS CHRISTI           |                                        | MATHIS                   | •                 |          |                  |                                    |                                         |                          |        |            |           |      |         |          |                |                        |           |      |               |        |
| LAKE WHITNEY                  |                                        | WHITNEY                  | •                 |          |                  |                                    |                                         |                          |        |            |           |      |         |          |                |                        |           |      |               |        |
| LOCKHART                      |                                        | LOCKHART                 | •                 |          |                  |                                    |                                         |                          |        |            |           |      |         |          |                |                        |           |      |               |        |
| LONGHORN CAVERN               | (Daily Cavern Tours)                   | BURNET                   | •                 |          |                  |                                    |                                         |                          |        |            |           |      |         |          |                |                        |           |      |               |        |
| *MACKENZIE                    |                                        | LUBBOCK                  | •                 |          |                  |                                    |                                         |                          |        |            |           |      |         |          |                |                        |           |      |               |        |
| MARTIN DIES, JR.              |                                        | WOODVILLE                | •                 |          |                  |                                    |                                         |                          |        |            |           |      |         |          |                |                        |           |      |               |        |
| MERIDIAN                      |                                        | MERIDIAN                 | •                 |          |                  |                                    |                                         |                          |        |            |           |      |         |          |                |                        |           |      |               |        |
| MONAHANS SANDHILLS            |                                        | MONAHANS                 | •                 |          |                  |                                    |                                         |                          |        |            |           |      |         |          |                |                        |           |      |               |        |
| MOTHER NEFF                   |                                        | MOODY                    | •                 |          |                  |                                    |                                         |                          |        |            |           |      |         |          |                |                        |           |      |               |        |
| PALMETTO                      |                                        | LULING                   | •                 |          |                  |                                    |                                         |                          |        |            |           |      |         |          |                |                        |           |      |               |        |
| PALO DURO CANYON              | (Summer Drama)                         | CANYON                   | •                 |          |                  |                                    |                                         |                          |        |            |           |      |         |          |                |                        |           |      |               |        |
| PORT LAVACA CAUSEWAY          |                                        | PORT LAVACA              | •                 |          |                  |                                    |                                         |                          |        |            |           |      |         |          |                |                        |           |      |               |        |
| POSSUM KINGDOM                |                                        | CADDO                    | •                 |          |                  |                                    |                                         |                          |        |            |           |      |         |          |                |                        |           |      |               |        |
| TYLER                         |                                        | TYLER                    | •                 |          |                  |                                    |                                         |                          |        |            |           |      |         |          |                |                        |           |      |               |        |
| VELASCO                       | (Open Gulf Beach, No Developments)     | FREEMONT                 | •                 |          |                  |                                    |                                         |                          |        |            |           |      |         |          |                |                        |           |      |               |        |
| HISTORICAL PARKS              |                                        |                          |                   |          |                  |                                    |                                         |                          |        |            |           |      |         |          |                |                        |           |      |               |        |
| FT. GRIFFIN                   | (Texas Longhorn Herd)                  | ALBANY                   | •                 |          |                  |                                    |                                         |                          |        |            |           |      |         |          |                |                        |           |      |               |        |
| GOLIAD                        |                                        | GOLIAD                   | •                 |          |                  |                                    |                                         |                          |        |            |           |      |         |          |                |                        |           |      |               |        |
| GOV. HOGG SHRINE              |                                        | QUITMAN                  | •                 |          |                  |                                    |                                         |                          |        |            |           |      |         |          |                |                        |           |      |               |        |
| INDIANOLA                     |                                        | PORT LAVACA              | •                 |          |                  |                                    |                                         |                          |        |            |           |      |         |          |                |                        |           |      |               |        |
| JIM HOGG                      |                                        | RUSK                     | •                 |          |                  |                                    |                                         |                          |        |            |           |      |         |          |                |                        |           |      |               |        |
| MISSION TEXAS                 |                                        | WECHES                   | •                 |          |                  |                                    |                                         |                          |        |            |           |      |         |          |                |                        |           |      |               |        |
| MONUMENT HILL                 |                                        | LA GRANGE                | •                 |          |                  |                                    |                                         |                          |        |            |           |      |         |          |                |                        |           |      |               |        |
| SAN JACINTO BATTLEGROUND      |                                        | DEER PARK                | •                 |          |                  |                                    |                                         |                          |        |            |           |      |         |          |                |                        |           |      |               |        |
| STEPHEN F. AUSTIN             |                                        | SAN FELIPE               | •                 |          |                  |                                    |                                         |                          |        |            |           |      |         |          |                |                        |           |      |               |        |
| VARNER-HOGG PLANTATION        |                                        | WEST COLUMBIA            | •                 |          |                  |                                    |                                         |                          |        |            |           |      |         |          |                |                        |           |      |               |        |
| WASHINGTON-ON-THE-BRACKS      |                                        | WASHINGTON               | •                 |          |                  |                                    |                                         |                          |        |            |           |      |         |          |                |                        |           |      |               |        |
| HISTORIC SITES                |                                        |                          |                   |          |                  |                                    |                                         |                          |        |            |           |      |         |          |                |                        |           |      |               |        |
| ACTON                         |                                        | GRANBURY                 |                   |          |                  |                                    |                                         |                          |        |            |           |      |         |          |                |                        |           |      |               |        |
| *ALAMO                        |                                        | SAN ANTONIO              |                   |          |                  |                                    |                                         |                          |        |            |           |      |         |          |                |                        |           |      |               |        |
| *BATTLESHIP TEXAS             |                                        | DEER PARK                |                   |          |                  |                                    |                                         |                          |        |            |           |      |         |          |                |                        |           |      |               |        |
| EISENHOWER BIRTHPLACE         |                                        | DENISON                  |                   |          |                  |                                    |                                         |                          |        |            |           |      |         |          |                |                        |           |      |               |        |
| FANNIN BATTLEGROUND           |                                        | FANNIN                   |                   |          |                  |                                    |                                         |                          |        |            |           |      |         |          |                |                        |           |      |               |        |
| GEN. ZARAGOZA BIRTHPLACE      |                                        | GOLIAD                   |                   |          |                  |                                    |                                         |                          |        |            |           |      |         |          |                |                        |           |      |               |        |
| OLD FT. PARKER                | (Fort Restoration)                     | GROESBECK                |                   |          |                  |                                    |                                         |                          |        |            |           |      |         |          |                |                        |           |      |               |        |
| PORT ISABEL LIGHTHOUSE        |                                        | PORT ISABEL              |                   |          |                  |                                    |                                         |                          |        |            |           |      |         |          |                |                        |           |      |               |        |
| SAN JOSE MISSION              | (Historical Drama - July-Aug.)         | SAN ANTONIO              |                   |          |                  |                                    |                                         |                          |        |            |           |      |         |          |                |                        |           |      |               |        |

\*FACILITIES NOT OPERATED BY TEXAS PARKS AND WILDLIFE DEPARTMENT

# Texas

# Tackle Talk



by Wayne Tiller

After the fish are caught, the angler is faced with the task of how to clean and take care of the fish until they can be stored in the freezer or popped into a skillet. More and more fishermen faced with this problem are filleting their catch, since this makes the fish easy to store and especially easy to eat.

To fillet properly you need a sharp narrow knife, and one of the best for this purpose has been recently introduced by the makers of the famous Rapala lures. Dubbed the Rapala Fish-N-Fillet knife, it features a stainless steel blade and a contoured birch handle.

Sharpened to an extremely fine polished edge, the thin curved flexible blade stays sharp through long hard use. It can be easily worked around bones and along the skin. Available through many local tackle shops and sporting goods stores at a very reasonable price, it comes complete with a tooled-leather Laplander sheath.

New lures, designed to help you have something to fillet, include two modifications of the Texas-made Pico Biggy Boat jig. Both new lures, the Pig Boat and the Hog, are of the same basic design with a lead-headed jig riding under a spinner. Classing the ¼-ounce Piggy Boat as the lightweight of the trio, the ½-ounce Pig Boat would be the middleweight and the ½-ounce Hog the heaviest. All are made for deep, bottom bumping, down where the big lunkers lurk.

Recent sales and reports of the two lures' success, indicates they are very popular in the purple skirts and brown and yellow rubber skirts, and they often produced best when retrieved very slowly. Double hooks, riding points-up, avoid snags and are ready for the first strike.

For the plastic worm enthusiasts,

the Tyler-based Creme Lure Company has recently introduced a floating version of their famous worm. Fully tested and proven, it is expected to be one of Creme's top lures for 1966.

The new floating worms are available in red, purple, black, and blue, and come packed three to a package. They may be found in leading sporting goods stores or purchased directly from Creme Lure Company in Tyler.

News from the Rebel lure people is of special interest to salt-water anglers. The Rebel 44 models are now available with special saltwater hook options. The Rebel 400 lure, a 7-inch model, was introduced with No. 2/0 saltwater hooks and is now available with heavy duty No. 3/0 tinned treble hooks.

A new catalog presenting these new salt water hook options and the complete Rebel line is now available from Plastics Research & Development Corporation, 3601 Jenny Lind Road, Fort Smith, Arkansas.

The Fred Arbogast Lure Company

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has also produced a handbook for bass fishermen. Not only is the text informative, but the book also contains a two-sided 33½ rpm record on surface and obstruction fishing. For a copy, send 25 cents to the Arbogast Company, 313 W. North Street, Akron, Ohio 44303.

Another catalog many anglers will be interested in is a 64 pager from the Shakespeare Company in Kalamazoo, Michigan. It completely describes in photos and copy the extensive Shakespeare line of rods, reels, line, and accessories.

Highlighted are the new 1766 DeLuxe WonderFlyte pushbutton reel, the 2052 open-face spinning reel, two new Hydro-Film cast control casting reels that eliminate backlash, and a new model 1788 in a heavy duty push-button design. A full 16 pages of the free catalog are devoted to tips, tricks, and techniques. Sections of note are basic fundamentals of how to fish, how to cast, world record fish, and a fish identification chart. \*\*

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**Call of the River** ~~~~~ continued from page 9

height. For an average size adult or teenager, the paddle should be from 4 feet 10 inches to 5 feet 3 inches in length. A good five-foot paddle will fill the needs of most people.

Sleeping bags, or some kind of sleeping equipment, will be necessary if the trip is to last more than one day. A tarpaulin or piece of sheet plastic also will be handy to place under the sleeping bag or hang over the sleepers to form a tent, as protection against rain and dew. It should also be used to keep the gear dry while in the canoe.

Cooking utensils should be as light as possible, preferably aluminum. Food can range from what you find in the kitchen cabinet to the special freeze dried foods available from many food processors. We have had excellent results with the "Starlite" foods by Armour. These can be purchased from many leading sporting goods stores, or, in many cities, they may be purchased from Sears. These foods are easily prepared as long as there is water available.

Knowledge of the river to be traveled ranks highest in priority. A person traveling new waters should

find out as much as possible about the stream, the portages involved, the distance by water, and the accessibility. When possible, pre-trip scouting should include contact with persons who have traversed the stream before, and especially the owners of land adjoining the river and people living near the river.

During this pre-trip planning, landowners should also be asked for permission to spend the night on their land. Although you may be traveling on a navigable river, once you set foot on land you may be trespassing on private property.

After determining where you will spend the night or nights, where you will start, and where you will end the trip, this information should be given a person or persons who might want to contact you during the trip. Also, if you are delayed by weather or undetermined causes,

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by Paul Hope

**THE ART OF SURVIVAL** by Cord Christian Troebst. Doubleday and Company, Garden City, New York. 312 pages, \$5.95, Illustrated.

Nothing is more shocking to the imagination than news reports of the tragic deaths of victims following shipwrecks, airline crashes, or car trouble in out-of-the-way places.

Dying from thirst, starvation, poison berries, or frost bite conjures as much horror as tortures man has created for other men. Each reader of such stories feels sympathy but then is apt to add the old worn-out phrase, "It couldn't happen to me."

But it does happen, and most often to those who have no such inkling. Today's highly mobile man can travel all over the world in a matter of hours by air, water and road. Such transportation has added to the rigors of travel in ways that grandpa with his buggy never imagined.

What happens to an unsuspecting passenger who is dumped into the cold North Atlantic when a passenger liner sinks? What happens to an executive in city clothing who is forced to debark from a crashed airliner in two feet of snow miles from nowhere? Author Troebst deals with these interesting questions and with harsh answers.

The author does not tell horror stories for sheer delight. He analyzes each case, giving what went wrong and possible suggestions that would have turned the tragedy into near routine. The quality of information and craftsmanship make this book one of the most significant to come off the presses in a long time.

For a non-fiction book, this work has

all the assets for good reading—mystery, drama, horror—and others which make it difficult to put aside. The old adage of truth being stranger than fiction certainly applies here.

The author warns that expectations for miracles or happy endings, instilled in our minds by Hollywood scenario writers, create hallucinations for disaster victims. In real life, you just can't depend on miracles. Mr. Troebst warns that expecting a miracle which doesn't arrive breaks down all hope and in the end causes premature disaster.

A cool head, an ingenious mind and the sheer will to survive will bring more victims out of disastrous situations than a whole warehouse of survival equipment used incorrectly.

This book should be must reading for everyone who travels. It should also be on the list for the non-traveling reader since the content is more exciting than the latest James Bond thriller.

Although the book is marred by several distracting inconsistencies, these do not deter from the overall quality. \* \*

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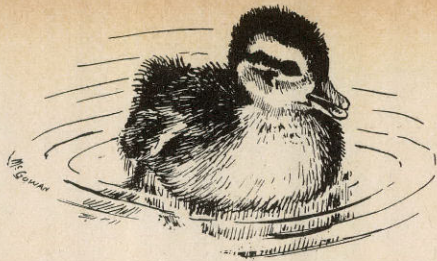
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# Letters



# to the Editor

## Moss Killer

Editor:

I am writing to inquire if you have any information that is safe and recommended for use in killing moss and other vegetation in fresh water lakes. My brother-in-law, Mr. Louis Grunewald, has a small lake on his property, nine miles north of Leakey. This lake is spring-fed and is an ideal one for fishing. He keeps it stocked and there is enough bass, bream and catfish to satisfy anyone's desire.

The lake does have an excess of moss and other vegetation which I am sure can be eradicated by the use of some poison. It would be interesting to him and others, who would like to get rid of such a mess. I do not believe that you would recommend doing away with all of the vegetation because one should retain a certain amount for the benefit of the fish.

I would appreciate any information or advice you can give me. I look forward to receiving your magazine each month and find it very interesting reading.

D. R. Sellingsloh  
Dallas

"Common Aquatic Plants — Identification and Control," a publication distributed by county agents should furnish you with the information that you desire. Quite a bit of the water in the vicinity of Leakey contains yellow water lilies or spatterdock. Our best results have been obtained by using chemical control Number 4. Naias or bushy pondweed could possibly be treated to the best advantage with chemical control No. 2(a). Many streams also have heavy growths of chara or musk-

grass, an algae which can only be eradicated by the use of copper sulphate. Due to excessive carbonates present in our alkaline waters, when copper sulphate is used the copper is bound up so that it becomes ineffective. In treating a spring-fed low water dam lake, when a flow of water is constantly passing through the lake, it becomes necessary to lower the lake so that a period of three or four days may elapse before the water runs over the spillway. The chemical, such as liquid aquathol plus, is then applied at a rate to take care of two-thirds of the volume of water. This usually results in killing the vegetation in the deeper major part of the lake, but leaves vegetation in the perimeter. — Marion Toole, Coordinator, Inland Fisheries.)

## Texas Hospitality

Editor:

My wife and I enjoyed our stay at Lake Corpus Christi State Park so much, and were so reluctant to leave, we felt we should thank someone, and try to express some of the things we observed and appreciated. The personnel are all hard-working people who seem to enjoy doing a wonderful job of daily chores, maintenance and improvement.

But, beyond duty and making strangers feel "at home," we would like to mention to you some of the things that I doubt if you hear of on official reports, but which added so much to our feeling of personal friendship.

One of the rangers—I don't remember which one, they were both nice—spent at least one of his days off working to

assure the success of a free barbecue given for the park occupants. I gathered it was a friendship gesture by Mr. Allen and Mr. Lassater, concessionaires, a Mr. Reed, fertilizer dealer from Mathis, and Mr. Mussman, a Texaco dealer, also from Mathis. It is a common question asked today, "What is in it for me?" Using this system, I failed to see that any one of them would profit materially, so must conclude that they really did it from Texas hospitality and friendship. At any rate, it was an eye-opener.

Mr. and Mrs. R. E. Adkison  
Ashdown, Arkansas

## Morning's Catch



Editor:

Nice catch at Lake Jacksonville. Pictured following a morning's catch of freshwater bass are F. T. Green, Hearne, and C. D. Walker, Bryan. Mr. Green is owner of an attractive, comfortable camp site at this central East Texas lake and when those scheduled days off from his car inspection job with Southern Pacific Railroad come around, he can usually be found enjoying his "dream home" at lake-side. When a minister's busy schedule permits, Mr. Green is joined by his son-in-law, Rev. C. D. Walker, beside the clear, blue waters.

Mrs. C. D. Walker  
Bryan

# TEXAS PARKS & WILDLIFE

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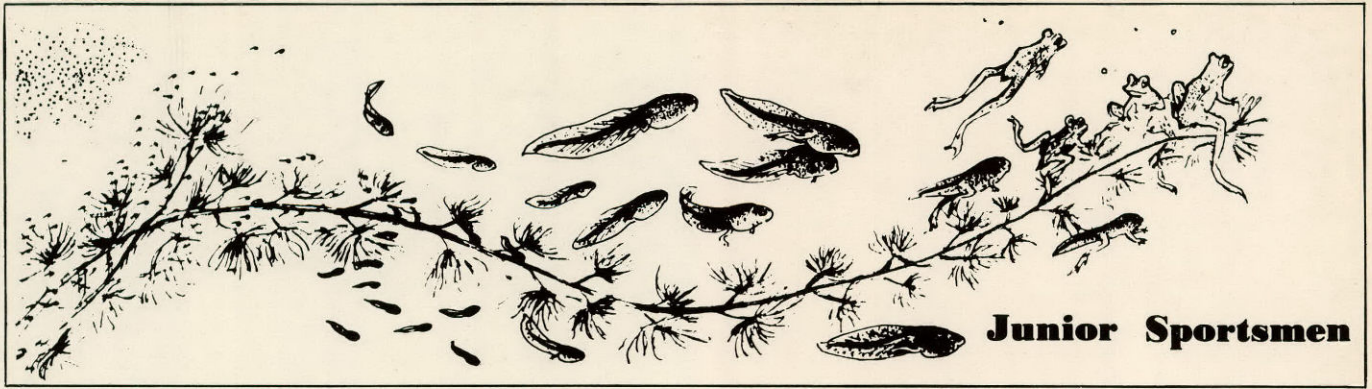
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Leroy Williamson, pages 3, 4, 5, 6, 7, 8, 14, 18, 20 (lower right, lower left), 21 (left), and 22 (all); Tom Cansler, page 12; Ronald Perryman, page 13; Paul Hope, page 19 and 20 (top); Wayne Tiller, page 21 (right).



## Junior Sportsmen

# Try a Tadpole-arium

by Joan Pearsall

Want to invite some entertaining guests to your home, at practically no expense? Watching baby frogs or toads grow is a rewarding hobby, which you can enjoy and learn from at the same time. This is the time of year when you can start to look for the eggs to stock your tadpole-arium.

All you need for a guest-house is a fair-sized fish tank or any other glass jar or bowl (not metal) that will hold a gallon or more of water. Fill it half full with cold water. Chlorine must be removed by letting it stand for several days, or you may use a neutralizing tablet sold by pet shops.

Finding the eggs, or spawn, is part of the fun. They may be collected from the end of March to the beginning of June. By mid-April there should be plenty available, in ponds, marshes, ditches, or at the shallow edges of lakes or rivers. Frogs fasten their eggs to reeds and grasses on or near the surface, in clusters of black dots in a jelly-like substance. Toad eggs are found in long strings, on the bottom of the pond.

A piece of mosquito netting is handy, to dip out one of these clusters, or you can just use your bare hand. It will not harm the eggs to be out of water for half an hour or so, if you have a wet handkerchief to take them home in. Avoid overcrowding in your frog nursery, by not taking too many. While you are at the pond, it is a good idea to get a few sprigs of water plants, such as coontail, to put in the glass tank along with the eggs. This will

help to keep enough oxygen in the water.

Instead of, or as well as, gathering eggs, you might want to look for already hatched tadpoles, to take home in a jar to add to your collection.

Soon after they are installed in their new home, the eggs will grow and get darker. This is fascinating to watch, with the naked eye or with an inexpensive magnifying glass. The egg is changing, dividing from one to many cells, lengthening out and developing, until the tadpole wriggles its way out of the jelly. The egg mass seethes with motion just before the hatching. The ones on the outside will be the first to break away.

The rate of development will vary according to the species, ranging from a few weeks to as much as two years for a bullfrog. Most of them grow quite quickly, however. Sprinkle yellow cornmeal or some pond algae on the surface of the water, and watch their antics as they go for it. Feed them small servings or the uneaten food will sour the water.

Tadpoles go through a number of interesting changes. At first, two tiny pairs of gills are visible on each side of the head. A fold of skin later grows over these, making the gills internal. These enable the little creatures to breathe, by extracting oxygen from water that is taken in through its mouth. Now it has a head-body and a long tail. As it develops, the hind legs will appear before the front ones; then the tail

gets shorter and becomes absorbed entirely.

As the tadpoles gradually become air breathers, you should put in some rocks or small pieces of wood or cork, so that they can come out of the water part of the time. They will do this more and more, until at last they have completed their transformation and are full-fledged frogs.

Now is the time to return them to their natural home. By having you look in on their growing up, and teaching you some of nature's secrets, they have already accomplished one important purpose. Now they need to enjoy their lives in the outdoors, with their correct habitat and diet, going about their business as mature amphibians. \*\*

## Long Shot Buck



Editor:

I am sending you a picture of a seven point buck that I killed on opening day of the deer season in Wood County, last fall. He weighed 95 pounds field dressed.

I am 14 years old and am a junior in high school. The gun I used was a 243 Winchester. I shot him at a distance of 172 yards, and I was very proud of that long shot.

Paula Green  
Mineola

