

Photo by Bob Waldrop

THE DITCH cuts through the Big Bend National Park area of West Texas. It is possible to float, as these biologists are doing, through three canyons, Santa Elena (3661 feet at top), Mariscal (3625 feet), and Boquillas (3490 feet). However, such a trip requires several days and the going gets dangerous at times, as shown in this month's float trip story on page 12. One of the most popular float rivers in Texas is the Guadalupe. Here the water is clear and cool and the scenery is magnificent. Regardless of where you plan to float, always go with someone who has been before and knows the waters. Otherwise your first float trip may be your last.



- LIFE SAVERS: A new kind of cookie was served to guests at a Department of the Interior luncheon. The cookies contained fish flour, a protein diet supplement, which is an innovation many believe could change the lives of countless persons. Over two-thirds of the world's population suffer from protein malnutrition. The U.S. alone could supply from one local species of fish, sufficient concentrate to treat 100 million humans with one ounce of concentrate daily, for a year. This could be increased by use of numerous fish species that are little used at present.
- THE FLOCK TO THE FOREST: More people went to the National Forests for recreation in 1960 than ever before, with visits totaling 92½ million. The figure represents an increase of 13.5 percent over 1959 recreation use. Purpose of recreation visits, in order of popularity, was general enjoyment, picnicking, fishing, hunting, and camping.
- RICH RETURN: Awards totaling \$24,825, in the form of 14 scholarships and 20 fellowships for the academic year 1961-2, have been made under the conservation education program of the National Wildlife Federation. This program is made possible through the contributions received in return for the Wildlife Conservation Stamps issued annually.
- WAMPUM FOR WOODLANDS: The Secretary of Agriculture has signed a proclamation acquiring title to the former Klamath Indian tribal lands, which will be the nucleus of the planned Winema National Forest in Oregon. The Indians who voted to sell their interests in the tribal lands will receive a total of \$68,719,000.
- PUT YOUR STAMP ON THE MARSHES: Duck hunters can help combat the drainage of waterfowl marshes by buying a 1960-61 stamp during the Fish and Wildlife Service's special post season sale to raise funds for purchasing wetlands. Purchasers receive an engraved certificate suitable for framing.
- WATER WHEREABOUTS: The Public Health Service has announced the first four volumes of an inventory of water facilities for the approximately 20,200 United States communities of more than 100 population. The last similar inventory was in 1947-48. For the first time, the new compilation will include names of communities that do not have any public water supply.
- HUDDLE VERSUS MUDDLE: Leading conservationists have asked President Kennedy to initiate discussions with officials in Canada and Mexico for exploring programs for the preservation of wetlands habitat, minimizing crop depredations, expanding enforcement of essential regulations, and other major problems. They are concerned about the precarious status of migratory birds, and believe the three countries share a responsibility to sustain and protect these valuable resources.
- PICKS AND POLITICS: The Secretary of the Interior is being urged to rescind the 1960 order that created the Arctic National Wildlife Range. Lined up against the new 8.9 million-acre wildlife range are Alaska's Legislature, its Governor and three-man congressional delegation, all responsive to the same political party. Conservationists see the probing point of a miner's pick beneath the surface of official indignation. They told Congress they were willing to accept miners on the Arctic wildlife range, providing title to the land surface remained in the U.S. and that ingress, egress, and other pertinent matters are subject to federal approval.



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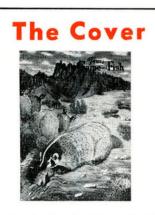
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The Berlandier's Badger Taxidea taxus berlandieri, is this month's cover subject, painted by Bill Marks. It is a rather large, robust, short-legged weasel with a broad, squatty body. Its tail is short, 5 inches, and its pelage is long and shaggy. The badger is noctural, feeding chiefly on rodents. In Texas they range from sea level, as on Padre Island, to at least 5,000 feet in the Davis Mountains . . For related story see page 4. THE OFFICIAL MAGAZINE OF THE GAME AND FISH COMMISSION DEDICATED TO THE PROTECTION AND CONSERVATION OF OUR NATURAL RESOURCES; AND TO THE IMPROVEMENT OF HUNTING AND FISHING IN TEXAS.

June, 1961	Vol. XIX, No. 6
* In This	Issue *
Texas Vacation	
by HOWARD D. DODGEN Tough Customer by CURTIS CARPENTER	4
Badgers are gifted with digging feet and fi Crab Crackin'	ghting strength. 6
Removing meat from a crab is simple, when Indian Style	you know how. 7
by MARY K. SLOAN Fort Worth dentist gets two deer with t	
Rock Roamers	
Sheepshead fishing presents some problems Taboo?	
by CHARLES T. MENN Surveys show that the tetra is quite harmle	
Let's Take a Float Trip by JOHN N. DORCHESTER	
For real excitement and challenging adven \$550,000 for Duck Factories	ture, float a river.
The restoration and building of duck breed Conservation and You	ing grounds gets help.
by I. W. BIGLER The J. Frank Dobie Game Management As	sociation fights for wildlife.
Oysters With A Pedigree From The Texas Health Bulletin	
To qualify for a pedigree, oysters must stay Trophies at Whitney	
by L. A. WILKE A favorite lake is site for a new kind of to	ournament.
Fresh Water On The Coast by CURTIS CARPENTER	
Lake Mathis is more popular than most lake Candid Camera at Lake o' Pir	s. 1es 22
by L. A. WILKE A typical East Texas lake with fishing and camping fun for everybody.	
Lunker Lure	
At last, a complete article on the use of th Long Shots, Short Casts. 1	e plastic worm for bass. Big Snake Kill
What Others Are Doing . 26	Bastrop Bobcats 31
	New Lake Guide31 Dutdoor Books32
Junior Sportsmen	

Price Daniel, Governor of Texas TEXAS GAME AND FISH COMMISSION Frank Wood, Chairman Howard D. Dodgen, Executive Secretary W. J. Cutbirth, Jr., Assistant Executive Secretary Commission Members Howard Carney, Atlanta Hal Peterson, Kerrville Hal Peterson, Kerrville Robert G. Carr, San Angelo Carl L. DuPuy, Lufkin Division Directors

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TAKE A

Texas Vacation

SCHOOLS ARE CLOSED and family vacation time is upon us. This is the time of year when Texas has many visitors from afar, and many Texans will be traveling in other lands.

This is good. We learn more about one another and frequently we learn that the things we have at home are the best.

As we enter this vacation period, however, we are mindful that there is a great outdoors, and that it belongs to everyone. It is for each of us to enjoy and to treat properly.

Those who plan to fish in the lakes or on the banks of the rivers and streams will find in Texas a bountiful supply of fish. Most areas have fine facilities and the best in accommodations.

Tourists will appreciate Texas' very popular fishing license. A nonresident pays only \$2.15 for the privilege of fishing in Texas waters for the entire season. Texans who go into other states in many instances pay considerably more for the privilege of fishing only a few days.

Many outdoorsmen will camp in some of the state park or forest areas. They will want to exercise strict camp fire safety so their visit will not be written in charcoal on the face of the land. And most campers will clean up their campsites afterwards and leave them properly for those who come after.

Fishermen and skiers should use every precaution to prevent tragedy. Boats should not be overloaded and a life preserver should be on board for each passenger.

Swimmers will want to be extra careful and not take chances. A memory of the living is so much more pleasant.

Then, of course, there is the matter of safe and sane driving. We'll try to crowd into two weeks as many activities as possible. We can't afford to take carelessness along.

These are all things we all know, but sometimes forget. There is no thought of preaching, but just a reminder of those things which can happen.

Texas is a good place in which to take a vacation. There is so much to be seen and done. Many fine facilities have been provided throughout the state. The Texas coast offers unlimited vacation possibilities, all the way from Port Arthur to Port Isabel.

There are many modern motels and other facilities. Nearly every lake in the state has a number of fine fishing camps which were built with the entire family in mind. While dad fishes, there are play areas for the kiddies and restful places for mother.

So take a Texas vacation this summer. Enjoy yourself to the fullest.

**

by HOWARD D. DODGEN Executive Secretary Game and Fish Commission

3

Tough Customer

B^{ADGERS} CAN OUT DIG just about anything but a dragline.

■ about anything but a dragline. And they can whip any animal their size if forced into combat. It is said the "mammalian tunnelers" can vanish into soft soil in a minute and a half. One authority reported that he and two friends got after a badger that took refuge in a sand bank just ahead of them. They each had a shovel, and the sand flew! They never captured the badger. As a matter of fact, they never saw the animal again.

This ability of the *Taxidea taxus* to excavate dirt so rapidly spells disaster for other smaller earth-dwelling animals such as the ground squirrels, rabbits, gophers and prairie dogs. When a badger happens onto a holedup rodent, chances are ten to one that the badger will dig in and get it before the little animal has time to breathe many times.

Badgers live on the plains and prairies of Western Texas and as far over as Padre Island in South Texas, Generally, they can be found more abundantly in the same area where ground squirrels are the thickest.

by CURTIS CARPENTER Art by Nancy McGowan

The low-slung animal, although a member of the weasel family, is much larger in appearance than most others of the *Mustelidae* clan, such as the skunk, mink, black-footed ferret and the long-tailed weasel. Adults average about 28 inches from the tip of their sharp snouts to the tip of their tails. They will average about 10 to 25 pounds in weight.

They are built much like water turtles, very low and flat, with short, powerful legs. Even when running they appear to be dragging their bodies on all sides. So flat and conveniently colored are they that many times when approached they will lay motionless and fool a passerby with their mound-like appearance.

Normally, the animal is shy and easily spooked. But, like most weasels, it becomes a ferocious fighter when cornered. If a badger can get into a place where it has protection from the rear, it can hold off a number of good hounds. And it can inflict serious wounds with its powerful jaws. Ivan T. Sanderson in his *Living Mammals* states that badgers have been known



The badger is a past master when it comes to digging. It is capable of burying itself in a few minutes and covering its trail as it digs. Perhaps no other animal is so well adapted for excavation. to raise a horse and rider standing on a platform.

The badger has few natural enemies because of its highly respected reputation as a powerful battler. Seldom is it seen in combat. Usually it will seek refuge by burying itself on the spot. When attacked by dogs or coyotes and other larger predaceous animals, it hisses or growls, flips up its tail and secretes a musk somewhat less offensive than that of a skunk. Few inexperienced animals will attack this cousin of the wolverine a second time.

Will Barker, in his book, Familiar Animals of America, tells of how the badger's ferocity led to the sport of badger baiting. This cruel sport was common in Great Britain the first half of the nineteenth century. "In this sport a small barrel was sunk as a retreat for one badger in a pit with several dogs. The dogs were supposed to pull or draw the badger from its haven." He goes on to tell about pit fights which were held in Texas as late as the 1920's. "A Burnet badger once whipped eleven dogs, including a male, white pit bulldog which outweighed the badger by five pounds. After each fight, the badger went to the man who owned it and without a whimper, let its wounds be daubed with iodine."

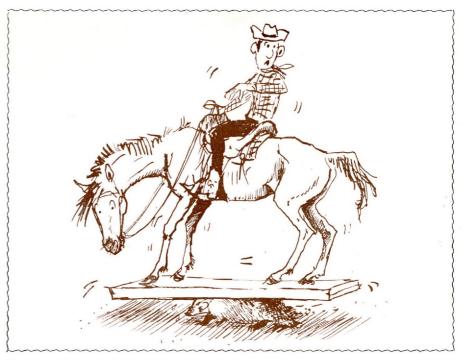
The animal's flat, squatty body and thick, strong legs are invaluable to it in more than one way, as protection against predator attacks. When being chased, old spade-foot runs low to the ground, a tough target for any larger animal. And once a badger gets head and shoulders in a hole, three men and a pack of dogs can't pull it out. Its thick coat and tough loose skin have embarrassed many a hound as it tried vainly to clamp one of these stubborn mammals in its jaws. When jogging about from hole to hole in search of food, a badger breaths heavily as if suffering with asthma. It carries its 15 pounds over the prairie in a slow rhythmical pace, stopping at each hole to scent for a trace of some tasty dweller. Without knocking at the door, it immediately begins scooping out soil with its big front paws expertly adapted for digging. The five toes on each front foot are equipped with claws averaging an inch long, and quite sharp. This sharpness is maintained by frequent honing on trees.

Late afternoon and night seem to be the favorite hunting hours for the "digger," although it sometimes hunts during the heat of the day. In addition to the favorite food animals already listed, the badger often will dine on insects, ground-nesting birds and their eggs, lizards, skunks and snakes. It loves honey and will stuff itself on the sweetstuff anytime it can find a bee hive.

Barker says the animal's common name probably is derived from *bageard*, a word of French origin, meaning "one with a badge." The badger was tagged this because of its unusually black and white head pattern.

Little is known about the breeding habits of badgers. In Texas the mating season extends from May through August according to William B. Davis in *The Mammals of Texas*. Mother and father badger dig a tunnel anywhere from 5 to 30 feet long and carve out a cozy chamber at the end, usually around six feet below the surface.

For the baby badgers there must be a soft cradle so mama and papa drag a bundle of dry grasses down and fashion a nest for the little ones. From one to five young are born in the spring, covered with fur and eyes sealed closed. After some four to six



The strength of a badger can be described by the report that they have been known to lift off the ground a horse and rider standing on a platform.

weeks their eyes open and toward the end of summer the young ones leave their mother for a solitary life of their own. Except for the mating and rearing period, when the male occasionally assists with family duties, badgers travel alone.

Today badger pelts bring very little on the market. During the First World War, choice pelts were worth up to \$50 each. Years ago, the fur was worth some \$85 a pound and was used primarily for shaving brushes. It is still used in the production of artist's brushes. However, synthetic materials have replaced badger fur in most areas and trapping badgers has almost ceased. As a result their numbers are increasing in Texas.

Even when the pelts brought trappers a handsome return, badgers provided some discouraging moments for their captors. Wise are the low-chassis animals to the intentions of the trappers. Like the wolverine of Canada, they flip traps over and rob from beneath.

Besides being pests to the trappers, they are pests to horsemen. Badger holes have broken the legs of many fine steeds and have sent an equal number of gallant horsemen sprawling on the ground.

But no matter how desperately a person attempts to locate a badger and gain revenge, even in the midst of an area where they are known to exist in numbers, he'll seldom find one. It is a creature of our state that rarely shows itself.

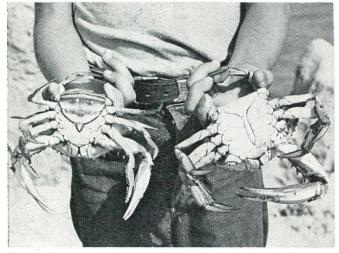
Regardless of the troubles they cause, badgers are quite valuable to mankind. Being hunters by nature, they live to satisfy their appetites. Fortunately for us, they prefer a menu of rodents.



Badger holes can be dangerous booby traps for livestock. Many a horseman has been sent sprawling on the ground.

Crab Crackin'

by A. C. BECKER Galveston News



Female blue crab, left, has half-round stomach plate. Male's plate is spatula-shaped. Note safe method for holding big crustaceans.



Use pincher claw point to pry up stomach plate hinged to the top shell. Most people cook the crabs before cleaning.



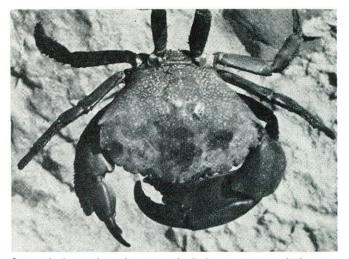
Get firm grip with thumb under stomach plate. Then lift up and pull hard shell from body. Remove dark fat with stiff brush.

THE BLUE CRAB, a gourmet's delight that can be found wherever there is salt water, is easy to dress and prepare. Your catch must be boiled in heavily salted water, until they turn a bright orange. Don't worry about causing pain to the crabs; they're dead the instant they hit the water. Commercial readymixed spices, called crab boil should be used in the water. It gives the meat a certain zest.

Break off the pincher claws first. Use the point of one to pry up the

crab's stomach plate, sometimes called the "key." This makes removing the hardshell back easier. Stomach plate of female crab is halfround; that of the male is shaped like a spatula.

To remove the back, grasp the body firmly in one hand, the back in the other, and pull apart with a slight twist. Crab legs—or fingers—are clipped off easily with large scissors. The sections contain a surprising amount of meat. Use a stiff brush to clean out the yellowish fat in the upper body

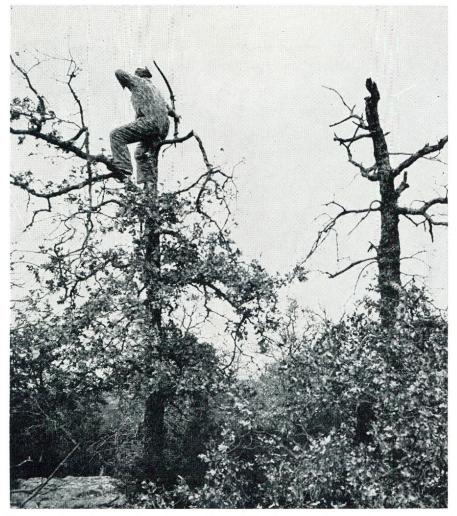


Save only large claw of stone crab. Body contains very little meat. Blue crab is most popular along the Texas coast.

cavity. Break the body in half and dig out the white meat. This is where fingertips suffer—the thin partitions separating the meat are razor-sharp.

With stone crabs, keep only the large claw. The body contains little meat.

Keep the meat well-iced until ready for cooking. Crabmeat is tasty in cocktails, baked, deviled or in gumbo. Two dozen big blue crabs will provide adequate meat for the average size family. **



The camouflaged hunter takes aim from his carefully chosen stand: a plank in an oak tree.



Dr. LeDoux exhibits his deer. His tackle was a 64-inch, 51-pound bow and a plastic razorhead.

Indian Style

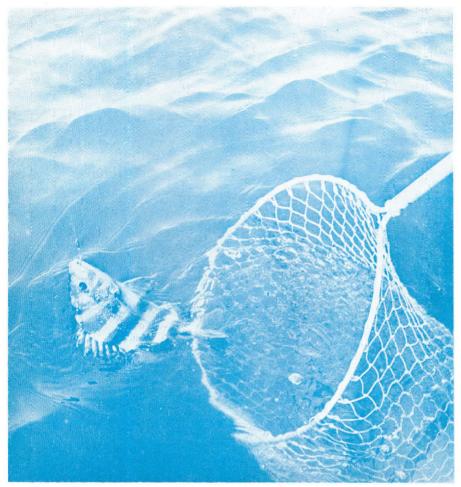
by MARY K. SLOAN

T WAS WHITE-TAILED DEER season and the stage was set: Place—the rugged cedar-break country of North Central Texas; time— 4:40 p.m. on a cold November day. Action, sudden and fast, was about

to explode. Bowhunter Dr. Curtis LeDoux, a dentist from Fort Worth, perched high in a tree stand, his camouflage clothing blending well with the surroundings. Suddenly, a doe and a fawn, followed by a 15-point buck, silently stepped into view 40 yards off. The trio continued toward Le-Doux and stopped to feed on acorns 30 yards from the stand. Cautiously the hunter pulled to a full draw and let the arrow fly. The shaft plunged through the kidney section of the buck. The animal jerked into a run but fell 25 yards away.

Half an hour later as the doctor dressed his trophy, he was more convinced than ever that he had chosen a competent method of hunting deer. First, he had elected to hunt on Pete Kelley's well-known Walking Cane Ranch south of Possum Kingdom Lake, an area of high deer concentration. Next, he spent 11/2 days studying the lay of the land and the habits of the whitetail in this particular locality. Not completely satisfied, he abandoned the first two stands he built in favor of a third stand. This blind was erected in a tall oak on a point that topped a high sheer bluff, which forced the deer to travel up and over the point directly under the stand.

The following morning the archer returned to the stand and downed a doe with a single shot to the heart. Accuracy and patience, combined with know-how and luck, paid off in a big way for Dr. Curtis LeDoux. **



F ISHERMEN WHO GO for sheepshead along seawalls, docks, bridges and other structures on the Texas coast find something new and challenging in this type of fishing. It's a good way to get some old fashioned relaxation, and at the same time stock up on deep freeze fish.

Another productive way to catch



Everett Luton, Wyoming outfitter, holds up a nice sheepshead dressed up like a convict.

the buck-toothed sheepshead is to fish from a boat anchored near rock jetties. That's the way we fished for the barnacle lovers awhile back. Jack Speed, Mike Covington, and Everett Luton were with me. We brought along a bucket of live shrimp to tempt the fish.

Covington, boat skipper, aimed our boat for the north jetty a mile or so ahead. He and Speed found some nice fish there the day before, so we decided to hit the spot again while it was alive.

When we pulled up, two boats were already anchored along the end of the jetty, just outside the channel, right where Covington had planned to anchor our boat, the Bob Bet. Instead, we decided to circle and drop the hook over a spur of rocks just inside the jetty itself.

Covington put the bow anchor out in the deep water, let it settle in the sand and then backed the boat up to the rocks. A grapple anchor dropped over the stern held the boat in place.

Unfortunately, we didn't hit the right place on the first try. The fish



by ROY SWANN Corpus Christi Caller-Times

weren't there. Speed felt one little strike and missed it. I missed another just as we decided to move around with the other boats.

Once we were over the hot spot next to the other boats in close to the rocks, we started getting some action. And lots of it! Of course, all through the day we lost bait and felt bumps. This can be expected when fishing for sheepshead. They have (as the name implies) sheep-like teeth and small mouths. Very small sheepshead can snip off a live shrimp, bit by bit, and never touch the hook.

Our rigs were quite simple. Speed was using a light, free-spooling reel with monofilament line and a rod to match. He had a good 3/0 hook tied right to the line. A small pinch-on sinker was clipped on several inches above the hook. Covington and Luton used similar rigs. I stuck with a matching spinning outfit loaded with 10-pound line.

The sinker should be just light enough so the shrimp can do a lot of wiggling, but it must be heavy enough to sink the bait fairly fast.

Luton began with a popping cork. But when the rest of us started getting better results without one, the outfitter and hunting guide from Jackson Hole, Wyoming, shucked the cork and joined us for some real fishing.

My second cast started our day of catching. I landed a two-pound sheepshead. On the very next try, I brought in another one just like the first.

By now, Speed had found the combination and began to snag some good ones. Soon my other two companions started scoring. We landed sheepshead from 10 inches long to nearly four pounds, and we never moved the boat again until we pulled up the anchor and headed for home two hours later. When the fun ended, we had 34 nice fish in the box.

Jetty fishermen don't need to be told about the terrific sheepshead action along the Port Aransas jetties, and others up and down the coast. They already know about it. This is especially true of those who fish regularly during January, February and March. At this time the sheepshead appear in schools as they prepare to move into shallow bays to spawn. Port Aransas boatmen and guides say you can catch loads of them from January until warm weather moves in to stay.

The charter boat boys and private boaters usually stick to live shrimp for bait. It's easy to obtain, simple to slip on a hook and gets good results. They work the shrimp one of three ways: under a popping cork set so the line will slip to the required depth; with only the hook, called free shrimping; or, as we did, with the small sinker.

The shrimp should be hooked through the back and out the back of the head shell so it can remain alive and continue its natural swimming action. No matter how you rig, anchor your boat so you can have a steady platform angled so everyone aboard can fish. Then cast your morsel right down into the moss covered boulders below.

A person can expect to lose some tackle when fishing for this rockroaming fighter. Like Speed says, "It's pretty hard to roll one of those big rocks with 10-pound test line." And without a leader it's a cinch the oysters and barnacles will whack off some lines.

Sand fiddlers and stone crabs are two of the best baits for sheepshead. They probably are the favorites of the seawall fishermen around Corpus Christi.

It's not unusual to see several baithunters with grappling hooks tied to heavy lines casting them near the base of the seawall. They'll cast the snaghooks out and bring in beer cans, rocks, oyster shells and other objects from the bottom. In the clusters of barnacles attached to this trash they find tiny crabs which make ideal sheepshead bait. For fiddlers they simply head for the salt flats with pails and spades where they dig up the little crustaceans.

With the arrival of summer, a sightseer can still find a number of sheepshead fishermen roaming the flats searching for fiddlers.

Once they have their bait, they find a spot near a piling or pier, scrape some barnacles loose to attract some prospective sheepshead, and begin to fish. To knock off the barnacles most fishermen use a straightened-out hoe.

During the warm months, according to Dr. Henry Hildebrand, head of the University of Corpus Christi marine science department, sheepshead feed primarily on algae. This probably accounts for the slack period in sheepshead catches during the hot months.

As a fighting fish, Mr. Sheepshead isn't anything spectacular, but he's stout and can bend a light rod double. He can, and will, wrap a line around a rock or piling every chance he gets.

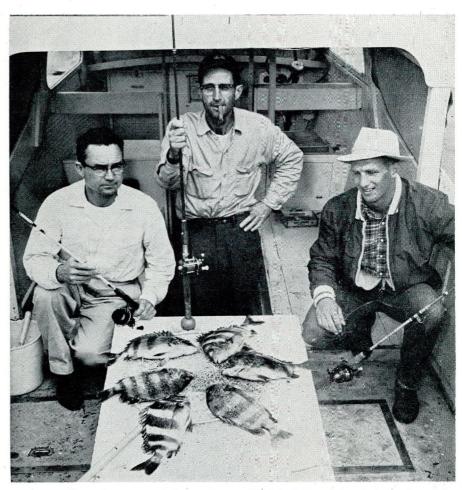
I don't guess anyone who has ever eaten the fish will say he's the tastiest fish in the ocean. However it ranks



Beware of the sharp, stout spines atop a sheepshead. Grip them firmly to remove hook.

near the top and has a flavor all its own.

If you want a change from basin fishing or plug casting for trout and reds during the early months of the year, and still have some real fun, give sheephead a try. Good fishing. **

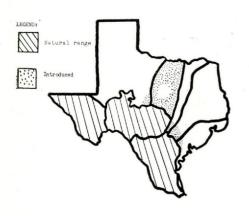


Jack Speed, Mike Covington and Everett Luton with their fishing rigs and six good examples of what's in store for sheepshead fishermen.

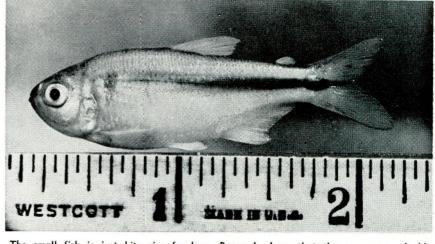


Is the Banded Tetra

TABOO?



Tetras do not live in all Texas waters as this map shows. They are most abundant along the border of Mexico.



The small fish is just bite size for bass. Research shows that they are very valuable forage fish. It's not as prolific as the shad and it can't survive cold water.

by CHARLES T. MENN Aquatic Biologist

SOON AFTER Falcon Reservoir began impounding water in 1953, the indigenous banded tetra had a field day because of apparent favorable conditions. Some fishermen may recognize this little fish as the Mexican jumper (because of its tendency to jump when disturbed) or, "true shiner." The fishery biologist knows it as the tetra or Astyanyx fasciatus, a member of the Characin family,

which heretofore has been relatively unimportant in the United States.

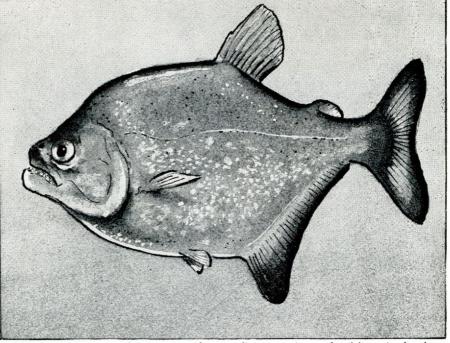
The Characins form a large family comprising about 300 species found mostly in South America and Africa. The banded tetra (an abbreviation for its former generic name *Tetragonopterus*) is the only member of this family which is native to the United States. South Texas, to the Nueces River, appears to be the northern natural limit of the tetra; however, it does occur in the lower Colorado River basin of Arizona and New Mexico as well as portions of the lower Pecos and Rio Grande valleys in New Mexico and Texas.

The fish attains a length of four inches (rarely five inches) and is easily distinguished from minnows by a small but distinct adipose fin on its back, near the tail fin. The freshwater catfishes and the rainbow trout (found in far west Texas) are the only other species of fish found in Texas waters with an adipose finlet. Tetras are very gregarious in nature. They travel in schools and suddenly "gang up" on some likely prey and devour it.

Owing to the large numbers of tetras present in Falcon Reservoir and their qualities as a bait minnow, they became very popular with fishermen in Texas as well as some of our neighboring states. Their popularity is largely due to their hale and hearty nature and their apparent "attraction" to black bass, crappie and white bass. In the mid 1950's, commercial minnow fishermen at Falcon did a "land office business" during the spring, summer and early fall months of the year. The supply appeared inexhaustible and so did the demand. Then some of our neighboring states with the best of intentions, recommended tetras not be used in waters where they are not native, on the grounds that they are a cousin to the piranha, the lethal little denizen of the Amazon basin that can devour a man in a matter of seconds. On this basis the tetra was considered a possible hazard to fisheries.

The Texas Game and Fish Commission did not consider the tetra detrimental to game fish since game fish populations abound in waters where tetras are already present. However, this belief had to be proved. In 1956, a three-year study was begun under the superivsion of Aquatic Biologist Alvin Flury to determine the effects of the tetra on black bass. Of the three ponds checked in which tetras were stocked, none was recovered although largemouth bass and bluegills were found in normal numbers.

Two hatchery ponds, which will be referred to as Pond A and Pond B, revealed similar information. Pond A was used as a control and was stocked with only 5.000 bass fry. Pond B was stocked with 5,000 black bass fry and 3,000 tetras. Approximately three months later, the draining of Pond B revealed the following: approximately 2,530 bass fingerlings, from 4to 7-inches in length; 37 yearling bass, about 3/4 lbs. each; 414 large tetras; 161 small tetras. Pond A was



Neighboring states censored tetras since they are distant cousins to the vicious piranha shown above. It was found however, that the tetras was not a hazard to man or fish. Instead, it proved to be quite valuable as a forage fish.

drained about one month later and revealed the following: 66 bass fingerlings and 24 yearling bass. The small number of bass recovered from Pond A was attributed to the drift of insecticides when adjacent fields were dusted by aircraft.

In an isolated pond (located near Mathis, Texas), approximately 8,400 tetras from Falcon Reservoir and approximately 3,000 red shiners from the Nueces River were stocked in an effort to determine whether or not tetras would reproduce in this area. The owner, Mr. Boyd Mangham, stated that he had trapped about 32 gallons (about 38,400) of tetras in a little over a year's time. Commission personnel checked this pond fifteen months after stocking the original 8,400 tetras and took 32 specimens ranging from 1/2 - to 4-inches in length. This indicated tetras were able to reproduce successfully in small ponds if game species-primarily largemouth bass-are not present.

Besides the predation by game fish, it is doubtful that any tetras could survive a winter in north Texas. It appears that the minimum temperature tolerance of the tetra is 50 to 55 degrees, a low for South Texas, the northern limit of the tetra's natural range.

From this study it would be diffi-

cult to draw definite conclusions from the limited data collected. However, in no instances were the tetra found to be detrimental. For example, by direct predation of bass, and since the male bass fiercely guards the nest and eggs, it is remote that any eggs would be eaten by tetras.

To further support the belief held by the Texas Game & Fish Commission, Mr. S. Y. Lin, FAO Fisheries Biologist, of the Departmento de Caza Y Pesca (Department of Hunting and Fishing) of Honduras, states by letter that largemouth bass were stocked in a lake in that country which contained tetras as the dominant species. After only three years, bass weighing up to six pounds were taken and the tetras provided the principal forage.

In addition to the once-sizable population of tetras in Falcon Reservoir, a substantial number of tetras are presently found in Llano Grande Lake, south of Weslaco. Chances are good that next spring; commercial minnow fishermen will turn to Llano Grande to supplement their catch from Falcon Reservoir. Thus, if you are a live-bait fisherman, the supply of tetras should be plentiful and, if you happen to be one of those wary sportsmen concerned with the vices of various minnows, you can rest assured the tetra is not considered taboo in Texas waters.



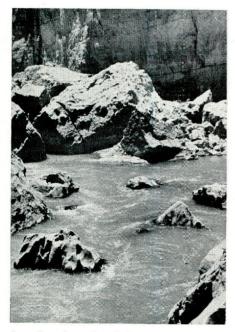
Let's take a FLOAT TRIP

> by JOHN N. DORCHESTER Aquatic Biologist Photos by Bob Waldrop

Biologists and wardens rest during a trip through Big Bend canyons for water and fish samples.

I F YOU ARE SATISFIED with your present boating and fishing activity and have no desire for adventure, read no further. We are about to shove off on a trip down the river, more commonly called a "float trip." If you have been on a float trip you know what is meant by adventure. If you are new at this type of boating perhaps these words of experience will help you.

Many aquatic biologists of the Game and Fish Commission employ this method in stream surveys. It



Jagged rocks and turbulent water are common hazards on most rivers across Texas.

helps them to better understand the present problems. For instance, biologists have floated the Sabine River in East Texas all the way from Longview to Orange, as well as several other major streams including parts of the Rio Grande in extreme West Texas. These two rivers are as different as night and day but they have many things in common adventure, excitement and hard work.

The hard work can be decreased in several ways. First, select a time when the river is on a rise or is above its normal elevation. This factor alone is the key to fast, easy trips. If the water is low you may have sandbars, gravel or rock shoals, logs or other obstructions to pull your boat over. This is rough punishment to your boat as well as to you. However, if you are fishing and aren't in a big hurry, select a time when the river is just about at normal or slightly below normal elevation.

Secondly, the kind of boat used has a bearing on the amount of human energy expended. Chances are that the point of launching and take-out will be a steep, "mile high" bank. This necessitates hand carrying or dragging everything needed on the trip including the boat and motor. A comparatively lightweight, stable aluminum boat is recommended for a job such as this. Jagged rocks can play havoc with a fiberglass or wooden boat. Also a boat with welded seams is preferred over one with riveted seams because rivets can be knocked out by rocks.

Most navigable rivers in Texas have sufficient roads crossing over them. Usually a stretch of river between such crossings is a good day's trip, depending on motor size, river level, trouble encountered, etc. It is best to have a companion meet you with the car and boat trailer at the downstream end of the stretch instead of trying to buck the current back



Going gets so difficult at times, equipment must be hauled by hand over boulders.

upstream to the point of launching. If you are planning an excursion of several days for a long stretch of river have someone meet you at the bridge crossings in case you have trouble along the way. Also select a section of river far enough downstream to float a boat most of the way.

What equipment do you need on a float trip? It is best to go prepared for trouble. Take a good pair of boat paddles, and the routine items such as life preservers (Coast Guard approved), plenty of motor fuel, extra spark plugs, pliers, screwdriver, shear pins, food, water and the necessary wearing apparel such as tennis shoes or waders depending on the weather.

A good camera loaded with color film is handy to record many beautiful scenes. A county map like the type issued by the Highway Department will help you follow your progress along the river. However, it is very easy to get "lost" if you don't keep up with every bend of the river on the map.

Float trips are somewhat different from traveling on a lake. For one thing, more lineal territory is covered than on a lake. Also the scenery and conditions are constantly changing from gentle sandbars to sheer cliffs, from deep sluggish pools to violent rapids. Around every bend there is something new, turtles bailing off logs, a bunch of ducks just keeping ahead of you, an occasional squirrel scurrying for cover. It's interesting to stop on a sandbar and get out just to see what sights might be in store. Perhaps a deer has paused at the river for a drink of water. Or perhaps a raccoon has come to the water's edge to wash its dinner. It's all very plain if you use your imagination and the signs left by wildlife.

The old saying that "still waters run deep" is a good rule to remember on a float trip especially when the water is low. Seek out these still waters instead of the faster flowing waters. Also, it is good to remember that the deepest water of a channel is near the steep-cut bank or the outside curve in a bend. Another thing to look out for when going down a river is fallen logs that lie just under the surface of the water. These are usually fairly easy to spot by looking at the surface of the water. There



If this had been a boat chances are that it would have collapsed under the tremendous pressure. It was a tough job getting this big life raft loose.

usually is a slight hump in the water surface where it flows over a log. By all means dodge these humps! Sometimes the boat is going to drag bottom no matter what route you take. The only thing to do then is to get out and walk or drag the boat to deeper water.

You can just about be assured of trouble unless you are prepared for it and know what to do to prevent it. Even with the best precautions trouble will come sometimes. Experience is the best teacher and some of us have pulled some pretty impossible stunts to gain that experience, such as the time when we failed to check the amount of fuel in the tank. We ran out of gas and had to paddle about five miles. Luckily that time we were going upstream from the point of launching and were going to take out at the same place. Then there was the time we were floating a short stretch of the Sabine River below Longview making periodical seining collections along the way. About half way along the stretch, rocks in some rapids knocked a rivet out of the bottom of the boat and tore a four-inch split along a seam and water really

Continued on Page 27



It is rather disappointing to take a dip along the way and lose \$100 worth of equipment. Boatmen should always be on the alert for the unexpected.



THE BOARD OF TRUSTEES of Ducks Unlimited, the nation's leading migratory waterfowl conservation organization, has appropriated \$550,000 to continue the work of restoring and building duck breeding grounds in the Canadian Prairie Provinces in 1961. This appropriation makes the sixth successive year the group has allocated funds for the development of "duck factories."

With this appropriation of \$550,-000, the amount sent to Canada totals more than \$7,500,000 which duckhunter-sportsmen have contributed. Ducks Unlimited directs the work of building or restoring more than 600 "duck factories" on the breeding grounds in Canada, where more than 65% of this continent's migratory waterfowl raise their young. Federal law prohibits the use of duck stamp funds for this purpose outside the territorial borders of the United States and therefore the development of the continent's primary duck breeding areas in the prairie provinces of Canada must be supported by sportsmen through the contribution of private funds.

Stirling S. Adams of New York, Vice President of the C.I.T. Corporation, has been elected president of Ducks Unlimited to succeed Carsten Tiedeman, of Grosse Pointe Farms, Michigan. Mr. Adams is a founding member of DU in New York, is Chairman of the New York City DU Committee and has been a National Trustee of the organization for many years. Other officers elected were Carsten Tiedeman chairman of the Board of Trustees; Vice Presidents re-elected were: Albert B. McKee Jr. of Pasadena, Calif. Pacific Region; Eugene duPont III, Georgetown, S.C. South Atlantic Region; A. C. "Pops" Glassell, Shreveport, La. Gulf Region; F. John Ward, St. Paul, Minn., Mississippi Region; Norman H. Ott, Milwaukee, Wisconsin Great Lakes Region; and Philip C. Barney, Hartford, Conn., North Atlantic Region.

New Regional Vice President elected was Lawrence Reed, of Houston, Texas, succeeding John Suman in that office.

Robert Winthrop, of New York, was re-elected treasurer and Henry E. Coe, III, also of New York, was reelected secretary. Re-elected assistant treasurers were Clarence E. Stouch and A. Varick Stout, both of New York and returned as assistant secretary was Robert I. Lowell, also of New York.

Fifteen National Trustees were reelected to the Board of Trustees—J. Carl Osborne of Arizona; J. Roger Crowe, of Arkansas; William P. Elser and James Trino, of California; Capt. H. A. White of Georgia; Morton W. Smith and Mandt Torrison, of Minnesota; Robert M. Gaylord of Rockford, Ill.; Edgar M. Queeny, St. Louis, Mo.; Robert Winthrop, New York; E. C. Barwick, Memphis, Tenn.; Marcus Nalley, Tacoma, Washington; and Norman H. Ott, Milwaukee, Wisc., all of whom were for three year terms. Re-elected for a two year term was H. Stanley Johnson of Madison, Wisc., and re-elected for a one-year term was Arthur Towell of Madison, Wisc.

Honorary Trustees elected and reelected were Richard E. Bishop of Penna.; Walter L. Bush, Minnesota; Charles G. Chapman, Michigan; George W. Holmes, Nebraska; Richard José, of California; Harry A. Koch of Nebraska; George B. Luhman, of Wisc.; J. P. Norfleet of Tennessee; George T. Hansen, of Utah, William H. Reinhardt and Frank Taylor of California and John Suman of Texas.

Four new trustees were elected to serve on the Board—Clayton Phillips, of Reno, Nevada; Dr. Joseph G. Sweet, II, Oakland, Calif.; G. E. Karlen, of Tacoma, Wash., and Leonard S. Mudge of Pittsburgh, Penna.

Making his report to the Board of Trustees, President Tiedeman cited the work accomplished by DU during the past year when 45 new projects were built. He said that during the 23 years of DU's existence 633 projects had been built or restored, 74 of these being retired or consolidated with adjoining projects, leaving 559 active "duck factories" in production with a shoreline mileage of close to 5,000 miles, in the provinces of Alberta, Manitoba, Saskatchewan and New Brunswick.

Tiedeman in his message paid a special tribute to the Dominion and Provincial Government Agencies in Canada, as well as its farmer-conservationists for the generous support they have given to Ducks Unlimited's efforts. He also extended his thanks to the State Chairmen and their Committees, and through them, the sportsmen of their states for making the half-million dollar grant possible. Tiedeman also cited the need of more members to carry the burden of restoring the breeding grounds, stating that while 1,500,000 ducks stamps were sold last year, less than 30,000 contribute annually to Ducks Unlimited as members. **

Conservation and YOU by I. W. BIGLER

S LATE AS 1927, Texas wildlife Apopulations were shrinking at an alarming pace. Yet, the other day I heard a man say:

"The abundance of wildlife around here amazes me. Last Sunday, my

family and I were riding in the country on a farm-to-market road • Continued on Next Page



leading down to the river. Not far from the road we saw a large herd of white-tailed deer grazing in an oat patch. Farther on down the road, some javelinas ran out of the brush, and later we saw some wild turkeys feeding in a cut-over grain field. Besides that, mourning doves were plentiful. We also saw quail and lots of cottontails. I wonder if you know how fortunate you are?"

To what can we attribute this miraculous come-back of one of our state's most valuable natural resources—a very important recreational and economic asset?

First, there had to be people who loved the outdoors, like the man on the Sunday outing. They became aware, and then alarmed, as the slaughter of wildlife continued in Texas. They urged that laws be passed to protect game and fish which were being depleted. It became apparent that a wildlife control commission was needed to enforce game laws. The present Texas Game and Fish Commission is an outgrowth of the Game, Fish and Oyster Commission created in 1895. But enforcing game laws is only a part of the job of this army of dedicated men.

Wildlife management, programing, conservation, and education play vital roles. Results of their tests and experiments are available to all landowners because the Commission is aware that only landowners can provide land, water, and feed so wildlife can live and increase.

That brings us to the second important reason our wildlife has made a substantial comeback: the landowners' vastly important part in the substenance and rehabilitation of wildlife.

An example of how landowners can and do bring back wildlife to their lands is cited by a group of ranchers in Live Oak County, who in 1938 became aware the whitetailed deer, turkey, and quail were fast disappearing from their ranges.

Planning for the future, these men realized the wildlife potentials on their ranges. Interested ranchers met and discussed the problem. They decided a game management program was the answer.

The program was named the J.



With sufficient food and cover whitewings are



Texas has excellent cover for javelinas. The pigs an



The once vanishing pronghorn returned in great n



A proud mother feeds her three offspring. When plenty of food is available, deer will produce more young. As the supply of food drops so does the wildlife populations.



a comeback. But they will always rely on man.



ndant in some counties we have year round hunting.



thanks to the understanding and efforts of Texans.

Frank Dobie Game Management Association, in honor of one of the leading ranchers and outdoorsmen of that area. Among their general aims and regulations were to provide adequate protection for game and other desirable species of wildlife; to establish and maintain the game management area for the increase of all desirable species of game birds, nongame birds, game animals, fur-bearing animals, fishes, etc., with special emphasis given to quail, deer, and wild turkeys; to improve cover and food conditions for wildlife, with emphasis on natural processes; to plant and sow, leaving patches of grain unharvested; to regulate the taking of game on such lands to assure an adequate supply of seed stock at all times; and to provide regulated hunting in cooperation with the Game, Fish and Oyster Commission at such time as game supplies might warrant. to assure the development and maintenance of a maximum game crop.

To make this organization effective, a constitution and by-laws were drawn up, with officers and an executive committee appointed. Holman Cartwright of Dinero was elected president, with J. R. McGuffin, vice president; William Hinnant, treasurer; Gordon Brown, secretary and Roy Hinnant, assistant secretary. Serving on the executive committee were: Gordon Brown, Roy Hinnant, J. Frank Dobie, and Tom McNeill. Associate members were: Francis Daugherty, Reeves Brown, Robert Sellers, Jim Daugherty, D. B. Miller, Ross Boothe, C. S. Brown, C. N. Freeman and M. T. Beall.

As neighboring ranchers and landowners realized the value of this wildlife management program they came into the organization. Approximately 100,000 acres are now in the Association which includes portions of Live Oak and San Patricio Counties. Programs similar to this are being carried out over various parts of the State. These men are determined to build and perpetuate our Texas heritage our wildlife.

To an organization of this scope, law enforcement presented a problem. There was a need to educate the public as well as some landowners to the aims and purposes of the long-

Without buffer species like the cottontail, predators would soon move in on domestic poultry and livestock. Buffers are very prolific, but they need some protection.





Without predators like the bobcat the buffer species would get out of hand. Many times the control of both needs human assistance.

Even raccoons have a place in the cycle of nature. They help control pests, insects and rodents, not to mention their recreational value.

range program.

The Texas Game and Fish Commission sent Franklin C. Henze, who assisted the Association in its program and who worked closely with officers of the Association and landowner members.

Since the objectives of the J. Frank Dobie Game Management Association have been reached the members are not as active as formerly, but it is still in force and officers and members can be called together on very short notice.

This Association and others like it have helped bring our wildlife back to its present state. Wildlife management is a business, a big business. No longer is its primary objective to furnish food for the tables. As a recreational and economic factor, it has attained great significance. Sportsmen spend around \$150 million each year hunting and fishing, and the figure continues to rise.

This money is channeled into many trade areas—from the largest gun to the smallest fish hook; for clothing, camping equipment; for food and the myriad necessities and accessories that go with hunting and fishing. But the actual value of our wildlife resources cannot be estimated in dollars alone. The intrinsic value is health and happiness for those who go afield, whether as an escape from the rush of everyday living, or for the thrill of the hunt. The third and final part of this wildlife program is—you. Whether you are a sportsman or just enjoy seeing wildlife in its natural habitat, each of you has a responsibility in wildlife conservation. It behooves each individual to cooperate with the landowner and to know and observe the laws concerning our wildlife.

So the next time you take a ride down a country lane and see as much game as our friend did, think back to a time just a few years ago when this would have been impossible. And, if farther down the road you see a sign that reads NO HUNTING, NO FISHING, GAME PRESERVE—be thankful someone is looking out for your interests. **



Once, the turkeys of Texas were rapidly decreasing in numbers. Only the Rio Grandes managed to hold on. Without protection and management even these fine game birds would have vanished completely.

Today turkeys are again a familar sight along the highways. With lots of tuck and cooperation, the great Eastern turkey may someday be a common sight in the East Texas woods.

Oysters with a PEDIGREE



Reprinted from Texas Health Bulletin

PITY THE HAPLESS oyster—scooped unceremoniously from its aquatic home, jerked bodily from its protective shell, crammed into a crowded can on a cold bed of ice to await its ultimate fate, which like as not is to be eaten raw by an unfeeling human gourmet.

But there are compensations, despite the fate. Succulent morsel. Gourmet's delight. Is not high esteem implicit in accolades such as these? Is there not probity in a pedigree?

Indeed there are pedigreed oysters. They're the products of the State Health Department's shellfish sanitation program by which they are certified officially as having been produced in clean environments. In truth, to qualify for a pedigree an oyster must have been raised in water the bacterial quality of which approaches that of drinking water.

Many Texas municipalities have ordinances to the effect that only "certified" oysters can be offered for sale in the community. The certification program is administered by the State Health Department in cooperation with the Public Health Service. No law in Texas requires that all oysters offered for sale be certified but only certified oysters are permitted in interstate commerce.

Certified oysters are packed in a metal can and are identified by a number embossed into the metal. The number is preceded by an abbreviation of the certifying state, such as, Tex-400. This identification indicates:

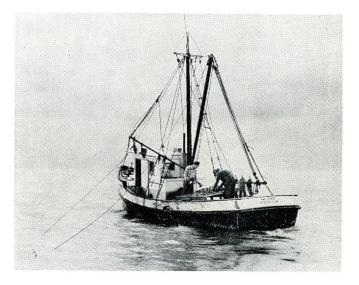
- Sanitation surveys have been made on the contributing drainage area to assure there are no major sources of pollution.
- Surveys have been made of the oyster-growing water itself, including extensive bacteriological analyses.
- Inspections of equipment and operations of oyster shucking establishments have been made by field personnel. All the results have been reviewed and everything found satisfactory.

Some 30 items on the certification rating list must be up to certain high standards before approval is granted. Those items pertaining to water quality and pollution are the watershed sanitary survey and the bacteriological sampling.

The Division of Water Pollution Control is responsible for making watershed sanitation surveys, including all sewage treatment and industrial plants as well as any other sources discharging liquid wastes to the watershed. The survey scrutinizes each plant, design capacity, present load, operation, results obtained, and condition of receiving stream substantiated by analytical data when required.

Of equal importance is the growing area survey. This phase of the certification program delves into the quality of water in the bay from which the oysters are taken. Water samples are collected under variable conditions of temperature, wind, tide, runoff, etc. Results of the bacteriological analysis are reported in terms of the logarithmic average of the most probable number of coliform bacteria present. The upper limit permitted for certification is 70 organisms per one hundred milliliters. In some of the approved areas along the Texas coast counts as low as 7.4 per one hundred milliliters are obtained.

Tens of millions of Texas-grown oysters each year are sold on the retail market. More than 90 percent of them have pedigrees authenticated by the Texas State Department of Health.



Oyster boat drags bottom for a load as hands cull.

Trophies at Whitney

by L. A. WILKE

THE BEST LURES in the world are no match for windy weather. A half-hundred tackle salesmen and all of them top fishermen, spent most of two days at Lake Whitney in early April and caught only 109 pounds of bass.

They blamed wind gusts up to 35 miles an hour, which chased them from most of the best fishing spots on the lake.

This was the annual party at Redwood Lodge staged by Virgil Walker of the Behran's Drug Co., of Waco, for fishing tackle representatives. More than 50 reps were present, with their best equipment for the fishing championship of the salesmen.

Bill Moore of Brownwood, fishing with Walker, caught the biggest bass. It weighed 4 pounds 14 ounces. Wally Chamness who lives on Lake Whitney and Chuck Enders of San Antonio, got the biggest string with 16 pounds, 12 ounces. Sam Price and Lum Foster came in second with 14 pounds of bass.

Engraved trophies are awarded the fishermen.

Lake Whitney is one of the top fishing lakes in Texas. Constructed by the Corps of Engineers it is the largest inland lake that lies wholly within the state.

Black bass and crappie are plentiful, as well as white bass. Five state and county parks provide free launching privileges. Although most of the fishermen at Whitney are from the Fort Worth-Dallas area, many others go there from the Texas Panhandle.

Located approximately 100 miles south of Possum Kingdom on the Brazos, good fishing water is backed far up the river. **



Virgil Walker uses a fish decal on the truck to show the size of Bill Moore's prize-winning bass.



Lum Foster and Sam Price, with 14 pounds of bass take 2nd place.



With 16 pounds, Wally Chamness and Chuck Enders get 1st prize.

Fresh Water on the Coast

by CURTIS CARPENTER

LAKE MATHIS is a popular body of water. It is in an area where lakes are scarce. Corpus Christi and all its wonderful saltwater fishing is just 40 miles away. Beeville, Sinton, Alice, and George West are almost on the lake's shores. Mathis, of course, is within yelling distance of the fabulous fishing lake. The people in the area are proud of their beautiful fresh water paradise. More than one city claim it as theirs.

Recently the Mathis Chamber of Commerce was host to a number of Texas outdoor writers, who picked the city as the site for a quarterly business meeting April 29 and 30. Many of the TOWers were visiting the area for the first time.

Fishing was good on the lake. Some

nice blacks adorned the stringers of bait casters. The crappie were hot after minnows. Everyone caught fish even though bad weather moved in.

The lake stretches for some 27 miles across Jim Wells, San Patricio and Live Oak counties. It has about 200 miles of shoreline decorated with mesquite, oaks, sage, cactus and, in the month of April, wildflowers and blossoms dressed in their best spring colors. It is a perfect hide-away for fishermen, campers, camera-bugs and painters, with plenty of attractions for all.

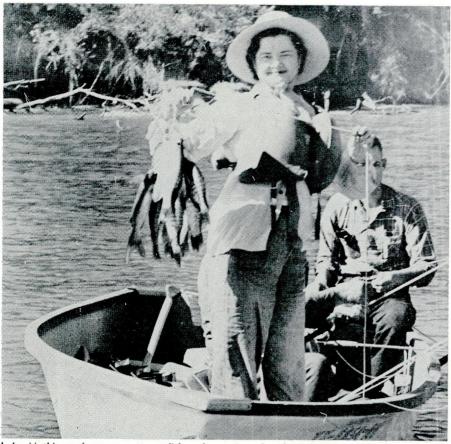
It offers everything in the way of facilities from excellent motels, restaurants and service stations to boating supplies, ramps, and docks. **



Yellow cat fights furiously on end of line.



McBee of San Antonio finally gets a hold.



Lake Mathis produces as many catfish and crappie as any large lake in the state. Above is a sample string of nice crappie. At right is series showing Harvey McBee struggling with a typical Mathis yellow cat.



The 38 pounder cooperates for a picture.



Only one of the several McBee's party caught.

Candid Camera at Lake o' Pines

IF YOU ARE LOOKING for a lake that's new, hot and versatile, crank up the jitney and head for Lake o' the Pines, otherwise known as Ferrell's Bridge Lake.

This lake, completed only a couple years ago, is located about 15 miles north of Marshall off FM roads 726 and 729 between Jefferson and Daingerfield.

It was created by a \$15 million dam across Cypress Creek, which flows into Caddo, only a few miles away. It has a normal coverage of 18,700 acres, an average depth of 14 feet with a shoreline of 138 miles. The lake had been holding some water since actual construction began, but the gates weren't closed until February of 1960 and it filled by last November.

Although there were many fine game fish in the lake at its start additional bass stocking was carried out by the Game & Fish Commission. These bass are now yearlings or better, and ripe for catching.

Lake o' the Pines is a typical East



A nice place to get away from it all.

Texas lake, with beautiful water and a shore line covered with towering trees. There is ample open water for skiers and hot rodders as well as

by L. A. WILKE



Find a spot by a tree and just fish.

plenty of water dotted with dead trees for the fishermen.

High rock cliffs line a portion of the lake. Gravel bars jut out from the shore and tree-top water covers several thousand acres of some excellent fishing water.

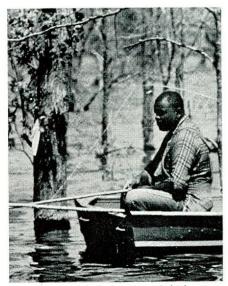
Being a project of the U.S. Corps of Engineers the lake is clean and well kept and offers many fine spots for camping.

Most of the fishing is done from flatbottom johnboats. The brushy area of the lake provides an ideal situation for this kind of fishing, using cane poles with minnows, worms or crickets.

Plug casters also have plenty of water where big bass abound, plastic worms, spinner type lures, Pico Perch and Bombers seem to be the best artificials.

Barge-type boats also are popular on the lake and scores of them can be seen in the brushy waters. These boats are usually tied up among a bunch of old trees emerging from the

Continued on Page 27



It's a good place to sit and think.



Bring the whole family out.



Even the women were trying their luck.



Johnboats and cane poles were everywhere.



Along the lake shores people set up camp and enjoyed a day outdoors with nature.



by CURTIS CARPENTER

¬AKE A PLASTIC WORM, toss L it in the water, and wait. If you haven't the patience to wait motionless for minutes at a time, don't bother with the silly looking things. Patience and faith are two qualities that an artificial worm fisherman must have. He must be able to sit still long enough for the worm to settle and an additional few minutes for the bass to decide for or against taking it. He's got to have faith in the ability of the lure. He must believe that it is the hottest bass lure on the market today. If he has these two qualities, he'll fish the worm, fish it well, and he'll hang some big fish on his stringer.

I heard a friend say sometime back that he didn't see what all the excitement was about. "Why, fishing with them crazy worms is like fishing with minners," he laughed. After a day of fishing with them, he changed his mind.

It takes time to learn how to use plastic worms and eels effectively. A person just doesn't toss one out anywhere and catch fish without working at it. Who ever heard of a worm that didn't move just a little? It may not set any speed records but it'll do some wiggling. So must its artificial imitation. Most plastic worms are very flexible. With a slight nod of your rod tip, the slender delicacy reacts like a puppet on strings.

But we are getting way ahead of ourselves. Let's start at the beginning. Get some 6-inch plastic worms. My favorites are made by Creme and Sportsman's Products. Get a good number 3 or 4 weedless hook. I make my own now. Before I did, I used a Weber hook. Thread the hook through the center of the worm, beginning at the nose and bringing it out about $1\frac{1}{2}$ inches back. Slide the worm up against the hook eye.

The most popular colors for worms are the orange-pink florescent, natural (brown and cream), black and blood red. Each color has caught lots of big fish. But, certain colors seem to work under certain conditions better than others. For instance, black works better in late evening and for night fishing than the other colors. The orange-pink color produces better along the shore line when working mornings, mid-day and afternoons. Blood red has proven itself best in deep water, especially when the water is murkey. The natural color will work well in clear lakes on clear days with a brown jig. Many times the only way to find out what color is best at a given time is to try them all until you find one that catches fish consistently.

No matter what color you fish, fish it slowly. In fact, the boat must move very slowly when fishing a shore line or you cannot work the worm successfully. Concentrate on that bait. One moment of inattention and you may miss a fish.

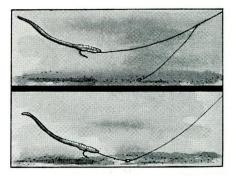
There are several favorite and proven methods for tying a hooked worm on the line. Most top bass fishermen run their line through a ounce slip sinker (egg-shaped with a hole through the center) and then tie the line on the hook. This eliminates most of the resistance. When a fish takes the worm the line slips through the sinker and he thinks he's got a free tidbit.

Another method with some and quite successful in mid-summer is the use of a bell sinker, a swivel and a short leader (not over two feet). The swivel is tied on to one end of the leader and the sinker on the other. Then the line is passed through the swivel and tied to the hooked worm. While the sinker rests on bottom the worm is free to drift about. Here again when the bass takes the worm, it is free of resistance.

The weedless hook makes it possible to fish a worm in trees and brush. And that's right where it works best. During the summer in the heat of the day fishermen drop it right out in the middle of a lake in a known underwater forest or orchard some 20 to 60 feet below. Usually while at anchor. Last year the blood red plastic eel worked very well on Lake Belton fished in this manner.

The idea here is to cast out and let the eel settle to the bottom amongst the trees. This is strictly big bass hunting grounds. Last year dozens of bass over seven pounds were boated by anglers using one or the other of the methods just described.

Most big bass fishermen (those who nearly always catch bass over



At top the leader and sinker keep the worm off the bottom. Below, with slip sinker it stays on bottom until jerked by fisherman.

three pounds) use 18 to 25-pound test line with the worm. Lots of fishermen hook big bass but they don't land them. When a king kong takes an artificial worm in the trees, there's no time to let him play with it. A 20pound test line will suck him out into open water before he can wrap about 10 yards of line around a limb. Several good monofilament lines are on the market.

It's hard to talk about plastic worms and eels without thinking about big bass. Like the jig and porkrind eel combination, these worms have proved themselves to be lunker lures. But to catch big ones consistently, an angler must know how to use them.

Perhaps no other lure is as difficult to master, unless it is the jig and eel. We've covered the preparation of the worm and hook for fishing. Now let's get into the proper and most productive methods of using these plastic wonders.

If you know what kind of spots big largemouths prefer, you'll know where to use the worm and eel. If you don't, then you will need to learn this first, before you can expect to catch the big boys on anything. The best way to learn where and how to catch big bass on plastics is to go out with someone who already knows. Otherwise you will have to learn by trial and error.

Most successful worm fishermen fish trees, reeds, rocks, boathouses, points and other underwater objects. They study a lake until they know where all these places are by memory.

If it's a tree, they try to plant the worm or eel as near to the base of it as possible by allowing the thing to settle straight down from where it lands. Once it hits bottom they let it sit there for a few seconds, always keeping a tight enough line to feel any fish bumps. If there's no bumps then begin working the worm in very, very slowly, possibly twitching it slightly with a nod of the rod tip ever so often. Many times the worm will settle in the middle of a submerged tree. As the worm is drawn in it will often climb up against a limb. When this happens, lift your rod up until the worm falls over the limb. Then drop the rod tip down

quickly allowing the worm to settle straight to the bottom. Follow these steps until you get the worm near the boat or a considerable distance from the tree. Use similar steps for fishing rocks, boat houses and other structures. Always try to get the worm under or as close to these objects as possible. Learn to spot cast.

When a black (largemouth) bass takes a worm he'll do it in one of several ways. If he's on a feeding binge he may rush out and grab it. When he's in an opposite mood, he may mouth the worm for an eternity before gulping it down.

This is where patience becomes a handy tool. Because if a bass is simply gumming the worm and you snap your rod back in all sincerity, that bass is going to look up at the vanishing morsel and wonder "wha happen." And if you wait too long, he'll drop it and you'll be wondering the same thing. This is where the real challenge arises.

If this is minnow fishing, then those little bug-eyed fish I've been using for bait aren't minnows! It's ridiculous to even attempt to compare it with minnow fishing.

Sometimes a bass will inhale an artificial worm and then settle right on bottom. When the line tightens, you think you've snagged on a rock or some brush. Most worm specialists can usually distinguish between the feel of a rock and that of a bass regardless of what kind of signals he receives on his line. In any case, when in doubt, set that hook. If it's a tree limb or rock, chances are it will be jerked free. If it's old blackie, you have the hook planted neatly in his jaw. Nothing tears a fisherman up worse than to discover that the rock was alive and he just missed a good

Continued on Page 30



The author holds a stringer of bass typical of those caught on plastic worms. He fishes the worm very slowly and gives bass plenty of time to take it before setting hook.





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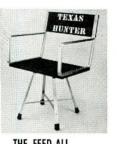
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What Others Are Doing

by JOAN PEARSALL

THE CRUELEST BLOW: While multiple use of land and water is advocated in Sweden, multiple use of animals is not always advisable. A fisherman was fined 25 kroner for flogging his wife with a live eel. The fine came under the "prevention of cruelty to animals" law.

ORIENTAL PIONEERS: One of the first test stockings of bamboo partridge in the United States was made recently, when 105 birds were released in the southeast part of Missouri, in an experiment to establish the exotic game bird there. A section of Missouri was chosen, in the same latitude as the birds' home range in Japan. The bamboo partridge originally came from China and was later transported to an area near Tokyo. Information from residents in Missouri who see the birds will help in determining the success of this bird in adapting to their new country.

MONIED MONICKER: Painted on the many yachts moored in a Florida port are the usual romantic names—Sea Sprite, Moonbeam, Wanderer, etc. However, the one that catches everyone's eye is a small, neat craft named simply: \$18,500.

REPRIEVE: A widespread appeal from the Audubon Society in Hawaii and the other states has succeeded in preserving Paiko Lagoon as a sanctuary for migratory and shore birds. Paiko Lagoon is within the city limits of Honolulu, and is in direct line of fire from commercial developers. After the campaign, the Conservation Council met and passed a resolution that Paiko Lagoon be turned over to the Hawaii State Dept. of Argiculture and Conservation and declared a sanctuary.

SHAGGY BEAVER STORIES: On the first day of the 1961 beaver season in Pennsylvania, two men were out at the starting hour and carefully set their traps. After a few unsucessful days, they removed their traps. The night after they pulled stakes, beavers visited every set and ate the discarded bait.

Another Pennsylvanian caught a 35-pound beaver and brought it home alive on the second day of the season. Having to leave for work, he locked the large fur-bearer in his garage. That evening he found the captive had chewed away the window sash, caused the pane to fall out, and made its escape.

NUTTY NETTER: A trout fisherman caught dip-netting fish from a raceway in Missouri pleaded insanity before the judge, who fined him \$75 and costs for his moment of madness. The violator told his friends that the fastest way to catch trout was with a dip net, proceeded to prove it, and caught eight before he was stopped. Besides the fine, the man spent one night in the county jail to sleep off an overdose of John Barleycorn.

AND SHE WASN'T EVEN TRY-ING: A 12-year-old setting a fish weight record (3 lb. 9½ oz. crappie) is reason enough to puncture the ego of most fishermen. To add insult to injury, the 12-year-old was a girl. She was fishing in an Arkansas stock pond, her bait a piece of salt meat. And, to top it, she was fishing for crawdads!

THAT JUST ABOUT COVERS IT: It's unlawful in Idaho to fish "with a seine, net, spear, snag hook, weir, fence, basket, trap, gill net or trammel net." Sportsmen were recently reminded that the law also bans the use of "any other contrivance (for fishing) except as provided by order of the State Fish and Game Commission." This means that all new-fangled contrivances such as fish callers and the like are illegal. To use them is a misdemeanor in Idaho. The same law also provides that "it shall be unlawful to fish for trout with or by the aid of artificial light."

If trouble develops, keep going downstream

Float Trip-

poured in. The water was drained out through the drain hole in the rear of the boat as it moved along. Then the motor stuck in reverse (this later proved to be an internal malfunction of the motor) and we had only one paddle. We had no food or water and we became "lost" on the map and weren't sure how much farther we had to go. Needless to say, after being overdue by several hours, the bridge was a welcome sight to two hungry men sitting in a boat half full of water.

If you think that's rough take the time we attempted to navigate the upper Angelina River near Rusk. It took eight hours to cover only six miles of river. Here we literally went over and through fallen tree tops. A stretch of open water 50 feet long was a welcome sight. Fortunately the pickup man sensed our trouble and found a trail and made his way upstream to meet us with the car and trailer. Again we were without food or water because this was only a "short hop."

Then there were minor inconveniences such as the time bolts holding the foot of our motor worked loose and we had no pliers or wrenches aboard. We had to paddle about four miles that time. Then, one time the throttle linkage broke on a stretch of deep, broad open river. A little first aid with a piece of string fixed that until a new piece could be installed that night. There have been innumerable sheared pins, fouled spark plugs and some broken propellers, until we switched to bronze props.

If you run into more trouble the only thing to do is to keep going downstream the best way possible because chances are very, very slim that



anyone else is going to come along to help you. And your buddy riding pickup is already waiting on you, provided he isn't stuck in the sand at the launch point (this has happened!).

From Page 13

Maybe float trips aren't so advisable after all. That's where the adventure lies; in the unexpected and in trying to outwit the powerful but seemingly peaceful forces of the river.

Lake o' Pines______From Page 22 water and the entire family sits around on the boat with short cane poles fishing for bream, goggle eyes, bass and crappie. It is not unusual to see stringers with all these fish. On the floating barges and even in the flat bottom boats most of the fishermen use wire baskets hanging over the side.

De luxe accommodations are available all around the lake at reasonable rates. The general area has a network of roads leading down to the water and many good places for unloading boats.

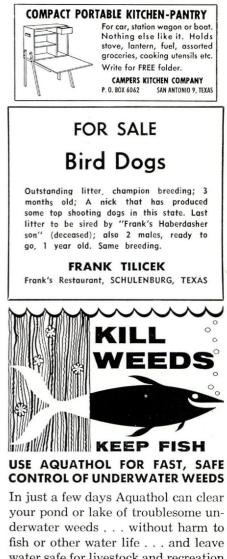
Plenty of rent boats and motors are available. However, it might be best to take along your own motor. If you just plan to fish a 3 or 5 horsepower motor is ample for the flat bottom boats.

Lake o' the Pines is more than a local recreational spot. It is a playground for many persons from the Fort Worth-Dallas-Waco area. Being close to towns like Tyler, Longview and Texarkana, it gets plenty of



nearby customers.

Whether you are a fisherman or not, it is an interesting place to visit. It is a paradise for bird lovers and anyone interested in unusual flowers and shrubs. Information about the lake can be obtained by writing the Chamber of Commerce in Jefferson or Daingerfield.



fish or other water life . . . and leave water safe for livestock and recreation uses. New Aquathol, developed exclusively by Pennsalt, is simple to apply . . economical to use. Available at your farm supply store or for information write Pennsalt Chemicals Corporation.

Bryan, Texas





by L. A. WILKE

GUNS

This Month: New Hand Gun Loads

SHORTLY AFTER WORLD WAR II there was a concerted move on the part of ammunition manufacturers to reduce the number of metallic cartridge calibers. They gave notice long in advance that many old cartridges would be discontinued. There seemed to be some effort on standardization of loads.

Now things are different. There is a mad scramble on to scramble calibers and almost every month something new comes out to touch the pocketbook of gun enthusiasts.

Perhaps the first big breakthrough came with the announcement of the .244 caliber by Remington and the .243 by Winchester. Ballistically there isn't a nickel's worth of difference. Both of them are wonderful hulls for white-tailed deer or antelope. Likewise both of them are destructive predator loads.

Then in the smaller calibers Winchester announced the .22 rim-fire magnum and it didn't even have a gun ready for it.

Now the race is on again. This time Winchester comes out with a .256 Winchester magnum, described as "the first significant development in center-fire pistol and revolver cartridges since the introduction of the .44 magnum in 1955. It is powerful fodder, with a muzzle velocity of 2200 FS in a pistol with an 8 inch barrel. It carries 650 pound knockdown, exceeded only by the .357 and the .44 magnums, and it is only a few pounds behind the .357 which is rated at 690 foot pounds. Colt already has a single action chambered for it, and Smith & Wesson and Ruger each have one in the making.

While Winchester still had its .256 under the cloak, Remington experts were busy. They came up with a .22 Remington "Jet" center-fire magnum, rated at 2460 FS in a handgun and Smith has announced a revolver to shoot it. Despite its increased speed, however, it only has 535 KD against the .256 with 650 KD.

The Remington has a 40 grain bullet against a 60 grain special soft point in the Winchester load. This extra 20 grains in bullet weight helps to add to the KD power of the slug.

The Winchester bullet will have a mid range of 1.3 inches at 100 yards against 1 inch in the Remington at 100 yards. So actually there isn't much difference in the accuracy.



Smith and Wesson Dual Cylinder



There is a difference in appearance, however. The Winchester load looks something like the old .25-20 caliber bullet, while the Remington cartridge is without a shoulder, appearing something like the Jet from which it gets its name.

Both of these loads will get a good workout at Camp Perry this summer and probably be in the hands of shooters everywhere by late summer.

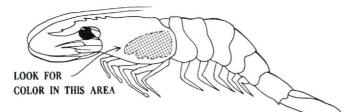
Winchester also announced a new .22 caliber short splatter load for gallery use. The company also has added a number of new shot sizes to some of its standard loads. For instance. No. 9 shot will be available now in all Expert-Ranger loads including 12, 16 and 20 gauges and the Expert-Ranger target loads in 12 gauge.

Then to make competition shooting more interesting two new .22 rim-fire cartridges have been announced. They will feature 40 grain match bullets and ball powder in nickelplated cases.

In designing a gun for the new .22 Remington Jet, Smith & Wesson also has increased the utility of the revolver so that it also can be used for shooting regular .22 LR and shorts. This is achieved by providing an insert sleeve for use in the cylinder. Unlike the .22WMR the bullet of the Jet is the same size of the conventional .22. Or, if you prefer, at a slight additional cost, you can get a cylinder for the dual-chambered gun.

Such an arrangement will permit plinking or basement target practice with the cheaper .22 ammunition, and at the same time have a heavier gun for varmint shooting. **

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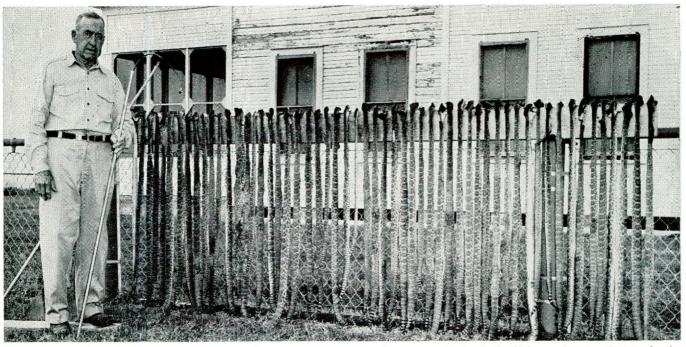
Chuck Krise, Houston, bagged this trophy pronghorn 22 miles west of Marfa in Presidio County during the last season. The horns are 141/4 inches and 145/8 inches outside curve. and 81/2 and 9 inches around at bases. He was using a 1917 Enfield, .30-06, sporterized, Weaver K-4 Scope, and 150 gr. handloaded ammo.





2-WAY SWIVEL SAVES FISH

ROUTE 4. BOX 90T SAN ANTONIO. TEXAS



One day's raid yielded these 56 Texas-size rattlers from dens along Sand Point, on the Matagorda Bay shore in Calhoun County. Harry C. Smith, owner of the Sand Point Ranch, said he felt there was an extra heavy concentration in the high area because of so much rainfall. He and his helper killed 96 rattlers before their three-day purge was done.

Hang on and don't lose your grip

fish by pulling it slowly out of its chompers.

Usually a bass will pick up a worm or eel by the tail and mouth it. When this happens you'll feel some rapid, but gentle, jerks on the line. Sometimes all you will see is a movement of the line where it enters the water. Never take your eyes off this spot. It'll tell you more about what is happening below than any other spot on the water, so watch it. Watch your rod tip as well. When the line begins to move off in an unusual direction, think about what you must do when he's hooked; let your rod tip move down nearly to the water, and jerk quickly. Hang on and don't loose your grip. Get that fish out of the trees, but fast!

If the fish drops the worm before you can hook it, toss the worm back and let it settle again, or if you haven't retrieved too much line, let it settle right where he turns it aloose. More than likely, you won't get another chance with the same fish, unless you toss in another lure that he might want, such as a black jig and pork eel.

The plastic worm or eel along with the jig and pork eel has been a hot lure in Texas lakes for a long time. As far as I know, the biggest bass caught in the state last year were caught on one or the other. But, they were caught by anglers who fished and studied the lures at least two days a week all year long. The tips written here should help you master the plastic lures. To explain all there is connected with them would require space equal to that of a novelette.

The time is ripe for plastic worms.

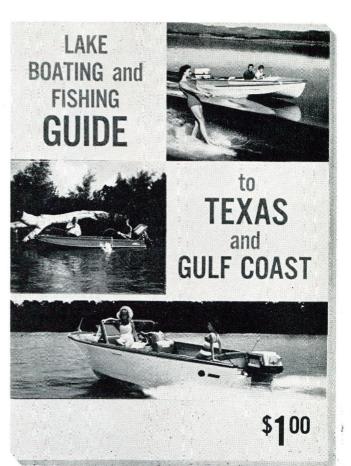
Tie one on and fish it! Hold on to the boat, because you may catch bigger fish than you have ever caught before. Make certain that you are always ready for an eight pounder. The very next cast may drop your lure right on a monster's nose. If so, get him in the boat and get out that camera. You'll be a plastics fisherman for life. **

- from Page 25



Plans for conservation education in public schools were discussed recently at a meeting in Tyler of Texas Advisory Committee on conservation education. This is an annual meeting to assist the Texas Education Agency in its program of conservation teaching. The group is made up of educators and workers in the field of water, oil, timber, game and fish and other allied subjects. In the group above Dr. George L. Fersh, second from left, is being presented a certificate as an honorary Texan, from Dr. George Donaldson, director of Camp Tyler, operated by the Tyler public schools. Standing at the left of Dr. Fersh is Dr. Lee Wilborn, assistant commissioner of education for the Texas Education Agency; in the center is John Wagner of the Mid-Continent Oil & Gas Assn. and at the extreme right is Dr. R. Carmichael, superintendent Bryan Schools.





A lake guide to boating and fishing has been published and now is on sale by a group of Texas newspapers. The booklet, prepared by Dwight Hunter Jr., Dallas public relations man, lists all the principal waterways in the state and tells what facilities are available. The book will sell for \$1 each and can be obtained only from the larger daily newspapers.

John Lehman, of Lehman's Rabbit and Worm Farm, 5418 Montview Street, Austin, killed these two bobcats within 15 minutes of each other in Bastrop County. He was using a .30-30 with scope.

Have You Heard?

Not all crows are black. The Clark's crow, named after the explorer of the Lewis and Clark expedition, is a gray and white bird, with black trimmings.

* *

The starfish eats oysters in the shell. It pulls the bivalve open with its suction tentacles, then turns its own stomach inside out to digest the treat.



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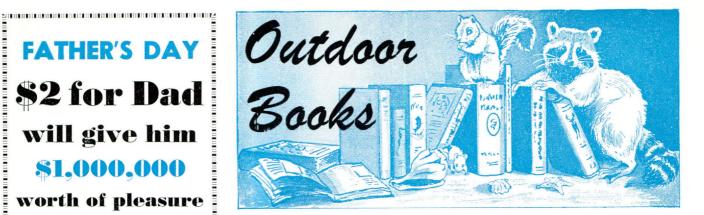


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GARDENING WITHOUT WORK by Ruth Stout. Black and white line drawings by Nan Stone. 214 pages, with index. Published by The Devin-Adair Company, 23 East 26th Street, New York 10, N. Y. Price \$3.95.

It is rather unusual to find a book on gardening that you just "can't put down." In the first place, the dust jacket of GARDENING WITHOUT WORK is so attractive you must pick it up. The illustration of a gardener reclining in a wheelbarrow, hat over one eye, a flower in one hand, and the caption "For the Aging, the Busy and the Indolent," are intriguing, and the added words "No plowing-no hoeing-no cultivating-no weeding-no watering—no spraying" compel one to look inside.

The reader soon finds that these claims are made in earnest; that this book has a real message and a great deal of helpful advice. To obtain choice, delicious fruits and vegetables, Ruth Stout advocates just four steps, mulching, planting, thinning and harvesting. A minimum of time and





Howard S. Irwin

ROADSIDE FLOWERS OF TEXAS: Paintings by Mary Motz Wills and text by Howard S. Irwin. 296 pages with 64 pages of color prints. Published by University of Texas Press, Austin. Price \$5.75.

Lovers of the Texas outdoors will find in this book, Roadside Flowers of Texas, one of the most complete works of its kind ever published. It looks like the roadside in the spring, with so many beautiful color plates of blooming flowers.

The book was built around the remark-

effort is needed, and all other gardening chores are done away with.

All this is told with good humor and an entertaining style, whether it is on "potatoes in the iris bed and onions in the hay," tips on serving the vegetables, or about the course the author gave some children on mulch-gardening. She was hard put to find enough for them to do after the few necessary tasks, so they filled in the class time eating the raw vegetables they'd produced, swimming, swinging, and lving under a tree.

Mrs. Stout does not write like a crank; indeed she sounds a most tolerant and very relaxed person. Her down to earth philosophy starts the reader on trains of thought beyond those of gardening alone. This is a fascinating book for experts and confirmed non-gardeners. Even the latter will find it hard to resist the urge to go out and try the Stout system for themselves.



Mary Motz Wills

able water colors of Mrs. Mary Motz Wills of Abilene. She has produced more than 2,000 paintings of Texas wildflowers. Plates for the book were selected by botanists from a tremendous collection of her work on display at the Texas Memorial Museum of Austin and the Witte Museum in San Antonio.

Text for the book was provided by Howard S. Irwin, formerly of the University of Texas department of Botany. He now is on the staff of the New York Botanical Garden.

In addition to the beautiful color plates each flower is listed with its more prevalent common names and the distinctive features are described.

In all there are 257 species depicted in the book. They include nearly all the widely distributed common plants usually seen along the roadway.

Publication of the book was made possible through the Elma Dill Russell Spencer Foundation series. This series was established by Mrs. Richard French Spencer of San Antonio in tribute to her father, the late Richard Robert Russell of Menard.



Do You Know the Names? by CAROLYN MCWILLIAMS

Often we use words without knowing their exact meanings or without thinking of how those words became words; so it is with the names of mammals, birds, and insects.

For instance, how many times has your picnic party been crashed by an army of ants? Probably no picnic has been free of them. Yet, do you know where these tiny creatures got their name?

Centuries ago, Britans noticed how the industrious little insects were able to cut hard objects such as grass seeds, so they called them *aemetes*, meaning "the cutters." During the middle English period, the word became *amte*, *emmet*, and even *emmote*, until at some time around 1600, the word was shortened to ant.

Another word of medieval English descent is *cobweb*. Its origin comes from the commonplace nuisance of persons running into the spider's silk and having it stick to their heads as they tried to pull free. The English used their word *coppe*, meaning head; and *web*, meaning net, to form *coppeweb* for the name of the spider's trap. Over years of use, the spelling has been changed and shortened to the present "cobweb."

The state bird of Louisiana, the pelican, got its name from another bird. Over



Has your grandpa lost his lower plate? If so, he should check with Mr. Oyster at the Marine Lab in Seabrook. This plate came up in a net from the bottom of the Gulf. It had evidently been lost overboard by some hapless fisherman, to become a part of an oyster reef. Now that makes some fish story! 2500 years ago, men noticed birds that pecked holes in wood, and named them *pelekons*, from the Greek word for "ax," *pelekys*. Years later, as references to the pelekon began appearing in literature, English readers, not knowing what the bird looked like, and not realizing the root word for which it had been named, decided that perhaps a strange looking, big-billed bird they saw along the coast could be the pelekan. Once so named, the pelican never lost its identity even though its beak does not resemble an ax.

The modern word "crawfish" comes originally from the old Germanic word *krebiz*, which meant "crab." The word entered the English language via Old French, and the name was modified to *crevisse*. The only kind of crevisse that the British knew were small lobster-like things that lived in rivers and streams, and the original meaning of the name was forgotten. Through the years the pronunciation of the word changed to crayfish and finally to the modern "crawfish."

The red_breasted robin's name also is of English descent. Early Normans called young men in love "Robert" or "Robin." When they took the name with them into Britain, they noticed a bird which was almost human in its love-making, so they applied the name "robin" to the species. Finding no European robin red-breast in America, they gave its name to the larger red-breasted thrush.

One of the most delightful stories concerning the origin of an animal's name is that of the squirrel. Long ago in a hot climate, natives were intrigued with the rodent that carried its own built-in parasol, so they named it *skiuros*, which means roughly "shady tail." The name, as most other words, was corrupted by use, thus becoming "squirrel."

The praying mantis is still subject to a number of legends, including the story that it can blind a person by spitting in his eyes. The odd, rather large, insect was thought by early Greeks to have supernatural power, so they called it *mantis* meaning "prophet." Fortune-tellers cited the insect as their authority for predictions. Later man's interests shifted to the strange manner in which the mantis held its forelegs, supposedly like the hands of a person praying.

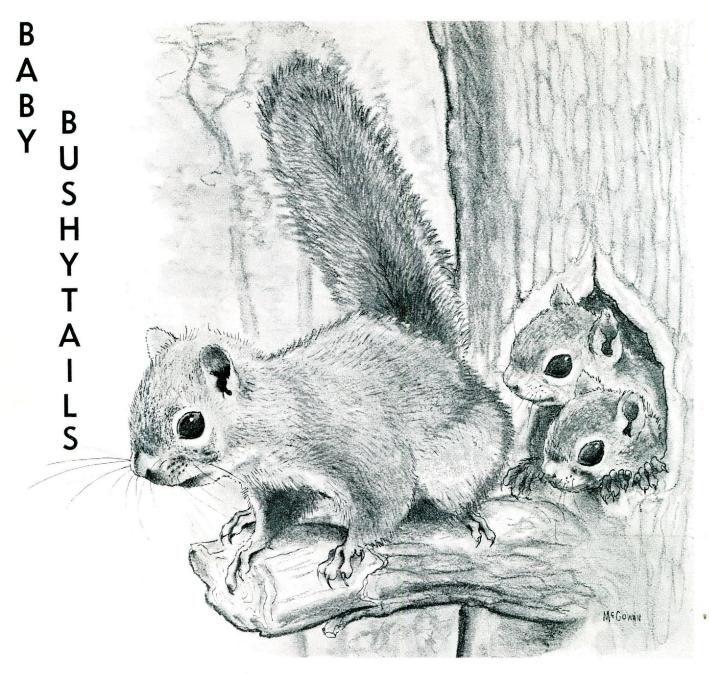
The badger's name comes from the French word *bageard*, meaning "one with a badge." Supposedly this name comes from the black-and-white vertical markings on the badger's head.

Tortus, the Latin word meaning "crooked," is the root for the name of the tortoise.

These are only a few of the stories related to the naming of animals. How many of these have you seen? Could you have guessed the reasons for their names?



Meet James Allen Terrazas, 7-year-old San Antonio hunter, who bagged this doe on the Udo Lieck ranch last season. James Allen is the son of Mr. and Mrs. Rudolph Terrazas. The deer dressed out at 69 pounds, a fine trophy for a 7-year-old's first hunt. Congratulations, James Allen, we are glad to elect you Junior Sportsman of the Month.



At birth, young squirrels are blind and nearly naked, and helpless. They develop rather slowly. Their eyes open five weeks after birth, and they begin to climb over the nest tree at 7 or 8 weeks and venture to the ground at age 10 weeks. When they are three months old they begin to lead a more or less independent existence. They remain in family groups a month or so after they begin foraging for themselves. When about six months old they are nearly adult in size and have dispersed from home territory.

