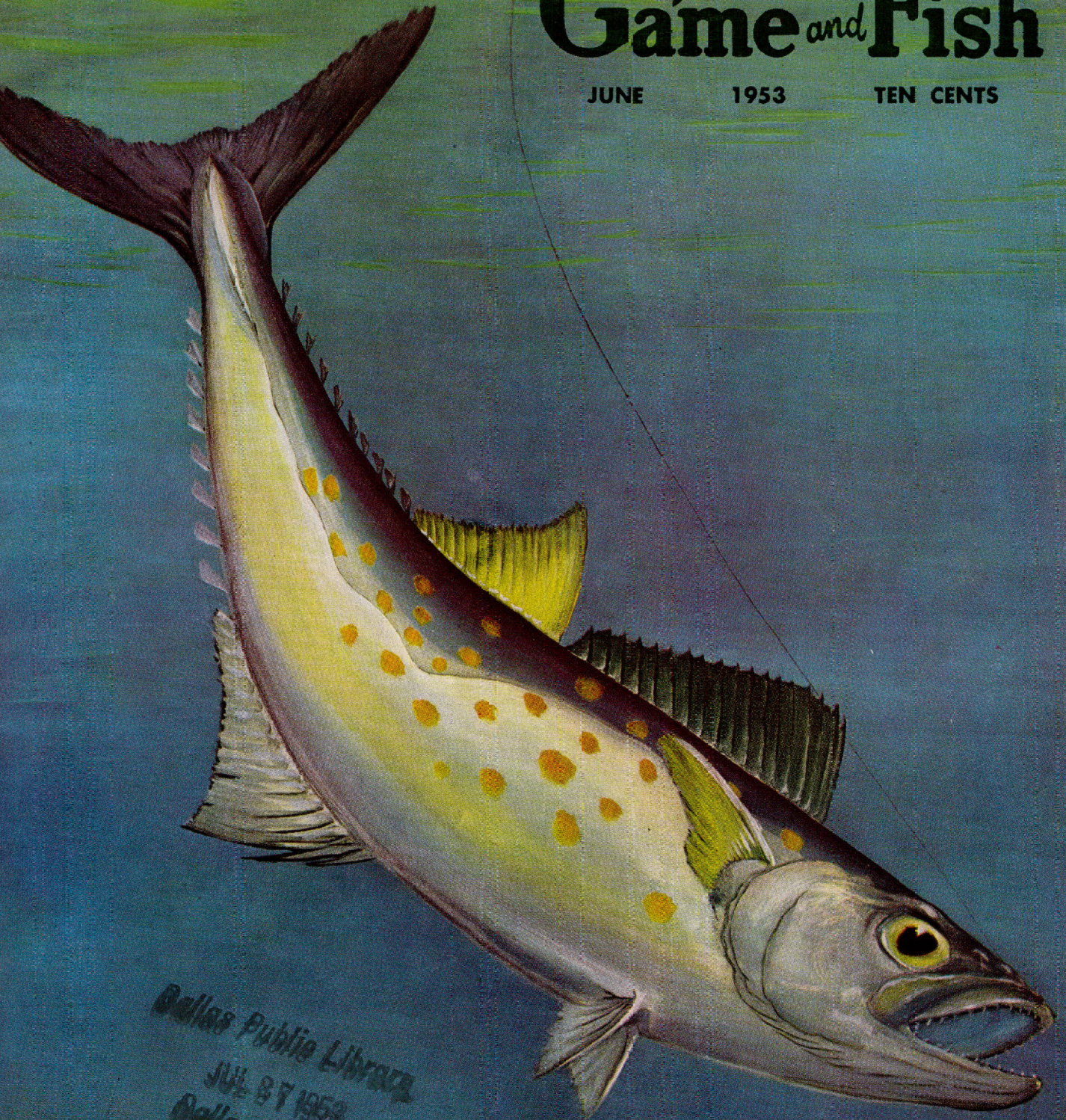


# Texas Game and Fish

JUNE

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**This photo by Bill Thompson of the Paris NEWS, tells its own story.  
For who could say more than does the picture, itself?**



# Texas Game and Fish

A MONTHLY MAGAZINE DEVOTED TO THE PROTECTION AND CONSERVATION OF OUR NATIVE GAME AND FISH; AND TO THE IMPROVEMENT OF HUNTING AND FISHING IN TEXAS.

June, 1953

Vol. XI, No. 7

★  
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## ★ In This Issue ★

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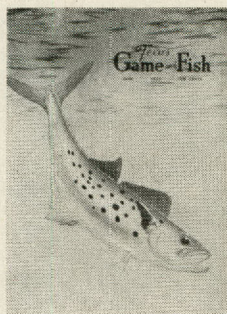
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TEXAS GAME AND FISH invites republication of material since the articles and other data comprise factual reports on wildlife and other phases of conservation. Credit line appreciated.

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★  
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### The Cover

The fisherman doesn't often catch "a" Spanish mackerel, for when the schools arrive on the Gulf Coast they hit trolling or casting lures en masse. This gamester, a welcome dish on the table, was painted for this month's cover by Sidney A. Wooldridge. The colored splendor of the Spanish mackerel is a fleeting thing, which fades rapidly out of water.



# Lookin' In on the Outdoors

With Townsend Miller, Editor

Last month, for the benefit of those who weren't able to attend one of Texas' sports shows this spring, we started telling of some of the highlights in new tackle and hunting gear. But we ran out of space.

We promised some more, and here it is. If we didn't like a certain item we saw, we just won't mention it. If we liked it, we'll tell about it. We can say what we please, because we aren't obligated to try to please any advertiser. A lot of the items mentioned, we have tried ourselves to be sure.

Texas' own Bomber Bait Co., has added another hit to its wide variety of fine lures. This is the Gimmick, a feather-spinner combination for casting or spinning. The bodies and feathered streamers come in a wide range of color combinations, and streamers can be varied to suit the fisherman's fancy.

Not much publicity has been given to the Topwater Bomber, but this is another relative newcomer that is proving its worth. It's a torpedo-

shaped lure with a single spinner at the back. We have a black one that we retired from service—after having caught more black bass on it than any single lure we ever used!

There's a lure for every purpose in the expanding Bomber line now, and our tackle box is loaded with them for one reason only—they all catch fish!

## New Boats

The Lone Star Boat Manufacturing Co., another Texas institution, has made quite a name for itself with aluminum boats since the war. At the sports shows this year they exhibited a couple of fiberglass boats which have been added to the line. The Ranger sells at \$398 and the larger Texan at \$495.

Norman Roberts and Ed Bishop also seemed mighty proud of Lone Star's new 21-foot all-aluminum cruiser for outboard motors. It's called the Flagship, has eating and sleeping accommodations, and they claim it

will keep going in one foot of water.

And going from the biggest to the littlest, the two lightweights of the Lone Star line make fine car-top boats. The flat-bottomed Donna Rhea weighs just 98 pounds and is priced at \$156. The semi-V-bottomed Sports-ter checks in at 122 pounds for \$249.50. Both are 12-footers and we know from actual experience that they can be handled from a car top by two men.

Ashaway makes a bid this year to settle the old argument about which is the best spinning line, monofilament or braided line. This company has combined the best qualities of both in its new "L. R.'s" spinning line. It's a braided nylon line, but somehow is processed to fuse the braids together after it is woven. It's all too complicated for us to savvy, but for our money the finished product is really something.

Ashaway also was making much ado about their display of the new line of Ted Williams autographed glass rods. There's one for just about every purpose—all super top quality stuff.

Elmore Finch was showing two models of Langley reels which have a "Gear Box Control," which means that by loosening just two screws the gears come out for cleaning or lubrication. This feature is on the Lake-cast and Plugcast models. Then, of course, there were the other Langley reels in a complete price range, topped by the fast, super-light Lurecast, all featuring Langley's Anti-Inertia spools.

This is the company for which Dick Miller, widely known casting champion and fisherman, does the designing, and he was on hand at the Dallas show, too. You can see how he puts the real "fisherman's touch" in the design of every Langley rod or reel.

Finch now is distributing the little Hot Shot lures, also. That's the one with the big pelican-like beak which is gaining popularity so rapidly in Texas. Maybe you didn't know that it is available all the way down to fly rod size. We didn't.

Now, here are a couple of items we can recommend completely—and they can't cost you more than a three-cent stamp. We're talking about the two free booklets—in a very real sense

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books—published by Horrocks-Ibbotson, Utica, N. Y. If you haven't seen these, don't hesitate a minute about writing for them. One, called "Fishing for the Millions," is about freshwater fishing, and the other, "Salt-Water Sports Fishing," is about coastal fishing. You could spend several dollars and not find a book with any more good solid fishing information than these two.

For some strange reason, Horrocks-Ibbotson tackle has never had the wide popularity in Texas that it enjoys in the East and West. Yet we know of no better solid glass rod in the low-price field, and this company also makes some mighty nice tubular glass rods in the lower and medium-price field.

That man-about-everything that has anything to do with hunting and fishing, Art Graham, had his usual big display at the Dallas show. For our money, he had a real hit in the Staro spinning reel, a new import from Switzerland. We've tried at least a dozen of the scores of spinning reels on the market, yet this one stands out. It has a full bale automatic line pick-up and the neatest visible graduated drag adjustment (a great aid in playing fish) that we've seen. The Staro comes with two easily-attached heads, one for standard fresh-water fishing and the other large enough for heavier salt-water angling. This combination sells for \$39.95, or you can buy the reel with either of the single heads for \$32.95.

### For the Hunter

Attention ARCHERS! Graham also was attracting a lot of attention with Paul Bunyon's new glass fiber bow. It's many fine features tell why. The bow is unaffected by temperature or humidity, can be shot in extremely cold weather, and can be left braced without warping or setting. It is lighter than metal or even wood. The length is five feet four inches and the archer may select a bow with from 25 to 70 pounds pull, depending upon his needs. The price is \$29.50.

Of Course Graham was showing off the Lohman game calls, too. Their quality is so well known that there seems to be no need to point out their good features here. We might remind our readers, however, that they carry

a service guarantee that has no strings attached. Anytime a Lohman call fails to work properly, no matter what put it out of commission, the home office will put it back in first class condition for a small service charge. The Lohman line includes calls for ducks, crows, geese, squirrels, and turkey.

We'll get back to fishing tackle in a minute, but before we leave hunting, we think the shooting glasses manufactured by Bausch and Lomb are worthy of mention. Most of you probably know about B. and L.'s Ray-Ban shooting glasses, but Howard Elms showed us another model we weren't familiar with. These glasses are fitted with Kalichrome lenses. They are designed to filter out haze, increasing the contrast between light and dark areas on dark hazy days, thus bringing a target into sharper view. They sell for \$20, two bucks more than the Ray-Bans. You can have either ground to the same prescription as your regular glasses, if you wish, at your optician's.

Bausch and Lomb also has a new 60 mm spotting scope. Even the manufacturers have been surprised at its popular acceptance, particularly among bird enthusiasts. It can be had in any power ranging from 15 to 60. Take your choice for \$95, exclusive of tripod. Buy the scope, and you can get extra eyepieces for the other powers at \$25 each.

Now, back to fishing tackle. Everyone was talking of the new "floating" fly lines. One standout, in our opinion, was the Cortland "333." The "333" is what they call their special bonded finish, which goes on a nylon base. We haven't had time to use ours quite long enough to want to say it is perfect, but if it isn't we haven't found the flaw. We will say definitely that it floats and that it's really TOUGH. It comes in level, double taper, or shooting taper.

Remember Bryant Black, who was mentioned as one of Texas' outstanding amateur tournament casters in a TEXAS GAME AND FISH article a year ago? Well, Bryant cleaned up everything in sight at the national tournament last fall and now is with Bill Moore and the Heddon company. A lot of you probably have seen him giving casting exhibitions around the state since he turned pro last winter. Anyway, we had a chance to renew

our friendship with Bryant, while he, naturally, told us about Heddon's many new products.

Topping the list are the many new hollow glass rods—23 new models to be exact. They include various rods for casting, spinning, and fly fishing, plus a line of salt-water rods designed especially to meet standard classified tackle specifications. The latter really IS an idea!

Heddon also has added a one-fifth ounce Tadpolly called the Tiny Tad, this one following the introduction of its big brother last year.

### Salt-Water Mitchell

Our old friend, Cotton Loyd, also had his big spread of tackle from various companies on hand. The thing that caught our eye first, though, was the new Mitchell salt-water spinning reel, big brother to the famous fresh-water Mitchell. It has all the great features of the regular Mitchell, plus a couple more. In the first place its capacity is upped to 300 yards of 14-pound monofilament and the handle has a standard salt-water knob. Then, too, it has what are called Planamatic gears, which combine the two methods of spooling line onto the reel (cross wind and level wind). This spools the line evenly, yet eliminates the tendency of the spooled line to bite into itself under pressure. It's priced to sell at under \$40, if you're lucky enough to find one.

Of course Cotton also had his Conolon rods on display, and this company, after pioneering in the hollow glass field, has kept pace with its tip-action, re-inforced butt casting rods and this year's fine line of salt-water popping rods. Cotton still finds demand good for Conolon hollow glass blanks for making up your own casting, spinning or salt-water rods.

To go along with these, Cotton had the Whopper-Stopper Bait Co.'s new "Lizard," a tantalizing plug that looks like a small frozen reptile, and all the Rainbow brand of lines, which, incidentally is just as complete an assortment as that of any line company.

Frankly, we never get tired of looking at fishing tackle or hunting gear, or of talking about it, or of writing about it. But we can't go on forever. We'll try to spot a few more headliners for next month, if you're interested.



# The Mysterious Case of the

## Giant Fresh-Water What-Is-It

Staff photos  
by Clyde Graham

THE surprise element, probably more pronounced in fishing in Texas than in any other state, recently cost an unidentified woman a bad scare. The scare, in turn, cost her a fine feast.

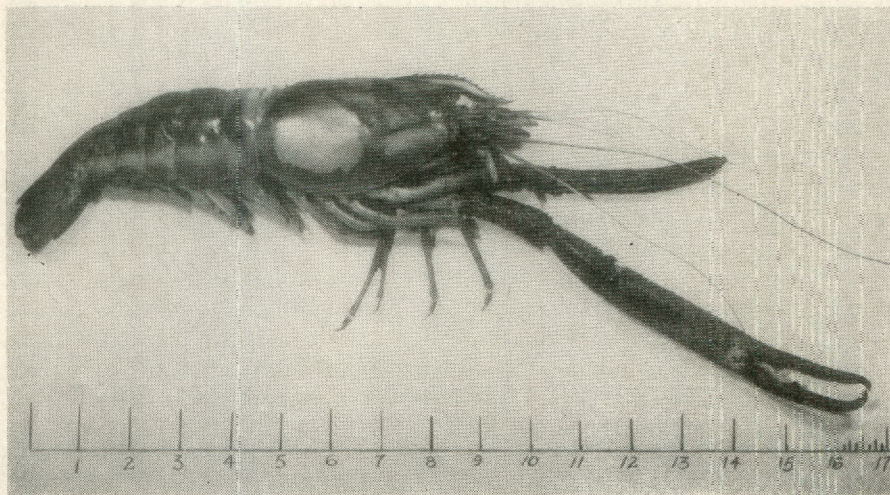
The woman was fishing in the Colorado River near the Austin business district. She was using an ordinary casting outfit baited with shrimp, and the idea was to hook a mess of catfish. Something seized her baited hook, she reeled in the culprit, and began screaming.

Since, most everything has happened in that area, which once was a hobo jungle, a delegation of workmen from the nearby City Power Plant raced to the rescue. They hustled all the way because the female screams not only continued but increased in volume.

Jack McGlamery, who led the volunteer emergency detail, said when he arrived at water's edge, the woman had turned over her entire outfit to what was crawling along the bank. The foot-and-a-half-long "what" was trying just as hard to let go of the hook as the woman was to obtain succor.

The aquatic denizen puzzled the men, that is as to its

It came from the Colorado River near Austin, was caught on pole and line by a fisherman, and measured 17 inches long from tail to claw tip.



McGlamery and stranger.

identity. But they subdued it and suggested the woman might want it as a souvenir. The angler gave them that "am-I-crazy" look and departed for safer grounds.

McGlamery, being a fisherman of note out on Lake Austin's shores, preserved the specimen, and it wound up on the desk of Marion Toole, Chief Aquatic Biologist of the Game and Fish Commission. He promptly put all "what-is-it" tags aside and labeled the thing as a tropical shrimp.

"Not so rare in fresh water," he observed, "but rather rare to be caught. That is they occur in fresh water in some areas but anglers seldom catch them."

This one had seized the shrimp bait with one of its pincers; in fact, with the longer of two. The shorter pincer apparently had grown out after having been broken off in some subterranean conflict or other.

Toole stressed that somebody lost out on a delicious morsel in not eating the tropical shrimp. He said their tails are cooked precisely like lobster tails and, with the standard treatment of melted butter and lemon juice, become an epicurean's delight.

In one photo McGlamery holds the shrimp alongside a ruler. The other better indicates the difference in size of its prongs.—Jay Vessels.



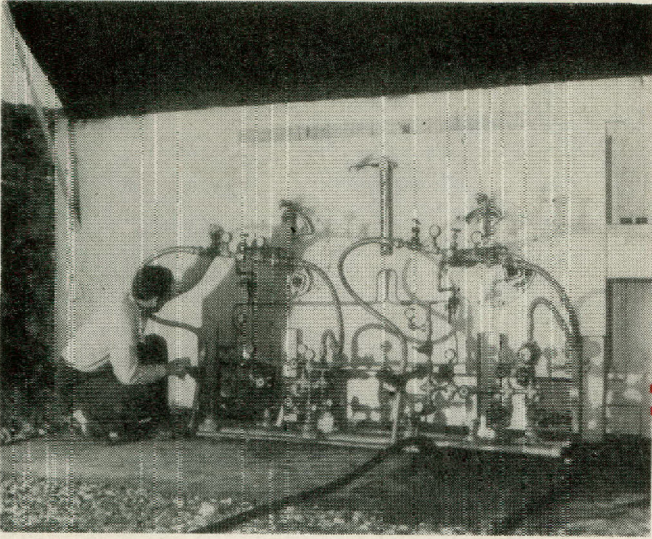
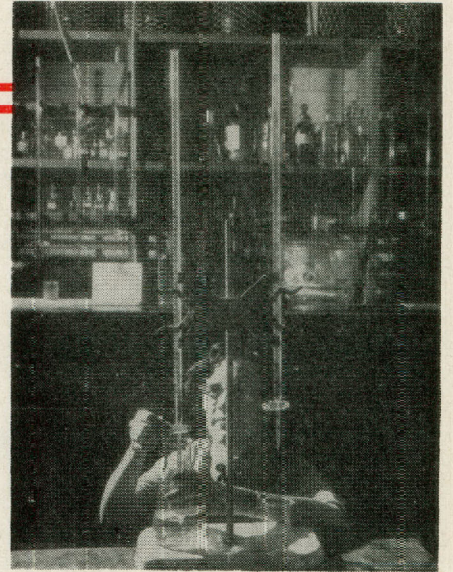


Photo: from the Galveston News



## Texas City

# Industry Fights

# POLLUTION

The Galveston News tells how one community is fighting to keep the bays free of industrial pollution.

**I**NDUSTRIES in Texas City have spent more than \$5,000,000 to keep the waters of Galveston Bay clean.

This was revealed recently in the release of a combined report by officials of the big mainland industries.

In the past a fisherman coming home without a catch in Galveston Bay waters has blamed industrial pollution for his empty string.

Today, however, Texas City Dike fishing camp operators report catches are bigger and better than ever.

Take H. L. (Shorty) Cain, for instance, who operates a fishing pier.

"I started in the fishing camp business back in 1947," he said. "Fishing was pretty bad in the bay then. For the past year or so, however, fishing has picked up considerably. More fish are being caught, and they are in better shape, and I have less trouble now keeping bait shrimp alive than at any time I have operated the Pier."

Texas City industries report the expenditure of mil-

lions of dollars since the end of World War II in the fight against bay pollution. And the fight has been successful to a marked degree, the officials claim. Although industrial production has more than doubled, the pollution load has been cut by two-thirds, they assert.

The net result is that fish and oysters in bay waters are living and multiplying, much to satisfaction of the Game and Fish Commission and to the thousands of sportsmen who fish for recreation.

But the situation wasn't always as happy. Industrial pollution was definitely hurting marine life in certain small areas in the bay.

Before the war, industries had carried out the normal program for treating waste water before it entered the bay. As far back as 1932, Republic Oil Refining Company realized the problem of pollution and installed its first oil trap adjacent to its two original units.

Pan American provided for clarification of waste water

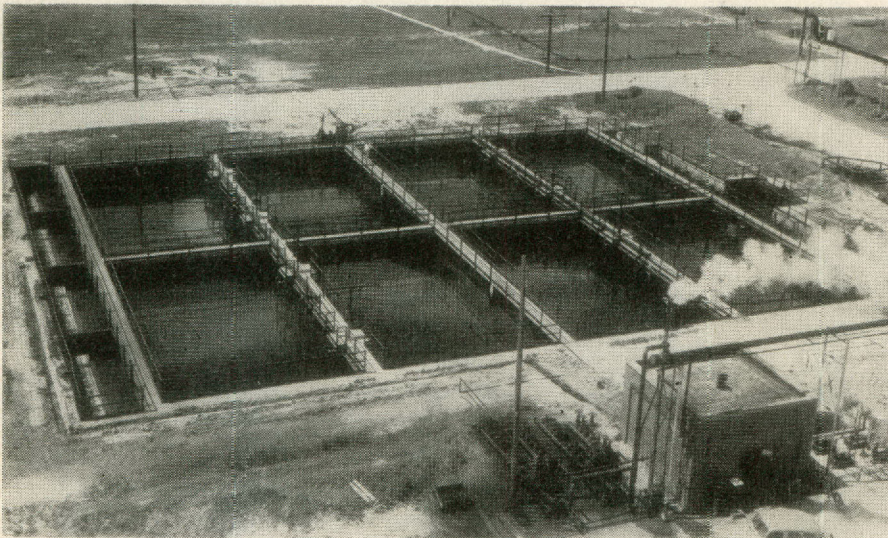


# Pollution Control

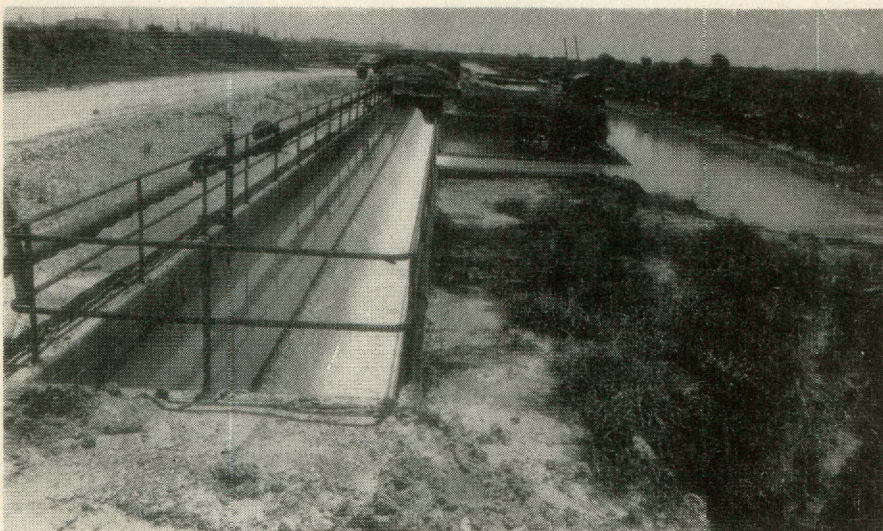
Control of polluting industrial waste often is a complicated—and expensive—job. Giant incinerators and laboratories, like those of Carbide and Carbon Chemicals Co. shown on the preceding page, fit into the picture along with settling basins and treating units. Many industries are cooperating with the Game and Fish Commission along the lines shown in the following series of pictures.



**1.** Samples of waste are taken from individual units before treatment and analyzed in the laboratory to determine what needs to be done before the waste is released. Sources of the worst pollution can be checked daily in this way. Pictured is J. E. Murray, Jr., engineer for Carbide Chemicals.



**2.** Next step is to remove the polluting elements. One system used by the Pan American Refinery is this huge gravity separator, designed to remove oil and sediment from the refinery water system.



**3.** Pan American waste water, free of pollution after undergoing a series of treatments, reenters the bay through this outlet. Disposal of wastes varies. Some industries reuse "waste" material; other waste is burned or neutralized before being released.

—continued from preceding page

from processing units in its original construction plans in 1933.

Then came the war—and brought with it a constant demand for more and more petroleum and chemical products. At the same time shortages of manpower and materials prevented expansion of anti-pollution facilities.

The existing waste disposal plants couldn't handle the increased flow, with the result that organic material was swept into the bay. Certain areas of the water became unsuitable for supporting marine life.

During the war, officials of the State Game and Fish Commission kept close check on the condition of the water. They went to the industries and complained. When the situation was explained to them, they were patient as long as the emergency existed.

But when the war ended and controls on materials and manpower were relaxed, the game wardens came back. They wanted to make sure that industry had acted in good faith and would make good on its promises to clean up the pollution problem.

To make sure that the projects were not pushed in the background by postwar expansion of production units, the commission assessed several fines early in 1946.

Waste materials from Pan American Refining Corporation and Carbide and Carbon Chemicals Company are collected in a ditch that enters the bay south of the tanker docks in



Texas City. Monsanto's treated wastes go into the bay from the edge of their plant.

At Texas City Refining, Inc., waste water is pumped through a main oil recovery separator at the plant to prevent waste material from going into the bay. Although these facilities make Texas City Refining independent from the standpoint of water pollution, the waste water is joined with wastes from Republic and other refineries and the combination stream is again treated before discharge into the bay.

Tin Processing Corporation's wastes were impounded in ponds covering a hundred acres of ground, but are now treated in a three-million-dollar plant before release into Swan Lake. This plant will also treat the solutions accumulated in former years.

In 1948 reports from fishermen indicated that their shrimp bait died quickly when they were carried near the area where the waste water enters the bay. This indicated to the Game and Fish Commission that the water was deficient in oxygen.

The technical name for this combination is Biochemical Oxygen Demand.

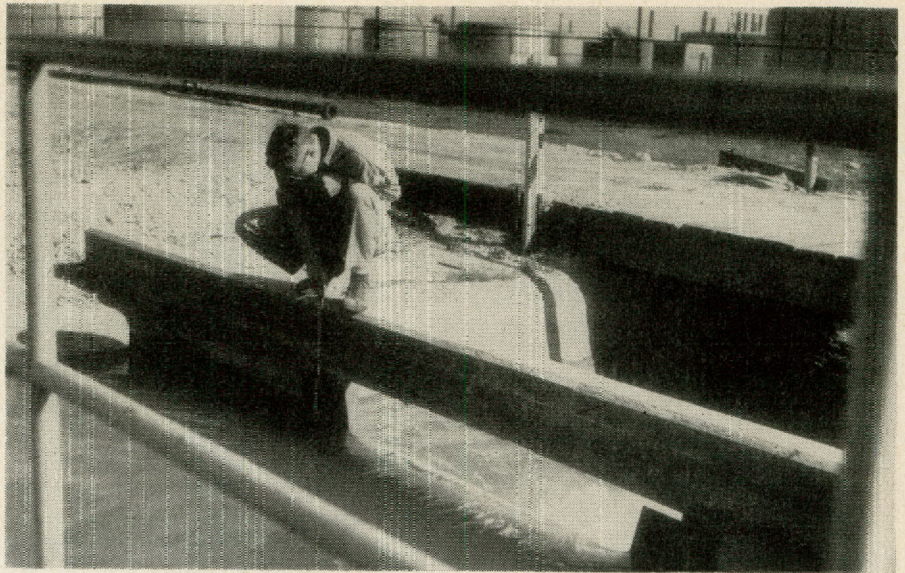
It was found that oxidation of organic waste by natural marine microorganisms consumed the oxygen in the water. If dissolved oxygen in water drops below three parts per million most marine life cannot survive.

As H. E. Faubion, former assistant executive secretary of the Game and Fish Commission said, "At that level the reproductive processes of fish are disturbed, and without reproduction marine life disappears."

It was clear that a comprehensive program of waste water study, reduction, and treatment was called for. The fight was on against all pollution characteristics—Biochemical Oxygen Demand, acidity, suspended matter, and oils.

To inaugurate the program in 1946, conferences were held, attended by officials of the Game and Fish Commission and representatives of industries.

A general plan was laid out. It included a survey to be made in the plants of waste water, a systematic sampling scheme for the bay waters,



4. Checks are kept on the condition of water as it returns to its source after treatment. This is a further safeguard against polluting materials entering the bay.



5. As a final precaution, Carbide Chemical takes periodic samples at various points in the bay. Shown testing for possible pollution are Ed Bohoslav and Jim Murray.

temporary "stop-gap" measures to cut down on pollution, and development of permanent methods of treating plant wastes.

The industries went to work on the problem. Monsanto studied the problem of toxicity of their wastes. Their own research engineers set up a program and the biology department of the University of Houston embarked upon an examination of the effects of styrene wastes on marine life.

Carbide and Carbon Chemicals Company assigned three engineers, and three chemists to full-time duty

carrying out the plan of action. Also, Dr. C. H. Connell of the University of Texas Medical School joined in advising the company in the fight for pollution abatement.

Tin Processing bought a hundred acres of ground near their plant and began construction of cikes—creating huge ponds to impound water containing harmful iron and acidic compounds until the treatment plant could be built.

Republic, which had fought pollution effects since 1932, redoubled its efforts to devise an effective waste



product control with a system of oil traps and storage basins.

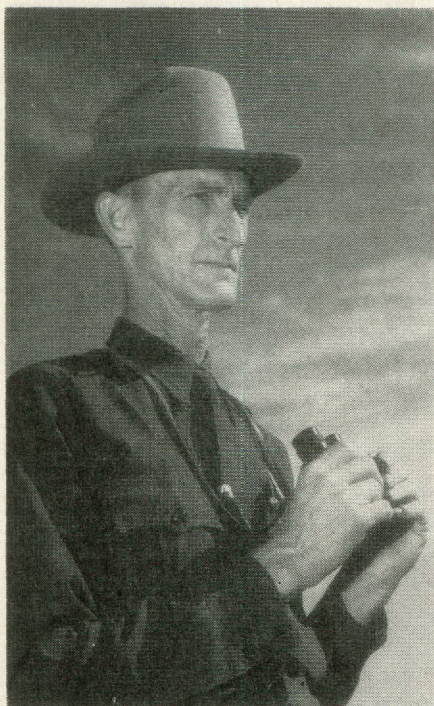
Pan Am, which had already spent upwards of two million dollars in waste disposal facilities since the plant was built in 1933, engaged the services of Sheppard T. Powell, nationally-known waste water consultant.

Texas City Refining started a program of construction of additional oil traps and separators, costing thousands of dollars.

In one plant a major recovery unit costing over \$300,000, was designed and engineered. The unit not only eliminated contamination from the waste water but worked to advantage in the production scheme. Material that used to go down the drain is now recovered as salable chemicals and at the same time is kept from getting into and contaminating the bay water.

Pollution graphs showed a considerable drop in pollution load after the recovery unit went into operation.

Sampling work went on in the plants, uncovering valuable data to be used by the anti-pollution crewmen, but this gave little information about the fish in the bay.



*Galveston News photo.*

In the original article, the *Galveston News* credited Warden R. Z. Finchum, Galveston, as playing a leading part in the campaign for cleaner bays. Finchum specializes in pollution problems.

Monsanto installed fish traps near the point of discharge of their wastes into the bay. They caught live fish of many different species, and all were found to be in excellent condition. This bore out the results of the University of Houston survey which showed that operational wastes had little or no effect on marine life.

Carbide also engaged in extensive research of the bay water itself. Engineers made periodic boat trips in the bay to sample the water. The idea was to determine the amounts and locations of areas of pollution. A total of 58 trips were made in a three-year period.

Samples of water were taken at carefully charted spots, and the resulting data was compiled into meaningful reports. They found that the anti-pollution measures put into effect had considerably lowered the degree of pollution.

Tin Processing checks its drainage ditch daily and the bay waters near the ditch weekly.

One of the best indications of improvement was the harvesting of oysters. In 1950 only slightly over 250 gallons of oysters were harvested in Galveston water areas. Last year 40,000 bushels of oysters were taken out.

One of the temporary "stop-gap" measures used after the war proved so effective that it became a permanent part of the treatment process. That was chlorination. Chlorine kills bacteria, both pathogens and natural soil bacteria. When the disposal system at Carbide was improved in 1952, construction included an efficient and large-scale chlorination plant.

At the present time most of the plants have constructed the necessary anti-pollution equipment and have set up operating procedures. Some of the equipment is elaborate.

At Pan Am automatic sampling equipment has been installed to collect around-the-clock samples of the total waste water before it leaves the refinery property. Changes in conditions become apparent quickly.

Texas City Refining is continuing in the pollution abatement program and at present is installing additional oil traps and separators at the cost of thousands of dollars.

The problems of disposing of large quantities of chemical and refinery

wastes makes up a relatively new field, without a well-established precedent. Engineers have had to feel their way along, learning all the while.

Briefly, the major features of pollution control program can be boiled down into six parts:

1. Control and daily inspection of the disposal system.

2. Constant control of chemical and oil losses from processing units.

3. Daily chemical examination of the final waste water stream.

4. Regularly scheduled cleaning and maintenance of disposal facilities.

5. Research projects to find new and improved methods of waste handling.

6. Construction of new facilities as research demands.

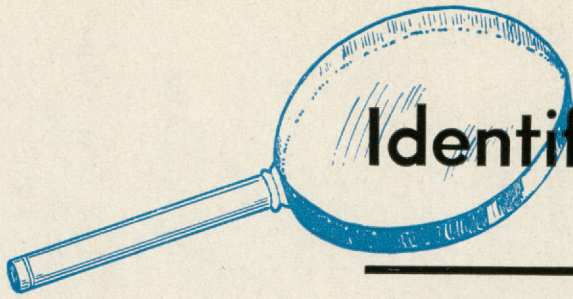
In all, Texas City industry has spent about five-and-a-third million dollars to keep the bay waters clean. All this has been done in cooperation with the Texas State Public Health Department and the Game and Fish Commission.

Information about the bay has been made available to industry by R. Z. Finchum, regional Game and Fish representative. Industry officials have visited the Commission's Marine Laboratory at Rockport and have made several trips out of Rockport to study marine life. The health department analyzes all industrial bacterial samples at the County Health unit in La Marque.

From the standpoint of economics, anti-pollution is not considered a profitable business for industry. The recovery of waste oil and chemicals from the outgoing streams, however, does compensate for the cost of the waste water pollution control program, and eliminates fire hazards. However, the Texas City industries have indicated acceptance of the civic responsibility of keeping the bay waters clean for the community.

As Finchum says: "Industry provides jobs, and fishermen are thus able to buy boats and fishing equipment. But going a step further, industry also has undertaken the job of keeping waters fit for the support of marine life, so now the employe-sportsman has his cake and eats it too."





# Identifying the

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# Black Basses

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# of Texas

By WILLIAM H. BROWN  
*Aquatic Biologist*

PROBABLY one of the greatest controversies to arise among fishermen of Texas is the question of whether or not there are smallmouth black bass present in the waters of the state.

Annual Reports of the Texas Game and Fish Commission record that the smallmouth black bass was first introduced into Texas in 1934. At this time 30,000 smallmouth bass fry were imported and placed at the Tyler and Dundee State Fish Hatcheries. The next Annual Report stated that these fry had reached a weight of 1 pound and were to be used as brood fish the following year. However, later Annual Reports do not record any information in regard to these fish.

Men who were associated with the fish hatcheries at the time have furnished the following information in regards to these smallmouth bass. The original 30,000 fry came to the Tyler and Dundee hatcheries from Arkansas in 1934. In 1935, the Tyler hatchery had 130 smallmouth bass that weighed approximately 1 pound. By 1937, the Tyler hatchery had only 30 smallmouth bass that weighed approximately 2½ pounds. The bass had gradually died off due to the hatchery water being very warm and having a low dissolved oxygen content.

Very few fry and fingerling bass were raised from these brood bass. The fry could not be handled as they died easily due to the adverse water conditions. Some 6-inch fingerling smallmouths stocked in the Tyler Post Office Lake were reported to have been caught a year later and found to be in extremely poor condition.

Since the brood fish were gradually being lost, very few fry being raised, and these not living after being stocked, the remaining smallmouth black bass at the Tyler hatchery (30 adults and 300 fingerlings) were stocked in Caddo Lake during 1937. There are unofficial reports of these adult smallmouth bass being caught up to one year later in Caddo Lake.

The smallmouth bass fry brought to the Dundee hatchery suffered the same ill effects as those at the Tyler hatchery and gradually died off until there were no smallmouth black bass left in Texas. It is quite possible that some of these smallmouth bass could have been caught for a year or two after they were stocked, until they finally died off and disappeared due to the fact that they were not placed in a suitable habitat. However, there is, to the knowledge of the fishery workers of Texas, no official report of a smallmouth black bass ever being caught in Texas waters.

THE spotted black basses of Texas, which resemble the smallmouth bass to some extent, especially in having a small mouth, have long been mistaken for the smallmouth bass. Every report of a smallmouth bass being caught in Texas waters has proven to be a spotted bass which is often called a "native smallmouth bass." There is a very remote possibility that the smallmouth bass could have hybridized with the spotted bass in the waters in which they were stocked.

The smallmouth black bass could possibly live and do well if stocked in waters of the state having a suitable habitat. Some of the most desirable waters of the state for smallmouth black bass are the cool, clear, and swift portions of the headwaters of the San Marcos, San Antonio, Comal, and Guadalupe Rivers.

The smallmouth black bass which were brought to Texas from Arkansas could have been a subspecies of the smallmouth bass, *Micropterus dolomieu velox*, the Neosho smallmouth bass. Or it could have been a type of smallmouth bass which has been described as an intergrade between the Neosho smallmouth and the northern smallmouth black bass. Both of these above mentioned smallmouth black bass occur in Arkansas.

• Continued on next page and on page 26



## Key for Identifying the Black Basses of Texas

In using the key, a choice between two alternates is employed. Look under I a. and I b. and choose the identification which most suits the bass in question. If I b. is the choice, then look at II a. and II b. under I b. and again choose the identification which describes the fish. If II b. is the choice, then choose between III a. and III b. under II b. to identify the fish.

I a. The maxillary (jaw) of the bass extends back past the rear margin of the eye. The soft dorsal fin and the spinous dorsal fin are separated. Scales are NOT present between the fin rays on the membranes of the soft dorsal fin and the soft anal fin. Internally, the pyloric caeca is double-branched at its base.—**LARGEMOUTH BLACK BASS** (*Micropterus salmoides*.)

I b. The maxillary (jaw) of the bass does not extend back past the rear margin of the eye. The soft dorsal fin and spinous dorsal fin are connected. Scales are present between the fin rays on the membranes of the soft dorsal fin and the soft anal fin. Internally, the pyloric caeca is unbranched at its base.—**SMALLMOUTH** and **SPOTTED BLACK BASSES** (see II a. and II b. below).

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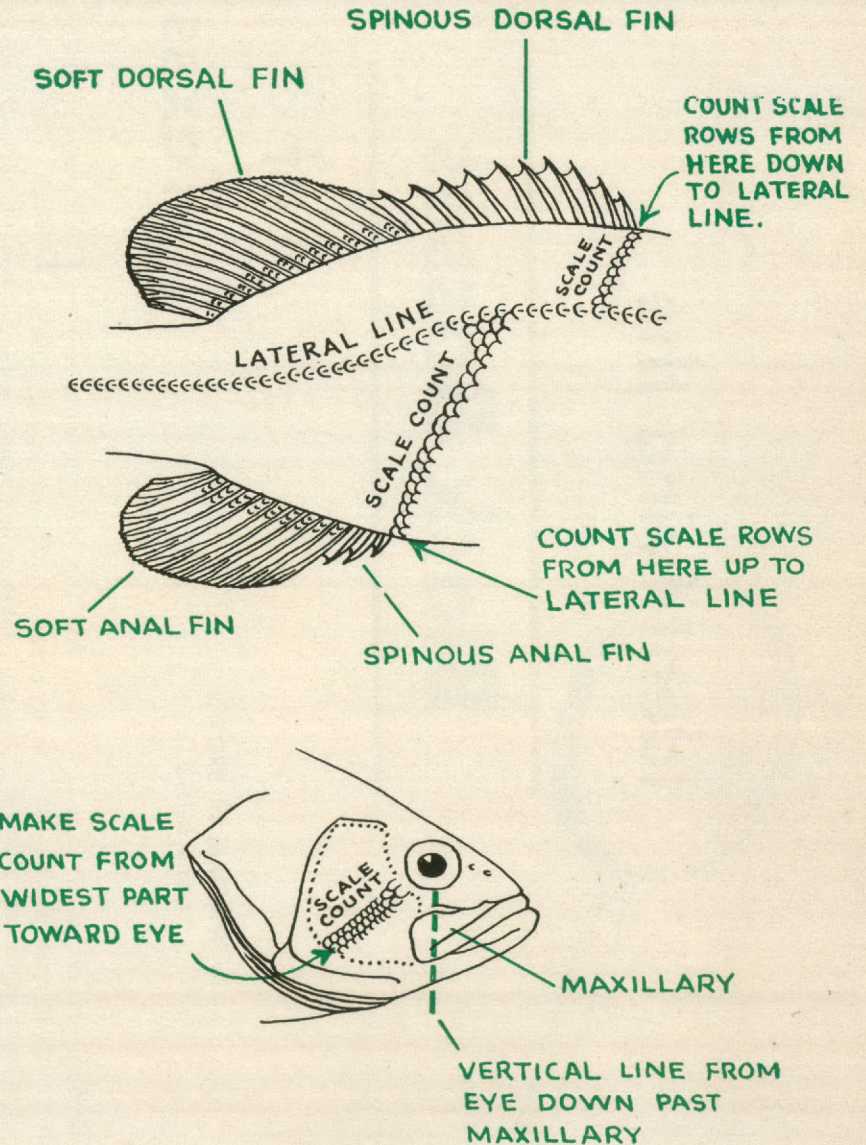
II a. The bass has 15 or 16 rows of scales on the cheek, 12 or 13 lengthwise rows of scales above the lateral line, 72 to 75 scales lengthwise along the lateral line, and 20 to 21 lengthwise rows of scales below the lateral line. There are NO DISTINCT rows of dots and dashes on the lower sides and belly.—**NORTHERN SMALLMOUTH BLACK BASS** (*Micropterus dolomieu dolomieu*).

II b. The bass has 12 to 16 rows of scales on the cheek, 7 to 10 lengthwise rows of scales above the lateral line, 58 to 69 scales lengthwise along the lateral line, and 14 to 19 lengthwise rows of scales below the lateral line. There are DISTINCT rows of dots or dashes on the lower sides and belly.—**SPOTTED BLACK BASS** (*Micropterus punctulatus*) (see III a. and III b. below).

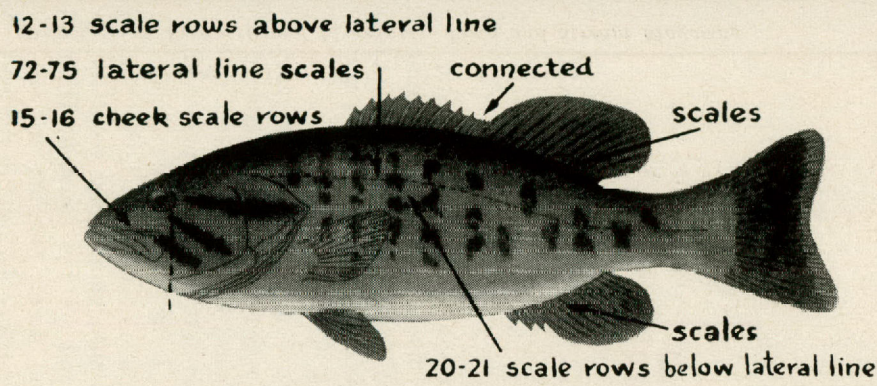
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III a. The body of the bass is deeper than IIIb. (below). Colors are more vivid, dark green and black, except in muddy waters. Size is much larger than III b., maximum size well over four pounds. Found in waters of Texas east and north of the Colorado River.—**NORTHERN SPOTTED BLACK BASS** (*Micropterus punctulatus punctulatus*).

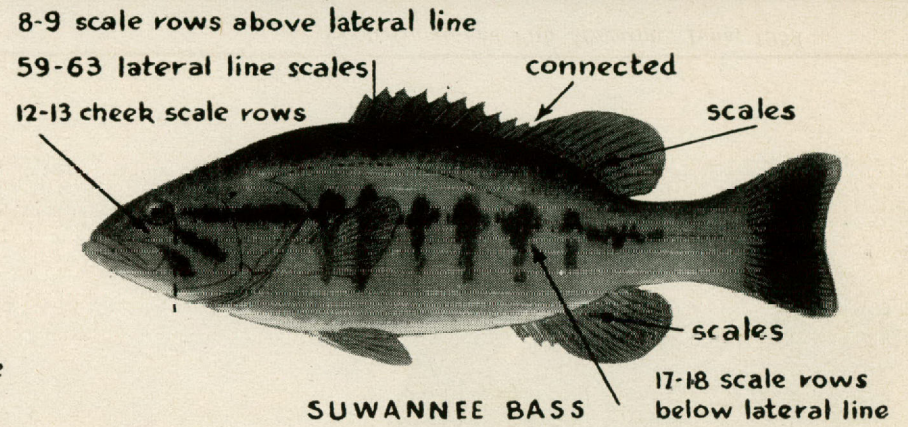
III b. The body of the bass is longer with less depth than III a. (above). Color is less vivid, brassy bronze overcast even in clear water. Size is much smaller than III a., hardly ever reaching over 12 inches in length and one pound in weight. Found in waters of Texas west and south of the Colorado River, especially numerous in the San Marcos, Guadalupe, and San Antonio River system.—**TEXAS SPOTTED BLACK BASS** (*Micropterus punctulatus treculi*).



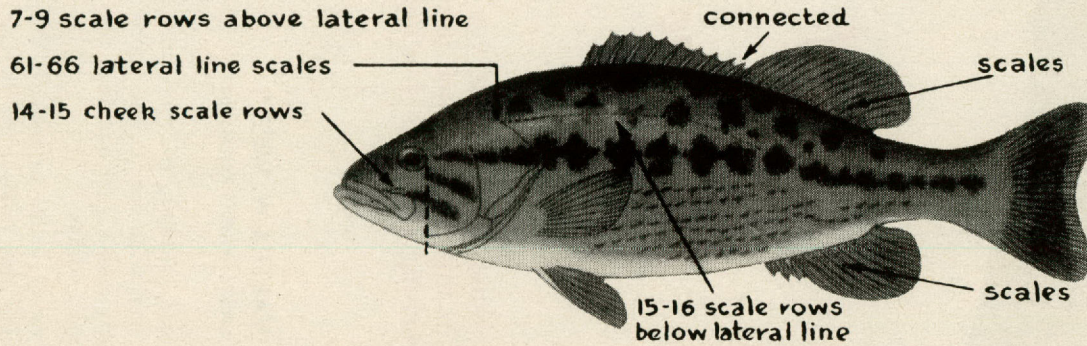




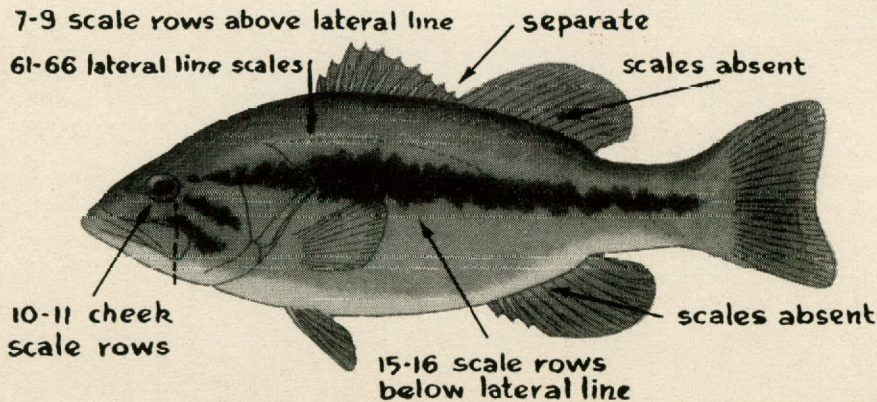
**NORTHERN SMALLMOUTH BASS**  
*Micropterus dolomieu dolomieu*



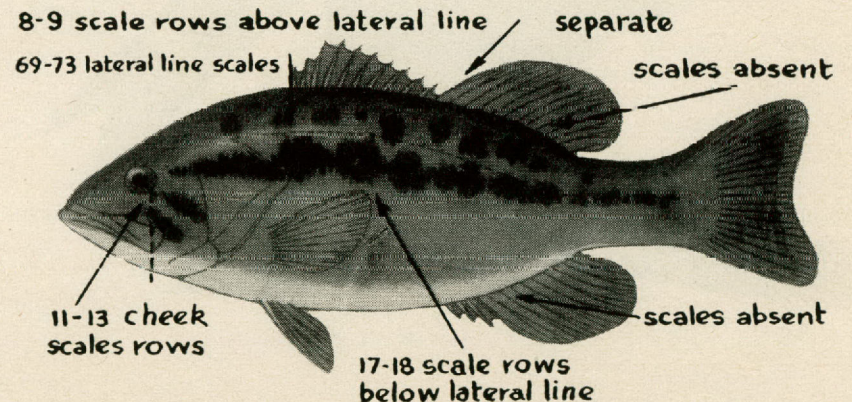
**SUWANNEE BASS**  
*Micropterus notius*



**SPOTTED OR KENTUCKY BASS**  
*Micropterus punctulatus punctulatus*



**NORTHERN LARGEMOUTH BASS**  
*Micropterus salmoides salmoides*



**FLORIDA LARGEMOUTH BASS**  
*Micropterus salmoides floridanus*





*... and the  
bands go on*

Staff photos  
by Lon Fitzgerald

**Banding doves is serious business, but you won't find many dull statistics in this article. Some interesting and sometimes surprising sidelights develop, too.**

**T**IS doubtful if any scientific study was ever made without many interesting sidelights being brought to the surface. In the final report of such findings these incidental points are frequently dropped by the wayside and are lost forever to the average outdoor enthusiast who would find them interesting. In the study of the mourning dove being made in Texas a number of such items have been found.

If you are among the unscientific, like the writer, you might find them interesting. If you are of the scientific

By **MARTHA W. WEST\***  
*Statistician, Wildlife Restoration*

mind, don't bother to read any further. Just wait for a few more years' study and a final technical report on the findings.

Texas never seems to lack in the unusual and this holds true for the mourning dove in Texas. Do you know that the doves under study around Fairfield built their nests only on the southeastern side of the trees last year! That's what one observer found in a sample of nests. We humans think we are so advanced. Architects say that all bedrooms in

the southwestern part of the country, at least, should be located to catch the prevailing southeastern breeze. And around Fairfield the doves are practicing it!

Nowadays no one would suggest building a house as flimsily as a dove builds a nest. One glance leaves the impression that it is about one-third complete. It isn't unusual when scouting for young doves to band, that you can look through the nest from the bottom and see the contents. High winds and stormy weather are considered by many observers in the field to be the worst enemies of the nesting dove. Anyway, the destroyed nest is

\* P-R Project 14-C.



quickly repaired, and the parent birds try again. They keep right on nesting through the warm weather, and in most parts of Texas that's for a considerable period of the year.

An odd thing about dove nesting in 1952 was that many banders observed that the dove was one bit of wildlife aided by the dry weather as far as nesting was concerned. With practically no rain storms in many areas, the doves didn't lose their families. The food supply was short in some localities but the drouth caused lots of weed growth for abundant food in other places. Since doves are capable of long flights, they apparently found food enough.

In Colorado County during previous years nesting doves were preyed upon severely by grackles or jackdaw nesting in the same general area. Last year, the local warden forced the grackles to move out. He then found the mourning doves nesting in the securely built nests vacated by the grackles and noted that there was practically no further loss of young or eggs due to high winds.

In 1952, field men banded 737 mourning doves whose nests were found in trees planted as windbreaks, not far from Canadian in the Texas Panhandle. We wonder if more doves nest in the plains country now since these wind-break tree plantings were made by man. On the other hand, near Tilden in the South Texas brush country, a bander noted that almost all of his doves were nesting on the ground along fence rows and old roads. He felt that the destruction of local brush by bulldozing and poisoning forced the doves to ground nesting. Anyway, as a result, 80 of 104 nests found, were deserted; deserted, or perhaps the nesting birds had fallen prey to such predators as skunks, roadrunners, crows, and snakes. No self-respecting coyote, bobcat, or fox would refuse a dove dinner sitting on an open-country platter. Ah, civilization!

Young doves, like this one which has just been banded by a Texas Game and Fish Commission warden, usually get their "jewelry" between the age of four and twelve days. Hunters are urged to report band recoveries.

In West Texas near El Paso and Van Horn nesting doves were not as plentiful as in some sections. Banders found them nesting on the ground in cotton fields. Here, too, they fell prey to coyotes, snakes and crows, but at least they had found cover under the cotton stalks.

So few doves nested in Brewster County that a bander there, not to be outdone, succeeded in trapping and banding 36 adults.

In East Texas it was more difficult to find birds to band. The trees grew higher and so were the nests. Here we found still another predator to add to the list. From around Livingston the warden reported field rats eating eggs and young doves.

Along the Texas Coast near Beaumont the banders had little success finding dove nests until they spied them using old pilings out over the water as nesting sites. Farther down the coast near Angleton, small black ants were found preying on piped eggs and the newly hatched young no matter how high the tree.

Rockport, also on the coast, usually has a good population of nesting doves. In 1952 one bander rightly became more concerned about predation against himself by rattlesnakes than in doves. His report indicated that it took so much time looking at the ground for snakes, he was unable

to look up for the nests. Another warden in the area took his young son to help him on his banding trips. This worked fine until a rattlesnake bit and killed the little boy's dog, bringing to mind very sharply that these snakes were not to be taken lightly.

The peak of the 1952 mourning dove nesting occurred between the first of June and the middle of July. It started generally in April and nests were still fairly common on August 15. A few birds, as seems to be true every year or so, began nesting as early as February, and some rare ones continued into the winter season.

These late nesting birds often worry the true sportsman who blames the Game Commission for opening the season too early. However, the Commission is not ignorant of this condition. It's just that if we wait for the very last birds to complete their nesting, the season would be closed until December. By that time there are so few birds left in the state that hunting would not be practical. Consequently, without hunting to reduce the surplus doves, the wintering grounds would become over populated and thousands of birds would starve each winter.

Rather than have this, the open season takes into consideration the

● concluded on page 32







Fiesta days are field days for the bay fisherman. The smaller species have a large percentage of prizes set aside for fishermen who catch them.



In addition to trophies, prizes in the Freeport Fishin' Fiesta range from fishing rods to typewriters.

*Staff photos  
from 1952 Fiesta  
by Lon Fitzgerald*

## Freeport Jaycees Plan Sixth "Fishin' Fiesta"

**F**ASTEST growing fishing tournament in Texas is the Freeport Fishin' Fiesta which last year in its fifth season attracted 1514 entries. It is sponsored by the Freeport Jaycees, and this year's dates are July 3, 4, 5, with a free dance slated to open festivities the night of July 2.

The Brazosport area of Freeport and Velasco has been slow to push its attractions for anglers, yet it offers a great variety of fishing. Freeport is practically an island, surrounded by the Old and New Brazos River channels and the Gulf. Bays, bayous, and canals radiate in every direction, a concreted jetty extends into the Gulf, and the deeper Gulf provides fine deep-sea trolling and bank fishing.

The \$3,000-plus in prizes go for anything from tarpon and sailfish down to gafftops and blue crabs, and the \$2 entry fee makes it truly a "poor boy's" contest.

Further information may be obtained from L. K. DeZavala, chairman, Freeport Jaycees, Box 1074, Freeport.



There are special prizes for junior anglers, like this 1952 entrant. In 1951, Carolyn Carlton, a 13-year-old miss, landed the tourney's largest tarpon, 6 feet 7 inches long, and exactly her weight.

Tarpon get a big play in the New Brazos River. Some contestants camp on the banks and cast for the silver kings from their own front yards, left. Others troll the river in deluxe cruisers, right.







First of a Series  
By MARTIN P. HINES  
Doctor of Veterinary Medicine

## Proper Diet Means Better

### Performance

### In the Field

This article, presented by special arrangement with the magazine *Wildlife in North Carolina*, tells how diet may affect your dog's work in the field. Other articles to follow will discuss other phases of dog care—with the emphasis on the working sports dog.

To me the real thrill of hunting has always come from the work of my dogs. I am sure that thousands of sportsmen are in agreement on this statement.

Each year our game becomes more and more depleted as thousands of new hunters enter this sport for the first time. The need for strong conservation is urgent or soon we shall face the tragic fact that there is nothing left to hunt.

It seems only logical, as game becomes harder to find, that we should seek the real pleasures of hunting—watching dogs do superior work in the field. Every true sportsman will find this a wonderful substitute for the mere desire of making the bag limit.

The dog needs a well balanced diet, adequate in amount if he is to be well developed with the stamina to withstand the great strains placed

upon him in the field. It is not the purpose of this article to go into details on how to feed dogs. Books have been written on this subject. It is hoped that this article will help to show the relationship between good nutrition and better performance in the field.

Food requirements for dogs vary widely depending upon size, activity and age. For example, puppies require about twice as much per pound body weight as adults because they are growing and building bone and muscle. The hard working hunting dog requires more food during the season. The breeding bitch has specific requirements before and after whelping.

One should make sure that his dog is receiving a ration that is nutritionally complete. By this I mean a ration that contains all essential nutrients such as high quality proteins, fats,

carbohydrates, minerals and vitamins and that these nutrients appear in proper amounts.

Most of the leading commercial dog feeds sold today are nutritionally complete and do not need supplementation. Many of these companies have excellent research facilities that are constantly searching for methods of producing better feeds. Most brands of good dog feed fall into the same price range. Do not sacrifice the health of your dog for a cheap dog food. There is likely to be a valuable ingredient missing or the quality of available essential nutrients may be low.

Dogs being carnivorous animals naturally like meat. Horsemeat may now be purchased in most areas and is an excellent addition to a dog's ration. Although as stated, good commercial feeds do not need to be sup-

● concluded on page 24



# The Commission's Shrimp Tagging

By HOWARD LEE  
*Marine Biologist*

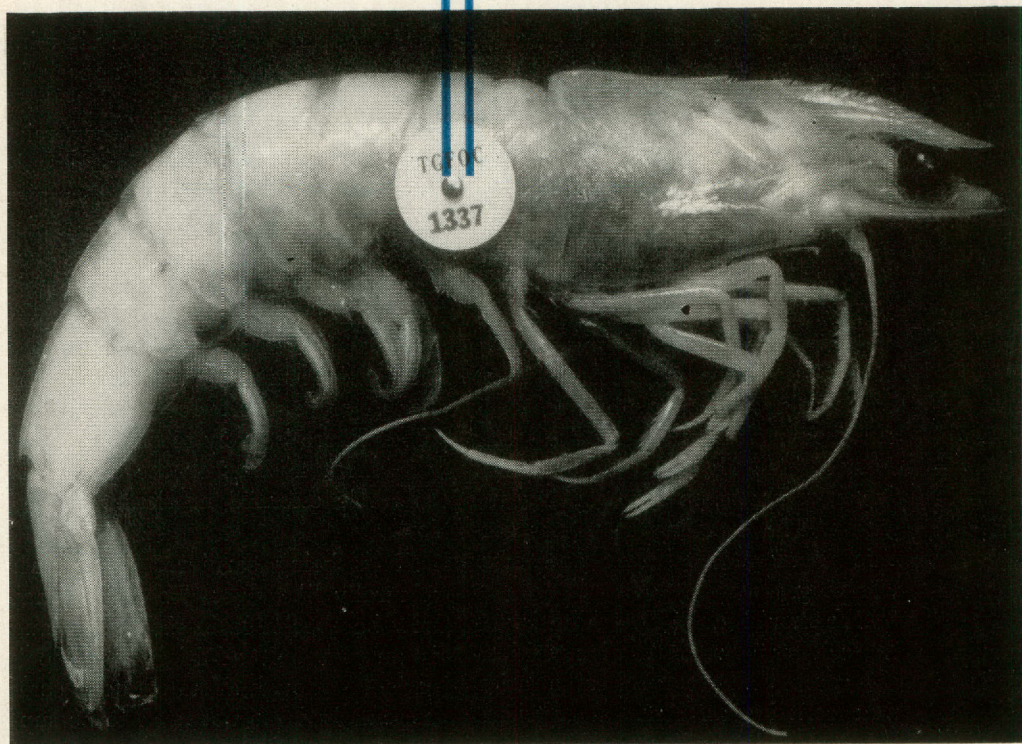
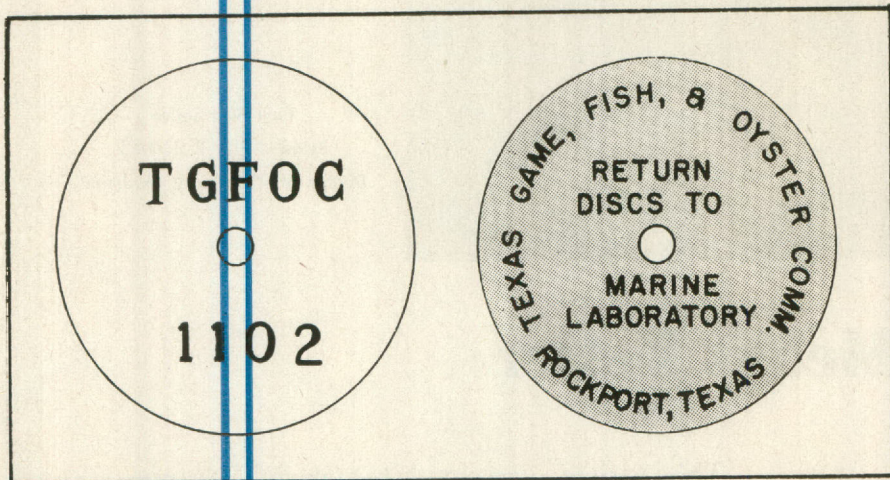
Last year on the 24th of April at 3:40 o'clock in the afternoon, 91 shrimp were released in the Gulf near the Aransas Pass sea buoy in ten fathoms (60 feet) of water. These were the first of a long series of such releases planned by the Marine Laboratory at Rockport.

The Game and Fish Commission was not trying to restock the Gulf or introduce a new type of shrimp. These shrimp had been caught in the same locality just a few hours before. There was a difference in their appearance, however, for each one bore a pair of small plastic discs to mark it for reference.

One disc was blue and was marked "RETURN DISKS TO MARINE LABORATORY TEXAS GAME, FISH, OYSTER COMM., ROCKPORT, TEXAS." On the opposite side of the shrimp was a white disc that was marked with a number and the initials "TGFOC." The two discs were held to the shrimp by a solid nickel pin pushed through the first segment of the abdomen or "tail."

A glance at the map accompanying this article will show five lines extending from the coast into the Gulf to a depth of fifty fathoms (three hundred feet). At depth intervals of five fathoms, i.e., five, ten, fifteen, etc., a similarly marked lot of shrimp are being released along these lines.

Information reveals that the shrimp sustained yields were high for the table. The lines I, II, III, IV, V, at a depth of 50 fathoms.





# Program

As the shrimp are released, certain information is known about each one. Recorded on the book will be the sex, species, length and tag number of each. This information will be supplemented by wind and current observations, temperature of air and water, and determinations made in the laboratory on a sample of water taken at the point of release.

At the time of this writing, some 1300 tagged shrimp have been released and only thirty-two have been recovered. This small percentage has not been adequate for any definite conclusions to be derived. But we do know that at least one shrimp lived for 105 days with a tag on each side. We also know that one female red shrimp moved approximately 70 miles in twenty-six days. That is less than three miles a day, but is a better rate than most of the others show.

Actually, migratory movement is only one of the things being studied in this program. At the present time there are three species of shrimp that make up the largest portion of the commercial catch on the Texas coast. These are known by various common names; such as, "common" or "white shrimp" for *Penaeus setiferus*, "red" or "brownie" for *Penaeus aztecus*, and "spot" for *Penaeus duorarum*.

The last named two are grooved shrimp that were for some time known as "brasilian shrimp." Of the three, the red or brownie now makes up a large part of the commercial catch, and the other two are of lesser importance.

The white shrimp has been studied for years and its life history is fairly

well known. But the other two are only imperfectly known and there are many questions concerning their life histories that remain to be answered.

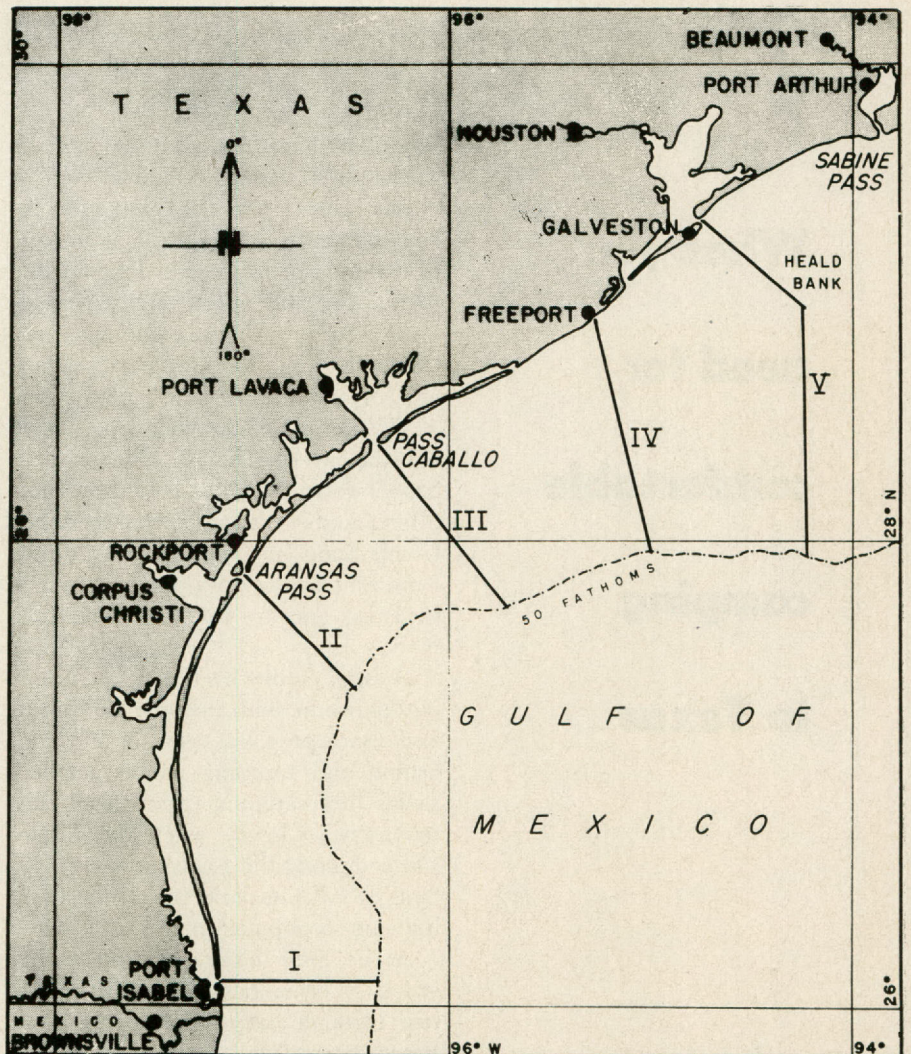
Some of these questions are: At what localities, at what season, and at what age do these shrimp spawn? How long do they live? How far and how fast do they migrate, or do they migrate at all? How long can our present production hold up under the strain of increased fishing effort? These and other questions should be answered as soon as possible. The need for knowing the answers was outlined in a paper,\* dated 1933, when some concern began to be felt for the fate of the white shrimp.

... "The prime requisites for successful handling of the problems of the shrimp, as of other

\* Bulletin of the U. S. Bureau of Fisheries, Vol. 48, Bulletin No. 14, 1933 prelim. Report on the Life History of the Common Shrimp, F. W. Weymouth et al.

fishery resources not adapted to cultivation, are information as to the abundance and knowledge of the life history. The first is needed to tell when protection is required and the second to guide such protection into intelligent and effective channels . . . While there is yet time a concentrated effort should be made to institute the collection of statistics which may be used in the immediate future . . . We must look forward, however, to a time when the increasingly intense fishery will turn the balance against the shrimp." . . .

These few sentences are not quoted to create rumors, but to show that the time for research on a resource is while that resource is plentiful. Then conservation and wise management will be possible and the shrimp fishery will not reach the present status of the oyster fishery.



recovery of tagged shrimp properly income for the shrimpers, more shrimp are being released along which extend into the Gulf to a own on the accompanying map.





# Camping Notes

By C. P. HUDSON

**What you  
need for  
comfortable  
camping  
in Texas**

The art of camping—and the attending pleasures—have all but been lost in this day of the automobile and expanding highways, which have made the wilds so easily accessible.

Lately, however, there has been renewed interest in camping for the sake of camping or as a rewarding sideline to hunting and fishing. With this revival have come many unanswered questions—and too few persons capable of answering them.

The author of the following article has the answers. C. P. Hudson here has set down the answers to those most often asked of him at his Commodore's Camp Shop in Dallas. They come from a lifetime of camping experience in Texas and are tuned to Texas demands.

Hudson credits his father, an ardent outdoorsman, with introducing him to and developing his taste for hunting, fishing and camping. He remembers as his first camping experiences trips to Corpus Christi, when the family camped along the roadside along with "lots of folks in parks beside the touring cars so popular in the '20s."

As he grew older, Hudson and a group of other boys took a six-weeks trip through half a dozen Western states, camping as they went, and

later at the University of Texas he was one of a number of students who often took off to the Hill Country and along the Pedernales River for week-end or overnight camps.

His camping experiences have been as broad as the state of Texas—from his father's Panhandle ranch in Dickens County to extensive hunting and fishing trips in East Texas. One of his favorite wilderness areas is South Texas' Big Bend country, and his ambition is to take a light boat trip all the way down the Sabine River to Port Arthur. He is convinced that "a lifetime of vacations could be spent cruising out the wilder parts of Texas."

Hudson has done a lot of experimenting with packing and equipment for auto and boat, but he believes the ultimate in camping know-how and pleasure is living from the light back pack.

This month, TEXAS GAME AND FISH begins a series by Hudson about camping. They are not in the usual form of an article, but Hudson's outlines are so concise and concentrated, we decided to leave them that way. The first is herewith presented, just as he wrote it.—Editor.



**H**AVING camped off and on since the 20's in various kinds of situations, using equipment ranging from a carload of heavy equipment and some trailer house "camping" to light back packing equipment, the following opinions and observations have been formed:

1. Most people camp out mainly to enjoy the open country and follow the trails of some recreational hobby, such as hunting, fishing, photography, nature study, or perhaps camping in itself.
2. Only greenhorns try to rough it.
3. Most try to make camping as little work with as much comfort as possible. This, when achieved, is an art of getting the most out of a minimum amount of equipment.
4. Most campers prefer to camp in country as nearly virgin country or wilderness as possible. This type country is closely approached by auto nowadays, but to really get to a wilderness area takes a little travel by foot, horseback, light boat or private plane.
5. Roadside camping on a trip is fine for economy but difficult for

a family. This is a swell way for boys to take a trip.

6. Families or groups on a long trip under the time limits had best stay at hotels or tourist camps if going by auto, plane, train, or bus to the vacation spot, then camp in the chosen vacation area.
7. Backpacking equipment is the basis of any light camping kit. Once this lightest of all kits is mastered for the practical maximum of comforts and needs of your own use, additional items can be added to it for greater convenience on auto, packhorse, boat, or airplane camping trips.
8. The art of backpacking, or camping light, is an old art currently enjoying technical improvements. Complete kits for a week's trip from civilization, including food and all the essentials of living, can be made up to weigh from 35 to 45 pounds in convenient carrying form—sometimes even less under certain conditions. If food can be procured at the destination, lighter kits can be worked up.

9. By using light equipment, side trips to places never otherwise seen can be made while on cross-country vacations. Hunting and fishing or nature study can be done in as nearly virgin country as this continent or any other has left.
10. Trips can be made near home in river bottom, forest and ranching areas (with permission from the owner) and in State and National Parks and Forests and institutional recreational areas for enjoyment, testing equipment, and preparing for future trips in some of the wilder parts of the continent.
11. While a complete light weight kit of the best equipment is fairly expensive, a well planned kit can be much cheaper in the long run than buying cheap odds and ends over a period of time only to discard them as unsatisfactory after a disheartening experience.
12. The ideal of a perfect kit is hardly ever reached—it's a fascinating hobby in itself.
13. An opportunity to live close to Mother Nature, observe and reflect on what, how and why she does things as she does is often a good tonic for whatever ails us.
14. Today, as in the past, there is a feeling of freedom almost supreme for a well-equipped lone camper to wander as he pleases along his chosen trail for the time he has allotted himself, knowing that with what he carries on his own back he can eat, sleep and drink where he pleases and follow whatever constructive or conservative bents his desire and the lay of the land dictate.

The following pages contain lists and notes on equipment that experience has proven satisfactory for me on my trips. The best way to work up your own list is to study the lists of other campers and consider where they camped and why they took each item.

Any item that appears handy but for which you can't see a definite use in your outfit, **THROW IT OUT!** Weigh the use of each item against the weight it adds to your pack, re-

● continued on page 28



The author is prepared to live comfortably in the outdoors wholly from the equipment carried on his back. The pack weighs less than 25 pounds without food, less than 35 pounds with food for four or five days.



By JAY VESSELS

## FOUL FELLOWS

AP item under Houston dateline: "Pitcher David Irwin hit a high pop foul behind home plate in a softball game Friday night at Cleveland Field. The ball hit a low flying duck. The duck fell and struck Umpire Bob Wells on a shoulder. After a few seconds, the stunned duck flew away. The ball game continued."

## TRAGIC MISTAKE

Al Parker, managing editor of the Wichita Falls *Times* with a yen for wildlife reporting, saw a fisherman taking off alone in a motor heavy boat on Diversion Lake. The man had two outboards, throwing the craft far out of balance and badly overloading it. The man never returned alive. They finally found his body, half dressed as though he had made a frantic bid to swim to safety. But no trace of the boat was found.

"Probably had worked that trick jillions and jillions of times," observed Parker. "You just can't win in the long run when you put more into a boat than it can carry."

Aquatic Biologist Leo Lewis agreed with Parker's comment. Lewis' work takes him out on the lakes in all kinds of weather. Sometimes storms threaten to blow him overboard. He uses a nonsinkable craft, properly powered, and when the going gets rough he lashes himself to a line attached to the craft. Figures if he's finally swept into the water he will have a fighting chance of pulling himself back aboard.

## SNAKE STUFF

Game Warden Eugene Willmann of Edinburg, got some results from a talk to some school kids about how to handle snakes. He got an emergency call from a ranch family. There was a big bad snake coiled up on a pantry shelf. Willmann raced out to

find somebody had placed a phoney snake there—a so-called practical joke—because the rancher's wife bordered on hysterics.

## COYOTE CLOBBERED

Game Warden Aubrey Shaw of Georgetown reports that Rancher Jack Murray shot one of the few coyotes seen in that area for many years. The coyote was running along a country road trying to find a hole to flee through a fence when Murray got a bead on him.

## BINOCULARS, PLEASE

Ken Foree, Outdoor Editor of the *Dallas Morning News*:

"Upon his ranch near Ector, Fannin County, Dudley G. Clark recently saw something you likely never saw—three whooping cranes of the 21 in existence. 'They lit down in my pasture about 250 yards from me,' Clark wrote. 'The creek had overflowed during the night and they began feeding in an open slough. One was quite a bit larger than the other two and he stood guard.' Clark ran NOT for his gun, but his binoculars and studied them for twenty minutes 'when they took off into the wind which was about thirty-five miles per hour, made a large circle, then headed north, flying high,' toward the desolate Arctic tundra."

## SIGNING OUT

Game Warden Supervisor Charles G. Jones at Weslaco, who recently retired, and his men in The Valley, have been good naturedly ribbed about a sign posted on the main street in San Benito. It states: "White wing dove and chacalaca sanctuary—no shooting." It struck the folks about like putting up a Posted sign in Times Square. But there's a reason for the sign, as Jones points out. The street marks the boundary of the area along

U.S. Highway 83 to the river up and down the Valley which actually is maintained as a sanctuary. Other signs now are being put up so the one conspicuous sign won't feel so lonesome.

## WARDENS CHIP IN

Texas game wardens heard about the hard luck of Warden Hugh Ashford and his wife, both of whom have been ill, and passed the hat to the extent of \$325 at the recent wardens' school at Bastrop. The Ashfords have worked as a team over the years in handling the warden's assignment at Pittsburg in northeast Texas.

## TEXAS TECHNIQUE

AP dispatch from San Diego, Calif., in *Corpus Christi Caller*:

"Doctors at county hospital said friends of Innocencio Torres, 25, of Tijuana, Mex., saved his life when they used the body of a rattlesnake, which bit him, as a tourniquet. A Spanish-speaking priest at the hospital said Torres told him he was bitten on the ankle at Escondido. His companions beat the snake to death with rocks, then twisted the supple body around Torres' leg, preventing the poison from spreading. A passing motorist brought him to the hospital."

## INSIDE STUFF

Ernest Marsh, Assistant Director of Wildlife Restoration for the Game and Fish Commission, wheeled around on T. D. Carroll, Assistant Director of Conservation Education. Just like the district attorney minus the fingerprinting. "T. D., how many times did you go hunting last fall?" snapped Marsh.

Carroll, not to be taken in, at least by anyone but a teen-ager asking wildlife questions, hesitated. "Oh, about 14 times," he drawled.

"What for?"



## Press Views

## Game Notes

"Ducks, mainly."

"How many did you get?"

"Kept no record . . . probably about 25 or 30."

"How many hours did you spend hunting?"

Carroll flinched. This was getting personal. T. D.'s wife also can read.

. . . The incident reflects the constant effort of wildlife technicians to determine game harvest totals. And the bane of their existence is in getting hunters to cooperate. The gunners might be more eager if they realized the affect these surveys have on future seasons. The latest survey is for Texans hunting last year in the Trans-Pecos region.

### BOOMING BROWN COUNTY

*The Sportsman*, official magazine of the Brown County Sportsmen's Club, reviews events leading up to the comeback of big game in that county and looks ahead to the opening up for hunting of vast new restocked areas in the fall of 1956. It describes how the deer and turkey are prospering despite the depredations of illegal hunters and concludes with the plea: "Keep the light of wildlife burning in this county and never let the dark clouds of waste and extermination stop it."

### VALLEY BEAVER

Luther Goldman, wildlife editor, writes in *Texas Farming and Citriculture*:

"For those who think of the beaver as being an animal of the far North the Northwest, learning that we have beaver in the Lower Rio Grande Valley comes as a surprise. However, it is not at all uncommon to see beaver tracks and slides and even the animals themselves along the Rio Grande. They do not make beaver dams here

but rather live in holes in the river bank."

### PUPPY JACKPOT

News item in the *Sherman Democrat*:

"Hugh Drane's purebred Luna of Rockledge gave birth to 13 doecolored puppies. That's a pretty large litter for any breed. For a Weimaraner it's almost phenomenal . . . Mamma Luna kept nine of them and farmed out the other four to a foster mother."

### FAIR WARNING

Bill Walker, outdoor editor of the *Houston Post*, admonished squirrel hunters to watch their outdoor manners: "Sportsmen are advised to obtain permission before entering fenced property. You have no more right to crawl through a fence around a farm or ranch than the owner of such a place has to crawl through the unlocked window of your home."

### HOLD THAT FIRE

Ken Foree wrote in the *Dallas Morning News*, of which he is outdoor editor:

"Those people with itchy trigger fingers had better sandpaper that itch rather than easing it against a barrel, just in case they happen to be looking down the barrel at either of two long-legged birds. One is the largest of migratory birds, the whooping crane. Only 21 of the great birds are alive. Last year trigger happy idiots brought down two of the great birds, hastening the day when they may be but history. It is unlikely that any will be seen in north Texas. But if they are—stop, look, listen for the whoop that can be heard two miles, and don't shoot. The other bird . . . is the upland plover. Time was when thousands were killed in the spring hereabouts and brought in and sold for from five to ten cents. But now it would almost be worth your life, for plover as well as the whooper is on the mailing list."

### WATCH THOSE GUNS!

H. E. Faubion wrote in his *Marble Falls Messenger* column:

"In spite of all the warnings broadcast each season by the Game Department and other agencies, careless handling of loaded guns takes a

heavy toll. A few days ago a 19-year-old boy of Burnet was seriously wounded when he crawled through a fence and pulled his loaded .22 rifle after him."

### GAME PRODUCER SAYS . . .

Bill Thompson, *Paris News* outdoor editor, in a special article for the Fort Worth *Star-Telegram*, provides a pointed example of how many landowners feel about game.

Quote—"One farmer told me he didn't want game because he didn't want hunters." Unquote.

'Nuff said.

### ICHTHOLOGIST IRKED!

Cecil Reid, chief of the Rockport Marine Laboratory of the Texas Game and Fish Commission, has mastered both fresh-water and salt-water subjects. But he found himself pressed for the answers to crises closer to home. First, his wife, Lillian, joined the cane pole legions along the Rockport waterfront and began keeping her bait can in the family ice box, a privilege extended to mighty few husbands. Then his rare Mynah bird from India developed a wolf whistle that made Reid's waking hours hideous. Obviously, there is no cure for the bait situation but, being an ingenious person, he hopes somehow to take the whistle out of his valuable whistling bird.

### TEXAS IMPORTATION

The Arizona Game and Fish Commission reports receipt of a trial shipment of fairy shrimp from East Texas. The almost transparent fresh-water shrimp will be propagated and released in the Lower Colorado river environment where heavy aquatic vegetation exists.

### NATURE GETS RIGHT-OF-WAY

Bonnie Erwin, 12, casually reported to her mother, Mrs. A. R. Erwin of Austin, that she was unable to go riding on a week-end visit to their ranch. Why? "Just couldn't, mother," replied Bonnie, emphatically. "Must wait now for that wren to hatch." "What wren is that, Bonnie?" pursued Mrs. Erwin. "Oh, the one that built her nest in my saddle stirrup." A child's sound appraisal of nature's privileges that can stand copying.



## Two Sides

\* \*

BY MARY FRANCES GOODMAN

I walked out in the garden  
On a morning in the Spring—  
Thinking I'd enjoy the flowers  
And the grass, and everything.

But some chiggers saw me coming,  
And they leaped on me with glee;  
I'm in misery—but those chiggers—  
Well, they're sure enjoying ME!

# Duck Nesting Underway

Duck hunters in the United States can be encouraged by a report sent to the National Headquarters of Ducks Unlimited early this month. Angus Gavin, General Manager of DU projects in Canada, which are sponsored by duck hunters in the United States, wired that the May snow storm damage to waterfowl nests were confined largely to the Saskatchewan area.

There had been wholesale abandonment of going nests in that section of the breeding grounds due to the storm. Fortunately it was early enough to permit renesting.

According to Mr. Gavin, nesting operations are in full swing now and nearing their peak. Water conditions on the southern prairies have been spotty but heavy rains recently relieved the threat of drought in that section. Breeding stock moved North in larger numbers than in 1952, nesting in areas where water conditions were excellent. Breeding on southern prairies is good but less than last year.

The overall picture visions a fair to good duck crop in the making, although several weeks later than last year. The forecast by Bert Cartwright, chief naturalist of DU in Canada in a Duckological Report at press time, is that late nesting and renesting indicate the greatest volume of production will take place in second half of the season.

In an interim report on duck and waterfowl conditions sent to the National Headquarters of Ducks Unlimited, filed immediately after the recent backlash of winter on the Canadian breeding areas, Chief Naturalist Bert W. Cartwright reported snow and freezing temperatures from Ontario to the foothills of the Rockies. The cold followed on the heels of abnormally high temperatures in those areas.

The five-day storm started on May 9th, changing from rain to snow on May 10th, when blizzard conditions developed. Old timers in the Saskatoon area of Saskatchewan said it was the worst May blizzard in living memory. Conditions in Manitoba and Alberta were not quite so severe, although temperatures dropped into the twenties.

Prior to the storm, temperatures ranging in the 80's and 90's prevailed for a four-day period, accompanied by high winds. Everything was dry and forest fires in Ontario and Manitoba reached serious proportions. The rain and snow was a godsend to agriculture and the forests, and will be valuable in extending the life surface waters on the plains which were deteriorating at an alarming rate. They are not yet safe for waterfowl in some areas and the prospect of second nestings is not bright, according to Mr. Cartwright.

## Waterfowl Meetings Slated; Zoned Season Seems Possible

July promises to become an important month for Texas duck and goose hunters. During that period, a three-way approach to the 1953 harvest regulations will be made.

The most important development will be a follow-through to action recently taken by representatives of Central Flyway states at an Oklahoma City meeting. Delegates from that session will confer in Washington, D. C., with representatives of the United States Fish and Wildlife Service to discuss the nesting population, the 1953 hatch, and probable shooting regulations for the fall.

Meanwhile, the Texas Game and Fish Commission will meet in Houston on July 17 to make its annual recommendations to the Fish and Wildlife Service as to Texas preferences for the fall harvest.

What the outcome of these various meetings will be is not now apparent, although general optimism apparently prevails regarding preliminaries to the 1953 duck and goose production.

The varied July activity, leading up to the glorious days afield in November and December, hinges heavily on the new cooperative arrangement designed to give states a greater part in determining harvest arrangements.

Now, states on the Central Flyway, as on other major flyways, comprise a Flyway Council. Representatives

of the states meet with representatives of the Fish and Wildlife Service to map routine activities by technicians. Then, the Flyways name representatives to a National Waterfowl Council which consults with Fish and Wildlife Service heads in Washington. Finally, the Service uses all the assorted data to determine the fall dates, bag limits and the like.

Out of this new project is expected to come ultimate action, remodeling the shooting season details themselves, with hope held out to fashion hunting dates by climate instead of by state lines.

Texas is counting heavily on this procedure to correct age-old handicaps. The sprawling Lone Star state with its contrasting cooler northern areas and semi-tropical southern regions needs a separate season for each area to provide fair shooting for its residents. The Game and Fish Commission for many years has recommended to the Fish and Wildlife Service that separate seasons be provided, and it is hoped that the new emphasis on state recommendations may help bring this about.

Howard D. Dodgen, Executive Secretary of the Game and Fish Commission, was chosen as one of the two representatives of the Central Flyway states. He also is chairman of the National Waterfowl Conference. —Jay Vessels.





## Wilderness

## Fishing

and

## Orchids



By JAY VESSELS

*Assistant Director, Publications*

**T**HIS is a story of contrasts—the story of retired-oilman Frank Cullum, turned rancher, who built his own fishing lake in the Hill Country wilderness, then hustled into the next-ranking project, a modern greenhouse for his orchid-loving wife.

The 9000-acre Cullum ranch is straight west of Kerrville. The dam he had built across the north fork of the Guadalupe River blended into an area so wild that Cullum retains his own crew to keep down mountain lions and other predatory species.

The steam-heated, air-conditioned, automatically humidified greenhouse seems just slightly out of character in the wilderness. Yet it's populated with plants; yes, the white and green orchids with purple throats and the yellow ones with red throats. And the phalenopsis tree. Strangely, Mrs. Cullum does not sell the precious flowers. She has never even worn an orchid. Just grows them to give to her friends, and they come from Corpus Christi, San Antonio, Wichita Falls, Houston, Dallas, Austin, Kerrville and other points to admire the rare ranch installation and to wear away one of the beautiful blooms.

The fishing's usually good, too,

from where the men folks sit. Bass, bream, channel cat. And that dam is the apple of Cullum's eye. An engineering student in college, he built the dam himself. That is he did the job with the help of some bulldozers, ready mixers for concrete, and so forth. Heavy machinery became second nature during his oil field career. He also picked up knowledge of the steel material which went into the 300-foot plus structure.

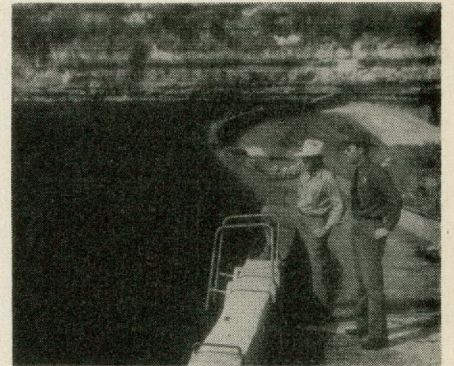
The dam was finished last year in time to impound water, shared later with the folks down stream. And the greenhouse with every modern device available was begun immediately.

Now, Cullum is proud of the greenhouse for the reason that he also supervised its construction. The exchange is mutual. Mrs. Cullum catches all the biggest fish and has a mounted bream on the ranch house wall to prove it.



The business end of the Cullum place involves ranching.

This dam provides Cullum with a fine fishing lake. With him is Warden Jack Gregory.





plemented, horsemeat or lean meat scraps are good sources of high quality protein and B-complex vitamins and may be fed once each week or more often. Lean meats may be mixed with dry commercial foods to increase the palatability.

In rural areas it is still the practice to often feed table scraps. It is impossible to estimate the nutritional values of scraps as they vary from table to table. Chicken and fish bones should be removed from scraps before they are fed as they may cause choke and obstructions. A good commercial feed should supplement scraps from the table.

Often dogs are fed a ration composed mainly of cornbread which unless supplemented leads to black-tongue (nicotinic acid deficiency) and many other forms of mal-nutrition. The first line of defense against infectious diseases is good nutrition. When the natural defense mechanisms of the body are weakened because of a poor diet, disease producing micro-organisms have an excellent chance to invade and multiply.

When it is desired to change a dog's food, do not change suddenly but slowly, as quick changes may upset his digestive tract. Should his appetite decrease, take the food away or reduce the amount until his appetite improves. A well conditioned

dog may refuse a few feedings which is natural. If however he refuses food for two days you should take him to a veterinarian.

Frequently dog owners are faced with the problem of an excessively fat dog. Obesity is especially found in smaller breeds and the main cause is the taking in of larger quantities of food elements than are utilized in the body. Pet animals which are fed highly nutritious foods (carbohydrates) and are not given sufficient exercise become overfat. The majority of cases can be ascribed to overfeeding and lack of exercise, rather than any constitutional disturbance of metabolism. Constitutional obesity may develop, however, through the disturbance of glandular secretions which regulate certain organs causing diminished oxidation.

How often and how much to feed a dog depends on the age, size and activity. The amount to feed has generally been based on dry commercial feed. Hunting dogs require ¾ to 1¼ lbs. per day when not worked and about 1¼ to 2 lbs. when worked. Brood bitches should be fed about the

same as hunting dogs through the gestation period and while she is nursing. A little lean meat and some vegetables may be mixed with her food to stimulate her appetite. Puppies should be fed about 4 to 6 times per day until about 8 weeks old; 3 times a day until 6 months old, and 2 times daily thereafter. Puppies will start to eat dry dog food at about 4 weeks if it is mixed very thin with warm milk. It is advisable to mix a small amount of cod liver oil daily in the feed of puppies to assure proper bone growth.

When in doubt as to the proper diet that should be fed, consult your veterinarian for advice. To do so will mean better hunting days ahead, for a dog receiving a proper diet is less vulnerable to the many skin conditions and diseases which so often may prove fatal.

Condition cannot be built into a dog overnight. The fallacy of feeding good only during the hunting season should be dispensed with. Feeding a good diet year-round builds the strength that remains with a dog through the entire hunting season.

**ARE YOU CHANGING YOUR ADDRESS?**

Then please fill out the following form and send to TEXAS GAME AND FISH, Walton Bldg., Austin, Texas, so that you will continue to receive your copies of the magazine. Allow six weeks for processing.

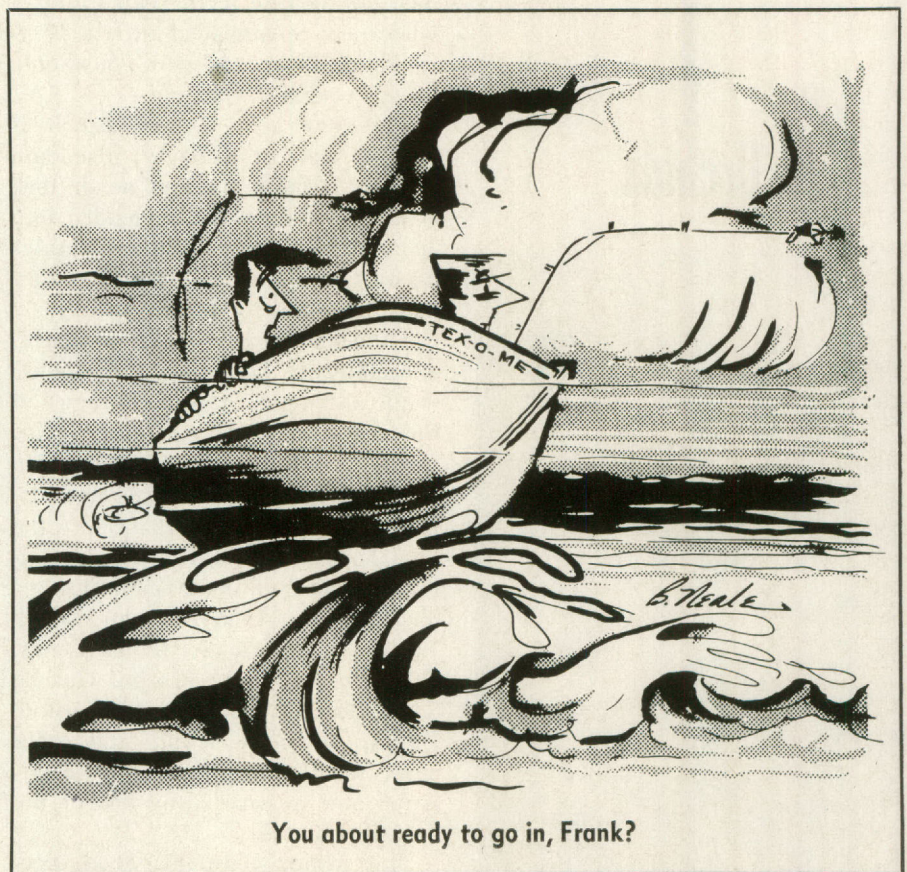
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City....., State.....

New Address.....

City....., State.....





Risk  
a  
Lure

## To Lure a **LUNKER!**

**Third in a series of adventures with big bass  
and how an expert fooled them.**

By H. C. GENTRY

Last month I told how I outwitted and landed the big bait-stealing, plug-busting bass that had become so well known to many anglers. This time, it's about a big fellow that saw me first and declined my first offering, only to fall for a different type of lure and entirely different technique a few minutes later.

The setting was along another and smaller stream here near Canyon. It was a late evening in June, and I had driven out for an hour or so of my favorite late-evening casting for the big 'uns.

The sun already was settling down over the Canyon rim when I arrived. I began working my way by foot downstream and soon landed my first one—a three-pounder. Then walking along the bank a little farther on, I suddenly topped a high ridge overlooking a splendid deep, clear pool.

I hadn't known it was there, or I certainly would have made a different approach to it. Anyway, there I was, confronted with a likely bass pond but right out in plain view of the entire pool. That meant simply that I had spoiled any chance I might

have had for any big, smart bass from that particular stretch of water.

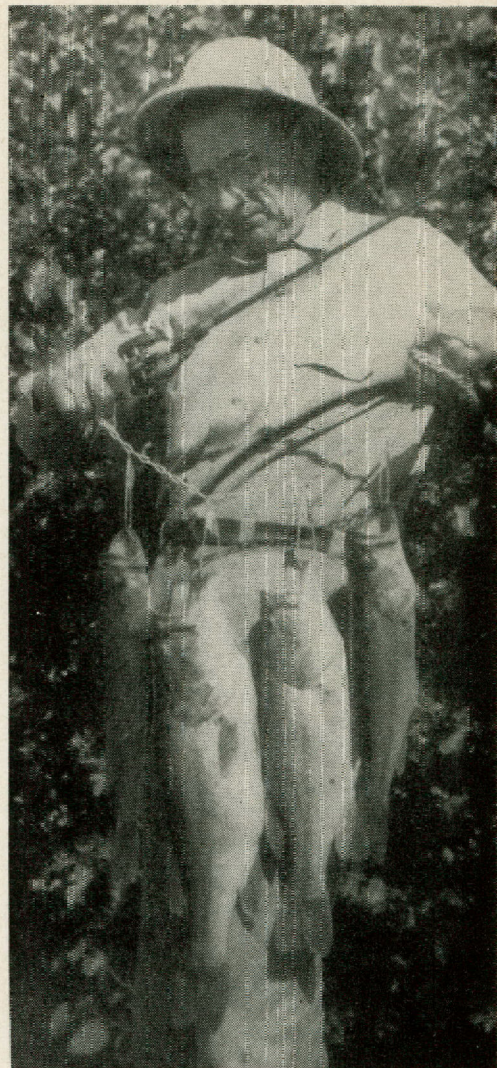
However, I stopped stump-still and began looking for a likely spot to land my first cast. Suddenly, I saw him—a whopping big bass, lurking just out from a small over-hanging willow bush.

Of course, he saw me, too. He seemed to be looking me right in the eyes, and I returned the favor while wondering what the heck to do next.

I decided to give him a chance at the black-and-white Shannon spinner I was using, so with as little motion as possible, I tossed it over beyond the fish. I allowed it to sink on a slow retrieve until near the bass, then started a fast retrieve.

He acted exactly as most big bass will when alerted, moving out away from it, executing a wide circle, and returning to settle in the same spot. I knew definitely then that I'd have to try new tactics and a new trick.

Looking over the situation again, I noticed a small ravine leading into the pool from the opposite bank, directly opposite the big bass. I backed slowly away until out of



The author with a string of hefties.

sight, then made a bee-line up the stream to a crossing above.

I knew what trick I wanted to try and selected a different lure. It was a surface, flutter-type, and I removed all except the rear hook. This I shielded with a rubber skirt. The lure had to be as near snag-proof as possible for what I had in mind.

With tackle readied, I made my way to the ravine and carefully crawled toward the pool to within about 40 feet of the big boy I knew was waiting beneath the overhanging willow tree.

I knew I didn't dare rise to a standing position, so, kneeling in the deep grass, I peeped across the pool to take aim. My light, fast reel and the tip action of my bamboo rod made it possible for me to cast with only a slight flip of my wrist. As planned, I let the carefully prepared lure tumble

● Concluded on following page



down through the leafy branches of the willow tree. That the lure would not hang was a chance I had to take. Fortunately, it didn't, and it dropped lightly into the water.

A twitch of the rod started the lure on a fast retrieve—but not for long! The prize bass came powering upward, smashed down on that supposedly young bird, and went right on, high into the air.

I set the hook the split second he hit, and the battle was on. It was an experience never to be forgotten, for the water was perfectly clear, and I was able to see every movement of that six and one-half pound scrapper as he maneuvered to free himself.

First he would dive, gaining room for a run straight for the surface, from which he would propel himself furiously out of the water. Each time,

I was ready, always keeping a taunt line and ready to yank the big fellow off balance the instant he broke the water.

Between jumps he would pull and run, trying his best to snag the line or lure on anything he could find.

It was quite a show in the still, clear water and a sight usually hidden from the fisherman in average waters.

When he finally was exhausted, darkness was near, but I had two fine fish, totalling nine and one-half pounds, a good enough late evening's catch for any sportsman.

Next month's adventure will be about a two-day trip over Wichita Falls way, Lake Diversion to be exact, where I took a fling at the big bass in the lake proper and the small-mouth bass in the fast water below the dam.

Identifying the Black Basses

continued from page 11

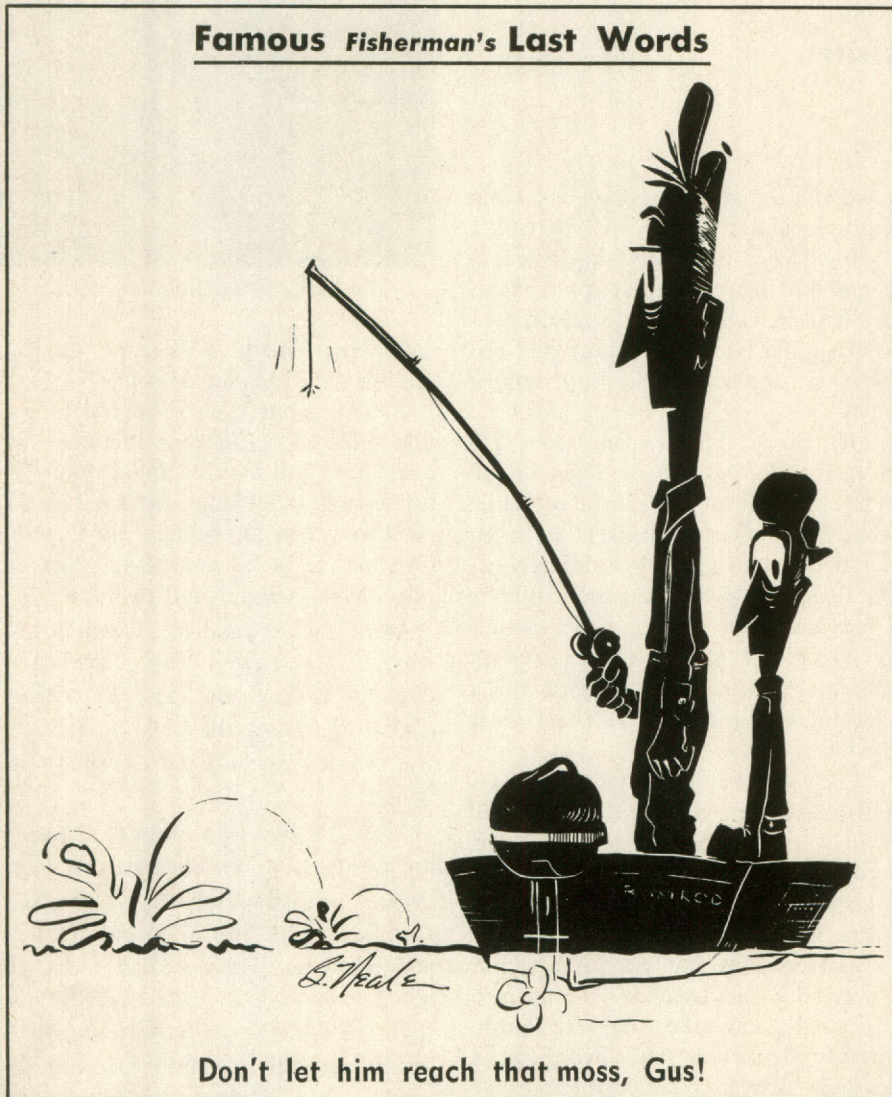
AT THE present time only three black basses are officially recognized as occurring in Texas waters. They are the largemouth black bass, *Micropterus salmoides*, and two subspecies of the spotted black bass—the northern spotted black bass, *Micropterus punctulatus punctulatus*, and the Texas spotted black bass, *Micropterus punctulatus treculi*. The northern smallmouth bass is included in the accompanying key to the black basses of Texas so that the fisherman may see the differences between it and the species of largemouth and spotted basses that are present in the state.

The largemouth black bass occurs in practically all of the fresh waters of the state. The majority of the fish production of the state hatcheries is in largemouth black bass, and they have been stocked throughout the entire state, even though they were already a native fish of the state. The largemouth bass occurring in most of the waters of the state differs slightly from the northern largemouth bass and will no doubt be described as a different subspecies in the future, as was the Florida largemouth bass. The largemouth bass of far West Texas and Mexico differs even more from the northern largemouth bass. Future investigations should determine if both of these largemouth black basses should be recognized as different subspecies from the northern largemouth bass.

The northern spotted black bass occurs in many Texas waters east of the Colorado River to Louisiana and north to Oklahoma. The Texas spotted bass, which is a small, usually brassy colored spotted bass, occurs in the swifter, clearer streams and rivers of the Guadalupe River Basin, as well as westward and southward to some extent. The small size of this bass is compensated for by its voraciousness in striking the fisherman's bait and its ability to fight to the "bitter end."

The Colorado River Basin seems to be the "mixing ground" for these two subspecies of spotted bass, as both have been recorded from this area. The spotted bass of Texas are often called Kentucky bass or Kentucky

Famous Fisherman's Last Words



Don't let him reach that moss, Gus!



spotted bass. The state fish hatcheries have raised spotted bass and stocked them in many areas of the state.

There seems to be some variations in the northern spotted black bass from certain localities in the state. This is especially true of a race of spotted bass in the Brazos River System. Future work should decide if these variations in fishes from certain areas of the state should be recognized as new subspecies of the spotted bass.

An outstanding character of all of the spotted bass of Texas is the distinct rows of dots or dashes along the sides and belly of the fish. These are very outstanding in the small Texas spotted black bass.

**I**N ADDITION to the above three black basses occurring in Texas, there are two others that possibly could be present in limited numbers in certain areas of the state. *Micropterus coosae*, the redeyed bass, named for its central habitat, the Coosa River System of Georgia, could possibly occur in Northeast Texas along the Louisiana or Arkansas borders. A bright red eye is an outstanding characteristic of this black bass. *Micropterus punctulatus wichitae*, the Wichita spotted bass could possibly occur in Northcentral Texas near the Oklahoma border. However, the habitat of the Wichita spotted bass seems to be restricted to the Wichita Mountains of Oklahoma.

It is a difficult task, indeed, to plan a key for identifying fishes that is simple enough for the average fisherman to understand, yet scientifically correct, so that it may be used with some degree of certainty. The key to the black basses of Texas accompanying this article, being man-made, has its limitations. It may be too complicated or too general in some instances. However, by using the illustrations accompanying this article, as well as the glossary of terms also included, the fisherman can use this key successfully. Naturally, it takes some study and practice. Some words used in the key should be defined for a clearer understanding of exactly what is meant. The following glossary will be very helpful in using the key:

**Fin spines**—rigid rod-like structures

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# Black Bass Are Babied

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By STEVE HAMLIN

F. P. Garrett, supervisor of the Jasper State Fish Hatchery, took an ordinary casting outfit over to the breeding ponds. It was time to examine his yearling brood stock to check contour development and other spawning symptoms.

He tossed the bucktail bait, with a barbless hook, into the area where ordinarily a break in the water surface means food. Instantly the casting rod bent under the strike. Garrett methodically reeled in the prize and examined it at water's edge. Ditto quickly for three more sleek blacks.

Could a person stand there and catch, one at a time, all of the gullible bass? Garrett said no, since

the game fighters finally would catch on, after say 25 had been tricked. "But," he smiled, "they'd be just as dumb the next day."

On the first bass, Garrett's assistant, Bill Byerly, spotted a parasite.

They removed a soft substance about the size of a rubber pencil head from the fish. The next one had a similar free rider, clinging close to the gills. And so did the third.

"We'll get rid of those," promised Garrett. "Give 'em a bath—dip 'em in a solution when we're changing to the spawning ponds."

They get supreme protection, do those precious black beauties which contribute upwards of 20,000,000 young scrappers to Texas lakes and streams during a normal year.

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supporting the membrane of a fin.

**Fin rays**—soft rod-like structures supporting the membrane of a fin.

**Dorsal fin**—the fin on the top or upper edge of the body.

**Soft dorsal fin**—the rear portion of the dorsal fin which is supported by rays instead of spines.

**Spinous dorsal fin**—the front portion of the dorsal fin which is supported by spines instead of rays.

**Anal fin**—the fin on the ventral or lower edge of the body behind the vent or anus.

**Soft anal fin**—the rear portion of the anal fin which is supported by rays instead of spines.

**Spinous anal fin**—the front portion of the anal fin which is supported by spines instead of rays.

**Fin membrane**—the thin tissue connecting the fin rays or fin spines.

**Lateral line**—a system of sensory canals evident as a curving line running lengthwise along both sides of the body.

**Maxillary**—the hindmost bone of the upper jaw.

**Pyloric caeca**—the finger-like projections extending from the passage which joins the stomach and intestine.

In using the part of the key dealing with the pyloric caeca as a character, the abdomen of the fish must be opened, as in cleaning the fish, and the intestines examined. The pyloric caeca are finger-like projections which protrude around the circumference of the passage between the stomach and the intestine of the fish. If they are double-branched, as in the largemouth black bass, almost every one of the projections will be forked to the base. If they are single-branched, as in the spotted black basses, almost every one will be a simple, finger-like projection clear to the base. Occasionally one will be found to be branched, however.

Sometimes a bass may be found which has characteristics of more than one species. There is evidence to indicate that there could be hybridization or cross-breeding between the subspecies of the spotted bass and between the largemouth and the spotted basses. It is most likely to occur among the subspecies of the spotted bass.

Since the black bass is regarded as the "number one" fresh water sport fish of Texas, it is hoped that the identification aids in this article will enable the bass fisherman to enjoy his sport of bass fishing to an even greater degree.



membering YOU have to carry that pack, HANDLE it, UNPACK and REPACK it, even though you may have some beast of burden or other to carry it most of the time for you if your trip isn't a backpacking one.

An old camper's slogan is, "Go light but right!" Another old piece of advice is: "When you return from a trip, sort your equipment into three piles. In one pile put the equipment you used everyday. In another put the equipment you used only occasionally. In the third put the equipment you did not use. Throw the last two piles away."

That last is always a shock. The only exceptions to this rule concerning the last two piles is hang on to emergency equipment such as a light first aid kit, match safe, etc. that you hope you never use but may some day be your life insurance. Then be mighty ruthless with the other stuff, keeping only the occasional used that is a necessity.

Items a camper should carry with

him at all times, especially in country that is strange to him:

Compass. (Also carry the knowledge of how to use it!)

Knife.

Waterproof match safe filled with matches. (A fat, rich stick of pine in with the matches makes a good fire starter and can pay its way in matches saved sometime.)

Topographic map (or Texas county road map from the Highway Dept.) for country with which you are not familiar enough not to get lost.

A couple of clean handkerchiefs or bandanas.

A couple of candy bars or other concentrated food. A bar of Baker's hard, sweet chocolate is my favorite.

Flashlight if you don't plan to be back in camp by late evening or there is even the remotest chance that you might get lost—it sometimes happens when you least expect it.

New pair of shoe or boot laces—can serve as stout cord in an emergency.

15 feet or so of parachute cord or other strong, light rope.

Double-Mint chewing gum is good for throat thirst—maybe nerves. This is optional.

A few Band-aids, or better still, a some-made first aid kit in a sucret or other small tin sealed with adhesive tape.

Canteen—if in dry country away from windmills or other kind of fresh water. Halazone or Bursoline water purification tablets and a plastic or canvas cup are compact and will make most water healthful bacteria-wise, if not tasty. If in strange country it is a good idea to find out from the local residents about the water. Drink "gyp" water in small doses.

Snake-bite Kit—optional—the Cutter's Compak suction snake-bite kit is compact, light and about the best for those that feel the need for this type of kit.

Since most of my camping has been mainly in Texas and the southwest while hunting or fishing, my remarks will be based mainly along this line. However, the basic equipment for camping doesn't vary much. Only the hobby gear changes.

Regardless of where you camp, the essential items are food, bedding, clothing, and shelter. Other items taken are to supplement these essentials, to provide for emergencies, and for entertainment. All are subject to individual likes, the demands of the type camping done, and climate to be encountered. For climatic conditions anywhere in the United States and possessions, the Dept. of Agriculture Yearbook, CLIMATE AND MAN, is a good reference.

## BEDDING

For the Southwest—that is, Texas, its surrounding states and across the border—the temperature ranges from warm to sultry in summer with cool nights in the higher altitudes to temperatures hardly ever going as low as zero degrees Fahrenheit, except during the dead of winter (after most hunting and fishing seasons are over) and during blizzards in the high mountain areas. In other words, unless you are a glutton for winter camping or have

## Fishing Was Too Good!

Game Warden Supervisor E. M. Sprott of Lufkin gets all sorts of frantic messages on his car radio while he covers his vast East Texas district. But the one he got a while back was just a little out of the ordinary.

This one didn't concern law enforcement but it did demand immediate attention.

One of his wardens was on the two-way radio. Did Supervisor Sprott know where there was a ready fish market; did he know where there was a place to store some fish—live fish?

Sprott pulled over to the side of the road to facilitate a decision, and it developed that two Angelina County farmers had been picking up some between-crop pin money by netting for rough fish in the Angelina River below the mouth of Peach Creek. They got a license and proceeded just like the big commercial fisherman, except that they meant to operate on a modest scale.

It was the self-imposed limitations

that caused the crisis, because somebody forgot to tell the fish. One morning when the farmers checked their nets they found them packed full, smack in the middle of a concentration of buffalo.

They drew up their nets and emptied them into their skiff. This they repeated. Finally, they had their live boxes full of fish and their holding tanks full of fish. Their very skiff was full of fish. They finally tied up the ends of their nets, stuffed with buffalo. Then they appealed to the game wardens.

The warden supervisor did not know of a market beyond the farmers' commitments. But they did pretty well, getting twelve thousand pounds in one haul. They just hated to pass up that rough fish run with endless tonnage in sight, because they estimated they barely dented the buffalo run.

Brother, can you spare a live box!

—JAY VESSELS.



special reasons for camping in zero weather, cater more to the 70 degree to zero degree type of sleeping bag and other gear.

Actually, for summer camping in the lower altitudes or where you won't encounter nightly lows below 60 degrees, a good, fuzzy, four pound wool blanket provides all the warmth needed in bedding when properly used. For colder temperatures, get a light weight down bag with a means of adjusting ventilation—it's expensive but if you camp much it'll pay for itself pretty quick in comfort and portability.

To make a bed on the ground: 1. Dig or scrape out a depression for your hips. 2. Spread a ground sheet (moisture barrier)—poncho, tarp, 3' x 6' piece of vinyl plastic or waterproof bottom of a sleeping bag cover. 3. Spread blanket or bag on top of this. 4. Have a water repellent cover to go over the top of bed.

For a mattress you can use grass or leaves under the ground sheet or else a small air mattress, Navajo saddle blanket, or other small torso length pad on top of the ground sheet. A small mattress of upholsterers' one-fourth to one-half inch thick air-foam rubber makes a nice pad, but it is bulky for backpacking. The top cover should either let air pass through it or else be left open around the edges to let the body moisture escape during the night. Remember you need at least as much covering under as over you when sleeping on the ground—or a canvas cot for that matter.

Cots are fine in mild to warm weather when sleeping close to your auto or other transportation. They will freeze you out in cold weather. A bunch of newspapers spread on the cot before the cover is put on it makes a cot a lot warmer.

My pet sleeping bag is the Mountain Top bag made by Camp and Trail Outfitters. It weighs only 4 pounds, has a full length zipper and ample foot room. It has a hood that will lie flat when not needed or will zipper up "mummy" style for cold weather. It's the most versatile bag I know of for temperature changes—you can start out on top under your shelter cloth, or fold the top of the bag loosely over you, or when neces-

sary zip it all up until only your nose and part of your face around it is exposed.

For a pillow, you can use your shoes or boots with spare clothing over them, a small air, down, or airfoam pillow, or one from home—just as transportation permits.

### SHELTER

On the whole, the Southwest has a relatively dry, windy climate. However, coastal areas and areas with certain topographical factors have much wetter climates than the whole. Mountains are an example of the latter. A study of climate and weather in relation to terrain gives you an idea of what to expect generally. A rough rule of thumb for the area is that the wettest seasons are early spring and fall.

My experience has been it pays to have rain gear handy at all times when it is convenient to carry it. Showers can come up at the darnedest and most unexpected times. Tents are the best foul weather shelters. The minimum shelter is a poncho—it's a versatile garment.

There are many kinds of tents. The ideal tent is light, compact, easy to pitch, bug and snake proof, waterproof, adequately ventilated, designed for stability in blustery weather, capable of reflecting heat from a camp fire in winter, affords adequate privacy, and is roomy enough for comfort.

All tents are to some extent a compromise of comfort and other of the ideal factors. Since we in the Southwest usually camp in warm to hot weather, ventilation is very important. In my opinion the Ezy-Up fulfills more of the ideal features of a tent for two people than any other tent for light camping I know of for the Southwest.

Tarp tents, such as the Hickory Tent design for Boy Scouts, are about the most practical tent in a low price range for one person that I know of. Each person in a small party can pack one. When made of suitable light weight material it is a very light tent that can double as a bed tarp, shelter cloth, or any other tarp use as well as pitching into a practical little tent.

During mosquito time no camp is

comfortable unless some provision is made to control these pesky rascals. Take along a small bottle of good mosquito dope, and if you don't use a bug proof tent, take a square of mosquito netting at least 6 feet square. Suspend this by string or make a stick tripod over the head of your bed to drape the netting under, then tuck the free edges under the bed to hold it down. If you have a mosquito inside with you, you might as well stay after him until you get him with your hands or smack him with a wet sock if you want any peace. If you use a cot get an army-surplus cot net with dowel rod posts and use it the same way.

For stationary camps, the best tents for windy country are the pyramid, the walled pyramid, "A" tent or wall tent, the latter two properly braced. The umbrella tent is mighty popular with auto tourist campers. The pyramid (sometimes called "teepee" by old timers) and the walled pyramid are old time cow camp favorites and stand up in a high wind better than the other tents. They cover the most ground area for their weight but are cramped for head room.

*(Next month the author will discuss clothing and food.—Editor.)*



## Big Northern Bob White

Eggs—May, June & July—\$30.00 per 100

STARTED CHICKS, 5 weeks old  
July to October: 20 chicks for \$21.00  
Instructions for care, with order

YOUNG BIRDS, 8 to 10 weeks old.  
3/4 grown. Ideal for restocking, August to  
Nov.: 10 pair for \$25.00

MINIMUM ORDER: 5 pair quail or 50 eggs

## Whitney Quail Farms

503 W. 30th St. Austin, Texas  
G. E. WHITNEY, OWNER



Editor:

. . . we have often discussed how rapidly the gar fish is multiplying in Possum Kingdom Lake.

Isn't there something that can be done to eradicate that species and make for better fishing in Possum Kingdom and other Texas lakes? Can't the state appropriate funds for the purpose of helping to keep edible fish from being destroyed?

O. W. Walden  
R. F. D. 5, Box 574  
Dallas, Texas

(Yes, something can and is being done. The Game and Fish Commission at the present time has a commercial fisherman under contract to remove gar and other "rough" fish from the waters of Possum Kingdom.

(There is something you and your fishermen friends can do to reduce gar, too. And we'll personally guarantee you'll have a lot of fun doing it. Fishing for gar happens to be one of the specialties and favorite pastimes of the editor. A 100-pound alligator gar on saltwater tackle or a 10-pound longnosed gar on bass tackle can provide a real thrill—they'll jump like tarpon and walk the water like black bass.

(Incidentally, if you know the location of a big CONCENTRATION of giant alligator gar [75 to 200 pounds and up], we would appreciate hearing about it.

(We hope to have an article in TEXAS GAME AND FISH concerning this subject soon.)

Editor:

In the February issue of TEXAS GAME AND FISH we read about the fishing place at Lake Texoma for disabled persons. Is this place for veterans only?

My husband is a cripple and can't fish in ordinary streams and rivers, and he would like very much to spend part of his vacation there.

Mrs. J. M. Hicks  
4108 Austin Ave.  
Waco, Texas

(We called on John Clift, outdoor editor of the Denison Herald, for the answer to this query. John says, "It is not confined to veterans only, but any handicapped person who wishes to fish can use it. When the person applies [in person] a permanent badge is issued for both the angler and his attendant. According to Sam Gary, of the U. S. Army Corps of Engineers, this can be secured at the Denison dam powerhouse.)

Editor:

I am an advocate of bow hunting, and I am in favor of a special season for archers . . . After the rifle hunter has invaded the field there is very little chance left for a fellow who has to get within 30 yards of a buck.

Mr. Richards was absolutely right (March issue) when he said, "Hunting with the bow is not the method for 'meat hunters.'" I have hunted many years with a rifle for all sorts of game. Only last year I killed my two bucks with ease, but the thrill of honest-to-goodness hunting wasn't in it, because it was just too easy. A deer at 50, 75, or even 100 yards with



Stark's hunt of the past.

the high-powered rifles and scope sights of today is sure to be killed by the average hunter. But with the bow, shooting at 30 to 50 yards, the percentage of hits would be much less . . .

I am enclosing an old picture. The boy in the white shirt is me, although this was many years ago.

Joe Stark  
San Antonio, Texas

(The bill designed to give archers a special deer hunting season died for lack of action. The Senate refused to vote on it one way or another before adjourning. Therefore, the bow hunters will have to wait until they can try again at the next session of the legislature.)

Editor:

I very much fear there is an error as to how Old Rip's tribe is brought into this world. According to the article in the April issue, the horned toad's offspring are born alive. If that be true, then all the time I spent studying toads, lizards, bugs, and snakes when I should have been hoeing or picking cotton was a complete loss. My brother and I have spent hours studying Old Rip's family. I have watched . . .

the female dig a hole in which to lay her eggs and have dug them out . . . . .

I don't know who, but someone has been sending me your magazine—perhaps one of my nephews. I am enjoying it immensely . . . you are teaching me a lot about the good old state I left in 1912.

L. B. McClendon  
966 Cascade Drive  
Salem, Oregon

(Some horned lizards DO lay eggs, others give birth to their young, depending on the species. The day after Mr. McClendon's letter arrived, we had another from David Johnson, the young reptile fancier who was the subject of an article in the magazine last month. He called to our attention the fact that horned lizards also lay eggs. Then came the following:

Editor:

. . . Two statements are made that give the wrong impression to the public. One of them was that the horned lizard "took water into his system by absorbing it through his skin." Every biologist knows that skin of reptiles is as impervious to water as is the skin of man, and certainly we do not take water into our system through the skin . . .

The author (also) states "horned lizards give birth to living babies." . . . The long-horned lizard lays eggs, but the short-horned species that occurs in the Trans-Pecos area does give birth to young . . .

Dr. W. B. Davis  
Head of the Department  
of Wildlife Management  
Agricultural and Mechanical  
College of Texas  
College Station, Texas

(Then, finally, there arrived a letter from our meticulous, painstaking cover artist, Orville O. Rice.)

Editor:

. . . the truth is that some horned lizards are viviparous (or more correctly ovoviviparous) and some are oviparous, depending on the species. Those found in the central portions of Texas are oviparous.

Orville O. Rice

(A little interpretation reveals that Rice grabbed the lizard squarely by the horns. What he is trying to say with all those big words is that some horned lizards give birth to their young [viviparous], or more correctly, that eggs are formed inside the body and are held there until they hatch [ovoviviparous]. Others, including those found in the central portions of Texas, lay eggs [oviparous].)

Editor:

One of the enclosed subscriptions is for my godson. The other is for our grandnephew, whose father just phoned to an-



nounce his birth as I was filling out the first subscription blank!

(Name withheld by request)

(No doubt this youngster, given a subscription on the day of his birth, rates as the youngest subscriber to TEXAS GAME AND FISH on record!)

Editor:

Recently I obtained two back issues of TEXAS GAME AND FISH magazine. I thought you might be interested to know that these additions give me a complete file of the magazine from 1942 to date, with the exception of the September, 1947, number.

I am having these copies bound together, and it is my intention to present the file to a library at Clifton, Texas.

TEXAS GAME AND FISH has been a most welcome publication in my home . . . and I believe the complete file will represent the most complete and thoroughly informative publication on Texas game and fish.

A. C. Fricke  
212 Julian St.  
Dallas, Texas

(In the last issue we asked to hear from anyone having a complete file. We received Mr. Fricke's letter before that ever got into print. Now, does anyone have an extra copy of the September, 1947, issue to help Mr. Fricke complete his file? There isn't a single extra copy left in the office.)

Editor:

There does seem to be something new about the gnu—the name. Take a glance at your third item under "Things You May Not Know" in the April issue.

. . . let me say that I am not a habitual editorial kibitzer, and possibly the only reason I write this is because I am so impressed with your magazine, to which I only recently have been introduced.

L. T. Teir  
2304 Piedmont Place  
Wichita Falls, Texas

(The paragraph to which Mr. Tier refers read "The gnu is part donkey, part buffalo, part horse, and part antelope. Apparently there is nothing new about a gnu.")

(A "q" DOES look a lot like a "g." and those particular q's got past the typesetter, two proofreaders, and the editor. Seems as if someone was not minding his g's and q's.)

Editor:

I am enclosing a picture of two bucks I killed last year. I fired only two shots, and they were good for a total of 20

Welch's 20 points with two shots—and fine bucks they are.



points. You know, everyone likes to brag a little!

. . . I think the "Game Warden's Lament" published in the March issue really hits the nail on the head . . . I have yet to find a game warden whom I could not call a gentleman.

L. A. Welch  
Santa Anna, Texas

(Twenty points worth of whitetail in one shot should give anyone the right to brag a little. And on behalf of the wardens, a great big "thank you.")

Editor:

We need . . . some means of keeping quail and doves from becoming extinct. Why not tax hunters \$3 a year for this purpose?

Lloyd German  
5218 Columbus Ave  
Dallas 14, Texas

(At last here is one hunter who knows that game doesn't "grow on trees." We doubt if the average hunter would stand still for a tax, though.)

(Not long ago we printed a letter from Mrs. George H. Zinsmeyer, LaCoste, Texas. Her down-to-earth observations of the activities of deer proved so interesting, we herewith present another of her letters—this one about coyotes.)

Editor:

I am writing about what I have seen concerning the eating habits of coyotes. From the time I was a very young child, I learned that a coyote will eat anything from corn to homemade soap and anything that doesn't eat him first.

. . . Once when I was ten years old I went to the field on my pony. There was a patch of ungathered corn . . . I noticed a coyote come into the field, so I sat quietly just to see and learn what it would do. It went into the corn patch and grabbed the corn stalks in its teeth and

tore down the ears of corn and ate it like a hog. It ate three or four ears before it stopped.

. . . one day a coyote dug under a neighbor's chicken fence and she heard the noise. Some dogs cornered the coyote in the pen, and the neighbor killed it with a crow bar. It had eaten two big fat hens . . .

If you didn't get the baby calves in as soon as they were born, the coyotes would eat them.

. . . Once my father planted sweet potatoes, and along came an early winter, and the coyotes dug the potatoes and ate them . . . I also saw where the coyotes cleaned out a field of watermelons (See TEXAS GAME AND FISH, January, 1953).

And here's the funniest one a coyote did. My mother cooked a batch of soap in a large iron kettle . . . and left it out overnight. Next morning she went out to see about her soap, and she called us to come see what the coyote had done. It had eaten a hunk out of that soap that would have filled a gallon bucket. We could see it was a coyote by some of its hair on the edge of the kettle and by its tracks in the ashes.

Mrs. G. H. Zinsmeyer  
LaCoste, Texas

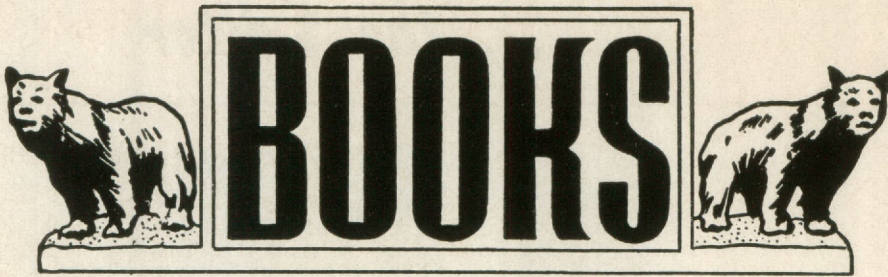
Editor:

I have been thinking about the article in the March issue of TEXAS GAME AND FISH called "He Hunts by Air."

We are rapidly becoming aware that there are fewer eagles. I agree . . . that the eagles and coyotes should be controlled . . . but I don't think that every eagle that is seen should be shot . . . and . . . I don't think all the coyotes should be killed just because they are classed as predators . . .

John Lincoln  
550 Senisa Drive  
San Antonio, Texas





# BOOKS

**THE COMPLEAT ANGLER** (Tricentennial Edition) by Izaak Walton, revised by Eugene Burns. 192 pages illustrated with nine photographic plates. Published 1953 by The Stackpole Co., Telegraph Press Building, Harrisburg, Penn. \$3.50.

Gene Burns, certainly one of the finest writers in the outdoor field today, has done a terrific job of modernizing this classic of angling literature. He has retained the charm and all the wisdom of Walton's pen while making the book easier for the present-day fisherman to read.

The book, published to the month 300 years after the original, includes Walton's "Compleat Angler" and its supplement, "How to Angle," written by Walton's younger friend and closest companion, Charles Cotton. Added are a fine introduction by Burns, himself, tracing the history of this book and of Walton, and a summary of the history, purposes, and philosophy of the Izaak Walton

League of America. The latter is written by Bob Beatty, editor of the League's periodical *Outdoor America*.

Burns, in his introduction, says, "In preparing this *Tricentennial Edition*, I strove constantly to give the angler a readable Izaak Walton, the while retaining his serenity . . . Each word, each phrase, each sentence was weighed, and nothing was removed or transposed that might destroy the mood. Yet there was that driving urge to help make it a book to be taken into the hand of the angler, and read!"

Burns accomplished his intention in superb fashion.

"The Compleat Angler" has adventure in the fishing experiences of the expert Angler and his companion, the novice Hunter—in fact Walton's book must surely be the first "me and Joe" story of two fishermen. There's philosophy—for instance, this passage: "HUNTER: . . . I have put

on patience and followed you these two hours and not seen a fish stir, neither at your minnow nor your worm." "ANGLER: Well, Scholar, you must endure worse luck some time, or you will never make a good angler . . ." And he who believes Walton had no sense of humor indicates that he has never read "The Compleat Angler!"

This book is a "must" for every fisherman's shelf.

## SALT-WATER FISHING TACKLE

by Harlan Major. 284 pages profusely illustrated with 64 pages of photos and numerous line drawings. Published 1948 by Funk and Wagnalls Co., 153 East 24th St., New York 10, N. Y. \$6.

This one is by the old master student of salt-water fishing and tackle, himself. Major has either a remarkable memory or the good sense

**A**  
**Time-Tested**  
**Favorite**

to take thorough notes everywhere he goes, for each time he sits at his typewriter, he turns out a thorough and amazingly detailed job. Names, places, figures, examples, specifications, and a terrific amount of valuable information fill this big book.

The illustrations—an average of one to a page—are great. A few are somewhat out of date in this revised edition, but, nevertheless, they serve their purpose well.

Harlan Major has been fraternizing with the greats of salt-water fishing most of his adult life and has fished all over the world. His ability to record the things he has learned coupled with his vast experience should be recommendation enough for this book.

It covers everything about salt-water tackle from sinkers to extra heavy-duty fishing harnesses. Beginning with a history of tackle, the book follows through with the development of modern tackle, tackle specifications, descriptions of different types of tackle, fishing methods, tackle building, boats, and other equipment.

This volume is of particular value to the advanced angler, but beginners, as well, will benefit from its counsel.

## Dove Banding

*continued from page 13*

99 per cent of the doves that finish their nesting on schedule in late summer. And the hunter is permitted to harvest the surplus that would otherwise be wasted. Maybe the one per cent that gets off schedule some seasons will learn to cooperate eventually!

During 1952, 6,331 doves were banded in Texas by 200 cooperators. Of these birds, 155 were reported to the Game and Fish Commission as having been killed during the hunting season immediately following. Eight of these came from a region of Mexico which previous years' band returns had indicated as the principal wintering grounds of a large percentage of Texas birds. For the first time, three of our bands were returned from birds killed in Central

America. Single birds were killed in Florida, Alabama, and New Mexico, with the Florida bird being a new easternmost point in the 3-year study.

The 140 band returns from Texas birds killed in Texas showed no major unusual movement pattern. Most of Texas dove hunting again was in a 300-mile strip through the middle of the state from Oklahoma to the Rio Grande Valley. Birds less than two months of age were killed close to home. Thereafter they often moved great distances in short periods of time. From the east, generally birds moved westward. Early fall season movements in all directions indicated search for feed in scattered localities. Late season band returns were mostly from the south, involving birds headed for their wintering grounds.



# Wildlife Babies

These seven baby wolves created quite a stir in Paris recently when they were brought into town for a session with the photographer. Two Lamar County farmers, J. T. Robinson, left, and E. W. Blackshear, found the pups in a hollow log. Two days later a federal trapper caught the mother nearby. The photo is by Ray Sissel.—Bill Thompson, *The Paris News*.



Below, this mother javelina doubled the usual number of young produced by her species by bringing forth quadruplets. Three of the youngsters are shown at center and the fourth can be seen at right, behind the mother. Another adult is at

far left. William S. Jennings, wildlife technician for the Game and Fish Commission, snapped this unusual photo while doing javelina research in South Texas. It was taken without aid of telephoto lens—he was actually this close to his wary subjects.

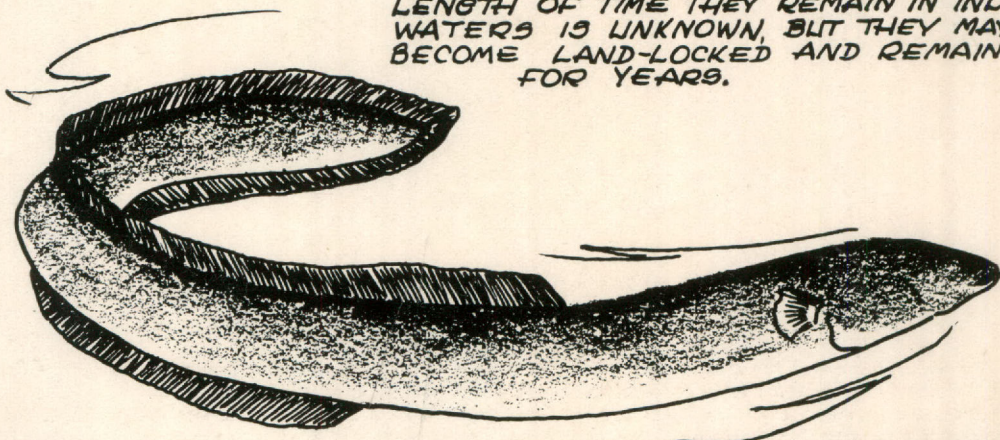




# THE COMMON EEL



ALTHOUGH SPAWNING ONLY IN THE SEA, EELS ENTER TEXAS STREAMS THAT FLOW INTO THE GULF AND TRAVEL GREAT DISTANCES INLAND, OVERCOMING DIFFICULT OBSTACLES OF A REMARKABLE DEGREE. SO FAR AS IS KNOWN, ONLY THE FEMALES PENETRATE FAR INLAND. THE MALES TRAVEL LITTLE ABOVE TIDE WATER. EELS SPEND THE COLDER MONTHS HIBERNATING IN MUD AND ARE OMNIVOROUS FEEDERS. THE LENGTH OF TIME THEY REMAIN IN INLAND WATERS IS UNKNOWN, BUT THEY MAY BECOME LAND-LOCKED AND REMAIN THERE FOR YEARS.



THEIR MIGRATION TO THE SEA IS DURING THE WARMER MONTHS AND IS ONE OF NO RETURN AS DEATH FOLLOWS SPAWNING. THE MINUTE EGGS HATCH INTO VERY UNEEL-LIKE LARVAE AND THEY GRADUALLY WORK THEIR WAY BACK TO THE COAST. UPON REACHING THE COAST THEY HAVE ATTAINED THE FORM OF MATURE EELS, BUT ARE QUITE TRANSPARENT. THEY ATTAIN THEIR PIGMENT, BECOMING ALMOST BLACK, AFTER REACHING FRESH WATER IN THE BAYS.

WOOLDRIDGE

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