

TEXAS
Game AND Fish
JULY 1947 TEN CENTS



Why

TEXAS GAME and FISH Is a “MUST” Advertising Buy . . .

- 1.** Because TEXAS GAME and FISH is written and edited EXCLUSIVELY for Texas by Texans who, through training and experience, know Texas hunting and fishing from A to Z, and who have earned the confidence of one of the fastest growing family of readers and friends in the nation today.
- 2.** Because TEXAS GAME and FISH reaches the very persons you want to reach—the men and women and youngsters who REALLY LAY THEIR DOUGH ON THE LINE for hunting and fishing equipment that will get the job done. Ninety-two percent of the readers of TEXAS GAME and FISH are buyers of hunting and fishing licenses. Think that over, because Texans don't buy hunting and fishing licenses to frame.
- 3.** Because TEXAS GAME and FISH is adding new subscribers at a rate better than 500 a month WITHOUT THE USE OF PREMIUMS — HIGH PRESSURE SOLICITORS — OR A CLUB RATE. Subscribers lay one buck on the barrel head for a one year subscription to TEXAS GAME and FISH and in return they get a magazine THEY LIKE and SWEAR BY.
- 4.** Because TEXAS GAME and FISH right now has a PAID circulation of more than four times the combined circulation of all the other hunting and fishing magazines IN TEXAS. And TEXAS GAME and FISH is growing rapidly. A low basic rate, which is bound to be upped very shortly, makes TEXAS GAME and FISH a “MUST BUY” on the schedule of alert and progressive manufacturers and advertising agencies.

**To Really Reach the TEXAS Market
You MUST Use TEXAS GAME and FISH**

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.



TEXAS GAME AND FISH is published monthly by the Texas Game, Fish and Oyster Commission. Subscription price \$1.00 per year. Single copies 10 cents each.

TEXAS GAME AND FISH regrets that it cannot continue subscriptions beyond date of expiration. Checks and money orders should be made payable to STATE GAME, FISH AND OYSTER COMMISSION. Editorial and Advertising offices, Walton Building, Austin, Texas. Published at 3301 Buffalo Drive, Houston, Texas. Entered as second class matter May 19, 1943, at the postoffice at Austin, Texas, under the Act of March 3, 1879.

Postmaster: If undeliverable, please notify TEXAS GAME AND FISH on form 3578-P at the Walton Building, Austin, Texas.

Members of the Game, Fish and Oyster Commission: Murrell L. Buckner, Dallas, *chairman*; Gene Howe, Amarillo; Dr. Will E. Watt, Austin; A. T. McDannald, Houston; Gordon Stewart, Sonora; Frank Jones, Marfa; H. D. Dodgen, *Executive Secretary*; H. E. Faubion, *Assistant Executive Secretary and Director of Sand, Shell and Gravel Division*.

Directors of Divisions: F. M. Cowser, Austin, *Anti-Pollution and Law Enforcement*; Marion Toole, Austin, *Inland Fisheries*; W. C. Glazener, Austin, *Wildlife Restoration*; Roger M. Busfield, Austin, *Departmental Publications*; Joe Marks, Austin, *Hatcheries and engineering*; W. J. Cutbirth, Austin, *Chief Clerk*.

Manuscripts should be addressed to Editor, TEXAS GAME AND FISH, Walton Building, Austin, Texas. All manuscripts should be accompanied by photographs. TEXAS GAME AND FISH always is interested in pictures of game and fish catches, unusual hunting and fishing scenes, bird dogs, and in group pictures of hunting and fishing organizations. Photographs used in TEXAS GAME AND FISH will be returned after publication.



July, 1947

Vol. 5, No. 8

CONTENTS

A Hunter's Dream	4
By J. L. BAUGHMAN <i>Game was plentiful around Galveston a century ago but scant cover called for expert marksmanship to bring home the bacon.</i>	
A Program for the Black Duck	5
By IRA N. GABRIELSON <i>Drastic conservation steps are necessary if the wisest and wariest of the duck tribe is to be saved from extinction.</i>	
How A Rookery was Wrecked by Floods	6
By J. G. BURR <i>Colorful and picturesque shore birds wage never ending battle with the elements to bring forth their young.</i>	
Rodeo — Sports Fashion	8
<i>The fish rodeo is threatening to usurp the supremacy of the horse and cowboy for the interest of sportsmen.</i>	
Possibility of Fish Meal Production in Texas	13
By J. L. BAUGHMAN <i>Are Texans overlooking a prolific economic source in not turning shrimp waste and scrap fish into commercial meal?</i>	
Fresh Water Shrimp	14
By JOEL W. HEDGPETH <i>Believe it or not the biggest shrimp in Texas do not come from the ocean but from the rivers.</i>	
Shorter Duck Season Seen	15
By WALTER P. TAYLOR <i>Continued decrease in the waterfowl population leads experts to predict a shorter season this year to conserve quackers.</i>	
A New Target Pistol Is Born	17
By ADAM WILSON III <i>The New Match Target Woodsman seems to be a firearm that is the answer to a target shooter's prayer.</i>	
Hints for the Angler	21
<i>There will be many drawings this year but the use of common sense and reasonable carefulness will cut down the number.</i>	
Flying Fishing	26
By JACK BLACKWELL <i>A new thrill has been added to the ancient sport of luring salt water fighters to do battle with your hook.</i>	
Reptile Fallacies	31
<i>Wherein a few snake myths are exploded by cold scientific facts still ignored by some people.</i>	
Books	33

ROGER M. BUSFIELD
Editor

ONE WHOLE YEAR

Subscribe Now.. \$1⁰⁰

CLIP AND MAIL THIS BLANK TODAY!

TEXAS GAME and FISH,
Walton Building, Austin, Texas

I enclose \$ _____; Send me TEXAS GAME and FISH for _____ years, starting with your next issue.

Name _____

Street and Number _____

City and State _____



A Hunter's Dream

English Woman Found Ducks and Geese in Incredible Numbers Around Galveston But Lack of Cover Made Waterfowl Shy and Expert Marksmanship Was Necessary to Kill Game Even Though Plentiful

FEW people realize the prodigal bounty of Texas in her early days—Today when we are faced on every hand with depletion of our fish and game, the account given by an English lady, Mrs. Houston, who visited Galveston in the 1840's while on a yacht voyage to the New World is almost unbelievable. Mrs. Houston and her husband stayed for some time on Galveston Island where she was much interested in the game. She says:

"Game was plentiful in the neighborhood. When the wind was northerly, there were flocks of sea-birds, in numbers almost incredible, ducks of every description, the delicious canvas-back, the mandarin, the pintail, and our common wild duck, all good; but the most numerous kind were scarcely eatable, being hard and fishy. The geese were the most difficult to shoot, being very shy; and from the want of cover in the prairie, they generally saw us in sufficient time to get out of our way. Mr. Houston however, contrived sometimes to bring one down, and that at distances of one hundred and fifty yards; but they are not worth eating for no keeping makes them tender, and they taste much more of fish than fowl. No one must be surprised at our attempts to eat nearly everything we shot. Our dinners, with the exception of game, consisted always of beef; mutton was not to be had—a sheep being quite a sight at Galveston. Pigs, to be sure, there were; but they fed so uncleanly, upon snakes and dead dogs, that recourse to them was not to be thought of. Turkeys and fowls were scarce, and we had had enough of them on the voyage. The venison is good but destitute of fat; the price of a deer is about two dollars. Soon after our arrival, Mr. Houston went to the main-land, and came back with a magnificent deer, which he had brought down with small shot. It caused great jealousy among the Galvestonites. 'I say, Captain, so you've been using up our deer, I see,' said one of these gentlemen to him, when he returned triumphant with the spoil. I remember, on the same day, that I took a drive on the sea-beach; the drive was fine, and I saw many beautiful, and

some curious birds. There was the pelican standing drowsily in the shallow water, and as we approached, wheeling away with his heavy lagging flight. There were beautiful herons of various kinds, and a flight of spoonbills, of a brilliant rose-colour, like the flamingo. More inland, the bright plumaged cardinal darted past us, while the yellow larks skimmed above us, in vast numbers.

"Bogs are frequent and not a little dangerous, as there are scarcely any visible signs of them, and if you are unlucky enough to get well into one, the



By J. L. BAUGHMAN



chances are rather against your getting out again. In the neighborhood of these bogs snipes are very plentiful, and Mr. Houston had left me in charge of the carriage, and was fast filling his pockets with those birds, when I espied a fine deer bound out of the rushes, not ten yards behind him. Unluckily, he neither saw nor heard him, and I had the mortification to see the animal get away without a shot being fired at him. Soon after, we saw by the help of our glass, two deer feeding together at a distance. They are extremely shy, and our only plan was to surround them, making the circle smaller by degrees. I took up my position at one angle; Captain E., who accompanied us, at another; and Mr. Houston, with his rifle, at the third. The deer stood a moment at gaze, evidently doubting at which point to make his escape. Unluckily for himself, he chose the strongest position, and while in full career, he received his death wound from Mr. Houston's rifle.

"Wild swans are very numerous, but too shy for sport; the price of a swan's skin is one dollar. The best bird I tasted in Texas was the prairie hen; it is a delicious compound of pheasant, grouse, and partridge. People that have been in

India say that it resembles the jungle fowl of that country. It is as large as a pheasant, with spurs or tufts of feathers on its heels. We killed quantities of snipes and plovers—sometimes twenty at a shot. The inhabitants do not waste their ammunition upon such small game, except the boys, who from the age of five years are intrusted with a rifle; and dangerous enough are these inexperienced sportsmen to harmless passerby. The perseverance of these people when a deer is in question is remarkable; they will creep in a horizontal position, in the long grass, for hours together; sometimes, perhaps, not advancing more than a yard in a minute.

"There are many kinds of excellent fish in Galveston. The best of these is decidedly the red fish. It very much resembles the cod in flavour, and grows to the length of fifteen feet. We found it excellent when salted.

"There are likewise immense quantities of grey mullet, which, though certainly an inferior fish, are nevertheless very welcome when no other, nor better sorts are to be procured. At low water, they were taken from the pier by means of a casting net. Oysters are much in demand, oyster soup being a favorite among the Americans. They are large and coarse, and by no means highly flavored. We often took grey mullet ourselves with a casting net; and occasionally, in the bayous, Mr. Houston hooked a red fish, which was a pleasant variety in our sports. The bait for them was a piece of crab, or oyster."

While he says nothing of 15-foot red fish (as does Mrs. Houston), the editor of the *Telegraph and Texas Register*, published in Houston at about the same time Mrs. Houston was there, reported that he had caught the following species of fish:

Jewfish, drum, red fish, sheepshead, flounder, shark (two varieties), spug ray, sword fish, gar, mullet, croaker (two varieties), skipjack, bream, toad, han-fish, devil fish, smelt, catfish (two varieties), eel, pompano, needlefish, porpoise, grandecolt (tarpon, we call it), Spanish mackerel, king fish, shell fish, green

★ *Continued on page 25*

A Program for the Black Duck

By IRA N. GABRIELSON

THE black duck, reputedly the wisest and wariest of the duck tribe, is slowly and steadily decreasing in numbers. The decrease has been accelerated in the past two years, and this grand sporting bird today is in the most precarious position it has ever occupied.

What is the trouble?

Surveys made by both the Fish and Wildlife Service and Ducks Unlimited in the maritime provinces of Canada have shown that the northern breeding ground is relatively undisturbed. There is no evidence that destruction of northern breeding habitat has been an important factor in the decrease. The answer lies in this country and can be stated briefly as more hunters and less suitable habitat.

Suitable breeding habitat has been seriously reduced within the United States. Likewise, food production on wintering grounds and feeding grounds has been greatly reduced by drainage for agricultural purposes, pollution of estuaries of streams badly enough to destroy the best vegetation forming duck living quarters, silting caused by excessive erosion with consequent dumping of greatly increased quantities of sediment into streams and lakes, filling of marshes for industrial and other human use, and complete destruction of good marshland by poorly engineered pest mosquito projects without doing any good in controlling the pest mosquito. Destruction of eel grass also helped decrease food production, it being the only such loss not caused by human actions.

With reduction of the total quantity of food produced, the population of waterfowl that can be sustained must go down. It has gone down. The black duck has gone with it. Food limitations on the number of any species operate during the period when food supplies are scantiest, and with most migratory birds and with all migratory waterfowl, that critical time comes in the winter and early spring in at least three years out of four.

This is the condition on the Atlantic coast today, and assuming that the kill of any species is held below the annual crop produced, the only known method for permanently building up Atlantic coast waterfowl is restoration to full food production of as much marshland as possible and creation of new marshes wherever economically feasible. Additional marsh or better marsh on all areas all along the coast and at any available spots inland would be especially valuable for the black duck.

This great game bird breeds from the

Great Lakes north and east through the Canadian provinces, in Newfoundland, and in the lake states, New England states, and south along the Atlantic coast to North Carolina. It winters from Nova Scotia to the Gulf along the eastern coast and from the Ohio to the Gulf in the interior. The greatest winter concentrations are along the Atlantic coast from Maine to the Carolinas, with the winter population concentrated from Long Island to the Carolinas.

The Great Lakes and interior birds seem to be doing quite well, and there has been some building up of this group of black ducks during the last ten years. The contrary has been true on the Atlantic coast. The tendency has been downward, and each year the chance of rebuilding this population grows less.

It is time to do something about it. Many individuals and agencies are aware of the immediate importance of a restoration program for the black duck. The recent formation of a Joint Black Duck Committee is a concrete example of their concern. At a meeting called by Ducks Unlimited and participated in by representatives of a number of state

when the marsh improvements and restoration programs are completed.

Units already purchased by the Fish and Wildlife Service contributing to the welfare of the black duck along the Atlantic coast are numerous. These are all good as far as they go, but the total is far from enough to do the job. There must be more habitat restored and maintained if duck shooting and waterfowl flights are not to become memories. This applies particularly to the black duck. All other game duck populations that now visit the Atlantic coast could be wiped out and there still would be populations of these birds in the interior of the continent which could be used to rebuild the Atlantic coast flight once the adverse conditions that destroyed it were removed.

It is not so with the black duck. With its major breeding ground far to the eastward of the center of abundance of the other species, its fate will be largely determined on the Atlantic coast of this country, in the states that lie from Maine to Georgia. If we cannot build and maintain enough marshland to provide year-round quarters and food for a

The Wisest and Wariest of the Duck Tribe Is Slowly and Steadily Decreasing in Numbers

conservation departments, the Fish and Wildlife Service, and the Wildlife Management Institute, the committee was formed with the primary purpose of providing more widely distributed food supplies for the black duck, the most important game duck breeding in the Atlantic Coast Flyway.

Greatest opportunity to help this species lies in and adjacent to the coastal marshes from Maine to Carolina, its principal breeding and wintering range. Any sound improvement in habitat in this area will immediately help—first, a local breeding population by increasing breeding opportunities; second, a migrant population that will use the habitat in spring and fall, and third, a wintering population.

The Fish and Wildlife Service has been engaged for years in increasing habitat in this critical coastal strip and to a less extent inland. Units scattered from Maine to Georgia have, to the extent that they were improved before the war stopped all development work, contributed to the well-being not only of the black duck but to other species as well. They can contribute much more

minimum number of breeding birds and enough additional breeding areas to provide a reasonable shootable crop above that which now exists, the outlook for the black duck is black indeed—much blacker than his plumage.

In the face of this increasingly precarious status of the waterfowl, it is tragic that a few people in Massachusetts were able to slip through a bill to abolish the Parker River Refuge in the closing days of the last Congress. The Refuge was saved only by President Truman's pocket veto.

Similar legislation may be expected in this session of Congress. In view of the desperate situation, everyone on the Atlantic coast both in and out of Massachusetts who is interested in waterfowl hunting or in seeing waterfowl—particularly the black duck—should oppose such legislation. It is not a local problem. Failure to develop this entire refuge will mean a permanent loss in waterfowl production and waterfowl populations over much of the coast. Parker River, when developed, will provide additional breeding area for black ducks, feed and

★ Continued on page 32

How a Rookery Was Wrecked By Floods

By J. G. BURR

Noah, the champion of conservation, did not believe in allowing species to become extinct. He built an ark.

"Deys gwine to be an oberflow, said Noah, lookin' solum,
For Noah tuk de Herald and he read de ribber colum."

THE Mississippi negro had a garbled notion of the great flood of history but he had a correct idea of what often happens in Texas streams. As related in the book of Genesis, Noah took note of the approaching disaster and gathered the needed building materials. He had some difficulty in convincing people that his protective measures were warranted; but let the darkey tell it in his own inimitable way.

DESPITE his ungainly appearance when afoot, the White Pelican is a graceful bird when afloat. It is numerous along the Texas coast. American Egrets and Pelicans take off from a coastal marsh in the lower photo.





A FAMILIAR BIRD along the Texas coast is the Roseate Spoonbill.

moved to higher ground. Sometimes the emergency is great and men take to the tree tops until rescued by boats. How the situation is met by birds in breeding colonies is the crux of my rookery story. It has to do with the levee on the west side of the Guadalupe River below Victoria and what happened to it after its construction in 1919. But first a word about rookeries in general along the Texas Coast.

A rook is a European bird with glossy black plumage similar to that of the crow, and a rookery is where rooks gather to nest. In this country we have taken over the word rookery as the high-brow definition of any colony of nesting birds. The crow and the rook belong to the genus *Corvus* and are cousins of low social standing. The crow is perhaps the No. 1 outlaw of birdland and is without legal protection. Despite his unpopularity the crow will survive, but birds of rare plumage and beauty need the help of man in the struggle for survival.

Fortunately there is a demand for the picturesque which lends itself to practical business. Tourist propaganda has taken full advantage of the ease with which the aesthetic can be converted into cold cash. A fisherman who would shoot certain birds, because they eat a few small fish, is glad to rent his boat to sightseers who would visit a bird colony on some island. Oil companies for obvious reasons urge the tourist to visit Texas. Even the birds of rare plumage are working for those companies. Boat loads visit the Vingt'une Islands near Galveston to see the colony of Roseate Spoonbills and the variety of

★ *Continued on page 18*

“And so, he sot his hands to work
 a clarin timber patches,
 And lowed he's gwine to build a
 boat to beat the steamer Natchez.
 Ole Noah kep a nailin' and a chippin'
 and a sawin'
 And all de wicked neighbors kep a
 laughin' and a shawin'
 But Noah didn't min' 'em knowin'
 what was gwine to happen,
 And forty days and forty nights the
 rain it kep a drappin.
 Den, such anoder fall of rain, it
 come so awful hebbly
 De river riz immediately and busted
 through de lebbly.
 De people all was drowned out, cep
 Noah and de critters,
 And men he hired to wuk de boat,
 and one to mix de bitters.”

Then a rainbow is said to have spread over the earth as a symbol of security against future floods. But there still remains the need of levees to hold the floods in check. Sometimes the levees break and people and livestock are

AMERICAN EGRETS roost on the brush thickets which line many of the coastal islands.



Rodeo *Sports Fashion*

IT HAS gotten to where, in recent months, if a man mentions participating in a rodeo, you don't know whether he is going to dress up in chaps and spurs and rope the bull—or, dress up in fishing clothes and shoot the bull . . .

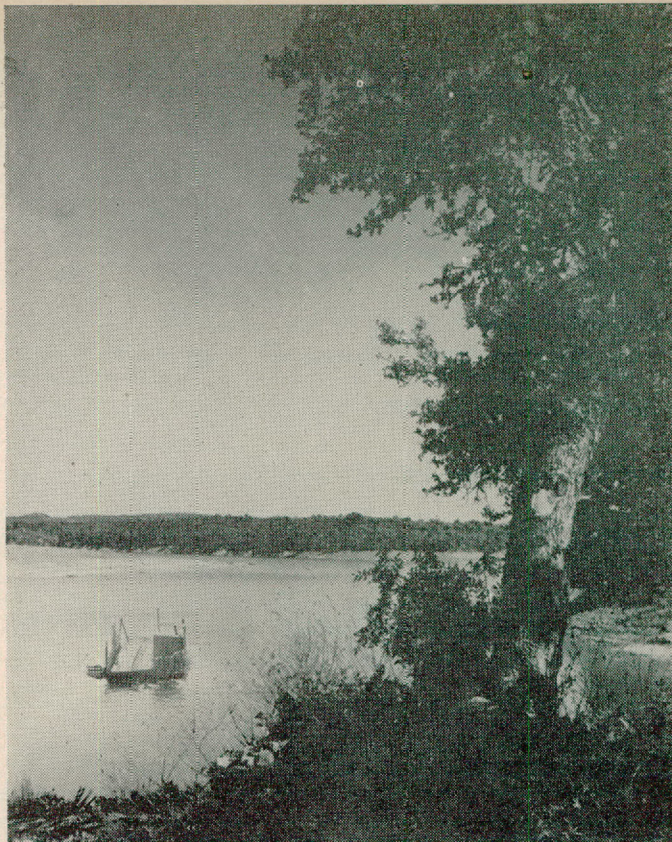
The way these fishing rodeos are gaining in popularity, pretty soon your youngster may ask: "Daddy, did rodeo used to mean cows, and horses, and cowboys and things? Isn't it funny they named it the same thing that fishing means?"

And he may be about right at that. The fishing rodeo is here to stay.

At least 250 Capitol City anglers say so. That many fought through the twists, bumps, and rocky gulches called roads recently to dunk lures in a not too promising stretch of piscatorial real estate. As is the case generally, the finny tribe didn't feel like performing to any great extent on the particular date set aside for their gymnastics, but even with long, sorrowful "fisherman's luck" stories permeating the air from all sides, some of the luckier, or more "skilled" followers of Ike Walton's teachings brought home the material that makes skilletts give off that hunger-arousing aroma.

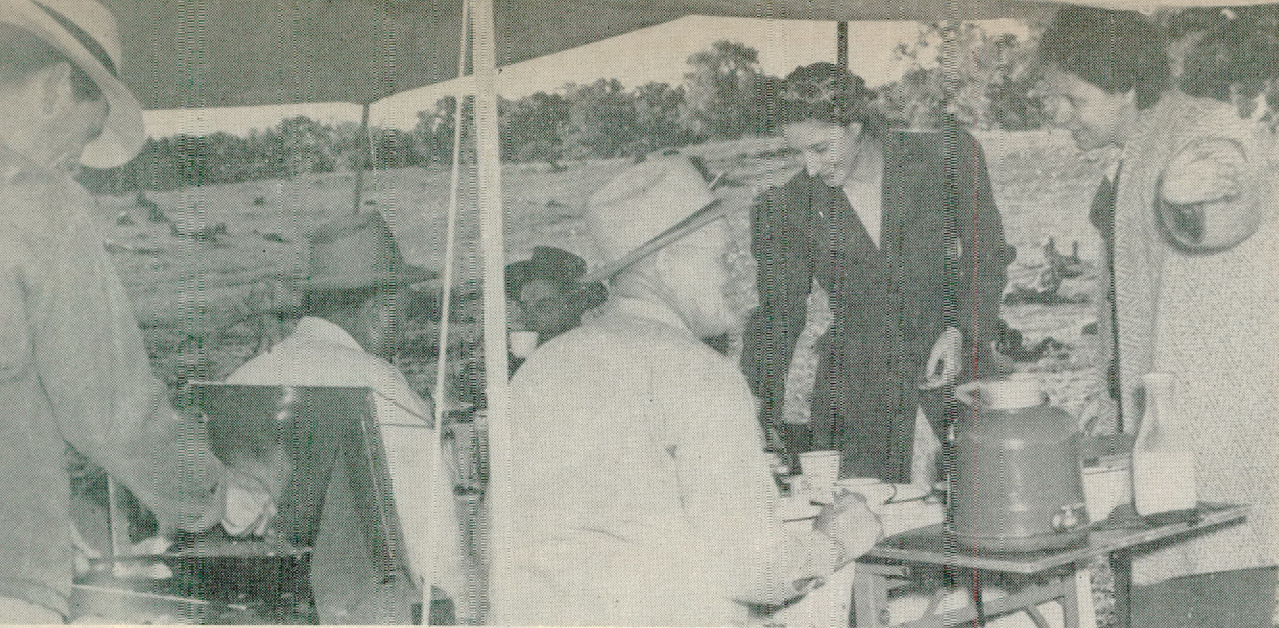
Fishermen's stories were so thick they had to be swept out of camp with special brooms built for the purpose. When sportsmen and their families began to come in from a long day on the waters, the party livened up. When the fish began frying, the potato chips distributed and plates were filled, the entire group assembled in a friendly get-together that is the high point of any rodeo.

The affair was so successful that officials of the Capitol Rod and Gun Club are considering a rodeo of some three to four months duration this fall.



One of the few of its kind left in America—the old Perdnales paddle-wheel ferry. Below—where the whole thing took place.





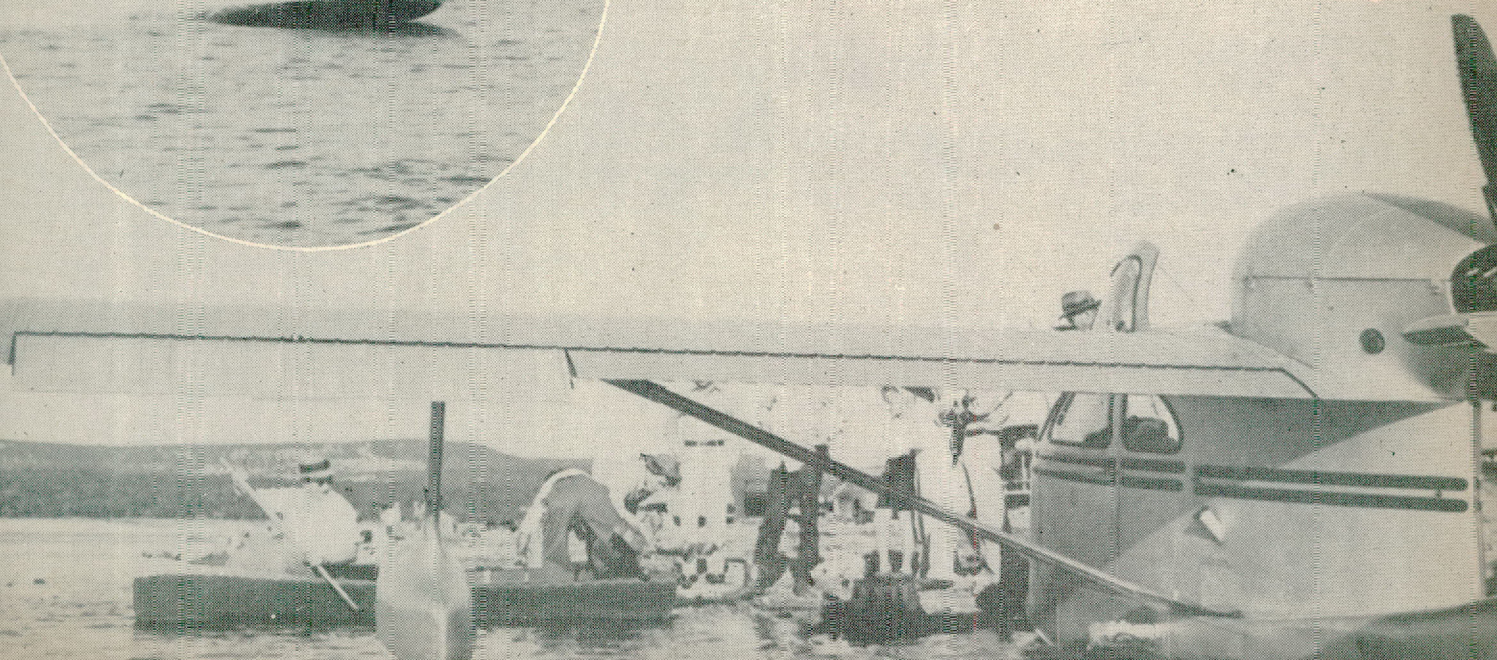
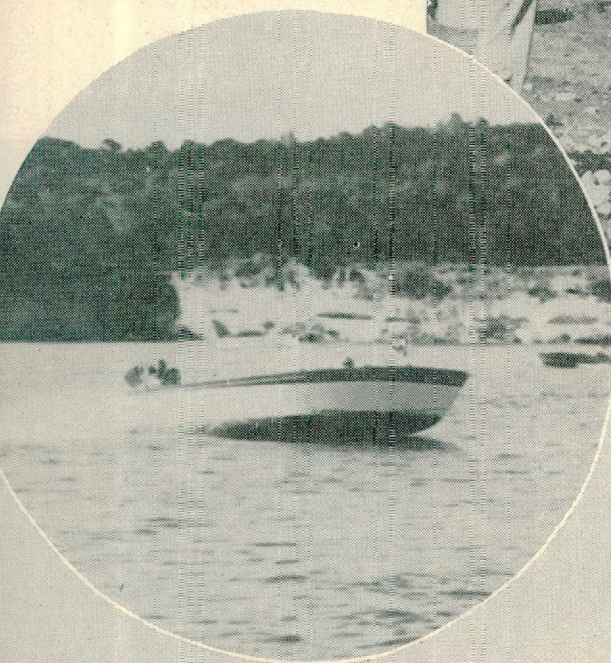
Thirst-
quencher
station—and
fishermen
are always
thirsty.

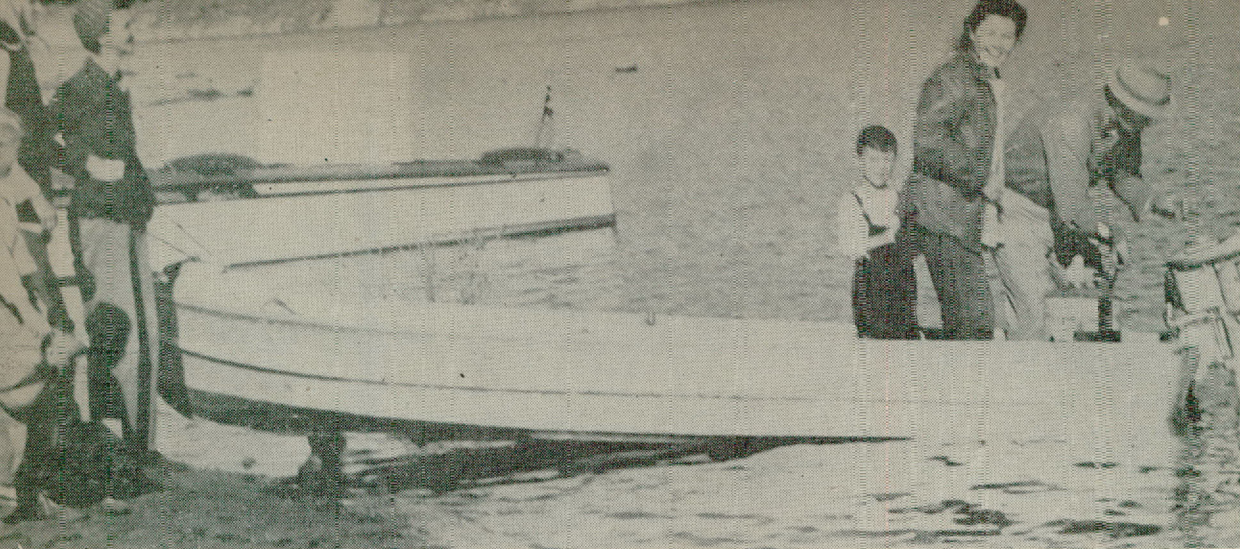
Below—
“Bud” Otis
Neyland
tells a long
one but no
one is
interested.

A speed boat was furnished for
transportation to far spots.



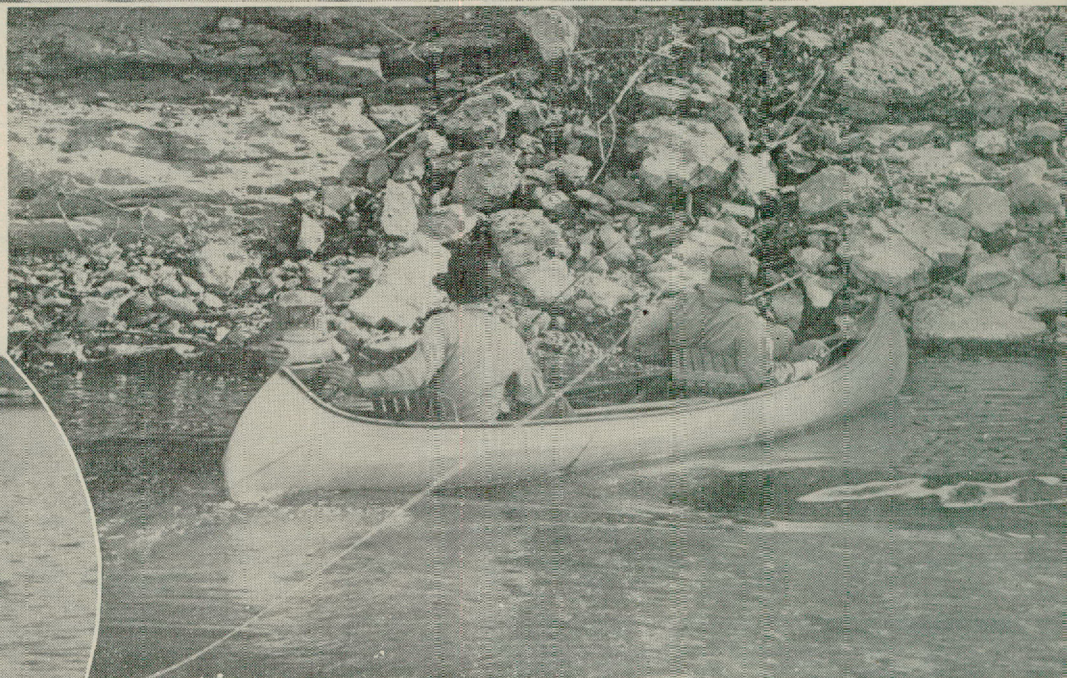
Dr. W. H. Van de Grift and “Flying Fisherman” Ragsdale come
in their Seabee, put together their collapsible canoe and take off.





One unusual thing about this rodeo was the number of entire families participating. Below, Van de Griff and Ragsdale reach their favorite fishing spot and go into action.

The Perdnales at this spot is ordinarily good fishing and Swede Olson, 285 pounds, and Cub Neyland, 295 pounds, head out to try their luck in a 12-foot plywood boat.



Young and old, male and female, participated in the rodeo. It was a family affair.





The winners. Left to right. Little Johnnie Green, winner of prize for most number of fish caught. Mrs. Roy Redmond who carried away the ladies prize. Her husband, Roy Redmond, caught the largest catfish. John Whitis, caught the largest white bass. Leslie Sawyer took top honors in the largest black bass division.



In the upper photo, the Charlie Pickels and Jack Douglas' come in with their catch. At left, Frank Ross, official weigher, gives Pop Hanberry the nod for the largest crappie. Max Roberts, a nice black in hand, looks on.





As the fishermen brought in their catches, a group gathered to watch them prepare the fish for the skillet.



Upper. Max Kluge and his catch of 29 whites —most fish for the day but too late to enter.



Left. The grease had to be so hot it would light a match before Frank Ross, cook for the day, dropped a piece of fish in.

The Possibility of Fish Meal Production in Texas

By J. L. BAUGHMAN

IN RESPONSE to frequent requests as to the possibility of utilizing shrimp waste and scrap fish produced by the shrimp fishery I have prepared the following report.

Any such production of meal along the Texas coast must be based on three sources of supply.

1. Shrimp heads, the residue from the commercial production of table shrimp.
2. The scrap fish caught in the shrimp trawls along with the shrimp.
3. Menhaden.

A fourth possibility, the operation of trawls of large mesh for the production of scrap fish alone might be considered, but as we have no knowledge of its possibilities, its value is problematical.

The shrimp production in this area for the past five years is as follows:

Year—	Pounds
1941-1942	18,111,907
1942-1943	19,022,873
1943-1944	12,935,315
1944-1945	14,602,189
1945-1946	17,000,000

Total 81,672,284

Forty per cent of this or 32,668,913 pounds may be taken as the approximate amount of waste emanating from this source.

We may add to this approximately 75 or 80 million pounds of scrap fish taken during the shrimping operations, although this figure, based on the taking of an equal amount of fish with the shrimp may be too high. Roughly this shrimp is produced by the fishermen of eight ports; Port Arthur, Galveston, Freeport, Palacios, Port Lavaca, Rockport, Aransas Pass and Port Isabel so that any source of supply would give you only a small portion of the total catch.

We have already mentioned that the waste from the shrimp would amount to about forty per cent of the total weight of the catch and from this shrimp meal may be easily prepared by simple steam tube drying of the refuse, which, in some cases, is previously chopped or shredded. Semi-commercial experiments have also demonstrated that a fertilizer component might profitably be made from various quantities of waste by chemical treatment and air drying.

In Louisiana today there are several shrimp canneries that process the shrimp heads into shrimp meal but this is not state-wide.

Considering the possibilities of processing the shrimp waste from the entire Texas fishery on a basis of 15 million pounds per year we arrive at the following conclusions:

1. There is produced approximately 1 ton or 2,000 pounds of shrimp meal from every 21,000 pounds of raw shrimp. This would produce approximately 700 tons of shrimp meal a year from the shrimp operations if all waste were processed.
2. If processed before decomposition sets in, the protein content of shrimp meal will run between 50 and 52 per cent. However, if processed after decomposition sets in, the protein content will drop to approximately 40 per cent.
3. Shrimp meal is priced according to protein content. The last price of

which we have any knowledge was \$1.21 per protein unit. This was in 1944 and on that basis shrimp meal of 50 per cent protein content would bring \$60.50 per ton. However, since that time there has been an enormous advance in price and it is probable at this time it would bring in the neighborhood of \$100.00. This would make the total value of the 700 tons possible from the Texas shrimp catch in the neighborhood of \$70,000 per year.

These are, of course, the total figures and it would be impossible to salvage all the shrimp waste or to process it all before decomposition had set in.

In the matter of scrap fish resulting from the shrimping operations there is a much larger potential source of supply than there is from the shrimp industry proper. Gunter (1936) Louisiana Conservation Review, V (4), October has given some rather interesting figures for the production of scrap fish. In 1932 he lists as follows:

Table I-a

Commercial Fish Taken in Shrimp Trawls, 1932

Inside	Average Per Haul	Outside	Average Per Haul	Totals	Average Per Haul
17,309	182.2	26,264	445.1	43,573	282.8

Table II-a

Non-Commercial Fish Taken in Shrimp Trawls, 1932

Inside	Average Per Haul	Outside	Average Per Haul	Totals	Average Per Haul
12,637	133.1	8,626	146.2	21,263	138.1

Table I-b

Commercial Fish Taken in Shrimp Trawls, 1933

Inside	Average Per Haul	Outside	Average Per Haul	Totals	Average Per Haul
24,917	249.2	11,603	196.6	36,520	229.7

Table II-b

Non-Commercial Fish Taken in Shrimp Trawls, 1933

Inside	Average Per Haul	Outside	Average Per Haul	Totals	Average Per Haul
13,465	134.7	11,790	199.8	25,255	158.8

The commercial species in the above catches were as follows:

Common Name		
Croaker	Spotted Trout	Pompano
White Trout	Whiting	Spanish Mackerel
Spot	Spadefish	Sheepshead
Yellow Tail	Flounder	White Mullet

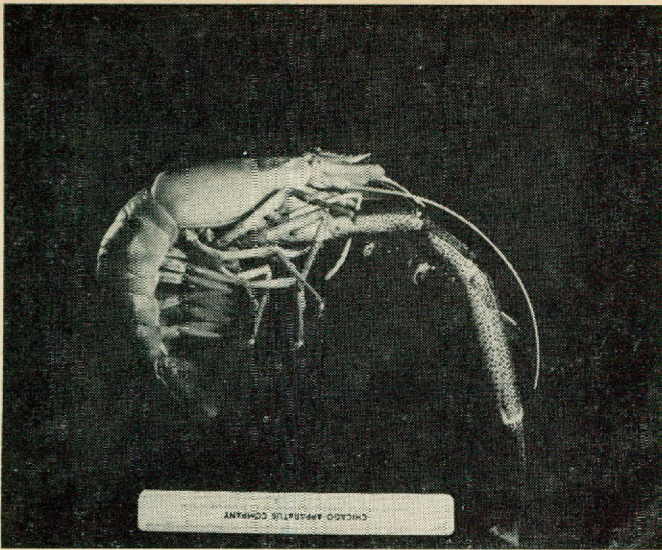
The non-commercial species in the above catches were as follows:

Common Name		
Star Drum	Butterfish	Striped Sole
Anchovy	Gaff Tops'l	Puffer
Cutlass Fish	Fringed Flounder	Banded Croaker
Sea Cat	Whill	Stingaree
Moonfish	Bumper	Jackfish
Menhaden	Sea Robbin	Green Puffer
Threadfin	Tonguefish	Harvest Fish
Hogchoker	Florida Hake	Lizzard Fish

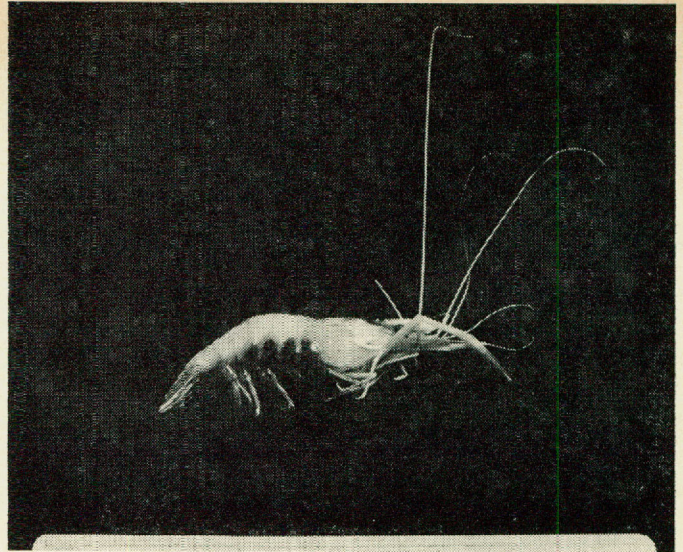
The following analysis of the oil and meal content of some of the fish given in the above table, in percentage on a wet basis:

Fish—	Dry Matter Content	Protein Content	Oil Content	Percentage of Total Sample
Sea Trout	19	17	0.8	66
Croaker	22	15	0.9	9
Southern Hake	19	15	1.1	7
Star Drum	22	16	1.6	5
Cutlass Fish	19	15	1.2	4
Whiting	23	16	1.5	3
Spot	19	15	0.4	2

★ Continued on page 23



THE LARGEST SPECIES is *Macrobrachium jamaicense*. The feelers on this one have been broken off.



MACROBRACHIUM OHIONIS—a female with eggs.

Fresh Water Shrimp

By **JOEL W. HEDGPETH**



THE biggest shrimp in Texas do not come from the ocean, but from the rivers. One of these river shrimp, found in the Rio Grande and Nueces Rivers, is nearly two feet long, from tip of claw to tip of tail. Of course, more than half this length is claw, but the body itself is twice as big as the average commercial shrimp taken from the Gulf.

During the winter, when rains cause the rivers to rise, these shrimp do travel downstream and get in the bays, probably because they do not like the excessive silt which rain brings to the streams. Once having found their way to the bays, they are able to find other streams, and in this manner they have become widely distributed. Several of the species are found on both sides of Central America, from Baja, California, to Peru

on the West, and from Texas to Brazil on the East.

The river shrimp belong to the genus *Macrobrachium* (big armed), and are more closely related to the little grass or "glass" shrimp which is found in bays and streams than to the well known marine shrimp of commerce. There are four species of these big-armed shrimp in North America, three of which are common in Texas. The fourth is so far known only from Florida in the United States, although it is common in the West Indies.

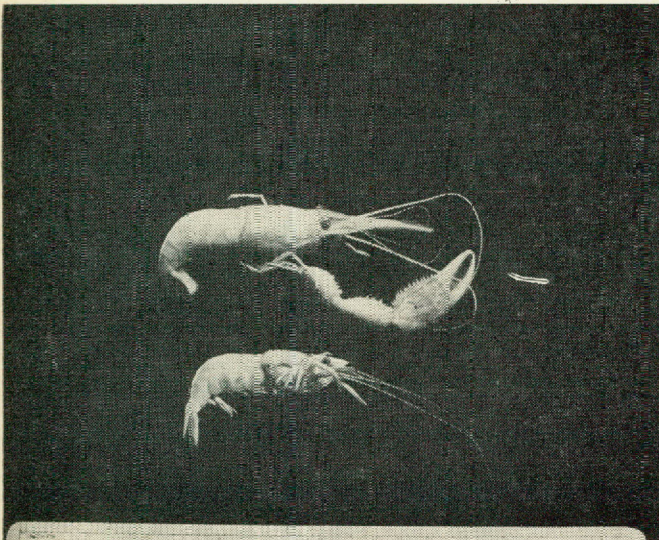
The largest species is *Macrobrachium jamaicense*, found in the Rio Grande,

Nueces and other rivers of Texas as far north as the Lavaca. This species is cream colored with brown mottlings on the body. The claws are almost black, or dark olive green with numerous black, blunt spines and orange markings. Each finger of the claw is armed with a single large triangular tooth.

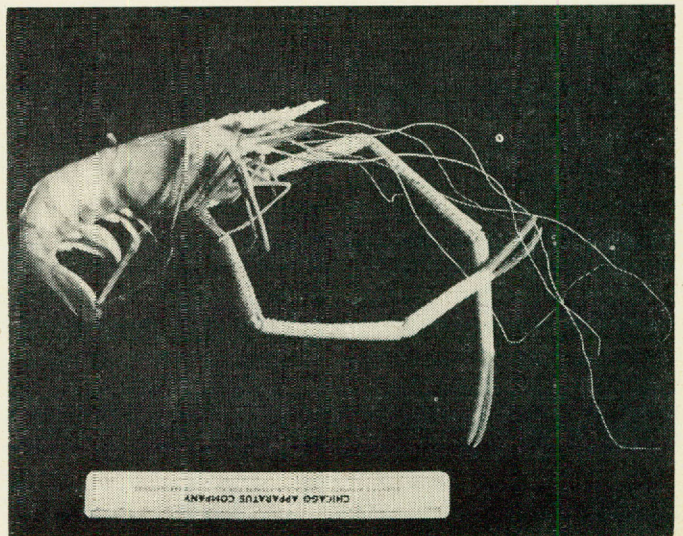
Next in size is *Macrobrachium acanthurus*, which is greenish in color with a dirty orange stripe down the middle of the back. The claws of this shrimp are not so highly colored, and in fact are usually covered with mud. This is because there is a dense felt like growth of hair on the fingers. This shrimp is found from the Arkansas River northward to Louisiana and is the common river shrimp taken from central Texas streams and lakes.

In both of these shrimps there is no

MACROBRACHIUM OLFERSII—male and female.



MACROBRACHIUM ACANTHURUS is the second largest fresh water shrimp.



Shorter Duck Season Seen

By WALTER P. TAYLOR*

THAT the waterfowl of the nation are still taking a nose dive was reported by Dr. Clarence Cottam, Assistant Director, Fish and Wildlife Service, U. S. Department of the Interior, and W. E. Crouch, Chief, Division of Game Management of the same organization, at a meeting held at the Gunter Hotel, San Antonio, May 14. The kill of ducks last year was estimated at 24,000,000. There was 70 per cent more pressure on the waterfowl last year than in 1943, as evidenced by duck stamp sales, although the figures showed a decrease in the numbers of ducks.

Obviously the intensity of the drouth in the duck breeding grounds last year was underestimated.

The experts emphasized the fact that the day of long seasons and big bag limits is over throughout the country, as the continental duck population has gone down from its high of 125,000,000 in 1944 to not more than 54,000,000 in the entire continent in 1947.

The success of habitat improvement and management measures, it was pointed out, depends on returning a sufficient number of ducks to their breeding grounds to produce a new and adequate crop for the annual harvest.

The present estimated population is not the lowest which has ever been recorded (27,000,000 recorded at the low point of the waterfowl decline in the 1930's), but it is low enough, according to the Fish and Wildlife Service leaders, to warrant all necessary means to reverse the trend and send the duck population up again.

It appears certain that over two million duck stamps will be sold in 1946-47, it was announced. This figure indicates a 70 per cent increase in waterfowl shooting pressure in the last 3 years.

While the Fish and Wildlife Service experts are deeply and seriously concerned about the situation, they are not dismayed or pessimistic. They point out that it is characteristic of American sportsmen and citizens generally when confronted with a real crisis to rise to the occasion and see that corrective measures are instituted no matter what their cost in money or energy.

One point emphasized by the visitors was the seriousness of crippling losses of waterfowl. One duck knocked down in each four or five is often lost through crippling. The visitors emphasized the desirability of every sportsman making unusual efforts to recover all ducks killed by him. This would prevent an enormous amount of wastage.

The size and importance of the wa-

terfowl industry is indicated by the fact that it is estimated that some \$300,000,000 is spent annually in harvesting waterfowl.

A number of questions were raised for discussion in the open forum held following the addresses of Dr. Clarence Cottam and W. E. Crouch. Among these: Should a two-day limit be permitted in possession, or should the possession limit be set at the legal take for a single day? Consensus of opinion favored permitting possession of two days' bag limit. Another question was as to shooting hours. Some favored cutting of shooting at noon, but the majority of those voting favored hours substantially as at present.

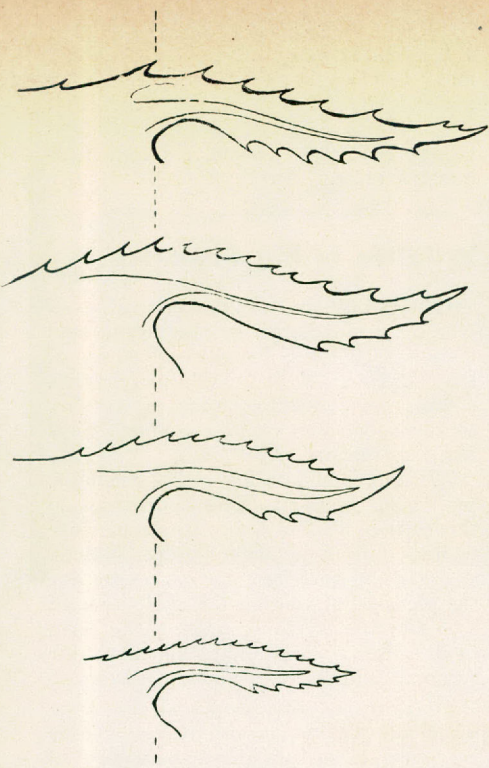
The question of closing the season in view of the shortage in ducks was raised. There was little support for this proposal. Most of those present seemed to feel that more waterfowl would actually be saved with an open season of reasonable length than would be the case if the season were closed altogether with the accompanying depletion of enforcement funds and cutting off of enforcement activities.

The question was raised as to whether the sportsmen present would favor flyway regulation of the waterfowl open season. It has been found that waterfowl stick closely to their separate flyways; unfavorable conditions in one flyway may not affect others, sometimes making desirable the separate regulation of the take in the different flyways (Pacific, Central, Mississippi, and Atlantic). Thus during the year just passed a special measure of restriction was placed upon Canada geese in the Mississippi flyway, although the normal take was permitted in the other flyways. Sportsmen present favored regulations by flyways, based on scientific facts.

Strong sentiment was expressed for increased law enforcement, and various speakers urged the provision of more funds for State and Federal government for use in this work. Incidentally, it was brought out that the Federal government has but 70 game management agents to cover the entire United States. Cooperation by State enforcement officials makes it possible to secure such enforcement as has been provided up to date.

The need for further research to cut down botulism and other causes of waterfowl mortality was emphasized. Also to determine waterfowl needs on winter ranges where information is decidedly lacking. The desirability of extension activities in wildlife fields was also emphasized by the visitors.

Some favorable information has been received from Fish and Wildlife Service



DETAILS of the rostrum of the four North American species of *Macrobrachium*. From top to bottom. *M. jamaicense*, *acanthurus*, *ohionis*, *olfersii*. The dotted line indicates the posterior margin of the orbit. The number of teeth behind this line is important in identification.

difference in the size of the two claws (except of course, where one of the claws has been injured) and they are the same size in both sexes. This is not true of the next member of the group, *Macrobrachium ohionis*. One claw of this shrimp is always slightly larger than the other. This shrimp is much smaller than the other two found in Texas, and occurs from the Arkansas River northward to the Mississippi River and as far up the Mississippi as Ohio. *Macrobrachium ohionis* is a uniform pale gray color with light blue spots and a blue tail. In Louisiana this shrimp is of some commercial value and is frequently sold in the market there.

The remaining North American species, *Macrobrachium olfersii*, is conspicuously different from the others. In the male the claws are dissimilar, very hairy and adorned with sharp curved teeth. The female has claws of the same size, but they are small and without spines. This shrimp is also small in size.

Often one of these river shrimp is caught without its claws, and it can then be most easily identified by looking at the long spine on the head between the eyes, which is known as the rostrum. The species is determined by the number of teeth on this rostrum, especially the number behind the margin of the eye socket, and on the under side. This is best illustrated in the drawing of these spines.

We know very little about the life histories of these shrimp, or what they do with their huge claws. One species, as already mentioned, is edible, and probably the others are as well.

* Fish and Wildlife Service, U. S. Department of the Interior; Agricultural and Mechanical College of Texas; Texas Game Fish and Oyster Commission; and the Wildlife Management Institute, cooperating.

A Complex Floating Factory

ONE of the most complex floating factories ever rigged has moved into the Bering Sea, north of the Aleutian Islands. It is experimentally tapping the seafood resources of that body of water. If the experiment is successful, commercial fisheries may follow the newly blazed trail.

The ship being used is the 410-foot "Pacific Explorer," formerly the steamer Mormacrey. It was converted last year with \$5,000,000 of funds supplied by the RFC.

According to Andrew W. Anderson, chief of commercial fisheries for the U. S. Fish and Wildlife Service, "there have been floating canneries before, and floating freezers and floating reduction plants, but the Pacific Explorer is all of these combined for the first time in one

vessel, designed for year-round operation in hemispheric fields. She will explore the fisheries of tropical waters and the Bering Sea, and will demonstrate the economic possibilities of operating a factory ship in the Pacific at great distances from shore plants and home markets."

The ship's manufacturing capacity includes: 600 cases of crabmeat a day; fish reduction at the rate of seven tons hourly; freezing 175 tons of seafood a day at a temperature of 45 degrees below zero. Inedible portions will be manufactured into fish meal and fish oil. Pharmaceutical oils will be extracted from livers.

All living quarters for the 244-man labor force are air-conditioned.

workers now studying the duck breeding grounds in the prairie provinces of Canada this year, but it is too early as yet to know just what the final score will be. It is therefore impossible to anticipate what the regulations will be, although in all probability the season will not be more than 30 days long and the bag limit not more than five in number.

The meeting was attended by representatives of the Texas Game, Fish and Oyster Commission, Oklahoma Game and Fish Commission, Texas Cooperative Wildlife Research Unit, and sportsmen from Texas, Oklahoma, and New Mexico.

The San Antonio meeting is one of a dozen being held in different key cities of the United States by Fish and Wildlife Service officials.

Moratorium On Waterfowl Urged

The National Audubon Society advocates that the hunting of migratory waterfowl in North America be discontinued for one year, with the understanding that during that time basic revisions of management and regulation policies be worked out and adopted, according to John H. Baker, President of the Society, writing in the March-April issue of Audubon Magazine.

He says, "Whatever the differing beliefs may be as to the principal causes of decline, the fact remains that control of the kill by man is the only means we have of quickly contributing to the restoration of an adequate breeding stock.

"The duck-hunting fraternity throughout the nation well knows that the duck population is at a new low. They do not need to await the government release of the January count to find that out.

"The Society is not opposed to hunt-

ing and recognizes the recreational value of field sports legally pursued," according to Mr. Baker, but "It does believe in regulation of deliberate take such that there may be not net depletion in the breeding stock.

"There is no historical precedent for the termination of a downward cycle in waterfowl population in as short a period as three years," Mr. Baker continues. "There would, therefore, seem to be no need of awaiting word as to this spring's breeding ground results before arriving at the conclusion that there are only two reasonable alternatives: (1) further drastic restrictions on allowed take, or (2) a temporary closing."

The Society urges that all sportsmen and others interested in the American out-of-doors join in an effort to relieve our waterfowl of hunting pressure during the coming year. It suggests that this year the Duck Stamp, sales of which last season produced some \$2,000,000, be known as the "Duck Restoration Stamp" in the event of a closed season. This plan should then continue to pro-

vide the money required for vitally needed enforcement and refuge maintenance. The Society recommends that such stamps be made available for voluntary purchase by hunters and non-hunters alike.

Wildlife Is Big Business

Estimating the capitalized value of wildlife resources at the staggering sum of \$14,000,000,000 Frank DuFresne, of the U. S. Fish and Wildlife Service, sounds some worthy words of warning to the sportsmen of this country. Says Mr. DuFresne:

"Fishing and hunting is big business, really big business. The sportsman in this year of 1947 is going to spend close to three billion dollars for hooks, bullets, gadgets and vehicles to go places on; for the pleasure of wading the cool riffles of a trout stream; for tramping the open fields with a gun under his arm; for camping and sleeping under the stars.

"It is fitting and proper at this time when sales of hunting and fishing licenses are pyramiding into the stratosphere to post a few warning signs along the trail to better fishing and hunting, because if we don't it's soon going to mean poorer fishing . . . poorer hunting.

"The signs can be simple little things that all of us will understand:

"No game department can hope to keep pace with present accelerating demands.

"Try to understand, to tolerate, to support shorter periods of open season, smaller bag limits, when your game department prescribes them.

"Help to conserve this resource from which you get so much pleasure.

"It's your game. Give it a break.

"From here on there is no more room for free riders; every one of us must help put back as much as we take out."



The Thirteenth North American Wildlife Conference will be held in St. Louis, Missouri, March 8, 9 and 10, 1948.

Poison Ivy Treatment

To paraphrase a bit "Now that Spring is here poison ivy is close behind." And this means a lot of suffering for many youngsters and adults, too, who are allergic to the plant.

The best cure for poison ivy is to avoid the stuff. The waxy three-leafed vine-like plant is easy to identify but once you are affected by it you are in for plenty of discomfort. On summertime tramps through the woods it is best to wear high shoes or boots. If you know you've walked through poison ivy clean your footwear carefully before removing it. Bathe your feet and ankles

or other exposed parts in warm water and laundry soap. Swab on alcohol.

The following treatment is one recommended by Dr. McNair of the Field Museum. "Procure at a drug store one ounce of Tincture of Iron, containing approximately 15 per cent ferric chloride. Dilute this with one-half ounce alcohol and one-half ounce water. This makes two ounces of remedy with a ferric chloride content of about 7 or 8 per cent, which is the maximum strength advised. Paint this liquid on the infected parts with a camel's hair brush."—*Ohio Conservation Bulletin.*



ARMS AND AMMUNITION

by ADAM WILSON III

A New Target Pistol Is Born

As previously reported in this department, Colt has been working on a really new target pistol. Now it's here! It is the New Match Target Woodsman—a fire-arm that seems to be the answer to a target shooter's prayer.

Colt's Match Target pistols—remember the ones with the slightly tapered and flat sided barrels — are not strangers to the target - shooting clique, as many national records will bear out. The streamlined 1947 model bids fair to outclass its famous predecessors. The new Match Target made its debut recently at the Tampa Matches in Florida.

It performed creditably there, and at the American Tournament in Havana.

Graham H. Anthony, president of Colt's Patent Fire Arms Manufacturing Company,* brings out the fact that the new pistol was designed to provide the target shooter with a hand gun combining heavy barrel weight with perfect balance. This objective was attained by building a heavier barrel with a center of gravity located directly above the trigger finger. The gun weighs 41 ounces—three ounces more than the Government Model .45 caliber.

Other new features of this model include a thumb operated magazine catch similar to the one on the Government gun, longer "handful" grips, custom-type Coltwood plastic stocks with a thumb rest, and a heavier slide that cuts down recoil disturbance. The micrometer-click Coltmaster Rear Sight, adjustable for windage and elevation, has been carefully designed to eliminate



all reflection, and is absolutely glare-proof. An undercut allows the sighting notch and front sight blade to stand out in sharp silhouette. A ramp base is provided for

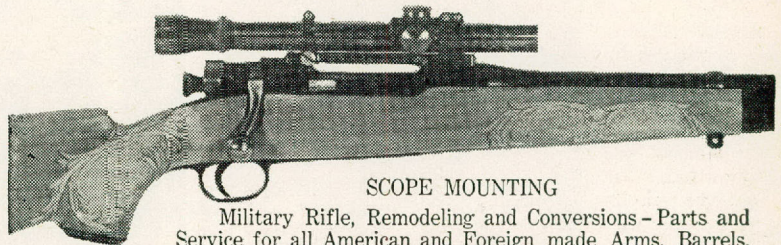
the front sight with a sharply defined sighting blade, which is also undercut.

The improved ten-shot magazine with an easily manipulated follower button will be welcomed by those shooters who found difficulty in operating the old style button. A five-shot magazine will also be available for match shooting. After the last shot has been fired an automatic

★ Continued on page 30

THE NEW COLT MATCH TARGET WOODSMAN—the automatic .22 caliber pistol built to blast existing records off the map. It handles regular or high speed .22 Long Rifle ammunition. The action is lightning fast and smooth with a clean and crisp pull. The heavy fluted barrel is six inches long, giving the gun an over all length of 10 1/2 inches.

THE VIEW of the new target pistol (left) seems to invite a shooter to reach out and get a comfortable handful of the gun. Notice the glare-proof finish.



SCOPE MOUNTING

Military Rifle, Remodeling and Conversions - Parts and Service for all American and Foreign made Arms, Barrels, Stocks, Sights and Accessories. Send Stamp for latest Catalog.

ALAMO GUN COMPANY

724 1/2 N. ST. MARY'S ST.

SAN ANTONIO 5, TEXAS



A SNOWY EGRET takes off. Note the legs being drawn up as the bird gains air speed.

Rookery

★ Continued from page 7

Egrets that build their nests there. Landings on the islands is prohibited by the Audubon Societies which employ a custodian to look after the birds. The Roseate Spoonbills are white and pink, and the males during the mating season look as if a dash of blood had been thrown over them. A flight of Spoonbills glistening in the sun is a sight never to be forgotten. Besides Galveston Bay the Spoonbills nest also on the second chain of islands in San Antonio Bay, and have been nesting on an island in Hynes Bay, near the residence of O. F. Hartman on the mainland. Also, there is a fine rookery on the Hawkins Ranch near Bay City, and they are beginning to nest on the Aransas Wildlife Refuge adjacent to Mesquite and San Antonio Bays. These birds as well as most others are protected by State and Federal laws and usually find little occasion to change their nesting habitats. There is a report that Spoonbills on the second chain of islands in San Antonio Bay were killed in the 1945 storm which struck the coast with such violence, but nesting continued there in 1946, according to Mr. John H. Baker, president of the Audubon Societies, who visited the chain during the nesting time of that year.

At several rookeries along the coast are other picturesque birds such as the Egrets and Herons and rare species of Ibis. Sometimes colonies change their nesting grounds, for reason generally unknown, and to explore such a case has been the object of the writer in recent weeks with such

success as we are about to make known.

Specifically, what has become of two famous rookeries discovered by George Finlay Simmons in 1923 while making a survey for the Texas Game, Fish and Oyster Commission?

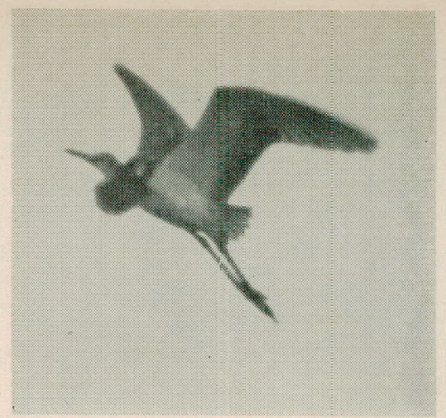
His report mentions first a great rookery near the mouth of the Guadalupe River in the area where the San Antonio River enters the stream. There "in a remote locality" he found a rookery containing 2,000 White Ibis nests and more than 200 nests of Roseate Spoonbills. Nesting there also were about 100 Wood Ibis or Wood Stork.



AN AMERICAN EGRET in full flight. Note the streamlining as the bird soars.

The location of the second colony is less definite. Said he, "Another remarkable rookery which I found on the trip was that of the White-faced Glossy Ibis which is the American cousin of the famous sacred Ibis of Egypt. This nesting place is about twenty-five miles

A young white ibis on the nest.



THE AMERICAN EGRET gains altitude rapidly and is quite swift in flight.

from the coast in a prairie lake overgrown with tule. It is far removed from the nearest human habitation, and it was with the utmost difficulty that I made my way through the chaparral to the spot. I counted 2,400 nests of these rare birds in the rookery. There were myriads of young and eggs in the rookery. The white-faced Glossy Ibis is about two feet tall and has a long, curved bill; (also the bills of the White Ibis and Wood Stork). It has a beautiful, glossy bronze plumage which was formerly much in demand and admired when used as turbans for women's hats. The birds and plumage are now protected by both federal and state laws. Each one of the female birds of this species lays three large blue eggs in a massive nest that is built of dead plants. (The Spoonbill's nest is platform-like in low bushes or trees in marshes or bayous.)

"In the same rookery I found a considerable number of water turkeys which have a reputation of being one of the low-downdest of all birds."

Neither of these famous rookeries now appear to exist and the cause of their disappearance certainly merits some plausible guessing. Frankly, the writer claims little credit for having brought the subject into the open. It came about as a result of inquiries concerning the work of Simmons and Roy Quillin, in connection with a proposed museum. In looking over his records Mr. Quillin produced a clipping from the Daily Texan of the year 1923 which contained the Simmons report of his rookeries.

To speculate on what became of the

THE BALDPATE DUCK

These ducks are known as shy birds and do not decoy readily when migrating. They frequent rivers, sloughs and lakes in the interior and are also found in shallow salt water bays. The Baldpates often associate with diving ducks from which they steal food.

The pale blue bill, white patch on the forewing, and white underparts serve to identify both sexes in the air. These ducks fly in small compact flocks or irregular lines, often abreast. They have trim, compact bodies, a rapid wing beat, and a strong, speedy flight. When on the water the large white patch on the flank just in front of the tail is very prominent. Baldpates often feed on the surface with heads low, intermittently submerging their bodies and leaving their tail protruding from the water. They jump directly from the water as do other surface ducks. When passing decoys they do not swerve. They winter along the Gulf coast, among other places.

THE GADWALL DUCK

This duck also is known as the Gray Duck, the Gray Widgeon, the Creek Duck and the Speckled Belly. The Gadwall often migrate in large flocks and inhabit ponds, marshes, and rivers. They are seldom found on salt water.

In the air gadwalls present a slender silhouette and the generally gray coloration, pointed wings and white speculum are good characters for identification. They rest lightly on the water where their slender appearance is apparent. They fly swiftly in compact flocks without definite formation. They are not considered particularly wary, and decoy well. The white patch on the hind wing of the gadwall separates it from the baldpate, which has a white fore wing patch. The gadwall is also darker on the rump and back. The pintail has a green speculum, larger bill, longer neck and is paler below. The smaller size, slender outline, rapid wing beat, and white belly and speculum of the gadwall separate it from the female mallard which it resembles. They winter along the Gulf coast.

Baldpate
MALE AND FEMALE

Gadwall
FEMALE AND MALE





ORICE

Glossy Ibis rookery twenty-five miles from the coast is of less importance than the question as to where the rookery was. It could have been most anywhere in the coastal plain but there is no indication that it was in the immediate vicinity of the lower Guadalupe, nor do the old settlers with whom I talked appear to know. The rookeries are not mentioned in Simmons' book on "Birds of the Austin Region," and naturally so, because the book was in type form and in the hands of the publisher before the discoveries were made. Prairie ponds, subject to dry-ups, are necessarily the nesting homes of fugitive rookeries which can not easily be run down. River marshes are apt to be more permanent and the rookery located in the region of the Guadalupe and San Antonio Rivers would hardly be changed without good reasons. It was possible to believe that such a rookery still existed. Just above the confluence of the San Antonio River with the Guadalupe and bordering that stream lie the McFadden ranch on the west and the Welder ranch on the east. On neither ranch is anything known of a rookery, nor on ranches further up stream, according to Game Warden Marth of Victory.

To have learned that the rookery no longer existed still left the question as to why. On crossing the Guadalupe near the little town of Tivoli I met a fisherman and his wife who had a camp near the bridge. They had seen Spoonbills flying back and forth along the river, but said Mrs. Webb, no Spoonbills had been seen the past month (April). To discover what had been going on and why the alleged abandonment of the rookery had taken place was next in order.

Mr. Webb was hired and a plan was made for a river trip in a few days or as soon as Professor Roy Bedichek could make the trip with me. The river was up a few feet and if it should rise another foot it would be possible for the motor boat to pass from the river into the series of overflow lakes that bordered the river.

Bedichek was ready on the appointed date and the river was right for the incursions into the border marshes. Four miles up we passed the junction with the San Antonio River, and three miles further brought us to the McFadden Lake where Webb had a fishing camp. On the night before, somewhere along the river Webb had caught several hundred pounds of blue catfish for the market, the largest weighing 50 pounds gross weight.

At the camp was another fisherman, a young man who had lived along the river for several years. He was a close observer and joined Webb in a declaration that they had never seen any nesting colony along the marshes. Hunting and fishing in the area had been going on for the past fifteen years offering little encouragement to nesting activities.

It was decided to continue farther upstream, but raft had blocked navigation.

To do this it was necessary to detour through the McFadden Lake and bypass the raft. Farther up we entered Alligator Lake and cruised there for some hours in search of bird life. A trio of Spoonbills flew southward toward San Antonio Bay but no birds were seen feeding. Three Wood Ibises were seen perched on an old dead tree near the river. On the evening before, near sundown, a flight of Ibises, whether Wood or the Glossy type one could not tell, flew northward along the river, possibly to a roosting place. It began to look like the area was not even a good feeding ground when the river and the adjacent lakes were high. Wading birds might be at home in water a few inches deep where all winter long they could fish for mollusks, crustaceans and water insects, but this was impossible with the spring rises which raised the lake levels two or three feet. Little by little the river was giving up its secrets and we could understand the remark of Mrs. Webb that the Spoonbills which had flown back and forth along the river had not been seen the past month. If they could not feed at such times, neither could nesting take place, and here is where we close up the last links in the chain of evidence as to why the rookery was abandoned.

In 1919 the west side of the Guadalupe River was leveed from Victoria to near the coast. With this protection against floods, the marshes of the adjacent low lands afforded ideal conditions for nesting colonies as well as feeding grounds at all times. But when the levees gave way at a number of places a few years later the marshes were turned into overflow lakes such as we see them today. There had been good and sufficient reasons for rookeries to exist there, and it is easy to understand that spring floods and spring nesting do not go together.

To draw a darker picture for wading birds, the alligators moved in along with the gars and stood ready at any time to drag under an unsuspecting waterfowl. Thus, the prospect of any possible rookery was wrecked by changed river conditions, but the birds could move their nesting to places of safety. This no doubt was their program, as their numbers are increasing under the watchful care of the state and federal governments. There no longer exists any threat to the survival of these rare birds. So ended the rookery search and the cruise on the Guadalupe.

Texas Refuge A Virtual Deer Factory

THE Aransas National Wildlife Refuge on the Texas Gulf Coast has become a real deer factory. At least 6,325 white-tailed deer have been trapped on this 47,000-acre tract since 1938 by the Texas Game, Fish and Oyster Commission, and only half of the refuge is inhabitable to deer. The animals removed were used to stock 82 Texas counties embracing over 3,000,000 acres, where

breeding stock was scarce or lacking. Each year since 1944, about 1,500 deer have been taken from the refuge.

One of the most significant features of the trapping-release program has been low cost. For the 6,000 deer taken since 1941, the cost including transportation has averaged only \$16.12 per animal, a mere fraction of that reported in some other states. This is due, at least in part, to the high deer population density on the Aransas and to the notable efficiency of the operation. The trap used is a modified form of the Stevenson-Pisgah 2-door enclosure, baited with cottonseed oil cake. Aransas deer have acquired a taste for this food as a result of using range also occupied by cattle that are commonly fed oil cake during winter months.

"The Aransas case seems to open a new method of deer restoration in the Southwest," says Howard D. Dodgen, Executive Secretary of the Texas Game, Fish and Oyster Commission, whose staff supervised the vast game management job. "There seems to be no reason why all the deer needed for stocking Texas ranges cannot be produced on the Aransas tract under natural conditions, and at surprisingly low cost."

Despite heavy trapping, the refuge deer population has not been reduced to a marked degree. Dr. Walter P. Taylor, leader of the Cooperative Wildlife Research Unit, and Harold L. Blakey, refuge biologist, Fish and Wildlife Service, report that the population is estimated at 3,500 to 4,500 deer. If 4,000 is accepted as the average number, then about 37 per cent have been removed each year for the last two years with no appreciable decrease. It appears that range land as productive as the Aransas can safely stand an annual reduction of 30 to 40 per cent, including both sexes, without decreasing the breeding requirements. Areas on which it is desired to reduce numbers must see the removal of at least 40 per cent, and this means that a fairly accurate census is essential to wise management.

The Aransas National Wildlife Refuge, in addition to its deer herd, is one of the essential waterfowl refuges on the Gulf Coast, where it serves as an urgently needed wintering ground. Here, too, are found the peccary or javelina, pig-like animals, that find suitable habitat in the dense brushlands. Finally, the area is the most important wintering ground of one of the rarest birds in North America, the whooping crane, whose known population does not exceed 30 individuals.



The report of a rifle or shotgun is caused by the impact of the expanding power gas upon the atmosphere, and not because of the rush of air back into the bore of the gun after the explosion. As the length of a barrel is increased, the muzzle pressure decreases with a corresponding decrease in noise.

THERE'S MORE TO FISHING THAN THE FISH



TREES THAT LINE OUR WATERCOURSES BIND THE SOIL TO HELP PREVENT EROSION ~ TREES ON OUR UPLANDS AID IN RETAINING MOISTURE TO KEEP THE STREAMS FLOWING

FLOWERS THAT YOU COULD PICK ~ (BUT WILD FLOWERS SELDOM LAST) ~ COULD BECOME SEEDS OR FRUIT FOR BIRDS AND ANIMALS ~ AND THE PLANTS THAT BEAR THEM FORM IDEAL HABITAT.

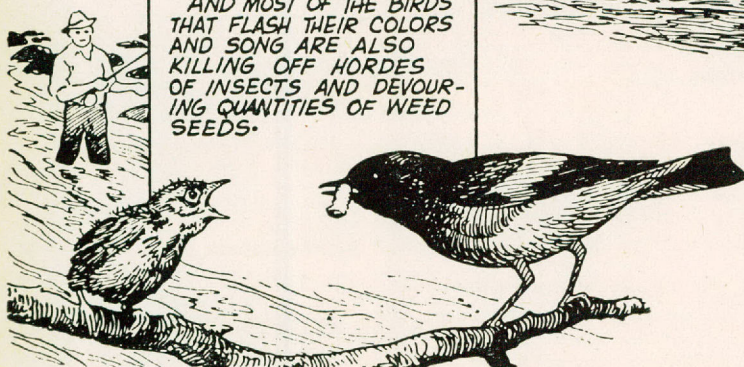
WILDLIFE THAT SURVIVES NEAR CIVILIZATION CAN DO SO ONLY THROUGH APPROXIMATION OF NATURAL CONDITIONS OF COVER ~ FOOD ~ WATER AND PERSECUTION. MAN ALONE CAN REGULATE THEIR LIVING CONDITIONS.

Bob Hines

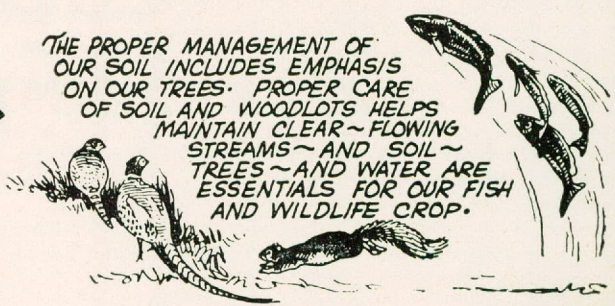


SO THE FAVORITE POOL THAT WAS ALWAYS A PRODUCER IS NOW A SHALLOW POND ~ FULL OF SEDIMENT AND DEBRIS ? DID YOU ~ AS AN INDUSTRIALIST ~ DO ALL YOU COULD TO PREVENT POLLUTION ? DID YOU ~ AS A LANDOWNER ~ DO ALL YOU COULD TO PRESERVE OUR SOIL ? DID YOU ~ AS A SPORTSMAN ~ LEND YOUR EFFORTS TO A CONCERTED CONSERVATION PROGRAM ?

AND MOST OF THE BIRDS THAT FLASH THEIR COLORS AND SONG ARE ALSO KILLING OFF HORDES OF INSECTS AND DEVOURING QUANTITIES OF WEED SEEDS.



THE PROPER MANAGEMENT OF OUR SOIL INCLUDES EMPHASIS ON OUR TREES. PROPER CARE OF SOIL AND WOODLOTS HELPS MAINTAIN CLEAR ~ FLOWING STREAMS ~ AND SOIL ~ TREES ~ AND WATER ARE ESSENTIALS FOR OUR FISH AND WILDLIFE CROP.



DO YOU HAVE A

Dipsy-Doodle?

WOOD MANUFACTURING CO., EL DORADO, ARK.



HAVE you ever attempted to fish a pond or lake that was completely bounded by marshy shores? Or have you tried to cast from a bank that had bushes and trees growing right to the edge? Then you know the value of a boat in fishing. It puts you in a position where you can present a lure to a hungry fish in the most efficient manner. Yes, a boat is a convenience. In it you can carry your full kit of tackle as you move from place to place, instead of a small selection of lures which usually never are the right ones. And with a boat you can cover more fishable territory in less time and with less effort than by any other method. And boating, besides, is fun.

However, for these advantages you must pay a price. It is not much, and it should not detract one bit from the pleasure of the trip. It can be summed up in these few words: USE COMMON SENSE AND REASONABLE CAREFULNESS IN FISHING FROM A BOAT.

Every day during the summer months an average of fifty persons will drown. No other type of accident with the exception of those involving automobiles, will take a greater toll of human life. Of those drownings, one of five will occur to persons out on the water in boats. Most of them will follow a familiar pattern. The boat will be overturned, swamped or foundered in a storm. The occupants of the boat, sometimes good swimmers, will go to a watery death because of lack of foresight or because of plain carelessness. Yet, a little attention to the rules of safety afloat, some of them so obvious their mention should be unnecessary, will make this summer's



CATFISH BAIT
Reg. U. S. Pat. Off.

DO CATFISH PURR?

Maybe not, but YOU will when you start pulling 'em in with Fishburger Catfish Bait. Fishburger is a blend of nine different ingredients, any one of them attractive to catfish. Stays on the hook—Keeps indefinitely. See for yourself! Try Fishburger! If you are not completely satisfied, we will cheerfully refund money. Fishburger is made BY catfishermen FOR catfishermen.

Large 24-oz. can, \$1.00 Postpaid

"For a fishing thrill, send a dollar bill!"

FISHBURGER COMPANY

Box 1870 Gardner, Kansas

DEALERS WANTED

P.S.—For free copy of our new book on Catfishing, write: Fishing Editor, Fishburger News, Gardner, Kansas.

NUF SED—LET'S GO

Next Month

- Regulations which will govern the 1947 Antelope hunt in certain West Texas counties.
- Another four color reproduction of a duck painting by Orville Rice.
- A digest of the new game and fish laws passed at the recent session of the Legislature.
- Factual articles by J. L. Baughman, J. G. Burr, Adam Wilson III, and a picture layout of young antelope.
- Insure getting your copy of TEXAS GAME and FISH by sending in your subscription TODAY. \$1.00 per year.

FISH ON BAFFIN BAY

Fish in Comfort on the 40-foot Charter Fish Boat:

"THE LANTAN QUEEN"

Row Boats, Bait and Tackle, Modern Cottages. Write for rates and reservations.

Jack Dissell, Rt. 1, Riviera, Texas

FISHERMAN'S PARADISE

8th PASS OLD MEXICO

Hunting in Season. Inquire

G. C. Smallridge & Sons
Brownsville, Texas

THE CATFISHERMAN'S BIBLE

The original, nationally famous and copyrighted catfisherman's guide. Seventy (70) catfish bait recipes, formulas, tricks and secrets. Complete, \$1.00 postpaid.

R. A. JENKINS

Box 42

St. Louis 3, Mo.

"Baitless"

CATFISHING

One Bait Lasts Months. Stays on Hook Under All Conditions. Attracts Catfish from afar. Complete Copyrighted secret, \$1.00

R. A. JENKINS

P. O. Box 42

St. Louis 3, Mo.

The Fin Feather Lake & Pond Development Company

BRYAN, TEXAS

Lake Management • Pond Management
Water Lilies and Water Hyacinth Controlled

Specialists in Lake Management for Fish and Ducks

Free Information



MRS. CONRAD FATH, 2211 Nueces, Austin, Texas, and the 24 pound channel catfish she caught while trolling from a canoe below the narrows on Lake Travis with a 5 ft. 8 in. tubular steel casting rod, a sportcast tournament reel equipped with 10 lb. line and 8 lb. leader. The cat measured 35 inches in length and 28 inches around. The fish struck a midget yellow Heddon River Runt. Mrs. Fath played the fish almost 30 minutes before bringing it to net. The total catch for the day amounted to 56½ pounds of fish—9 channel cats, 5 white bass, and 3 crappie. The two catfish shown on the ground in the picture weighed 7 pounds each.

fishing safer, if no more productive.

The worst sin in boating is overloading the boat. Just because five or more persons can fit on the seats in a row-boat does not mean that the boat was meant to hold that many. Perhaps at first glance an overloaded boat may seem safe enough in calm water. But what if a sudden squall should spring up? Or what if one of those show-offs in a speed boat should decide to give you a thrill by cutting sharply in front of your logy craft with his motor wide open? You will be in for trouble. Or let one of the occupants shift position suddenly, and the boating party may become a swimming party. Too many persons in a boat makes fishing next to impossible, anyway. It is in ferrying fishermen, perhaps, that overloading most frequently occurs. Isn't it simpler, and quicker as well, to take a load in

two trips, rather than swim part of the way?

Fishermen in boats have one characteristic that sets them apart from practically everyone else. They stand up. Almost without exception, practically every fisherman stands up at one time or another, the better to cast or the easier to play and net a fish. The danger is obvious, yet on the theory that "it can't happen here," all anglers cheerfully ignore it. Some of them this summer will not live to regret it. If you must stand in a boat, at least be sure your insurance is paid up. Standing in a boat is like reaching for the light switch while you are still in the tub. Maybe nothing at all will happen. Maybe at most you will only be knocked down. And then, again, maybe you will be killed. Why take that chance, especially when casting and landing fish while you are in a boat are operations performed just as easily sitting or standing?

One well-known angler defends his standing in a boat while fishing on the grounds that he has yet to lose his balance or be dragged into the water by a fish. Maybe so. Yet last year more than 1-thousand persons were drowned after falling out of boats. According to statistics, nine out of ten of those who take their sport in boats cannot swim at all or are poor swimmers at best. But it is not only the non-swimmers who get into trouble. Two out of five who drown are swimmers whose ego prevents them from correctly evaluating their ability.

Changing places or indulging in horseplay in a small boat is just as bad as standing up, if not worse. Why take chances? Maybe you can swim, but how about your companion? And how far can you, yourself, swim with your clothes and shoes on? How long can you endure the chill of an immersion in the cold water of early spring or late fall? Have you tried swimming while entangled in fishing gear or with a lump on your head from the spill overboard? And, finally, how long will your fishing gear float?

Perhaps it is not necessary to dwell long on an aspect of safety in a boat, especially one that is so well known as to need no introduction. Ideally, each non-swimmer should wear a life-jacket, although it is not likely that very many of them will. However, if everyone in the boat exercises a little caution, there is no reason why fishing from a boat should assume a frightening aspect to anyone.

Inevitably, a boat now and then is going to be overturned. If it should be yours, try to keep your head. Unless there are very unusual circumstances—a storm, a rapids, or icy water—you are not in any immediate danger. By far the safest, as well as the simplest plan is merely to hang on to the overturned boat and wait to be rescued. The boat will not sink. Why risk trying to swim ashore? Maybe you are not the strong swimmer you think you are. Most likely the shore is much farther away than it

TRAPPERS and FISHERMEN

If you plan on Trapping in 1947 and 48 buy your Steel Traps early. Steel Traps will be scarce again, this season. Commercial Fishermen. We have the old Missouri Cheese scraps, packed in 50-lb. can for Fish Bait.

EAST TEXAS FUR CO.

517 Howard Ave. Box 133
PALESTINE, TEXAS

seems. Being able to swim half way in will definitely not be good enough.

If there is no chance of being rescued, perhaps you can right the boat and slop some of the water out by rocking it. One person can get in over the side if one or more hold the opposite side. Or one person alone can slide in over either end. It may not be easy, but it can be done, and it is much safer than striking out for the distant shoreline. If you are not too far out, you can even tow the boat in.

Nowhere, perhaps, does the Golden Rule apply more pertinently than to fishing from a boat. Fishing can be a wonderful experience if each person will do as much of the work as he expects from the other, and if he will refrain from

A THREE HOUR CATCH in Lake Texoma—20 bass weighing 85 pounds. The bass were caught on a Whopper-Stopper "Shad."



those same dangerous practices he expects his partner to avoid.

There are many little things which, while not so serious as falling overboard, can spoil the fun of a fishing trip afloat. Probably the greatest of these minor damages is the menace of a wildly swinging plug at the end of a rod of an ambitious but thoughtless companion. A hook goes in much easier than it comes out. I can vouch for that. Even when a doctor freezes the area and cuts the hook out it is no fun.

A good rule to follow in casting from a boat is always to cast at right angles to the length of the craft. If it is necessary to cast to either end, make doubly sure there is enough room to swing your rod back without endangering your companions. And unless you are an expert, do not use the side-winder-type of cast. The only excuse for its use, probably is in trying to get under overhanging bushes and trees at the water's edge. Otherwise, use the overhand cast. It is much safer as well as more accurate.

A few other things in boat fishing deserve mention because overlooking them can often mar the pleasure of a fishing trip. For one thing, the effect of the sun while you are out on the water should be taken into consideration. On the water there is nothing to absorb the burning rays of the hot sun. The reflected rays will catch you in normally protected areas; such as underneath the chin and underneath the eyebrows, where the skin is tender. The glare in your eyes is more punishing than when you are fishing from a bank. The doubled force of the direct and reflected rays of the sun will sap your strength quicker than you think, and if you are fair skinned you actually may become sick to the point of needing medical treatment. It happens every summer. And the worst part of it is you seldom realize it until it is too late.

Plan ahead. If you expect to be out on the water for any length of time on a hot day in an open boat, take along a wide-brimmed hat and a pair of sun glasses. If you are not already tanned, do not expose yourself too much. A sun tan cannot be acquired in one day. Neither can a new layer of skin to replace the one which is sure to blister and peel.

If you are rowing, do not go so far out that all your strength is expended. Remember, you have to get back as well. Remember, too, that if it took you one hour to row out it is surely going to take longer to return, and that if you wait until the sun starts to sink before starting back you are only asking for trouble. If you expect to be out that late, at least have a flashlight with you. And do not venture too far from your home base when bad weather threatens. Of course, if you are the type that thrives on adversity, you can set your own rules.—Pennsylvania Angler.

Fish Meal Production in Texas

★ Continued from page 13

For example, on the basis of 100 pounds of Sea Trout that was processed for meal and oil there would be 19 pounds of dry matter of which 17 pounds would be protein and 0.8 pound of oil. Since the yield of meal is only about 20 percent and the oil yield is practically nil, it is very doubtful that a processing plant for this trash fish would be profitable unless the fish were obtained very cheaply and in large quantities.

The Menhaden, which might prove to be very plentiful have never with the exception of a few years been fished on this coast. In the Report of the U. S. Commissioner of Fisheries, 1902 (1904), Stephenson gives a production of 26,806,500 fish from Texas producing 69,639 gallons of oil and 1710 pounds of meal. He states at that time that no operation had been carried on subsequently to 1901. However, in 1918 the industry started up again and in that year the production amounted to 14 million pounds. It gradually declined, however, and in 1922 again went out of business. All this production was in the Port Arthur-Sabine Pass area and while at the present time no processing plant is operated there, there is a Menhaden Plant at Cameron, Louisiana, some 40 or 50 miles east. These fish in the Gulf area have been found to much lower in oil content than those of the east coast.

The chief difficulty in setting up a business of this kind along the Texas coast would be the fact that nowhere is there a great enough concentration of raw material to support a large plant with the possible exception of the Port Arthur-Sabine Pass area where Menhaden could be used. However, within the last few years small individual plants have been developed by the Hiller Industries of San Diego, California, and by Edward Renneburg and Sons of Baltimore, Maryland. The Hiller unit is a self-contained, portable installation originally developed for Unra. It can be operated by two men on a variety of fuels and will handle either oily or non-oily fish. Production is in the neighborhood of 4½ tons of finished product per 24 hours as it will handle about 1 ton of raw material an hour. The Renneburg Company who have been in business some 50 or 60 years produce units varying in capacity from 2 to 100 tons of raw fish per hour and it is probable that these could be adapted, if they have not already done so, to the use of shrimp.

Another difficulty would be that of obtaining the raw material itself. The shrimp heads would probably not present much trouble, but it is extremely doubtful whether it would be possible to obtain the cooperation of the shrimpers in bringing in the scrap fish without paying more for them than such an industry could afford. At a rate of .005

cent per pound sufficient scrap fish to produce a ton of meal would cost in the neighborhood of \$50.00 which is prohibitory. It might be possible to get around this, of course, by the meal plant operating its own boats and paying the crews a flat salary.

The following publications issued by the U. S. Fish and Wildlife Service, Chicago 54, Illinois, may be of some use to some one interested in this problem. If wanted they should be ordered by number and title. Many of these have bibliographies.

Memo. S-288 Fish Meal and Oil.

Memo. S-195 Fish Meal as a Food for Livestock

Fishery Leaflet 159 Condensed Fish Press Water and Fish Liver Meal in Chick Rations

Fishery Leaflet 126 Fish Reduction Processes

Can Tell Ages of Fish

Scientists can tell the age of a fish by counting the rings on its fins, much the same as the age of trees is estimated from the rings in its wood. The scales have to be greatly magnified for careful scientific examination.

Pickeral a Hearty Eater

It is said that every five days the pickeral consumes an amount of food equal to its own weight.

Fishing Muddy Water

If the water of a stream is muddy, cover every foot of it, for fish range widely in search of food when discolored water affords them protection from their enemies.

Bait for Panfish

Yellow-bodied grasshoppers are good bait for panfish. Attach them to small hooks with fine thread. This method prevents injury to the 'hopper and lets it free to kick up a fuss in the water.

Walleyes Hearty Eaters

It takes a lot of fish to make a mature walleyed pike. It is estimated that the food necessary to bring a walleye to its third year is between 1,800 and 3,000 minnows and other food fishes.

Baits for Panfish

Here are some recommended baits for panfish: Perch, worms and minnows; chubs, worms, crickets, and grasshoppers; catfish, angleworms; sunfish, small worms and hellgrammites; carp, dough-balls.

Use for Landing Net

Attach fine mesh to your landing net to make it an implement for catching minnows for bait fishing.

Letters to the Editors

Education

I wish to express my appreciation of your magazine, which I have been reading this year, sent me through a subscription by a kinsman at San Angelo.

It is well done and attractive—its contents, clear and well written, showing familiarity of the writers with the subjects discussed, entertaining and educational.

Your conservation program deserves, not only the support of sportsmen and commercial fishermen, but the public at large and to get that support, education is essential and may I suggest it should reach down to the elementary schools.

The killing of all things wild, without respect to time or place, can be said to be instinctive, but not a desire, if soberly considered, I could go on like this for pages—but the answer would be education as I have already stated.

It will take a lot of digging, in a lot of places, before pay dirt is reached, but I believe conservation can be accomplished and if I can be of any service to you, it will give me pleasure.

ELTON NOBLE,
Seadrift, Texas.

* * *

Chaparral

Recently I heard your radio comments on the Road-runner or Chaparral and I should like to pass on to you a true experience of my own regarding this bird.

In the Fall of 1915 out near Spur, Texas, my Grandfather hired some Mexicans to clear a tract of land. Most of the plant life consisted of Mesquite and Cactus. After the trees were cut up into either fence posts or firewood the balance of the brush and Cactus was piled up and burned but over the entire tract there was still a vast amount of Mesquite thorns and dried out Cactus. As a fourteen-year-old kid I was assigned to riding a double disc plow to turn this new sod under and one day about a hundred yards away I saw a Roadrunner acting very strange. He would dart a few feet with a quick leap then dart away again with a quick leap of a few feet. Then he would repeat the performance. I stopped the plow and sat watching him for a long time and he continued the same act. Finally, I decided to investigate and started walking toward him. As I approached he seemed reluctant to leave but did slowly draw away so I continued until I was almost to the spot where he had been putting on his act. Suddenly, just a few feet ahead of me a big Rattlesnake gave out his warning rattle. The snake was coiled in about the center of a circle about seven or eight feet in diameter—said circle being formed by Mesquite thorns and sprigs and dried Cactus which I wondered about at the time. I killed the snake.

That night I told my Grandfather about the experience and he said that the Roadrunner upon finding the snake had attacked him forcing him to coil. Then the Roadrunner had made quick trips back and forth bringing thorns and Cactus to build the circle around the snake. Then he had make quick darts in and out at the snake to make him strike. Upon making the strikes the snake would repeatedly stick himself on the thorns and cactus until he would either become too weak to fight anymore or would hurt himself too badly or would become so angry that he would bite himself and die. In any of these cases the Roadrunner finally triumphed and had his feast upon the snake.

Now this is not any theory—I saw it happen as a kid and my Grandfather—who was an old man at the time—knew right at once what I had started to explain to him so he must have seen it happen before.

E. B. BUFFINGTON,
Weatherford, Texas.

* * *

Likes Magazine

Enclosed you will find two dollars for 2 years subscription to Texas Game and Fish. I have really enjoyed it the past year and I wouldn't be without it anymore. It is the best game and fish magazine on the market.

KARL F. GEORGE,
San Antonio, Texas.

* * *

Please find enclosed my personal check for \$2.00 for two years subscription to Texas Game and Fish.

I have enjoyed Texas Game and Fish very much and believe that every real sportsman of Texas should be a subscriber.

WALTER W. L. MEYER,
McAllen, Texas.

* * *

Things You May Not Know

Vultures, which are supposed to have an exceptionally keen sense of smell, are actually deficient in this regard.

* * *

The earliest record of a banded bird is that of a heron captured in Germany in 1710. The metal bands on its leg had been placed there in Turkey several years before.

* * *

A species of bee called magacolidie caused G. I.'s considerable trouble on a South Pacific island. Not by stinging them, but by building their houses in the bores of military rifles.

* * *

The red fox is much faster than

Quail on St. Joseph's Island

In the January issue of Texas Game and Fish you had an article stating quail now are more plentiful on St. Joseph's Island than any other place at present. I thought you might like to know how those quail got there. In 1890 we lived on a ranch in Bee County, about five miles north of Beeville. I was 7, and my brother, who now lives at 4221 McKinney Avenue, Houston, was 12. Our father, T. M. Howard, taught us to build small trigger traps and we were so successful in trapping these birds that he built an elevated cage in our backyard. We kept this cage full of quail all the time. Our uncle, J. R. Woods, but better known as Dick Woods, owned St. Joseph's Island at that time. He visited our home and seeing these quail in the cage, he asked if we would catch some for him. We were happy to do so. He explained to us that there were no quail on St. Joseph's Island and that he would like to stock the island with bobwhites. We shipped 150 pair of the finest specimens we caught and he turned them loose on the island. Your article also stated they are now trapping quail on the island to restock the thinned out sections of the mainland. This is very interesting to us and we are happy to have had a small part in prolonging the life of the quail. I think quail is the finest bird in the field today. The birds being trapped on the island must be about the 56th generation of the ones we shipped to this location.

O. J. HOWARD,
Houston, Texas.

★

Unlike other members of the deer tribe, both sexes of the Barren Ground caribou have horns, although the horns of the female are shorter than the male's.

How the earth was first formed is a matter of debate and how it will end is one of conjecture; but with erosion on a down-hill pull and atomic fission a reality it won't be long now.

the grey fox. He has been known to cover a given distance at the rate of thirty miles per hour.

* * *

The hoary marmot of the northern Rockies spends the longest time in hibernation. He is the first to go into hibernation in the fall and the last to come out in the spring in a region where the winters are longest.

* * *

The caribou are very good swimmers in spite of their slender legs due to buoyancy gained from their tubular hair which acts like a life preserver for them.

* * *

All herons fly with their necks drawn in, and their feet extended.

A Hunter's Dream

★ Continued from page 4

turtle, loggerhead, shrimp, stone crab, quahog, and oysters.

Twelve years later, in 1852, the U. S.-Mexican boundary was surveyed, and one of the commissioners, John R. Bartlett has left us a most interesting picture of the southern part of the state. Traveling from Ringgold Barracks to Corpus Christi he speaks repeatedly of the wild mustangs and on December 29th his journal reads, "The mustangs came around our camp in great numbers last night. They so alarmed the mules that, fearing a general stampede, the guard was obliged to fire upon them, which drove them off. The road today was heavy; the country an open rolling prairie, covered with luxuriant grass, and dotted with clusters of mesquite and oak. Now and then would appear a long line or belt of these trees, extending a mile or more. At noon stopped in a grove of mesquite, and sent our animals to a lagoon half a mile to our left for water. After letting them graze an hour, we resumed our march. We reached a pond 4 miles further, and a little beyond a second and larger one. This water was covered with wild ducks and geese; but they took alarm at the first appearance of the (wagon) train, and were off before we could get a shot at them. Keeping on a few miles, we encamped on the open prairie. Large numbers of deer, antelope, and wild horses were seen during the day; but the latter kept a respectful distance. Two deer were killed."

(So plentiful were deer, said Mr. Bartlett, that in some parts of Texas it ceased to be a sport to kill them. Such was the case on the lower part of the road from San Antonio to El Paso, which he traversed in 1850. At a stream called Turkey Creek, the (wagon) train had stopped one day to rest, and 20 deer were killed and brought into camp.)

At Corpus Christi the party encountered northers and his description of the effects of one on the fish life of Nueces Bay is so similar to what happened on the Texas Coast, in January of this year, that it is worth repeating. He says:

"When these winds blow so violently, they drive the water from the shallow lagunas into the Gulf, and increase the difficulty of navigating them. Many of the bars are then nearly dry. There is one in particular, across the mouth of the Nueces Bay, which deserves to be noticed. When the tide comes into this bay, as well as in all others, it is resorted to by large number of fish from the Gulf, to feed. The water may then be from five to ten feet deep, and is of the same temperature as that of the Gulf. But after a norther has blown for twelve or twenty-four hours, its temperature is so much reduced, that the fish become chilled, and not having strength enough to make their way over the bar, now more shallow than ever,

they often lie there in heaps. At these times the people go to the bar with their wagons, and with a spear or fork pick up the finest fish, weighing from ten to a hundred pounds, and thus carry away loads. Many were brought in today, and they proved a great luxury to us.

In the remarkable journey of Alvar Nunes Cabeza de Vaca from Florida to Cinaloa, on the Pacific Coast, between the years 1527 and 1535, he remained for

A Challenge

By "BOGIE" PRICE

IT HAS been my desire for years to find a book which explains all about "The Call of Spring" and what it is in the human make-up that causes the thrills and chills in the spines of our many fishermen when the sap begins to rise and pop the buds of our early trees and shrubs. This, my dear reader, is my reply:

Fishing has been my greatest pastime since the early age of five. It has haunted me at work and play ever since the first trip to the old mill pond; so much so that as a boy my high school education was broadened over a period of two years. In fact, I always went to school, but my tackle which I couldn't resist hiding in my trousers pockets, led me astray most every afternoon in the early spring months.

The thrill of a strike from a largemouth black bass around some old log, or in the shade of a Caddo Lake giant cypress stump or tree is deeply embedded in the roots of my makeup. Even the drift of rotten woodpulp against a log jam seems to be a paradise for many here when old man "Red Eye Goggle Eye" starts his spring run. It doesn't make much difference if they bite slowly or fast. The outing is worth the time . . . clear skies, warm winds, the smell of fresh spring rain water, the call of a martin hunting a nesting place amidst the hollow trunk of a cypress tree where woodpeckers once made nest. The chatter of a kingfisher and the splash of turtles frightened from their sunning on some log or stump. The pop-pop of water meets the ear as a blue gill or crappie makes his catch of a nice fat bug or minnow.

I'll tell you fishermen the Creator made a mighty fine creature when he made a fish. I am no writer as you can see, but I am in hopes that someone, some day, with more talent will capture in words the true feeling of that "Urge" called the fishing urge. I know what it is and it's on the tip of my tongue. I can't put it in words—can you?

eight months among a tribe of Indians on the Gulf of Mexico, whom he calls the Avavares. "They were all," he says, "ignorant of time, either by the sun or moon, nor do they reckon by the month or year; but they better know and understand the differences of the seasons, when the fruits come to ripen, the fish to die, and the position of the stars, in which they are ready and practiced."

"The season when the fish come to die, has never been understood. When Mr. Buckingham Smith, the learned translator and commentator of the "Narrative of Cabeza de Vaca," asked me on my return from Mexico, whether in my journeys along the northern shores of the Gulf, I had seen or heard anything that would enable me to elucidate the passage in question, the incident I have named as happening annually on the bars of the lagoons, when the northers blow, at once occurred to me; and on explaining what I had witnessed, Mr. Smith at once agreed with me that this was the true solution of the passage."

From Corpus Christi Mr. Bartlett sailed north up Corpus Christi Bay towards Aransas Pass.

"Our course," he says, "lay through a channel less than twenty yards wide for miles, with bars of sand on both sides but an inch or two above the water. These were covered with myriads of water-fowl, including cranes, swans, heron, ibises, geese, ducks, curlews, plover, sand-pipers, etc. The large cranes and swans stood in lines extending for miles, appearing like a light sandy beach or white cliff; and it was impossible to dispel the delusion, until the vast flock, with a simultaneous scream that could be heard for miles, rose from their resting place. Occasionally, we would round a point which concealed a bay the surface of which was filled with ducks and geese; these, taking the alarm, would rise in one continuous flock, making a noise like thunder, as they flapped their wings on emerging from the water. Notwithstanding the vast numbers of these birds, I shot but few; for the water was so shallow that we could not get within gun shot of them with our boat. With a light skiff, and a few bushes or a bunch of grass, a gunner would have such sport as no other portion of the world can surpass."

Live Decoys for Duck Blinds Asked

The fight between special privilege and public rights is on again. The Illinois legislature has petitioned Congress to enact legislation to permit the use "of at least 6 live decoys to each blind in the central zone, or migratory states, while continuing the present prohibition in the Northern and Southern zones." The reason given is that ducks coming from the northern zone "are so gun-shy and blind-shy that it is impossible to enjoy the sport of duck hunting when live decoys are prohibited." The petition has been referred to the Committee on Interstate and Foreign Commerce.

Flying Fishing

By JACK BLACKWELL

Photos by the Author

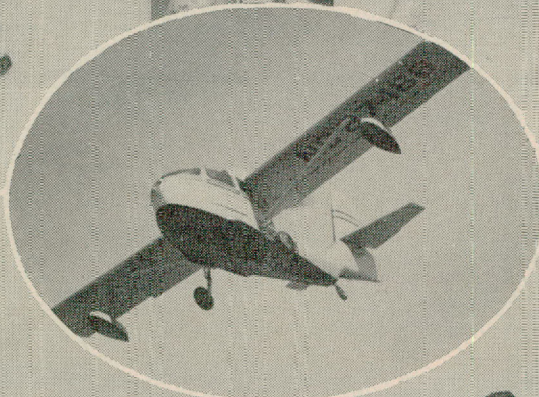
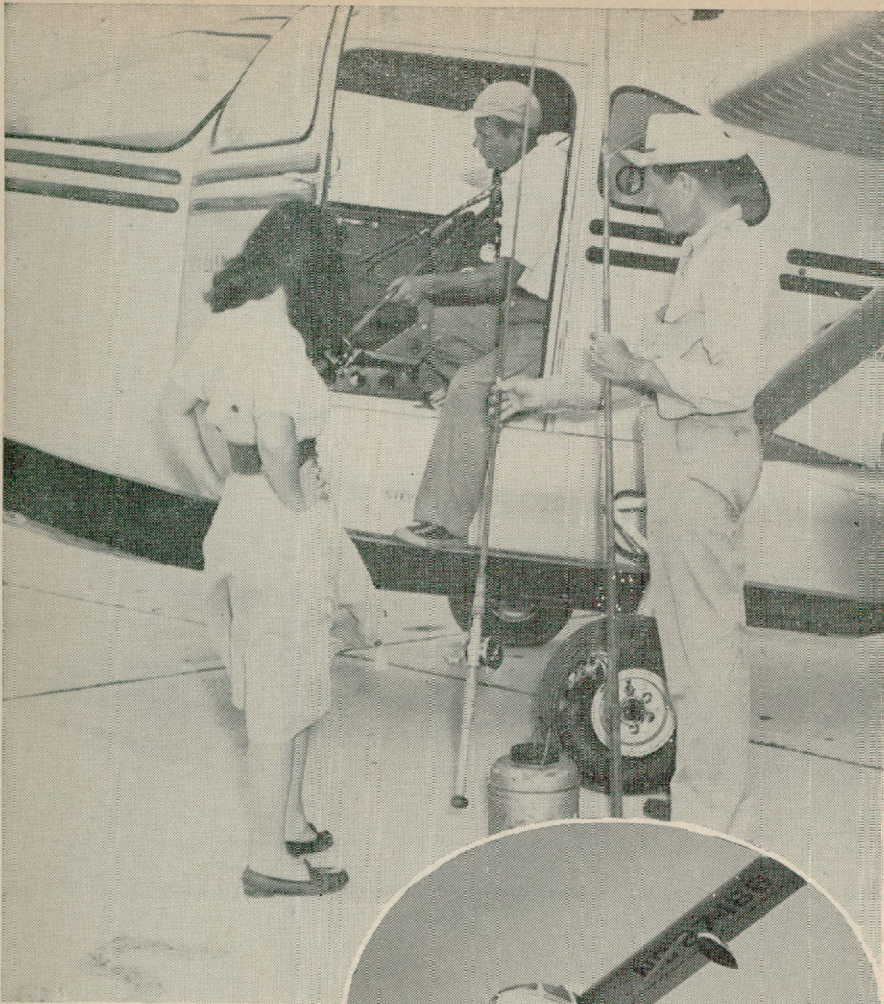
NEW thrills have been added to the ancient sport of luring salt water fighters to do battle with a hook. You can now take your seat in the comfortable cabin of an airplane, sail out over Gulf or bay waters, take your choice of the kind of angling you want to do, spot your fish, drop down for a landing and have at it.

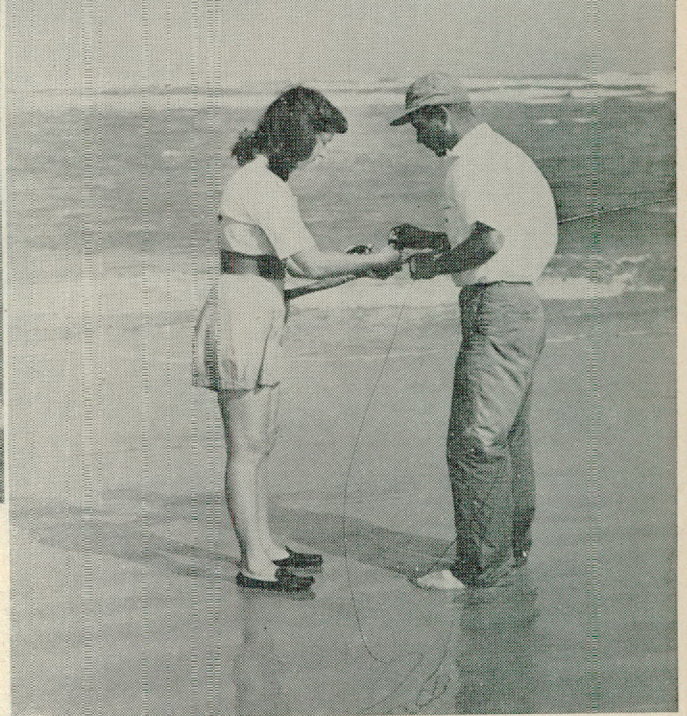
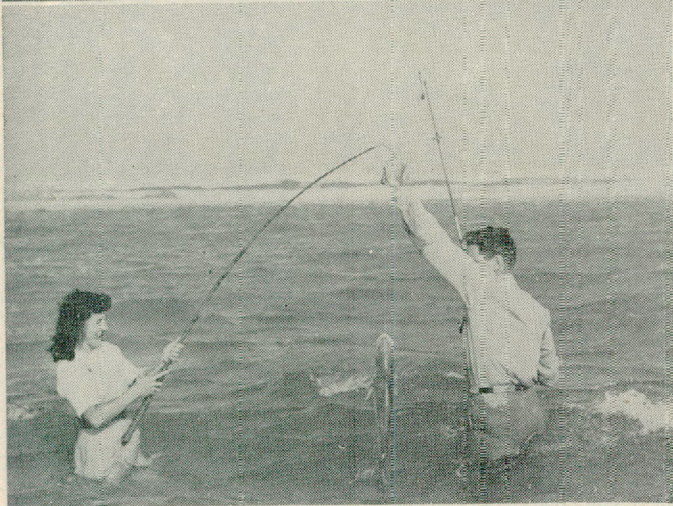
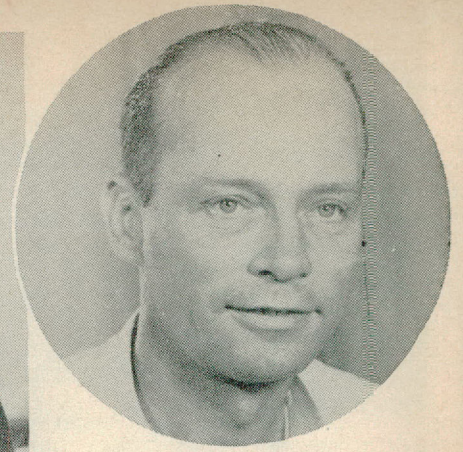
When you go fishing by plane there is no monotony of a long boat ride to your favorite reef, as the whole procedure takes only a matter of minutes. You can tell before you land whether the water is right for fishing, and if it is, more than likely you will see fish scurrying about in the water as you soar along three hundred feet above.

If the fish are not hungry at the spot

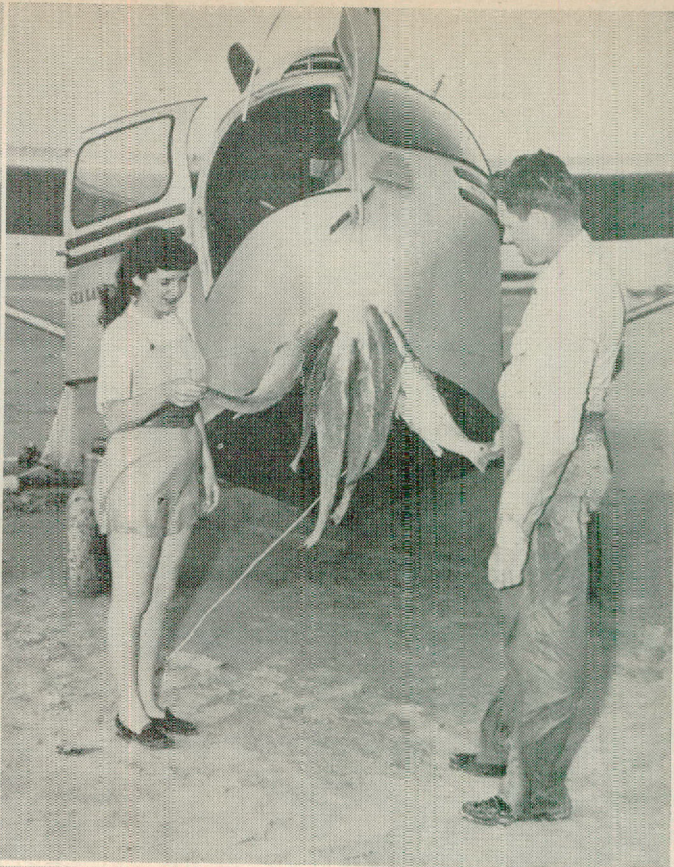
★ *Continued on page 29*

CROOK stows gear aboard fishing plane. Bert Dimaline assists, while his wife, Elaine, looks on. Then the amphibian soars into the air, starting the search for fish in waters below. After landing on Sun-Down Bay, fishing starts. Elaine fishes listlessly and seems skeptical.





UPPER LEFT. Bert hauls in a 4-pounder. Elaine comes to life. **Center.** Pilot Devine suggests a try at surf fishing in the Gulf. He spotted Reds playing in the surf and made a beach landing. Bert and Elaine were soon at it. **Lower left.** Elaine snags a big Red. Bert, being of the type not to take chances, rushed over and give his wife a hand in bringing in the big fighter. **Lower right.** Elaine gets a backlash. Crook gives her a hand in untangling her line. **Top right** is Len Crook and just below is George Devine, the other half of the partnership and the pilot.



BERT plays another big Red in to the stringing stage. Elaine can smile—after all, she caught the first one. Upper right. Here's how it happened. Bert and Elaine go over exciting details of how they landed the five big Reds and one smaller one. Lower. The end of a perfect fishing trip. Bert and Elaine fix up sandwiches. Devine prepares fish for ice box, and Crook checks over damaged tackle.



TAGGING A BIG 'UN for the Lake Texoma fish rodeo. Edwin Laird, state fish warden, is shown in the upper left photo clamping the tag just above the maxillary bone. In the upper right photo Laird is weighing the tagged bass. In the lower left photo, he is measuring the bass before releasing him in the lake. The lower right photo shows the rodeo tag in place.

Flying Fishing

★ Continued from page 26

you pick, or if you don't like the color or the kind of spots of the ones you are catching, then you can be off again in a matter of minutes and on your way to try your luck at a different place.

This novel flying service for fishermen, first of its kind ever attempted in

the Texas Coastal Bend area, is in its first season of operation at Rockport, run by a former Army Air Forces pilot and his business partner.

The flying fishing craft, a four-place amphibian piloted by George Devine, takes charter passengers over coastal

waters until fish are spotted below, then lights on either water or the beach for the "kill." Len Crook is the partner in the enterprise.

Wide attention was drawn to the aerial fishermen several weeks ago when Devine and Crook located and tracked down a mass migration of fish up the Gulf coast for five days. The migration was first noticed a hundred miles south of Port Aransas. Daily after that the flying service operators took friends on tours out over the Gulf to witness the stream of fish as it headed northward. Sportsmen's hopes were running high, but a wind that grew to gale proportions muddled the Gulf for two miles out and turned the fish away from shore.

Many fish of the migration, including reds and trout, have drifted into the bays and fishing has greatly improved. The fliers believe catches will continue to improve for several weeks yet.

Base of operations for the service is the Rockport airfield. Pilot Devine usually flies about 300 feet over the water. He has found that fish can be seen in clear water better at that altitude than any other. When the plane gets too low surface reflections spoil the picture.

On the fishing trip here pictured, Devine and Crook took along Bert and Elaine Dimaline of North Plainfield, N. J., Rockport vacationers. Mr. and Mrs. Dimaline by-passed Florida, where most New Jerseyites go for vacations, to come to the Texas Gulf Coast for something new.

"We really found it different down here in Texas," they said, "and if more people would come to Texas instead of Florida they would find it more exciting. Airplane fishing is wonderful and we are going to do more of it."

Devine watched for fish as he flew and after about fifteen miles, sighted likely signs. He brought the plane down on the water in the vicinity of Sun-Down Bay. Bert and Elaine began fishing from the plane's nose after the photographer and pilot waded out to watch. Bert was the first to be rewarded, with a four-pound speckled trout. After a few more minutes' fishing—and no more trout—Devine suggested a try at the Gulf. Soon the plane was soaring over white-capped breakers and Devine sighted redfish playing in the surf.

A landing was made on the Gulf beach and Bert and Elaine were soon casting into the surging water. Devine was right, there were reds in the surf. Elaine was the first to land a big one, then Bert, and soon there were six big reds on the stringer.

After a pot of coffee and picnic-style lunch, the party took off for home.

Crook and Devine first became acquainted when they played professional hockey together in 1933. Crook has been in the coast country for twelve years and the two renewed acquaintance after Devine was discharged from the AAF. Their love for fishing and flying was the inspiration for the fishermen's flying service.

A New Target Pistol Is Born

★ Continued from page 17

slide stop holds the slide open.

One of the most outstanding features of this new gun is the magazine safety disconnect, which is certainly an invaluable safety measure. More than a few times I have known of accidental shootings with automatic pistols which occurred simply because someone thought the weapons were unloaded after the magazine had been withdrawn. Of course the live cartridge left in the firing chamber did the dirty work. With a safety disconnect built into an arm, discharge is impossible after the magazine has been removed.

The new Match Target Woodsman will doubtless occupy an even more important spot on the nation's firing lines than the old Target Woodsman—and with its many improvements aimed at bettering existing records, should be a hand gun favorite of champions.

*Somebody once said something like this (maybe it was Shakespeare): "A rose would smell the same by any other name." Effective April 24, 1947, the name of this company has been changed to COLT'S MANUFACTURING COMPANY. All orders, contracts and obligations of the Company under its previous name will, of course, be honored by the Company under its new name. For the time being they shall, wherever possible, continue to use their present stationery and business forms which, for the most part, will be imprinted with the new name. As soon as possible, the new name will appear on all forms.

I know of several shooters of high-powered rifles who will not use soft-nose bullets, if any other type is available, because the S. P. ammunition that is carried in rifle magazine becomes battered and deformed, which, of course is caused from recoil forcing the bullet points against the forward end of the magazine.

A bullet point protector, installed in the magazine, is now available for the following rifles and calibers: Model 70 Winchester, .30-06, .270, 7 m/m; Enfield, .30-06, .270, .257, 7 m/m, .220 Swift; Mauser, 8 m/m, .30-06, .270, .257, .220 Swift.

Now that last cartridge in the magazine we usually carry around the entire season should be just as accurate as the first one we slide in the barrel.

Many former service men whose interest in firearms was awakened during the war are really taking an interest in the gunsmith training courses which are offered by Ad. Forkey of the Alamo Gun Company, San Antonio, Texas, and the Trinidad Junior College, Trinidad, Colorado. Students of the college formerly trained under P. O. Ackley—"daddy" of the Ackley custom-built rifle barrels.

Before P. O. referred his applicants

to the Trinidad college, he and Ad. were believed by school authorities to be the only two gun builders in America who offered this kind of training. Ad. still teaches the gunsmithing trade covering a four year training period. Ackley's was a two year course.

Inquiries and applications are coming in from the entire United States, according to Forkey, and Dwight C. Baird who is president of the Trinidad college.

How Fast Do You Shoot

There are three types of wing-shots, says Henry P. Davis, Remington Arms Company. These are the snap shot, the deliberate shot and the fellow who waits out or "points out" his shots.

"Of the three," says Davis, "the deliberate shot will, in the long run, account for more hits, whether it be in the game fields or at the traps. The snap shot is prone to 'jump' or 'push' his gun at the target and frequently shoots behind it. The 'spot' shooter might come under the snap shot category, but there is considerable difference between the two. The snap shot tries to shoot so quickly that very little lead is necessary and consequently generally points directly at the target. The 'spot' shooter shows very little swing in his gun pointing, does not swing by his target but rather shoots at a 'spot' in front of it. This type of shooter really does swing his gun some but the swing is not very apparent. Generally an experienced 'spot' shooter is a deadly marksman.

"The deliberate shooter is the chap who combines his trigger pull with the grace and rhythm of his swing. He 'mounts' or places his gun to his shoulder quickly but smoothly, swings on the target, pulls past it, touches the trigger while his gun is still in motion and then follows through with his swing. All of this is done quite fast but there is deliberation in every move. Here is shown the perfect coordination of brain, eye and muscle.

"The 'pointer-outer' is the slow shooter who holds his fire until he is sure his target will be in his shot pattern. Sometimes he is cursed with the habit of flinching, which slows him up. Generally, however, his reflexes do not react as quickly as those of others, and often he waits so long that the game bird, which is his target, has reached the safety of the cover."

But just how fast do we shoot? "Probably faster than we realize," says Davis. "Some of us, of course, shoot faster than others, but the boys of the slide rule and pencil clan, along with the assistance of electric timing devices, have it figured down to the pretty fine point. Suppose suddenly, at a distance of about 20 yards, a game bird appears flying from right to left across your

front at a speed of about 60 miles an hour or 88 feet per second.

"What do you do? First, you estimate the range as best you can. Next, you shift your feet into a fairly comfortable shooting position. Third, you 'mount' your gun and swing on the target. Fourth, you pull the trigger and then follow through.

"All this sounds like it consumes a lot of time but it really doesn't," continues Davis. "At any rate you generally do them all. The slide rule boys tell us that it takes about one-fifth of a second for the average shooter to get 'set.' In this split-second your bird has flown approximately 18 feet. He'll fly another 18 feet by the time you have your gun up and on him, and still another 18 feet while you're pulling the trigger. Calculating on the basis of an average shot charge velocity of 900 feet per second over your original range of 20 yards, the shot charge will require approximately one-fifteenth of a second to reach the crossing point with the path of the bird. This means the bird has flown an additional six feet, or sixty feet in all from the time you saw it until it runs into your shot pattern.

"Of course you are not going to get this kind of a shot all the time, and it is used as an example only. Other types of shots may require more time and straightaway shots should require less. The human element, of course, is the determining factor, and while this seems like mighty fast shooting, the shooter with average reflexes is doing it every day.

"Don't try to be a super-fast shot. Get on your target as quickly as you can, but don't crowd yourself too much. Haste makes waste in shooting more often than not. Be deliberate . . . but don't wait too long."

Keep Your Head Down, Mr. Nimrod!

Ask any experienced gunner why he missed a certain shot and nine times out of ten he will reply, "I shot over the top of it."

Shooting high is probably the commonest fault among gunners. 'Keep your head down' is one of the cardinal rules in good shooting, and its strict observance must be practiced if the charge of shot is to strike the object at which the shooter thinks he is pointing.

Most gunners realize immediately upon touching off the trigger whether or not the gun was properly pointed. In trap shooting a few sketchy breaks will warn the shooter that he is not holding right and that he is 'scratching 'em down' with the edge of his pattern. The fellow who shoots with both eyes open is more apt to raise his head a bit and shoot high than the chap who closes one eye, for the latter is more inclined to 'sight' his shotgun rather than 'point' it.

If the shooter will only remember to make sure that the gun butt is high enough on his shoulder so that his

Reptile Fallacies

SNAKES are more in evidence now than at any other time of year. After their long winter hibernation they are hungry and out searching for food in the shape of frogs and worms, or perhaps a nest of field mice. Then too they love to bask on exposed places in the warm sunshine.

Cover is now scarce and the reptiles can find fewer hiding places in case of danger. For this reason probably more snakes are killed in the month of May than in all the rest of summer. This is true even in the Toledo area where the only poisonous reptile is the small rattlesnake found rarely in the Oak Openings.

No creatures are feared and hated more than snakes. Doubtless this is due to the fact that a small percentage of reptiles are poisonous. But some dogs bite, horses kick and bulls gore. No one fears all dogs, horses or cattle because of these few.

Some people believe that the fear of snakes is instinctive. This is not true. Children show no fear whatever of reptiles. It is only after they have been screamed at by their elders and warned against all crawling creatures that fear develops.

It is not surprising then to find that a great many superstitions and fallacies have been built up around snakes. For instance, if you cut off a snake's tail, the tail will not die until sundown. As a matter of fact, the tail usually stops wiggling in a few minutes.

Two favorite southern stories concern the glass snake and the hoop snake. The former, when struck with a stick, breaks

up into several pieces which join together as soon as you leave.

The real glass snake is a lizard which, like all other lizards, may lose its tail without suffering any great harm. But the parts will not grow together again. A new tail is grown.

The hoop snake is a favorite. This reptile, the story goes, has a sting in its tail. When disturbed, it grasps its tail in its mouth and rolls at its enemy like a hoop. Poisonous? Say, if it strikes a tree, the leaves shrivel and fall in 24 hours.

Moreover, the reason there are none of these in captivity is because they bite themselves and commit suicide. Debunking naturalists tell us that no snake with a sting in its tail exists and that all poisonous snakes are immune to their own venom.

The westerners too have their favorites. One is that rattlesnakes will not cross a horse-hair rope or a chalk line. Another follows the style of the old-fashioned melodrama. A man is killed when a rattlesnake strikes through his boot. The fang breaks off and lodges there.

Years later, another character, the villain, maybe, or an innocent bystander—there are numerous versions—puts on the same pair of boots and is killed by the same broken fang. It is a shame to spoil a good story, but doctors insist that the snake's venom loses its potency when dried up.

Woodsmen have their tale of the snake which charmed the bird as Kipling's Kaa did the monkeys in the Jungle Books. This story doubtless arose because of a misinterpretation of the bird's activities when it is confronted by an enemy near its nest or its young.

Nearly every bird student has seen a bird flutter about his feet in a helpless fashion as though it were badly hurt in an effort to attract him away from that particular spot. It is very possible that

on occasion a snake may actually catch a bird acting in this fashion when it gets too close to the reptile. But "charmed"? No.

Even farmers, as close as they are to nature, have their milk snake which milks the cows daily. Any farmer however who has ever examined the mouth of a milk snake and noted the six rows of needle-like recurved teeth would readily realize that a cow would go crazy rather than give milk when attacked by the snake. As a matter of fact, the reptile hangs around the barn for its favorite food, mice.

Then of course there is the story which has brought more letters to editors of outdoor and nature publications than any other single item: the mother snake which swallows its young in time of danger.

It doesn't sound probable or reasonable, but scores of persons claim to have seen the event personally. Moreover, the snake's gullet is long enough to prevent the young from being suffocated or burnt up by the powerful gastric juices. The opposition calls attention to the fact that many snakes eat other snakes alive and what observers take for mother-love is a hearty appetite.

Authorities on reptiles are skeptical about this snake-swallowing question, but in the face of stories by so many eye-witnesses they hesitate to take a definite stand.—Lou Campbell in Ohio Conservation Bulletin.



cheek can be placed against the stock and the head kept in a fairly erect position, he will find his gun barrel is practically instinctively aligned properly. Bulky clothing becomes a handicap to the instant placing of the gun butt on the shoulder, and if the gun butt is low, the charge of shot is generally high.

Raising the head, with its consequence of shooting too high, has resulted in more crippled and lost game than, perhaps, any other shooting fault. It is our most frequent error, and the easiest to correct . . . if we will only remember to "KEEP THAT HEAD DOWN."

When Waterproofing Really Counted

One day early in March of 1943 in the Jap infested island of Mindanao in

the Philippines, a crude bamboo raft was pushed cautiously out from the shore of Lake Pinamoloy. On it was an American guerrilla leader. He was First Lieutenant Jack W. Hoffman of the Air Corps wearing the tattered remnants of the same uniform in which he had escaped from Clark Field the previous year.

Slowly Hoffman paddled his unwieldy craft away from the shore. It was a risky enterprise. Mindanao was overrun by Jap patrols. Jan planes criss-crossed in the sky. But there was no alternative. The risk had to be taken. Philippino guerrilla fighters were depending on the success of the trip on which Lieutenant Hoffman was risking his life.

Guided by landmarks on the shore, Hoffman paddled his raft out into the lake until he decided he had reached the

particular spot he wanted and then dropped a makeshift anchor to maintain the position of his raft.

With his assistant, Hoffman turned over a small gas engine. To the two men, the engine seemed to produce a tremendous amount of noise. Flipping a switch, Hoffman connected the engine with a chugging air-compressor. While the engine and the compressor were beating out their rhythmic invitation to the Japs to find them, Hoffman steadied himself on the vibrating raft and lifted an improvised diving helmet over his head. He lowered himself carefully over the side, and trailing an airhose and a rope, disappeared from view.

Hoffman knew that what he was looking for would be in deep water. Give the Japs credit for that. For the first

twenty feet he was not disappointed when his feet did not hit bottom. He kept going down. Finally at fifty, his feet came to rest, not on the bottom, but on one of more than a hundred cases of ammunition.

It had been a shot in the dark. There in the cold dark depths of Lake Pinamoloy lay the American ammunition Philippine guerrillas could soon be firing back at the Japs.

When the Japs took Mindanao and seized the Army Depot on the shore of Pinamoloy, they made the mistake of dumping into the lake every bit of American small arms ammunition. American ammunition is waterproofed and is not destroyed by submersion.

Lieutenant Hoffman learned from Filipino scouts the place of the supposed destruction and began the arduous job of assembling and improvising his salvage equipment to raise the underwater cache.

Two and a half months after he began his one-man submarine salvage operation, Hoffman brought up 212,000 rounds of ammunition from the bottom of Lake Pinamoloy without detection by the Japanese. Fortunately, most of it was the type they needed—.30 caliber for Springfield and Garand Rifles and light machine guns, and .45 caliber for automatic pistols.

As quickly as the cases reached shore, the sodden wooden boxes were knocked off and the ammunition distributed to the guerrilla fighters.

And the ammunition functioned 100 per cent, according to Lieutenant Hoffman. "Every Filipino soldier smiled when he saw the familiar W.C.C., the initials of an American ammunition company, on the head of the ammunition," according to Hoffman.

This daring exploit was just revealed by Lieutenant Hoffman in a letter to Western Cartridge Company. The Lieutenant's ammunition probably set a world record for submersion before use, according to George E. Frost, Technical Advisor of the cartridge company.

"Waterproofing applied around the primer in the head of center-fire ammunition and at the neck of case in which the bullet it fitted, makes up some of the approximately 150 precision operations in the making of a military cartridge," said Mr. Frost.

"Waterproofing is applied primarily to protect ammunition in rainy or humid weather. The standard waterproofing test is to submerge military ammunition for 24 hours at room temperature before test firing. The test which Lieutenant Hoffman concluded by finding and firing this ammunition is far more severe than any cartridge should be expected to stand. An extra bit of care in manufacture paid dividends in the long run."

You see the flash or smoke of a discharging rifle before you hear its report because light travels at 186,000 miles per second and sound, under average conditions, travels only 1,100 feet per second.

A warm rifle barrel will shoot harder and produce higher velocities than a cold barrel. A very hot barrel will not shoot as strongly as a warm barrel.

Black Duck

★ Continued from page 5

shelter birds from farther north during both the spring and fall migrations, and provide winter quarters as it does now for other individuals.

A sound program for the black duck will require much work over a long period of time. It will involve as a minimum—

1. More Federal areas, since there are still wide gaps in the chain of major habitat improvement and management areas along the coast, and those interested in the black duck and other Atlantic coast waterfowl are entitled to some of the duck stamp money.

2. Other states could well follow the example of New York, Pennsylvania, and New Jersey in using some of their Pittman-Robertson funds to buy lands and also the example of these and others in increasing the productivity of present marshlands and creating new areas.

3. All future drainage and destruction of marshlands should be vigorously combated unless the proposed drainage is clearly necessary in the public interest.

4. Private marshland owners should be encouraged in every way to manage their marshlands to get the greatest value from them. By combining waterfowl and fur-animal needs into a sound management program, marshlands often can produce an attractive return on the capital invested.

5. Better food production and better habitat in all possible areas should be encouraged. The Maine program of planting of both emergent and submerged vegetation in lakes where conditions are suitable might be widely utilized in other states.

Naturally this constructive program should be accompanied by restrictions on shooting sufficient to limit the kill to less than the annual number of ducks put on the wing. This is the only way to increase breeding stocks which can use newly created areas as well as fill any unused places in existing breeding spots. It is also the only way to put more birds on the wing each fall. It takes both ducks and habitat to produce ducks, and man must see that both are available.

Everyone interested in the future of waterfowl, and particularly the black duck, must oppose all movements to destroy existing marshes and work for maximum restoration of all areas that can be restored under present economic conditions. Specifically, this means first—save the Parker River Refuge. This, coupled with a management program to hold the kill well below the annual increase, will bring back the black duck. It has worked for other species of wildlife—it will work in this case.



FRIED RABBIT

After the rabbit has been dressed and cut in pieces for frying, soak in salt water 8 to 10 hours. Remove from water, drain and roll in flour. Place in hot skillet containing lard or butter, cover and fry to a golden brown. Turn and fry on both sides. Season with salt and pepper. Gravy may be made by adding flour and hot water to skillet after meat has been removed.

SMOTHERED RABBIT AND ONIONS

Clean rabbit and cut into small pieces. Season with salt and paprika. Dredge with flour. Melt in skillet 3 tablespoons butter. Saute rabbit in butter until browned. Cover rabbit thickly with sliced onions. Sprinkle onions with salt. Pour in 1 cup sour cream. Cover skillet and simmer for 1 hour, or place in 325° oven and bake until tender.

CRAB CAKES AND MUSHROOMS

crab meat	1 cup	mushrooms
cream sauce	3 tbs.	flour
1 egg	1	cup cream
crumbs	½ glass	sherry, salt
butter		and pepper

Mix crab meat with small amount cream sauce and form into little cakes. Roll in egg and crumbs, fry (in butter, if possible) until brown. Saute mushrooms in butter.

Make a sauce with the browned butter, flour and cream. Add the sherry and season to taste. Pour over the crab cakes and mushrooms.

BAKING WHOLE FISH

A 4-pound fish.

Butter or other fat.

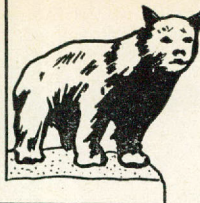
Stuffing

1 qt.	bread crumbs
3 T	finely chopped onion
¾ cup	finely cut celery
1 t	thyme or savory seasoning
6 T	melted butter
¾ t	salt
½ t	pepper

Cook the celery and onion for a few minutes in the butter. Mix the other ingredients and add to the butter mixture. Remove the head and tail of the fish if desired. Split the fish down the belly, being careful not to cut the roe. Remove the backbone, if desired. Wipe the fish with damp cloth, salt it inside and out and let it stand about 10 minutes to absorb the salt. Preheat the oven to 500 F. Stuff the fish and sew with string to retain the dressing. Place it on a greased rack in a baking pan and sprinkle the top with melted butter. Bake at the high temperature for 10 minutes, then lower the heat at 400 F. and cook 20 to 30 minutes longer. Serve at once.



BOOKS



THE WORLD OF PLANT LIFE—By Clarence J. Hylander; 722 + xxii pages. Profusely illustrated with 195 full-page half-tones and 246 line drawings. Published by The Macmillan Company, New York City. Price \$3.95.

Here is a low-priced edition of a truly outstanding book. It reads well, is interesting and enlightening, and constitutes an excellent reference on the plant kingdom. This is one of the most comprehensive books on plants ever written for the general public. The photographs and line drawings simplify plant identification, and the text is so inclusive that experienced botanists make almost as much use of it as amateurs and students, for whom the book obviously is intended.

The author recalls that there are some 250,000 different "kinds" of plants in the plant world. In the book he classifies and discusses virtually every common type of plant in this country—native and naturalized. He tells of their distribution, their habits, uses, and their varying structures which enable the different plants to exist in specific environments. The scope of the book is unusually broad. It goes from mushrooms, slime molds and algae-like fungi, to ferns and the giant flower that grows to a height of 8 feet. It covers the cacti and grasses, shrubs and stately redwoods. The comments on carnivorous and primitive plants, and on the warfare among plants are intriguing. All those interested in game food and cover plants, including aquatic varieties, will make good use of this volume.

MEETING THE MAMMALS—By Victor H. Cahalane; 133 + ix pages. Beautifully illustrated with 52 pen-and-ink drawings by the internationally famous wildlife artist, Walter A. Weber. Published by The Macmillan Company, New York City. Price \$1.75.

This delightful and elegantly illustrated book is regarded as an excellent introduction to the principal North American animals. In this book you actually meet 66 mammals, and the writer tells where and how to visit them again in their own wilderness homes. Here, before going into the wild, you learn that personalities are as varied among animals as among humans. For those people who plan to tour the national parks, by automobile, on horseback, or on foot, this is a wildlife guide. Tables show which animals are found in 30 western parks.

Featured by the author, who is one of the federal officials in charge of wildlife in the national parks, is an explanation of the "Present Policy of Wildlife Management" in the national parks. This portion of the book will be of particular interest to the many persons who have taken sides in the wolf vs. game animal controversy in Mount McKinley National Park.

THE LAND AND WILDLIFE—By Edward H. Graham; 232 + xiii pages. 32 plates of excellent half-tone illustrations from photographs. Published by the Oxford University Press, New York, 1947. Price \$4.00.

This book is the first comprehensive attempt to treat environmental improvement for wildlife as it can be accomplished through land use. It discusses field borders, hedges, windbreaks, streambanks, spoilbanks, gullies, ponds, marshes, and other land features—their treatment and wildlife values. Sections of the book also discuss the use of cropland, pasture, range, woodlot and forest in relation to their influences upon wildlife. Much that has been learned during the past decade by Soil Conservation Service biologists—to whom the book is dedicated—will be found in this treatise.

"The Land and Wildlife" is more than a consideration of land treatments, however. The introductory chapter gives cultural values of wildlife, the second presents a readable chronology of the history of wildlife management in the United States, while the third tells of the importance of the land-use approach to wildlife welfare. Other chapters deal with wildlife values, harvest, and other matters of interest. The flushing bar, annual food patches, and winter feeding come in for criticism from the land-use standpoint, and an eyebrow is even raised at the value of refuges. The author's comments on sportsman-farmer relations are much to the point. It has a splendid bibliography and index.

THE RUFFED GROUSE—By Frank C. Edminster; 383 + xxvi pages. 56 plates, numerous tables and charts illustrating and emphasizing important points in the text. Published by The Macmillan Company, New York, 1947. Price \$5.00.

In this delightful, well-illustrated monograph is a factual account of one of America's most popular and fascinating game birds. No other bird has been cited or mentioned more often in the pioneer records of the New World. The

ruffed grouse or "partridge" is legend in many parts of its former range, and here are the facts on the native species that is too frequently confused with the exotic pheasant.

This is the life story, the ecology and a guide for the management of the ruffed grouse. The text interprets a wide experience, with many observations and numerous reports on the fundamental factors that influence the numbers of wildlife of all kinds. With the accuracy and care with which it is written, this book fills a long existing need. The wildlife technician, land management biologist, and student will use it for a reference. The sportsman will find in it the practical things that have to be done if ruffed grouse are to be perpetuated, and are to increase.

THE RING-NECKED PHEASANT AND ITS MANAGEMENT IN NORTH AMERICA (Written by 17 authorities)—Edited by W. L. McAttee; 320 + xi pages. 2 color plates, 2 maps, and 47 half-tone illustrations from photographs and line drawings. Available from Wildlife Management Institute, 822 Investment Building, Washington 5, D. C. Price \$3.50.

Here is the most exhaustive account on the importation, and management of an exotic game bird yet published. The text starts with the earliest history of the pheasant, 3000 years ago, and covers its introduction and spread into the new world. The authors tell how, when, and where to raise ring-necks. The kind of habitat the pheasant likes, and the natural food it prefers. The book describes the breeding habits, food habits, and mortality of the pheasant. Varying farm practices, climate, and latitude, in relation to the bird, are explained in considerable detail.

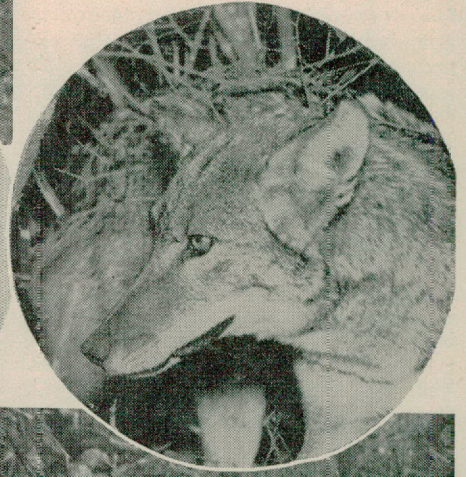
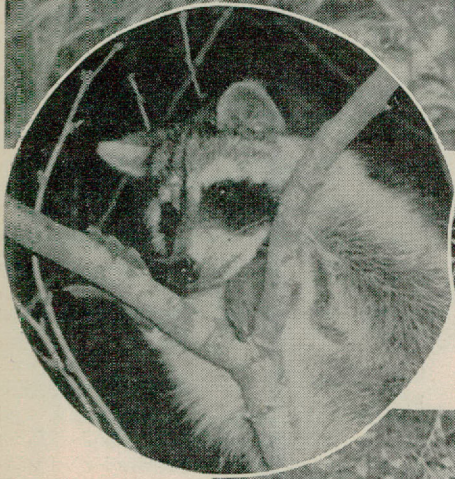
This monograph tells of the success and failure of many of the attempts to maintain desirable populations of ring-necked pheasants in the several sections of the United States—Pennsylvania, New Jersey, Ohio, Michigan, the north prairie states, the sandhill region of Nebraska, Utah, the irrigated regions of Oregon and the Pacific Northwest. Each region by a different author, 17 in all, each a well-known wildlife specialist.

CROW SHOOTING—By Bert Popowski; 216 + xii pages. Illustrated with "crow-catures" by Gordon Elliott. Published by A. S. Barnes and Company, 67 West 44th St., New York 18, N. Y. Price \$2.50.

The author of this interesting and useful work is an outstanding authority on the subject of crows and crow shooting, whose magazine articles during the past fifteen years have been instrumental in focusing the attention of numerous sportsmen on the fun of matching wits with these black marauders. This work is the only book available that gives the prospective crow shooter detailed instruction in the sport.

One Reason for Fewer Turkeys

Note the sharp contrast in quality of ground cover in the two photos. The turkey nest in the upper photo is well concealed and relatively safe from egg hunting predators. The broken turkey egg shells in the lower photo tell the story of the majority of nests in overgrazed range. Good cover and the food produced therewith pay good dividends in game populations. Insect and rodents are scarce in overgrazed range, consequently such animals as raccoons, skunks and coyotes are forced to seek other food, such as eggs in turkey and quail nests.



The raccoon, skunk and coyote are three major raiders of turkey and quail nests.



Why **TEXAS GAME and FISH** **Dominates the Texas Market**

Glance through the pages of any issue of TEXAS GAME and FISH and you'll understand INSTANTLY why TEXAS GAME and FISH is bought by more Texas sportsmen than all of the other outdoor magazines combined.

TEXAS GAME and FISH is written and edited for Texans—men and women who hunt and fish in Texas and who have created a \$99,000,000.00 sales slip for alert manufacturers of hunting and fishing equipment and accessories. Every page is packed with action and interest. Every issue is jammed with arresting pictures. Every article is written by a RECOGNIZED AUTHORITY. Yes, these are just a few of the reasons why Texas sportsmen prefer TEXAS GAME and FISH and why TEXAS GAME and FISH dominates the Texas market.

Circulation is climbing steadily. And with a low basic advertising rate, TEXAS GAME and FISH can pay you handsome dividends NOW.



In the Texas Market . . . It's

TEXAS

GAME and FISH



The Most Unusual

BOOK ABOUT TEXAS GAME BIRDS AND MAMMALS EVER WRITTEN!

PRINCIPAL GAME BIRDS and MAMMALS OF TEXAS

Staff Written

Do you know where the various species of game birds and mammals can be found in Texas? Do you know their habits and characteristics? Do you know the best time of the day to hunt? Do you know why some species of Texas wildlife are rapidly disappearing from the fields and woods of the State?

These questions, and hundreds of others, are answered fully and completely in "Principal Game Birds and Mammals of Texas," a book which provides the best opportunity Texans thus far have had to become familiar with the game birds and mammals of Texas, their history and the problems incident to their restoration, preservation and use.

Beautifully Illustrated



HERE'S WHAT READERS SAY

"This outdoor book of Texas' own vast wildlife is the finest book of this type I have ever read, and I own most of the popular wildlife and conservation books. You are to be especially congratulated upon your treatment of the various maps showing exact localities of the various Texas bird and animal life. Your current price of \$2.00 is just exactly \$3.00 short of the VALUE of the book."

"The finest book of its kind I have ever read. It should be in the library of every Texas sportsman."

"'Principal Game Birds and Mammals of Texas' is a mine of priceless information about the wildlife of the State. Every person who hunts should have a copy."

"I wouldn't take \$10.00 for my copy of 'Principal Game Birds and Mammals of Texas.' It's a honey."

☆

☆ **\$200** ☆

Limited Edition

Only a few of these beautifully bound volumes have been printed. They are going fast. To insure getting your copy, send in your order today!

Published by

Game, Fish and Oyster Commission

WALTON BLDG.

AUSTIN, TEXAS

CLIP AND MAIL THIS COUPON TODAY

State Game, Fish and Oyster Commission,
Walton Building,
Austin, Texas.

Please send me a copy of "The Principal Game Birds and Mammals of Texas" and I enclose \$_____ for my copy. Please send the book to

(Please Print Name Clearly)

Name _____

Street and Number _____

City and State _____

◀◀ **CLIP AND MAIL THIS COUPON TODAY!**