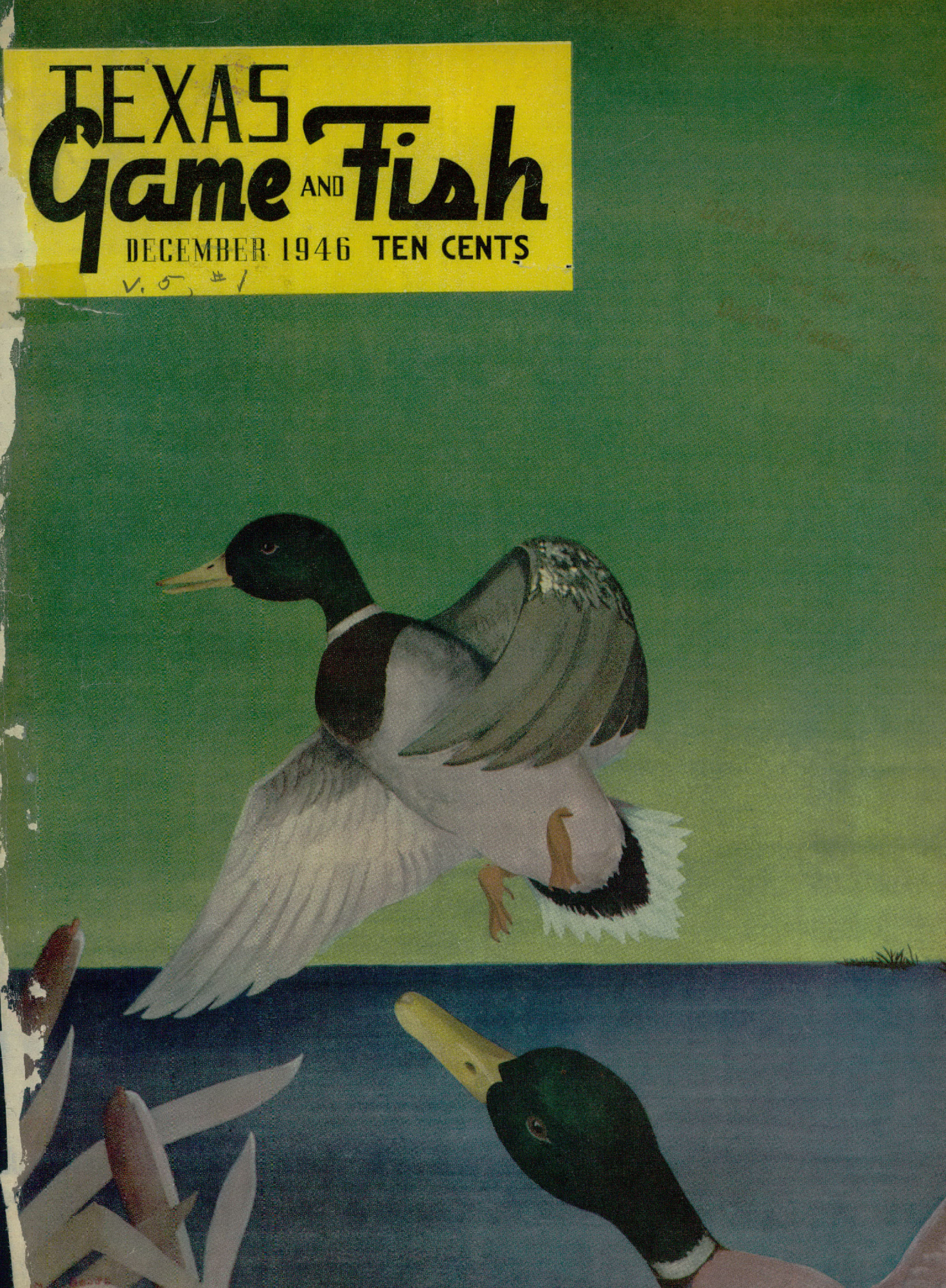
TEXAS Game AND Fish

DECEMBER 1946 TEN CENTS



A Xmas Gift He Will Treasure For Life

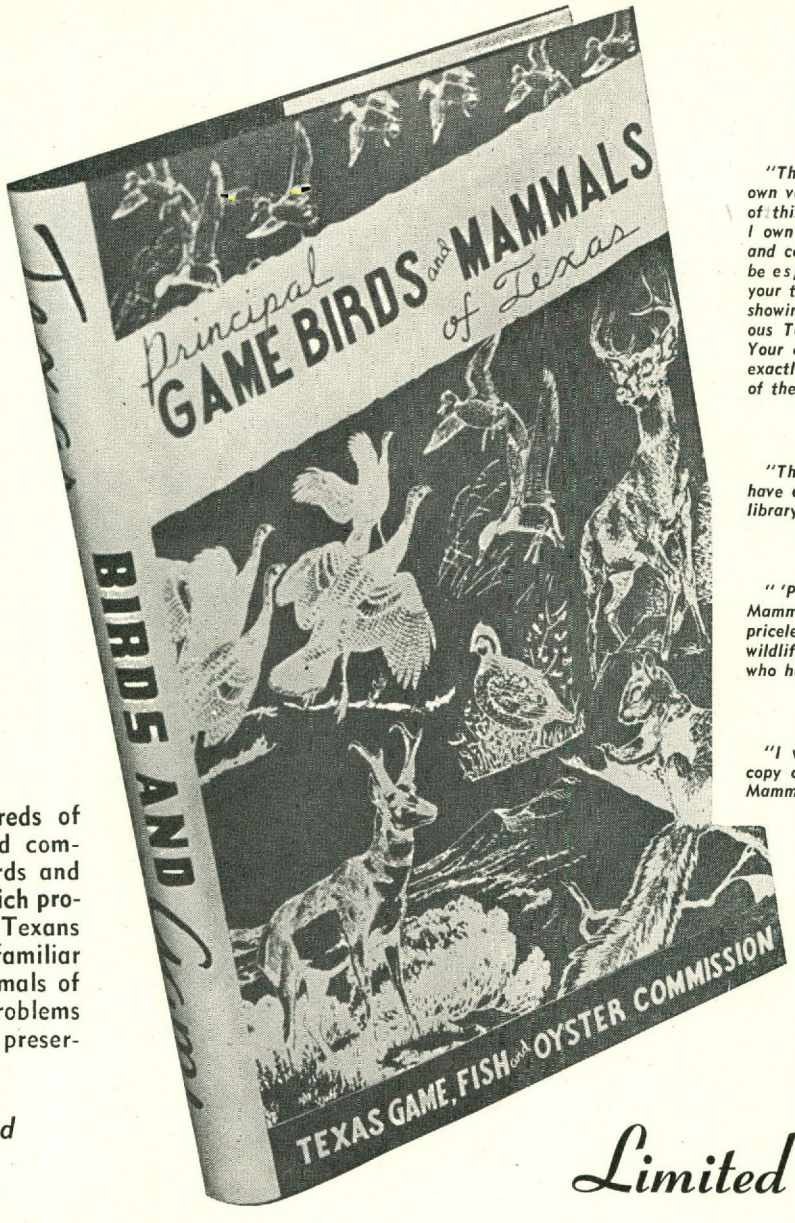
PRINCIPAL GAME BIRDS and MAMMALS OF TEXAS

Staff Written

Do you know where the various species of games 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."

☆

The Perfect Christmas Gift for the Man Who Loves the Outdoors

Limited Edition

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

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 _____

Published by

Game, Fish and Oyster Commissio

WALTON BLDG. **AUSTIN, TEXA**

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

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. Cowsert, 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.

☆

COVER—By WILLIAM H. BODGE

☆ In This Issue ☆

December 1946 • Vol. 5, No. 1

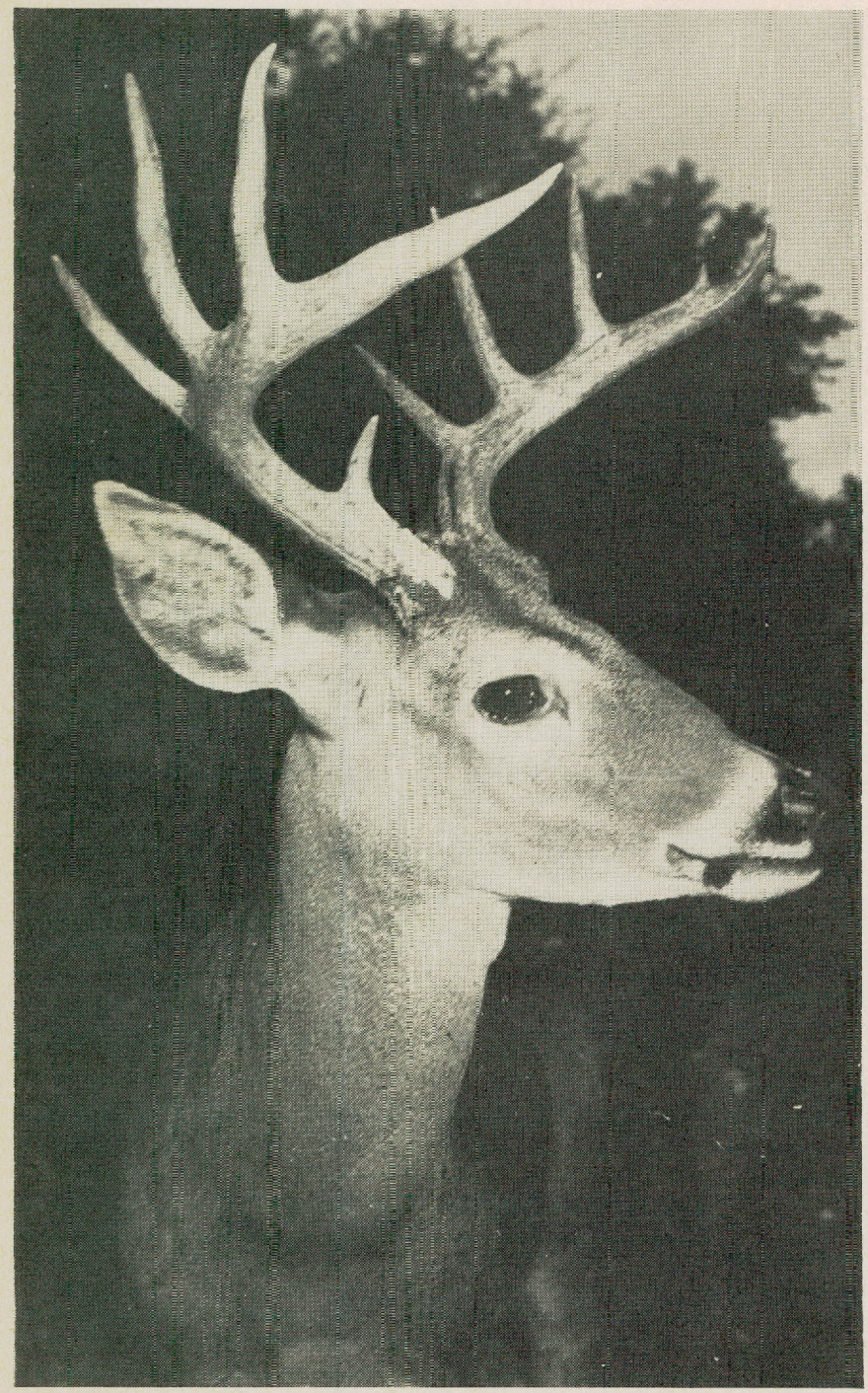
CONTENTS

ROGER M. BUSFIELD
Editor

Controlled Hunting Pays

When Sportsmen Carry the Ball

By J. G. BURR



THAT the deer would go the way of the Dodo seemed entirely probable in certain sections of Texas not so long ago. Among the factors that stayed the hand of the destroyer were the sportsmen of the State who intervened to save that splendid animal from extirpation. Albeit, sportsmanship was a bit slow in taking root in many areas, there having been first a period of thoughtless commercialism, when a game animal had no better rating than that of a grass-fed steer.

In 1905 the government published a survey of Texas fauna made by Vernon Bailey, chief naturalist for the Bureau of Biological Survey. The survey, some forty years ago, showed "There still were remote sections of rough, uncontrolled range where every year hunters killed wagon loads of deer for the market, or worse, killed the deer for the hides only, leaving the carcasses to rot. I was told that in the winter of 1901-2 hundreds of deer skins were brought out of the country west of Kerrville."

Even at that time the deer had the law on his side but there were no game wardens to enforce it and the sheriff did not dare to try it. (There was only a Fish and Oyster Commission up to 1907 when the scope of the department was enlarged to include game.)

Continuing, said Mr. Bailey, "The fact that the deer have not been wantonly destroyed over the entire region is due to the practical, business-like methods of large land owners who control the hunting on their ranges, and would as soon think of depleting their herds of cattle as the game under their control." Controlled hunting is always good sportsmanship.

These observations by Mr. Bailey are to be found also in the yearbook 1928-29 of the Game, Fish and Oyster Commission. It was my high privilege, in writing that yearbook, to quote liberally from Mr. Bailey and pass along the information that was no longer in print, or available to the general public. And even now the yearbook itself is out of print, though it should still be available in the public libraries. It was well said that "whether there be knowledge it shall vanish away." Still there will be writers who will pry into the past, unearth and perpetuate these sayings as long as their repetition have value.

Quoting the same yearbook in that connection, "It should here be remarked that the policy of ranchmen in regard to deer has continued to the present day which, with the strengthening of the arm of the law, has made possible an amazing increase of deer. Not only has such an increase taken place; there are, on some ranches, more deer than there were before the coming of the white man. Such a statement has the appearance of an idle boast but it can be explained. In the dry regions of south and western Texas the white-tailed deer were concentrated near watering places and this concentration made their destruction by natural enemies more easy, and especially by the Indians who killed

★ *Continued on page 24*

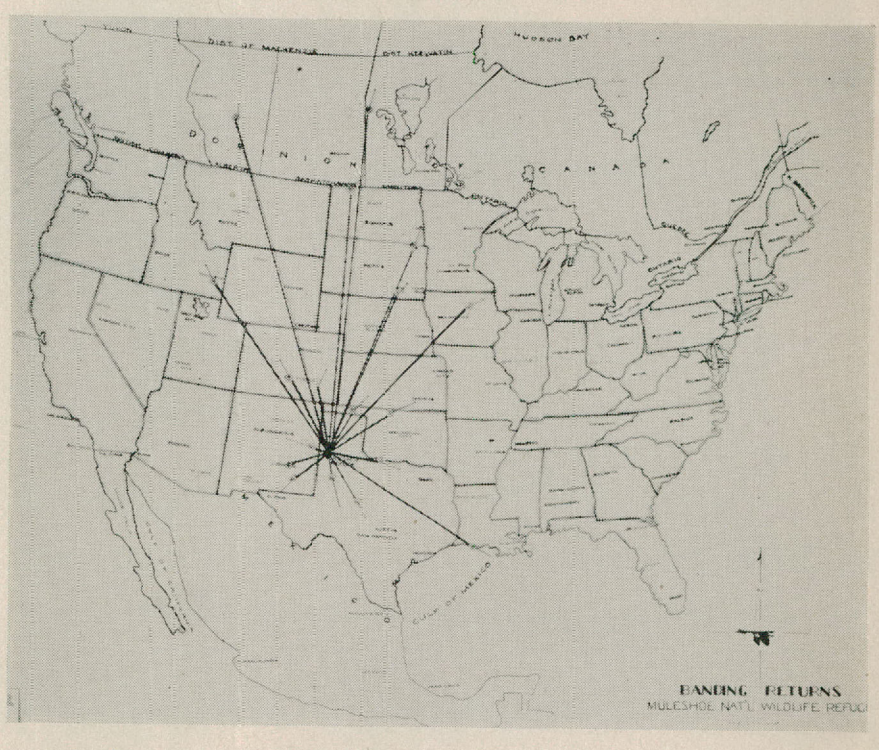
Winter Refuge for Quackers Is Carved Out of Windy Plains of Texas Panhandle

Haven for Half Million Ducks

NESTLING amidst broken sink-basin terrain in the windy south plains of the Texas Panhandle is the 5,800-acre Muleshoe National Wildlife Refuge, an important link in the chain of refuges administered by the Fish and Wildlife Service of the U. S. Department of Interior. The area was acquired and dedicated in 1935 to the preservation of local wildlife forms and the great flocks of wintering wild fowl of national and international importance that use the general area.

Three lakes, White, Goose, and Paul's, comprise the water areas of some 400 surface acres. Development activities were started back in the days of the W.P.A. and have included the planting of tree plots for upland bird cover, development of cultivated food plots, and construction of nearly 3,000 feet of dikes. These impoundments provide smaller deep water units, insuring a water supply to the rain-fed lakes during periods of drought.

The refuge is particularly important as a wintering sanctuary for Mallards, Pintails, and Baldpates. These species generally reach peak numbers during November and early December when their combined populations have been estimated at 700,000 ducks. Canada Geese, Little Brown Cranes and scores of fascinating little shorebirds find the area a winter paradise. It is not uncommon to find ducks packed in such concentrations in the refuge units as to obscure the water beneath them. But what of the dry years . . . Where do the ducks stay? The answer is "The same place." One might find it difficult to believe his eyes when he sees the same huge concentrations of "web-foots" resting on the barren sun-baked lake bottoms by day, feeding on refuge and adjacent harvested fields by night and obtaining drinking water in the smaller units and reservoirs over the area. During years of average precipitation the lakes support luxuriant growths of such aquatic food plants as wigeon-grass and horned pondweed. On the upland areas some 150 acres of food plots set aside for winter use supplement the aquatic food supply.

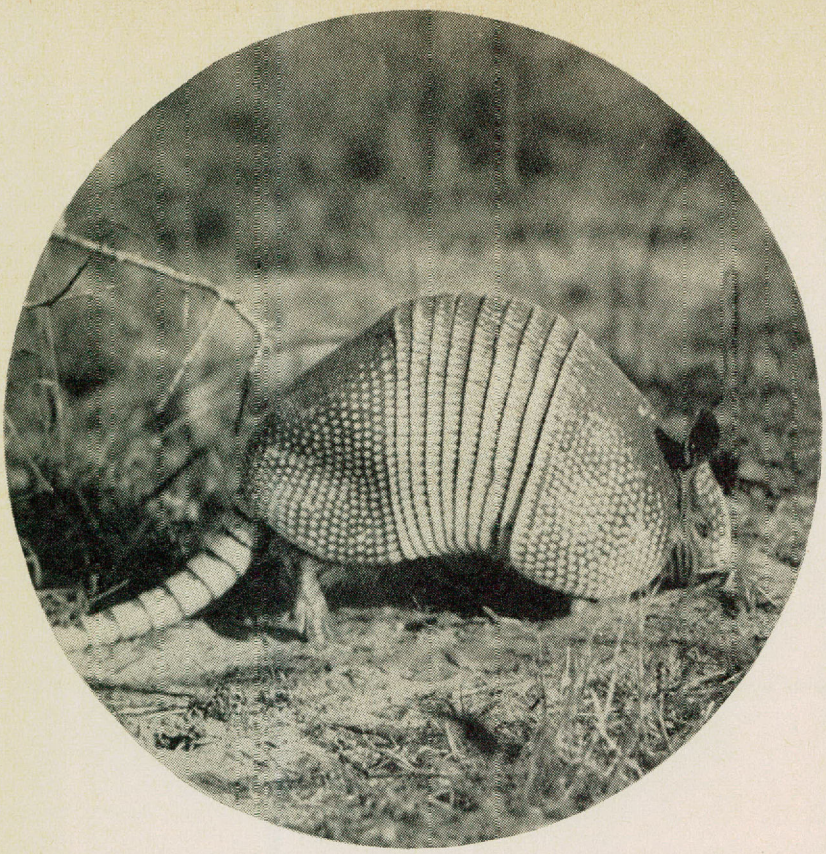


Old timers recall that the area was outstanding for its winter concentrations of ducks. Today the natural grasslands and rough, broken terrain remain nearly as nature made them. Although the area as a whole is relatively small and almost completely hemmed in by many thousands of cultivated acres it has proved its value to the wildlife using it. To the bird student the general area represents an interesting transition zone where ranges of many species of eastern and

★ *Continued on page 22*

***DUCKS** on Dry White Lake.*

***WATERFOWL** on Frozen White Lake.*



4-Footed Armor

By
J. L. BAUGHMAN

The Little Armored Ones, as the Spanish Settlers Called Them, Are as American as Ham and Eggs

KIPLING in his inimitable "Just So Stories," says, "I never saw an armadillo dillowing in its armor," and many another person has never seen one either, despite the fact that they are common enough in the Texas woods, being one of the few wild animals which has successfully resisted the encroachments of civilization.

Named by the early Spanish settlers "armado," "the armored one," in time the beasts became armadillos, "the little armored ones," and by that name they are known until this day.

As American as ham and eggs, they are descended from huge, armored, turtle like animals known as Glyptodonts, that ranged from Patagonia to the plains of the United States. Often reaching the size of a hippopotamus, their bodies were studded with spikes and bosses of horn that enabled them to survive in a world of savage foes, such as the sabre toothed tiger, and the great American lion, which was nearly twice the size of any cat animal alive in the world today.

However, with the passing of the aeons, the large forms died out on both continents, to be replaced by a number of species, the smallest of which is the pygmy armadillo of the Argentine, which reaches a length of only five inches, and the largest being the Giant Armadillo of Brazil and Paraguay, which may reach a length of four or five feet.

The Texas armadillo, Dasypus novemcinctus texanum (which means the Texan with rough feet and nine bands on his back), is first mentioned by Purchas, in his "Pilgrimages," published in 1617. He says:

"Of the Beasts, Fowls and Plants in America: the Armadillo is an admirable creature, of which there be diuers kinds; they resemble a barded (armored) horse, seeming to be armored all over, and that as if it were rather by artificial plates, opening and shutting, than natural scales: it digges up the earth as Conyes and Moules."

An offshoot of the South American family, it has spread northward, through Venezuela, where Hornaday says he found the open savannahs riddled with its burrows, on up the isthmus of Panama to Nicaragua, "where it is so plentiful that one may be purchased for a medio," or about six and a quarter cents, and from here they passed on into Mexico, and, finally, Texas.

Within the memory of men now living, armadillos ranged no farther north than the lower Rio Grande valley and the late Professor Strecker, of Baylor, has summarized our information on this animal very neatly. He says:

"Until about the early 70's of the last century, the lower Rio Grande valley was the principal home of the armadillo in Texas. During this same period they had already worked their way across the Nueces and a short time later were in the San Antonio valley. In 1890 they had reached the Colorado, and by 1895 they had probably penetrated to the Brazos River. At the present time (1926) they are found in the drainage areas of the Trinity and Neches rivers, and have, at Hemphill, almost crossed the Sabine (they have since done so), and a little higher up are occupying the bottoms between the Sabine and the Red. In eastern Texas the armadillo seems to be occupying the territory formerly inhabited by the peccary and the ocelot," while in Louisiana it has 'been killed two miles north of Westdale, in Red River Parish.' "

Fond of chaparral in South Texas, they like low, dense cover of coarse grass, thorny thickets, cactus patches and scrub oaks, under which they make their numerous burrows and trails, enjoying comparative safety both because of the denseness of the cover and the hardness of its shell. However, they fit themselves well to almost any territory in their range and, in the woods north of Spring, Texas, they sometimes frequent the open forest, rooting about dead trees and down logs like little pigs.

Although ordinarily listed as a night loving animal, I have frequently seen them in the woods at various times throughout the day and will long remember a collecting trip to the west fork of the San Jacinto River, in which we ran across one of these animals. We had been seining for fish, and were down to a minimum of clothes, when one of the party jumped an armadillo at the edge of the river bank. Away it tore, full speed, scuffling through the dead leaves a little faster than a man could run, and the sight of a tall and white skinned scientist, clad in shorts of a vivid hue, pursuing the grunting little beast up through a thicket of Cherokee roses and into the midst of a picnic party, was a show well worth four bits of anybody's money.

Armadillos feed mostly on insects of

★ *Continued on page 28*

Look Upon Every Rabbit As Carrier of Tularemia

Rabbit Fever

THIS is the time of year when cases of tularemia, or rabbit fever, are usually reported with increasing frequency. With the arrival of cool weather, men and boys shoot and dress rabbits, and housewives prepare them for cooking, thus exposing themselves to the germs causing tularemia in humans, if the rabbits happen to be sick with this disease, and their germs find entrance into the human body through an opening, such as a small cut or other abrasion in the skin.

Tularemia is caused by a germ found principally in infected rodents. Since wild rabbits are the chief cause of human infection, tularemia is commonly known as "rabbit disease," although it has resulted from the bites of ticks, deer flies, stable flies, squirrels, and fleas.

Usually, when the disease is caused by a rabbit, some injury has occurred, allowing the germs to enter the blood stream. In such a case, an ulcer usually forms at the site of injury, accompanied by enlargement of the lymph glands that drain the ulcer. The primary lesion may be on the eyelids, or on other parts of the body, when the disease is caused by a tick or fly bite.

The disease occurs with fairly even frequency among men and women—since men often dress the rabbits they have killed, and women handle them while preparing them for cooking.

The onset of tularemia is usually marked by a headache, chills, body pains, vomiting, pain at the site of infection, prostration, and fever. Diagnosis of the disease can be confirmed by a blood test.

There is no especial treatment for tularemia. The disease is extremely debilitating, and therefore, complete rest in bed, is probably the most important measure to be taken. The illness usually lasts for several weeks, and from the very start, the patient should be under the care of a physician.

The person who takes care of a tularemia patient should use every precaution to avoid becoming infected as the result of dressing the tularemic wounds. Pus from the lesions carries many

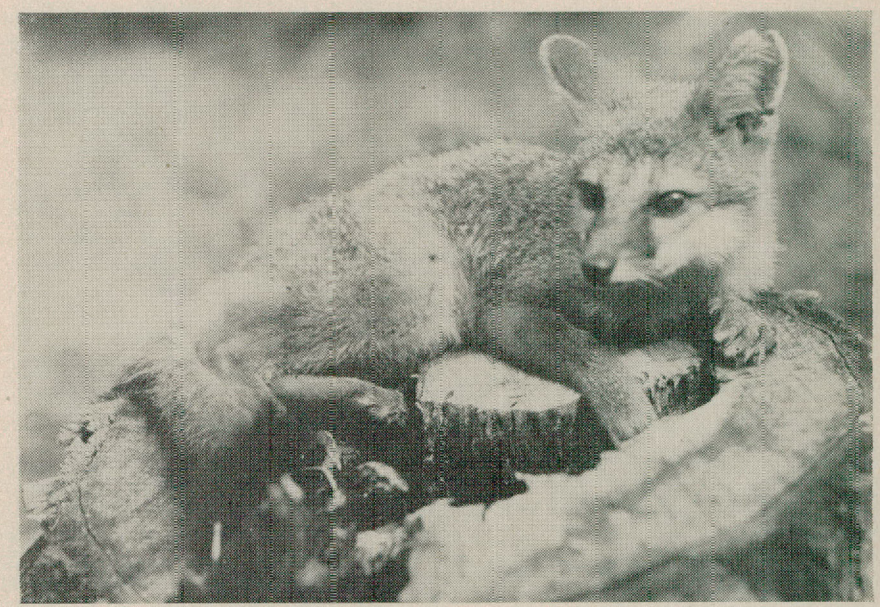
★ *Continued on page 30*

Pelts Will Bring More If Care Is Used in Preparing Them for Market

Give Your Furs a Break

By BAIRD HERSHEY

EVER since I was a small boy trapping and hunting appealed to me. In its primary stages my knowledge of these things was limited by inexperience and the lack of understanding of the out-of-doors. But, through the will to learn, I progressed rapidly. This meant discussing problems with older men who had long experience behind them, men of truth and understanding, not the braggart or story book writer whose information may not be reliable. Many days and years were spent in the fields and woods studying plant and animal life in different sections of the country, making comparisons wherever possible and noting differences in natural habitat. Learning in this manner, I began to increase my catches with either gun or trap and it is at this point that I discovered something new—the Proper Handling of Furs.



Furs are something that have value to us and had value to our ancestors of by-gone years. They give us warmth as clothing, money as a revenue, and trade as a business. Their proper handling by the majority of trappers has been overlooked. It is well to know that furs are perishable and can't be handled as cord wood. There are some general rules which should be known first of all. The place selected for storing green pelts should be dry and have plenty of ventilation, but allowing no sunshine. Sunshine directly on furs when green will draw the grease into the furs, which will tend to shrink and harden the skin, causing what is known as "grease burn."

Each skin should hang separate from the other. They should be out of reach of dogs and mice, for mice will chew them in securing the fat. When catching a fur-bearer skin it out as soon as possible, for the body starts to decay as soon as the organs stop functioning. This will start "slips" as soon as maceration takes place, depending a lot on weather conditions and temperatures.

After skinning the animal put it on a fur stretcher as soon as possible (as will be described later on) or, if you cannot do so at once, place grass or leaves in-

★ *Continued on page 18*

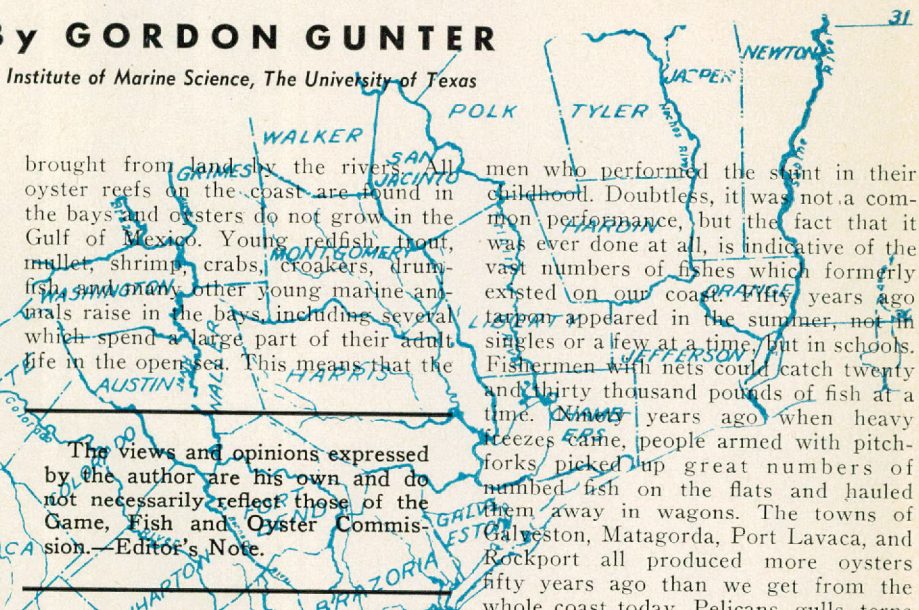
THE FOX is a much sought after fur but the raccoon at the left tops the list. Furriers paid more for raccoon pelts last year than they did for any other Texas pelt.

Action Is Imperative If State Is to Keep Its Marine Resources

Problems of the Texas Coast

By GORDON GUNTER

Institute of Marine Science, The University of Texas



GREAT changes may take place in a countryside without exciting any particular interest or notice, provided the changes are slow. In general nothing is news if it happens slowly. Then suddenly people realize that things are not what they used to be. Such changes have taken place in Texas marine waters in the past fifty years and they have damaged marine life. These changes are natural events accompanying the building up of Texas. I have seen some of them, while others were before my time, but they are all easily verified. The results are that today, when people come to the coast by the thousands where only a hundred came before for recreation and vacationing—chiefly fishing, and when refrigeration engineers and other technicians are moving in to improve the commercial seafoods industry, the Texas Coast has less to offer than it had years ago when the demand was less. If the State of Texas is to keep its marine resources, the whole situation must be carefully analyzed and proper conservation practices must be introduced. In this article I propose to set forth the facts briefly.

That portion of Texas bordering on salt water is a low, flat coastal plain, approximately one hundred miles wide. This plain does not meet or border upon the Gulf of Mexico. Instead Texas has a double coastline. A few miles offshore, to be seen just over the edge of the horizon, lie a string of long, narrow, low, sand-dune covered islands. These have only a few narrow openings and serve as barriers cutting off a large area of salt water from the open Gulf. This inside area of salt water is separated into several connecting bays resembling large lakes. The total area of bay waters is approximately 3,460 square miles. The rivers of Texas empty into these bays and the bay water is less salty than the Gulf of Mexico. The bays are shallow, most of them being between eight and ten feet deep, the deepest having a depth of fifteen feet.

All life in the bay is marine except for occasional fresh water stragglers near the river mouths at times of high water. The bays are a fitting environment for young marine animals and the adults of many species as well, because they are shallows relatively calm and protected and are rich in food materials brought from land by the rivers. All oyster reefs on the coast are found in the bays and oysters do not grow in the Gulf of Mexico. Young redfish, trout, mullet, shrimp, crabs, croakers, drumfish, sheepshead, many other young marine animals raise in the bays, including several which spend a large part of their adult life in the open sea. This means that the bays are very important to all marine life in the Gulf.

The views and opinions expressed by the author are his own and do not necessarily reflect those of the Game, Fish and Oyster Commission.—Editor's Note.

Men of long experience on the coast are agreed that the amount of marine life has declined. Some of the facts leading to this conclusion will be outlined here.

Fifty years ago diamond-back terrapins and large sea turtles were caught in large numbers and some were shipped alive by steamer to New York City. Manatees were commonly seen every summer in the lower Laguna Madre. Great schools of porpoises, sometimes as many as two hundred to the school, were to be seen in the bays as far back as fresh water. Mullet were so abundant that as they went out of the passes during the fall they formed a seemingly solid mass and big jewfish cruised up and down the pass with their mouths open letting the mullet swim in. Huge schools of shrimp gathered on the Gulf beach and several thousand pounds could be taken at one drag in a seine. Occasionally, they became stranded in large windrows containing several thousand pounds. Trout were not even classed as a commercial fish by the earlier fishermen and when caught in nets they were released. Groups of barefooted boys could sometimes run a trout on the flats near shore and make it strand in shallow water, so that it could be caught with gigs or even by hand. When Lamar was President of the Republic his Secretary of State wrote him that fish could be caught by hand alone in Aransas Bay. This situation existed until about fifty years ago and I have talked with men who performed the stunt in their childhood. Doubtless, it was not a common performance, but the fact that it was ever done at all, is indicative of the vast numbers of fishes which formerly existed on our coast. Fifty years ago tarpon appeared in the summer, not in singles or a few at a time, but in schools. Fishermen with nets could catch twenty and thirty thousand pounds of fish at a time. Ninety years ago when heavy freezes came, people armed with pitchforks picked up great numbers of numbed fish on the flats and hauled them away in wagons. The towns of Galveston, Matagorda, Port Lavaca, and Rockport all produced more oysters fifty years ago than we get from the whole coast today. Pelicans, gulls, terns and other sea birds were extremely abundant.

Today, sea turtles are rarely caught and they and the diamond-back terrapin have not been produced commercially since about 1910. A manatee is an extremely rare sight in the lower Laguna Madre. Large schools of the common porpoise are rare and to be sure of sighting one the seeker must go to the passes near the Gulf, although they are still seen in singles or small groups in all the bays. Mullet still go to the Gulf in large schools in the fall, but no longer in such great numbers as in the past. Shrimp are not seen in large schools any more. No one ever thinks of trying to catch a trout in shallow water with his hands, and the tale is more likely to be doubted than not by people whose salt water experience covers only recent years. Tarpon do not appear in schools now, and a commercial fisherman who catches three thousand pounds of fish at a time has made a most exceptional haul. People do not gig fish with pitchforks any more during cold spells.

The changed picture means, in short, that the marine life on the Texas coast has declined considerably. This brings up three important questions: What happened? What has been done? What needs to be done?

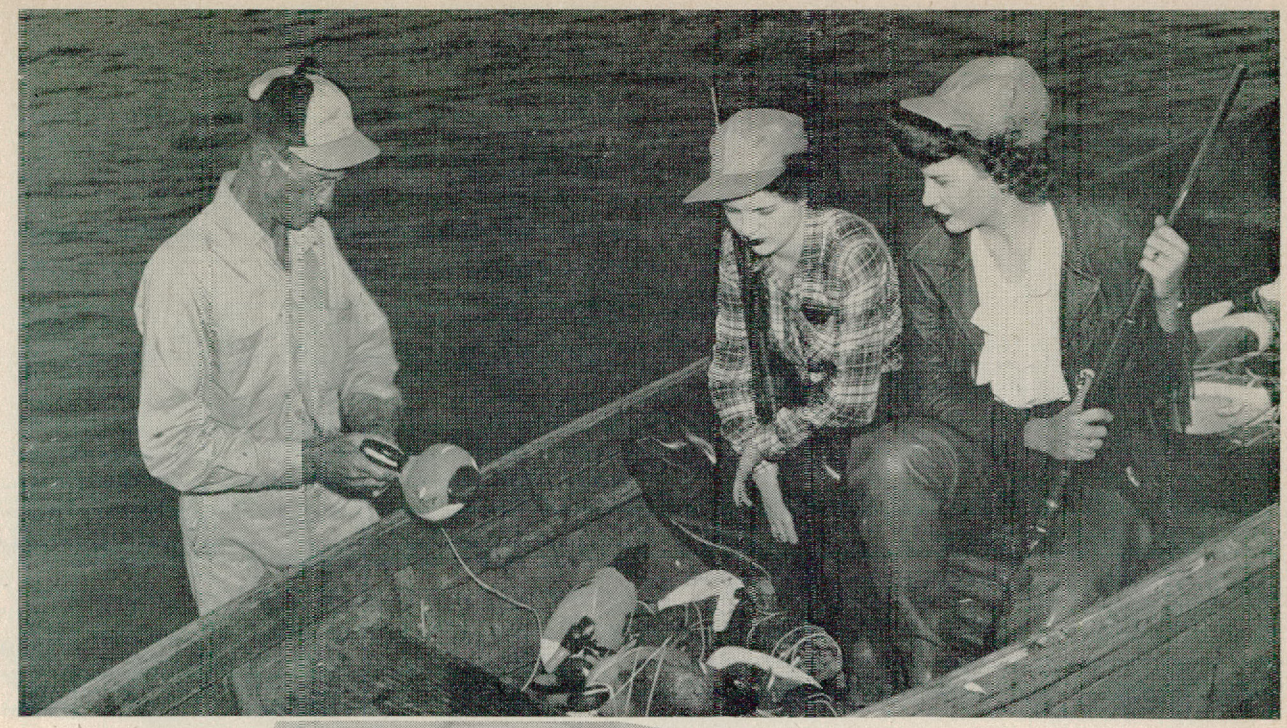
When the white man settled Texas most of the State was covered with timber or grass. The water table under the ground was higher than it is today. The run-off from the land drained throughout the year more slowly and regularly into the sea than it does today. The

★ *Continued on page 25*

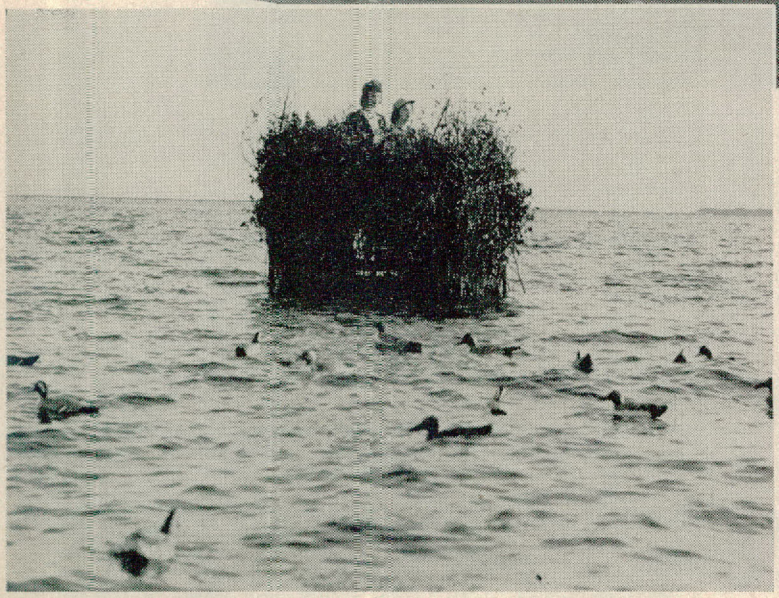
Quackers—Beware!

A picture Story of a Texas Coast Duck Hunt

Three Texans and a gal from Oklahoma go duck hunting on Copano Bay. It's four a.m. as Tony Adamson (Texas, of course) reaches for the alarm clock. Wanda Hagan, a Sooner, is ready, too. Breakfast is soon ready and while Wanda and Tony give that early morning coffee a fit, Margie Kirtz and Bud Bailey get ready to join Wanda and Tony. It's safety first in the marshes as Tony and Wanda look over their guns while waiting to be placed in a blind.



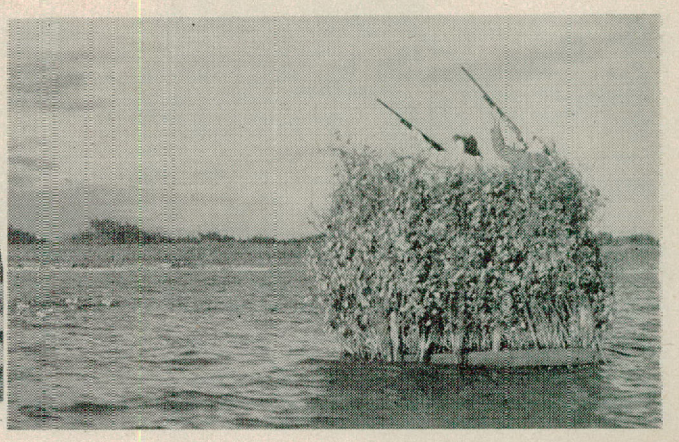
The guide explains the markings on a Sprigg decoy just before putting it out in front of the blind



The girls help to place the decoys in place and a short time later they are in their blind waiting for the first flight to come over. The guide in a nearby blind is doing the calling for the girls who are impatient to start bringing the ducks down.

And here they come! A flight of Sprigs but the ducks are just out of shotgun range

Tony and Wanda have missed but Margie and Bud go into action as the flight passes over their blind.



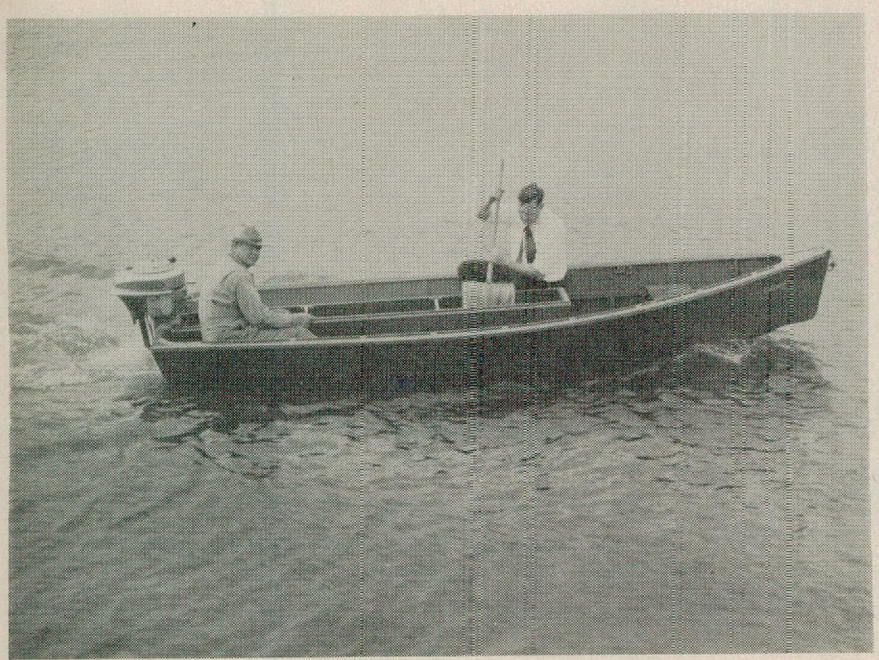
And so home into the sunset with the guide ahead and Bud, Margie, Wanda and Tony in tow.

No Magic, Just Hard Work
Keeping Texas Waters Stocked

Fish for Texans

By MARION TOOLE, *Chief Aquatic Biologist*
and
JOE MARKS, *Engineer and Director of Hatcheries*

THE Annual Report of 1927, a comparatively recent date to those of us with greying hair, reveals that the Texas Game, Fish and Oyster Commission was operating four fish hatcheries which were located at Dallas, Tyler, Ingram, and Cisco. In 1927 the number of applicants were so few that a complete list of applicants could be printed in the report. The Dallas Hatchery delivered fishes to 282 individuals and to two public lakes which were White Rock at Dallas and Lake Worth at Fort Worth. The Tyler Hatchery had 142 private applications to fill and one for the public waters of Hardin County. The list of applications that Ingram filled numbered 53 and Cisco filled 37 applications. It is also interesting to note the number of fishes produced. In 1927 the four hatcheries reared 7,700 green sunfish, 109,000 black bass, 18,300 crappie and 25,325 bream. Nineteen years later we find that the commission operates eleven fish hatcheries which produced 19,176,143 black bass, 408,733 crappie, 2,323,874 bream, 99,141 goggle-eye and 669,758 channel catfish, a total of 22,708,022 fishes. Numerous large reservoirs have been impounded and thousands of farm ponds have been constructed. In fact, our hatcheries are now stocking and restocking over 1,049 lakes of over five acres in size which have a total surface acreage of 362,726 acres; 42,000 miles of fishing streams and rivers; and about 125,000 farm ponds. Applications now received annually run into the thousands. Fish production and distribution has become a huge task and each year the demand for fishes is becoming greater.



Improved methods in fish production and distribution have been necessary through the years. Where hatchery ponds formerly produced one crop of fishes annually, they are now producing as many as three crops in the same length of time. Fish distribution now starts in the spring and is concluded in the winter. Spring and summer distribution is confined to public waters and fall distribution to individual applicants and public waters.

★ *Continued on page 19*

TOP: Fishes being planted in Medina Lake. Note the absence of cover for the protection of the small fishes when they are placed in the lake. This illustration also shows the antiquated milk can method of distribution. LEFT: The new fish distribution boat that is being used on many of the large reservoirs in lieu of the old method of planting fishes in lakes. Fishes are placed in the boat well and are planted along the entire shore line of the lake.

ARMS AND AMMUNITION

Edited by ADAM WILSON III

FOREIGN MADE GUNS DANGEROUS

WITH the hunting seasons in full swing in many sections of the country, it is important that sportsmen and returning G.I.'s again be warned to look out for the booby traps which may be lurking in foreign-made wartime guns and ammunition.

There is no way for the average sportsman to tell whether his souvenir gun is safe to shoot or not, for it surely won't blow up unless it's fired. The best thing to do is to send a full and detailed description of the gun or pistol to General Julian S. Hatcher, Technical Division, National Rifle Association, 1600 Rhode Island Avenue, N. W., Washington, D. C., and get his advice. General Hatcher is one of the world's foremost authorities on both domestic and foreign small arms, but in many instances even he cannot give you full safety assurance without an examination of the piece.

It is generally recognized that before the war the Germans made good guns. And during the first part of the conflict rigid standards were maintained. But if you own a German gun made during the latter part of the war, you may unwittingly be in possession of a one-way ticket to Valhalla. It is well known that the German guns produced in that period were carelessly machined for speed of production was the thought of the day. And it is also well known that the slave labor forced to manufacture these guns did its share of sabotage, which makes every one of these guns a possible booby trap. It is extremely difficult for anyone not an expert to tell the difference between the old and new.

According to General Hatcher, European gun-makers do not make their weapons with completely interchangeable parts. The guns are hand fitted and the major parts of each individual gun are stamped with the same serial number. It is safe to fire the gun only when all numbers are the same.

Perhaps the most dangerous of foreign-made guns are those produced by the Japanese. During the war the Nips resorted to casting their rifles and those made along toward the last are particularly dangerous. The older Japanese guns are generally safe with the RIGHT ammunition, but this cannot be obtained in this country.

As a general rule, foreign ammunition is safe when used *correctly*. Unfortunately several types of foreign ammunition will fit some American guns and vice versa, but there are a number of other factors which should be considered, including pressures, and bullet sizes. The German 7.92 mm cartridge will fit the Model 1903 Springfield rifle, but the bullet size is not the same. The 7.92 mm bullet is for a diameter of .323 inch and the Springfield '03 bullet is actually .306 inch in diameter. A small difference but enough to burst the gun.

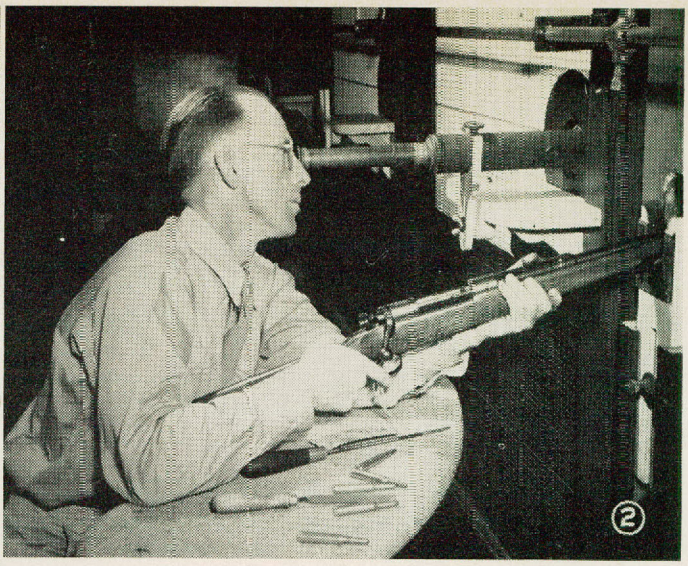
There is also the danger of getting hold of some foreign proof loads, made for the purpose of blowing up weak guns. These might get mixed in with some regular loads and then you're surely in for trouble.

And look out for those foreign-made shotguns. In recent years we have developed some extra heavy loads and these old guns from other soils simply cannot take them. They are safe only so long as they remain as souvenirs. Play safe. Write General Hatcher before you take a chance . . . then maybe you won't take it.

REMEMBER WHEN HUNTING: Don't shoot at random into a herd. Select the animal you want, and shoot to kill. Be sure you have arranged to get the meat to your camp before you kill. Take careful bearings before leaving the carcass for the night or for help. Dress the carcass properly and care for it in transit, and you needn't worry about its spoiling.—*Wyoming Wildlife.*

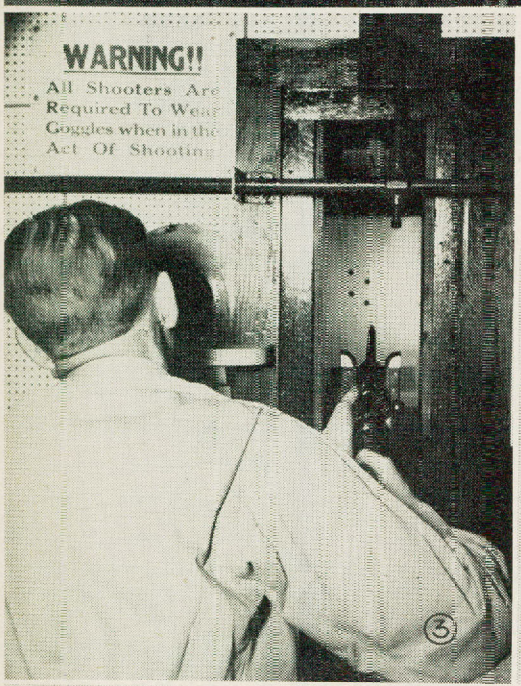
One of America's most versatile sporting rifles, the Model 70, is back into limited production again. This bolt action hunting rifle is chambered for ten different sizes of cartridges which range in caliber from the jumbo .375 Holland and Holland Magnum, the most powerful cartridge made in this country, to the .220 Swift, world's fastest commercial bullet. Next year will be the tenth anniversary of this famous rifle, the manufacture of which involves the most precise of all Winchester's manufacturing processes.

Shooting at a silhouette target fired 700 feet in the air by a mortar is the newest idea in exhibition marksmanship executed by Herb Parsons, Western-Winchester shooter. Parsons riddles the target by rifle fire as it descends. This unique feature can only be performed where suitable backstops are available, Parsons points out.



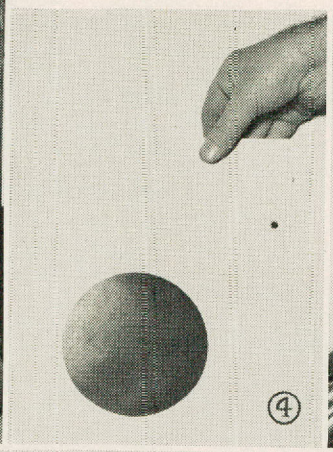
1. *A HIGH POWERED RIFLE'S GRADUATION EXERCISES BEGIN. Capt. Jack Lacy, his sighting tools ready, picks up a Model 70, chambered for the Winchester .270 cartridge.*

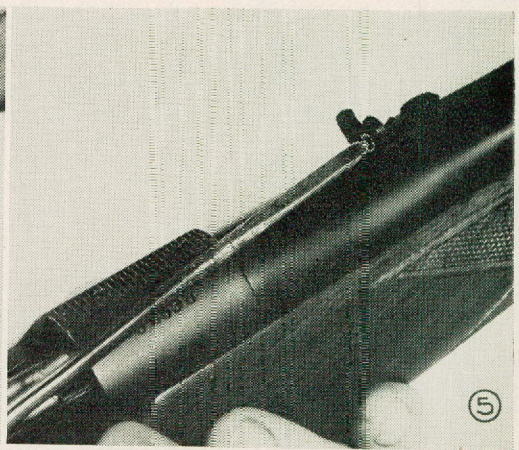
2. *With the rifle's muzzle in the porthole of the 100-yd. range, Lacy squeezes off the first shot at a 5-inch target. Lacy wears shatter-proof safety glasses.*

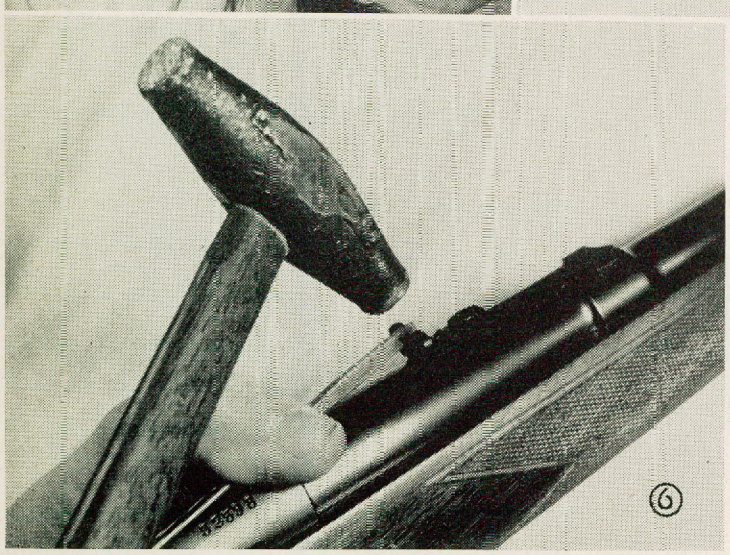


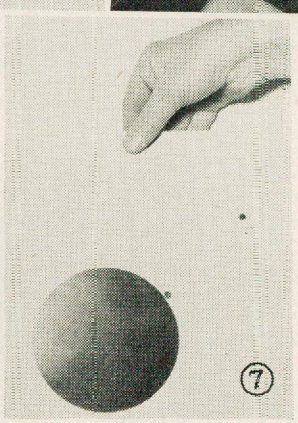
3. *Lacy observes his first shot with the spotting telescope at his left. Four of the 5-inch targets are printed on the same sheet of target paper. Lacy is using the upper left target, which doesn't look much bigger than a pin-head at 100 yards.*

4. *What Lacy sees in the spotting 'scope. His first shot is at 1 o'clock, above and to the right of the bull. The rifle's sights need adjustment.*





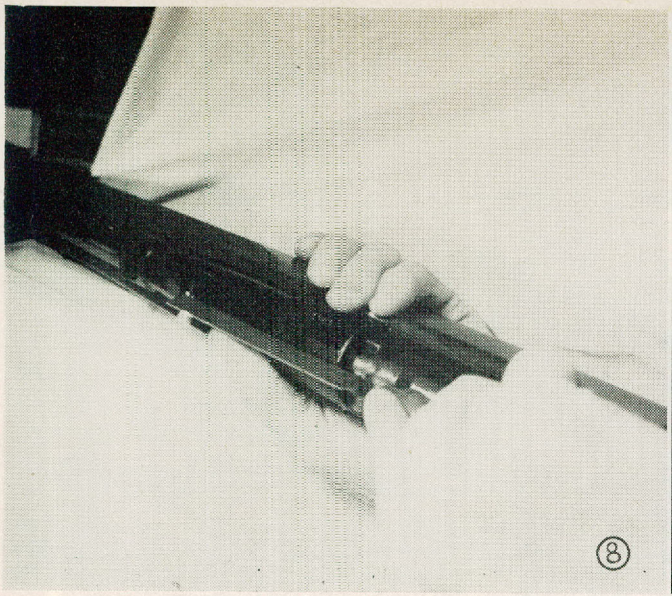




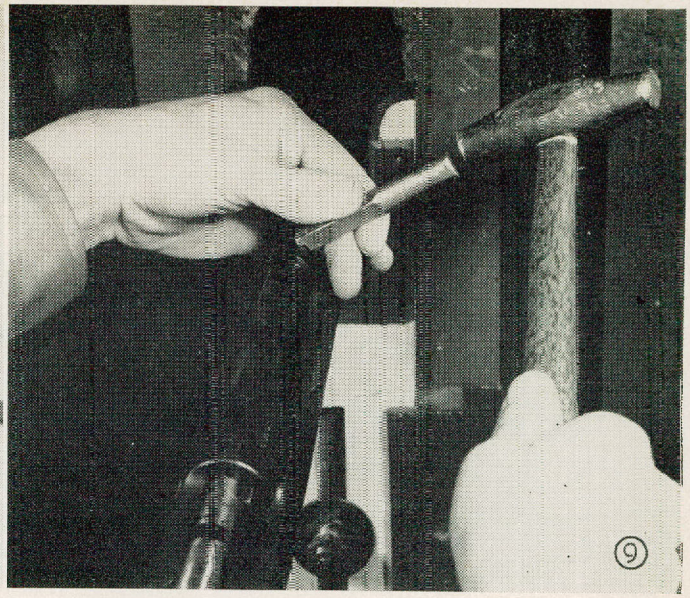
5. *Lacy's first adjustment is to loosen the tiny screw that holds the elevation slide in place.*

6. *Lacy lowers the set screw by placing the screw driver in the center of the elevation slide and gently tapping it with a soft brass hammer. The set screw is tightened to keep the slide in its new position, and Lacy fires his second cartridge.*

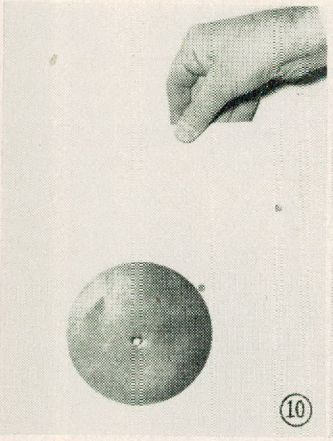
7. *Lacy's second shot is still at 1 o'clock but close to the bull. Another adjustment is necessary.*



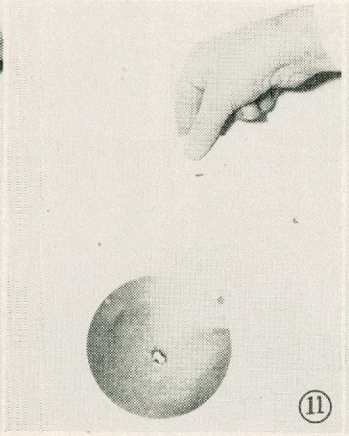
8. The second shot indicates the elevation slide must be lowered even further and that the sight needs a windage alteration performed by the deft use of a sighting file which scrapes an infinitesimal amount of metal from the sight.



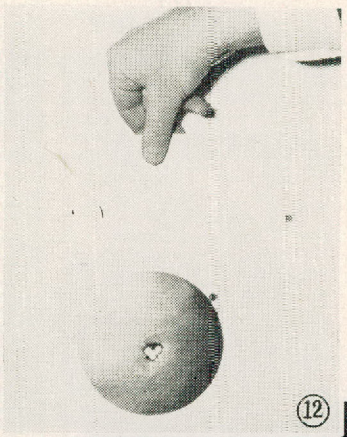
9. A second windage adjustment is made to the front end of the sight. A gentle tap of a soft brass hammer against a soft brass punch accomplishes this and the rifle is ready for its third shot.



10. The third shot is a bull's eye, almost in the very center. The sights have been properly adjusted and the rifle appears to be shooting straight.



11. At least five cartridges are fired to test every rifle, and Lacy's fourth shot, to confirm the third, lands true again.



12. His final shot verifies the rifle's accuracy and is a testimonial to Lacy's uncanny marksmanship. The three bull's eye shots, fired when the sights had been properly adjusted, form a heart-shaped cluster in the center of the bull.

13. Graduation exercises for a rifle. Lacy writes the word "targeted" and his initials to the rifle's ticket, and it is on its way to a hunter who will hit what he aims at.

Furs

★ Continued from page 8

side of pelt to give it ventilation prior to stretching. This will avoid sweating of the skin and protect it against mold.

Be sure when you skin all fur-bearers to use a good sharp knife so you won't tear the skin. Cut carefully around the eyes and nose and don't pull too hard for in most cases the skin is tender at these parts. Should an animal be wet, dry it under natural conditions, using a stick or your hand to beat the fur dry. Don't brush or comb the fur for you might loosen the guard hairs as in a fox skin, or pull out bunches of fur if matted, as in the case of burrs. This can be left for the fur dresser to do. Avoid placing the animal near the stove, for you might singe the hair. Mud may be removed by beating when dry without any injury to the fur. Be sure to clean the pelt while on the body, for it is more easily handled. Salt should not be put on the flesh side of furred skins as it hardens them.

With these general rules, we will prepare a muskrat skin that will demand the top price, depending on grade which will be set by the buyer.

My particular way to skin a muskrat is to hang it up, fastening a slip noose of stout cord to its left rear foot just above the heel. A circular cut is made at this point and the same cut made on the right leg. From these two cuts slit the skin on the inner side of legs to the vent below the tail. Take the thumb of the left hand and push it beneath the skin at the slits, working the pelt from the body. Care must be taken when pulling the skin from the belly as the abdominal walls are tender and often times tear, leaving the entrails to fall out upon the fur.

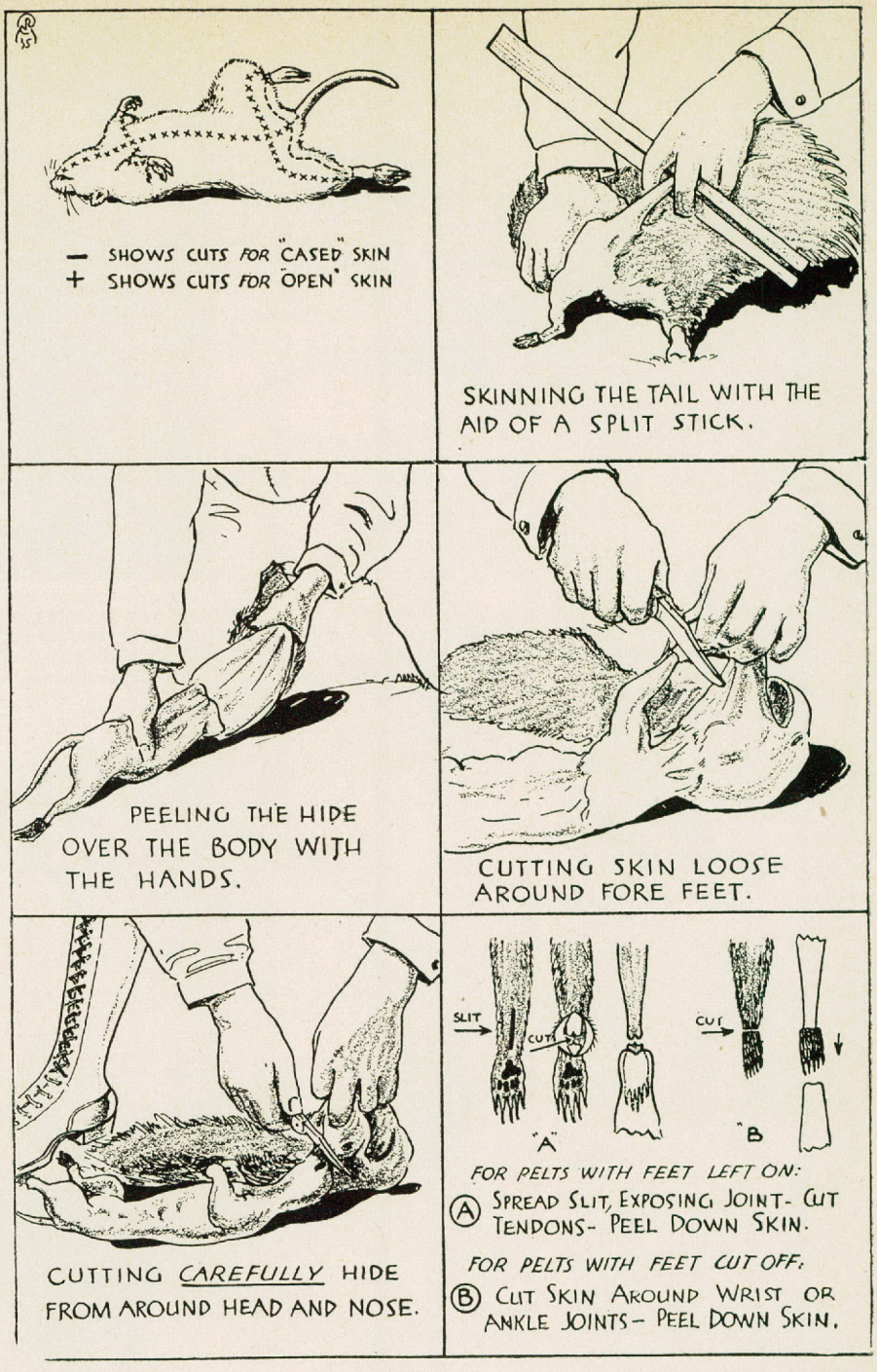
When you have loosened the skin as far as possible, take a tin shears or snips and sever the tail from the skin or cut it with your knife. Opossum tails are also cut from the skins. Draw the skin down over the shoulders and pull the fore-legs back taking skin forward in peeling motion to as far as the feet. Make a circular cut at the ankles and draw the feet through the holes. Roll the skin down to the back of ears and cut off ears close to head. Roll the skin to the eyes and be sure to cut carefully around the eyelids. This is a very easy place to cut a hole in the skin. The last cut is the nose. Be sure to cut far back on the cartilage as the skin of the nose turns in at the nostrils. Swing the rat around and cut skin from lower jaw at the lip.

Now that you have the skin from the body it may be scraped carefully and gently to rid it of its surplus fat. Take your scraper and scrape the faty parts of the skin which will be around front legs, belly and rear legs. When the skin is free of loose fat it is ready for the stretcher. Some trappers use hack saw blades, others knives. I use a dull draw knife with handles that are horizontal from the blade. These tools are called "scrapers" or "fleshers."

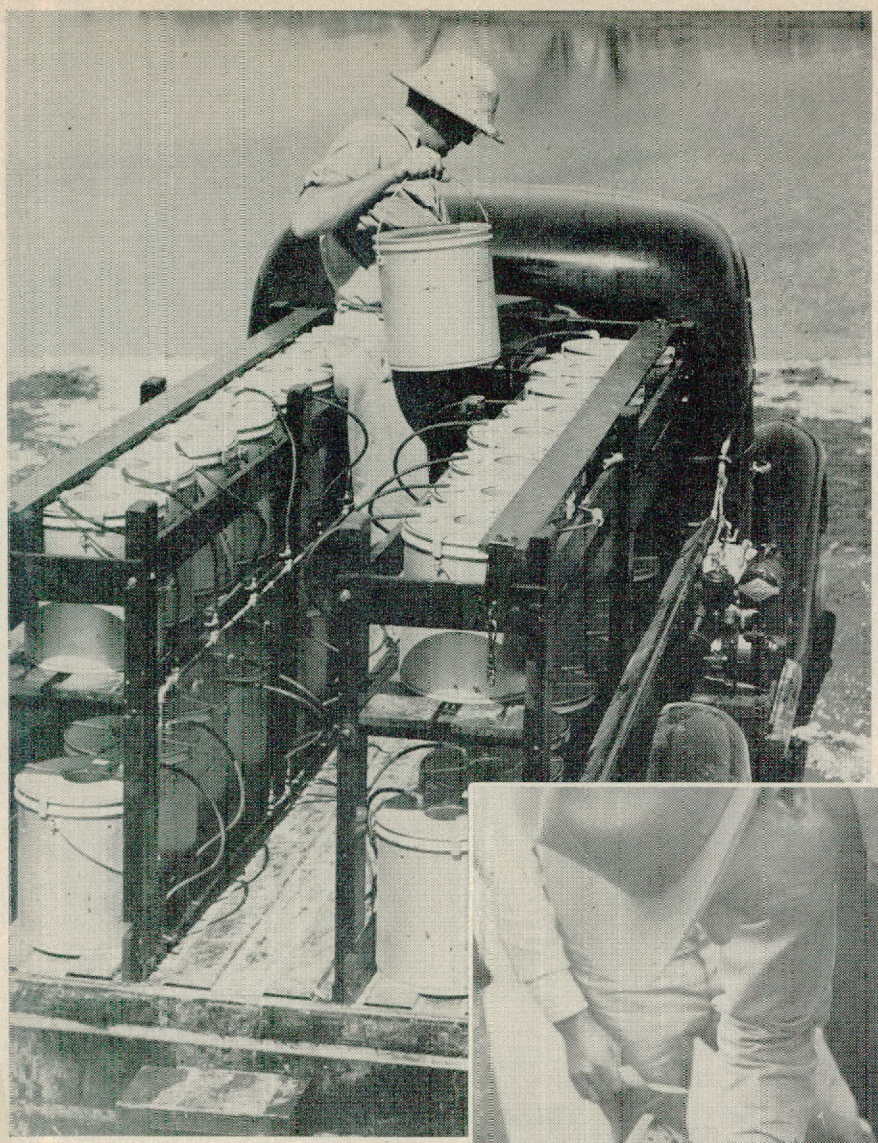
The rat skin is now drawn flesh side out over a board which fits the skin. To determine the size of board to use, lay your rat skin on a table upon the belly side, draw around it with a pencil, making the lines of the sides of the skin somewhat narrow. A board of 3/8 inch thickness and about two feet long can now be fashioned from the drawing. When the board is cut to the size of the drawing, round off the edges somewhat so the skin slips on and off easily. Slip the rat skin over this board with the flesh side exposed and tack the lower edges in a "V" shape to the board.

I prefer a wire stretcher for muskrats. This stretcher has two slide bars with flat metal teeth which grip the top and bottom tail pieces of the skin and can be pulled down snugly to give all skins uniform shape which makes an attractive appearance to the buyer. Other conveniences of the wire stretcher are that air can circulate through the fur side of the pelt, which facilitates drying, and it

★ Continued on page 22



Courtesy Animal Trap Company, Lititz, Pa.



Fish for Texans

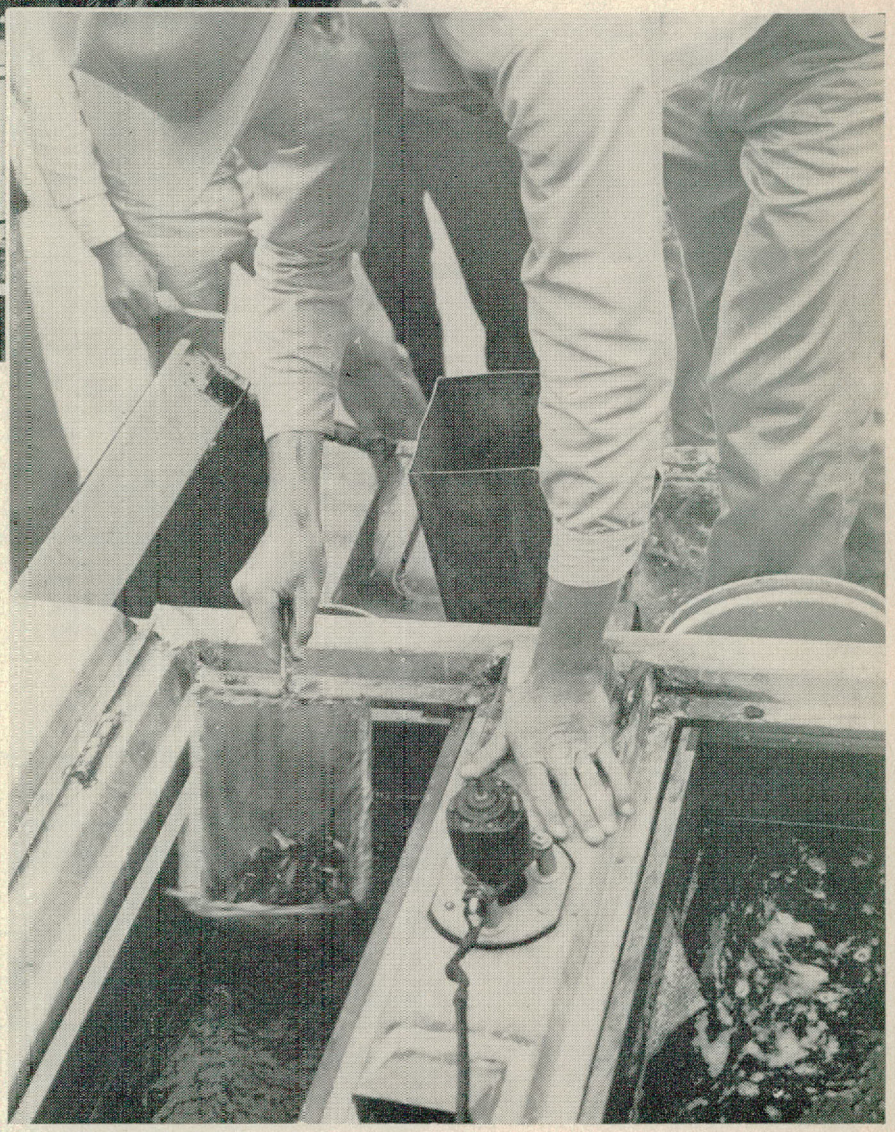
★ Continued from page 14

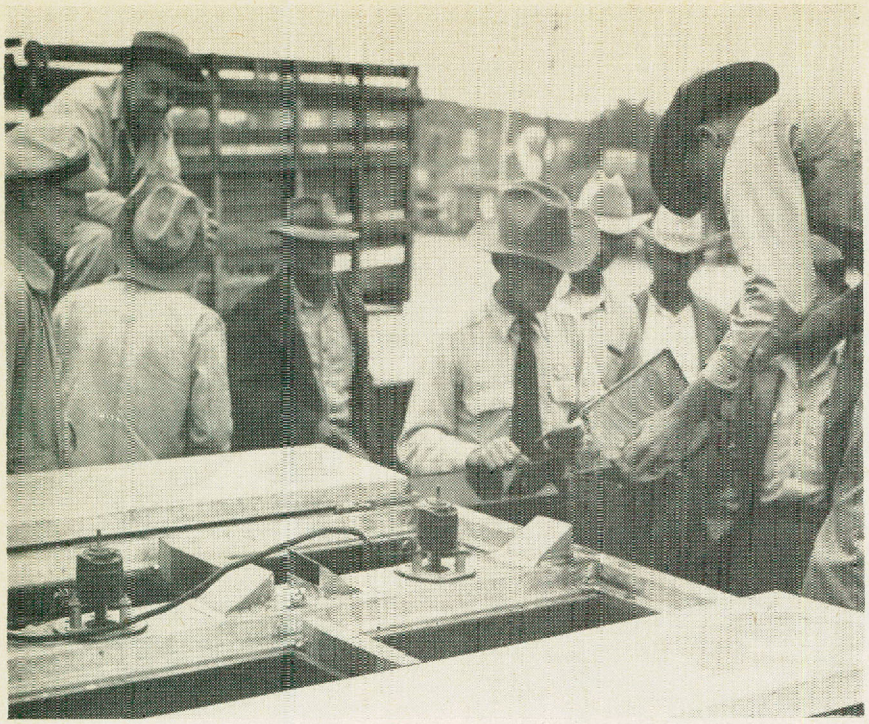
The past distribution practice called for loads of fishes to be planted in one or more places on a lake, as shown in one of the accompanying illustrations. This method was found wanting because it permitted predators to consume many of the newly planted fishes before they could move away from the spot they were placed in. It also caused a severe food shortage in the vicinity where these fishes were planted. To correct this condition, well boats were designed and placed on all of our major reservoirs. The fishes planted in the lakes are now released out of these boats a few at a time and are spread along the entire shoreline of the lake. Limited research of these boat planted fishes indicates a good survival rate.

In 1927 the limited numbers of fishes distributed did not demand any elaborate containers for hauling fishes. A few ten-gallon milk cans were all that was necessary to move the crop of fishes. Standard equipment then was a ton and one-half stake body truck carrying forty-eight milk cans. This equipment could safely transport about 2,600 fishes of fingerling size.

As the production and numbers of applications increased this milk can method of distribution became a bottle neck. It required months for the fishes to be moved from the hatcheries. Truck maintenance and replacement increased and costs of distribution soared. Consequently a new, more efficient, method of distribution was searched for. In 1929, the Annual Report for that year reports that, "Last March the Department purchased a fish truck in Denver, known as the Haviland Fish-Oxy Tank, which is equipped with oxygen tanks." This system evidently was not very effective because the old trustworthy milk cans were used until 1939 when a new system, known as the Live Fish Transporting Equipment, was purchased for all the hatcheries except the Medina Hatchery

LEFT: A truck equipped with the vacuum can method of distribution. BOTTOM: A view into the interior of the new distribution tank. Note the air bubbles being forced into the water by the electric stirrer and also some of the fishes that after a short time will grace a dining table.





A VIEW of the new delivery system. The hatcheryman is counting out fishes for the pond owners who have sent in applications.

which placed all of their output in Medina County only. This was a vacuum system operating from the intake manifold of the truck. An auxiliary gasoline motor driven vacuum pump was provided to operate the system when the truck motor was shut off. The fishes were carried in 34 five gallon cans. An insert was placed in the cans and a vacuum line attached to the insert. Holes were punched at the bottom of the insert which extended down to a can's bottom. As air was pulled from the top of the insert, it was drawn between the walls of the can and insert through the small holes into the center of the can. The accompanying illustration clearly shows this system. It functioned perfectly and increased the load capacity. Three thousand and four hundred fingerlings could safely be transported. It is also interesting to note that the truck tonnage was decreased from a ton and a half, dual wheel, stake body to a one-ton pickup. In 1939 these cans transported 5,815,761 fishes.

By 1945 fish production had increased to such an extent that 22,708,022 fishes were moved by the vacuum can system. Again the system of fish distribution was inadequate. The writers then started a search for a more effective distribution method. After studying practically all known methods of transporting fishes, they decided a tank equipped with an air stirrer run by a small 6 volt electric motor was the most efficient. These stirrers were conceived by some minnow transporters and they were able to transport an amazing number of minnows. A tank was then designed and tanks, motors and stirrers ordered for the eleven state hatcheries. At the time of the present writing they are now in operation. The hatchery men were instructed to start with the same number of fishes hauled by the vacuum can system and to increase the number of fishes hauled with each subsequent load so a safe carrying capacity could be determined. Thus far some of the hatcheries are transporting 10,000 fingerlings without loss. A one-half ton pickup handles the tanks nicely. Needless to say, improvements will be made that will increase the efficiency of these tanks, but as they now are, one load transports about the same number of fishes as three loads formerly handled.

The increase in applications has also forced other changes to be made in methods of distribution. Aonther governmental agency, the U. S. Department of Interior Fish and Wildlife Service, operates six hatcheries in Texas. People would apply to both the Fish and Wildlife Service and the State Hatcheries for fishes. Since one agency didn't know if the other agency had stocked ponds and lakes, they usually both carried the applicant fishes. This duplication of course gratified the pond or lake owner greatly because the old school of thought was—the more fishes you place in water, the better. Needless to say, they obtained very poor fishing from this system. Recent research has shown that ponds and lakes will only produce a fixed poundage of fishes. The richer the pond or lake in nutritive substances, the greater the poundage of fishes will be, but if a pond produces 300 pounds of fishes per acre and one-hundred bass are placed in the pond, you theoretically would have one-hundred three-pound bass at the end of the year. If 1000 bass were planted in the pond you would have 1000 4.8 ounce bass after one year. In practice some of the bass will grow faster than others, but the same principle applies.

The above caused both agencies to realize that duplicate stocking of fishes was hurting rather than helping the pond owners. In 1942 a fish distribution agreement with the U. S. Fish and Wildlife Service was made that divided the state into 19 districts, ten of which are stocked by the Commission and nine by the U. S. Fish and Wildlife Service. Should you apply for fishes from the Commission and your pond be situated in a Fish and Wildlife District, then your application will be recorded in the Commission office and forwarded to the other agency. The same holds true for applications made to the Fish and Wildlife Service. If your water to be stocked is in one of our districts they send us your application for filling. Since the beginning this agreement has been most satisfactory and it has resulted in a tremendous saving of fishes and distribution expenses as well as more desirable fishing conditions in the bodies of water stocked.

It was also necessary to change the method of fish delivery to applicants of private waters due to the increasingly large number of these applicants. Up to several years ago, the fish were placed directly in the applicant's pond. This was changed to delivery to the nearest county seat or large city where the applicant is notified to meet the delivery truck. The hatcheries now place fishes only in public waters.

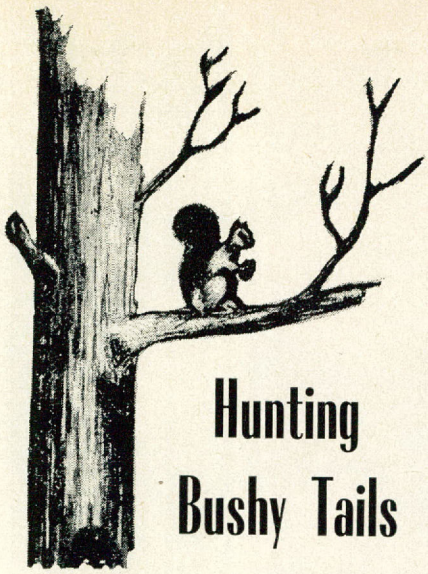
The fishes produced by the State and Federal Hatcheries are free and can be obtained by sending a penny post card or a letter to the Texas Game, Fish and Oyster Commission, Austin, Texas, or to the U. S. Fish and Wildlife Service, P. O. Box 1306, Albuquerque, New Mexico. All you have to state on your

application is that you desire to obtain an application for fishes and give your name and address. An application will then be sent you. You should carefully answer the questions asked on the application especially the surface acreage of your pond or lake which should be recorded after *Area*. The surface acreage should be listed as a fractional part of an acre or more, just what your pond actually is. Then return the application to the agency you obtained it from. These applications are recorded and sent to the hatchery that supplies your district with fishes. So the hatcheries can plan their distribution and obtain an idea of the number of fishes needed to fill applications, all applications received after August 1st will not be filled until after August 1st of the following year. Distribution of fishes to private water does not start until after August 1st for two reasons, first because the weather is not sufficiently cool to warrant transportation and secondly to wait until all applications made before August 1st are received. The latter reason precludes making unnecessary trips. As soon as distribution starts, it continues until all fishes are disposed of. With the new distribution system many of the state hatcheries will conclude their distribution by November 15.

If you have made an application prior to August 1, then you can expect your fishes between August 15 and November 15. A notice card will be mailed you from the hatchery superintendent who will deliver your fishes several days before shipment. This notice will tell you the date and hour the truck will arrive a nearby town or city with your fishes. It will also tell you where the truck will be parked and the amount of containers and water to have with you to successfully haul your fishes from town to your lake. Many people are meeting our trucks with unsuitable containers, such as one-gallon lard cans, etc. The best container is a five or ten gallon milk can. A clean, water-tight oil drum with one end out or a clean, large, galvanized garbage can are acceptable containers. We also ask you to place your fishes in your lake without delay after you receive them from the hatchery truck.

Many applicants write in to know if they can go to the hatchery and pick up their fishes so as to enable them to get them sooner. We would prefer that you wait because the fishes are produced in large ponds and the ponds must be drained to catch the fishes. These ponds will not be drained until distribution starts. After distribution starts you will soon get your fishes. We fertilize our hatchery ponds heavier than we recommend for your lake and the fishes will grow better in our hatchery pond. Consequently, the longer you wait, the larger the fishes you will receive.

A few human errors occur due to the large numbers of fishes and applications handled, but we are happy to report that such errors have now been reduced to a state of rarity.



Hunting Bushy Tails

By L. I. SAMUEL

☆

THE hunting of tree squirrels furnishes quite a bit of recreation for Texans especially in the eastern, central and northern sections of the state. It also furnishes a main dish of nourishing meat for many families during the general open seasons of May, June, July, October, November, and December. Probably Mr. Truman got a resolution from the Squirrels' Brotherhood For Safety to issue the decontrol order on meats. Many Texas counties have special laws with reference to open seasons and bag limits. In some pecan growing sections the farmers welcome squirrel hunters. One man told me that when pecans first began to ripen he saw one squirrel drop thirty-two green nuts before he found one that he would cut. Corn also suffers considerable squirrel damage especially in creek and river bottoms.

Fox squirrels are found over about four-fifths of the state while the smaller greys, often called cat squirrels, are limited to about one-sixth of Texas and this area is the extreme east and southeast. There are many dogs, especially in East Texas, that have been trained to "tree" squirrels. Hunting without dogs is called "still hunting" and really matches the skill of the hunter against the cleverness of the squirrel.

"Not to make for brag" but I think I know a thing or two about this sport. My father, who farmed in Walker County, was a very successful hunter of deer, squirrels, and timber wolves. My older brother, in Montgomery County, is a "top notch" squirrel hunter. I picked up a number of pointers on this sport from them. I prefer to still hunt although I have hunted with some real squirrel dogs. I use a .22 rifle as it gives the squirrel more of a chance and better tests the hunter's skill. I like to get in the woods by daylight and spend most of my time sitting or leaning against trees. Another part of my still hunting technique is to keep both eyes and ears alert for the flirt of a bushy tail, quiver of a limb, rattle of racing feet on bark of trees or the familiar bark of Mr. "limb climber." If spots can be found where squirrels are cutting pecans, acorns, corn, grapes, mulberries, etc., it is best to find a good location and sit still. I have often killed four or five before moving to pick them up. When food is not so plentiful, I keep alterted for sight and sound and stalk the tricky little climbers. Slow and steady movement gives better results than any quick or sudden moves. I usually wear khaki colored clothes and try to keep near the trunk of a tree so as not to be too easily seen. If squirrels are in the woods you can be assured that they are watching you as long as you are moving. When you get still they usually begin moving around within ten or fifteen minutes.

Recently I was hunting along Big Sandy Creek in Wise County. It is lined with large pecan and cottonwood trees. I saw a squirrel run up a limb near the top of a large cottonwood. I laid down where I had a good view and after eight minutes he started down to look for me. I saw fresh signs under a large oak that had several big holes in it. I sat down and after six minutes out came Mr. squirrel to look for me. I have heard that "Curiosity killed a cat" but I have witnessed the downfall of many a squirrel as a result of his curiosity. A few weeks ago while squirreling on the Bosque River I heard one doing lots of fussing. Upon investigation I found him very much disturbed over a wounded crow that my hunting partner had broken a wing on some forty minutes earlier.

I know a few "Old Timers" who will not hunt squirrels on days following moonlight nights. They say the squirrels feed at night and most of them sleep during the day. Two fishermen who camped on the Concho River related how they couldn't sleep under a big pecan tree on account of falling pecan hulls from squirrels. About midnight they killed several with shotguns. Some fishermen tell some tall tales but I think this incident is true. I have had some good days following moonlight nights but squirrels were rather plentiful.

THE FUR of the skunk is also highly prized.

Furs

★ Continued from page 18

can be easily slipped off of stretcher by squeezing together the vertical sides which loosens the fur from stretcher which has a tendency to stick. A stretcher fashioned from a roofing shingle doesn't have these advantages. Many times the shingle has to be split, causing the skin to tear frequently upon removing it when dried. Once the skin is dried it can be removed from the stretcher and laid in a dry place until sold.

The skunk skin is handled the same way as the muskrat, except skinning of the vent. Make a circular cut around the vent leaving plenty of skin, which will result in leaving much of the odor or musk with the carcass. The tail should be split part way up the under side and the bone removed. Tails are usually left on skunk pelts, not for their fur value, but for easy handling of the skins and also for their better appearance. A board of ⅜ inch thickness is fashioned for the skunk the same as the muskrat. In this case this board will be used to hold the skin in place while scraping off the fat and also as a stretcher.

In scraping the fat from the skung skin there is more work than with the muskrat. It has a meat tissue that is red in color which extends over the back of skin. This must be scraped off, for underneath this is a layer of fat which protects the hair roots. This fat should be scraped somewhat, but not enough to expose the hair roots so they might slip. After scraping the skin clean of fat, take some box nails and tack the skin to the board. As you insert point of nail in the skin pull down hard and tack into the board; this stretches the skin lengthwise. I usually put one tack in each rear foot or leg skin, two in the tail to spread it, and one or two in the belly skin at the bottom edge if it should sag a little.

Weasels and opossums are handled in the same manner as the skunk, only the female opossum has a pouch on the belly side which may make a tear in the skin if pulled too hard while skinning. When you come to the pouch take your knife and cut deep toward the belly, but not enough to expose the bowels—this will free the pouch. Be careful in scraping the weasel skin and opossum for they are both tender and tear easily.

Foxes, raccoons and mink are handled the same as the skunk, except for the skinning of the vent which does not have to be done. Their feet must be skinned out to the toes, making slits on the underside of the feet and remove the bones. Tail bones are also removed in these skins. But in most instances these three mentioned skins are turned "fur side out" when nearly dry on the stretchers. You may take your hand and rub the fur briskly to fluff the matted hair. This will help it to dry by allowing a free circulation of air to get near the hide.

It is hoped that these suggestions for the "Proper Handling of Furs" will result in better prepared furs for this coming season. Because it certainly does make a difference to the buyer.

—Pennsylvania Game News

Haven

★ Continued from page 5

western birds overlap during spring and fall migrations.

During the summer months visitors find few ducks on the refuge units but are impressed by the marked abundance of Cottontails, Scaled Quail and nesting Mourning Doves. Generally speaking, the refuge's resident species have reached saturation points and their annual increases provide natural restocking and better hunting in surrounding areas.

Cattle graze the rangeland pastures under special use permits issued to local ranchers. One-fourth of the amount received for these grazing privileges is returned to the county school and road funds in reimbursement for loss of taxes resulting from the removal of the lands from private ownership.

Banding activities during the past few seasons have proved the great importance of the Muleshoe National Wildlife Refuge as a wintering ground area. To date, returns have been received from nine states and two Canadian provinces indicating the far flung wanderings of this heritage of wild fowl which returns to the south plains year after year.

Making Fishing Easier

Small crabs, from which the hard back shells have been removed, are excellent bait for rock bass and other panfish. All that remains of the crab is the lower abdomen and tail.

A fly and spinner should be fished deep in fast water. Fish stay down in a heavy riffle because the force of the current is less severe near the bottom.

Bass, especially the small-mouth variety, often move into the riffles and rapids to feed.

Don't throw away the old willow fishing creel when you get a new one. Fill it with moss and keep worms in it.

The very spots where the hook is likely to become snagged are the best hiding places for fish. Here the worm angler may test his skill, his patience—and his tackle. And the wet fly angler can risk hang-ups. Even the dry fly purist is in for trouble, from obstructions that protrude above the surface. But such spots really are worth exploring.

Don't use a sinker except as a last resort to get bait down to trout which are feeding on the bottom. A weight interferes with the natural action of bait and, besides, is very likely to become snagged.

The smaller the hook the better, in either bait or fly fishing. Experiment and then use hooks just large enough to hold the fish.

Above all else, keep fish hooks sharp. Throw away a hook that is rusty or that has a blunt point.

Put about 25 yards of cheap, but strong, line on a casting reel as backing, then attach the good line to the backing so that the spool is filled almost to the point of contact with the cross-bars of the reel. A full spool is easier to handle, and that extra line is a lot more useful than a cork arbor.

One way to keep a dry fly floating on fast water is to swing the rod slowly in the direction in which the fly is being carried by the current. This keeps the line slack longer.

Bass bugs and other light floating lures are not so effective for bass angling when wind disturbs the surface of the water. There are two reasons: It is difficult to manipulate the lure properly on rough water; and wind blows away the natural insects on which bass feed and which are the reason for using surface lures.

Skilled worm fishermen, fishing clear and shallow water, have developed a neat trick. They place a worm on the hook, then encase it completely in a ball of thick mud or clay. The bait is dropped carefully into a hole, and the angler sits back and waits for the covering to dissolve. When the worm thus is "unmasked" a fish is quite likely to take it for the real thing.

Soak the wet fly before using it. A wet fly does its best when it sinks beneath the surface, and the more it is soaked the quicker it will begin to function properly in the stream.

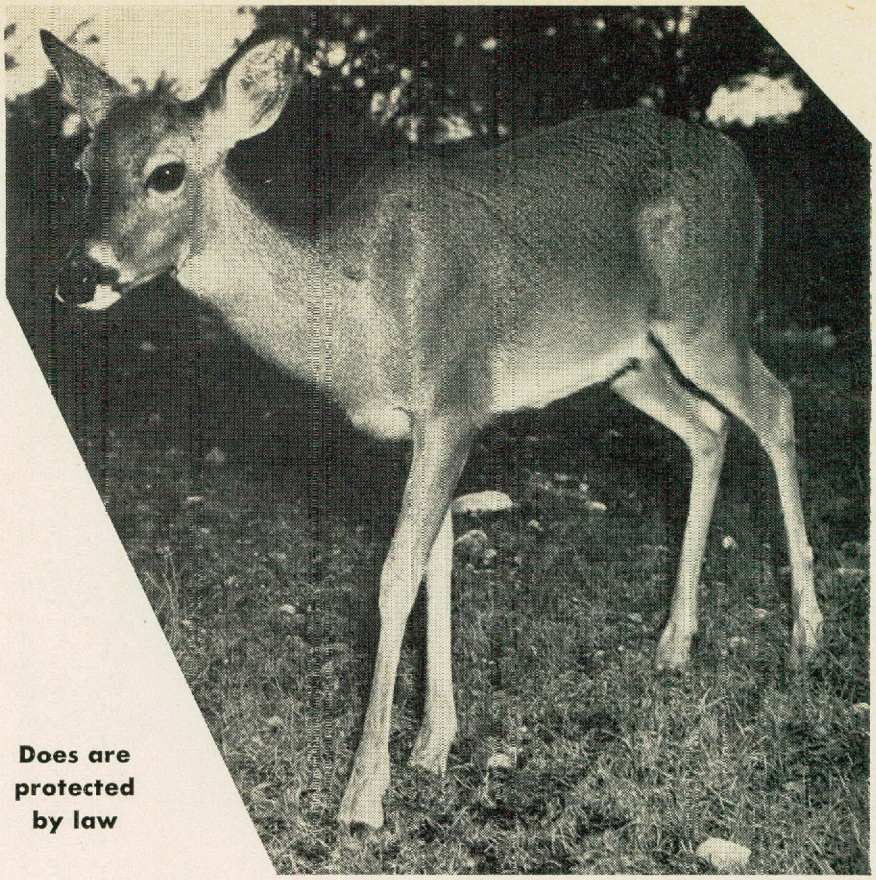
When Sportsmen Carry the Ball

★ Continued from page 4

great numbers of them. Two or three factors were introduced by the ranchmen who wished to enlarge their herds of cattle. Among them was the creation of an artificial water supply, and large pastures were soon dotted over by windmills and water holes. With shorter distances to go for water the cattle range was greatly extended and likewise the deer range. Ranchmen began the systematic destruction of predatory animals which were destroying young stock, and this saved also great numbers of young fawns. Lastly, the Indian had hunted throughout the year regardless of sex or size, whereas we now have a short open season with bag limit and other controls conducive to the enlargement of the deer herd. To this may be added that on some of these ranches only enough hunting is permited to prevent over-population."

Thus soprtsmanship took over and received the backing of the general public in many parts of the State. However, the observance of game laws is no better than the demand of prevailing public sentiment. It involves the surrender of some of the liberties to do as one pleases. Where people are unwilling to make that surrender there can be very little law observance and when game goes unprotected there will soon be very little game to protect.

Such a thing was happening over in the region of Jasper County as well as in other portions of the State. In deeply wooded areas where a census of the deer population is next to impossible it is easy to rest on the theory that deer will never play out. The awakening comes when hunters begin to return home empty handed.



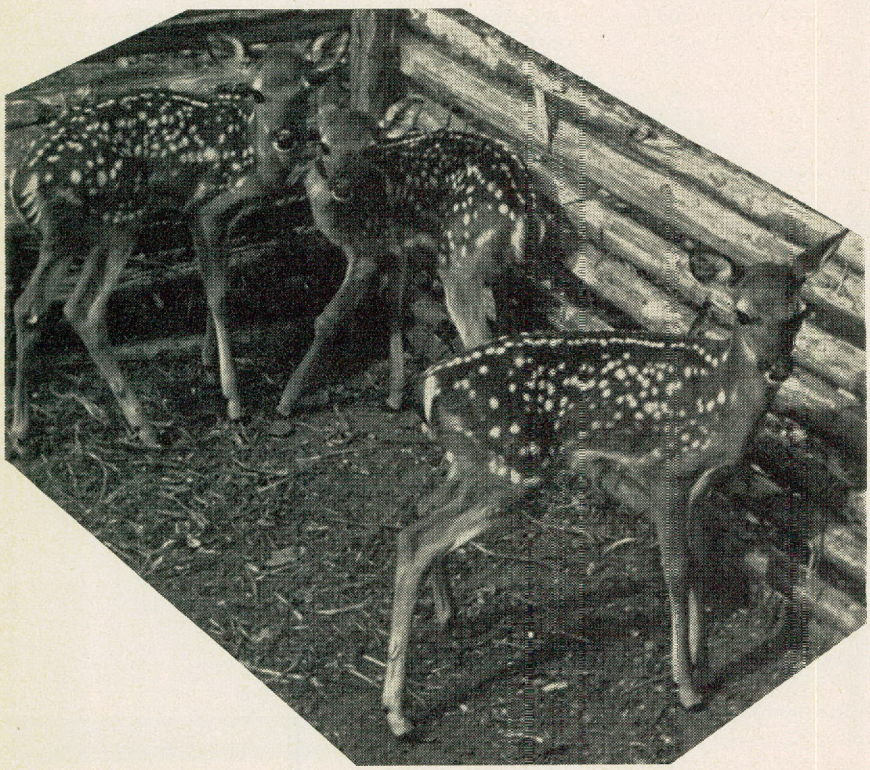
Does are protected by law

In 1944 Mr. E. O. Easley of Jasper experienced such an awakening. To him the hunting season was a sore disappointment. He realized that for him and his children to have deer to hunt in that section something had to be done to preserve the small remaining stock of deer.

Being familiar with the tactics used by hunters in the destruction of deer, Mr. Easley concluded that a radical change must be made in order that deer might survive in sufficient numbers to afford worthwhile hunting. After discussing the situation with many of his hunting friends he invited a goodly number of life-long deer hunters to meet with him for the purpose of formulating some plan of action.

That meeting was held during the early part of 1945 with a number of alleged doe killers of Jasper County in attendance, said Mr. Easley who acted as chairman. Conditions were discussed and Mr. Easley told them that he had a vision of great possible dividends that could be realized within a short time if proper steps were taken to build back the vanishing deer herd. Most of those present agreed to his plan and pledged themselves to enter into a compact with him. From this meeting and discussion, the East Texas Buck Hunters Association was born.

The pledge of the members was that they would not molest wild deer from January 1 to July 1 of each year. That they would not kill a doe deer at any time of the year, nor hunt deer at night. That they would not commercialize deer and that they would report and aid



THREE FAWN DEER with their coats of camouflage which make them almost invisible in the brush.

in prosecuting any one found violating any of these rules.

This commendable step in the direction of rehabilitating the deer population was reported by Captain E. M. Sprott of Lufkin who writes further that in December 1945 the first mass meeting of the group was held at Jasper with an attendance of about 300 members and guests. After Mr. Easley had addressed the meeting, pointing out the merits of the organization, several enthusiastic deer hunters, who had come from adjoining counties, inquired as to the possibility of spreading the idea to other communities. Accordingly, on June 17, 1946, the second annual meeting of the association was held at Burkville in Newton County. Attending this meeting were an estimated 1,000 men, women and children who were interested in improving deer hunting conditions in their respective communities. The leaders of this association now boast of some 3,000 members when it is barely passing its first anniversary.

Game and Fish Wardens assigned to that section of eastern Texas have noted a very pleasant change in the attitude of the average deer hunter. Many who had looked upon the game warden as his worst enemy have come to him with apologies for the past and pledges of cooperation for the future.

It was not an easy choice for men who had claimed all the freedom to hunt that had belonged to primitive man, but they faced an absolute necessity to give game some protection if buck hunting was to continue in that part of Texas. This protection, you will observe, applies only to does at all times and to bucks for the first six months of the year, and to night hunting. The inference is that for the last half of the year the association requires no restrictions on buck hunting.

While this implied reservation of freedom is being exercised by members of the association there is still the game warden to reckon with when the State law is violated. However, there is no reason to assume that the association, as such, intends to ignore any of the statutes. While there is no promise of full compliance with the law, there are a few inescapable imperatives involved in the preservation of deer which can no longer be deferred, and it is these imperatives that are to be given the fullest emphasis. There can be no doubt that a majority of the members of the association are in favor of complete law observance but there is usually a negative minority to deal with, and if that minority can be induced to go along part of the way with the majority, real progress has been made. Always and everywhere there may be a small minority ready to flout the law, and the best that can be hoped for is a gradual reduction of the size of that minority.

In 1923 when the first game warden made his appearance in one of the far western counties he was invited to move on or be run out of the county. He did not move on because he was dealing with a minority that was in the wrong. Within five years the sportsmen of that county were calling for a game warden because the former warden had been transferred to other parts, or was giving too much attention to other counties. With few game wardens in those days a man had to look after a much larger group of counties than at this time. In any event it is certain that the original game warden, who was invited to leave the county, had a group of counties that included Terry, Lynn, Dawson, Andrews and perhaps a score of others. To bring these conservation occurrences down to date it has just been announced in one of our magazines that at Brownfield in Terry County a game protective association has been organized and that a club to be known as South Plains Sportsmen's Club was being organized at Lamesa in Dawson County. Prairie chicken and quail are the important game. Friction between sportsmen and land owners is frequently encountered and one purpose of these groups is to cultivate friendly relations with the ranchmen.

There are now more than 100 sportsmen's clubs and protective associations in Texas. These organizations are interested not only in law observance but they are important agencies for bringing about legislation. This desire to make their influence felt in legislative circles has prompted the formation of many groups of sportsmen.

So far as the writer can recall the first game protective association in Texas was formed at Wichita Falls in the year 1922. There had been, of course, rod and gun clubs all along in many parts of the State, and these in a way, were concerned with preservation of their stock, but there was little or no concern about law enforcement in general because at that time only six game wardens were employed in the State and they hardly made a dent in the protective demand.

When the above association was launched it was wintertime with enough snow on the ground to leave the tracks of game, and hunters were feeling the need of more game and more protection to that game. In a rather accidental way a meeting was arranged at the court house auditorium to discuss wildlife. About 75 persons came to the meeting and when the writer had ended his harangue, a heavy-set sporting goods dealer got to his feet and said: "I am in favor of organizing a game protective association. We have been letting East Texas make our game laws long enough." (Now, what does Mr. Easley think about that? I had not even mentioned the subject in my talk and I must confess that I was only indirectly responsible for the amazing results.)

The idea took fire at once, and a committee was formed to contact adjoining counties and arrange for a mass meeting. Within a week the meeting was held and 100 charter members were enlisted.

Yes, the sportsmen are carrying the ball in the preservation of the Cervidae, and that goes for other game as well.

Problems

★ Continued from page 9

rivers were clear most of the time and carried a smaller load of silt than they do today. As the farmer cleared the land and the rancher grazed it with stock, the plant covering became sparser. As a result the run-off leaves the land more quickly following rains, causing floods and peaks of fresh water running into the bays, as contrasted to the steadier year round drainage which occurred before the land was cleared. Because the plant cover is less dense than in former years, erosion has been accelerated and the water carries a heavy load of silt when it hits the rivers. Due to the faster run-off the rivers are enabled to carry heavier silt loads and deposit them in the bays at the mouths of the rivers. Excessive silting covers oysters and other non-motile or bottom dwelling organisms. Many reefs which oystermen worked a few years ago are now buried under mud. In addition, the floods of fresh water at times kill out, over wide areas, oysters and all other marine animals that can not get out of the way. Of recent years the waters in some bays have become so fresh that fresh water catfish and buffalo are caught in them in commercial quantities for months at a time. That situation was unheard of until a few years ago. Occasionally muddy waters from the rivers flow far out in the Gulf and have been reported to cause snappers to leave the offshore reefs. Excessive silting and unseasonal drainage from the land, causes the marine environment to be less productive of marine life than in the past. Unfortunately, it is not the only harmful influence affecting Texas salt waters.

Because bays are shallow it has been easy to cut channels and make changes which could not have otherwise been made. Mudshell dredges have dredged for dead oyster shell and removed many reefs almost bodily. Ship channels and canals of various widths and depths have been dug all along the coast. In some instances the effects have been harmful. Causeways across the narrower parts of the bays, even though they are made of piling, obstruct water circulation by about seventeen per cent. Dirt causeways, of course, obstruct completely, if they are solid. Jetties at the major passes have caused some changes. The larvae of several fishes and crustacea which spawn in the Gulf have a harder time entering bays with jettied passes than they did in the days before the jetties, when the passes opened directly on the beach. Trout and redfish seem to dislike traveling in deep water where they are attacked by sharks and other predators. They have been observed approaching the deep water at the mouths of jettied passes timidly, making several false starts before entering. Pike were formerly common in some bays in summer and are still numerous at times on the Gulf beach, although very few of them enter bays with jettied passes.

If anyone has any doubts about a farm pond producing fish then this string of crappie should dispel all and any doubts. The farm pond from which this string was taken was only stocked a few years ago. It is on land owned by Bill Newman, the smiling chap at the right, near Bastrop. The anglers are Homer Long and his pretty wife of Austin, Texas. The youngster in the background just couldn't resist the temptation to chisel his way into the picture.

A few examples of harmful structural changes made by man will be given. In 1932 the channel of the lower Colorado River was deepened by dynamiting out a huge "raft" of old logs and debris, at the crucial moment when a rise was coming down the river. With this aid the river scoured its bed out and almost overnight the delta built up across Matagorda Bay and the river emptied directly into the Gulf of Mexico rather than into the bay. The delta covered Tiger Island, Dog Island, Mad Island and other reefs with mud or dry land in a few days time. These reefs produced approximately one-fourth of the total oyster production of the state at that time. They were destroyed with one lick, so to speak. In other words, several thousand acres of concentrated marine life were destroyed and it cannot be restored. In addition, the environment of the whole upper bay was changed and made less fit for marine life. Oysters, young shrimp, crabs and many young fishes find conditions ideal for them in the protected bays where the fresh water of the land mixes gradually with the salt water of the sea. Under normal conditions the rivers bring down a steady supply of nutrient materials from the land and fertilize the waters. Many young marine animals can live only in this type of environment and when it is gone there is no other place for them to go. Now that the Colorado River empties directly into the Gulf, a large part of the bay environment is irreparably changed.

Across Tres Palacios Bay from Palacious, connecting by a short channel with Matagorda Bay, is a small salt water lake or tidal inlet, roughly circular in shape and covering a few square miles in area. A few years ago the inlet channel and a fan-shaped area in the lake next to the channel was covered with one of the finest oyster reefs in Texas. From this, the body of water was known as Oyster Lake. This lake was also a well-known haunt of redfish, drum, and trout. A few years ago the Intracoastal Waterway was cut through part of the lake, allowing fresh water from the Colorado River to drain in and turn it into a fresh water lake. The oysters were destroyed and the marine life was driven out. In addition Deep Reef, a short distance offshore from Oyster Lake in Matagorda Bay, was covered with several feet of mud. Just a few years ago several boatmen used to make their living oystering in Oyster Lake. Now the oysters are gone, the marine life is destroyed and Texas has lost part of its wealth.

Several years ago a dirt causeway for use as a railroad bed was built out into Redfish Bay to deep water. It has been abandoned for years, but it changed the water currents and caused extensive silting and shallowing of the bay bottom.

The writer could recite many of these instances. They are part of the cause of the decline of marine life on the Texas Coast. Unfortunately, the process has not come to an end. Plans for further destruction are brought up from time to time. Some are made for private gain and others come under the guise of civic improvement. It has been proposed that Trinity Bay be dammed and turned into a fresh water lake for the benefit of rice farmers. The Trinity Bay area receives as much rainfall as any other section of Texas and there is no sense in destroying another large section of Texas marine life. It has also been proposed for the benefit of Corpus Christi, by people unacquainted with the consequences, that a dirt causeway be built across the mouth of Nueces Bay, turning it into a fresh water lake. This would result in the destruction of another large part of the Texas marine environment with nothing of any value to replace it.

The Laguna Madre has produced and is producing more fish than all the remainder of the coast. It lies along an arid region of the coast, and no rivers drain into it. As a result of these conditions, it becomes over-salty at times, even attaining a salinity approaching three times that of the open sea. During particularly dry years fish in the Laguna die by the millions of pounds. Nothing within the realm of practical engineering feasibility can be done about this situation, although it is hoped that the Intracoastal Waterway through the Laguna, connecting the upper and lower Laguna, now separated by about twenty miles of dry land, will increase water circulation and help prevent the occurrence of oversalinity. The only body of water with which the upper Laguna Madre is connected is Corpus Christi Bay, and this is the only place where exchange between the salty Laguna and the fresher bay waters can take place. The least that men can do is to not do anything to make matters worse. In spite of this, private interests, over the protest of the Game, Fish and Oyster Commission, the United States Fish and Wildlife Service and members of the Institute of Marine Science of the University of Texas, have obtained permits from the War Department to construct a solid dirt causeway across the upper end of the Laguna, sealing it off from Corpus Christi Bay, except for two thousand feet of opening where twenty-three thousand exists now. If carried through, this proposal is quite likely to turn the Laguna into lifeless brine to the lasting injury of the people of the State.

Industrial pollution is the third factor causing a decline in Texas marine life. Ordinary sewage pollution, although a health problem if the sewage has not been properly treated, is not harmful to marine life. It merely fertilizes the water in the same way that the rivers do. Acids, oils, and various other types of chemicals are foreign to marine life and they always cause damage, although it may be unseen. One application of oil to an oyster reef, does not kill it, but continuous exposure to oily water kills oysters slowly. Both fish and oysters continue to live long after they have absorbed the flavor and taste of oil and are valueless for food. Chemicals of all kinds kill the microscopic plants and animals that float in the water. This minute living material amounts to the grass of the sea and directly or indirectly larger animals in the water live on it. A bay suffering from continuous pollution may look the same as one in

good condition but it is relatively barren and infertile. Pollution laws are better than they formerly were, but they are extremely difficult to enforce. Violators must be caught in the act. The worst case of oil pollution I ever saw went unpunished because of a technicality.

Pollution is one of the cankers of civilization and it has grown by leaps and bound in recent years. The Houston-Galveston area is the most heavily industrialized region on the coast and Galveston Bay suffers heavily from pollution. Before the war the effluent of industrial wastes into Galveston Bay was at the rate of millions of gallons per day. During the war the rate of chemical wastes entering coast waters increased immensely. Oil field brines, and both crude and refined oils and occasional blow-outs of wells in the bays are the damaging factors coming from the petroleum industry. Barges loaded with oil can usually be traced or "tracked" by streaks of oil up and down the bays and canals. In addition every power boat on the coast pumps a little oil from the bilge or spills small amounts of gasoline into the water from time to time. The individual effect is small, but the cumulative effect is one contributing cause of the decline of marine life on the coast.

Pollution is worse in Galveston Bay than any other area and this factor alone was the chief reason why the laboratory site for the Institute of Marine Science of The University of Texas was not located in Galveston. Natural sea water is a necessity for such a laboratory. However, Galveston Bay and its tributaries are not the only polluted part of the Coast. This summer I was on one of the wildest, least settled parts of the Texas Coast in company with marine biologists of the Game, Fish and Oyster Commission. At the mouth of a river a ring on the hand of one of the men became corroded after being dipped in the water for a few minutes. Bleed water from an oil field drains into this river a few miles upstream from the mouth. Evidently some powerful chemical was being poured into the bay at the time.

This summer the dyke around the waste area of a large chemical plant in South Texas broke following a rain. The material drained into a creek and thence into a bay. Fish killed lined the shores on both sides of this bay for three to five miles.

It may be said briefly that nothing effective has been done, because the decline of marine life on the Texas Coast is continuing. The whole process remains virtually unchecked. Not long ago a marine biologist, of some renown in his field, said of the Texas Coast, "There is a great deal to be done here, but it is the most rapidly degenerating region of the Coast of the United States."

The reduction of marine life on the Texas Coast is due to three things: (1) Floods and unseasonal freshets from the land accompanied by accelerated silting of the bays; (2) the digging of channels and canals, and the construction of causeways and jetties, and the removal of reefs in certain areas; and (3) pollution. The overall reduction has not been caused by overfishing by commercial fishermen. No fisheries biologist, who has ever worked or spent any time on this coast, and there have been a round dozen of them in the past twenty years, has been of the opinion that overfishing was a problem of conservation on the Texas Coast. One legislator publicly stated a few months ago that he had a bay closed to netting 10 years ago, and although it was easy to patrol and was not netted, when opened during the last session of the legislature it contained less fish than before, as shown by fishermen's catches.

Nevertheless, practically all conservation effort has been applied to curtailing the commercial fisheries by closing the bays. Many earnest, high-minded men, have carried on this fight. Most of them have been from far inland with little contact with the Gulf waters. Large sums of money have been donated to funds established for the purpose of having all bays on the Texas Coast closed to netting by commercial fishermen. One of the donaters let an estimated 72,000 barrels of crude oil get away and flow into Galveston Bay at one time a few years later.

Every year in the past, at about the same time in the spring, Game, Fish and

ROBERT BROS. AUTO-LEC STORES in San Angelo literally stopped traffic with this eye-catching window display. The monkey did not get into the display by accident. He was placed there to drive home the warning "not to monkey with game out of season."

Oyster Commission officials are attacked in the newspapers for not arresting netters. Fish usually scatter out in the spring, fishing always becomes poor, and most netters stop fishing for the season several weeks before the annual rash of criticism.

Sports fishermen and commercial fishermen are in competition for the available supply of fish. Each harvests to some extent the amount produced. Neither group operates in such a way as to damage or cause a deterioration of the natural environment or, in other words, to bring about a decrease in the potential supply. The factors causing degeneration in the environment, discussed above, are the real problems of conservation on the Texas Coast.

If all but a remnant of Texas marine life were destroyed by some sudden catastrophe, it would replenish itself in about three years, if the environment remained in good condition. If the environment were not in good condition, the fish and other life could not remain although it were possible to liberate them in the bays by millions of pounds. Hard cold waves coming every ten or fifteen years and oversalinity of the Laguna Madre, at about the same interval, are minor catastrophes causing sudden decreases in the catch of fish in Texas marine waters. Recovery to the former state of abundance usually takes about three years.

One bay in Mexico, the Laguna Madre del San Antonio, just south of the border, has produced for several years as many fish as the whole Texas Coast. Fishing is very heavy, but production is maintained. This bay is in its original pristine condition. The Laguna Madre of Texas produces as much fish as the remainder of the coast. It is also the most natural, virgin region on the coast.

The Texas Coast produces as many pounds of seafoods commercially as it ever did, but this does not mean that the marine life is as abundant as ever. Texas seafood production years ago was made up almost solely of fish and oysters. As production of these declined the fishery turned to shrimp, which were taken only in small amounts before 1925. This has maintained the total production, although the fish have declined so much that some wholesale seafoods dealers do not find it worth while to operate fishing boats at all. Another thing which has maintained Texas seafoods production is that as one part of the environment degenerated and no longer produced fish the fishery moved on. Fifty and sixty years ago over three-fourths of Texas commercial fishing was around Galveston. As the fish producing capacity of this area declined, the industry moved down the coast and now by far the greater amount of fish production is from the Laguna Madre. Today the Galveston Bay area produces less than five per cent of the fish and oysters taken in Texas and the city of Galveston has to import most of its seafood. This situation holds in spite of the fact that most of Galveston Bay has been closed to netting for many years. During the early part of this year an organization interested in sports fishing publicly urged the Game, Fish and Oyster Commission to study Galveston Bay and take immediate steps to restore its marine life. So long as flooding, silting and pollution operate to make Galveston Bay unfit for marine life it is idle to hope to restore its population of fishes to former abundance.

The fact that practically all conservation effort on this coast has been concentrated on curtailing net fishing has indirectly done more harm than good because it has directed practically all attention on a very minor issue, so that little or none has been focused on the real problems. The situation may be compared to chasing chickens out of ones garden while the house is burning down. In addition, this pointless fight has unfortunately split the sports and commercial fishermen, two forces whose combined efforts will be none too great, if applied to achieving real progress in conservation on the Texas Coast. This situation also has held back needed advances in biological work, for it has led people to believe that closing the bays to net fishing was the final answer to conservation problems. If this erroneous idea continue to prevail things will drift on until the time comes when there will be practically no fishing left on the Texas Coast for either the sportsmen or commercial fishermen and the situation will remain bad even though both groups of fishermen were to stop fishing entirely.

Soil conservation on farms and ranches should be practiced on a greater scale to prevent not only the loss of millions of tons of valuable soil into the sea, but to lessen the excessive silting and flooding which is continually damaging the coast. All soil conservation practices should undergo manifold increase and the value of this work should be driven home to the people until everyone recognizes it. Furthermore, the various projects for dams and flood control on Texas rivers should be given full support of the people. Dams would help hold back silt and flood waters, preventing their precipitous journey to and sudden damaging effect upon the Texas Coast. These advantages are additional to those of creating water reservoirs for cities and fresh water for fish and waterfowl. In brief, effective and sufficiently extensive flood control in the rivers and soil conservation to prevent erosion will sharply curtail one of the three major factors bringing about a decline in marine life on the Texas Coast.

The stopping of pollution is largely a duty of the Game, Fish and Oyster Commission, but it is an uphill fight and will come to naught without the backing and cooperation of the whole citizenry of Texas, including especially the industrial interests. It will probably be necessary to carry on an extensive educational campaign pointing out the gross ills brought about by pollution. Purely punitive or restrictive action is not the whole answer to this problem. Business men and industrialists recognize the value of wildlife and seafoods as well as anyone else. Probably many of them do not know that the money spent in preventing pollution can be deducted from federal taxes. The active cooperation of industrialists, plant managers, chemical engineers and officials of some city governments would do more to stop pollution than all the laws that could be passed and all the enforcement officers who could be hired. Many pollutants are wastes for which no use has been found. Uses for some of them could probably be found. In some of the industrial parts of Europe, pollution was formerly very small because almost all materials were used and there was little waste.

Thirdly, to cope with the problem of constructions, digging and excavations which are sometimes detrimental to marine life, the Game, Fish and Oyster Commission should be authorized and directed to critically examine all such proposed projects and refuse permits for those which would be harmful.

In summary, an effective program for conservation on the Texas Coast will involve curtailment of soil erosion and flooding, pollution and erection of detrimental structures and excavations in salt water in order to more nearly stabilize the physical, chemical and biological composition of the bays. All this should go hand in hand with increased biological knowledge. Since the problems to be faced concern the farmers, ranchers, sports fishermen, commercial fishermen, industrialists, and several agencies of the state and federal government alike, it can not succeed without the wholehearted support and working cooperation of all these groups. If the program fails, the marine life of Texas will continue to be accelerated in its decline to some unforeseen low state, to the lasting damage and impoverishment of all the people.

4-Footed Armor

★ *Continued from page 6*

various sorts. John James Audubon, great naturalist and bird lover, studied the armadillo in its haunts about 1837, and he says, "The principal food of this genus is ants" and it "is kept in Nicaragua, not only by the people of the ranchos, but also by some of the inhabitants of the little towns, to free their houses from ants, which, as is said, it can follow by the smell." To this he adds, "Armadillos are said to eat young birds, snakes, eggs, and lizards." However, there seems to be little basis for this last accusation, for only recently the Texas Cooperative Wildlife Research Unit has conducted a survey which gives these beasts a clean bill of health as far as quail eggs are concerned, despite the assertion of some sportsmen to the contrary.

Moreover, E. W. Nelson, during his work with the U. S. Bioligical Survey checked the contents of many of their

stomachs and found that their food "covers a wide range of insect and other small life, including many species of grasshoppers, roaches, crickets, caterpillars, beetles, ants, spiders, centipedes and earthworms, as well as wire worms and other species harmful to the farmer."

An interesting sidelight on these mammals is given by Mearns who says that in autumn, during the deer hunting season, when the young armadillos of the year are full grown, they are especially numerous and particularly obnoxious to the still hunters, who repeatedly take their rustling in the leaves for the noise of the feet of bigger game.

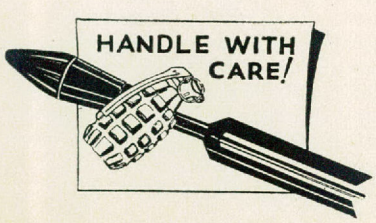
As might be expected, with such a curiously formed and strangely protected animal, a number of stories have grown up in regard to its habits and, among the more primitive peoples of South and Central America these animals have taken on an almost legendary character.

For instance, the Cholones, an Indian tribe of eastern Peru, make use of poisoned arrows for hunting, but there are some animals such as armadillos, certain kinds of falcons, and a certain species of vulture which they will on no account shoot with these weapons, for they believe that between the poison on the arrows which they use and their supply of poison at home a sympathetic relationship exists. To shoot any of these animals, who possess magic qualities of their own, would cause all their poison at home to be ruined, thus causing them to suffer a great loss.

Closer at home we find that the Mayan Indians of Yucatan are firm in their belief that the black-headed vulture turns into an armadillo when it grows old. The vulture, they say, when it becomes very old, will leave its haunts as a bird and stand for many days by an armadillo hole. There he waits patiently, other vultures bringing him food until, as he stands, his wings and feathers gradually disappear, to be replaced, a little at a time, by the horny coat of mail which is Dasypus' protection and pride. As proof, if doubted, the Mayas point out the fact that the bald head of the vulture resembles in many respects the head of the armadillo.

This is a strange tale, surely, but no more curious than the equally firm belief of many Texans that the armadillo subsists only by the robbery of graves. One story has about as much basis of fact as the other.

☆ ☆ ☆ ☆



IRISH ROAST GOOSE WITH POTATO STUFFING

(8-10 servings)

- 1 goose
- 1 teaspoon salt
- ¼ teaspoon pepper
- 10 medium potatoes, riced
- 1 tbsp. fat
- 1 cup chopped onions
- ½ cup chopped celery
- 4 slices bread, crumbled
- ¼ lb. ground salt pork
- 2 eggs, beaten
- 1 tsp. salt
- 1 tsp. poultry seasoning
- 1 tsp. salt (for dressing)
- ¼ tsp. pepper (for dressing)

1. Clean and dry goose. Rub cavity and outside with salt and pepper mixture.

2. Stuffing: Reserve potato water for basting the goose. Rice potatoes. Put fat in a skillet and partially cook onions and celery, but do not brown. Add to potatoes bread, salt pork, eggs, poultry seasoning, salt, and pepper.

3. Stuff goose with potato stuffing and sew up.

4. Roast goose in a moderate oven (375° F.) about 3 hours, basting from time to time with potato water.—Michigan Dept. of Conservation.

BARBECUED DUCK

(4 servings)

- 2 large duck breasts
- 4 tsps. lemon juice
- 1 tsp. Worcestershire sauce
- 1 tsp. tomato catsup
- 1 tbsp. butter
- ½ tsp. paprika

1. Cut breasts from 2 large ducks.

2. Broil under flame until brown or about 10 minutes.

3. Baste frequently with the following barbecue sauce: lemon juice, worcestershire sauce, catsup and butter.

4. When meat begins to brown, sprinkle with salt and paprika, continue to broil for 20 minutes or until done.—Michigan Department of Conservation.

OVEN FRIED RABBIT

- 3½ to 4 pound dressed rabbit
- 1 cup of flour
- 1⅓ tablespoons salt
- ¼ teaspoon pepper
- ¾ teaspoon paprika
- ¼ cup melted butter or fortified margarine
- ¼ cup melted vegetable shortening

Cut off the fore and hind legs, separating the hind legs into 2 pieces at the joint. Cut the saddle into 4 pieces and then cut the 2 largest center sections in half by splitting them down the backbone. Wash the pieces of rabbit in lukewarm water, drain and dry. Mix the flour, salt and pepper and roll each piece in the flour mixture. Place the rabbit in a greased shallow baking pan and cover with the combined melted butter and melted vegetable shortening. Sprinkle each piece with the paprika. Roast at 375° F. (moderate oven) for 1½ hours. At the end of 45 minutes, turn each piece over.

BARBECUED RABBIT

- 3½ to 4 pound dressed rabbit
- ½ cup butter or fortified margarine
- ⅓ cup grated onion
- 1 tablespoon salt
- ¼ teaspoon pepper
- 1 teaspoon sugar
- 2 tablespoons lemon juice
- 2 teaspoons Worcestershire sauce
- ¼ cup water

Cut off the forelegs and hindlegs of the rabbit, separating the hind legs into 2 pieces at the joint. Cut the saddle into 4 pieces and then cut the 2 largest sections in half by splitting them down the backbone. Wash the pieces of rabbit in lukewarm water, drain and dry.

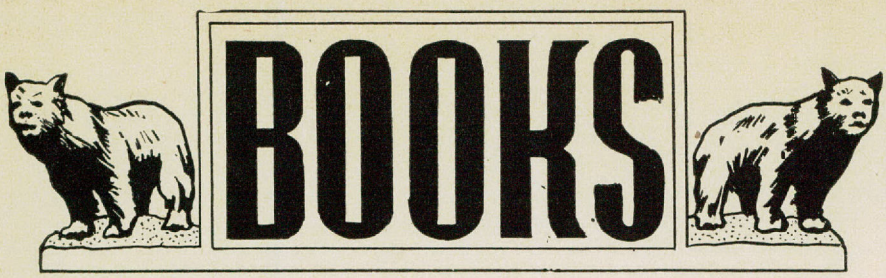
Melt the butter and brown the onion lightly. Add the seasonings and water and bring to a boil. Place the sections of rabbit on the greased rack of a greased shallow baking pan and pour ¼ of the above mixture over the rabbit. Place in a 400° F. (hot oven) for 1 hour and 15 minutes, basting every 20 minutes with ¼ of the above mixture. When half done, turn the rabbit over.

WOODCHUCK

That elusive shadowy woodchuck which figuratively thumbs his nose at you from the hillside makes mighty good eating when put in the pot.

Properly prepared, Mister 'Chuck "eats right where you hold him," and to waste his delicious meat is just plain wanton foolishness. The woodchuck is strictly a vegetarian and despite his rough-looking exterior is a stickler for cleanliness. The meat of the "sod-pig" tastes a bit like raccoon but he is somewhat fatter. Below is a good recipe for stewed woodchuck and once your lips are wrapped around it, they'll smack for the rest of the meal:

Stewed Woodchuck — Clean woodchuck, remove glands and some of the fat. Cut meat into serving pieces. Soak overnight in a solution of equal parts water and vinegar, with the addition of a sliced onion and a little salt. Drain, wash and wipe. Parboil 20 minutes, drain and cover with fresh boiling water. Add one sliced onion, ½ cup of sliced celery, a few cloves, salt and pepper. Cook until tender. Thicken gravy with flour. Other vegetables may be added if desired.



PRAIRIE WINGS. Pen and Camera Flight Studies, by Edgar M. Queeny. Explanatory Sketches by Richard E. Bishop. 272 pp., size 9" x 12". 276 photographs by the author; 140 sketches by Richard E. Bishop. Printed by gravure and letterpress on special heavy antique stock. Published by Ducks Unlimited, Inc., 342 Madison Avenue, New York 17, N. Y. Price $15.

In "Prairie Wings," Edgar M. Queeny and Richard E. Bishop have collaborated to produce a work of superlative pictorial excellence. The photographs of waterfowl reproduced in its pages represent the very finest of 60,000 action pictures made by Mr. Queeny over a period of five years; while Mr. Bishop's accompanying explanatory sketches reveal this famed wildfowl painter and etcher at his best.

Mr. Queeny is not a professional photographer. He is an outstanding business man, the executive head of one of the country's largest and most successful industrial organizations, yet as a photographer of ducks in motion, he is without a peer. He is a sportsman and a conservationist, but his greatest hobby is superspeed wildfowl photography. He has pursued this hobby with such painstaking and resultful zeal that he has become nationally recognized as the leading exponent of the newest and most effective techniques in this field. He has spared no expense in developing and perfecting special photographic equipment, without which the action shots presented in this book, in which shutter speeds up to 1/2000th of a second were used, would be impossible.

The text supplements the illustrations to present the thrill of duck-shooting, to reveal the secrets of wildfowl aerodynamics (Glen L. Martin and other outstanding aviation authorities have collaborated on the fundamentals of flight) and to present graphic and instructive comment on many phases of wildfowl study.

TAR ON MY HEELS—By Bill Sharpe. 229 pp., 47 photographic illustrations by John Hemmer. Published by The Tar Heels, Winston-Salem, N. C. Price $3.

It's Bill Sharpe's job, as press agent for North Carolina, to know his State and what goes on within its borders. "Tar on My Heels" is a collection of well-written anecdotes and more serious pieces which reveal the nature of the many attractions of the State, together with the history and psychology of its inhabitants. In view of the attention given outdoor recreation, it will appeal especially to the sportsman.

DUMB-BELL AND OTHERS —By John Taintor Foote. 309 plus viii pages. Not illustrated. All the author's famed dog stories in a single volume. Published by D. Appleton-Century Co., 35 W. 32nd St., New York 1, N. Y. Price $3.00.

Dog lovers in general and John Taintor Foote fans in particular will welcome this complete collection of dog stories by a master craftsman in the field of outdoor literature. As a writer on dogs, the author runs second to none. No one has captured more completely the traits which have earned the dog his reputation as man's best friend—his loyalty, his tendency toward mischief, his devotion to those who befriend him—qualities which offer splendid material for tales of pathos, comedy and sheer, stark drama, and Foote has made the most of them.

San Antonio Gets Wildlife Conference

The Twelfth North American Wildlife Conference will be held in San Antonio, Texas, February 3, 4, and 5, 1947, it was announced today by Dr. Ira N. Gabrielson, president of the Wildlife Management Institute. The Eleventh Conference held in New York City last March was attended by more than a thousand conservationists, it was recalled, but now that hundreds of technicians and research men are back on the job from the Armed Forces an even more enthusiastic gathering will meet in the forthcoming Conference.

This is the first time that the annual meeting has been called in the Southwest, Dr. Gabrielson explained, and an unusually large attendance is expected from the Middle West and Western states. Few of the fish and game administrators, technicians, scientists and educators from the United States, Canada and Mexico will miss this 3-day meeting at the Plaza Hotel in San Antonio since they all realize the importance of hearing the reports on recent developments in field techniques and the discussion of future plans for restoration of natural resources throughout North America.

There is especial need for the coming Conference, Dr. Gabrielson pointed out, to coordinate the efforts of all agencies and groups in the replenishment of the renewable resources diminished by years of war. The state and federal conservation officials depend upon this annual Conference sponsored by the Wildlife Management Institute to observe the trend of affairs throughout the country. Dr. Gabrielson stated that adequate hotel accommodations have been reserved for the 1947 Conference.

Rabbit Fever

★ *Continued from page 7*

germs, and should not be allowed to come in contact with the hands of the nurse. Dressings removed from the wounds should be burned.

When thoroughly cooked, rabbit meat is harmless as food, even though the rabbit has been infected with tularemia. It has been learned that a temperature of 133 degrees Fahrenheit kills the germs. The *main danger lies in handling and cutting the rabbit.* A small break in the human skin, caused by a rabbit bone, or careless handling of a knife, while dressing an infected rabbit or preparing it for cooking, is sufficient to allow the infection to enter the blood stream, and should be promptly treated with a reliable disinfectant.

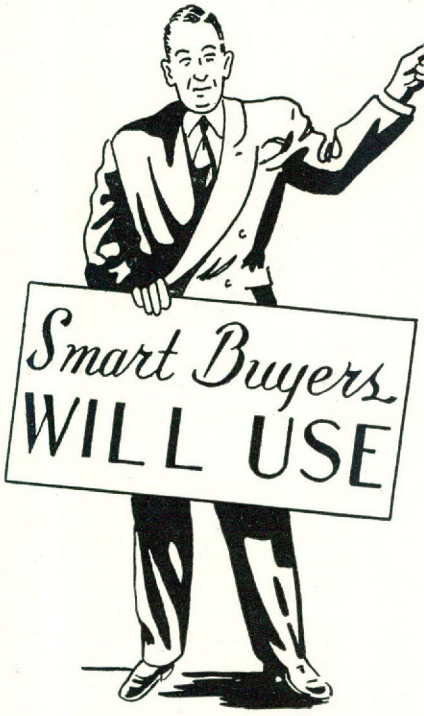
If, while dressing a wild rabbit, you notice small, white or grayish spots on the liver, the carcass should be burned immediately, or buried deep in the earth—those spots on the liver, very probably, are tularemia abscesses. Market inspection for rabbits infected with tularemia is impracticable, since very few livers are left in rabbits prepared for the market. Therefore, those who obtain rabbits from the market, should handle them very carefully, when preparing them for cooking.

Rabbits kept in cold storage are not necessarily free from tularemic infection, since it has been found that infected rabbits kept in cold storage at a temperature just above freezing, may retain the infection for as long as three months.

An excellent precaution for those who dress rabbits, is to wear rubber gloves during all of the handling process. Since one attack of tularemia affords lifelong protection against the disease, those who are thus immune should be employed, if possible, to dress rabbits.

Never dress or prepare for cooking, a rabbit which has run so slowly that it was clubbed to death. Many men and boys consider it a feat of prowess—a demonstration of remarkable speed—when they have run down and killed a rabbit. They need not feel so vain over the accomplishment—since it could not possibly be done with any but a sick rabbit; a well one can outrun any human being. Rabbits sick with tularemia, can run for only a short distance—they run slowly, and as the disease progresses, finally are unable to run at all. Tularemia is always fatal to rabbits.

HOW TO *HIT THE BULL'S-EYE!*



It doesn't cost a fortune to tap the Texas market, one of the richest in the nation.

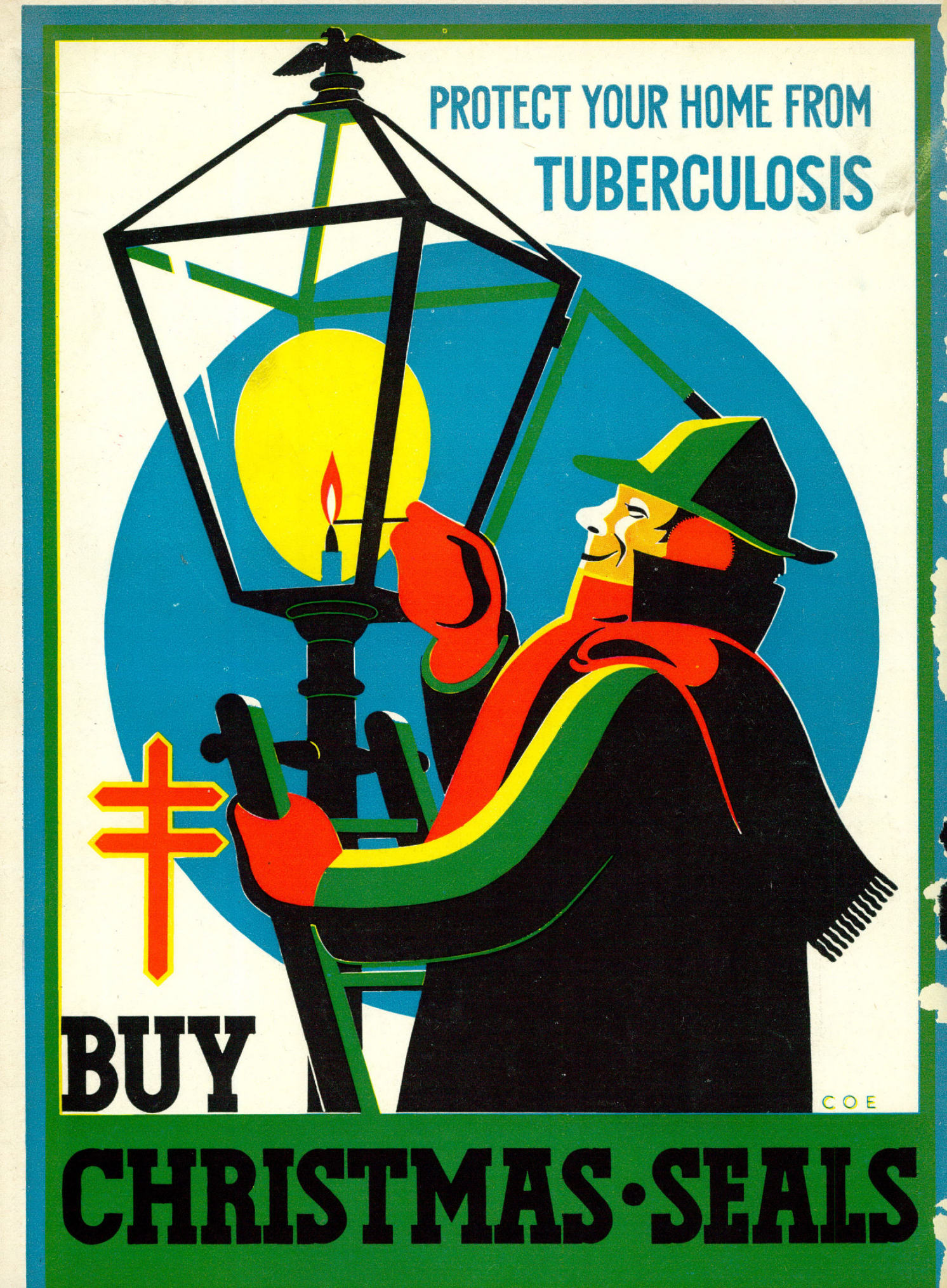
Buy TEXAS GAME and FISH and find out for yourself what a great selling job TEXAS GAME and FISH can do for you in Texas.

For rates and space availabilities, write or wire TEXAS GAME and FISH, Walton Building, Austin, Texas.

TEXAS GAME AND FISH

"The Voice of Texas Sportsmen"

Walton Bldg. ★ Austin, Texas


PROTECT YOUR HOME FROM
TUBERCULOSIS
BUY
COE
CHRISTMAS·SEALS