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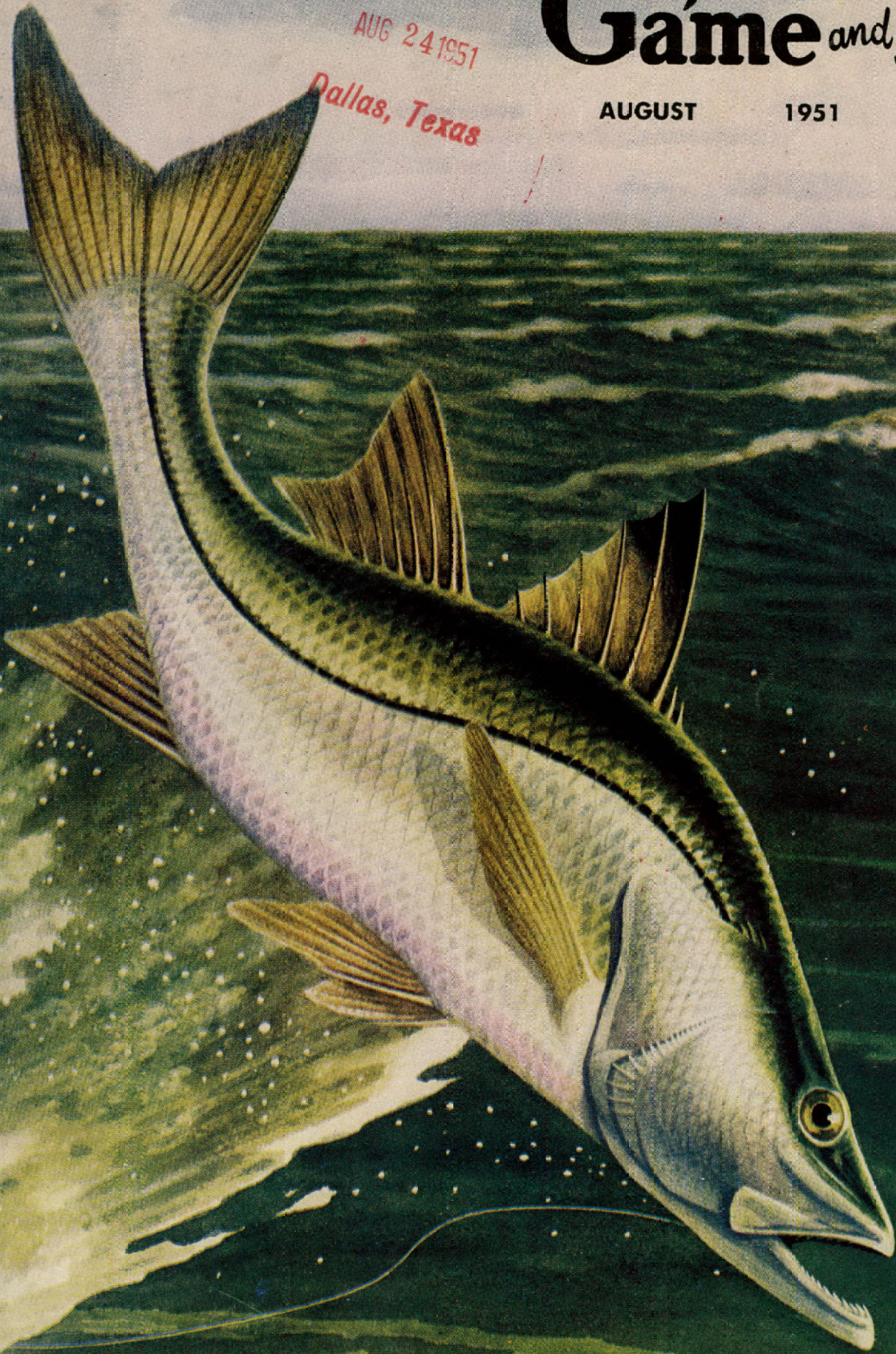
Dallas, Texas

# Texas Game and Fish

AUGUST

1951

TEN CENTS



**SPIRIT OF AUDUBON**—This sister team is helping to enhance national understanding of nature study, through Audubon camps. They are Misses Ruth and Marian Martin, of Thibedaux, Louisiana, and students at the 1951 Texas Audubon camp at Kerrville. The opening six pages of this magazine are designed to indicate reasons for a liberal grass-roots renaissance.



# 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.

★

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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.

★

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


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### The Cover



For those who are fond of fishing the passes, the snook, as portrayed on this month's cover by Orville O. Rice, is the favorite quarry. The snook is an energetic saltwater roughneck that goes about breaking tackle on a large scale. Its willingness to slam into artificial lures makes it a favorite of the bait caster, and the force of its strike usually jolts the angler into realizing that he has a battle on his hands. While it does not have teeth, care should be taken in landing one of these scrappers for each gill cover has a knifelike edge. Other common names for the snook are sergeant, ravallia, robalo, and saltwater pike.



The humming bird jar is inspected by, left to right: Miss Allena Armentrout, Sealy, Texas; Miss Margaret Rosser, Arlington; Mrs. James T. Wright, Beaumont; Miss Eleanor Clark, Port O'Connor; and Alexander Sprunt, Jr., Charleston, N. C., instructor in ornithology.

## *Kerrville Is Key in Nature Research*

By JAY VESSELS

*Assistant Director, Department of Publications*

THE challenge of rationalizing influences to overtake Mankind's mad pace is accelerated each year at fascinating Kerrville in Texas' famed Hill Country.

Here, where eastern and western forms of plant and animal life overlap, professional teachers, librarians, secretaries, ministers, physicians, writers and many others gather for personal enlightenment and advancement.

But their primary objective is more

sweeping; far more unselfish. It is formally set out:

"To show how wiser use of our natural resources contributed to human welfare—to provide a wealth of rich experiences in the out-of-doors—to demonstrate the best methods of good teaching and group leadership—to reveal the fascinating web of life; the interrelationships between wildlife, plants, soil and water."

Certainly, the Audubon camp of

Texas, conducted by the National Audubon Society, carries on vigorously and purposefully.

From the far reaches of the country come both instructors and students. Thus, at camp headquarters on the Schreiner Institute campus, a professor from Cornell University, Ithaca, New York, supervises a section attended by folks from Massachusetts, Pennsylvania, New York, as well as Louisiana and Texas.

The head man of the School is Dr. Charles LaMotte, professor of botany, biology department, Texas Agricultural and Mechanical College.

Geologically, the camp area is on the Edwards Plateau, well above the Balcones Escarpment to the south and east. The surface of the area has been eroded into the watersheds of the Medina and Guadalupe rivers, and to the north of Kerrville some 50 miles lies the Llano basin where great granite domes, such as Enchanted Rock, and Granite Mountain dominate the landscape.

The green, well-watered valley of the Guadalupe with its tall trees is in marked contrast to the stunted growth of the neighboring semi-arid hilltops. Ponds, streams, marsh, woodland brush and open grassland afford a variety of natural environment.

Surrounding ranches offer an interesting array of grasses, good and poor, and a chance to see these in relation to grazing. The limestone which underlies much of the region abounds in fossils which tell of ancient seas.

Each day during the summer months, groups from the Camp fan out into the fascinating areas. By stationwagon, by foot or by horseback they penetrate regions containing a veritable storehouse of precious data about the present and the past.

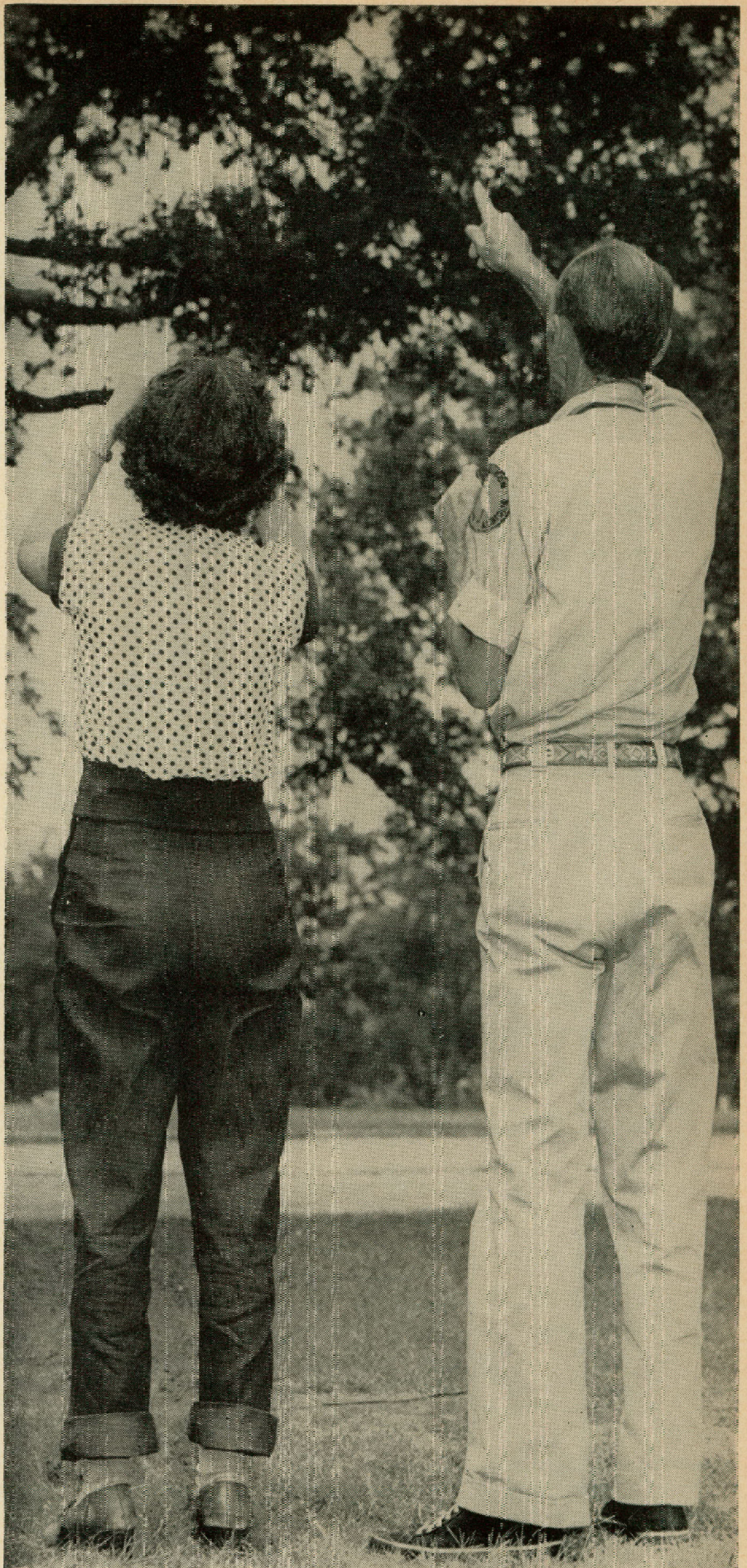
Along the streams in a number of places there are dinosaur tracks that have been exposed by water running over the flat surface of horizontal limestone strata.

Along the ridges and in the fields, the students collect species of wild flowers for laboratory study. The variety is ample, too, since there are roughly 130 kinds of growth, not including country grasses.

Down into the gorges, there's a treasureland of field objectives. Many limestone caves are found in the hills. Some of them are inhabited by great hordes of bats. The Ney Cave, regularly visited on scheduled trips, shelters a population estimated at 30 to 40 million bats.

Through the daily field trips, camp-

Dr. Sprunt indicates a point of interest in conducting one of his classes around Schreiner Institute grounds.





Dr. Clark Hubbs, left, of the University of Texas department of zoology, discusses "vertebrates" with, left to right, Miss Luta E. Buchanan, Houston; Miss Katrina Thompson, Houston, and Mrs. Ruby Lackey, Uvalde. Wayne Boyle, below, Cornell University department of entomology, instructor in "invertebrates," holds a great swallow-tailed butterfly, in conducting a class with left to right, Mrs. Ella Benjamin, Mamaroneck, N. Y.; Miss Mary Carter, Edgewood, Texas, and Mrs. Evelyn Wilkie, Dallas.



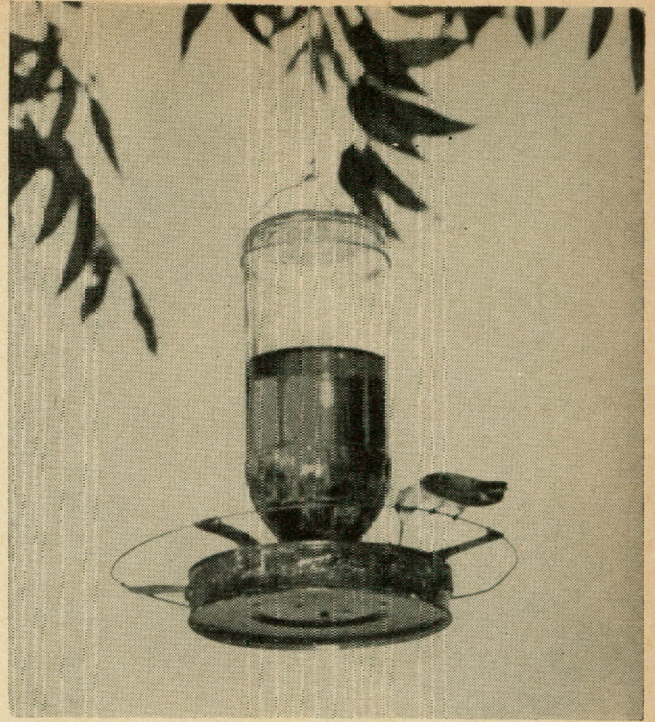
ers become well acquainted with life in a variety of natural habitats; pond, marsh, stream, field and forest. They observe birds, mammals, reptiles, frogs, toads, salamanders, fish, insects and other animals, as well as plants characteristic of each area.

First hand experience therefore develops an appreciation of the interdependence of living things and their relation to the soil and water of their habitat. Practical conservation measures for our natural resources are stressed.

Campers learn about stars, weather, rocks and minerals and develop skill in nature crafts and projects.

One practical advantage of this versatile program is that campers may obtain college credit by enrolling with the Division of Extension, University of Texas, for a senior-level course entitled Nature Education.

Down the hatch—for humming birds. A jar of sweetened, colored water beckons the humming birds from near and far. As many as six appear at the receptacle at the same time. Here one digs his beak into the tiny slot in the cup for a long, sweet, cooling drink. Chow time at Schreiner Institute, below, was ably met by the kitchen staff with generous portions of black-eyed peas, two kinds of meat, squash, mashed potatoes, string beans, salad, hot biscuits, cornbread, and other assorted tasty dishes.



# An Audubon Gallery

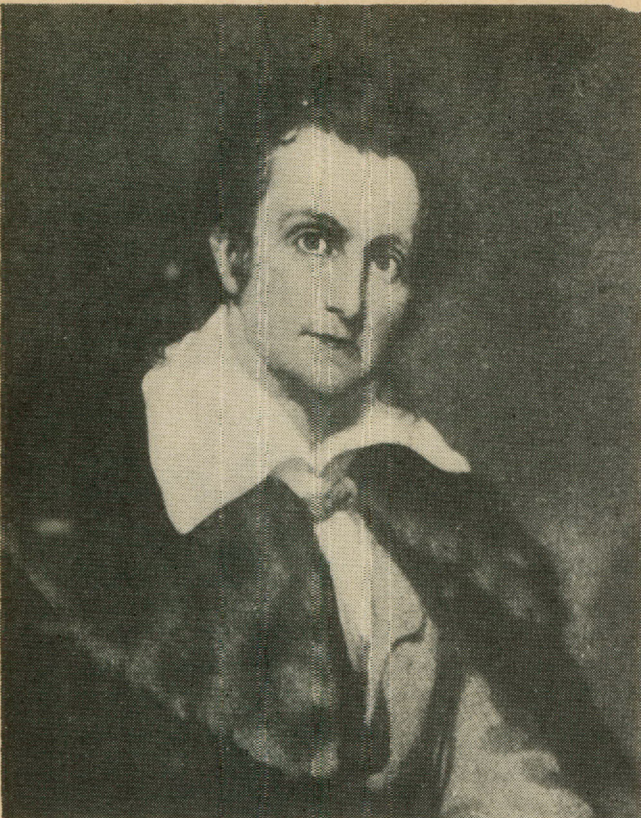
EVERYONE is familiar with the fact that Audubon painted birds, but not everyone knows that during his lifetime he painted many other pictures also. This gallery of Texas wildlife is from two of his books, the great "Birds of America," and another less well known, "The Quadrupeds of America." Many of these paintings were from actual Texas animals or birds.

By J. L. BAUGHMAN

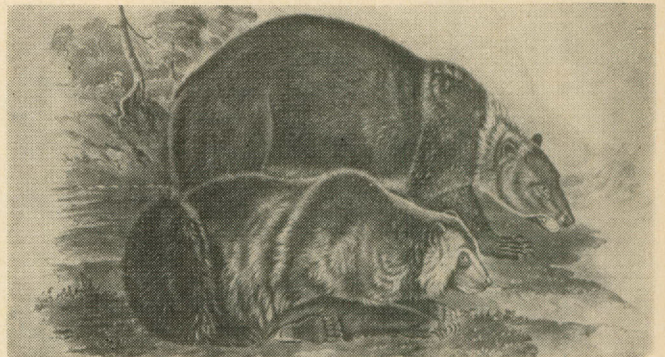
Some of them, particularly among the animal paintings, were made by J. W. Audubon, the son of the great naturalist.

As ornithologists know, John James Audubon died in 1851. Now, national observance is being held in observance of the centenary of his death.

The National Audubon Society and other Audubon organizations are extensively sharing in doing



John James Audubon, the magic of whose brush captured the Texas of almost 150 years ago, and whose bird and animal paintings are treasured possessions of a few of us today. This portrait was by F. Cruickshank.



Audubon was the first naturalist ever to describe the Texas red wolf, above. (Painting by J. W. Audubon.) If you're not a coon hunter, maybe you like to run foxes. Here is a gray male (below) that ought to give you a good chase. (Painting by J. J. Audubon.)

Grizzly bears, once found in the West Texas mountains, today are thought to be extinct in this state. Below, the antelope of our western plains, here shown on the alert for enemies, were almost totally destroyed. Today, there are many of them in the Trans-Pecos, a triumph for good game management. (Both paintings by J. W. Audubon.)



# of Texas Wildlife

honor to the great artist and naturalist.

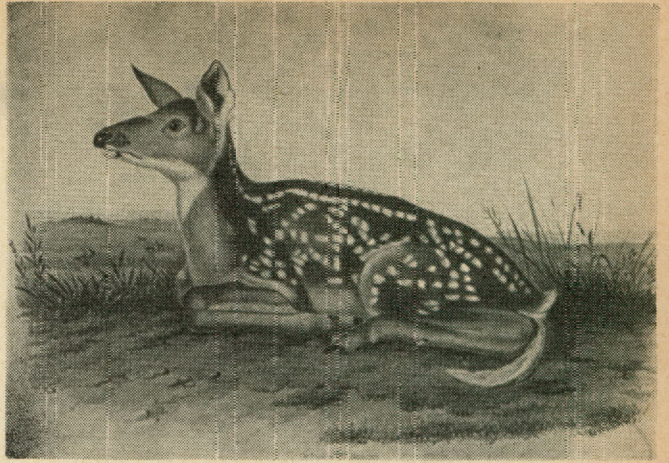
Audubon's greatest achievement was the successful completion of the monumental task to which he dedicated his life—painting 1065 birds of 489 species in 435 separate paintings.

This was no easy task in Audubon's time. There were no photographs nor mounted specimens to guide him. He traversed the wilds from Labrador

*Chief Marine Biologist*

to Louisiana and the Florida keys, and from Pennsylvania to Texas, enduring the hardships of primitive travel to paint his birds in their natural habitats.

Audubon lived in the pioneer era when the nation's natural resources seemed limitless. Yet, he realized even then that the wanton destruction of mammals and birds which he encountered everywhere could not last many more years. Then, in 1886, when an organization was formed "for the protection of American birds not used for food," it was only natural that it be given the name of the Audubon Society.



This appealing youngster and thousands more like him have helped to keep America's deer population large. Today Texas probably has as many deer, if not more, than ever before. (Painting by J. W. Audubon.)

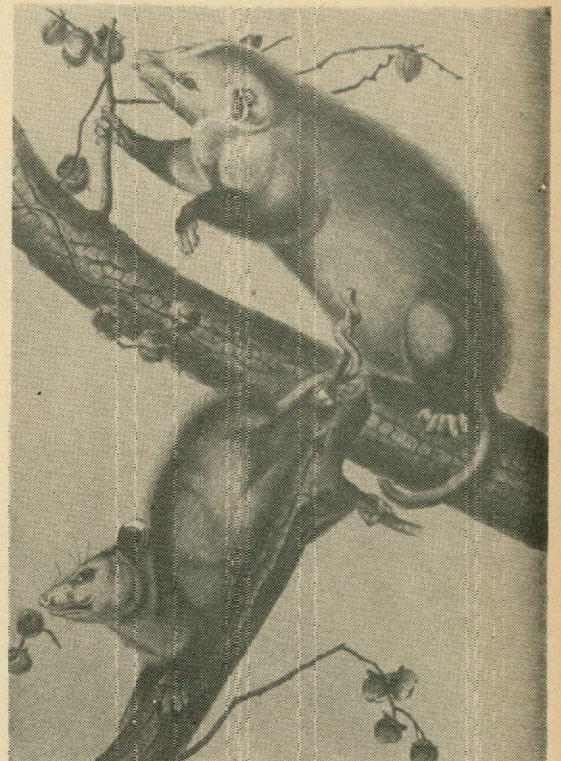


Mountain lions were found over a large portion of our state during Audubon's time. Today they are generally confined to the southern part of Texas. (Painting by J. W. Audubon.)

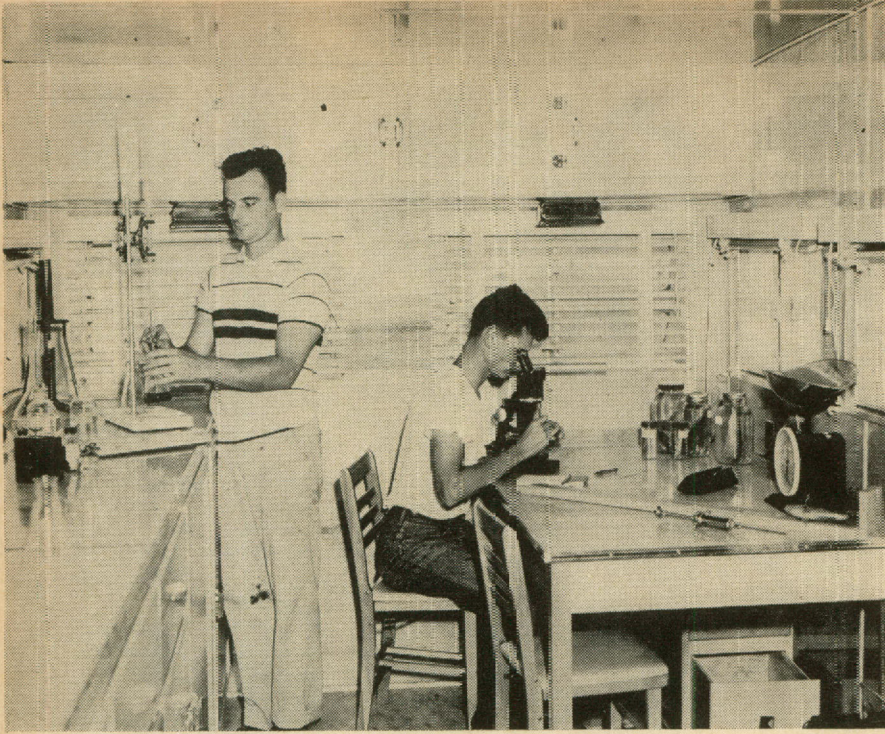


Nothing was too great or too small in the bird or animal line to escape Audubon's brush. To the left, is the ring-tailed cat so common over much of Texas. (Painting by J. W. Audubon.)

And then, of course, there's always 'possum and sweet potatoes. Audubon ate armadillo, but history does not record how he stood on the 'possum question. (Painting by J. J. Audubon.)



# Biologists



THE private life of fishes in Texas streams is about to be exposed.

Aquatic biologists of the Game, Fish and Oyster Commission have begun a stream survey designed to ultimately include every stream and river in the state.

From the studies, the scientists expect to improve fish life in the areas

By JAY VESSELS

which provide sport for millions of Texans.

The new undertaking is patterned after studies begun in 1939 in the larger lakes and reservoirs.

From these investigations, technicians have determined the status of game fish species with relation to forage and rough fish and other phases preliminary to improving fishing conditions.

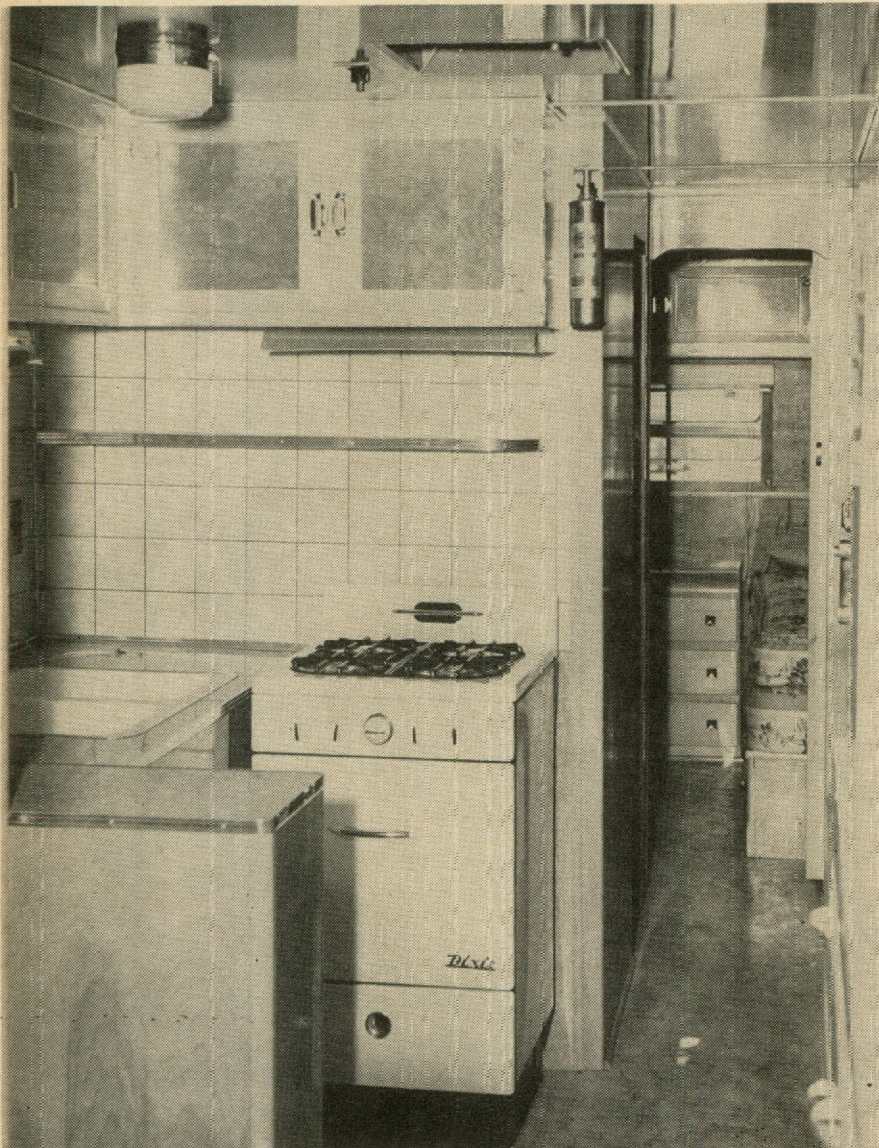
The stream survey program, which will last years and will extend to all parts of the state, was begun in the headwaters of the Guadalupe river, around Ingram. The North and South and Johnson forks of that river merge near Ingram.

Marion Toole, chief aquatic biologist of the Commission, said the rambling Guadalupe was chosen because a limited survey of its headwaters was made in 1940. Thus, the scientists will be able to determine changes in the river over the eleven-year period.

The investigation of this one river probably will take a year or longer. Each watershed will be worked over twice to complete the studies. One study will be in winter and the other in summer.

The first stream survey crew comprises two young technicians, Robert Kuene and Lawrence Campbell. They

In their portable laboratory Aquatic Biologists Larry Campbell and Robert Kuehne study material gathered from the Guadalupe River. Their trailer living quarters are shown below.



# Begin Stream Survey

are equipped with a special trailer, towed with a pickup truck. The trailer includes a well-equipped laboratory and living quarters for the two men.

The trailer is 32 feet long and eight feet wide.

"This mobile equipment is necessary," said Toole, "because the crew will have to start at the headwaters of

the growth rates of various species under certain conditions."

Toole said the progress made in the lake studies reflects the importance of the stream surveys, and the opportunity to develop an attack pattern for

every Texas watershed.

"It is going to take some time," he concluded, "but we are confident the effort will be justified and in the end, that even better fishing will be provided Texas sportsmen."

*Assistant Director, Department of Publications*

the streams and work down the watershed to the Gulf.

"The separate winter and summer studies will provide two different pictures of the fish life and the aquatic plants, as they exist in the warm and in the cold seasons.

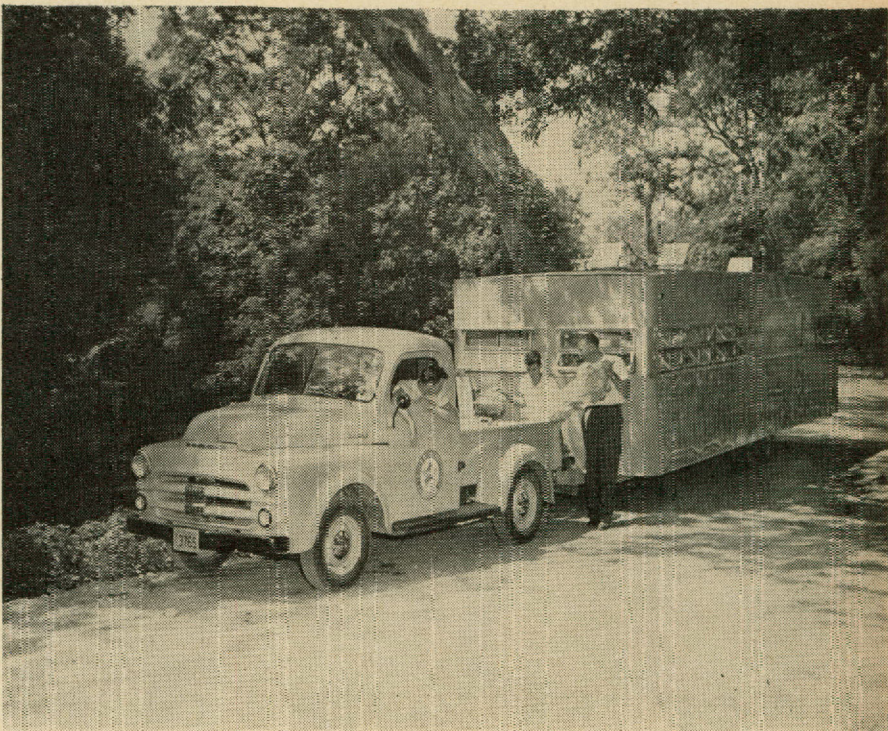
"Besides studying the fish species, to determine the kinds present, their condition, and abundance, the men also will study the environment, checking on plant life and make a chemical analysis of the waters in various areas.

"They will look for hidden sources of pollution and determine how land use is affecting productivity of the stream. Then, management practices will be adopted to improve fishing conditions."

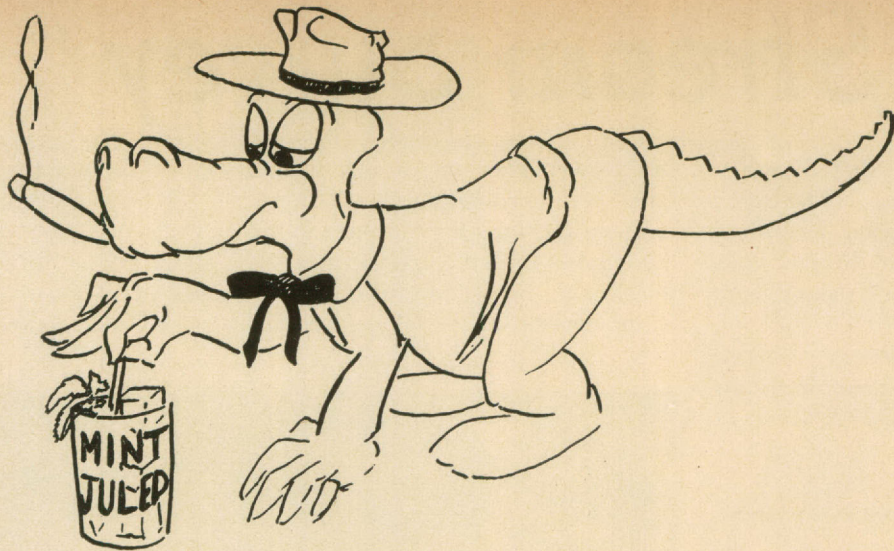
Toole said the Commission had been working on the larger lakes since 1939, but with a limited staff in the beginning. Now, the field force has been increased to eight biologists.

"The bulk of the work on the lakes is inventory work," said Toole. "We find out what shape the lakes are in. Then, management practices are applied as they go along. Brush shelters are placed for the fish and rough fish are ordered removed.

"In trying to establish the fish population, the field men do a great deal of fish tagging to obtain data on



On location somewhere along the Guadalupe, Campbell (left) and Kuehne seine for aquatic specimens. Below, enroute to a new site, they are briefed by Marion Toole (right) chief aquatic biologist for the Game, Fish and Oyster Commission.



# Mr. Alligator, Suh!

By T. D. CARROLL

Supervisor of Conservation Education

THE Dixiecrats, Southern Colonels, Senator Claghorn, and the rest of the "rebels" will have to go mighty far before we find a truer Southerner than *Alligator mississippiensis*. Here is one of the South's oldest native sons. He ranges from North Carolina to the Rio Grande, and that's the only place you'll find him living of his own accord.

Our southern alligators have as their nearest living relative a first cousin *Alligator sinensis* that lives in the Yangtze River area of China. Both of these alligators resemble the crocodiles and evidence indicates that they evolved from crocodylian lineage.

The alligator is a peculiar sort of a fellow; he carries his suitcase, packed with—himself wherever he goes, but he never travels very far from home; and when winter comes and the days are cold, he goes out of circulation completely. Let the warm sunshine and spring rains of March and April roll

around and Mr. A. shakes himself out of his winter lethargy and takes out on a foraging spree that would make a half-ton Poland China look like a mockingbird. Ol' Man 'Gator is out after his own particular choice of ham hocks, corn pone, turnip greens and he's not too particular. He will eat anything that walks, swims, crawls, or flies, if he can catch it and tear it into small enough pieces for him to swallow.

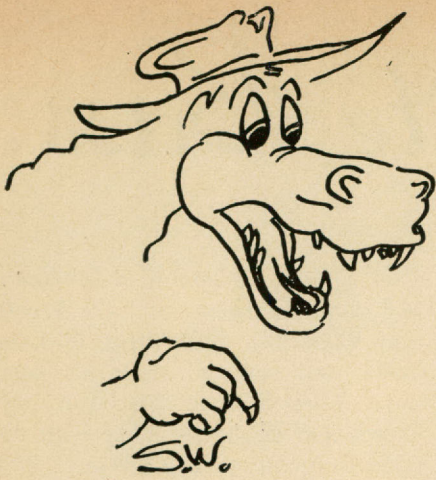
With his appetite satisfied, spring takes on a new meaning for old "fire-eyes" and his thoughts, like those of other young men, turn to romance. He usually finds a mate who—since she has no hope of doing better—will tolerate Mr. Gruesome for a while. Fire-eyes doesn't prove to be the kind of a husband that women go wild over, for he leaves home as soon as mama starts building her nest in preparation for the patter of little tails that Dr. Nature has told her is sure to come.

Poor Mrs. Alligator—It's her

problem to figure out how to "set" on forty or fifty future "juniors" for the eight or nine weeks it's going to take them to become worldly creatures. Mrs. Nature comes to the rescue and tells her that moisture and decomposing vegetation are wonderful providers of the incubation heat that is going to be needed for the next few weeks. Mama takes this advice and defies the wise counsel of sages by laying all her eggs in one basket lined with an odd assortment of grasses, muds, reeds, twigs and all the other comforts of home. Sure enough, after Mama has sat around twiddling her digits for about nine weeks, she hears her first offspring calling for a drink of water—or whatever it is that little alligators call for. She tears the top out of their home-made "Kiddiecoop" and lets them have their first peek at the South—I say, son, the South, that is.

All that Mama has to do now is ride herd on this mob for about a year. The little fellows scamper

## ONE OF THE SOUTH'S OLDEST NATIVE SONS



around eating crabs, spiders, insects, crayfish, shrimp, and just any old thing they can find, while Mama stays close at hand to ward off the 'coons, 'possums, turtles, alligator gars, hawks, and the other ruffians that would relish the idea of a good 'gator steak.

Some of these nine-inch children might grow up to be nineteen or twenty feet long—if they live that long. Of course, the little girls will have to be satisfied to be cute, pert, delicate little specimens about half that size.

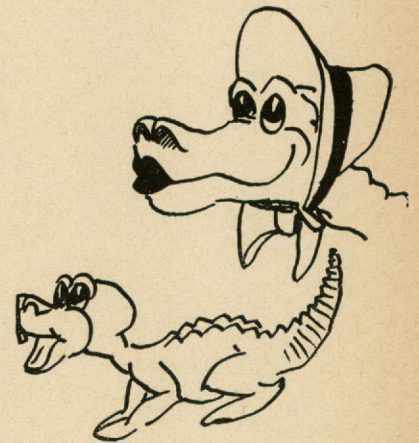
Unaware of the heavenly bliss that his former wife is enjoying, Mr. Alligator has, in the course of his gallivanting, been completely blinded; not by stardust, blue eyes, or a shapely limb, but by the "bull's eye" lamp of some hard-working

night hunter. In due time, papa turns up as a beautiful piece of luggage, two pairs of shoes, and four billfolds. Pierre now sports two of the late Mr. A's shiny white teeth on the end of his Ingersoll chain.

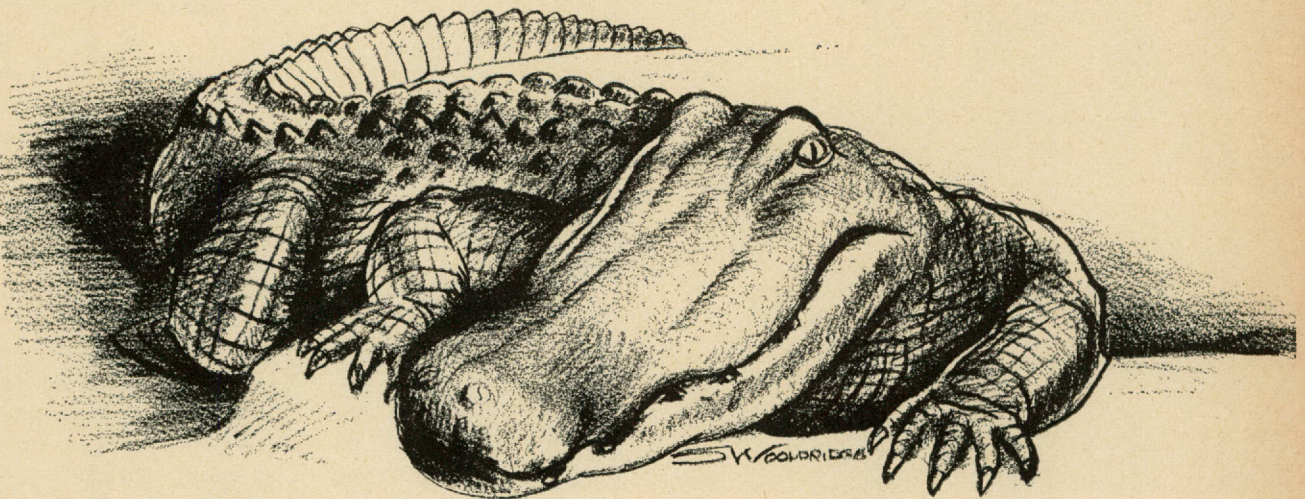
In the progress of time, the happy family of the former Mr. A has reached the size when it has turned the tables on the turtles, 'coons, and gars, and is getting plenty of sweet revenge. The youngsters pick up a large-mouthed bass, a muskrat, a rail, or a duck every now and then, but they are so concerned with giving the gars, snakes, and turtles a hard time that they don't have too much time to chase or stalk their more agile and wary neighbors. About all they have to worry about now is man. Man has drained so many of their marshes and slaughtered so many of their kind that their future doesn't look too promising. Then, too, man has told so many "tall tales" about the alligator that he has just about convinced himself that the alligator is a vicious monster that attacks man every chance he gets. Check up and I'm sure you will find that in ninety-nine cases out of a hundred when man was attacked by an alligator, man was the real provoker. Usually these "attacks" are just Mama's way of telling men to "get the heck out her boudoir," which is any lady's privilege.

Do you know, fellow Southerner, we've done very little to help out this brother rebel. If we're not careful, we'll find him going the way of the passenger pigeon, heath hen, and some other vanished Americans. If he goes, we've lost a part of the South. If he goes, it will be an insult to the integrity and intelligence of all of us—because we didn't know, or didn't care.

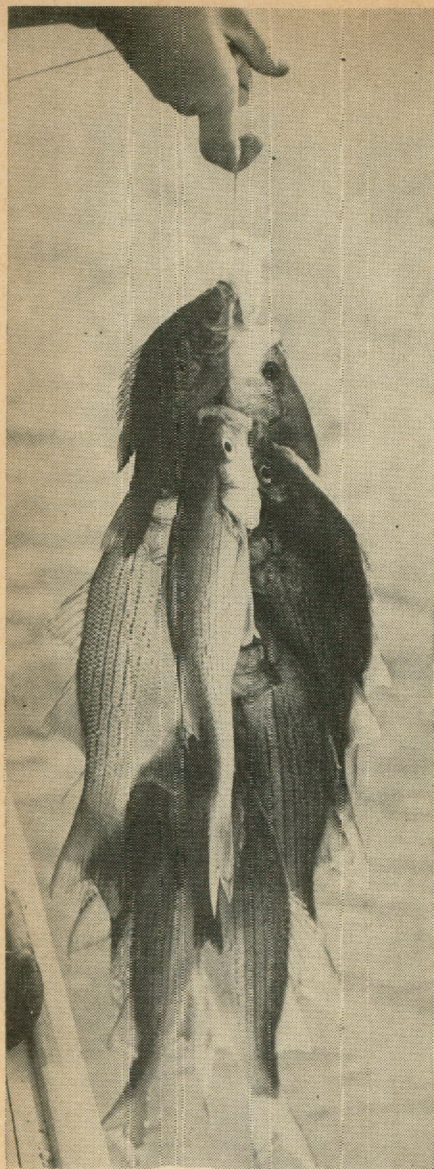
You can help, Mr. Sportsman. The next time you're fishing those "burns" in Louisiana, the bayous of Texas, or the lakes of Georgia, Alabama or Florida, and have the



urge to take a shot at an alligator, think a minute—Here's a Southerner who's been here longer than you have and one who is going to stay here if you give him a chance. Then, too, do you need that hide as bad as the 'gator does?



# White Bass..



THE planting of the white bass in Lake Dallas set off a controversy that has lasted until the present time, and it appears to be gaining momentum to run for many more years.

Until 1932 the only lake in Texas in which white bass were known was Caddo. That year J. A. Wilkerson, then superintendent of the Dallas State Fish Hatchery brought thirteen brood white bass to the Dallas hatchery and then transplanted them in Lake Dallas.

From these thirteen brood fish and a few more which have been taken from Caddo Lake has come enough fish to stock many other huge lakes.

The success of this planting was remarkable in that they became the major species taken by fishermen in about three years. There was no law to control the size and bag limit since the species was known only in Caddo Lake where it was not regarded with sufficient importance to deserve special legislation. The popularity of the white bass was spread rapidly until in

1937 a group of interested fishermen and camp operators of Lake Worth and Eagle Mt. Lake went to Lake Dallas and obtained about 85 specimens. These fish were placed in Lake Worth and Eagle Mt. Lake with the majority going to Lake Worth. The waters of Eagle Mt. Lake proved to

By LEONARD LAMB

be more suited to the needs of the white bass and their development was more rapid in this lake.

The white bass was received happily by the fishermen as soon as they discovered that the schooling habits of this species made him available to them throughout the year. The spawning habits also renders the white bass vulnerable to the anglers. They move out of the lake in the early spring and go into the streams where they spawn in shallow water on gravel or sand bars. This spawning migration concentrates the white bass in certain streams where the angler can catch them in almost unbelievable numbers. These two factors coupled with the fact that this species will strike a variety of lures has helped them attain a following among the fishing fraternity.

The white bass will not win the piscatorial popularity contest in the Lake Worth-Eagle Mt. area without opposition. There will be many voters who favor elimination of the entire species. This opposition stems from several factors. There are people who hold that the white bass kills out crappie and black bass. The accuracy of this statement is open to question. That the white bass takes some young crappie and black bass cannot be denied but the percentage is low. The major food found in this species, taken from Eagle Mt. and Lake Worth, was found to be shad with minnows and insects completing the bulk of the diet.



The size of the white bass (upper photo) in this string refutes the claim that they do not attain a desirable size. This yellow catfish (below) was taken from the river below Eagle Mt. Dam and is one of many such fish taken from that area. The presence of white bass presumably did not harm the yellow catfish.

# FRIEND OR FOE?

Young white bass appeared in the diet as often as did young crappie or black bass. There can be no doubt that the white bass is a competitor for food with the other fish eating species, but this is offset by the fact that they act as a control on the shad that can also be a limiting factor in bass and crap-

## Aquatic Biologist

pie populations. The shad, both young and adult, feed to a large extent on the same food as does the young bass and crappie. The result of this competition is starvation for the young game fish before they are old enough to start taking fish. The white bass travel in schools and attack schools of shad in the open water where crappie and bass seldom feed thus utilizing a shad population that might escape the attention of the bass and crappie population.

The suitability of the white bass for food is questioned by some persons who profess to dislike this species. They claim that the odor experienced when cooking white bass is offensive to an unbearable degree and that the flesh is unpalatable. These statements have not been substantiated in the experience of the writer. There have been occasions when people, who were rather positive in their aversion for white bass, were fed the flesh of this species without their knowing that it was white bass and pronounced it wholesome. The prejudice in most cases is based on hearsay and not on actual experience. People are prone to accept the opinions of persons whom they recognize as authorities without sufficient experiment on the part of themselves. This factor has been largely responsible for the feeling that white bass are not a desirable food fish. There is one objection to white bass that the writer has been unable to disprove to his satisfaction. That is the contention that young white bass are minnow stealers. The minnow

fishermen consider the young of this species a nuisance and they are doubtless correct. This statement could also be applied to the young of almost any other species that take minnows. The young are often too small to take the hook but can seize the minnow and tear it from the hook. There is a tendency on the part of the local anglers to blame all minnow thefts on the white bass, thus making this species serve as a whipping boy for other species that are often just as guilty.

The case for the white bass rests largely upon their availability to the angler, a point which is easily proven.

The photographs accompanying this article were obtained from the various camps on Eagle Mt. Lake and Lake Worth and were selected from a large number because of their clearness and ability to reprint. The pictures used represent a very small percentage of the total photographs and did not represent any appreciable percentage of the fish taken of the various species. The take of fish of all game species except bream has been good and bream are not taken largely because they are not fished for. The anglers prefer to try for the larger species and as long as black bass, crappie, and white bass may be taken in sufficient quantities, there will be few fishermen trying to take bream. The infrequent strings of bream are of sufficient size to indicate that this fish is present in some quantity but the lack of popularity results in their being caught rather infrequently.



Barbara Ann Trammel poses with the black bass her father, V. W. Trammel, Azle, Texas, caught from Eagle Mt. Lake in 1948. This supports the theory that white bass do not kill out the black bass populations.



These two strings of fish are representative of the catches made below the Eagle Mt. Dam when the gates are open.



# TEXAS NATURAL HISTORY—

## PART I.

ONE hundred years ago John Bartlett, U. S. Boundary Commissioner, made the trip from Indianola to El Paso by wagon train. Later he returned, via Mexico, through Ringgold barracks (the present Rio Grande City) to Corpus Christi, and then to Pass Cavalla, from whence he took a steamer to New Orleans. During the course of his travels he made many observations on the natural history of Texas. These are extremely interesting, serving as a basis of comparison for conditions today.

Bartlett left Indianola on September 5, 1850, en route for Victoria. He says:

"Immediately on leaving the shores of the bay, we entered a fine level prairie . . . The prairie fowl, the great curlew, and flocks of quail arose as we moved along . . . When but a few miles from town, we began to observe herds of deer a short distance from

the road, grazing among the innumerable cattle which dotted the plain in every direction."

Reaching Victoria, the train paused for a while about six miles outside town, on the Colette, a branch of the Guadeloupe. The river was about 150 feet wide, and near the camp about five feet deep and very sluggish. Here Bartlett saw many fine fish, "among them the kind known as 'buffalo fish'; but it would not take the hook. The largest ones seemed fond of lying near the surface of the water, which enabled us to shoot them with a rifle. They proved excellent eating."

The river bottoms were well wooded with oaks, pecans, and huck-berries, and peach trees and figs flourished in Victoria.

There was little game, only a few quail, and the prairie fowl which were so abundant on the great plain between Indianola and Victoria had entirely disappeared.

Between Victoria and Comanche

Creek the Bartlett narrative makes no mention of any birds or animals, although there are numerous references to the botany of the area through which the party was passing. At Comanche Creek, however, where the

By J. L. BAUGHMAN

wagon train camped, "in one pool not exceeding sixty feet in length and eighteen inches in depth," they saw "a number of mullet from ten to fourteen inches long, and several gar-pike about two feet in length. There were no small fish in the pool, the gars having doubtless devoured them."

Between Camp Creek and Brady's Creek, they encountered a colony "of the misnamed 'prairie dogs,' which extended in every direction as far as the eye could reach. The ground occupied . . . was distinctly marked by the shortness of the grass, which these little creatures feed on, as well as by their hillocks, some of which contain two or three cart-loads of earth, brought up by them from their excavated dwellings. We tried in vain to get one of them as a specimen, dead or alive. At least twenty shots were fired at them . . . but they either dodged at the flash, or, if shot, fell into their holes, at the mouths of which they invariably sat . . . In one instance I saw a rattlesnake enter one of the habitations . . . Small brown owls flitted about, and lit on the little



One-hundred years ago, John Bartlett took a wagon train across Texas engaged in making a survey of the Texas-Mexican boundary. An artist accompanied the train and this is his drawing of the first prairie-dog town that they saw near Brady's Creek.

U. S. BOUNDARY C



# One Hundred Years Ago

hillocks in the midst of the prairie dogs, with which they seemed to be on good terms." This town extended on either side of Brady's Creek for almost two days' travel.

At Brady's Creek, quail were abun-

## Chief Marine Biologist

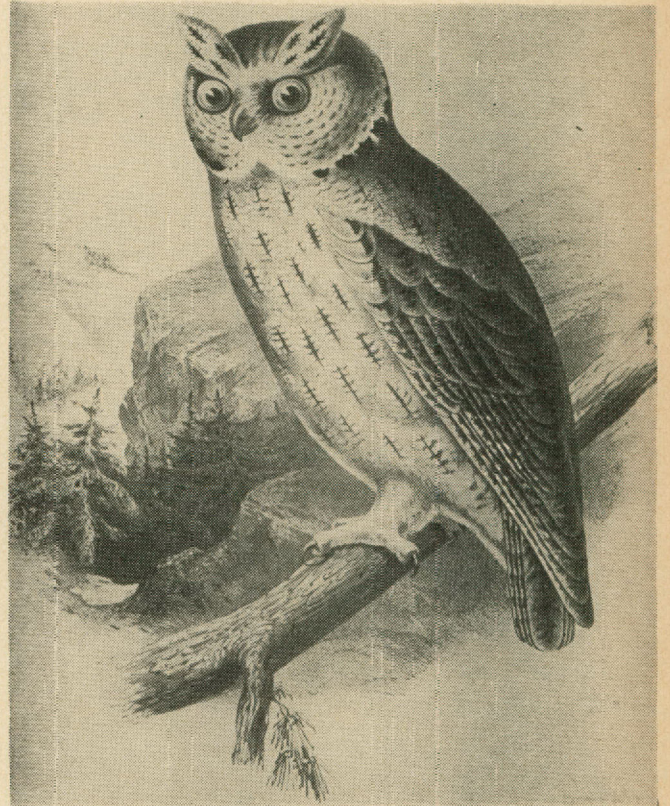
dant and Bartlett notes that at Antelope Creek he had seen more dog towns, with the same interlopers, i.e., rattlesnakes and owls. Jackrabbits had become fairly common and, on October 23 the party saw flocks of plover on the barren hills along their path.

The next day the train camped on Good Spring Creek, a stream of clear, cold water, where the grass was good. "The stream looked so inviting, that the fishing tackle was got out, and some twenty-five black bass and catfish taken . . . A few ducks and quails were also shot here."

Green Mounds was the next landmark after leaving the creek, and Bartlett says that no animals except wolves, antelope and rabbits were seen during this march. However, soon after they left the mounds a rattlesnake bit one of the horses. At a camp on the Concho, where catfish were supposed to be plentiful they caught none. During the next day's journey they saw great quantities of wild ducks, of which twenty-five were shot, as well as two brant. This was on



They even had northers in those days and Bartlett and his company passed some unpleasant days at Delaware Creek. Not all the work of the artists that accompanied Bartlett and the other members of the Texas-Mexican boundary survey was confined to recording the progress of the survey. They also illustrated many of the birds and animals of the area as this print of the grey or Texan phase of the screech owl will show.



COMMISSIONER MAKES WILDLIFE OBSERVATIONS IN 1850



Crossing the Pecos in those days was a considerable job as this picture of the train at Horse-Head Crossing will show.

October 26, and on the 27th, as they continued along the Concho they killed many more ducks in the pools.

On the 28th the train left the valley of the Concho and headed across country to the Pecos, sixty-five miles distant. "Antelope were seen in great numbers, but so shy, that in the open plain we could not get a shot at them. Colonies of prairie dogs were occasionally observed; and it was evident that other animals found a dwelling place among them. A few rabbits were also seen," as were a couple of prairie fowls, a flock of large curlews, and a few meadowlarks and sparrows. However, bird life was sparse. A dry waterhole was much marked with the tracks of deer (?) and mustangs.

The Pecos was reached on the 29th, and they followed that river until November 5th, seeing only a few blackbirds and sparrows, and two white swans, "which lit on a marshy place." Leaving the Pecos the road pursued a winding course among the hills and across deep ravines. Two colonies of prairie dogs were seen before the encampment was reached on Delaware or Sabine Creek. Here a Texas norther hit, with cold weather and snow. Bartlett went hunting and

got several pairs of ducks before returning to camp to spend "the remainder of the long day in reading Erman's 'Travels in Siberia,' a proper book for the occasion."

No more game was seen until they reached Salt Lake, near the Guadalupe Mountains. This pond was re-

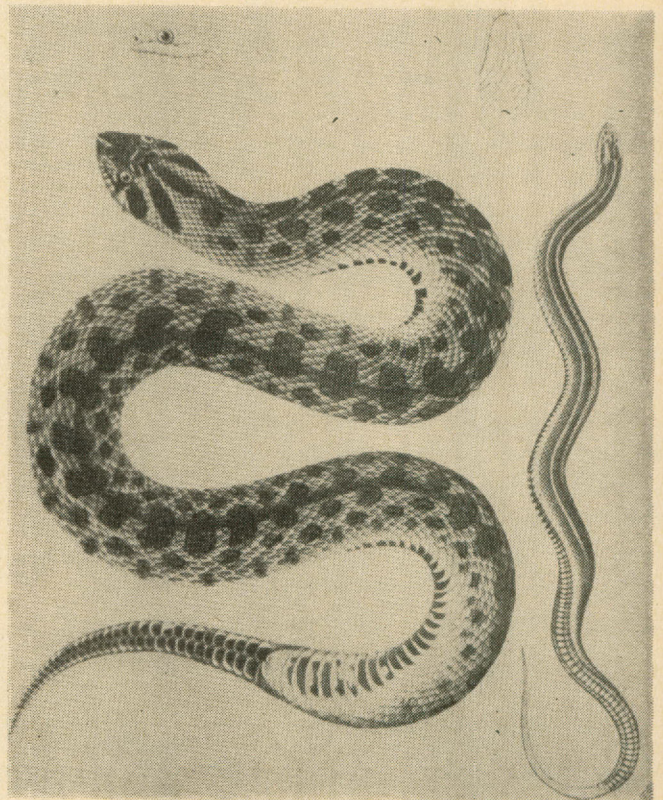
sorted to by wild ducks, plover and other waterfowl in great numbers. Leaving here several dog towns were passed but though Bartlett frequently discusses the appearance of the country and vegetation between this place and El Paso, he makes no mention whatever of any animal life.

Evidently the country was as barren then as it is now, although while the party was in El Paso they visited Waco Mountain and on reaching the great plain east of the mountain found several flocks of quail, "of a different kind from those seen near the Rio Grande. These latter were all gray, like the northern quail; while those on the opposite side of the mountain are the blue, or California quail, with a top-knot on its head."

From El Paso, Bartlett made a round trip to the Pacific Coast. He then started south to Chihuahua in Old Mexico, and from there on to Saltillo, Monterey, and Mire, finally returning to the United States at Ringgold Barracks, or, as we call it, Rio Grande City.



The snake to the right, beautifully drawn, is a young specimen of Clark's water snake; that on the left is the common hog-nosed snake.



## WHITE-FRONTED GEESE

The White-Fronted Goose, *Anser albifrons albifrons*, in some localities is known as the "laughing bird" because of its peculiar cry. It gives a series of rapidly repeated, high-pitched paired notes with a melancholy tone.

Another common name for this species is "grey wavy," the latter word being a corruption of the Indian word "wa-wa" which means wild goose. In Texas, the common names are specklebelly and whitefront.

The whitefront has no equal when it comes to speed and agility on the wing. It can rise almost vertically into the air. When flying, the splashed black and white breast, white tail-coverts and yellow legs are very noticeable if the flight is not too distant. They fly in high V-shaped flocks which closely resemble the Canada Geese. Because of this, the whitefronts are sometimes mistaken for the Canada Geese.

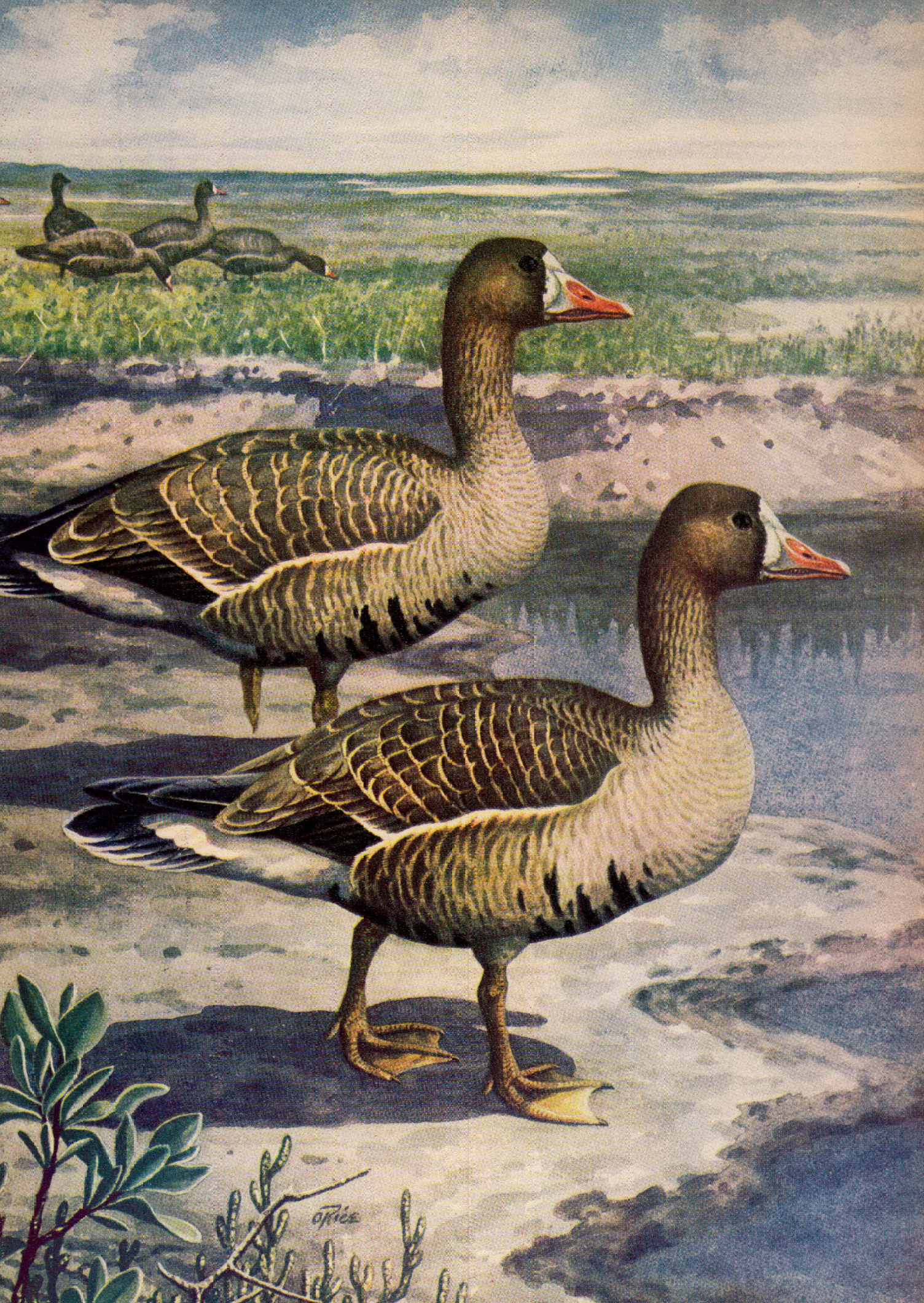
Flocks move north early in March, with April seeing the heaviest flights. These geese breed on the various islands and points on the mainland shores of the Arctic Ocean, on the west coast of Greenland and from Coronation Gulf west to the Yukon delta. When they arrive, the lakes are just beginning to thaw, and there is still much snow on the ground. The geese become more numerous and noisy as the season advances, and the loud cries of the males can be heard everywhere. However, the mating season does not last very long.

The nests are usually located in the open, treeless plains of the arctic regions, sometimes grouped near small bodies of water. They can also be found on upland and mountain slopes. The nests have thin linings of moss or grass on which the first eggs are laid. Then as the hen lays additional eggs, she plucks down and feathers from her breast so that the eggs lie in a soft warm bed when incubation begins. The clutch may have from four to seven eggs, but the usual set has five or six; the period of incubation is 28 days. The male assists the female in protecting and caring for the young.

In some areas, the favorite foods of these geese are waste grain from stubble fields, or the young leaf growth in newly planted grain fields. Pasture lands also attract them as well as marsh grasses and aquatic plants. Common tundra plants and berries from the low-growing plants of wet and boggy areas are eaten in the arctic region.

Texas nimrods watch for the whitefronts in September and October. Besides providing plenty of sport these geese are also highly regarded for their flesh.





office



# Foxes Hunt Him!

By M. H. SPARKS

FOR AWHILE the residents of Brown County viewed askance and with something more than a mild degree of skepticism the weird goings-on in the hinterlands of their county. Day after day the hills reverberated with the shrill oooooooooo emanating from the reed-powered cowhorns of A. L. Lindsey.

But the cynicism reached its peak when Lindsey was asked what he was doing. Calling up foxes, he said. Fortunately, in the two years since he was first suspected of laboring under delusions *Vulpes*, Lindsey has been vindicated. Rather, he has vindicated himself, by calling up hundreds of foxes, a fact which cannot be explained away by coincidence or accident.

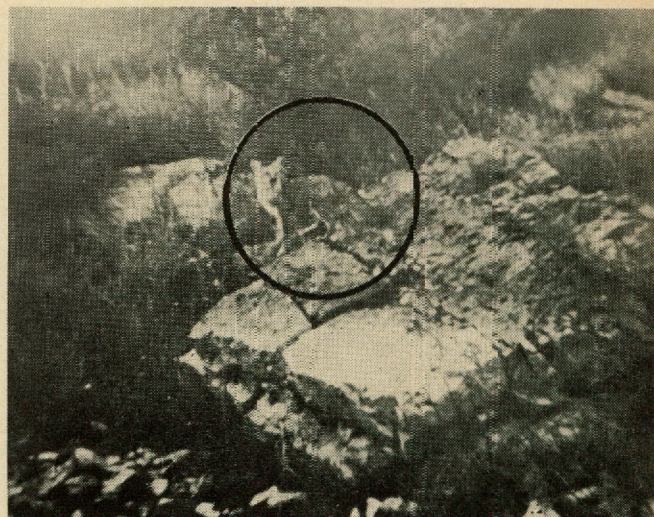
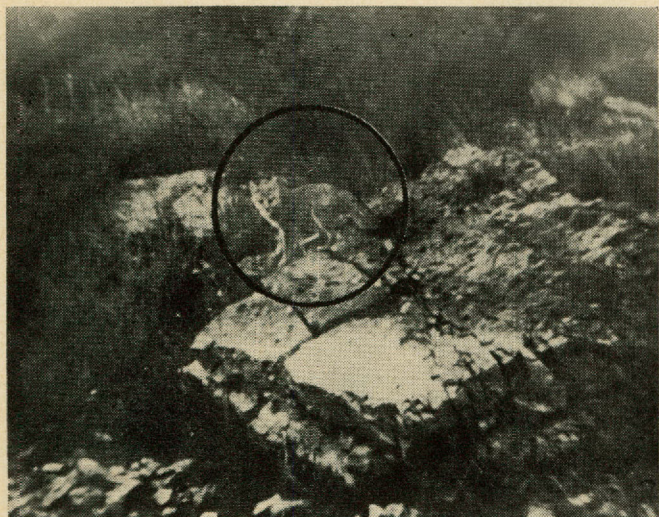
Lindsey recalls the outbreak of rabies among foxes in Henderson County last year, during which several persons were bitten and infected, and much damage done to livestock. He asked, and was granted, permission to

lead an "operation fox." He met in Athens with a group of a hundred hunters, provided each one of them with one of the calls he had made, and instructed them in the use of it. The hunt was staged at night, with the use of headlights, and yielded some seventeen foxes called up. That there were not more was attributed to the inexperience of the hunters in the use of the call, and because many of the foxes had died of their own rabies. It was just prior to that hunt that Lindsey took a justifiably doubting game warden, Mr. Fred Gilliam, a short distance into the country, tooted once on his call, and was rewarded with the immediate approach of a fox.

In the year since the Henderson County hunt, Lindsey has called up well over three hundred foxes. He hastens to point out, however, that he has killed only a small percentage of these, since he does not believe in indiscriminate killing, but is a strong advocate of game preservation.

In developing a call that will lure foxes to him, Lindsey has done much trial-and-error experimenting. He admits now that there were times when he almost gave up his search for a tone and timbre that would work, especially when he considered that such luring just might be impossible under any conditions. The final result is a reed assembly mounted in a cow-horn of about five inches in length. The metal reed is of a size, thickness, and shape to produce a fundamental frequency of about 600 cycles, with the corresponding overtones. The reed is tied to a non-resonant mounting by means of twine wrapping. This assembly is then inserted into the neck of the cow-horn and fixed with an airtight plastic substance.

In practice, Lindsey blows his call in short blasts of three or four seconds duration, with equal periods of silence between. While he blows, he modulates the tone by placing his hand over the open end of the horn, open-



This fox investigates call (left) and becomes suspicious. He barks at concealed caller (right) and runs away upon hearing the shutter click. (Photos by A. L. Lindsey.)



"... conceal yourself, if possible, in brush or a clump of trees." Below, the night air is filled with the weird, fox-attracting sounds of the call. Night hunting works best, since foxes are more active then than during the day.

(Photos by the author.)



ing and closing it, so that the sound emitted is a rising and falling ooooooooooEEEEooooo. With such a sound, Lindsey states, foxes can be called up about seventy-five percent of the time, if there are foxes within hearing range of the call. On still days the range is a mile or more.

"In using a wild animal call," he says, "approach the natural habitat of the game with caution, and conceal yourself, if possible, in brush or a clump of trees. It isn't necessary to pay too much attention to the wind. A fox or coyote has the ability to circle and get the wind on the sound, anyway, and will come upwind even though you know he smells you. This is contrary to popular hunting belief, but I have found it to be true.

"Foxes are likely to be found in the most surprising places. I've called them up within city limits, on deserted army posts, along lake shores from boats, and, of course, in woods and fields."

Asked why the call will attract foxes, Lindsey gives this explanation. "Most people trying to call artificially have the mistaken idea that their call must exactly duplicate the cry or squeal of some particular prey. This isn't always so. Proof of this is that rabbits, a natural prey of the fox, are like human beings in that they have voices which vary in pitch and quality from one to another. This variance is caused by differences in age, sex, and circumstances. From this you can see that there is not one kind of squeal for a group of animals, but many different ones which vary within certain tonal limits. Making a call which will work is simply trying to reach the happy medium between those extremes. Since the fox, like the wolf and coyote, lives largely on his sense of hearing, it is obvious that to survive he has to investigate a lot of sounds that might be coming from prey, all kinds of prey. Because rabbits are one of the main sources of food for foxes in this area, I have tried to develop a call that was similar to, but not exactly, to that of a rabbit in distress."

Whether or not he has succeeded



in artificially producing a call that sounds like a rabbit in distress, fox-caller Lindsey certainly has made a call that will work, at least in a satisfactory percentage of cases. And since he has no desire to see the foxes of Texas completely wiped out, but rather only to see them controlled from the viewpoint of safety to human and animal life, Lindsey has set a good example by substituting a camera for his gun. He says the thrill of calling foxes, and some wolves, is great enough without needlessly killing them. He cites as a case of necessity the ranch owner who contacted him, and requested that he bring his calling device and gun to his ranch for the purpose of eliminating those foxes that were killing his young goats. Obliging, Lindsey spent several afternoons and evenings on the ranch, eradicated a majority of the offending foxes, and the goat-killing has ceased.

Using a small 16-mm movie camera, Lindsey has succeeded in producing a highly interesting film, which he has shown to sporting clubs and civic organizations in Dallas, San Angelo, Abilene, and other towns. The film is composed of sequences covering a dozen or so of his fox-hunts in which he used his call. It has been invaluable to him in studying the habits and characteristics of the southwestern gray fox and has resulted in his becoming, as he says humorously, a "not-very-scientific authority on foxes."

Lindsey is dismayed at the serious outbreak of rabies among foxes that has recurred this year. One of the most serious aspects of the epidemic, to him, is that it is not localized: early this year, two West Texas men were attacked by a fox, which they subsequently shot and killed. Examined by a veterinarian, it proved to be rabid. Houston and San Antonio have reported cases of rabid-foxes, and large amounts of vaccine, made by the State Health Department, have been shipped into those areas.

A. L. Lindsey first became interested in wild-animal calling quite innocently. A sewing-machine salesman, he was driving through a pasture on the way to keep an appointment to make a demonstration of one of his

machines. He caught sight of a jack rabbit helplessly caught in the mesh of the fence that paralleled the narrow road; the rabbit was clearly frightened, and showed it by cries and screams. Lindsey stopped his car, and started over to release the rabbit when he saw a fox bounding through the tall grass toward them. When the fox saw Lindsey, it turned and ran. From this incident, Lindsey deduced that it must have been the cries of distress from the rabbit that had attracted the fox, since it otherwise could not have known the rabbit was there. The next obvious step was to make a device that would simulate the squawks of a rabbit in distress. It wasn't as easy as it looked. Lindsey first tried rubber bands, then fibre shims, later steel, brass, and silver, the latter two being the most nearly right. Once in his

experimenting Lindsey thought perhaps his memory of the original rabbit's cries was playing him false and causing him to be looking for the wrong tone. So he took to the country and captured a baby rabbit, which he raised domestically until it was full-grown. Then he took the rabbit to a recording studio, coaxed it into squealing, and had records made of the sounds. From these, he had a standard with which to compare his models.

Though his business life takes up most of his time, Lindsey finds enough time to be active in the Brownwood Sportsmen's Club, and to take part in skeet and rifle meets. No record holder, he nevertheless pulls a mean trigger. His specialty is turkey-shoots, and during the past ten years he has batted a thousand in these events.



Lindsey stands alongside results of an afternoon's hunting with the fox-call. These foxes were bagged on a ranch at the request of the owner who had suffered considerable livestock loss before foxes were cleared out. (Photo by the author.)

# Fishermen,

## HEED THAT HEAT!

By JAY VESSELS

Assistant Director, Department of Publications

THE Texas sun reaches its peak sting this month. And Dr. George W. Cox, director of the Texas State Department of Health, says Texans may well remember a few precautions.

Fishermen and others spending considerable time in the outdoors suffer serious harm because they do not understand the potency of Texas sunshine in the hottest month of the year.

Sunburn resulting in painful after effects, and sunstroke, not infrequently resulting in death, are major dangers, according to Dr. Cox.

To emphasize the hazard, he recalled that 28 persons died from excessive heat and sun exposure in Texas last year.

One of the worst phases of sizzling August is the trickiness of the elements.

Persons indulging in outdoor activities linked with the water are particularly vulnerable. One reason, said Dr. Cox, is that water reflects ultra-violet rays. Thus, fishing, sailing and swimming are the principal sports Texans are likely to indulge in where reflected ultra-violet rays may cause excessive sun exposure.

The deceptive angle centers around the severe burns one may receive on a cloudy day—when the sun is not shining brightly.

Dr. Cox cautioned persons planning trips into the open about sprin-

gling perfume or toilet water on the skin before exposure to the sunlight since it may produce severe inflammation of the skin.

“Just plain cold cream is about as good as anything,” he explained.

Dr. Cox stressed the importance of keeping the head covered when out in the sun.

Then, he went on to caution:

“Prolonged exposure to the sun’s rays may cause one of three conditions—sunstroke, sunburn or suntan. These three conditions are entirely different in their effect on the human body. Sunburn is often very painful and sometimes quite dangerous. If one-half, or more, of the body surface



Hot? So what! The gay attitude of Miss Nancy Sledge shows the sun holds no terror for her. Miss Sledge, Austin’s only woman life-guard, has been developing an immunity from the blazing sun rays by cultivating a deep sun tan. She is shown here during a forenoon swimming class. The other way of circumventing the heat—getting outdoor routine done before the sun gets too hot—is preferred by Mary Ann Fowler, age 12. She runs her dad’s trotline in Lake Austin during the comparatively cool morning hours.



Lawrence Olsen, age 4 (left) and Chrley Fowler, age 5, followed the old-timers' mid summer custom of keeping their heads covered as they worked on the Lake Austin perch.

is sunburned to the extent of forming blisters, serious illness and even death may result. Even a mild sunburn which causes only redness of the skin without forming blisters is extremely dangerous if it affects the entire skin surface."

The Health Department head explained the difference between sunstroke and heatstroke:

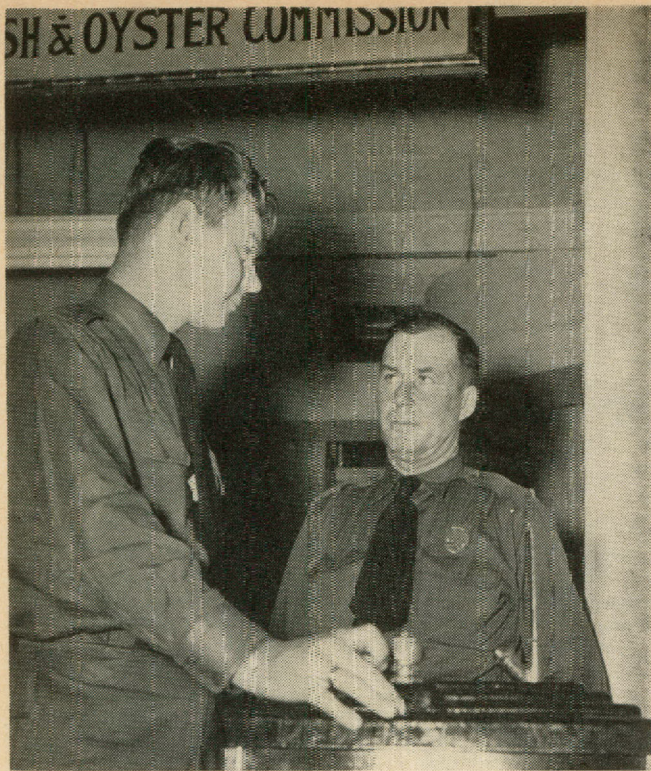
"Sunstroke is caused by too long exposure to the hot sun while heatstroke is due to prolonged oppressive

heat, often indoors. The illnesses are very much alike; both have the same symptoms, and need the same first aid treatment. The most ordinary form starts with a splitting headache; everything looks red to the victim; he loses consciousness, and his temperature rises dangerously, sometimes to 110 degrees. If unconsciousness and high temperature last any great length of time, the danger is very great. The victim sometimes collapses and dies within a few minutes.

"Heat prostration, or heat exhaustion is caused by prolonged exposure to heat and humidity, but it is very different from heatstroke or sunstroke. The victim is usually conscious, but extremely weak and dizzy. His temperature falls instead of rising, and he feels very cold and clammy.

"When a person collapses in hot weather, call a doctor at once. His condition may be very critical. Move the victim into the shade and loosen

Continued on Page 30



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## Game Warden School

Refresher courses for Game Wardens at Camp Mabry meant long days and evenings of study and lectures. All state wardens attended the classes, conducted over three-day periods, in three sections. The wardens sharpened up on subjects ranging from public relations, through law enforcement to game management. Here, at the top, Warden Tom Browning, Jr. (left), and Maurice Dry check in at the headquarters water cooler before returning to their posts. Below, Warden Jim Smith, chief instructor, holds forth. The clock on the wall registered three minutes to four but some of the "students" mustered a smile after a hot, tiring day in the classroom.

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# Fall Hunting Dates Are Set

**A**N UNMISTAKABLE trend toward further rationing of wild game during the hunting season is indicated by regulations being prepared for the fall shoot.

The intended effect is to cut limits and apply other restrictions so that the available supply of both small game and big game will be apportioned among the sportsmen.

The Game, Fish and Oyster Commission provided some evidence of the trend at its last regular meeting.

The Commission at that time cut the bag limit on deer from two per person per season to one per person in the nine-county area west of the Pecos.

It also reduced the possession limit on bob white quail from 36 to 24 in the six-county area in north Central Texas which the Legislature recently placed under regulatory control of the Commission.

This latter action was in line with the action taken by the Commission last year in reducing the possession limit on quail from 36 to 24 in the 24-county Panhandle area which also is regulated by the Commission.

The quail laws for the state at large are controlled by the Legislature. The state limit under this law is not more than 36 per week or in possession. The daily limits of 12 per hunter are the same.

A further restricting step was taken for the new six-county regulatory area in north central Texas. The deer season was cut to 15 days beginning November 16, with one, instead of two buck deer, allowed. The limit on wild turkey, which is three gobblers for the state at large, will be one gobbler in the six-county area. It comprises Jack, Young, Palo Pinto, Stephens, Hood, and Erath counties.

In addition to this conservation gesture, the Federal Fish and Wildlife Service tightened the restrictions on mourning dove hunting.

The Federal agency, which has the final authority on doves since they are migratory, limited the daily hunting to afternoons and cut the season

from 45 to 40 days.

The Commission reduced the deer limit west of the Pecos in accordance with requests from both landowners and sportsmen. Heretofore, hunters have been permitted one mule deer and one white-tailed deer west of the Pecos. The new regulation permits the taking of only one mule deer or white-tailed deer.

It was agreed by Commission members present at the meeting, and the landowners and sportsmen who wrote in, that the pressure on the West Pecos herds had begun to cut in on the supply.

Dates for the big game hunting west of the Pecos were changed from November 6 to 11, inclusive, to November 20 to 25, inclusive. Sportsmen suggested the later date because of warm weather during the earlier part of November.

The Commission, in meeting the request, agreed that it would be a conservation measure since some hunters after losing their meat from the heat might return to the shoot for replacement.

The afternoon mourning dove shooting, decreed by the Federal authorities, was accepted as a conservation move from the Washington authorities. It was pointed out that while most Texans hunt doves in the afternoon, many actually shoot them in the mornings. Some, after getting their limit of ten birds in the morning, might be tempted to return for another bag in the afternoon.

Furthermore, the thought prevailed that in the hot September days, doves shot in the morning might not keep through the day with the result that hunters might resume the hunt to replace the spoiled birds before the day's shoot ended.

In accordance with preferences shown in a popular poll of sportsmen, the Commission recommended that the season opener be continued as September 1 for the north zone and be changed to a later date in the south zone.

The preponderance of preferences in the north zone was for the Sep-

tember 1 opener although some sportsmen wanted a later date. Some even wanted the season set back to conform with the statewide quail season which opens December 1.

The weight of opinion as expressed in the south zone was for a much later season in that area, so the Commission recommended an opening date of November 15 instead of October 20 as the 1950 regulations provided. Both proposed opening dates for the mourning dove season were accepted by the Federal authorities.

Public sentiment also influenced the Commission to suggest a change in the whitewing dove season in the Rio Grande Valley.

The Commission adopted a resolution for forwarding to the Federal Fish and Wildlife Service to change the whitewing season. However, based on later data, the Federal authorities restricted the whitewing shoot to three days, September 14, 16 and 18. It was found that last winter's freeze, severely damaging Rio Grande Valley citrus groves, curtailed whitewing nesting and reduced the new crop of birds.

A season that appeals to some Texas sportsmen also was authorized by the Commission. It is the special prong-horned antelope shoot for seven counties west of the Pecos. The counties are Brewster, Jeff Davis, Pecos, Reeves, Presidio, Hudspeth and Culberson.

The dates will be October 1, 2, and 3 for the first period; October 4, 5, and 6 for the second, and October 7, 8, and 9 for the last period.

Because more hunters apply than are permits available, the Commission draws the lucky names. Last year approximately 1,000 sportsmen applied for permits. Permits totaled 426 and the kill was 375 male antelope.

Permits cost \$5. Ranchers are not permitted to charge a hunter more than \$40 for one of the three-day periods.

The Commission conducted an aerial survey west of the Pecos to check on the antelope herds and to determine the number of permits to issue.

# Number One Returns

By ERNEST G. SIMMONS

*Marine Biologist*

and

DEWEY W. MILES

*Copano Research Foundation*

FISHERMEN in the Laguna Madre were startled on the morning of April 11, 1950 to see members of the Texas Game, Fish and Oyster Commission pulling a large beach seine in that area. This was the beginning of a fish tagging program instigated by the Marine Laboratory at Rockport, Texas. Supervised by Dewey W. Miles of the Copano Research Foundation and Ernest G. Simmons, Commission Biologist, members of the Commission pulled the seine near marker 201 in the lower Laguna Madre. The first fish to emerge from the water was a black drum which weighed 3.9 pounds and was 19 inches long. A small metal clip was fastened to the left jaw of this fish; the fish was then measured, weighed and released. On one side of the tag was the legend G. F & O Comm—Rockport, Texas; on the other side was the number 1052. Another haul was made and a redfish weighing just over one pound was taken. This fish was tagged number 505. Thus a black drum, tag No. 1052, was the first fish to be marked by this method in Texas waters and a redfish, tag 505 was the second.

Tagging was continued in many areas during the following months. Fish were tagged in the lower Laguna, the upper Laguna, in California Hole and Redfish Bay, in Turtle and Trout Bayous, in Allyn's Bay, Mud Island, Copano Bay, San Antonio Bay and at the Cedar Bayou fish trap. Recoveries were made from several sections. One redfish traveled over 100 miles in thirteen days. Flounders were recaptured far out in the Gulf of Mexico by shrimp trawlers operating in waters over 120 feet deep. On August 13, 1950, three months after initiation of the project, a redfish bearing tag No. 505 was recovered 8 miles from the point of release. This fish, the second to be tagged, had nearly doubled its weight.

Marking was incessant and returns were continuous during that period. In late January a very severe freeze hit South Texas. More than 30,000 tons of fish were destroyed and for sometime it was thought that all of the tagged fish had perished. Some of these marked fish were found dead along the shore. Just as the biologists had resigned themselves to starting anew, a few marked fish were recaptured. Not many to be sure, but enough to encourage the workers. First a large trout, then a redfish and a flounder, and next a sparse mixture of the various species were turned in.

On May 10, 1951 word was received from Mr. Lloyd Weisenhaus of Port Isabel that he had caught a fish carrying tag No. 1052. Recall that tag? It was the black drum from the Laguna Madre; the very first fish tagged had been recovered. Yet—No. 1 had returned—after thirteen long months during which it had managed to escape the ravages of a severe nature and the efforts of man. Not only had it escaped; it had thrived. The 3.9 pound fish now weighed 6 pounds, had moved 40 miles, and had grown three inches. This cooperation from a Texas fisherman proved truly valuable to fisheries research.

Tagging hasn't stopped by any means. On the contrary, 2000 fish have been marked and preparations are being made to tag 18,000 more. From the returns biologists can tell just how fast a fish will grow and where it will travel or migrate. Cooperation is essential from all fishermen if the program is to be a success and if fishing is to be improved. Fishermen catching a tagged fish should send the tag number, the date and place of capture, and the length of the fish to the Marine Laboratory, Rockport, Texas.

## Black Drum Is First Fish Tagged in 1950

# Let's Go Fishin'

By JAY VESSELS

Assistant Director, Departmental Publications

WHEN it comes to trying to outwit the fish, perhaps the lead gesture should be through a code of manners for fishermen.

In this age of speedy motorboats, the average fisherman usually takes off from the dock with a clatter of slamming tackle and grinding gears. In the first place, if he had sneaked quietly up to his own dock and had flipped a bait into the shadows of the dock he might have landed his first one smack on his own premises.

But in this impatient age, the idea seems to be to rack around a spell in the power driven craft, thus leaving the angling opportunities at one's own dock for the fellow who exchanges areas.

Granting the hustling fisherman knows where he is going, his antics on arrival may be significant.

If he plans to tie up at a snag, the chances are that his great haste

prompts him to overshoot and to have to swoosh back after a splashing turn and an abrupt halt. If he has a certain hole or bar in mind, he very likely heaves in the anchor with a great kerplunk.

Well, now what does all this do to the fishes, ready and eager to cooperate?

It probably shoos them clear out of the county. If the original sockeroo does leave some fish in the area, they may not stay long if the visitor keeps kicking the bottom and sides of his boat. Another commonplace deterrent to the nice little fishes is the accepted custom of periodically heaving empty beer containers over the side.

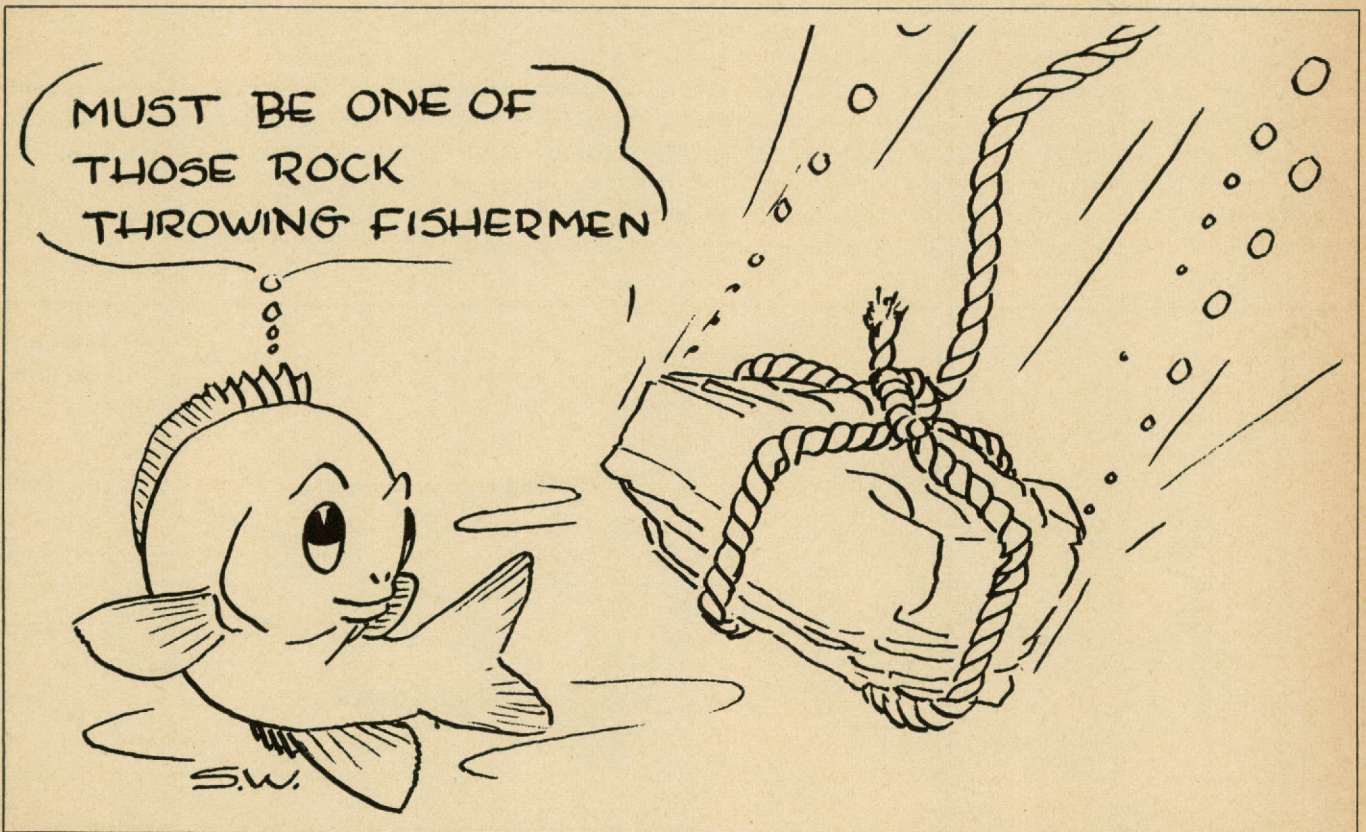
Unless he has over emphasized this latter phase of fishin' routine, the fisherman might try to put himself in the poor fishes' place. They're down there on the bottom—at least somewhere between him and the bottom.

And if he doesn't think they have the jump on him, try looking through a glass or bowl of clear water with a light on the other side. If he doesn't see identifiable objects, he certainly sees the light. And on a bright sunshiny day, does it not seem logical that the topside clatter and commotion will makes the fishes skittish?

Okay, granting that some species will, after a time, when the anchor bedlam has subsided and when the opening grand march in the boat has ended; granting that they will rally in the shadow of the boat, they certainly will keep pretty jumpy under average fishing hole etiquette.

In other words, fellow fishermen, take it easy. Be quiet. Watch the old-timer. Or the farm kid with a limb for a pole. Note how cautious they function. Also note how they catch fish.

(Next month: Some common misunderstandings about fishin'.)



# Fishes of Texas

## FLATHEAD CATFISH

By MARION TOOLE

*Chief Aquatic Biologist*

WHO AMONG the rabid devotees of Izaak Waltonism is not familiar with flathead catfish? Nearly all anglers have caught or seen flathead catfish at one time or another.

Flathead catfish, like other fishes, have so many names and various colorations that anglers are led to believe there are several species of these fish. Flathead catfish are better known to the angling fraternity of Texas as yellow or opelousas catfish. Some anglers will argue loud and long that an "appy," or opelousas catfish, is one species and that the yellow catfish is a different fish. The opelousas, they inform you, is the speckled variety. In spite of such arguments, a flathead cat by any other name is still a flathead cat—be it called "appy," opelousas, yellow, mudcat, goujon, or Morgan cat. Coloration is determined by whether the water the fish are in is clear or turbid.

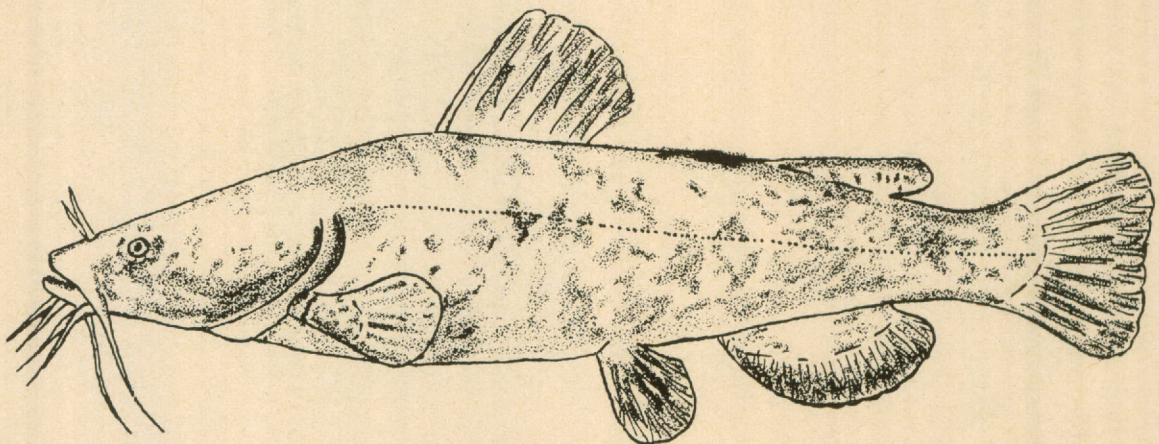
The flathead catfish grow quite large, frequently attaining a length of five feet and a weight of eighty pounds. The author has heard of some

that even weighed slightly over one hundred pounds. One recently was taken when Medina Lake was treated that ran 115 pounds.

These fish have an elongate body with large, flat heads. The margin of the caudal or tail fin is so slightly notched as to appear almost straight. The lower jaw projects. The anal fin is short, having only 12 to 15 rays. These fish are yellowish in color and are sometimes mottled with brown or some other dark shade of color.

The spawning season for these fish starts in April and continues for a month or more. Scientific literature offers meagre information on the natural spawning methods of the flathead catfish. Yet, while the author has never witnessed the spawning of these fish in their native habitat, it was his good fortune, while he was a member of the staff of the City of Dallas Aquarium, to observe there on several occasions a pair of flathead catfish spawning. The two fish, weighing about eighty-six pounds each, were kept in a display tank 12 ft. across, 8

ft. back and 4 ft. deep. Sand covered the floor, and a few large tree stumps were present. The male made an excavation in the sand in front of one of the stumps, thus creating a nest. The flathead catfish spawned in a manner similar to that of the channel catfish: the male and female got side by side, with their heads in opposite directions, then wrapped their caudal fins around each other's mouth. As soon as the eggs were laid and fertilized, the female was driven off and the male commenced his job of guarding and fanning the eggs until they hatched several days later. Several years ago after spawning, the female attacked the male one night, and when the aquarium staff opened the building the next morning, they found only remnants of the male, the rest of him having been consumed by the female. This is an example proving the error of pairing a male with a female larger than himself, as was pointed out in the Channel Catfish article in a previous issue of TEXAS GAME AND FISH.





# Water Projects To Be Developed

**G**AME, Fish and Oyster Commission staff alignments have been made to expedite development of Texas land tracts under the Commission's experimental game management program.

Joe Marks, veteran employee, has been designated to supervise varied projects with emphasis on providing water supplies on an elaborate scale.

Marks, a graduate of Princeton where he majored in engineering, has been superintendent of the 13 state fish hatcheries. Marks has been credited in being a great factor in building up the chain of hatcheries to the point where we produce up to 25,000,000 bass every year.

The four experimental game management projects are in Brewster, Kerr, Anderson and Hemphill counties. They were established with Pittman-Robertson funds from the Fed-

## Conservation Parley Scheduled

The first annual Texas Conservation Education Planning conference will be held at Texas Agricultural & Mechanical College, August 23 and 24.

The session was called by Dr. J. W. Edgar, State Commissioner of Education, as a means of accelerating the resource-use education program begun in Texas five years ago.

The delegates, comprising key personnel in educational work, will survey the accomplishments of the last five years, establish objectives and determine means of reaching them.

Ultimately, it is hoped to make conservation a basic part of the state's educational program.

eral government. Aid in developing them from a fish life viewpoint will be augmented through money obtained from the tax on fishing equipment under the Dingell-Johnson Act.

Emphasis on finding new water sources will be made in the huge 50,000 acre Trans-Pecos tract in the Black Gap region. But water will be impounded in all areas and some fairly large lakes will be created.

These waters will be stocked and opened for public fishing where it is deemed advisable. Marks' engineering talent will be utilized in providing new buildings, or modernizing old ones, on the experimental tract.

The broad purpose of the vast experimental game management program is to determine means of increasing all game species in Texas to provide better opportunities for sportsmen.

Hatcheries have continually tried to propagate these fish, but with poor results so far. Only two have obtained spawns of flathead catfish. One of these spawns, which occurred at the Lake Dallas Hatchery, was started when the Superintendent and the author were running the pens containing flathead catfish to observe spawning progress. A large female was picked up, and the resulting pressure on her abdomen exuded the eggs. After this, she was immediately released, and the two on-lookers left the pen. There was a production of an excellent crop of young flathead catfish which, characteristically, grew very rapidly.

Flathead catfish prefer large lakes, rivers and bayous and the overflow ponds of a large river. They may be found in all suitable rivers from Alabama through the other Western Gulf States into Mexico and throughout the Mississippi Valley.

Flathead cats are voracious eaters, their main diet being other fish. Many requests are received by the Commission to stock farm ponds and small lakes with these fish. But, due to the

ravenous feeding habits of the flathead catfish, it is an unwise practice. Jordan and Everman, in their AMERICAN FOOD AND GAME FISHES, say, "The goujon (flathead cat) is more voracious than the blue cat, and large individuals are apt to feed upon small ones of the latter species when confined in the same live-box." They add that, "to prevent this, it is said that the fishermen sometimes sew up, with wire, the mouths of the very large goujon." Large individuals have been placed in the state hatchery ponds for safe-keeping until the next spawning season, and invariably they eat all the other fishes present in these ponds.

For taking flathead catfish, trotlines, pole and line, throw lines and jugging are used. Baits employed are hickory, shad, large crayfish, eels (cut up), bullhead catfish, large sunfish, and rough fish such as suckers and carp. All baits should be placed near the bottom because these fish live and feed on the bottom. When using pole and line, it is best to fish in currents and pools below dams on rivers or

around old hollow trees and stumps. Throw lines consist of a weight and several hooks that are thrown out into the water. The end left on the bank can then be tied around a tree. For jugging, a line is fixed up like a throw line. The line is then tied to the handle of a jug that is allowed to float. Pulling on the jug, the fish will soon tire and can be landed then. These fish also frequent bluffs in a lake, especially honeycombed bluffs. The writer has enjoyed excellent success catching flatheads by suspending trotlines along the faces of such bluffs.

Flathead cats should be thoroughly bled before they are cut up. The Fish and Wildlife Service recommends that you wash your hands with salt and water after cleaning a fish to get rid of that fishy odor that clings so tenaciously to your hands.

A flathead catfish properly killed and cleaned is probably the best-tasting freshwater fish in the world. When a piece of this fish is rolled in cornmeal and fried in hot grease until turned a golden brown, it invariably brings cries of "Yum, yum."

# Marine Fishes of Texas

## Common Hammerhead\* *Sphyrna Zygaena*

By J. L. BAUGHMAN

Chief Marine Biologist

THE common hammerhead is distributed throughout the warm waters of the world, occurring on our Atlantic coast as far north as Halifax, Nova Scotia, and is listed as occurring in Texas waters. A specimen collected by Baughman at Galveston is in the collections of the U. S. National Museum, and another at Stanford University, this last identified by Dr. A. C. Herre.

The color is deep olive-lead or brownish gray above, paler on sides, shading into pure or grayish white below; tips or margins of fins more or less dusky; the pectoral fins are black-tipped in some specimens but not in others.

Born at a length of about 20 inches, adults appear to mature at about 8

to 9 feet. They are often caught up to 10 or 11 feet and occasionally to 13 feet.

This is a powerful, strong swimming shark often seen at the surface with the tips of the first dorsal and caudal fins exposed. Many are found far out at sea. This hammerhead feeds largely on fish and squid, but, like most of the large sharks, it seems to take almost anything in the way of food it can obtain. A specimen 11 feet 1 inch, taken at Cape Lookout, N. C., on July 19, had been feeding on Spanish mackerel, *Scomberomorus maculatus*, and Coles believes that this is the normal food of the young and active members of the species, although older, solitary specimens were believed by him to exist exclusively on stingrays.

Gudger has given a most interesting account of this habit. Seeing a big hammerhead chasing stingrays over the sand flats of Beaufort harbor,

the shark was harpooned and an examination made of its stomach contents. The almost perfect skeleton of a stingray was discovered, along with portions of others. Further dissection disclosed some 54 spines from the tails of stingarees, and from the pectoral fins of the ocean catfish. All these were imbedded in the jaws of the shark. Fowler examined another specimen containing three stingrays. It had, in addition, 17 spines in the stomach and 24 embedded in the jaws.

Hammerheads are cannibals. Coles speaks of a 13 foot, 10 inch female which had in her stomach four smaller individuals of her own species.

Oddly enough, the common hammerhead is one of the few species definitely proven to have attacked a human being in American waters.

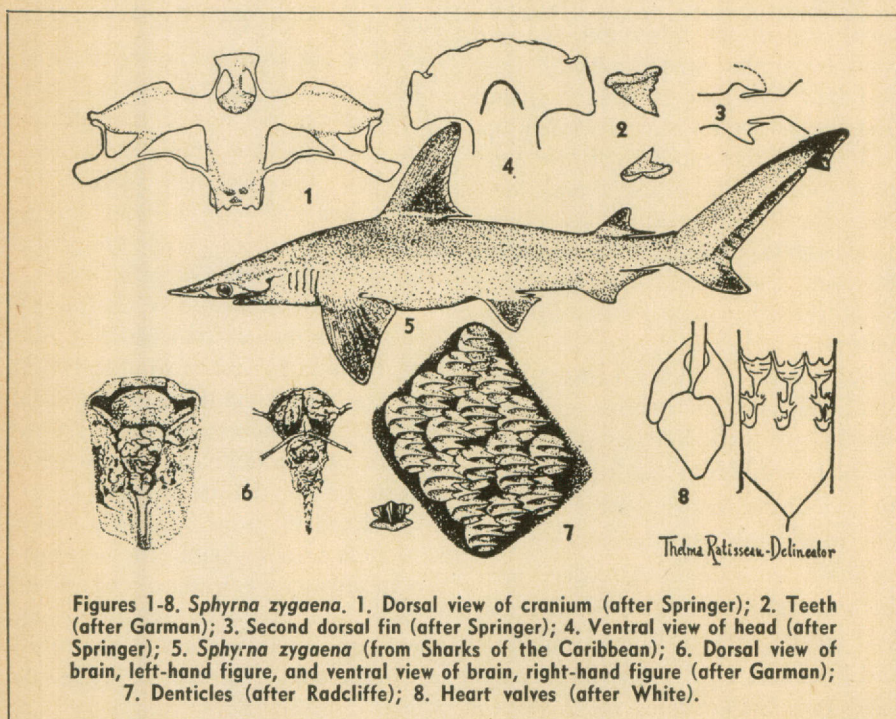
Dr. Mitchill states that one of three of these fish, taken at Riverhead, Suffolk County, New York, in 1805, contained many detached parts of a man, together with his clothing, in its stomach.

Hammerheads are viviparous, and the young of a single female may number as high as 36.

This hammerhead is considered edible in the Hawaiian Islands, where it is the shark most frequently found in the markets. Day says that the flesh was considered most nourishing by the natives of Malabar and that it was extensively salted. In Cochin, also, its flesh was considered very wholesome, and the oil extracted from the liver was a favorite remedy for night blindness. However, the natives of Madeira considered the flesh hard, and disagreeable both in odor and flavor.

There is a third and smaller form of hammerhead that occurs in Texas, *Sphyrna diplana*. It reaches a length of about eight feet.

\* Abridged from Baughman, J. L., and Stewart Springer, Biological and Economic Notes on the Sharks of the Gulf of Mexico, Amer. Midl. Nat., July, 1950.



Figures 1-8. *Sphyrna zygaena*. 1. Dorsal view of cranium (after Springer); 2. Teeth (after Garman); 3. Second dorsal fin (after Springer); 4. Ventral view of head (after Springer); 5. *Sphyrna zygaena* (from Sharks of the Caribbean); 6. Dorsal view of brain, left-hand figure, and ventral view of brain, right-hand figure (after Garman); 7. Denticles (after Radcliffe); 8. Heart valves (after White).

# Letters

Dear Editor:

. . . I am quite interested in completing my file of TEXAS GAME AND FISH and would like to acquire the following issues: 1942—December; 1943—March, July, August and September; 1944—April; 1947—September; 1949—February, April and October; 1950—March and June.

If anyone has the above issues available, I would appreciate it very much if he would contact me.

WALTER LOUGHRIDGE  
1900 Milam Bldg.  
San Antonio 5, Texas

Dear Editor:

. . . we were about forty miles off shore at Port Isabel around the shell banks when the kings started striking. We caught 82 kings and one bonita, weighing from six to 22 pounds each.

The kings would jump 10 to 12 feet in the air when striking our lures. It was a beautiful sight. We also had some static with the sharks; we could see them coming but couldn't get our kings in fast enough. We lost several kings and lures to the sharks which were almost as long as our boat. We were glad when our lines broke.

I am sending you a picture (below) of the kings and fishermen. Reading from left to right they are: M. M. Farnsworth, E. A. Boyce, W. A. Todd, Hampton Mabry, all from Donna and members of the Valley Sportsmen's Club.

W. A. TODD  
Donna, Texas



Dear Editor:

Just recently I have become the proud owner of a brand, spankin' new Marlin .30-30 lever action rifle. I have no collection of arms, and besides an old Steven's .22, this is the only really good rifle I have ever had. There are probably better guns, I judge, from reports I have heard from other persons. Some favor the Winchester, some the .30-06 caliber. I am satisfied with my little old Marlin.

I have never been a hunter, and indeed, do not approve of killing an animal just to see if I can do it. Many persons disagree with me along this line, but still I do not believe that life, even animal, should be taken, unless, of course, the beast is responsible for some damage.

Because I have never been a hunter, I know little about where an animal should be hit to stop him as quickly as possible. After I get out of the service, the family and I plan to do some extensive traveling, up north as well as south. Now if I see a bear coming at me, I don't want to have to shoot him fifteen times before he stops. (He might not stop even then!) My question, then, is: Where should the different game animals be shot in order to kill them as soon as possible? Animals such as bear, deer, wolves, mountain lion and lynx, and elk. I do not cherish the thought of watching a wounded bear doggedly stalking toward me, just because I did not know what was his most vulnerable spot.

This knowledge would be of a two-fold

value. An animal that has been wounded will sometimes slink off, become lost in the trees, where it will suffer until death comes slowly to finish it off. The animal, then would not suffer long from its wound, and I would not suffer long while watching the animal charging closer and closer.

PVT. ARTHUR B. IRWIN  
4131st Orgnl. Maint. Sq.  
Bergstrom Air Force Base  
Austin, Texas

*(Pvt. Irwin, your rifle is a very fine little old deer rifle. It is not a big game stopper; it is not an accurate varmint killer. It is just a plain medium-ranged deer bagger. When I reach for a deer rifle of my preference, nothing less than a .270 or .30-06 comes out of my gun case. If a buck doesn't drop before that class of weapon, it is not the fault of the arm, or its load.)*

*True, the largest of our bear have been taken with rifles in the same class as yours. (So have one-ton bulls been dropped with a single bullet from a .22 caliber rim-fire in the butcher pen.) Also, true, there are gray stones resting above the heads of good men who boasted "my ol' .30-30 will take care of anything."*

*Let's compare the ballistics of your .30-30's 170-grain bullet with an ideal bear load—the .375 H. & H. Magnum's 270-grain number. The smallest caliber's missile leaves the muzzle at 2,200 feet per second with 1,830 foot pounds of energy. Old hefty's slug departs at 2,720 feet per second with 4,440 foot pounds of energy. Even with the Magnum's enormous amount of killing power, brownies will sometimes keep coming while carrying four or five of the .270-grain or .300 grain potent pills.*

*As for the most vital areas for bullet placement, there is the spine, neck, head, and heart. Drive your bullet into any one of these spots, and chances are mighty good that the animal will be all yours—and all dead! However, due to the fact that the spine, neck, and head are comparatively small targets, a gunner is much wiser in aiming for the chest area—unless he is far above the average marksman. A solid hit in the chest will affect the heart, or spine, or break down the front quarters.*

*I hold much admiration and respect for the hunter who tries to kill humanely. Choose your weapons according to the game you expect to encounter. There is no such gadget as "the ideal all-round rifle"! —Adam Wilson, III.)*

# KEEP HIM SUPPLIED WITH AMMO

☆

Texans tell it to the world. Away from home, they talk about their state's wide open spaces. . . . Their cattle and cotton. . . . And their oil wells. . . . They can also tell the world how their Texas abounds in game and fish. Wherever he is, that Texan would like to be able to tell more about the great outdoor sports of his state. It's simple!

Send him a subscription to TEXAS GAME & FISH, published by the Texas Game, Fish & Oyster Commission. Please send as many subscriptions as you wish. Send \$1 for each yearly subscription and mail to

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## Licenses Need Renewing

All of the 36 licenses issued by the Game, Fish and Oyster Commission are renewable at the end of the fiscal year, August 31.

For hundreds of thousands of Texans this will mean getting new hunting and fishing licenses.

The fees range from 50 cents for a duplicate individual fishing license, replacing the original, to \$200 for a wholesale fish and oyster dealer permit.

The resident license for fishing in fresh waters costs \$1.65. It must be used by all persons over 17 years of age when they fish beyond their home counties or adjoining counties. They must have licenses even then if they use artificial bait in their home county or artificial bait or live bait in the adjoining counties.

Non-residents fishing in fresh waters in Texas must have the regular \$5.25 non-resident license, or the special five-day non-resident license costing \$1.65.

The other license affecting the general public is the resident hunting license costing \$2.15. This must be used by persons over 17 years

of age hunting small game beyond their home county and must be possessed by all persons hunting big game—or deer and wild turkey.

The non-resident hunting license must be used by all non-residents hunting anything anywhere in Texas. This license also is required of all aliens. The cost of a non-resident hunting license is \$25.

Other licenses issued by the department include: hunting boat, trappers, retail fur buyers, wholesale fur buyers, retail fish dealers, retail oyster dealers, trapping, commercial fishermen, shrimp trawl, oyster dredge, bait dealers, seines, skiffs, and shooting preserves. These licenses are issued by dealers or game wardens.

The following licenses are issued only in the Commission headquarters in Austin:

Commercial fish boats, game breeders, retail and wholesale trucks for transporting fish, antelope hunting, menhaden fishing boats, non-resident trapping, and wholesale fish and oyster dealers, and for possessing, propagating or selling fur bearing animals.

### Fishermen, Heed That Heat!

• Continued from Page 21

any tight clothing. Feel his skin; if it feels cold and moist, give first aid for heat prostration. The first steps are to lower his head, and provide bodily warmth. Even though the weather is hot, cover him with blankets and put hot water bottles around him, or apply heating pads. Rub his arms and legs; if he is conscious, give him a hot drink such as tea or coffee.

"First aid for heatstroke or sunstroke is very different from this procedure. Feel the victim's skin, and if he feels very hot, he is probably suffering from heat or sunstroke, but do not institute first aid until you are sure. His collapse could have been caused by something very different, such as apoplexy or heart failure. If you have a thermometer, take his temperature. If it is 105 degrees or higher give first aid for heatstroke. If it is around 102, take it again every five minutes, and begin first aid at

once if his temperature is steadily rising. If you have no thermometer do not give first aid; wait for the doctor.

"If the victim is definitely suffering from heatstroke or sunstroke begin first aid by putting a pillow under the victim's head and cool him as quickly as possible. Wet his clothes with cold water, cover him with cold wet sheets or bath towels, or put ice packs around his head, neck and body. Fan him and rub his arms and legs to keep the blood circulating. Get a cold tub bath ready if possible, while the doctor is on his way."

Dr. Cox decried his position as a killjoy and urged Texans to go ahead and enjoy the best climate in the world.

But he had one final word of admonition:

"Don't try to mix alcoholic drinks with a hot August sun!"

## The Four-H Club— A Conservation Force

Created 37 years ago as a means of educating the future farmers of the nation in sound agricultural methods and to give rural youth some of the cultural and social benefits enjoyed by his cousin in town, the 4-H Club movement has become one of the potent conservation forces in America.

The protection of soils, waters, forests, and wildlife plays an integral part in the program of the 4-H club. Under the supervision of the Agricultural Extension Service, the young people learn the most modern farming methods designed to hold the water and soil on the farm. Practically all of these practices benefit farm wildlife; any land-use practice which maintains soil fertility, which encourages the establishment of permanently vegetated areas, and which discourages soil erosion, nearly always results in more productive wildlife habitat.

Much of the emphasis on conservation in the 4-H Club movement may be traced directly to the personal interest and financial assistance given the program by Mr. Charles L. Horn of Minneapolis, Minnesota.

In 28 states, a total of 208,585 members are now engaged in direct wildlife management projects: planting shrubs, trees, food and cover patches; leaving grain for wildlife use during the winter months; building birdhouses and bird feeding stations; and protecting fence-rows which formerly had been burned or cleared.

Many of these youths gained their wildlife management know-how at some 45 camps, financed by Mr. Horn. Scholarships are granted to 5000 deserving young men and women each year to enable them to attend these camps. In addition to these camps, 712 others present one or more courses by soil conservationists, wildlife technicians, and foresters.

More than 10 million boys and girls have participated in conservation projects on their home farms since Mr. Horn began his sponsorship of the conservation program 17 years ago. Many of them now occupy responsible positions in professional soil, water, forestry and wildlife management work.

## Things You May Not Know

Approximately one million different species of animals have been discovered and fully described. About half of these are insects.

\* \* \*

When the bat is at rest, its wings wrap around the body like a cloak.

\* \* \*

An electric ray fish weighing 20 pounds can discharge enough electricity to knock a man down.

\* \* \*

While most birds are able to move only one, both mandibles of the parrot's beak are movable and are endowed with considerable muscular power.

\* \* \*

When carrion attracts king vultures and common vultures, the common vultures stand back while the king vultures eat their fill.

### Dad and Mother!!! Have Your Youngsters Asked You for a 22 Caliber Rifle?

If your boy has longingly asked you "When may I have a gun?" have you been puzzled for the proper answer?

The Sporting Arms and Ammunition Manufacturers' Institute of New York City, has issued a helpful booklet for parents confronted with this dilemma.

Entitled "What Every Parent Should Know When a Boy or Girl Wants a Gun," this pamphlet was prepared to assist parents in arriving at their own conclusions as to when junior can be regarded as qualified for the safe handling and use of a 22.

This publication can be obtained without charge by writing to Sporting Arms and Ammunition Manufacturers' Institute, 343 Lexington Avenue, New York 16, N. Y.

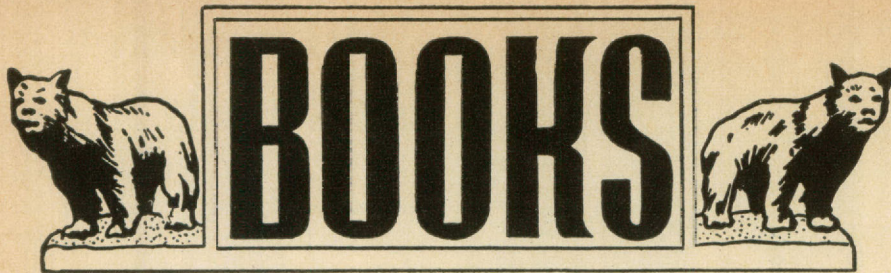
## Sportsmen Seldom Count the Costs

In comparison with other items, the expense figures that get the least attention from the spender are those in connection with the sports of hunting and fishing.

"The outdoor sportsman may be fussy about his household budget, might meticulously turn off every unnecessary light bulb or insist that the thermostat on his heater is set at the minimum," says Gail Evans, advertising and shooting promotion manager, Remington Arms Company, Inc., "but when somebody mentions the cost of hunting and fishing, he's generally looking out the window. There is, of course, a definite reason for this. To the hunter or angler, his sport is Big Medicine, to be taken in big or little sips and as often as possible.

"It is balm to the soul, nourishment to a tired body and sedative to jangled nerves. Luxury? Don't be foolish! To hear the sing of a reel, to smell the smoke of gunpowder, to watch the dawning on an ice-fringed marsh or see the moon rise over a wooded lake . . . these are all events of much importance to the physical and mental well-being of the average sportsman and to count their costs in drab terms of dollars and cents is considered bordering on blasphemy. There are, however, always some sportsmen who do keep careful records of their expenditures. Hunting and fishing success is not usually determined by the amount of money a sportsman spends on any given trip, so maybe this record-keeping business is a mild form of sadism. It is not recommended for the guy with a one-way pocket."

Sportsmen's expenditure figures, however, are of more importance than the average sportsman realizes. They contribute much to the awakening of the public consciousness to the value of wildlife resources and the necessity for their conservation and preservation. They make possible many constructive programs devoted to this end.



# BOOKS

**THE WESTERN RANGE LIVESTOCK INDUSTRY**, by Marion Clawson. 401 xiii pages. Illustrated with 83 half-tones, charts and graphs; 26 tables. Published by the McGraw-Hill Book Company, 330 West 42nd Street, New York 18, New York; 1950. Price \$5.50.

This is a new addition to the authoritative McGraw-Hill Forestry Series. Like the other members, it was written primarily as a college textbook for use in courses in range management and agricultural economics. As such, it is not light bed-time reading, but neither is it dull and heavy in spite of the formidable numbers of statistical graphs and charts. The subject matter is extremely timely for anyone who wishes to keep informed on national affairs. Meat prices and meat production have elbowed their way forcefully into the news within recent months; and it is likely that they will remain there for some time to come.

Beef, to the average city dweller, is a highly expensive red substance which has some vague relationship to cows. Actually, meat production is a complex business which is influenced in one way or another by every culicue in the weather map, every dip in the Wall Street graph, and every pin in the battle map.

Marion Clawson, director of the U. S. Bureau of Land Management, is chief custodian of most of the federal public grazing lands in the West. A westerner himself, he handles his subject sympathetically but factually and without bias, in keeping with good textbook writing. He discusses carefully the effects of price controls on meat production, the administration of private and public grazing lands, and many other timely topics relating to the production of wool and meat.

**YEAR 'ROUND PLEASURES FOR SPORTSMEN**, by Hal H. Harrison. 126 pages. Illustrated with nearly 100 half-tones. Special Issue No. 2, Volume XXI, **PENNSYLVANIA GAME NEWS**. Published by the Pennsylvania Game Commission, Harrisburg, Pennsylvania; 1951. Price 10 cents.

For officers of sportsmen's organizations who feel that dear old Muddy River Trout and Grouse Club could use a shot of adrenalin, particularly during the long "off-season" months, this publication is highly recommended. It is a nicely set up and well illustrated booklet packed full of suggestions on what sportsmen's clubs can do to improve sportsmen-farmer relationships, add to the fish and game supply, and get a lot more pleasure from the out-of-doors. Harrison has given attention to the old favorites—artificial propagation of game birds, field trails, and skeet competition. But he has also described in considerable detail numerous other activities for sportsmen's groups which might be overlooked by the leaders of many clubs. All of them are designed to keep the members active throughout the year and to contribute toward the

welfare of the fish, the game, and the community as well as the members.

**STREAMER FLY FISHING IN FRESH AND SALT WATER**, By Joseph D. Bates, Jr. 402 xvii pages. Illustrated with two-color plates and 39 line drawings. Published by the D. Van Nostrand Company, Inc., 250 Fourth Avenue, New York City 3, New York; 1950. Price \$5.00.

This book is devoted entirely to the long flies which imitate small bait fish upon which larger fish feed. Nearly all game fish are cannibalistic predators, the staple of whose diet is other fishes. To the larger trout, bass, and bluefish, small fry are meat and potatoes, while insects and most other small frequenters of lakes, streams and ocean are tidbits—candy, ice cream and cake. For this reason, day in and day out, the streamer fly, properly tied and presented, will account for more pounds of fish in the landing net than any other light-weight artificial lure.

Bates gives full instructions on tying, selecting, and fishing bucktails and streamers in both salt and fresh water. He has drawn both upon his own wide experience and upon the advice of the many prominent fly fishermen among his friends. For the man who "rolls his own," there is a lengthy section on tying some 200 favorites based, for the most part, upon the procedure recommended by their originators.

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## Who Said Decadent Youth?

Critics of modern youth are finding material for serious thought nowadays.

Some added data developed at the recent Game Warden Schools at Camp Mabry.

At these classes, the 170 wardens, assigned to field work by the Game, Fish and Oyster Commission, exchanged experiences, listened to lectures, reported on law enforcement, and detailed projects designed to help recruit reinforcements for the every-day conservation routine to restore and preserve wildlife.

The critics should note that repeated emphasis was on the role of youth in the struggle. The reason was plain even on the standard reasoning about the part youth plays in all constructive action. But the impact was most effective when the contrast was made between youth and wildlife conservation and adults in wildlife conservation.

At one session, Warden Charles Edmondson related how his junior wardens organization at Cuero has been outstanding in protecting wildlife, particularly game birds and song birds, and in advancing the vital detail of mourning dove banding as a means of promoting scientific research.

Others reported how Boy Scouts, Girl Scouts, Campfire Girls, Future Farmers, 4-H clubs and other such groups are being harnessed to the conservation cause. Of course, standing out was the rapidly growing resource-use education program which is being developed through Texas schools.

The contrast, for the critics, came when the discussions led to law enforcement problems. And what a sordid picture this made against the background of youthful efforts to help save what man has ruthlessly destroyed.

Just for example, one warden told how he caught three men with a battery-magneto outfit which they were using to stun and catch fish. He confiscated 700 pounds of game fish these men had taken . . . more fish than scores of law-abiding fishermen could catch in weeks of legitimate angling.

Another warden told how he took a position last fall on a wild goose flyway on the coast, and how one hunter almost trampled him into the slough mud to get into gun range of the geese. This happened more than an hour after the legal shooting period had ended and when the greedy hunter had double his limit of game for the day.

No, not "blighted youth" in any of these ugly cases, but adults, perhaps some of the critical type who could be setting a good example.

It is no wonder, then, that the common approach to saving wildlife now is through the youth of the land.

One Game Warden School speaker struck a popular note when he said:

"The reports these boys and girls take home to their parents have a more profound effect than the combined efforts we exert through other approaches."

WHO SAID DECADENT YOUTH?

JAY VESSELS,

Assistant Director, Department of Publications

# CONSERVATION



THE SETTERS WITH THEIR HEAVY COATS ARE PARTICULARLY ADAPTABLE TO A COLD CLIMATE. THEY HAVE AN EXCELLENT NOSE AND ARE GOOD RETRIEVERS. THEIR TEMPERAMENT USUALLY MAKES THEM A ONE-MAN DOG, AND THEY RATE AS ONE OF THE BEST OF BIRD DOG PETS.

