

Texas Game and Fish

JANUARY

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W. Hague



**Three Billion Dollars a Year for the Harvest . . .
But Not a Cent for Seed!**

When Jay N. (Ding) Darling drew this famous cartoon twenty years ago, his original caption read "\$750 Million Dollars a Year for the Harvest." The recent national survey showed that the nation's hunters and fishermen spent **FOUR TIMES** that

much in 1955. Texas, alone, spent \$165 million.

However, Texas hunting and fishing license fees haven't been increased since 1919. And so many Texans are exempt under the state's extremely lenient license laws that half of them hunted and fished without con-

tributing "one cent for seed." Texas outdoor sportsmen actually contributed only \$1½ million in license fees for seed in 1955 — while spending **OVER ONE HUNDRED TIMES** that to reap the harvest! It would seem that Darling's theme is as applicable today as two decades ago.

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.

January, 1957

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★ In This Issue ★



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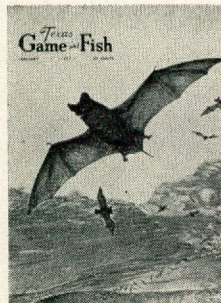
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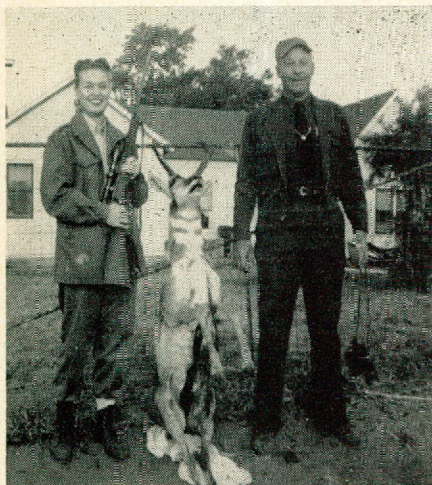
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The Cover

The Mexican Free-tailed Bat (as shown in the cover painting by Don Hague) makes up the bulk of the millions of bats living in Carlsbad Cavern and other caves of the Southwest. Their diet consists mainly of insects. Bats are one of the protected animals in Texas, and it is necessary to secure a permit to kill them. (See story on page 5.)

Letters to . . .



Antelope Hunt

Editor:

Recently my wife and I had the opportunity of participating in the Texas Panhandle antelope hunt. I had hunted antelope out of the state, before, but it was my wife's first hunt. I was fortunate and got the first kill of the day. My wife was less fortunate and missed a couple of running shots. It was the morning of the second day before she connected.

The reason for this letter is to thank the fine game wardens Bert Iverson, Lake Black, and Charley Boynton who helped make it possible for us to get our antelopes. One in particular stayed with us nearly all of the first afternoon and the next morning when my wife killed her antelope. He worked very hard trying to keep the antelope in our hunting area and in fact let my wife use his gun to make her kill.

We want to personally let all these fine game wardens know that we think that Texas has the best Game and Fish Department, wardens, etc., of any state in the U. S. A.

Gordon Bostwick, Jr.
Box 41
Amarillo, Texas

Open Letter

Editor:

One morning I found a letter from my husband addressed to me, and since it was an "open" letter, I thought maybe some of the other "Deer Widows" would like to read it too.

Mrs. H. W. Ferrell
1016 South 9th
Edinburg, Texas

AN OPEN LETTER TO ALL "DEER WIDOWS"

Dear girls:

Yes ma'am, that man of yours has come home to stay again for a few

months, or rather 'til next deer season rolls around. He is nursing sore or blistered feet and an aching back, or perhaps even worse, so don't go too hard on him.

You have heard about all that went on out at the deer camp. About the good food there was to eat and how wonderful that bed was out there at night. Yet, that mighty hunter of yours is enjoying to the utmost that good home cooking he is getting and the comfort of his own bed at home.

The deer slayer never tires of telling all the small incidents leading up to the minute he killed that buck, if he was among the lucky ones to get a buck. Or in another class he might still be griping about that one shot he got and missed.

Some gals listen to stories about big ones that were seen but never shot, or how he passed up that nice little four-pointer and waited on the big old moss back carrying eighteen or twenty points that never did show up.

Those days he was away at the camp were not all spent just deer hunting or thinking about deer hunting, you can bet on that! There was the idea, of course, of getting that buck to bring home and display before you and the neighbors. Also there were thoughts of you and home. And above all, many of his thoughts were of and about God.

So do you know of anything better for that guy of yours to do next deer season?—H.W.F.

Carp Recipe

Editor:

Here is my recipe for cooking carp:

Run two pounds of carp meat through a sausage mill. Add salt and pepper to taste, two tablespoons of grated onion, and enough corn meal to make the mixture stick together. Pat out in cakes and fry (bacon fat preferred).

It's delicious.

E. L. Patton
227 Verne St.
San Antonio, Texas

True Story

Editor:

I have subscribed to and read your magazine for the past three years, but I have yet to see a fish story to top this true one that happened to me.

Early one Saturday morning I went out to troll for bass. I was using a 5½-foot steel rod, Shakespeare reel and 35-pound test nylon line. I was trolling deep with a small spoon when I got the strike about 7:15 a.m. Two hours

and fifteen minutes later, at about 9:30 a.m. I managed to boat a 38-pound Opeloussas catfish.

If anyone can top this, I sure would like to hear of it. There were 14 boats around when I landed him, so about 18-20 persons can verify my story.

G. H. Stuart
Box 1074
Mt. Pleasant, Texas

Trotline Tricks

Editor:

I have studied and worked with trotline fishing methods for many years, and here are a couple of tricks I'd like to pass along.

Cut bananas have filled my deep-freeze many times and is one of the best baits I've ever used. I discovered it accidentally one time and overnight filled a washtub with channel catfish between 1½ and 10 pounds. However, bananas should be used only in still water, for they will become mushy and wash away in running water.

Artificial flies can be used on a trotline, too! Tie them onto heavy staging and suspend them above the water so that the wind blows them back and forth across the surface. In addition to many catfish, I have caught bream, crappie, and bass in this way. One bass I caught weighed seven pounds.

Clarence Cowles
647 S. Seguin
New Braunfels, Texas

Turtles

Editor:

For several years I have been working on a simple method of ridding farm ponds of turtles which has proved very effective, and I thought I would pass along the idea.

I nail small pieces of fish or meat which has been treated with strychnine to a board 10 to 12 inches wide. The poison should be placed in the meat in the following manner: punch a small hole in the bait and push 4 or 5 strychnine crystals into it with a small stick or match. Force a little piece of bait into the hole to cap it off so that wave action doesn't wash out the poison.

I place this board about two inches deep in the water, weighting it with rocks to keep it submerged. Use this method only in very shallow, clear water and only in the daytime, so that catfish will not be poisoned.

If any of your readers decide to try this method, I would like to hear from them and find out their results.

Jerry B. Havel
Route 3, Box 347
Shiner, Texas

... the Editor



Archer Kills Antelope

Editor:

I think the antelope pictured are the first legally killed with bow and arrow in Texas. The hunters are David Terk, Wallace Scott, and Ellwood Scott.

Don Maxwell
806 West Second
Odessa, Texas

As far as I know, the pronghorn killed by David Terk, member of the Permian Basin Archers Club, Odessa, is the first antelope ever killed legally



Low Water Cat

Editor:

This big yellow catfish was caught in the Guadalupe River about four miles below Gonzales. We were fishing with an old trot line and a No. 4 hook. The river has been awfully low, but I'll bet it is lower now, since we pulled this 47 pounder out.

Rev. Alvin C. Johnson
304 Thornton St.
Gonzales, Texas

with a bow and arrow in Texas.

Terk drew a permit in the public drawing and made his kill at forty yards with a 45-pound bow on the ranch of Henry Coffield, Marfa.

Out here in these parts, we are mighty proud of David Terk.

Leo Healer
Outdoor Editor
Lubbock Avalanche-Journal
Lubbock, Texas

Mexican Hunting Laws

Editor:

In reply to your letter, the hunting of bighorn sheep or any other species of wild sheep, as well as pronghorn antelope, is strictly prohibited in all of Mexico.

You would do a good turn, both to hunters from the States and to the Mexican people in general if you would pass the word along. It might help eliminate the unscrupulous "Hunting Guides" who undertake to guide people into Mexico for non-existent animals, prohibited species, and out-of-season shooting for fabulous fees. The result often is that the contracting hunters are slapped with a heavy fine, put into the hoosegow for a couple of nights, and their firearms confiscated. Because they have been misinformed, they never are convinced they have broken our laws, so naturally they go away believing Mexicans all are a bunch of so-and-sos.

Recently a party of four hunters listened to the big talk of an "authorized guide." They did get to shoot a couple of bighorn sheep near here—but they also lost their guns and their trophies, paid a big fine, and had the by-golly scared out of them to boot.

Any hunter coming into Mexico should have first-hand knowledge and

official information regarding legal species and corresponding seasons and limits before they do any shooting down here. This information can be secured by writing El Secretario de Agricultura y Ganaderia, Mexico City, D. F.

Like many of my fellow citizens of Mexico, I welcome true sportsmen from the States, and I hope this will help keep some of them out of trouble.

Thomas B. Lee
Trans mar de Cortes
LaPaz, B. C., Mexico

(Lee does not mean to imply that all guides operating hunts in Mexico are unscrupulous. However, some are—operating from both sides of the border—and the selection of a guide is difficult. Personal contact and a knowledge of the game laws should help the stateside hunter avoid trouble.—Editor.)

Thanks

Editor:

My friend and I had the chance to hunt antelope this year near Dalhart, Texas, and shot two very nice ones. The largest dressed at 86 pounds and the other 76 pounds. We got our kill the first day. It was our first antelope hunt and we were very surprised at the way it was supervised. The game wardens did a very nice job and get our thanks.

A. E. Burgess
Fred Bennett
Dallas, Texas



Deadly Muzzle Loader

Editor:

Albert Barth is convinced that the old muzzle-loading type of gun can be deadly. He backed up his claim by killing the buck pictured here.

The kill was made with a single shot in Menard County. Barth, a San Angelo machine shop owner, made the rifle himself. He is a long-time leader in the San Angelo Gun Club and the Texas Muzzle Loading Rifle Association.

E. R. Talley
21 East Harris Ave.
San Angelo, Texas



PRESENTING—facts and figures on hunting and fishing in Texas!

“Conservation at the Crossroads,” the latest Game and Fish Commission film production, is jam-packed with vital information for Texas sportsmen.

Watch for the release date early in 1957.

Clarification of Reward Payment for Forest Fire Arrests Made by TFA

The arrest of two men for setting grass and woods fires along U. S. Highway 79 east of Carthage in East Texas on lands not owned by them has led the Texas Forestry Association to clarify their reward payment for such arrests and convictions.

It seems the men were charged and convicted in a Justice Court under Article 1321b of the State's statutes. This is for the commission of a misdemeanor, not a felony. The two men were each fined \$15 and assessed court costs totalling \$34.70. Had the offenders been prosecuted under Article 1321a, Title 17, Chapter 2, Penal Code 1951, they would have been charged as felons, and could have been fined \$300 to \$1000 and been confined to the state penitentiary for periods up to five years.

And if the two men had been convicted under Article 1321a as felons, the person contributing the evidence leading to their arrest and conviction would have been entitled to a reward of \$250, as previously offered by the Texas Forestry Association for information leading to the arrest and conviction of persons deliberately setting fire to woodlands of another without the owner's permission.

SCOT Meeting January 19 Calls for Officers Election, By-Law Changes

Representatives from nearly one hundred local outdoor organizations are expected to converge on Austin for the second annual general assembly of Sportsmen's Clubs of Texas, January 19. Scheduled to head the slate of business will be election of officers and a vote on changes and additions to the constitution and by-laws.

The general meeting will follow a board of directors meeting scheduled January 17, and a meeting of members of the Game and Fish Commission January 18, also in Austin. The SCOT meetings will be held at the Driskill Hotel.

The year-old federation of local

clubs, official statewide representative for Texas' organized sportsmen in the National Wildlife Federation, has expanded to a membership of over seventy local clubs. However, activities have been retarded awaiting a much-delayed ruling from the Bureau of Internal Revenue clarifying SCOT as a non-profit organization. At presstime, the ruling still had not come through, and SCOT's financial drive was at a virtual standstill with approximately \$17,000 raised of its proposed \$50,000 annual budget.

Representatives from all Texas outdoor clubs are invited to the meeting. However, only officially certified delegates of dues-paying organizations will be permitted to vote.

SCOT's general objectives are the education of the people to the needs for conservation of our wildlife and natural resources; observance and enforcement of game and conservation laws; sportsmanlike methods in hunting and fishing; and wise use of wildlife potentials of public lands and waters. For further information about SCOT, write Box 2060, San Antonio, Texas—T.M.

16,000 Quail Released by State Hatchery in '56; Apply Now for '57 Birds

The experimental quail farm opened by the Game and Fish Commission in 1956 overcame drought-imposed handicaps to the extent of distributing approximately sixteen thousand young birds to roughly two hundred applicants, mostly in Northeast and East Texas.

About two thousand quail were retained as brood stock for 1957 production, and interested sportsmen's groups and individuals might well prepare their applications now, to allow ample time for processing as to habitat requirements and other qualifications. An estimated ten percent of the sixteen thousand young quail distributed this year went to sportsmen's groups.

Field reports indicate a good survival rate and hunters are urged to help complete the studies by sending in bands which were placed around a leg on each of the released quail.

The quail farm was created by the Commission as a key part of its quail habitat restoration program. The Commission acted on information that the drought had so badly depleted food and cover facilities that the available native population would require implementation from artificial sources.

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They Fly By Night

By WELDON F. HEALD

Reprinted from Arizona Wildlife Sportsman

LEGEND HAS IT that once upon a time war broke out between the birds and the beasts. A group of rats pretended to be on both sides and eventually got themselves thoroughly hated by every decent animal that walked, crawled or flew. So when peace was restored it was decreed that these contemptible, double-dealing rats would thenceforth be neither birds nor beasts but have the characteristics of both. Furthermore, they were banished from sight during daylight hours and allowed to come out of hiding only under cover of darkness.

That is one story of the origin of bats, and it is as good as any. For how this lone mammal happened to get off its legs and learn to fly baffles the scientists. No fossil ancestors of the bats have ever been discovered, and they are not even remotely related to any other mammalian order. Nor are they a link between the birds and animals. Bats, in fact, score one for William Jennings Bryan and zero for Darwin. Special creation might explain why these extraordinary furry animals fly by night throughout the world, but evolution fails miserably at the job.

Even more of a poser is the bats' uncanny ability to navigate unerringly in complete darkness. Tests have demonstrated that they can fly rapidly, wheeling and twisting for hours about a completely blacked-out room and never come in contact with a closely strung network of wires. Shut a bat's eyes with glue and he will fly with greater assurance than with his eyes open; close his ears and he will stumble into obstacles.

Science, never at a loss for an answer, shows its basic ignorance of this miracle by supplying several guesses. Some authorities say that bats operate a sort of acoustic "radar" system by uttering short, high-pitched

squeeks, listening for the echoes, and avoiding obstructions which produce the echoes. This presupposes an amazing hearing ability, and it is said that one scientist shot into a flock of bats and every one of them was knocked unconscious by the concussion.

Other specialists maintain that a super-delicate nervous system in the wings enables bats to "feel" an object they are approaching and so avoid it. Still others believe that the queer erect leaflike growths on the noses and ears of some bats are responsible, and a few even attribute the whole thing to "the muscle memory of the kinesthetic sense." Again, take your choice. One explanation seems to be about as good as another. But in any case, the saying "blind as a bat" is unfounded, for they have excellent sight in semidarkness and only a mild case of astigmatism in full sunlight.

Perhaps it is all these compound mysteries and anomalies about bats that have given them the reputation of being malevolent visitors from the nether regions. Most people shudder at the mere mention of them, and they are generally considered unclean, evil, repulsive creatures, fit consorts to vampires, werewolves and witches. Apparently no ghoulish ceremony or get-together on the calendar of demonology is complete without the presence of bats and even satan himself is supposed to fly about his nefarious business on leathery bat-like wings. A bat-out-of-hell is a figure of speech as old as our language.

But never has an animal been more unjustly maligned, and almost every popular story about the maliciousness of bats is plain libel. As a rule, they are gentle, harmless creatures, beneficial to mankind. Their chief value to us is as allies in the never-ending battle to keep the world from being overwhelmed by



Bats are the only mammals capable of true flight. How they fly at high speed and avoid collision with objects and each other is an unsolved mystery.

devastating swarms of insects. True, some meat-eating varieties feed on rodents, fish and frogs and there are several South American species, called vampire bats, whose sole nourishment comes from sucking warm blood. The latter attack both men and animals with their sharp, slashing teeth and have given the entire bat family a bad name. However, you are not likely to meet them and nobody condemns a whole barrel for a few bad apples. After all, we have some pretty questionable fruit in our own human barrel.

Weird, like everything else about these unbelievable animals, are the wings. These consists of a thin, translucent membrane extending from the enormously elongated fingers of the fore limb to the comparatively short hind legs. It usually extends also between the legs and includes the tail. If a man were tailored for a pair of bat wings in proportion to his size, it would be necessary to draw out the last three fingers of each hand to lengths of four to six feet before he could be comfortably fitted. With these wondrous flapping appendages the bat has become the only mammal capable of true flight, like the birds and insects. All others, such as the so-called Flying Squirrel, are limited to gliding. Moreover, the bat has gone beyond the other flyers in his dependence on wings, for his legs are almost useless and when grounded he can only crawl around feebly on his stomach.

Bats vary greatly in size, color and shape of head. The huge Kalong or fruit-eating Fox Bat of Java has a body twelve inches long and a wing-spread of five feet, while there are many pygmy varieties with diminutive bodies an inch and a half in length. Largest in the United States is the Western Mastiff Bat of California and Arizona, with a body four-and-a-half to five inches long and wings a foot to thirteen inches across, but the dread vampire bats are unimpressive specimens seldom having body lengths of more than three inches. Bats' fur is usually grey, brown or brownish-grey, but one South American species is white and some are striped or spotted with white or orange, and

several are bright red. Our American Red Bat, for instance, in flight resembles a flame on wings and vies with the birds in brilliance of its brick-red and yellow coloring. Faces range from startling pug-nosed effects to long, pointed snouts, and the ears may be small, large, rounded, or long like a rabbit's. In fact, a bat's head may suggest in a caricature sort of way anything from a hog to a mouse, or it may look like nothing on land or sea but a bat.

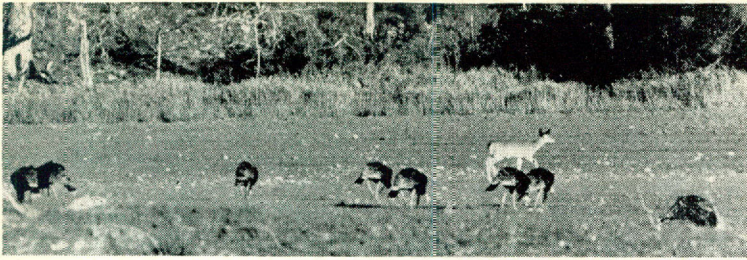
At home in caves, old buildings, trees or other places congenial to their unusual way of life, bats rest and sleep the day away hanging upside down by the claws of their hind feet, with wings folded about them somewhat like closed umbrellas. They are gregarious animals and often roost in colonies, the largest being in caves where thousands may hang from the roofs of stygian-black underground rooms and chambers. Bat metropolis of the United States is at Carlsbad Caverns in southern New Mexico. There the population varies greatly and at present is at a minimum due to severe drought, but in prosperous times as many as three million bats of five species inhabit a huge subterranean hall two thousand feet long. At dusk each evening from May to October they swirl out from the mouth of the cavern in a counterclockwise spiral for several hours and resemble a column of light smoke issuing from the crater of a volcano. Naturalists estimate that in full strength the Carlsbad bat colony consumes twelve tons of moths, beetles, flies and other insects during the night for each animal eats about half its weight every twenty-four hours. This remarkable flight is one of the famed sights of the Far West and collects quite sizeable audiences of tourists. Carlsbad bats, too, once had considerable economic value, for before the caverns were made a national park at least a hundred thousand tons of guano were taken out and sold as nitrate-rich fertilizer.

My own close acquaintance with the tribe of fly-by-nights began when a young silver-haired bat plopped through the open car window in broad daylight when

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Bats sleeping in a Central Texas cave.



Deer and wild turkey find refuge in Texas hill country state parks.

To wild animals and birds
Texas State Parks mean safety.

No Guns Allowed

By GORDON SHEARER

Birds and animals in Texas State Parks are there to be seen, photographed and enjoyed—not to be hunted. It is so declared by state statute and in the rules and regulations adopted by the Texas State Parks Board. This policy, in effect, makes game preserves of approximately 58,000 acres of Texas land.

The law on the subject is found in Chapter 454 of the Acts of the Forty-seventh Texas Legislature which met in 1941. As then enacted:

"It shall be unlawful for any person to kill, wound, shoot at, hunt or molest any wild animals, wild birds or wild fowl found within the borders of any public park under the control of the Texas State Parks Board, at any season of the year."

An enforcement clause of the Act recites:

"Any person violating any provision of this Act shall be deemed guilty of a misdemeanor, and upon con-

viction shall be fined in any sum not less than \$10 nor more than \$100."

Any peace officer is authorized to arrest without warrant any person found committing a violation of the Act.

Rules and regulations posted in each Texas State Park give notice to the public that the park's birds and animals must not be disturbed. Park Rule Three reads:

"No hunting shall be allowed in any state park of Texas, and there shall be no shooting or killing of birds, animals or game of any type within the State Park during any season of the year."

Park Rule Number Nine adds:

"Molesting wild life in State Parks is positively prohibited."

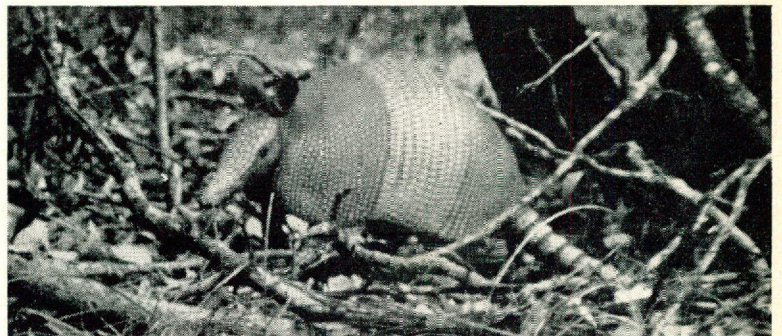
For protection of visitors as well as birds and animals any use of firearms is prohibited in a state park.

Despite the law, the rules and posted pleas to park visitors to help protect the birds and animals in parks, and despite the alertness of park personnel and cooperation of game wardens and local officers, there is

● Continued on page 25



Harm him not, for no matter how much of a nuisance he may be, he is protected in the state park.



Anyone who enjoys hunting with a camera for either birds or unusual animals, such as this armadillo, will find excellent subjects in the state parks.

Will this third rarest of U. S. birds
vanish from its now limited habitat?

The Everglade Kite

By ALEXANDER SPRUNT, JR.

This unique American bird of prey faces disaster. Now reduced to a population level that may be not much more than that of the famous whooping crane, its continued existence appears just as problematical. But while many thousands of people know about the crane, only a small minority are aware of the kite's predicament. Beautiful, graceful and entirely innocuous, it is destined to become a bird of the past unless conservationists provide vigorous protection.

Four pertinent facts must be recognized:

1. It has the most highly specialized food habits of any bird in this country.
2. It now occupies one of the most, if not the most, restricted range of any American bird north of Mexico.
3. It is the third rarest bird of the United States.
4. It is probably the most susceptible to quick extirpation.

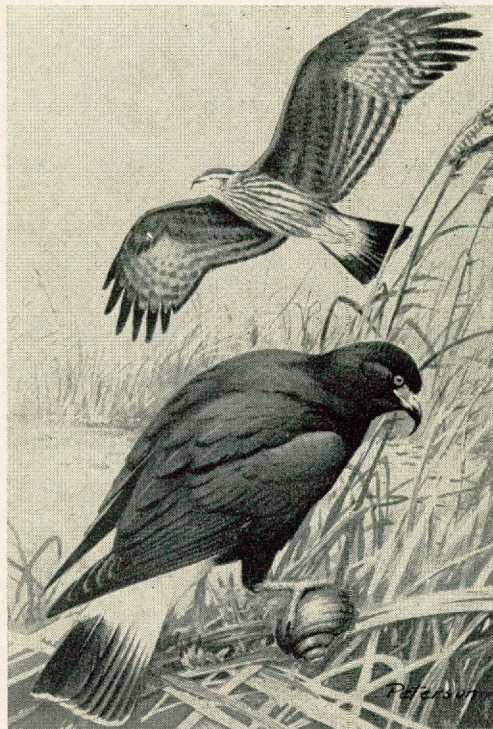
Before touching on any of the above, what does this kite look like? Superficially, it bears a rather strong resemblance to the well-known marsh hawk, but any studied observation will reveal definite differences. The adult male is from 16 to 18 inches in length with a wing-spread of about 44 inches. The head, foreback and wing coverts are deep mouse-gray, the remainder of the body, wings and tail are blackish, the latter being crossed by a wide white band near the base, conspicuous in flight and visible from both above and below. The bill is long, slender and very strongly hooked, the iris bright red.

The female is dark brownish above, with much white marking on the head. The underparts are pinkish-buff, broadly streaked with brownish-black. The wings are very broad and the manner of flight, unlike that of the marsh

hawk's titling and veering, is perfectly level and deliberate.

Aside from its physical appearance, the outstanding characteristic of this kite is the highly selective diet. It eats a single species of fresh-water snail and nothing else. It is, therefore, confined to a fresh-water habitat harboring this creature (*Pomacea caliginosa*) and cannot be expected elsewhere. Within the United States it is found only in Florida and it has not, to the writer's knowledge, ever been seen in any other part of the country. It also occurs in Cuba, eastern Mexico, Central America and a close relative is found in South America.

Although once fairly well distributed over Florida in suitable localities, the Everglade kite is now reduced to a remnant because of changes in its natural environment. Many marshes have been drained with the consequent disappearance of the snail, followed almost at once by disappearance of the kite.



National Wildlife Federation Photo

Its obvious hawk-like aspect has resulted in thoughtless gunners killing it for no other reason than that. Its increasing rarity has led collectors to seek both skins and eggs. These three factors have been responsible for bringing it to its present low point.

Its continued survival and any increase will depend on broadened public interest, posting of the remaining habitat, a careful watch on any project dealing with the raising or lowering of water levels which would affect the snail supply, and warden patrol where possible during the open shooting season. Uninformed or thoughtless duck hunters are a great menace as the kite lives in duck marshes. As many as five dead kites have been found in front of a single duck blind.

• Continued on page 31

There are thrills aplenty
fishing for these
vicious predatory monsters

CATCHING

GARS

ON ARTIFICIALS

By JIM ERICSON



Hugh Mallett with an eight-foot alligator gar he and Jim Mallett conquered in the Rio Grande.

The steady throb of the motor and the rhythmic bump, bump, bump of my lure dragging on the bottom combined to make my mind wander. I thought back to about 1949. That was the year I first did battle with the alligator gar.

It was on the Rio Grande River, where the present world record for that species was caught. The hot Texas sun beat down upon the placid water and was intensified as it reflected back into my white "yankee" face. Abruptly my plug came to a stop, as if fast on the bottom. There wasn't the faintest inkling there was life at the end of the line.

Then my reel began to whine, and line stripped off in sizzling fashion. For a moment I just sat there not certain of my next move. But I was soon brought to my senses as my uncle bellowed in no uncertain terms that I was fast to a gar and not the bottom and that it would be a good idea to set the hook. I landed that gar, about a ninety pounder, but it was by pure luck that I did.

It's now seven years later, and I've learned a good deal about gar fishing and have caught my share of them. I have acquired great respect for this survivor of the pre-dinosaur age and am pleased to note that the gar has gained considerably in the estimation of fishermen the country over.

Gars in the Rio Grande possibly are bigger and more numerous than anywhere else. The world record of 279 pounds was caught here, and my fishing companions and I have caught two gars that measured over eight feet and tipped the scales at about 230 pounds.

Gars in the Rio Grande commute between the river and the Gulf of Mexico, and I have heard that they are not as gamey as those caught in freshwater rivers and lakes. However, most of the gars I have caught have been far from sluggish! Granted, they can't match the tarpon that abound the same water, yet most of them seem to escape.

• Continued on page 27

The Impact

By TOWNSEND MILLER, Editor



**1 in every 4
persons in Texas (27%)
hunted or fished
in 1955
(aged 12 or over)**

**15 % fished only
3½% hunted only
8½% did both
27 % of all Texans**

(National average 1 in every 5 — 21%)

Illustrated by Clay McGaughy

TEXANS during 1955 spent **twice** as much money to hunt and fish as they did for admissions to **all** football, baseball, and basketball games, **plus** all other spectator sports, **plus** all movies and all other stage attractions combined!

The hunting and fishing bill of Texans was **greater** than the total amount they spent for medical care, **plus** dental care, **plus** hospitalization insurance!

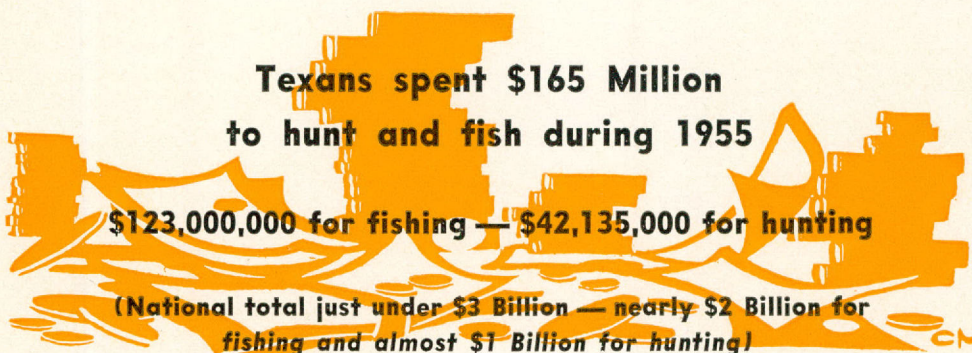
Such is the terrific impact of outdoor sports based on cold monetary figures—not to mention the value to the health and mental well-being of Texans.

These figures are based on an accurate scientific survey conducted for the Game and Fish Commission by Crossley, S-D Surveys, Inc., of New York. As in the national survey conducted by the same firm for the U. S. Fish and Wildlife Service, personal interviews were made in a large cross-section of Texas homes. Extreme caution was used to keep figures on the conservative side.

Aside from the vital figures pictorially presented here, other interesting highlights were noted.

For instance, hunting and fishing is less expensive in Texas than in the rest of the nation. The average Texas fisherman spent \$86.69 during the year compared to a national average of \$91.98. Texas hunters got a better break than that, spending \$59.43 compared to \$79.49 nationally. Texas big game hunters (deer and turkey) averaged spending only \$53.31 compared to a national average of \$73.38.

Texas' lenient license laws are reflected conspicuously in the figures. In Texas 43.4% of the state's hunters did not buy a license, due primarily to generous exemption laws. Throughout the nation, only 15.6% of the hunters did not hold a license. More than half the Texas fishermen (58.3%) fished without buying a license,



**Texans spent \$165 Million
to hunt and fish during 1955**

\$123,000,000 for fishing — \$42,135,000 for hunting

**(National total just under \$3 Billion — nearly \$2 Billion for
fishing and almost \$1 Billion for hunting)**

of Hunting and Fishing in Texas

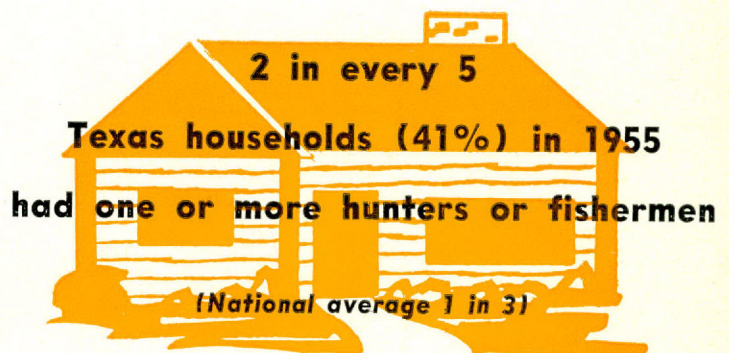
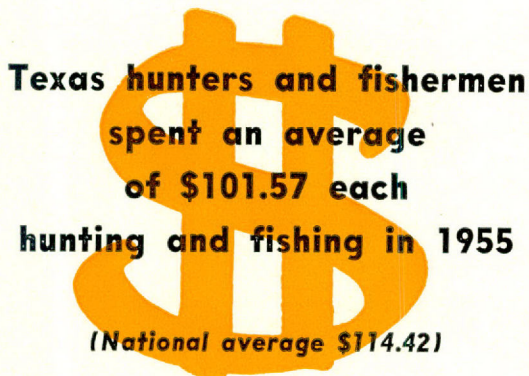
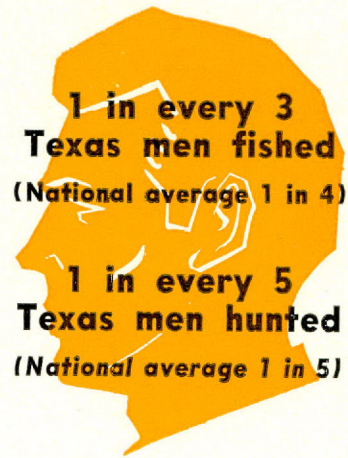
compared to only 34.0% non-holders of licenses nationally.

Eighty-one per cent of Texas' fishermen (89% nationally) fished at least part of the time in fresh water, 32% (22% nationally) fished in salt water, and 13% (10% nationally) did both. Eighty per cent of Texas' hunters (83% nationally) hunted small game, 34% (37% nationally) hunted big game, and 19% (17% nationally) hunted waterfowl, with undetermined numbers participating in more than one kind.

Texas hunters spent an average of 13 man-days hunting on 11 trips and drove 666 miles (national average 14½ man-days, 13 trips, 515 miles), while Texas fishermen averaged 17 man-days fishing on 13 trips totaling 992 miles (national average 19 man-days, 16½ trips, 860 miles).

The national and state surveys provide outdoor enthusiasts and professional workers with concrete evidence of the importance of hunting and fishing, ammunition sadly lacking previously. As the U. S. Fish and Wildlife Service stated in conclusion to the national survey, "The number of participants, the amount of money expended, and the interest from youth to old age, all emphasize that hunting and fishing continue to be the most popular American sports.

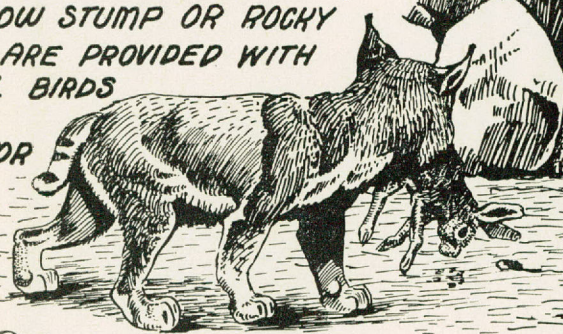
"Apart from the benefits to national health and well-being, it is evident that conservation actions are warranted **purely on the grounds of national income**, as well as for their recreational values to approximately 20 million adults and 5 million minors who fish and hunt."



THE "BOBCAT" PREFERENCES TO DO HIS HUNTING AFTER DARK, BUT OCCASIONALLY STRAYS OUT IN DAYLIGHT. ALTHOUGH HE PREFERENCES THE TANGLE OF DENSE FOREST, HE IS EQUALLY AT HOME IN THE DESERT.



TWO TO FOUR YOUNG BOBCATS ARE RAISED EACH SEASON IN A SECLUDED DEN, USUALLY IN A HOLLOW STUMP OR ROCKY LEDGE. THE YOUNG ARE PROVIDED WITH RODENTS AND SMALL BIRDS WHICH THEY SOON LEARN TO CATCH FOR THEMSELVES.

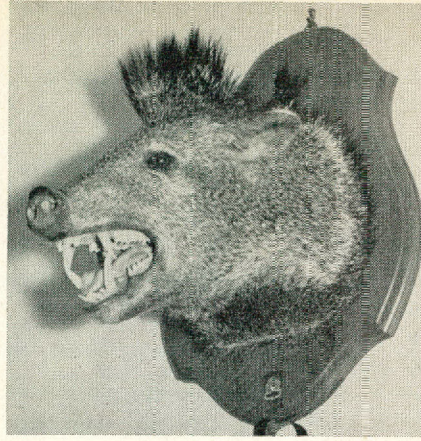


Walton Gude

UNENDING PATIENCE AND REMARKABLE CUNNING COMBINE TO MAKE THE BOBCAT THE DEADLY HUNTER HE IS. HE IS NORMALLY VERY SILENT AND INCONSPICUOUS, BUT.....

... HE QUICKLY AND COMPLETELY FORGETS HIS MANNERS WHEN HE FINDS HIMSELF CORNERED OR WHEN THE SAFETY OF HIS YOUNG IS THREATENED.





You've had the fun of the hunt, the excitement of the kill; now cooking your game can be rewarding, too, if you are willing to . . .



Try Something New

By JEAN RICHMOND, Assistant Editor

AT THIS TIME of the year, a great number of lockers, freezers, and refrigerators are filled with game. Now the problem arises of how to prepare it. This is not a problem merely for the housewife, for a great many men prefer to cook the game they have killed.

There are a number of excellent ways to prepare different kinds of game. And they say variety is the spice of life. So in this and a subsequent article, suggestions for the preparation and cooking of various game meats will be offered. There are many, many different ways of preparing game. These mentioned here are merely offered as additional suggestions to the recipes you have already tried and found good.

You probably don't have any doves left, but in case you do, here is a recipe you might like to try. (It works equally well for quail.)

- | | |
|---------------------|-----------------------------------|
| 6 birds | 6 boiled chicken livers |
| Salt, pepper | onion juice |
| butter | 1 teaspoon finely chopped parsley |
| 3 tablespoons flour | 6 pieces of toast |

Split birds, season with salt and pepper and spread with four tablespoons butter, which has been creamed and mixed with flour. Bake in 425-degree oven until well browned, basting every few minutes with two tablespoons melted butter in one fourth cup water. Chop livers, season with salt, pepper, and onion juice, moisten with butter, add parsley, and spread mixture on toast slices. Place a bird on each slice of toast and garnish with parsley.

Of course broiled quail is one of the tastiest ways of preparing this popular game bird. But here is another recipe that might be just the thing for jaded appetites.

Take 6 dressed quail, 6 slices of dry bread and one can of oysters. Prepare the quail the same as you would a chicken for baking. Place in cold water. Break the bread and mix it with the oysters. Season this mixture with salt and pepper and add hot water to make the dressing as thick as you prefer. Use this mixture for stuffing the birds. After

stuffing the quail, place them in a covered pan and bake in a 350-degree oven for 1½ hours.

Another excellent quail recipe is this one:

- | | |
|---------------------|-------------------------------|
| 4 quail | 6 small mushrooms, sliced |
| salt, pepper, flour | 2 tablespoons chopped parsley |
| ¼ cup butter | 4 slices buttered toast |
| ½ cup water | |

Sprinkle quail inside and out with salt, pepper and flour. Melt butter in a skillet; add quail and brown on all sides. Add water and mushrooms. Cover and cook over low heat 10 minutes. Add parsley, recover, and cook 10 minutes longer, or until tender. Serve on buttered toast with mushroom sauce.

Waterfowl have always been popular with Texas hunters, with ducks and geese holding the edge in popularity. Perhaps the biggest problem with this game is the removal of the feathers and down. Here is a tip that may prove helpful.

Pluck the larger and coarser feathers from the bird. Then pour melted paraffin over the entire bird and dip

● Continued on page 29

Spotting the Birds of Texas



This is the fifth in a series of articles taken from *A Guide to Bird Finding West of the Mississippi* by Olin Sewall Pettingill, Jr. (Oxford University Press, New York) which list some of the interesting birds which appear (in season) in general areas of the state. Each area is divided into smaller localities noting the typical habitat where the birds may be found.

An incomplete list, it is intended only to encourage interest in and enjoyment of birds found in Texas.

SEYMOUR AREA

ROLLING MESQUITE PASTURE LANDS

Mississippi kite
White-necked raven
Bullock's oriole Nesting
Mourning dove
Yellow-billed cuckoo
Scissor-tailed flycatcher
Mockingbird

Road runner
Poor-will
Common nighthawk Nesting
Golden-fronted (Not too
woodpecker common)
Black-crested titmouse
Lark sparrow

ALONG STREAM BEDS

Swainson's hawk
Ferruginous hawk Nesting
Desert sparrow
Cliff sparrow

ABILENE AREA

MESQUITE GROVES, CACTUS AND YUCCA FLATS

Road runner
Scissor-tailed flycatcher
Horned lark
White-necked raven
Verdin Regular Nesting
Loggerhead shrike
Orchard oriole
Bullock's oriole
Lark sparrow
Cassin's sparrow

LAKE FORT PHANTOM HILL AND LAKE ABILENE

Wilson's phalarope
Greater yellow-legs
Lesser yellow-legs
Pectoral sandpiper
White-rumped sandpiper
Baird's sandpiper
Dowitcher

Migrants
(April-May,
Aug.-Sept.)

Avocet (may nest here)
Black-necked stilt

BORDERING WOODLANDS TO ABOVE LAKES

Mississippi kite
Black-chinned
hummingbird Nesting
Ladder-backed woodpecker
Black-crested titmouse

DALLAS AREA

BACHMAN'S LAKE

Mallard
Gadwall
Baldpate
Pintail
Green-winged teal (Mid-Oct. to
Blue-winged teal mid-April)
Redhead
Ring-necked duck
Canvasback
Lesser scaup
Ruddy duck

Wilson snipe
Solitary sandpiper
Lesser yellow-legs
Dowitcher

Mud flats on
Bachman's Lake
(April-May,
Aug.-Sept.)

WOODLANDS ALONG BACHMAN'S CREEK

Brown creeper
Golden-crowned kinglet
Ruby-crowned kinglet
Myrtle warbler
Common goldfinch
Field sparrow
White-throated sparrow
Lincoln's sparrow
Song sparrow

Winter Residents

DALLAS FISH HATCHERY

Green heron
Black-crowned night heron
Yellow-crowned night heron Summer
King rail
Purple gallinule
Florida gallinule

Yellow-shafted flicker
Red-shafted flicker
Common sapsucker
Red-breasted nuthatch
Golden-crowned kinglet
Ruby-crowned kinglet
Orange-crowned warbler
Mourning warbler Winter Residents
Purple finch (Oct.-April)
Pine siskin

MOUNTAIN CREEK LAKE

American egret
Snowy egret (May-Sept.)
Little blue heron
Great blue heron
Avocet (May-Sept., Oct.)
Black tern (May-Aug., Sept.)
Barn swallow (Sept., Oct.)
Swallows (species)
Franklin's gull (Oct., Nov.)

Eastern towhee
Spotted towhee
Savannah sparrow
Field sparrow
Harris's sparrow
Fox sparrow
Lincoln's sparrow
Swamp sparrow

JACKSBORO HIGHWAY (former prairie, now typical cross timbers)

Scissor-tailed flycatcher
Eastern meadowlark Nesting
Western meadowlark
Painted bunting
Dickcissel
Lark sparrow

WOODLANDS AND OPEN AREAS—
MOUNTAIN CREEK LAKE

Ladder-backed woodpecker
Eastern meadowlark Year-round
Western meadowlark Residents
Scissor-tailed flycatcher Nesting

LAKE WORTH PARK (sandy uplands and moist lowlands) Most of the species found in the Botanic Garden, plus:

Whip-poor-will Migrant
Poor-will
Chuck-will's-widow Summer
Black vulture Year-round

HILLY SHRUB AND WOODLANDS—
CAMP KIWANIS

Black-capped vireo (April-Sept.)
Blue-gray gnatcatcher
White-eyed vireo Late Spring and
Red-eyed vireo Summer
Summer tanager

EAGLE MOUNTAIN FISH HATCHERY (State)

Little blue heron Late Summer
Yellow-crowned night heron

DALLAS MUSEUM OF NATURAL HISTORY

Collection of bird skins and bird mounts

Golden plover
Black-bellied plover
Solitary sandpiper
Lesser yellow-legs (Sept.-Nov.)
Pectoral sandpiper
Stilt sandpiper
Western sandpiper

FORT WORTH AREA

BOTANIC GARDEN (woodlands, formal gardens, pools, lagoons, and some prairie)

Yellow-billed cuckoo
Barred owl
Black-chinned hummingbird
Red-bellied woodpecker
Crested flycatcher Nesting
Tufted titmouse
Bewick's wren
Carolina wren
Eastern bluebird
Summer tanager
Painted bunting

Gadwall
Cinnamon teal
Baldpate Transients and
Ring-necked duck Winter Residents
American golden-eye
Buffle-head
Ruddy duck

BOTANIC GARDEN

Red-shouldered hawk

Ring-billed gull
Laughing gull
Franklin's gull Late October
Bonaparte's gull
Least tern
Black tern

The American Badger

By DR. WILLIAM B. DAVIS
Texas Agricultural and Mechanical College

Illustrated by Walton Cude



UNLIKE OTHER MEMBERS OF THE WEASEL FAMILY, TO WHICH HE BELONGS, THE BADGER DIGS FURROWS FOR HIS SHELTER.

ALTHOUGH HE IS USUALLY VERY TIMID, WHEN CORNERED THE BADGER COMMANDS RESPECT FROM MAN AND BEAST ALIKE.

PROVIDED WITH A LOW-SLUNG, POWERFUL BUILD, AND OVERSIZED CLAWS, THE BADGER PREYS ON RODENTS IN UNDERGROUND TUNNELS, OVERTAKING EVEN THE SWIFT GOPHER.



Walton
Cude



HE CAN WHIP his weight in wildcats and come up smiling. This is a tribute that has often been paid to the courageous badger. But in spite of tenacity of purpose and the will to win when cornered, the badger is actually a tractable animal and makes a good pet.

Those who roam the wide open spaces of the western half of Texas are familiar with *Taxidea taxus*, but not likely by that name, for most of us have an allergy for scientific names.

In addition to western Texas, our badger occurs over a vast expanse of the dry-land areas of North America—from the Pacific coast east to Michigan and Ohio and from Saskatchewan, Canada, southward to the southern end of the Mexican Plateau. Several distant cousins occur in Europe and Asia. But our badger is strictly American although he, like most of us, has his roots in the Old World.

A technical description of this animal runs about as follows: A rather large, robust, short-legged "weasel"; body broad and squat; tail short, thick, and bushy, usually shorter than the outstretched hind legs; pelage (fur) long and shaggy, especially on back and sides; upperparts grizzled grayish in color; a distinct white stripe from near tip of nose back over top of head to shoulder area, also a white crescent on each side of face just back of eye and another one at anterior base of ear, enclosing or outlining a large blackish area; snout and rest of head grayish or blackish; underparts yellowish white; feet blackish; five toes on each foot; front feet large, with claws an inch or more in length; hind feet smaller, claws much shorter; skin loose on the body; eyes and ears small; neck short. Dental formula: I $\frac{3}{3}$, C $\frac{1}{1}$, Pm $\frac{3}{3}$, M $\frac{1}{2} \times 2 = 34$. Young similar to adults in color and pattern. External measurements of an adult male are about as follows: total length, $31\frac{1}{2}$ inches; tail, $5\frac{1}{2}$ inches; hind foot, $4\frac{3}{4}$ inches; the female is somewhat smaller. Weight of adults ranges from 10 to 23 pounds, averaging about 14 pounds.

Badgers occupy a variety of habitats. They are most common in the prairie and desert sections of the West, but limited numbers venture into the mountains. In general they occupy the same range inhabited by ground squirrels and prairie dogs, on which they rely in large measure for food. Altitudinally their range extends from sea level, as on Padre Island, Texas, to at least 11,500 feet in Colorado.

As suggested by the disproportionately long front claws, badgers are expert diggers, and their short powerful front legs can move earth with amazing speed. On Padre Island I encountered one as it sought refuge in a shallow burrow in a sand bank. Three of us, working frantically with shovels for more than an hour, were so far out-distanced in our race to capture the animal that we gave up. On another occasion in the state of Puebla, Mexico, five of us, in relays, were unable to dig fast enough to overtake a wounded

badger that sought refuge in an originally relatively shallow burrow. In each instance the badger impeded our digging by leaving his freshly excavated earth in the burrow behind him.

Although not ordinarily found in the vicinity of water, badgers are adept swimmers. Mr. N. A. Wood records the capture of an adult female that was swimming across Devil's Lake in North Dakota, which, at that point, was about one mile wide. The animal was about half way across, swimming with apparent ease, and making rapid progress. This observation indicates that rivers would not offer much of an obstacle to the movements of badgers.

It is a common belief that badgers hibernate in winter, but such is not the case. They may sleep through several days of inclement weather, as do skunks and bears, subsisting on fat stored in the body, but they do not experience the physiological changes characteristic of true hibernation, namely, considerably reduced rate of respiration, lowered body temperature, insensibility, and reduced rate of heart beat. They are frequently encountered in winter, particularly on mild days, and in the southern parts of their range they are active throughout the year.

As indicated above, the chief food of badgers is members of the ground squirrel tribe that live in burrows in the ground, but those squirrels inhabiting rocky areas are relatively safe from them. In addition, pocket gophers, kangaroo rats, other burrowing rodents and cottontails are dug out, caught, and eaten. In the lake and marsh country near Ruthven, Iowa, Dr. Paul Errington found that in June and July badgers had eaten ground squirrels (53%), meadow mice and white-footed mice (30%), bees, ants, beetles and other insects (9%); the remainder (8%) consisted of birds, birds' eggs, reptiles, frogs, and undetermined items. Two other biologists, also working in Iowa, reported that the badgers' food from March 15 to December 15 was made of the following items: ground squirrels, mice, cottontails, birds, snakes, and insects, in order of frequency, plus a small amount of plant material. Dr. E. R. Hall reports the stomach contents of a badger from Nevada were one lizard, three horned toads, a large camel cricket, and six other kinds of insects.

The breeding habits of badgers are not well known. The mating season is July and August. The 2 to 5 young are born the following spring in a nest in an underground den. According to Mr. G. Jennison, the length of the gestation period is 183 days, but I am inclined to the view that it is considerably longer and that foetal development is arrested for several weeks after it has begun.

Badgers are promiscuous in their marriage relations, hence the full responsibility of rearing the family falls on the mother. Her offspring remain with her for several months before the family ties are broken.

Badger fur ordinarily does not command a high

● Continued on page 29

EXCLUSIVE, VAS?

If you read about the first annual reunion of the "Whooper Network," peep a note of comprehension. This unique outfit comprises official and unofficial state wildlife observers along the north-south flyway of the giant Whooping Cranes. They exchange data on the migrating celebrities and provide valuable check point information for ornithologists. Acknowledged authorities credit the network for strengthening security for the rare birds. It stretches from Aransas National Wildlife Refuge on the Gulf coast wintering grounds to Great Slave Lake and other far north summering areas and comprises a sprinkling of internationally prominent persons. Of course, Gus T. McMammal, Texas' own layman wildlife watchdog, is a member—that is until it comes to dues paying.

FISHLESS DINNERS

A lot of Central Texas folks went home without expected fish dinners—but happy—when Game and Fish Commission biologists renovated Inks Lake. The selective kill of gizzard shad, by use of rotenone chemical, was so successful that the usual small percentage of game fish was not affected, and very few edible fishes were retrieved by the people watching the operation. The treatment was rough on the shad because they are very sensitive to rotenone.

GOOD DEED

Ken Foree, Outdoor Editor of the *Dallas Morning News*, cites Game Warden Charlie Boynton of Quanah, and his fellow townspeople for teaching the local kids gun safety and for providing a cash reward for persons shooting quail out of season.



GUS T. IN PERSON

Between the clamoring of his public and the honking of wild geese, Gus T. McMammal closed both eyes and pulled both barrels. And this is what happened—two fine snows. The incident occurred in Colorado County where concentrations of geese and ducks have gained tremendous proportions.

CALLING ALL CARS!

A taxidermist transporting deer horns and hides touched off an Austin alert. When he raised his car trunk top, somebody saw the "evidence," and called Game and Fish Commission headquarters with the license number. A check showed the man to be Lem Rathbone, moving some potential trophies to his workshop. The tipster certainly got an "E" for effort.

COOPERATIVE DUCKS

Game Warden Supervisor Pug Mullinax of the Coastal Bend area, reports wild ducks volunteered to help cut the crop surplus; specifically by raiding coastal rice fields before the harvest.

THE BIG BRUSHOFF

A fellow never knows what to expect when he's on hunting location, or otherwise engaged in the out of doors. Take Clifford West of Waxahachie. Here's his big moment: "On the 16th of October this year while sitting on top of a mountain in Colorado, I heard a loud noise over my head. A large flock of geese was trying to join a pair of whooping cranes. After about five minutes of honking and going around and around, the geese flew off in a westerly direction. The whooping cranes circled around once more and continued to fly in a southerly direction. This incident happened about thirty-five miles southwest of Rangley, Colorado, near Douglas Pass." West modestly revealed in the last sentence of his report to the Texas Game and Fish Commission that he won where the geese failed, because he got his two buck deer, each dressing about 175 pounds.

FISHERMAN HOOKED

A Houston man explained in traffic court he was hurrying to Galveston on a tip "they were bitin!" The judge preferred a tip from a policeman that the angler was doing 105 MPH in a 55 MPH zone. Bait money took a beating—" \$120 for speeding plus \$10 for changing lanes," said His Honor.

RED HEADED TURKEY

AP reported a Florida shooting accident with a weird twist, even better than a tall Texas tale. A man admitted mistaking another wild turkey hunter for fair game, even though the target wore a red cap. The victim sued for \$50,000 damages for permanent injuries sustained when shot lodged in his neck. The jury allowed \$7500.

Press Views Game Notes

TURKEY TWITCHES

Gus T. McMammal, wildlife exploiter extraordinary, came back with the wild turkey twitches after risking his first Texas big game hunt down in Colorado county. Gus had his back to a stump guarding a deer runway when a flock of nineteen turkeys sneaked up on him, looked over his shoulder at his wrist watch and began jabbering about how late in the day it was. Gus T. did just what any other rookie hunter would have done—gazed in wonder at the pretty sight—while the gaudily decorated toms quickly led the hens back into the brush. Gus T. hadn't anticipated such a setting, but he correctly surmised that the turkey season was closed on the ranch where he was observing nature (some others called it hunting).

THE SOFT APPROACH

Bob Brister, astute outdoor editor for the *Houston Chronicle*, devoted an entire column to chiding the current generation for not being more resourceful in seeking out hunting and fishing spots in the back country which have not been exploited. He recalled his own boyhood experiences in exploring an old brushy creek bed rich in squirrel hunting and bass fishing, but concluded that he now was as prone as anyone toward seeking the soft approach.

DALLAS LION TAMER

Don Swanson, outdoor editor for the *Dallas Times-Herald* reported the jackpot of a home town hunter—Matt Smith—who went deer hunting in Colorado and made good a shot at a mountain lion. The Dallas party of five returned home with the lion hide, ten deer and a bull elk.



WATCH OUT FISHES!

Two lookalikes are the Horton boys, of Ingleside, shown bearing down on the fish off the Rockport seawall. Primary target were sheepshead, fighting little fellows with a high frying pan value, found along the mossy rocks in shallow water when the water's "just right." The boys are alike in looks only. Far from being twins, King Richard Horton (left) is thirteen and Thomas Wade is ten. The Hortons formerly resided in Dallas.

RED ALERT

The *Houston Post* editorialized on the prominence the austere *London Sunday Times* devoted to hunting accidents, and went on beyond to debunk the faith some gunners place in red clothing as a safety measure. The *Post* stressed that many hunters are color blind and therefore "cannot tell a red jacket from a deer's hide." It added that California authorities estimated that fifty thousand of six hundred fifty thousand licensed hunters are color blind and that lemon yellow has been preferred as a safety color.

BUG-EYED GUNNER

Nominated for the man with the most exciting experience was the Lake Texoma duck hunter who reported to Game Warden Hill Lawrence that he saw five whooping cranes, or rather almost touched five whooping cranes. He was crouched in his blind awaiting the legal opening time—one half hour before sun-

rise—when the giant birds flew over at the tail end of a flock of geese. The man stuttered his breathtaking observation to Lawrence, estimating the whoopers' altitude at thirty feet. "Must have felt the prop wash," noted Lawrence, "because those babies have a wing spread of seven feet."

GUS T. DOES BIT

Out in the Colorado river bottoms where nature's minions carry on their constant feuding for possession of the scant available cover—way out there Gus T. McMammal is trying to set a layman pace in demonstrating use of multiflora rose for wildlife habitat. Gus chiseled a small stock of the precious plants and hopes to confirm what his peers—the professionals—keep telling him about providing a place where the small members of the Animal Kingdom may keep house and rear their families prolifically and in the proper environment.

YOU CAN'T WIN

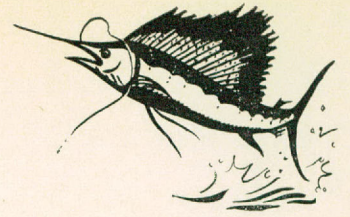
Fence hopping Texas gunners may be interested in the AP yarn about the Zanesville, O., hunter. He recalled safety rules about separating hunter from gun in going over a fence, shoved his weapon under the fence and then jumped it, breaking his ankle.

SPARE THE SNAKES!

Buckshot Lane, South Texas authority on the general situation, wrote in his *Houston Post* column urging motorists to not risk their own necks, nor endanger beneficial reptile resources, by trying to run down snakes on the highway. Beyond the peril of pulling out of a traffic lane to crush the serpents, Lane stressed that "not all of these snakes are bad," and "the great majority of those we have in Texas are here to destroy insects and pests."

RACCOONS RACKED UP

Game Warden Tom Waddell of Eagle Lake, reported that forty-five raccoons were killed over a several weeks' period in raiding a feed barn in Colorado county. He said drought had made the varmints desperate.



The first of a two-part bibliography

Sources of Information

Compiled by JEAN RICHMOND, Assistant Editor

Every day a number of letters are received by the Game and Fish Commission requesting information on various forms of wildlife, their habits and their habitat. Questions such as "Can a buzzard smell?" and "Will a praying mantis bite?" are an everyday occurrence. Others like "How can you tell a boy horned toad from a girl horned toad?" and "Why do rattlesnakes have rattles?" may cause an occasional chuckle, but they are important to the writer. Many of these letters must be answered by trained and experienced personnel of the Commission, however, many more of them need never have been written, if the writer had known where to find the information for himself. Most of these people write the Game Commission simply because they don't know of any other source of information. For the thousands of such requests each year, almost an equal number of man-hours must be spent in answering them. Because time and the number of available personnel do not permit as complete answers as the writers might prefer, it is our intention to attempt to provide a bibliography which will aid the inquirer in his search for knowledge.

These books and sources of information will not contain everything. That would be impossible. But maybe they will help. Most of them can be found in the local public or school libraries. Many of them are probably on bookshelves in homes. In some cases the County Agent might be able to furnish the reference material.

We have contacted a number of authorities in the various wildlife fields and have asked them for their suggestions for reference material for the average reader. These lists of books, their authors and publishers, are the result of our questions. The books are the choices of recognized authorities in their respective fields. A brief digest of the books listed will be found at the end of this article. This may prove helpful in choosing

the book best suited to answer specific questions.

In many instances helpful suggestions were offered for obtaining more specific information on certain subjects. For example, Dr. E. P. Cheatum of the Biology Department at Southern Methodist University stated that he would be glad to identify Texas shells for anyone truly interested and who has not been able to obtain a satisfactory identification of specimens elsewhere. The Extension Entomologist at Texas A. & M. College, College Station, can identify insects of particular interest to farmers, when identification cannot be easily obtained. The personnel of the Entomology Section of the Texas State Department of Health at Austin would be glad to identify insects such as mosquitoes, ticks and fleas, which are of public health significance.

Of course the Game and Fish Commission biologists are always available, but they are the first to admit that they may not have all of the information. And many of the references listed here are those used by the Commission in answering your questions—when they have time.

Books on Mammals

A FIELD GUIDE TO THE MAMMALS. W. H. Burt. Houghton Mifflin Company, Boston, Mass. (1952). Well illustrated with color plates. A good reference for the beginner in the identification, characteristics and habits of species of mammals occurring north of Mexico. Convenient size for field use.

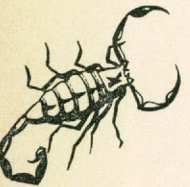
THE MAMMALS OF TEXAS. W. P. Taylor and W. B. Davis. Bulletin No. 27. Game and Fish Commission, Austin, Texas. (1947) Illustrated with black and white photos. Descriptions and distribution of the mammals occurring in Texas.

FIELD BOOK OF NORTH AMERICAN MAMMALS. H. E. Anthony, G. P. Putnam's Sons, New York, N. Y. (1928) Semi-technical; an older book with much useful information about mammals north of Mexico.

THE MAMMAL GUIDE, MAMMALS OF NORTH AMERICA NORTH OF MEXICO. Ralph S. Palmer. Doubleday and Company, Garden City, N. Y. (1954) Excellent short accounts of habits and distribution of mammals north of Mexico including some of the marine mammals; includes range maps. Illustrated with color-plates and line drawings by the author. Semi-technical.

LABORATORY MANUAL OF MAMMALOGY. E. L. Cockrum. A technical discussion of the physical characteristics of mammals.

PRINCIPAL GAME BIRDS AND MAMMALS OF TEXAS. Compiled and published by the Texas Game and Fish Commission. (1945) Well illustrated with black and white photos and excellent range maps. Semi-technical discussions of various birds and animals in Texas.





(Books on Mammals Continued.)

MAMMALS OF NORTH AMERICA. V. H. Cahalane. The Macmillan Company, New York, N. Y. (1947) The lives, habits and distribution of North American mammals giving a fairly complete natural history and excellent bibliographic references.

MAMMALS	Davis	Walker	Stalleup
	A FIELD GUIDE TO THE MAMMALS W. H. Burt	*	*
THE MAMMALS OF TEXAS W. P. Taylor and W. B. Davis	*	*	
FIELD BOOK OF NORTH AMERICAN MAMMALS H. E. Anthony		*	
THE MAMMAL GUIDE, MAMMALS OF NORTH AMERICA NORTH OF MEXICO, R. S. Palmer	*		
LABORATORY MANUAL OF MAMMALOGY E. L. Cockrum			*
PRINCIPAL GAME BIRDS AND MAMMALS OF TEXAS Compiled by Texas Game and Fish Commission		*	
MAMMALS OF NORTH AMERICA V. H. Cahalane	*		

Dr. W. B. Davis, Head of the Department of Wildlife Management, Texas A. and M. College;

Dr. William B. Stalleup, Assistant Professor, Department of Biology, Southern Methodist University;

Eugene A. Walker, Director Wildlife Restoration Division, Texas Game and Fish Commission.

INSECTS	Eads	Breland	Cheatum
	HOW TO KNOW INSECTS H. E. Jaques	*	*
THE INSECT GUIDE Ralph B. Swain	*	*	
INSECTS, THE YEARBOOK OF AGRICULTURE Supt. Of Documents, Washington, D. C.	*		*
AN INTRODUCTION TO THE STUDY OF INSECTS Donald J. Borror and Dwight M. DeLong		*	
INSECTS. A GOLDEN NATURE GUIDE Herbert S. Zim and Clarence Cotton		*	
SPIDER BOOK The Comstock Press			*
4-H CLUB INSECT MANUAL Jones	*		
HOW TO KNOW THE IMMATURE INSECTS H. F. Chu			*

Dr. E. P. Cheatum, Chairman, Department of Biology, Southern Methodist University.

Dr. Richard B. Eads, In Charge Entomology Section, Texas State Department of Health;

Dr. O. P. Breland, Professor of Zoology, University of Texas.

Books on Insects

HOW TO KNOW THE INSECTS. H. E. Jaques. W. C. Brown Company, Dubuque, Iowa. (1947) A discussion of general identification and characteristics of insects, including their foods, habits, and habitat. For use by students and laymen.

THE INSECT GUIDE. Ralph B. Swain. Doubleday & Co., Garden City, N. Y. (1948) Illustrated in color and black and white. Interestingly written, would be a good reference for the beginner.

INSECTS, THE YEARBOOK OF AGRICULTURE. U. S. Government Printing Office, Washington, D. C. (1952) Illustrated with color plates and black and white figures. An excellent introduction to the study of entomology. Probably the best and cheapest publication on insects that are agricultural pests.

AN INTRODUCTION TO THE STUDY OF INSECTS. Donald J. Borror and Dwight M. DeLong. Rinehart & Co., New York, N. Y. (1954) Well illustrated with photographs, drawings and keys. Quite complete but written to be used as a textbook for a course in entomology. Principally for the student.

INSECTS. A Golden Nature Guide. Herbert S. Zim and Clarence Cotton. Simon and Schuster, New York, N. Y. (1951) Of interest to children and adults with no formal training in entomology. Illustrated.

SPIDER BOOK. The Comstock Press, Ithaca, N. Y. An excellent reference for the layman for the identification and knowledge of spiders.

4-H CLUB INSECT MANUAL. Jones. U. S. Department of Agriculture Miscellaneous Publication, Government Printing Office, Washington, D. C. (1949) Published specifically for the use by 4-H groups this is an excellent general reference for the layman and student on the identification, habits and lives, and control measures for various insects.

HOW TO KNOW THE IMMATURE INSECTS. H. F. Chu. W. C. Brown Co., Dubuque, Iowa. A guide for the identification of various life stages of insects for the layman and student. Illustrated.

REPTILES AND AMPHIBIANS	Brown	Curtis	Toole	Flurry	Cheatum
	FIELD BOOK OF SNAKES Karl P. Schmidt and Dwight D. Davis	*	*	*	*
HANDBOOK OF LIZARDS Hobart M. Smith	*	*		*	*
HANDBOOK OF SALAMANDERS Sherman C. Bishop	*	*		*	*
HANDBOOK OF TURTLES Archie Carr	*	*		*	*
HANDBOOK OF FROGS AND TOADS A. H. Wright and Anna A. Wright	*	*		*	*
AN ANNOTATED CHECK LIST OF THE REPTILES AND AMPHIBIANS OF TEXAS Bryce C. Brown				*	
THE NATURAL HISTORY OF NORTH AMERICAN AMPHIBIANS AND REPTILES James A. Oliver	*	*			
THE REPTILE WORLD Clifford H. Pope		*			

Bryce C. Brown, Curator, Strecker Museum, Baylor University; Lawrence Curtis, Curator, Fort Worth Zoo and Aquarium, Fort Worth; Marion Toole, Chief Aquatic Biologist, Texas Game and Fish Commission;

Al Flurry, Aquatic Biologist, Texas Game and Fish Commission; Dr. E. P. Cheatum, Chairman, Department of Biology, Southern Methodist University.

Books on Reptiles and Amphibians

FIELD BOOK OF SNAKES. Karl P. Schmidt, Dwight D. Davis, G. P. Putnam's Sons, New York. (1941) Illustrated with photographs and color plates. Good reference for identification with excellent bibliography and references for each State.

HANDBOOK OF LIZARDS. Hobart M. Smith. Comstock Publishing Co., Ithaca, N. Y. (1946) Keys and information on collecting and preserving lizards with notes on habits, life history and distribution.

HANDBOOK OF SALAMANDERS. Sherman C. Bishop. Comstock Publishing Co., Ithaca, N. Y. (1943) Keys to adults and larvae of salaman-

ders. Each species pictured with descriptions and notes on habits.

HANDBOOK OF TURTLES. Archie Carr. Comstock Publishing Co., Ithaca, N. Y. (1952) Keys, photographs and range maps of turtles of North America and Baja, California, with excellent accounts of habits.

HANDBOOK OF FROGS AND TOADS. A. H. Wright and Anna A. Wright. Comstock Publishing Co., Ithaca, N. Y. (1949) Keys for identification of adults with descriptions of species, including eggs, larvae and adults. Illustrated. An excellent reference to the tailless amphibians of the U. S.

AN ANNOTATED CHECK LIST OF THE REPTILES AND AMPHIBIANS OF TEXAS. Bryce C. Brown. Baylor University Press, Waco, Texas. (1950) Primarily concerned with the identification and classification of the various animals.

THE NATURAL HISTORY OF NORTH AMERICAN AMPHIBIANS AND REPTILES. James A. Oliver. Van Nostrand Co., Princetown, N. J. (1955) One of the best books on this subject written for both the layman and student of natural history.

THE REPTILE WORLD. Clifford H. Pope. Alfred Knopf, New York, N. Y. (1955) An excellent book concerning the lives and habits of the reptiles.

and Clark Hubbs. Vol. XI, No. 3, Texas Game and Fish Magazine, March, 1953. No illustrations. List includes most fish found in Texas waters. (Free reprints available)

THE FISHES OF NEW MEXICO. William J. Koster. (Yet to be published.) Though principally for the New Mexico area will include fishes which are found over most of the Southwest.

VERTEBRATES OF NORTH AMERICA. Blair, Blair, Brodtkorb, Cagle, and Moore. (Tentative publication date 1957.) Includes a chapter on fishes by George A. Moore which covers the entire United States, but is best for the Southwest.

HOMEMADE FISHING. Verne E. Davison. Stackpole Publishing Co., Harrisburg, Pa. (1953) General reference for construction of a "home-made" fish pond and its management.

FISH PONDS FOR THE FARM. Frank C. Edminster. Scribners and Son, New York, N. Y. (1947) General reference for pond construction and management for the farm. Includes information on stocking farm ponds.

PROPAGATION OF MINNOWS AND OTHER BAIT SPECIES. J. R. Dobie, O. L. Meehan and G. N. Washburn. Superintendent of Documents, Washington 25, D. C. Complete discussions on methods for propagating minnows and bait fish in natural and artificial ponds. Illustrated.

FRESH WATER FISHES	Hubbs	Reid	Toole	Moore
FISHES OF THE GREAT LAKES REGION Carl L. Hubbs and Karl F. Lagler		*	*	*
IOWA FISH AND FISHING James R. Harlan and Everett B. Speaker		*	*	*
AMERICAN FOOD AND GAME FISHES D. S. Jordan and B. W. Everman			*	
STREAM SURVEYS OF THE GUADALUPE AND SAN ANTONIO RIVERS, Robert A. Kuehne		*		
CHECKLIST OF TEXAS FRESH-WATER FISHES, TEXAS GAME AND FISH MAGAZINE, Vol. XI, No. 3 Kenneth C. Jurgens and Clark Hubbs		*		
THE FISHES OF NEW MEXICO† William J. Koster	*			
VERTEBRATES OF NORTH AMERICA† Blair, Blair, Brodtkorb, Cagle and Moore	*			
BOOKS ON FISH PONDS				
HOMEMADE FISHING Verne E. Davison		*		
FISH PONDS FOR THE FARM Frank C. Edminster		*		
PROPAGATION OF MINNOWS AND OTHER BAIT SPECIES Dobie, Meehan and Washburn			*	

†Not yet published.
Dr. Clark Hubbs, Assistant Professor of Zoology, University of Texas;
Dr. George K. Reid, Assistant Professor of Wildlife Management (Fisheries), Texas A. and M. College;
Marion Toole, Chief Aquatic Biologist, Texas Game and Fish Commission;
Dr. Geo. A. Moore, Professor of Zoology, Oklahoma A. and M. College.

Books on Freshwater Fishes

FISHES OF THE GREAT LAKES REGION. Carl L. Hubbs and Karl F. Lagler. Cranbrook Institute of Science, Bull. 26, Bloomfield Hills, Michigan. (1947) Well illustrated, excellently executed book which will serve the layman in generally identifying a given fish.

IOWA FISH AND FISHING. James R. Harlan and Everett B. Speaker. State of Iowa Conservation Commission. (1951) Illustrated. Contains a check-list of fishes with keys to identification. Especially good in discussion of habitats, food, reproduction of fishes.

AMERICAN FOOD AND GAME FISHES. D. S. Jordan and B. W. Everman. Doubleday Page and Co. (1908) (Out of print but available in libraries.) Illustrated with colored plates, drawings, photographs. General account of nearly all species in North America, including methods for catching.

STREAM SURVEYS OF THE GUADALUPE AND SAN ANTONIO RIVERS. Robert A. Kuehne. Texas Game and Fish Commission, Austin, Texas. (1955) Numerous figures. Includes listings of the various fishes found in these typical Texas rivers, their descriptions, habits and habitat.

CHECKLIST OF TEXAS FRESH-WATER FISHES. Kenneth C. Jurgens

MARINE SHELLFISHES

	Gunter	Hildebrand	Hofstetter
A FIELD GUIDE TO THE SHELLS Percy A. Morris	*	*	*
AMERICAN SEASHELLS R. Tucker Abbott	*	*	*
EAST COAST MARINE SHELLS (3rd. Ed.) Maxwell Smith	*		*
MARINE SHELLS OF THE WESTERN COAST OF FLORIDA, Louise M. Perry and Jeanne S. Schwengel	*	*	
AN ILLUSTRATED CHECK LIST OF MARINE MOLLUSKS OF TEXAS, T. E. Pulley			*
SHELL COLLECTOR'S HANDBOOK A. E. Verrill			*
THE SHELL BOOK Julia Rogers			*
SEASHORES H. S. Sim and Lester Ingle			*
FIELD BOOK OF SEASHORE LIFE Roy Waldo Miner			*

Dr. Gordon Gunter, Director, Gulf Coast Research Laboratory;
Dr. Henry Hildebrand, Acting Director, University of Texas Institute of Marine Science;
Robert P. Hofstetter, Marine Biologist, Texas Game and Fish Commission.

Books on Marine Shellfishes

A FIELD GUIDE TO THE SHELLS. Percy A. Morris. Houghton, Mifflin Co., Boston. (1951) Illustrated, including some colored photos. Recommended as a general handbook.

AMERICAN SEASHELLS. R. Tucker Abbott. D. Van Nostrand Co., New York. (1954) Well illustrated, contains descriptions of more than 1,500 marine mollusks. Good bibliography.

EAST COAST MARINE SHELLS (3rd Ed.) Maxwell Smith. Edwards Bros., Inc., Ann Arbor, Mich. (1945) Discussions and descriptions of marine shells, many of which are found on the Gulf Coast.

MARINE SHELLS OF THE WESTERN COAST OF FLORIDA. Louise M. Perry and Jeanne S. Schwengel. Paleontological Research Institution, Ithaca, New York. (1955) Good outline of shells which may be found in semi-tropical waters.

(NOTE: If the layman can obtain all four of the above mentioned books, he will find practically all the information he wants about these animals on the Gulf Coast.)

AN ILLUSTRATED CHECK LIST OF MARINE MOLLUSKS OF TEXAS. T. E. Pulley. Texas Journal of Science, Vol. 4, No. 2. (1952) Available in most libraries.

SHELL COLLECTOR'S HANDBOOK. A. E. Verrill. G. P. Putnam's Sons, New York. (1950)

THE SHELL BOOK. Julia Rogers. Charles T. Branford Co., Boston, Mass. (1936)

SEASHORES. H. S. Sim and Lester Ingle. Simon and Schuster, New York. A "Golden Nature Guide." (1955) Excellent book for the amateur containing colored illustrations of shellfish. Text concerns coastal plant and animal life.

FIELD BOOK OF SEASHORE LIFE. Roy Waldo Miner. G. P. Putnam's Sons, New York. (1950) Popularly written, well illustrated book which contains a section on shellfish.

GUNS

and

SHOOTING

This Month: First Gun

By JOHN A. MASTERS

Many boys, and girls, too, look forward eagerly to the day when they can own their own gun. Normally people think of guns in the hands of boys or men. However, not a few of the fairer sex love the smell of burning gunpowder, and they often give their brothers or dads a run for their money when it comes to marksmanship. To many parents the problem of the First Gun is one that is not easily dealt with.

Despite the fact that this country was born through the proper use of firearms by a dedicated group of men, and built in large measure by the use of the same device, and despite the fact that *this is the only country on earth where complete freedom with firearms exists*, many

of our adult citizens are not familiar with firearms.

This, to me, is a sad state of affairs. I firmly believe that to a boy, his American heritage guarantees that he may possess and use firearms. That his father is unfamiliar with guns usually stems from the fact that his grandfather was likewise unfamiliar with them. Somehow, the idea grew within the family that guns were dangerous, or perhaps not altogether nice. The result is that in many homes throughout the land, guns are unknown.

Now, I have no desire to advise any parent in the matter of rearing his family. I know from my own experience that advising in such

matters is rushing in where angels fear to tread. I do, however, want to present my thoughts concerning my own son and firearms. I leave it entirely to each father what he thinks and does.

First, let me cite some interesting facts. It has been shown by social studies that the out-of-doors tends to bring out the best in a man. Witness the fact that less than 2% of people committed to our penal institutions hold valid hunting or fishing licenses. At the risk of seeming poetic, let me say that I know of nothing that can put body and soul together the way a few days spent in the out-of-doors will.

Guns belong in the out-of-doors. Give a lad a rifle, teach him to use it, give him an opportunity to hunt as a sportsman should, and you may in large measure stop worrying about the possibility of his getting into trouble.

Let's consider my own son Garth as an example. He is barely five, but he has taken to guns as naturally as a duck to water. He will spend hours with me in the gun room, watching the minor repairs I make, helping me with the cleaning and oiling, or watching intently as I load up a batch of homebrew ammunition. Numerous times I have heard him talking to his buddies in the neighborhood, and quite frequently, I allow him to bring them in and show off my guns and equipment. No peacock has ever been prouder.

Of course, Garth isn't old enough to shoot a gun effectively, but he already has a profound respect for my guns, and wouldn't think of touching one without permission. He has learned, already, never to

Shootin' Shorts

Shooters wishing to buy a gun a little out of the ordinary might well look over some of the many fine imported guns now being offered in this country. Some of the European made guns show the patient hand-fitting and polishing of parts not evident in many factory rifles produced in this country. For instance, I have a fine little Brno Czech rifle chambered for the 8x57 Mauser cartridge which is one of the most accurate factory rifles I have ever owned. With a Kollmorgen Bear-Cub 2 $\frac{3}{4}$ X scope and 150 grain Sierra Bullets ahead of 45 grains of 4064, I have repeatedly shot 5 shot groups that went under an inch at 100 yards.

These imported guns usually cost more, but they are finer guns and worth more.

I have for several weeks been using a Grigsby case trimmer. It's a mighty convenient little tool, utilizing a collet type holder for the case head, and an easily changed pilot for the neck. I suggest that anyone using a trimmer obtain a case gauge so that all cases can be trimmed the same length.

Vernon Speer sent me a package of his new products recently. Included were samples of his new impregnated cleaning patches. These patches are soaked in a silicon oil compound, and do a wonderful job of bore cleaning. They can also be used to wipe the exterior of the gun to prevent rust. Vernon's reloading handbook is one of the best. All loads have been chronographed, and virtually all new loads have been included.—J.M.

point even his toy guns at his playmates, and he is looking forward eagerly to the day when he can have his own guns. It's closer than he thinks.

He goes with me on hunting trips, frequently. Mostly we shoot jackrabbits and prairie dogs in the off season, and the game birds and animals of the countryside in season. He is a patient retriever of doves at the water hole, or the squirrels that drop in the dry creek beds where we do most of our hunting. He will sit motionless for incredible lengths of time while we wait for a hidden squirrel to show up.

I take him deer hunting, and marvel at the way his far-sighted childish vision finds and identifies deer before I see them. He is boyishly enthusiastic as we clean our kill, and is always ready to go back with me in the off season and relive the great moments.

I imagine a good many fathers have to face the same problem I have. A little while ago, I called my good wife aside, and showed her in the gun catalog the little-boy sized .22 single shot that Garth found under the Christmas tree. She went from amazed disbelief to horror in her protests. She thought of every possible reason why a five year old should not have a gun. To her anxious mother's way of thinking, I was putting in his hands an instrument of his own certain destruction. Yet every day, she watches him ride his bicycle inches from the modern chrome trimmed agents of destruction that whiz past him, and thinks nothing of it.

What Ann didn't know was that for a good many weeks, Garth and I had been discussing this gun. What is more, he agreed that for a long time yet, it would hang in the rack, except when we're learning about it together. He knows that when we go to the range, he will be allowed to dry fire and handle it, and learn to use its various parts long before he is ever allowed to actually fire it. As he grows older, and I am able to see the proper time, he will fire it at targets, and will carry it with him in the woods as we hunt. Then one day, when he is

ready, he will be handed a box of ammunition and left on his own.

Sure, I'll have butterflies, just like I did not too long ago when I stood where he couldn't see me and watched him proudly walk the three blocks to a little friend's house all by himself. I will be as proud as he is when he brings in his first squirrel or rabbit or whatever it is.

While he is learning about his gun, I'll be learning about my son, and I know we'll get along fine.

The lessons he will learn will be far more than the mere use of guns. He'll learn how to kill quickly and cleanly. He'll learn how to depend on himself, and I'm sure when the day comes that I hand him his ammunition and try to look unconcerned as I walk off and leave him, I won't be the only one that has butterflies. But I also believe that he'll get along fine, and I'll have every reason to be proud of him.

A gun is a logical part of a boy's growing up to be a man. It is, like

Summary of Seasons FISH-GAME-FURBEARERS

WARNING—The open seasons listed below are general state laws. Many counties, by action of the legislature, have special laws which differ from the general laws. A digest of Game and Fish Laws, which notes these exceptions, may be obtained from your local game warden, from your gun and tackle dealer, or by writing the Texas Game and Fish Commission, Austin.

GAME ANIMALS AND BIRDS

Mourning Doves—Season closed.

Squirrel—General open season October, November, December, May, June and July. Limit: 10 per day, 20 in possession. Panhandle season, October 1 to December 1, and May 1 to July 1, both days inclusive; limit, 5 per day or in possession. West of Pecos, season closed.

Ducks and Coots—Nov. 2, 1956, to Jan. 15, 1957, both days inclusive. Shooting hours one-half hour before sunrise to sunset. Season closed on black-bellied tree ducks. Duck limit, 5 per day, 10 in possession, including not more than 1 wood duck and not more than 1 hooded merganser. Coot limit, 10 per day or in possession.

Geese—Season closed Dec. 31.

Wilson Snipe or Jacksnipe—Dec. 16, 1956, to Jan. 15, 1957, both days inclusive. Shooting hours one-half hour before sunrise to sunset. Limit, 8 daily or in possession.

Bear, Deer, Javelina and Turkey—Season closed Dec. 31.

Chachalaca and Quail—General season open Dec. 1 to Jan. 16, both days inclusive. Limits: 5 chachalaca per day, 10 per week or in possession; 12 quail per day, 36 per week or in possession. Panhandle quail season Dec. 1 to Jan. 16, both days inclusive; limit: 10 per day, 20 in possession; season closed on chachalaca. West of Pecos, quail season Dec. 1 to Dec. 31, both days inclusive; Mearns quail and chachalaca season closed; limits: 12 per day, 24 in possession.

FURBEARERS

All furbearers except Muskrat—December and January.

Muskrat—Nov. 15 to March 15. Panhandle season Dec. 1 to Feb. 28, both dates inclusive.

Beaver—December and January. West of the Pecos, Jan. 1 to Jan. 15, both days inclusive.

GAME FISH

There are no closed seasons on game fish in Texas (except for special county laws).

Compiled by Erma Baker

many other things he is going to come in contact with, capable of bringing indescribable thrills; or it can create horrible destruction. He has to learn how to tell the difference.

From the little .22, he will progress to bigger guns that are capable of greater thrills and greater destruction. His mind and his judgment will grow with the range of his rifles, until one day, he will reach the place where his judgment is mature, and his rifle is the most powerful available. Then, my son will be my equal as a man—nay—he will be my peer, for he will have gained all the store of knowledge that I have been able to give him, plus that that he has learned outside my knowledge.

Yes, boys and guns go together like sulphur and molasses, and represent the same down to earth basic values.

Sure your boy should have a gun. If you don't know about them then for Heaven's sake learn, and pass the knowledge along to him. Don't let him learn, as he most assuredly will, from some source that doesn't have his interest at heart, as only a father can have.

A gun is not a dangerous thing, and becomes so only in the hands of someone who does not fully understand it. One may have all the knowledge of the mechanical workings of a gun, and still not understand. Understanding a gun includes understanding its limitations

Whoopers Show Joy at Reaching Refuge

A Whooping Crane dance of joy at surviving the long, hazardous flight from the far northland was described by Joshua J. Harman, assistant manager of the Aransas National Wildlife Refuge.

Harman was checking in the majestic birds down on their Texas coast wintering grounds. Noting the arrival of Number 21 of the apparent 28 whoopers alive, Harman wrote: "One of the whoopers began to bow and pick up things to offer the other bird. It began to pivot and whirl and then to leap into the air (Mature whoopers are over four

feet tall and have seven foot wing spread). In all, it made six to eight of these spectacular leaps. The other bird was not much interested and did very little bowing, and leaped only once. After this exhibition, the birds walked across the pond to where twenty-three sandhill cranes were standing, whereupon one of the sandhills did a short dance."

Harman surmised that any migrating bird would ignore its exhaustion and dance after getting by the countless hunters guns lining the tortuous flyway.

Wildlife can find sanctuary in Texas state parks

No Guns Allowed

Continued from page 7

cause to believe that the law and rules are frequently ignored. Evidence, not sufficiently substantiated to justify prosecution, convinced park officials that one of the recent fires that did damage at Bastrop State Park was set by deer hunters to drive deer out of the protected park land onto surrounding land where it was lawful to shoot bucks.

A general indication that birds and animals in the parks are not completely protected, is their scarcity

as well as its virtues; its power to do evil as well as to do good. Get your boy a gun, and teach him to use it. He cannot help being a better man, and your own reward will be far greater than you can imagine. **

ty in places where they should prosper and multiply. In only one park are deer found in sufficient numbers to warrant a recommendation that some of the bucks be trapped and transplanted to other parks. Whether this could be done legally under the provision against molestation has not been ruled upon.

Deer are the principal wild animals to be seen in the state parks. Visitors have the best chance to see deer in Bastrop, Beuscher, Blanco, Caddo Lake, Davis Mountains, Garner, Huntsville, Inks Lake, Kerrville, Longhorn Cavern, Palo Duro Canyon and Possum Kingdom state parks. Both deer and antelope are in Davis Mountains state park. Wild turkey as well as deer are in Garner and Kerrville State parks. There are some elk in Palo Duro Canyon, and a few buffalo.

Palmetto, Goose Island and Lake Corpus Christi state parks are noted for their bird life and Caddo Lake has its fall visitation of wild ducks and geese.

One of the big Southwest sports events takes place at Fort Parker State Park, without violating the law or rules. Regional coon dog trials take place in favorable coon country about the park. The runs and "coon-on-a-log" events take place outside the park while its large group camp provides quarters for the attending crowds of owners, judges and observers. The Third Annual Texas Wild Coon Hunt

Continued on page 27

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Bow and Arrow Hunters Show Increase

Field reports to the Game and Fish Commission indicated that bow and arrow enthusiasts shared fall game harvest in increased numbers. Information to date, however, did not indicate any substantial kill by the gunless group.

This powderless sport has lacked full impetus in Texas more or less for lack of formal recognition.

In some regions where present regulations were written before people decided to revert to the bow and arrow days, archery is regulated on the basis that it does not comprise a legal means of taking game.

A possible hint of things to come, however, prevails in the Panhandle regulatory responsibility area where bow and arrow enthusiasts may legally take game providing they have the permission of the landowner controlling the place they propose

to hunt. This applies only to deer and turkey in the twenty-eight-county area.

It is necessary that any person hunting deer and/or turkey with a bow and arrow must possess the regular \$2.15 general hunting license.

In the Possum Kingdom bracket of another regulatory responsibility area, where the Commission sets hunting dates and bag limits and other regulations, six counties do not permit archery for hunting purposes. They are Jack, Young, Stephens, Palo Pinto, Erath and Hood counties. Similar exceptions are made in the Edwards Plateau main deer range and affects the counties of Gillespie, Llano, Mason, Medina, Sutton and Kerr. In the Northeast Texas group, archery fans may hunt with landowner permission in Red River, Bowie and Fannin counties but not in Titus County.



It Happened This Way . . .

TATTLETALE SPOTLIGHT

One night in early fall, before hunting season opened, two game wardens saw a spotlight being used along the highway. They assumed deer hunters were violating the law and parked along the highway so that they could stop the hunters when they arrived. When the hunters saw the wardens parked there, they immediately reversed their route and tried to escape. The wardens chased and caught them. But there was no sign of a spotlight in the car.

The wardens back-tracked the way the culprits had come and, sure enough, found a spotlight, the kind that is plugged into the electrical system of a car. They carefully wrapped the light and carried it, along with the offenders, to the court of jurisdiction.

The offenders had been extremely reluctant to admit to any wrongdoing, but when presented with the light, on which there was a complete set of fingerprints, the stories changed. One defendant immediately told the county attorney that he had not actually hunted but had handled the light when he threw it away, and he knew that his fingerprints were all over it. Therefore, he decided it was best that he plead guilty. After this the other two men involved followed suit, and the case was closed.

WHO TIPPED WHOM?

A South Texas game warden had two similar but unusual cases recently. In one week, two different persons phoned complaints that certain hunters had been shooting after hours. Both informants were later picked up themselves—for shooting doves beyond the legal time.

Things You May Not Know

The Chimney Swift is the only bird known that can beat its wings alternately, this unusual faculty enabling it to be the most maneuverable bird that flies.

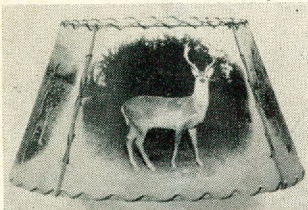
A snowshoe rabbit is not a rabbit but a hare, often called the varying hare because his coat changes from brown in summer to white in winter. He depends on his white fur and his huge, spreading hind feet—from which he gets his "snowshoe" name—to escape from most pursuing animals.

Experiments indicate that bees recognize honey-yielding flowers first by color and secondly by scent.

The mouth of the sea dragon is so small that it cannot harm other fishes or even defend himself from enemies. Its sole protection lies in its astonishing shape and appendages.

The Great Blue Heron is the largest American heron. It stands some four feet high and has a wingspread of about six feet. It puts its long bill to good use in spearing food in shallow water and defending itself.

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Gars are earning fame as fresh water game fish

Gars on Artificials

• Continued from page 9

Gars, unlike other fish, are unable to obtain sufficient oxygen from the water. It is necessary for them to rise to the surface periodically to gasp air, particularly during warm weather when the oxygen content of the water is low. Thus, they can be located by sight. A gar roll can be distinguished from that of a tarpon by watching for that long, dark dorsal fin of the tarpon. Also a gar will make more commotion when he rolls, sometimes flipping his tail and sending water ten feet in the air.

Gars seem to congregate in certain bends and stretches of water, many times lying close to the shore on the mud bottom. Usually on the first sweep of a likely stretch of bank, mud swirls are visible as the gars take off for deeper water.

No Guns Allowed

• Continued from page 25

was held at Fort Parker State Park in November.

An albino deer has been reported by a number of observers in Garner State Park, near Uvalde. It is not known if this unusual deer stays in the park or only uses it as a refuge when the guns begin to pop. All deer are most plentiful in the parks while the open season is in progress.

In Kerrville state park the deer are rather tame, unless frightened by an approach like that of a man who tried to round them up to get a better photograph, only to see them scatter fast and far. Approached casually, the deer seem unafraid and will occasionally accept a piece of bread from park visitors.

Protection afforded game birds and animals in state parks results

Just because you see gars rolling is no sign they are biting. Several times I've fished all day without getting a strike, yet I could see three or four roll every time I looked up. For the most part, however, gars are pretty considerate, and we seldom fail to catch two or three.

Gars seem to be most active during the heat of the day. This, of course, is quite the opposite of most fish. We may fish from sunrise to forenoon without drawing a strike then find as the sun climbs to its peak, the gars awake and begin to feed. Also, I have found that low tide seems to be the most productive. Although the tide movement is very slight further up river, it does have some effect.

Unlike most gar fishermen, I fish

also in the presence of a considerable number of predatory animals in the larger parks. In Palo Duro Canyon coyotes and lobo wolves are seen occasionally, as well as mountain lions.

Coons, squirrels, o'possums and bobcats are in many parks. Garner park is said to have in its cliffs an unusual barking lizard.

Bird watchers have listed 21 resident birds, 66 fall and spring migrants and 29 irregular migrants at Palmetto State Park. This park, noted for its tropic foliage, has had 100 species of butterflies cataloged. **


strictly with artificial bait, never having used live or cut bait. I use a standard tarpon trolling plug that has little action. However, I have found it best to apply some action of my own. Red and white and yellow and black are the colors that appeal most. I have found trolling the most productive, and it involves the least amount of work. The gar likes a slow moving bait and fished deep. In fact it should be hitting the bottom. The bottom of the Rio Grande is comparatively free from any snags or weeds, so there is not much trouble along those lines.

A heavy salt-water rig with forty-five pound test line is a good outfit if you're the "play-it-safe type." However, a bass rod with twenty pound test line provides much more sport. When you're in a boat and can follow a hooked fish there is little danger of a gar taking out all your line, so you don't need a large capacity reel. At least 150 yards of line should be used if fishing from the bank. A wire leader, of course, is a must as anyone who's seen the mouth of a gar knows. Three or four feet is quite sufficient.

The most important thing in catching gars, even more important than the presentation of the lure, is the proper time to set the hook. Here is where the battle is either won or lost. Unlike fishing for gar with live or cut bait, it is of the utmost importance that you set the hook the minute you feel the gar

• Continued on page 28

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PUBLIC NOTICE

The Texas Game and Fish Commission announces that

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to Texas landowners for restocking farms and ranches with game. Deer and turkey trapped by the Commission from areas having excess game populations are offered to landowners upon payment of trapping and transportation costs.

The Texas Game and Fish Commission offers native wild white-tailed deer at \$35 per head and wild turkeys at \$12 per head (cost of trapping and transportation). Game will be delivered to applicant's land and released. Trapping and deliveries now underway, will end approximately March 1. Landowners are urged to place orders now to insure delivery before trapping season closes.

CONDITIONS—Payment must be made in advance. Minimum order 10 deer or 10 turkey; no maximum. Game is for delivery and release in Texas only. Requests for sorting game according to sex cannot be guaranteed but will be honored as far as practical (average run expected to be approximately half toms and half hens on turkeys; two and one-half does to each buck on deer).

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Hides Needed For Texas TB Patients

Howard Dodgen, Executive Secretary of the Game and Fish Commission, endorsed as "first rate conservation" the effort by the Texas Tuberculosis Association to collect deer hides for patients to convert to usable objects. "This is a fine program," he said. "And it's a shame that so many deer hides go to waste when good citizens being restored to usefulness are so deserving."

Hides will be handled free by motor transport if addressed to: L. M. Rathbone, Austin Taxidermist Studio, 2709 Fredericksburg Road, Austin."

Gars _____ • Continued from page 27

take hold. If you hesitate for a moment, the gar will clamp the plug between his vicious jaws and all your yanking thereafter will be to no avail. I have several hard plastic plugs in my tackle box with gar teeth embedded deep into them as evidence. Many times I have failed to set the hook at the proper time, and when this happens it seems as if the gar plays around with you to build up your hopes, then just opens his mouth and turns the plug loose.

Once a gar is hooked it is best to beach the boat and continue the fight from there, or you can fight the gar from the boat, then pull ashore to land him. Having a hundred-pound gar flopping around in a twelve-foot boat is not my idea of fun. When fishing from shore, if you see the gar is going to take all your line, you can either run along the shore after him or hop in the boat and follow him in that manner.

Gars are not spectacular jumpers, and the larger they are the less apt they are to jump. Occasionally, however, one will surface and then you are witness to an awesome sight. They jump clear of the surface, flailing their head violently, and bellow like a wounded Cape buffalo. The bellowing sound is caused by expelled air during the gar's fight for freedom. The gar's big weapon, however, is not his fighting ability, but his tooth infested jaws which

are as hard as concrete. When and if a gar is hooked, it is usually in the lower jaw, or the loose skin at the corner of the mouth. To drive a hook into the upper jaw is a feat beyond hope.

When you are finally able to get your gar close into shore it is best to shoot him with a pistol before administering the gaff. A body shot seems to have the most effect, and just one of them will make him sick enough to sock the gaff with less difficulty. This one shot, however, far from kills him, so watch yourself when taking out the plug. When socking the gaff it is best to stick it into the body rather than mess around trying to get it under his jaw or in the gills. Hold the gaff shoulder high and bring it down quick and hard. The scales of the gar are so hard that the Indians used them for arrowheads; but a quick, hard thrust will drive it home.

Gar are quite edible, and we always have plenty of eager hands waiting to take them as soon as they are whipped and flopping on the bank. The gar's flesh is firm and white and looks quite tasty. I don't eat them, however—their looks seems to make me lose my appetite! **

American Badger

• Continued from page 17

price and, because of this, relatively few are trapped. Data indicate that the population in Texas is now increasing, except in those parts of the animal's range where poison is used to reduce populations of coyotes.

Although condemned by some for digging holes which may topple a rider on a fast moving horse, in balance badgers are useful citizens of the ranch country. I say this because they continuously seek out as food a wide assortment of rodents that compete with livestock for range vegetation. No thinking rancher will kill them. **

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G. Walker, P. O. Box 90, San Antonio, Tex.

Do bats have a kind of radar to guide them?

They Fly By Night

• Continued from page 6

I was driving up California's Redwood Highway several years ago. It rode in apparent contentment on my left arm for fifty miles and seemed loath to part when I finally hung it up in the branch of a tree. Here on our southern Arizona ranch we leave doors and windows open in summer and the house has been patrolled for the past three years by a couple of Mexican Free-tails. One takes the outside beat back and forth in front of the porch while the other's route is the length of the porch, with a regularly scheduled detour through the living room and master bedroom about every ten minutes. They are as efficient as fly screens and insects miraculously disappear as they pass.

However, I regret to announce

that our bats do not follow the dictum of science to the letter. If a door is unexpectedly closed or a temporary obstacle forces the bats to vary their route, they appear to become confused and bang into the walls and thump the ceiling in apparent annoyed frustration. Meanwhile perhaps there will be an open door or window within a few feet. But it may be that ours are ignorant hillbilly bats who have never been to school and learned about the muscle memory of the kinesthetic sense. I wouldn't know, being a bit vague on the subject myself.

One thing I do know, though. It is highly improbable that a bat ever became entangled in a lady's hair—or if one did, it must have been a most unusual occasion. **

Have you tried any new game recipes lately?

Game Recipes

• Continued from page 13

it in cold water. All you have to do then is pick off the paraffin, feathers and down in big chunks, and the job's over. Dry and singe the bird, and it's ready for cooking.

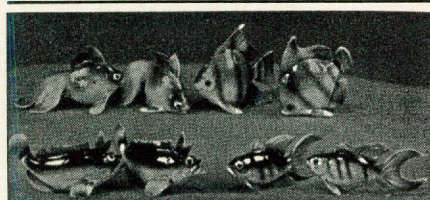
Perhaps the most popular method of preparing wild duck is to roast it. One important thing to remember (and even here people disagree) is that the stuffing or dressing should not be placed inside the duck. Instead, lemon wedges, onion slices, celery tops or parsley sprigs should be placed in the duck cavity for cooking and discarded before serving the duck. The cooking time for ducks varies. When roasting at 350 degrees, allow 15 minutes per pound for small ducks and 20 minutes per pound for larger ducks.

For roast duck, sprinkle ducks inside and out with salt and pepper. Place 2 parsley sprigs and $\frac{1}{2}$ lemon in the cavity of each. Cover breasts with bacon and fasten with string. Roast in a pre-heated 350-degree oven 15-20 minutes per pound, basting frequently with butter and any desired plain or wine sauce.

Just in case there is any leftover, this excellent duck-for-breakfast recipe might be of interest:

Dice leftover duck meat and place in a frying pan with a little water

• Continued on page 30

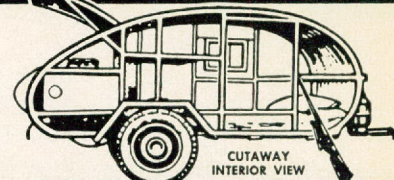
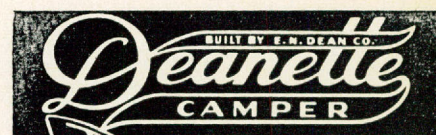


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Conducted Tours Planned for Kerr Area

Successful attainment of first major objectives of the Kerr wildlife management area prompted the Game and Fish Commission to announce plans for conducted tours to familiarize the public with results to date.

This combination project has been developed as a practical demonstration of how modern game management techniques can be profitably applied to range land without disturbing properly adjusted domestic livestock operations.

The Commission's Executive Secretary, Howard D. Dodgen, said the original role conceived for the 6,500-acre demonstration-experimental tract in Kerr County has been broadened by unanticipated conditions created by the historic drouth in the state's major deer habitat.

He added that the "open house" routine will begin after the fall deer season, during which surplus white-tails on the area will be harvested on a public hunting basis. This shoot, itself, is the climax of this demonstration of modern game management techniques.

Benefits from studies about joint utilization of land for domestic stock and wildlife undoubtedly will have a lasting effect on the economy of the entire Hill Country, explained the Executive Secretary. Likewise, other state regions will profit from management areas in their own localities.

He said a major and timely economic development at least partly influenced by the Kerr area progress has been harvesting of surplus antlerless deer in several critical areas. Originally, Dodgen pointed out, the broad scale removal of excess deer of both sexes was an emergency measure to prevent range destruction by over-grazing, to spare the

animals from starvation, and to utilize the game under basic conservation procedure.

"Studies thus far indicate that deer can compare favorably with any of the common classes of livestock in producing net monetary return based on forage consumed," said Dodgen. "This being the case, it is practical to manage land to preserve this major source of income. Otherwise, the deer enterprise on range land will be considered a by-product and receive little effort or consideration except during critical times.

"The Hill Country of Texas can be developed into an almost ideal deer country that will produce many good quality animals for hunters and a profitable return for land-owners. . . . Obviously deer management cannot operate at its maximum efficiency if deer are considered only a by-product of the range land.

"Briefly, the deer situation will be better or worse depending on how the deer country is grazed with livestock, treated to control invading plants and how the deer are managed to provide a sustained and dependable crop from year to year."

Game Recipes

• Continued from page 29

and cold gravy left from the roast. Add a piece of butter; let boil up once, and if not quite thick enough stir in a little dissolved flour. Serve hot over hot biscuits.

A roast goose, contrary to roast duck, should be stuffed before cooking. A sage-and-onion stuffing or a fruit stuffing using tart apples and dried apricots is perhaps the best.

To prepare the goose, sprinkle it inside and out with lemon juice, salt and pepper. Spoon desired stuffing lightly into the body cavity, and close opening with skewers and string. Cover the breast with bacon slices and cheesecloth soaked in

melted bacon fat. Place goose breast up on a rack in the roasting pan. Roast in pre-heated 325-degree oven 20-25 minutes per pound, or until tender, basting frequently with bacon drippings in the pan. If the age of the goose is uncertain, it might be well to pour one cup of water in the pan and cover for the last hour of cooking.

Another extremely popular game bird in Texas is the wild turkey. Here, again, a stuffing is in order, and this time we might recommend a sausage stuffing, with onions, celery, and seasonings.

The bird should be washed and cleaned thoroughly inside and out. Some people prefer to leave quartered onions or apples in the body cavity overnight before cooking to remove some of the "wild" flavor. To prepare the turkey, sprinkle it inside and out with salt and pepper. Spoon stuffing lightly into the neck and body cavities and close openings with skewers and string. Rub the bird with a mixture of 1/3 cup butter and 1/4 cup flour. Place the bird, *breast down*, on a rack in the roasting pan. (The bird may be steadied with two custard cups or skewers.) Strips of bacon may be placed across the back. Brown in a 500-degree oven; then reduce heat and cook at 325 degrees for 20-25 minutes per pound, or until tender. Baste frequently with drippings. Serve with giblet gravy.

Almost everyone has their own way of preparing venison, and each way is probably excellent. But perhaps you haven't tried these recipes.

For broiling venison, use a tender cut from the loin or rib. Place the steak or chops in a broiler pan and broil 3 inches below the heat source, basting frequently with melted butter. Turn only once. The time of cooking depends entirely on the thickness of the cut and the doneness desired. Meat from young animals should be used for this type of cooking, and can be prepared the same as beef. When the meat is done, it can be seasoned with a garlic-lemon-butter sauce or just garlic salt and pepper.

Venison is a comparatively dry meat, and should be larded before roasting. This can be done in several

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ways. either by threading $\frac{1}{4}$ inch strips of salt pork through the meat with a meat needle; by piercing the meat with a long thin knife or skewer and pushing strips of larding pork into the incisions or holes; or by wrapping slices of larding pork around the meat and fastening it with string. For roast venison use a tender cut from the leg, loin, or rib. Lard and sprinkle with garlic salt, pepper, and flour. Roast in a 35-degree oven 20-25 minutes per pound, using the same doneness as is preferred for beef. Baste the roast frequently with bacon fat or any desired wine sauce.


Overcooking should be avoided when frying venison steaks, as it has a tendency to dry out and toughen the meat. The steaks should be fried very quickly in hot fat, being careful not to put too many steaks in the frying pan at one time as it will cool the fat and cause the steaks to become sodden.

Although a great many people shun javelina meat, when properly prepared it is very good. The strong taste, that is offensive to some, can be almost completely eliminated through proper methods of cleaning and preparation of the meat.

In the first place, when skinning the animal you should be extremely careful that the hair does not touch the meat. Let the meat cool thoroughly before cutting it up.

To cook javelina, cut the meat in large pieces and cook very slowly, using your favorite swiss steak recipe. Or, if you prefer, roast the seasoned (salt and peppered) pieces of meat in a 300-degree oven until done; cover with the following mixture and continue to cook it for 20 to 30 minutes longer.

Seasoning paste for javelina: Chop one onion fine and brown in bacon fat. Add one can of tomatoes and cook slowly to a paste-like consistency. Spread this mixture over meat and continue cooking.

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A few still live in Florida's mysterious Everglades

The Everglade Kite

Continued from page 8

Some remedial action is now underway. The Florida Audubon Society, the Florida Game and Fresh Water Fish Commission and the U. S. Fish and Wildlife Service have posted marshes and are giving publicity to the necessity for protecting this bird. The National Audubon Society's warden, stationed at Okeechobee, patrols the kite marshes through much of the year. An excellent film story on the Everglade kite, "Phantom of the Marshes," made by Bayard W. Read, is available through these organizations.

The original range of this kite embraced peninsular Florida in almost every extensive fresh-water marsh. It seems never to have penetrated further west than a north-south line from Tallahassee to St. Mark's. Occurring southward as far as the Tamiami Trail, comparatively few birds ever inhabited the lower Everglades. Most of them were to be found in the St. John's River marshes (east), the Kissimmee River Valley (central) and the Lake Okeechobee and Everglades regions (south).

These are only a few ways of preparing game birds and animals. There are many others which are equally good. Recipes for more unusual types of game will be given in a later issue of the magazine. **

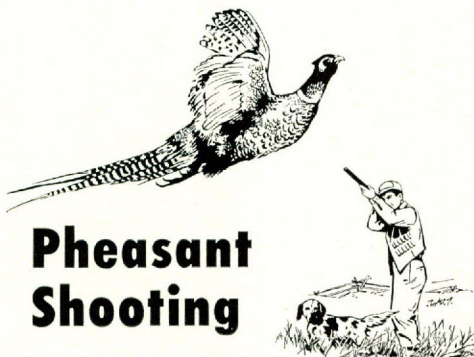
It is not possible to give even an estimate of the population in former days, but the species is known to have occurred in some numbers and was not difficult to find.

The present United States range is reduced to a small segment of marsh in the southwestern corner of Lake Okeechobee, measuring roughly about two and a half miles long by a mile and a half wide. Wandering individuals appear beyond such limits occasionally. Aside from this area, a part of the Loxahatchee National Wildlife Management Area, near the lower east coast of Florida, is inhabited by a few birds. This is the extent of the present range!

Though no exact study has been made, those most familiar with the kite agree that there are less than 50 living today. Nesting success is not satisfactory and further study should be made to determine the factors responsible for this.

The Everglade kite desperately needs all the effort we can put forth in its behalf. **

ALEXANDER SPRUNT, JR., is known as one of the South's leading bird authorities. He has written many articles on birds, the most recent of which is "North American Birds of Prey," published in 1955.



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Outdoor Books

SEAMANSHIP by T. F. Wickham. 192 pages generously illustrated with black and white drawings and diagrams. Published 1956 by the Philosophical Library Inc., 15 E. 40th Street, New York 16, N. Y. \$3.75.

Here is a manual of facts, almost a textbook, on seamanship. Its primary purpose is to instruct and aid those interested in becoming able seamen. However, anyone who is interested in boats and the sea will find much of value in this book.

Chapters concerning ship routine and ships; anchors and cables; cargo work; mooring and berthing; and speed and sounding will be of primary interest to those who plan to go to sea. But other chapters such as rope work, tides and bouyage, flags and signals, compass and steering, and rule of the road at sea will find avid readers among all those interested in boats and ships of any kind, or just the sea in general.

This book would prove of value to the man who is planning to go to sea, to the owner or user of any type of commercial or small craft, and even to the boy who is entering or in Sea Scouts. Many of the layman's questions concerning the apparent mystery of ship operation are answered in this excellent manual of seamanship.—J.R.

RATTLESNAKES: Their Habits, Life Histories, and Influence on Mankind by Laurence M. Klauber. Two volumes, totaling 1476 pages excellently illustrated with black and white photographs, drawings, and diagrams. Volume 1 contains an excellent key to the identification and classification of rattlesnakes. Volume 2 contains a bibliography. Published 1956 by the University of California Press, Berkeley 4, California. \$17.50, set of two volumes.

"... These creatures commanded a sort of fearsome interest, even among people who certainly had no fondness for them." Thus Laurence M. Klauber, author of this excellent work on rattlesnakes, sums up the attitudes of the average layman toward snakes in general and rattlers in particular.

The author has sought to "dismantle rattlesnakes as they are from rattlesnakes as people imagine them to be," and in doing so has compiled a veritable encyclopedia of the life and habits of the rattlesnake.

In addition to a key to identification and classification of rattlesnakes and an excellent bibliography for those who seek more specific information, information of interest to the "casual seeker

for the facts of rattlesnake life" is included. Chapters on The Bite and Its Effects, Behavior, Food, Reproduction, Poison Apparatus, Indians and Rattlesnakes, and Myths, Folklore, and Tall Stories, are among the 18 chapters comprising both books. All of the chapters are excellently illustrated with black and white photographs, drawings, diagrams, or charts. Illustrations of the snakes, themselves, their habitat, and physical characteristics contribute to the enjoyment and usefulness of these books.

Much of the information is based on the experiences of Laurence Klauber with more than 12,000 rattlers in the field and laboratory. For thirty-five years he has been Consulting Curator of Reptiles at the San Diego Zoo.

Although these excellent books are of a technical nature, they are written in an entertaining and informative way, and will be readily enjoyed by the student, biologist, or layman.—J.R.

HAWKS, OWLS and WILDLIFE by Frank and John Craighead, 443 pages. Illustrated with 67 photographs, 100 tables, 12 figures, 22 maps and wash drawings. Published October 15, 1956 by The Stackpole Company, Telegraph Press Building, Harrisburg, Pennsylvania. \$7.50.

This book is a timely work in that it presents the results of intensive field studies of the relationships between forms of wildlife and hawks and predators. The principal field work was conducted in a township in Michigan; however, data gathered can be applied to and compared with predator-prey relationships in any area.

This book will be of most interest to wildlife technicians, educators and students. Every sportsman and landowner, also, should be interested in its contents, since it pictures predation in its true light, eliminating many old and commonly believed tales that all predators are a detriment to wildlife. It points out the importance of raptors in helping control rodent populations which annually devour range plants in such numbers as to severely limit the use of the range by livestock and game species.

A Summary of Chapters covers several pages, thus enabling the reader to quickly re-evaluate each chapter. The book should be a useful addition to any wildlife library.—W.S.J.

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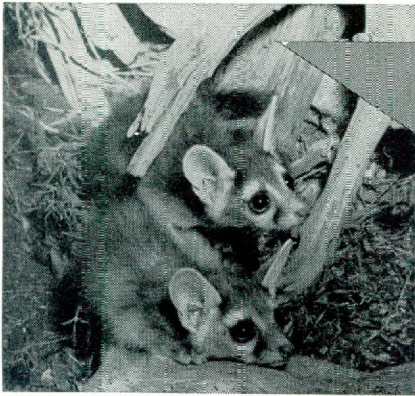
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QUAIL

BLUE SCALED AND GAMBEL
JOHN M. COWAN, JR.

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Junior Sportsmen

Wildlife Looks To You

For Help

By

BOB MEYER

Supervisor Conservation Education

This Month's Who's Who:

Three Junior Sportsmen from John J. Pershing Junior High School of Houston, their teacher, Mrs. Nettie Burnes, and her pupils set up this exhibit for their science fair. They are



showing the effects of water action on sodded soil (soil in which grass is growing) and water action on unsodded soil or soil without any form of cover.

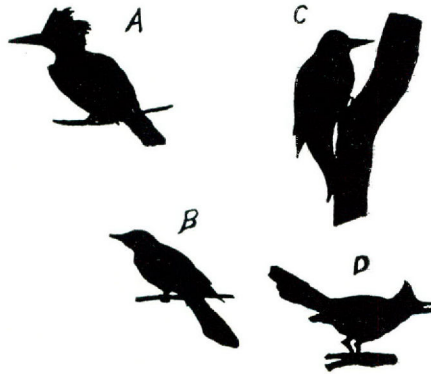
This experiment is an excellent example of soil erosion as compared to proper land use. The run-off water collected in the bottle from the sodded box is clear. The run-off water collected in the bottle from the box without grass is muddy. This shows the tremendous loss of our precious top soil after each rain. In areas of this state where cover is scarce, erosion is a constant threat to our very existence. Without the fertile top soil, our farmers can produce nothing. All of the elements that are essential to plant growth are tied up in this important layer. Today we only have an average of 7 inches of top soil left and it takes nature 500-700 years to produce just one inch of top soil. So it is easy to see that soil conservation is everyone's problem.

Note to Our Junior Sportsmen:

This is your page! If you have a question about wildlife, or a picture that you are proud of mail it to us. Your letter or wildlife snapshot may be used in the next issue.

WILDLIFE QUIZ:

Can YOU name these birds?



How Much Do YOU Know About Texas Furbearers and Birds? Underline ONE word which will make the sentence read correctly.

1. The (raccoon, skunk, muskrat, bobcat, gray fox) is not classified as a furbearer in Texas.
2. The (beaver, muskrat, mink, otter, nutria) is the largest aquatic furbearer in Texas.
2. The rarest of Texas furbearers is the (beaver, badger, mink, fox, otter).
4. Pelts of furbearers in Texas would be prime during the month of (January, June, September, October, August).
5. The prime pelt of the (fox, o'possum, mink, raccoon, muskrat) would be the most valuable.
6. The Texas State bird is the (meadowlark, dodo, mockingbird, eagle, pelican).
7. The (English sparrow, white-crowned sparrow, song sparrow, fox sparrow) is not a true sparrow.
8. Meadowlarks are known to eat a large amount of (acorns, insects, duck eggs, cotton plants, ice cream).
9. The first of the ducks and geese to come south in the fall of the year are the (green-winged teal, canvasbacks, blue-winged teal, mottled ducks, Canada geese).
10. The (bobolink, cowbird, grackle, starling, oriole) is not a member of the blackbird family.

Letter of the Month:

Dear Bob:

I have a question I would like answered about fish:

Is it true that the color of fish vary with different waters?

Jim Douglas
McArthur EL. School
Galena Park, Texas

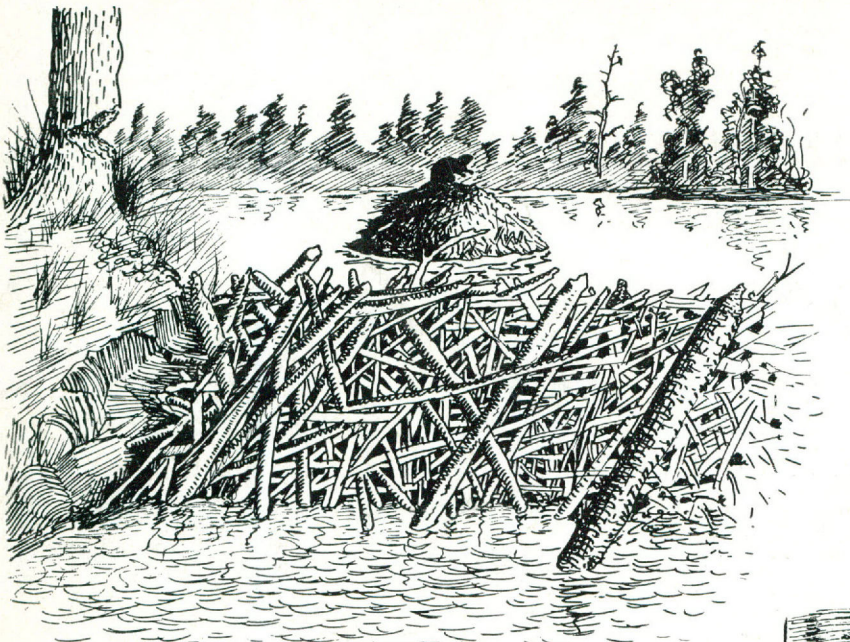
A fish taken from muddy waters will always be very light in color, whereas fish taken from clear waters will be very dark. This is nature's way of camouflaging fish by protective coloring. A light colored fish swimming in water that is clear could easily be observed from above by fish-eating birds, or any natural enemy, but a fish that is dark colored on its back is much harder for birds to spot. Fish in muddy water do not need this protection. This is one of many reasons fish vary in color in different waters. There are many species of fish, both salt and fresh water, where individual differences in color occur. Generally speaking, the color of the surrounding habitat will greatly influence the color of the fish. This is also true in most of the animal kingdom. It is nature's way of protecting wildlife.

Did you know that . . .

Armadillos are useful animals. They do little if any damage to quail nests. Eighty-five per cent of their diet consists of insects. Their prodding in the earth encourages vegetative growth useful to quail. They destroy ants by rooting up "ant hills" and feeding on the ant larvae. Some ants are very destructive to quail eggs at pipping time by attacking the unhatched birds before they get out of the shell. Help game by helping other living things.

Answers:

- I. (A) Kingfisher (B) Grackle
- I. (C) Woodpecker (D) Blue Jay
- II. (1) Bobcat (2) Beaver (3) Otter
- (4) January (5) Mink (6) Mockingbird (7) English Sparrow
- (8) Insects (9) Blue-winged Teal
- (10) Starling



THE BEAVER

THE BEAVER IS NORTH AMERICA'S LARGEST RODENT, USUALLY TIPPING THE SCALE AT BETWEEN 30 AND 50 POUNDS WHEN MATURE.

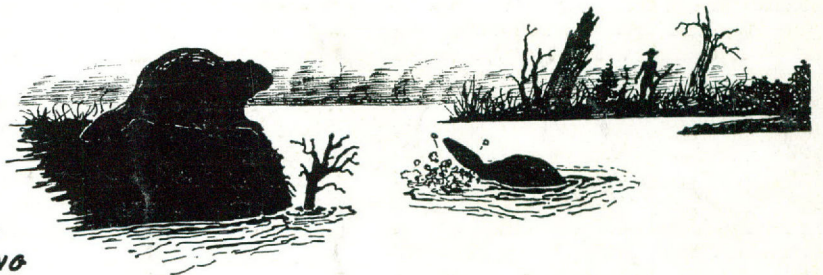
HE COMBINES STRENGTH, ENGINEERING SKILL AND THRIFT TO BECOME ONE OF TEXAS' MOST INTERESTING AND VALUABLE FUR BEARING MAMMALS. HIS COARSE, RICH, DEEP REDDISH BROWN PELT IS VALUABLE IN THE MANUFACTURE OF "BEAVER" HATS AND COATS.

THE TWO MOST FASCINATING FEATURES IN THE BEAVERS ANATOMY ARE HIS HEAVY, BRIGHT ORANGE TEETH, WHICH SERVE AS HIS "WOOD CHISELS", AND HIS BROAD, FLAT TAIL WHICH SERVES AS A RUDDER, AND WITH WHICH HE WARNS OTHER MEMBERS OF HIS COLONY OF THE APPROACH OF DANGER.

THE BEAVER IS THOUGHT BY AUTHORITIES TO MATE FOR LIFE. WITH THE APPROACH OF MATING SEASON THE MALE BUILDS "SCENT MOUNDS", WHICH HE PERFUMES WITH HIS OWN SPECIAL MUSK, TO ATTRACT A LADY FRIEND.



MATING USUALLY TAKES PLACE IN THE BEAVERS' THIRD YEAR AND 2 TO 5 YOUNG ARE BORN IN APRIL OR MAY.



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