

Texas Game and Fish

OCTOBER

1956

20 CENTS



McGraw-Hill

COUNTRY COURTESY

The key to good hunting can be found in the pocket of the farmer.

"The sooner the individual sportsman realizes that fact and starts doing something about it, the sooner he'll enjoy better hunting," says Henry P. Davis, public relations manager, Remington Arms Company, Inc. "The farmer is the keeper of the key to good hunting. In fact he holds the key to any hunting at all. True, all wild game belongs to the state but the control of most of its habitat is vested in the owner or tenant of the land. The farmer can lock the door to all hunting on his land, or he can, as he usually does, be exceedingly generous with his hospitality.

"There is an easy approach to the free use of the farmer's magic key. This is simply through the use of common courtesy. The farmer is a busy and peace-loving man. It is no pleasure for him to stop in the midst of his work and force a trespassing hunting party to retire from his land. More often than not he suffers the insult—for that is what trespass really is—in silence rather than have any unpleasantness. But he doesn't forget. He knows his rights and 'No Hunting' signs soon appear on the boundaries of his lands.

The farmer is generally a sociable fellow, who likes courteous and friendly company. He resents being 'talked-down-to' by self-styled 'big shots' from the city who have very little knowledge of his problems and care nothing about them. He'll generally meet friendly overtures more than half way. But he'll stand just so much high-hatting and then . . . 'Click'—the key is turned in the lock to hunting privileges and Mr. Discourteous Sportsman finds himself looking for other hunting grounds.

"There are some easy ways to make friends with the farmer," continues Davis. "I call them the Ten Commandments of Country Courtesy. Practice them and you'll seldom have trouble in securing permission to hunt on suitable grounds. Here they are:

- 1. Always drive in to the farmer's yard and ask permission to hunt.*
- 2. Hunt only in the areas he designates. Never go on ground he wishes to keep inviolate.*
- 3. Respect his fences. If necessary to climb them, climb over by a post. Use gates if possible, closing them behind you. Always replace lowered bars.*
- 4. Never shoot near houses, barns, or livestock.*
- 5. Leave his fruit and other crops alone. If you want some, buy it from him.*
- 6. Go around fields where people are working. Do not walk on seeded ground. Don't walk through standing grain.*
- 7. Shoot crows and predators that do damage to his crops and livestock.*
- 8. SHARE YOUR GAME WITH HIM.*
- 9. On your next trip, bring his wife or children some little gift or token of friendship.*
- 10. After you've become well acquainted, suggest a planting program to better game habitat, offering to finance it or help him with it, thereby showing genuine interest in his affairs.*

"These are simply little rules of common courtesy that any sportsman can practice to the benefit and pleasure of all concerned. They are really keys to the key to better hunting."

Texas Game and Fish



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The Cover

The gray fox, subject of this month's cover painting by Clay McGaughy, Jr., is a favorite of fox hunters in the eastern part of Texas, and is considered a predator in some areas of north and central Texas. Cottontail rabbits are their main item of diet, along with small rodents and wild fruits. It is quickly distinguished from the red fox by the black tip on its tail. (See story on page 7.)

IN THE FIELD IT'S...

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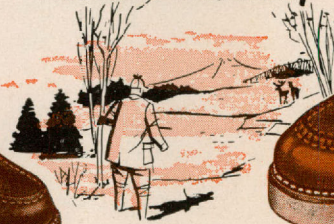
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A DUCK HUNTER'S LAMENT

The theme of my poem is "Hunting the Duck."

First you get out there and wade through the muck;
You sink in a bar-pit right up to the waist;
This teaches you never to move with great haste.

The duck hunter's hours, alas, are quite early,
And so you waked up feeling dreary and surly.

Now as you sit, you get very sleepy;
Water in both boots makes you feel creepy.

So while you perch, looking into the dark,
You see that with this fog you can't hit the mark.

But just at that moment, here comes a big duck;
You blast away quickly, then say, "That's my luck!"

At last, as time passes, you must have a shot;

You shoot at some blackies to fill the stew pot.

You finally get home with your total kill—

A snake and two pull-dos.—This took all your skill!

Brandon Bryan, Jr.
(age 13)
Beaumont, Texas

Javelina Recipe

Editor:

Perhaps you would be interested in having my recipe for preparing javelina. I have one way of cooking it that has always won praise. But the important thing is to properly prepare the meat for cooking.

First, don't let the hair touch the meat! Skin the animal carefully, just as soon as possible after killing it. After skinning the javelina, wash your hands thoroughly before removing the entrails. Let the animal cool overnight before cutting it up.

For cooking it, cut the javelina into large pieces and bake them under low heat until done. Season the meat well with salt and black pepper before cooking. Then chop one onion fine and brown it in bacon fat. Add one can of tomatoes and cook slowly to a paste-like consistency. Spread this paste over the meat and continue to cook it for 20 to 30 minutes longer. With a skillet of corn bread and a good cup of coffee this is a meal hard to pass up.

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



Giant Rattler

Editor:

This snake was killed by Cheatum Park, Jr., near Hebronville, Texas. It measured 6 feet, 9 inches soon after being shot with a 30-30 rifle, and measured 13 inches in circumference at the thickest part of its body.

There were two outstanding facts about the snake. First, the uniformity of its body throughout its entire length. The second, that it was carrying only three rattles or stubbs which were at least an inch wide. These had been worn and whipped off due to the great strength of the snake. I wonder if you could advise me as to the age of this reptile.

J. H. Saunders
414 W. Laurel
San Antonio, Texas

(The growth rate of rattlers varies greatly, depending on food supply, climate and other factors. And of course, the number of rattles has nothing whatsoever to do with the age. Therefore it would be almost impossible to tell the age of this snake other than to guess that it may be at least ten years old.—Editor.)

Crawfish Eggs

Editor:

The other day I caught two crawfish that were extremely interesting to me. Out of more than 3000 crawfish I have taken, never before have I found any with the eggs outside of the fish. Each egg seemed to be enclosed in a

sac that was securely anchored to the underside of the tail section with a sort of (for want of a better name) umbilical cord. I have found roe in hundreds of crawfish but never before on the outside of the shell.

How are the eggs expelled? How are they attached to the outside of the shell on the underside of the tail, where the fantail of the crawfish can be folded over them and enclose them entirely within the protective curl of the tail shell? Do the eggs remain attached to the shell until hatched, or are they laid in some nest for hatching? Or does the female retain possession of the eggs until they hatch or does she transfer them to the male?

I am most eager to have the answers to these questions.

Frisco Bert
65 Bolinas
San Anselmo, California

(The crayfish, belonging to the genera *Cambarus*, carry their eggs on the outside. In most cases crayfish are either male or female and only rarely have crayfish been found having both the male and female reproductive organs.

(The spermatozoa are transferred from the male to the female in the autumn. The eggs are laid in April and are probably fertilized by the spermatozoa at that time. They are fastened with a sort of glue to the swimmerets which are located under the abdomen and which are aerated by being moved back and forth through the water. The eggs hatch from between five to eight weeks and the larvae cling to the egg shell. In about two days they shed their cuticular covering, a process known as molting.

(The young stay with their mother about one month and then shift for themselves. They molt at least seven times during the first summer.

(The life of a crayfish usually extends over a period of from three to four years.—Marion Toole, director of Inland Fisheries.)

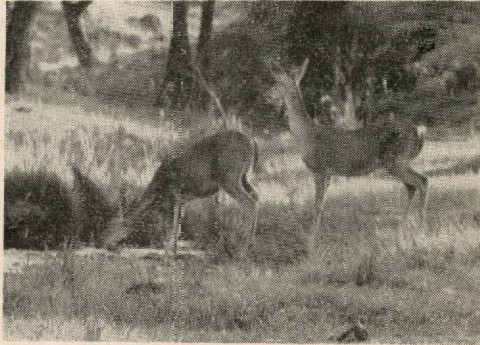
Bargain

Editor:

Enclosed is my check for another year's subscription to TEXAS GAME AND FISH Magazine. Still the biggest bargain in outdoor reading for Texans. I'm happy you finally decided to start getting a decent subscription rate.

W. H. Whitted
318 Lytle St.
Kerrville, Texas

of Nature



Deer

and Man



**“You young fellows who call yourselves ‘Biologists’
... If we listen to you, we’ll be back in the same place
as we were 50 years ago.”**

By JAMES G. TEER

Wildlife Biologist

THE COURTROOM was filled to capacity and a strong undercurrent of feeling could be sensed among the ranchers, businessmen, and sportsmen who had come to discuss the coming season's deer harvest at this public hearing. A proposal to harvest antlerless deer on overpopulated ranches had just been made by a young Game and Fish Commission Field Technician.

For a few seconds a beehive of low unintelligible sound filled the high-ceilinged room as each in the audience whispered and made his thoughts known to his neighbor.

Finally, a stately, gray-haired gentleman, with seamed face that attested to his many years of life in the open, rose from his seat and with some eloquence and a great degree of firmness said:

“I am a pioneer rancher and a lifelong hunter. For 46 years I've ranched 6,000 acres on the divide. My father and his father before him ranched this same country. You, my friends and neighbors, know that I have as many deer as any of you in the county, but you also know that this always has not been so. When my grandfather came to this country and proved his grant, deer were about as plentiful as mountain lions are now. By protection and care of our deer, we've built

up our herds to a point where we now have more deer than we ever have had. We've fed our deer during critical winter months and drouth periods, and more times than I can remember, I've called the Game Warden to turn over to him someone whom I caught poaching a doe. We've cooperated in every way with the Game Department and abided by the game laws. But now the Game Department tells us to kill does and fawns. What are they trying to do? Exterminate deer from the county? I know from my own experience in ranching and living with game and from the experience of my father and grandfather that you cannot kill the females and young of any creature and then expect that creature to maintain itself and live in any numbers. You young fellows who call yourselves “Biologists” need to take the advice of some of us who have been responsible for deer being here in the first place. If we listen to you, we'll be back in the same place as we were 50 years ago.”

With this statement the proud old gentleman walked from the hearing and a silence fell over the courtroom, soon to be broken by another echoing his assent to the old pioneer's seemingly wise words.

Hill Country people are proud of their game. Deer

to them are about as common a sight as a Fleetwood Cadillac is to a pedestrian on Congress Avenue or around the Capitol Building in Austin. And this sight gives the average rancher about as much satisfaction and feeling of security as the Cadillac does to its owner. But as the old pioneer stated, deer always were not present in such numbers. From a small, heavily-hunted herd, which in the beginning furnished hides and hams to the early pioneers and market hunters, has come a deer population that is equal to any in number per unit area on the North American Continent. From this early beginning, the rancher's deer have evolved from a source of supply for individual need and hunting pleasure to a source of income that in some years equals the returns from his livestock enterprise.

Deer, therefore, are a heritage to Hill Country folk, a living symbol of their parents' or grandparents' early years when a hunk of jerked venison meant as much or more than a top sirloin today. Even more important today, deer contribute a substantial supplement to the already reduced income as a consequence of the past few drouth years. Small wonder, then, that many ranchers, hunters, businessmen, and those who just enjoy seeing deer, rebel and vigorously protest when any mention of killing "mother deer and their fawn" is made. Small wonder, also, that the old-timer walked from the public hearing in indignant disgust at such an unwise and unjust proposal. Who, indeed, do these young so-called Wildlife Biologists think they are, and what prompted them to make a proposal so obvious in its fallacy?

Nature in all her splendid handiwork often appears to provide a bounty, but in an extremely subtle way is at all ends working toward total destruction of some member of her own creation. So subtle is this deceit and perversion of the truth, it often escapes the eye and understanding of the most careful and astute observer.

Deer populations are an outstanding example of one of nature's fraudulent purposes. She may allow a deer herd to thrive in an area after first seeing that all requirements and necessities for a healthy and vigorous deer herd are present. From a few animals in a land



The author, a Game and Fish Commission biologist, examining a young white tail fawn before tagging it for the Commission's management program. (Staff photos by Lon Fitzgerald and Tom Diltz.)

of plenty, the herd thrives and grows in number. The members of the herd are fat and sleek from partaking of nature's bounty. The animals are big, bucks averaging 180 and does 130 pounds on the hoof. Reproduction is high and the continuity of the herd is assured. Twin fawns are the rule and triplets are not uncommon; only yearlings drop singles. Man, in reality a tool of nature, removes the herd's natural enemies, cares for "his" deer with all the knowledge that he possesses, and protects them from his thieving brothers. What a beautiful work nature has begun! And almost completed! She has started with a few animals, and with man, himself a creature of nature, as her help-mate, has allowed these few to build up into a sizeable, healthy community of deer.

But herein lies nature's deceit. The deer are doomed by the very reproductivity capacity with which nature endowed them. For a time all is well, but she has not kept pace with one element of her plan. While the deer increased, she has lagged behind in providing for them. Soon the deer herd outstrips its food supply. She even allows the herd to subsist on short rations

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Deer herds like this are certainly a thrilling sight, and they hold promise of an excellent season for the hunter. But they can become

a real problem for ranchers as well as biologists when there isn't enough food to support them.

'Rough' fish were taking over. Fishing was poor. Then came the

New Deal At Meridian State Park

By GORDON K. SHEARER
State Board of Parks



Photo by Roger Parker

Fishing problems were magnified when drcuth conditions reduced Bosque Lake at Meridian State Park to a fraction of its normal size. But low water expedited the renovation.

MAYBE THERE IS nothing man can do about drouth but at Meridian State Park it has been demonstrated much can be done to alleviate the hardships, especially as regards fishing.

Bosque Lake in Meridian State Park became sort of a drouth laboratory after successive dry years reduced the 73-acre lake to a small part of its former size. The volume of water had decreased until there was not sufficient water to care for the fish population, so a means to reduce this population had to be found. What was learned there may help at other diminishing lakes.

The lake was stocked originally in 1935 from the Eagle Mountain hatchery. Various additions to the fish population were made from time to time.

Dry seasons began and became progressively more frequent and more prolonged. A check was made in August, 1951, to learn the effect on the fish. Due to high winds and heat, the netting of fish at that time did not give conclusive results. Seine samples were taken again in May, 1954, under direction of Leonard Lamb, aquatic biologist of the Texas Game and Fish Commission staff. This netting indicated a large proportion of gizzard shad and another netting was arranged for January 1955.

In the meantime a recommended program was carried out for manual cleaning of the vegetation that choked parts of the lake.

Ten gill nets were placed in the lake the night of January 13, 1955. These nets were of variable mesh running from an inch to three inches in bar measure and set to give a fairly complete coverage of the lake.

Results showed that in the diminishing lake, while there were 95.5 per cent of game species to 9.5 per cent of rough fish, the game fish made up only 57.5 per

cent of the weight and the rough fish 42.5 per cent. Largemouth bass made up 55.1 per cent by number. This high ratio was partly due to the fact that many bass and crappie had been rescued from drying-up ranch ponds and had been placed in the lake at Meridian State Park.

It was found that the number and condition of the bass were satisfactory, at that time, but the size and weight of the carp and carpsuckers indicated that with the year's spawn the rough fish might overcrowd the lake. Another detrimental factor was an abundance of small sunfish which could pass through an inch and a half net.

Two courses were suggested. One was a selective kill of shad and other rough species by applications of rotenone in amounts not strong enough to destroy the game fish. The other was a complete kill and restocking of the lake.

Marion Tocke, director of the Inland Fisheries Division, said the Texas Game and Fish Commission would approve either course and left the choice to the park officials. Park Manager Tobe Gardner, park executives and the Bosque County Sportsmen's Club, which had been watching the plight of the lake, agreed that a total kill was preferable, particularly as it would be required to get rid of the sunfish that were overpopulating the shrinking lake and eating up the food.

On March 11, 1955, forty per cent toxaphene solution was applied to the lake by Game and Fish Commission men under the direction of Aquatic Biologist Lamb. Wardens J. R. Hill of Cleburne, L. H. Climer of Whitney, C. H. Johnson of Meridian and H. L. Brooks of Waco assisted.

As dead fish rose to the surface they were gathered

• Continued on page 31

The gray fox seldom does things halfway. On rare occasions when he's stupid, he is incredibly so. But more often his intelligent actions add to his reputation as a

SLY DECEIVER

The story of this month's cover subject.

By EUGENE A. WALKER
Director of Wildlife Restoration



A certain fox in Brazos County found that he could elude the hounds by racing through an old cemetery which had a dog-proof fence. There was a small scuttle hole large enough for the fox but too small for the dogs. The fox would run ahead of the hounds until he was tired then head for the cemetery where the dogs invariably lost the scent. This procedure continued until one night when a wise old hound quit the pack and was waiting for the fox at the entrance hole under the fence. No more fox.

The gray fox is an old-time citizen of Texas. His range covers practically the entire State with the possible exception of local areas in the South Texas brush country and the Texas Panhandle. Heavy populations of foxes are periodically found throughout most of the gray fox range in the State but East Texas, North Central Texas and the Edwards Plateau apparently support this animal in the greatest numbers.

This very interesting member of our wildlife society is actually kin to Bowser and his Latin moniker, *Uracyon*, means tailed dog.

The coyotes and wolves are cousins of the gray fox and the food habits of all three overlap to varying degrees according to the location in the State. However, where coyotes are thick, gray foxes are scarce. Perhaps the coyote does not welcome the competition of his smaller counterpart. Large numbers of foxes could substantially reduce the supply of wild fruits, rabbits, pack rats and mesquite beans which often form a large portion of the gray foxes' bill of fare. These same foods are staples of the coyote.

Although the red fox is present in Texas in a number of localities, this species is far from common. Where they do occur, no difficulty is incurred in identifying the two. The gray has a comb of stiff black hairs along the entire length of the tail on top and the tail has a *black tip*. Red foxes have no comb and the tip of the tail is *white*.

Baby gray foxes are usually born in April in a hollow tree, crevice in a rocky ledge, hollow log or some other sheltered spot. The litter may number from one to six and when very young they resemble small brown puppies. Body hair and that on the tail is short, the head is short and rounded, ears folded down like those of a puppy and even the tail appears dog like.

Perhaps the gray fox is viewed in more different lights in Texas than any other of our native wild animals. In portions of East Texas he is a gallant gentleman who provides countless hours of enjoyment to hound owners who breed and love the foxhound and the chase. In sections such as the Texas Hill Country, where sheep and goats are raised in large numbers, he is a low down so-and-so and is shot on sight because his tribe is capable of reducing a kid or lamb crop if natural foods are at a low level. In other sections he may be ignored, or accorded some degree of respect according to the situation in which he lives.

So much then for where the gray lives and how he is received by his human neighbors. Actually, what kind of a critter is this animal of fact and legend? He has been credited with unusual gray matter. Is this a legend which sprung from the dim part of man's early history or is it fact? I have personally found the gray fox to be both highly intelligent on occasion and an animal of colossal stupidity under other circumstances. Of course, it is not too presumptuous to assume that foxes, like people, vary in intellectual capacity from one individual to another. Be that as it may, you can judge for yourself concerning whether or not the foxes involved in the following incidents were crafty or plain stupid.

A number of years ago my uncle and I were fox hunting with hounds in a heavy cedar brake pasture in San Saba County. This hunt took place in daylight,

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Col. J. B. Horner, enthusiastic bay fisherman, switched to offshore waters and captured the coveted sailfish championship of Port Aransas' Deep Sea Roundup. The San Antonio publisher was guided by Red Droyer, left.

Competition on the Coast

Each summer hundreds of Texans pit their angling skill against the fish of the sea . . . and against each other

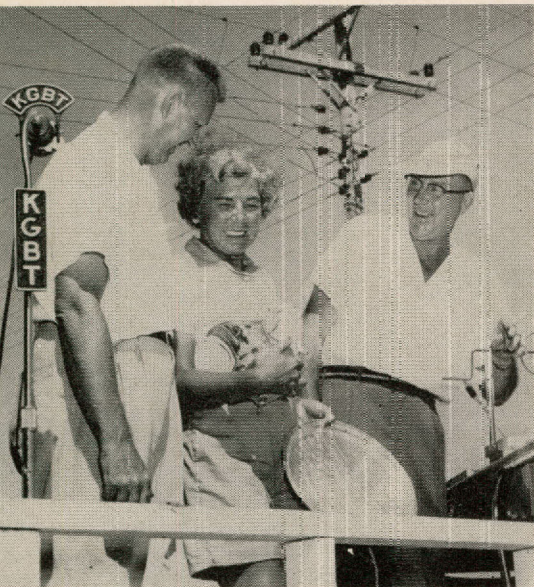
PERHAPS it's the lure of prizes. Maybe it's the urge to supplement competition between man and fish with competition between one fisherman and another. It could be the fun of mixing and talking with other fishermen. Whatever the reason, hundreds of Texans journey to coastal fishing spots each year to enter one or more of the many fishing tournaments.

The oldest are the Texas International Fishing Tournament at Port Isabel and the Tarpon Rodeo at Port Aransas. The latter now has two parts, a Deep Sea Roundup in midsummer and the Tarpon Rodeo, slated this year October 23-25. A relative newcomer, the Freeport Jaycees' Fishin' Fiesta, with emphasis

on bay and surf fishing, attracts the greatest number of anglers, however.

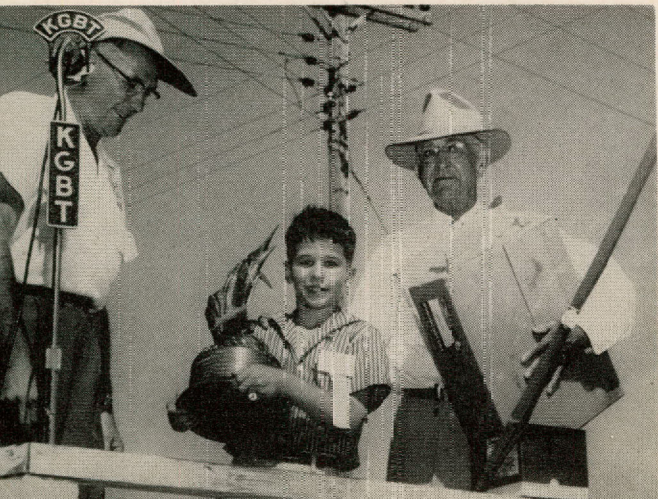
Offshore trolling for sailfish continued to dominate tournaments at Port Aransas and Port Isabel this summer. And at the Deep Sea Roundup July 10-12, the first marlin caught in a Port Aransas tournament and only the third in the port's fishing history was boated. It was a 368-pounder, measuring 10 feet, 8 inches, landed by Carl Pierceall of Muskogee, Oklahoma.

Col. J. B. Horner, San Antonio newspaper publisher, topped 183 contestants to win the coveted sailfish and offshore divisions with two sailfish on 30-pound test line. Francis E. Knapp, Weslaco, also landed a pair of sails.



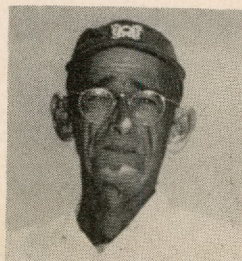
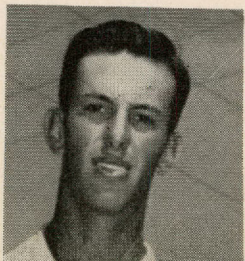
No tournament victory was ever more popular than that of hard-trying Cissy Bruse, shown at left receiving prizes, trophies, and congratulations for amassing the most total points to win the Grand Championship at Port Isabel's Texas International Fishing tournament. Bob Meade, left, tournament director, and Phil Edie, 1956 president, bestow the honors.

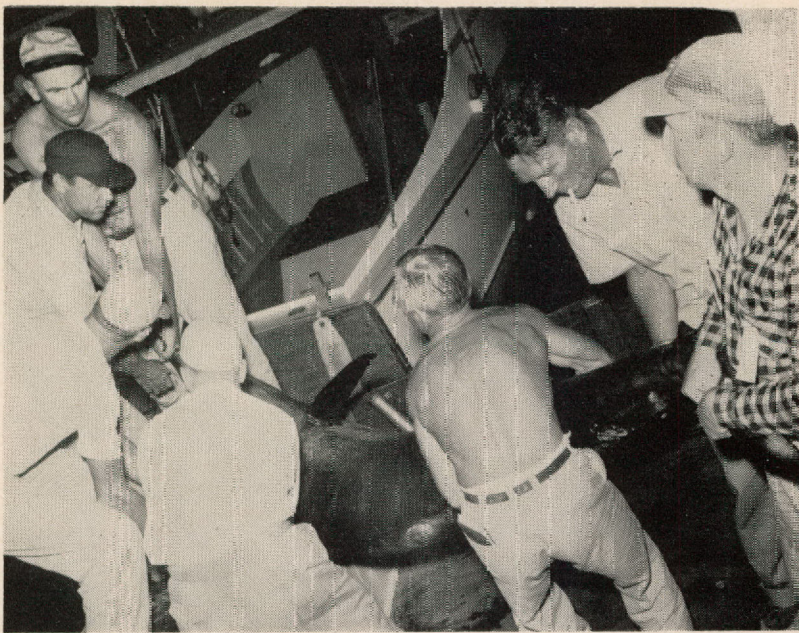
This 22-pound king mackerel seems to dwarf its conquerer, young Pope Noell III, below right, but it finished second to a 25-pounder landed by Leonard Kinnebrew, Harlingen.



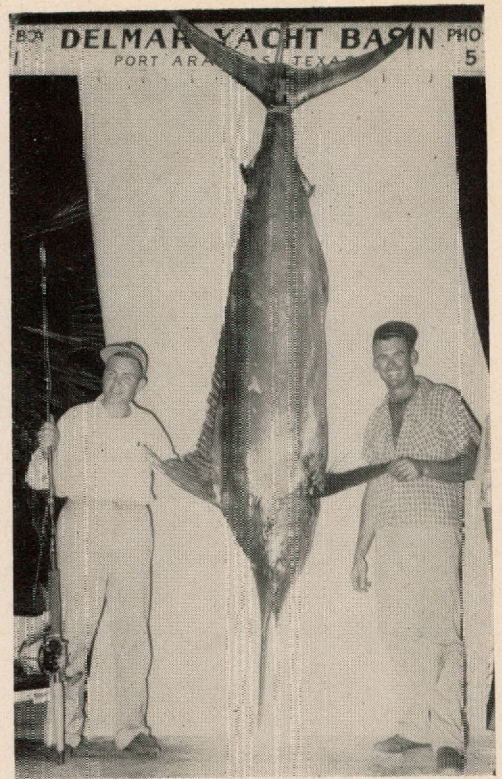
Nine-year-old Billy Jackson whipped the largest sailfish of this year's T. I. F. T. His teacher and fishing partner was Dr. Dudley Jackson, veteran tournament competitor, right, who also landed a sail.

Nineteen-year-old Bruce Bartholomew, below, left, turned a rare trick by whipping four tarpon in one day on spinning tackle to win the T. I. F. T. tarpon title. Jody Goolsby, below-right, reached a long-sought goal by winning the bay-surf division.





Biggest excitement of the Port Aransas Deep Sea Roundup was caused by this 10-foot, 8-inch blue marlin. The huge 363-pounder, caught by Carl Pierceall, Muskogee, Okla., was only the third ever caught at Port Aransas. The tournament crowd waited until after dark to see the great gamefish brought to dock, above, to be hung for the historic photo with Pierceall, left, and Guide Bruce Ponton, right.



Gerry Mayfield

Other major prizes went to Ray Bellinger, San Antonio representative for Sila-flex rods and Langley reels, who won the tarpon division, and to J. C. Mrazek, whose 26-inch speckled trout helped boost him to the bay-surf championship.

As a sideline to Pierceall's marlin catch, Mrs. Dan Braman, Victoria, landed three blackfin tuna, another "newly discovered" game fish on the Texas coast, to run her total to eight for the season. It was Mrs. Braman who caught Port Aransas' first marlin August 13, 1955.

At Port Isabel's Texas International Fishing Tournament August 2-5, one of the coast's most popular tournament contenders won the Grand Championship after years of unsuccessful attempts. Mrs. Lester Brusse, Corpus Christi, whipped a sailfish the hard way on 18-pound class line on her way to the title. Her guide was Lloyd Dreyer, Port Aransas.

And contestants stood respectfully by to watch a youngster, nine-year-old Billy Jackson, San Antonio, skillfully whip the tourney's largest sailfish on 30-pound line. It measured 7 feet, 5 inches and won him the biggest sailfish title. Billy fished with his grandfather, Dr. Dudley Jackson, who also landed a sailfish.

Bruce Bartholomew, La Junta,

Colorado, landed four tarpon in one day on spinning tackle to win the men's tarpon division. Nineteen-year-old Bruce is a younger brother of Jack Bartholomew, who won the tarpon division on spinning tackle as a teen-ager in 1954.

Jody Goolsby, one of Port Isabel's better fishermen and consistently in the money past years, crashed through to take the bay-surf division. Bob Speer, Dallas, Ocean-City-Montague tackle representative, won the men's sailfish division; Maj. Dorr Ohlemacher, Harlingen, got the biggest tarpon, and Monroe Ben Nowotny, San Antonio, whose catch included an eight-pound black fin tuna, won the offshore division.

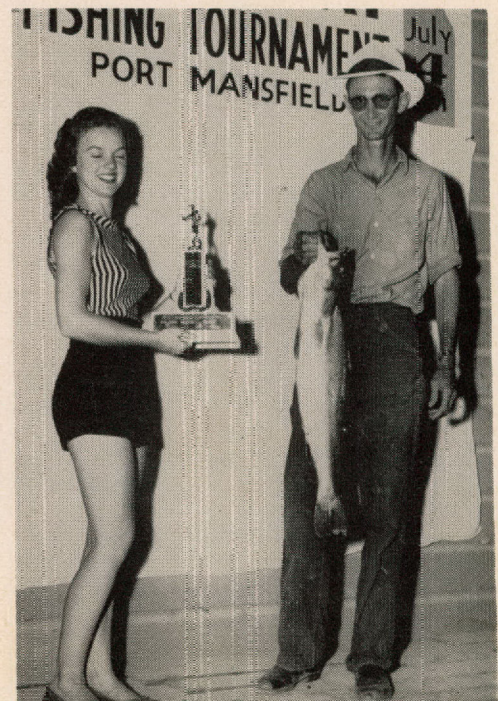
Hard-luck contestant was E. L. Caldwell, Jr., Corpus Christi, who landed a 6-foot, 6-inch sailfish on 12-pound class line and spinning tackle, only to run afoul of disqualification rules when his rod broke. His fish would have won the Grand Championship.

Mike Sullivan, San Benito, and Sharon Hensley, Harlingen, won boys' and girls' fishing titles in a field of 62 junior contestants. A total

of 244 competed for the adult titles.

Port Mansfield's "family" tournament, featuring bay and surf fishing, attracted over 300 entries July 4. Crowned state champion redfish angler was Jesse Champion, Brownsville, who topped a string with a 28½-inch red. Ralph Casey, Sonora, whipped a 30¼-inch speckled trout to win that division.

Other titlists included Mike Romero, Edinburg, drum division; Tommy DeWitt, San Perlita, children's division; Mrs. Bert Brown, Raymondville, ladies division; and Tiny Perez, Weslaco, largest string. —Townsend Miller.



A strapping 30-inch speckled trout caught by Ralph Casey, Sonora, won that division of Port Mansfield's Red Fish Bay Fishing tournament. Presenting the trophy is hostess Gaye Shewmaker.

Spotting the Birds of Texas



This is the second 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.

COLLEGE STATION AREA

TEXAS AGRICULTURAL AND MECHANICAL COLLEGE—One of the centers of ornithological research in the state

Dept. of Wildlife Management has a collection of more than 5,000 bird skins, largely from Texas and Mexico

CRYSTAL CITY AREA

CHAPARRAL COUNTRY, PASTURE LANDS, AND IRRIGATED FARM LANDS

Mourning dove
White-necked raven
Black vulture
Red-tailed hawk
Swainson's hawk
Harris' hawk
Road-runner Year-round
Scaled quail
Vermilion flycatcher (near water tanks)
Ground dove
Verdin
Cactus wren
Mockingbird
Curve-billed thrasher
Pyrrhuloxia
Lark sparrow
Desert sparrow

Sparrow hawk
Loggerhead shrike (Sept.-April)
Marsh hawk
Scissor-tailed flycatcher (March-Nov.)
Blue grosbeak (transient) (March, April, Sept., and Oct.)
Common nighthawk (May-Oct.)
Lesser nighthawk

Bell's vireo
Poor-will

Nesting

NEAR TOWNS

Tree-shrub plantations and citrus orchards

Inca dove
Barn owl
Screech owl
Bewick's wren
House finch

Year-round

White-winged dove
Yellow-billed cuckoo
Black-chinned hummingbird

Summer residents beginning in April, or early May

Orchard oriole
Hooded oriole
Bullock's oriole
Painted bunting

Cedar waxwing
Sharp-shinned hawk
Cooper's hawk
House wren
Robin
Ruby-crowned kinglet
Myrtle warbler
Lesser goldfinch
White-crowned sparrow

Winter

NUECES RIVER VALLEY

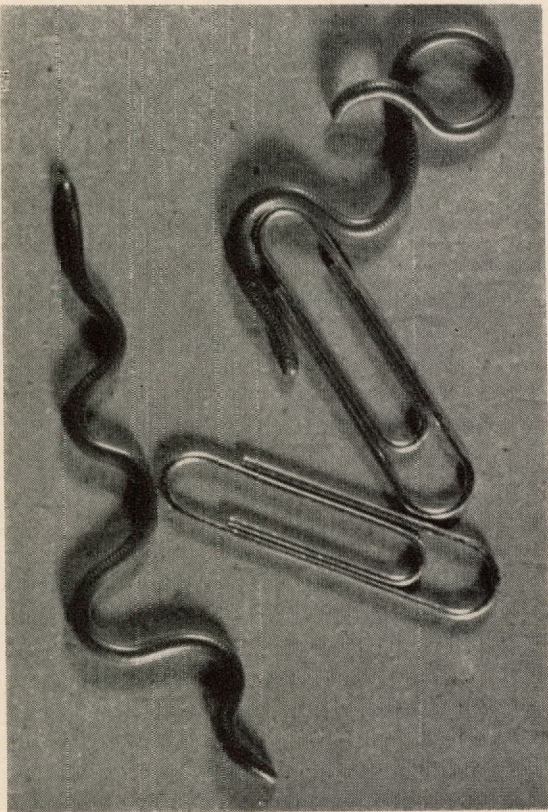
Liveoak, pecan, black walnut, ash, elm, and button willow
Barred owl
Belted kingfisher
Green kingfisher
Golden-fronted woodpecker Year-round
Ladder-backed woodpecker
Crested flycatcher
Black-crested titmouse
Carolina wren
White-eyed vireo
Cardinal
Anhinga (water turkey)
Little blue heron (Aug.-April)
Yellow-crowned night heron
Florida gallinule



You probably thought it was a worm—IF you've ever seen one of . . .

Texas' Tiniest Snakes

By JEAN RICHMOND
Assistant Editor



One of the more interesting of the lesser known reptiles of the Southwest is the Texas blind snake, known scientifically as *Leptotyphlops dulcis dulcis*. Comparatively few people have had the pleasure of observing this small member of the snake family because it spends most of its lifetime underground.

The blind snakes, more commonly called worm snakes, of the United States are entirely residents of the Southwest, being found from Kansas to Texas and across to California. Some species are found in Mexico.

The Texas blind snake is a very small snake, generally the size of a good fishing worm, and seldom exceeding 8 inches in length. It resembles a worm in color, too, being a pinkish-brown on the back and only slightly lighter on the underside, thereby deriving the common name of worm snake. Since it is a burrowing snake, appearing usually at night to feed on small worms and insect eggs, it is seldom seen or noticed. And for the same reasons, not much is known about the snake, other than its physical characteristics.

The blind snake is so called because its eyes, covered by the scales of the head, are apparent only as tiny, very dark dots. The snake can distinguish between light and dark, but as far as is known, that is the extent of its eyesight. The blunt head, attached directly to the body with no apparent neck area, is as wide as its body. These snakes are known to be among the more primitive forms of reptiles since they have rudiments of pelvic bones and hind limbs still visible in the bone structure.

At the end of the stubby tail is a tiny, bony spine which is utilized when the snake moves. In crawling the snake seems to use this spine as a push, especially on smooth surfaces or when attempting to go through extremely small openings.

In breeding habits the snakes are known to be egg-layers, usually laying about four long, slender eggs at a time. Some of the more tropical cousins of the Texas blind snake are known to lay their eggs in termite nests.

These snakes seem to prefer moist spots in rocky, sandy regions such as the deserts, semi-barren mountains, and foothills with scatterings of boulders and mesquite. Rocks and rocky land seem to be an essential part of their environment.

Quite often these snakes can be found in excavations for post holes, pipe lines, or foundations for houses or other construction. Occasionally a person discovers one while digging worms for bait or when lifting large rocks. If one is found in loose soil or under a rock, it must be caught very quickly for its powers in burrowing are next to phenomenal.

An entirely harmless and inoffensive snake, it will not attempt to bite even when being handled. It flicks out its long tongue continually while it is crawling, as do other snakes. This snake can move extremely fast for its size, especially when burrowing,

• Continued on page 25



Operators of fishing camps, property owners, and Mr. Fisherman would benefit most from the proposed rough fish clean-up in Inks



Lake. New techniques also make possible for the first time the treatment of other big impoundments.

Fishing is big business in Texas. More and bigger fish are needed to keep fishermen happy. Now biologists are armed with a newly-discovered technique for treating troublesome BIG impoundments. That's why they recommend . . .

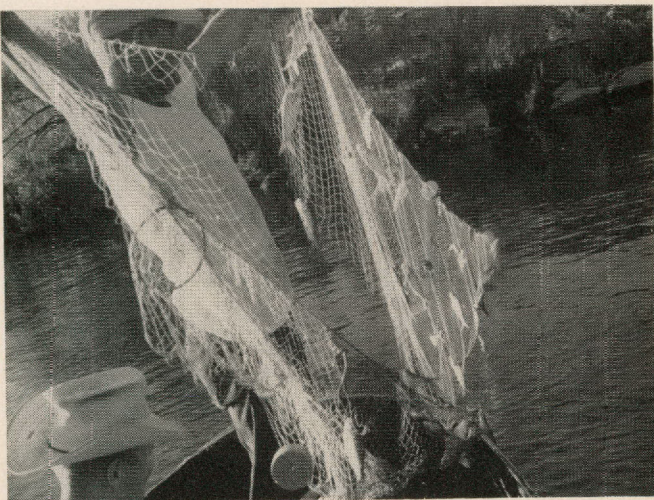
A Clean-Up For Inks Lake

By KENNETH JURGENS, Aquatic Biologist

With Photos by the Author

IN JULY 1955 a crew of the Game and Fish Commission's Inland Fisheries Division was assigned to study the fish population of Inks Lake near Burnet, the second in a series of six man-made lakes on the Colorado River of Texas. Their job was to determine the composition of the fish population in Inks and to find out just how good fishing was on this central Texas lake.

The results tell a story of why fishing often declines in most large lakes—perhaps in your favorite freshwater impoundment. The findings reveal a condition common to many lakes everywhere, a condition brought about by slow changes which occur as a hard-fished lake acquires age.



During the past year gill nets aided in obtaining valuable information about the numbers, kinds, sizes, and habits of lake fish.

In order to uncover the facts which would tell the story of fish and fishing in Inks Lake a plan was devised to sample both the fish population and the fisherman's catch over a relatively long period of time.

To obtain facts concerning the fish population make-up of Inks Lake, numbers of fish were taken from the lake each month through the use of nets and seines. These monthly fish population samples were then gathered together and treated statistically in order to obtain an estimate of the total fish population.

Each month the Inland Fisheries Division crew set eight experimental gill nets in Inks Lake. The fish caught were individually weighed and measured, examined for their stage of sexual development to determine the time of year each species spawns in the lake and, if an individual fish's stomach contained food, the stomach was removed from the fish, numbered and preserved. The food remains in the preserved stomachs were then stored until a sufficient number were collected to make a study of the food of the captured fish.

In addition to the monthly netting samples, shoreline fishes were collected from eleven seining stations once a month to determine the status of the smaller fish in the lake and to obtain information regarding the growth of small fry as they appeared during and after the spawning season.

Inks Lake for many years past has had the reputation of producing large numbers of big black bass both of the largemouth and spotted bass varieties. During recent years the quality of bass fishing has been growing poorer and poorer. Questions began to be raised as to whether or not this lake was receiving enough bass fry

from the state and federal fish hatcheries. As is to be expected, some people felt that if you stock large numbers of fish in a lake every year fishing has got to be good. Since fishing quality on the lake was declining, people were ready to say the Game and Fish Commission was not stocking enough fish.

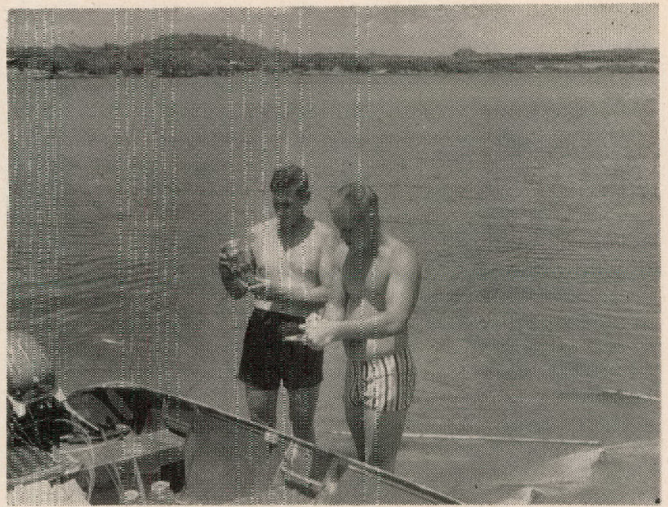
The study made of Inks Lake has brought to light several indisputable facts concerning the fish population. First, natural spawning of black bass, spotted bass, and white crappie are more than sufficient to provide the lake with a large game fish population. Second, the forage and rough fish populations in Inks Lake are so large that it is apparent the lake is producing overwhelmingly large crops of forage and rough fish each and every year. Third, the game fish population is constantly being fished for with only poor to fair success, and the rough and forage fish population are not being fished for to any great extent at all.

These facts then lead to the conclusion that if adequate spawns of game fish are taking place each year, and if these fish are not being harvested by the fishermen, there must be a factor present in the lake which makes the taking of game fish difficult for sport fishermen. With this in mind the seining and netting data were carefully examined to see if there was any apparent reason for the poor sport fishing.

At only a casual glance at the netting data it is very apparent that a single species of fish is present in overwhelming numbers. Gizzard shad comprised nearly 60 per cent of the fish taken in netting samples over a period of time extending from July 1955 through August 1956.

The gizzard shad is classed as a forage species, that is a species which is eaten by other fish as a major part of the diet. Black bass, crappie, white bass, channel catfish and most other predatory species prey on the gizzard shad and in Inks Lake the gizzard shad is the most important single item in the diet of all game fishes.

With so many gizzard shad present in Inks Lake it is little wonder that game fish of desirable size are hard to catch. What's the use of trying to fish for any game fish with artificial bait, or live bait for that matter, when most of the fish you are trying to catch are so



Game Commission biologists spent a year making the detailed study of fish and fishing conditions in Inks Lake.

full of shad they won't strike? Likely the few fish taken by fishermen are caught because they are curious or angry enough to strike a bait rather than because they are hungry.

Also, knowing something of the life history of the gizzard shad it is no wonder that the game fish have such a hard time holding their own in numbers against the shad.

Gizzard shad are extremely prolific. They produce many more offspring than any of the game fish species. Also, the young gizzard shad are canivorous and compete directly with young game fish fry for food. As a result their strength of numbers and direct competition for food are enough to cause a decline in the survival rate of game fish and to guarantee the survival rate of shad. Furthermore, the growth rate of gizzard shad is so rapid that a yearling shad is too large for most game fish to take as food. Thus, each year's crop of gizzard shad survives in great enough numbers to ensure a tremendous spawn the following year.

Considering the success of the gizzard shad in maintaining its overwhelming numbers, it is little wonder that game fish, black bass and crappie in particular have difficulty in surviving in large numbers. Therefore regardless of how many bass or crappie fry are

● Continued on page 26



By seining along various areas of the shoreline and examining the hauls, biologists have been able to determine size and percentage



of the game and rough fish. For example, only four tiny game fish fry were found among all the larger "scrap" fish in this haul.

GUY S. TO GUS T.

A fellow signing the name Guy S. McFish sent in a clipping to Gus T. McMammal, tenement-level wildlife observer, noting that the person shown leaning on his gun barrel "must have his hands there to keep from shooting off his head." Having seen at least one nimrod looking into the business end of a loaded shotgun, Gus T. conceded that the deduction was of Sherlockian proportions.

SALT WATER AFFAIR

The sorting crew at the Game and Fish Commission's Marine Laboratory at Rockport, was checking out the day's trawl catch. Each week, they check the same place at the same time of day to determine population changes. Patricia Pew, University of Houston graduate who provides the crew's co-educational touch, was studying a lizard fish. "Parasite in its mouth," she observed professionally. "Yes, a sea louse," said C. W. Reid, Director of Coastal Fisheries. "Suppose it could have picked it from a trout, what?" At that instant, a blue crab with its pinchers whipping violently, fell from the table to the floor. It began scratching defiantly at the trouser cuff of Gus T. McMammal, layman wildlife observer. Gus T. promptly found some business across the room. The specimens over there were in a glass tank which had a cover on it.

NUFF SAID

The San Marcos *Record*, reporting on the foreign hunting exploits of a former resident, Joe Joyce, quoted him as saying that one major factor in the sound condition of Austrian wildlife is that poaching is punishable by life imprisonment.

HOW IT'S DONE

A Yankee transplanted to the cedarbrakes northwest of Austin had been supporting a turkey hen or two during the summer drought. They came up to his place late in the evening to pick up cracked corn put out for birds, squirrels, doves, rabbits, etc. He thought the hens might be wild turkey since the big game birds occur in that area. But he scarcely dared brag about that, never having seen a Texas wild turkey. Late one evening he was watching one of the sleek hens, which actually did have the tell-tale purplish head. The graceful bird finished her supper, stepped a few paces beyond the feeding stand, just barely flicked her wings and then jumped into the air with one swift and majestic gesture. Yes, indeed, a genuine Texas wild turkey. And what a sight to behold!

NATURE'S TOP SHOW

Pessimists contend that future generations will see wildlife only as it exists in zoos. Anyway, they're looking on while actual, on-the-scene specimens are available in Texas. For example, at the wildlife management area maintained at the San Angelo reservoir, the US Corps of Engineers, through L. D. Sykes, Area Engineer, estimated that 49,905 persons visited the area in one month alone.

OCCUPATIONAL HAZARD

A Wahoo, Nebraska, AP story involved a tip to bare-handed fishermen in Texas, where some forms of fishing with hands, particularly grabbling, are illegal. A thirteen-year-old lad spotted a small carp in shallow water. He lunged and grabbed the fish so hard that his left hand became impaled on a sharp fin. Firemen had to release the lad.

WHAT, NO BANG?

Those quail dogs that get tired of the rattle of shotgun fire during the fall harvest might like the techniques used by Game and Fish Commission biologists in conducting a quail census. The dogs in this case were given the standard treatment, except the shooting was omitted. Biologists, instead of banging away, counted the birds as they took off. Gus T. McMammal, the layman pal of the ammo dealers, suggested that he couldn't qualify for the silent routine. "Bug-eyed or not," said Gus, "all I ever see is a blur when bobwhites take off. Guess that makes me a sound shooter, vas?"

OVERLY SIMPLIFIED?

Gus T. Mammal, who deliberately keeps confused to retain the layman touch, said he could master the answer to what X plus Y equals about as easily as he could follow reasoning on some true-to-life situations. Like the explanation in a state wildlife publication, viz., to wit: "The suckers compete with trout in streams in two ways. First, the most important, is the fact that they interfere with the food chain. The suckers and bonytails eat the microscopic algae on the stream bottom. This algae attracts plankton and other small organisms which are in turn fed upon by small trout. When the rough fish population reaches a certain point in a stream, the algae is so limited that these small minute organisms, which it attracts, are not present in sufficient quantity to supply food for the small trout. This, of course, is in addition to the worms and other organisms which are eaten by the suckers and trout alike . . ." Gus T. McMammal quit gnawing on that sinker. You'll get lead poisoning.

Press Views Game Notes

ABANDONED PETS

The Dallas *Morning News* gave editorial page space to a plea against releasing unwanted pets in rural areas. It stated: "These surplus animals often are hard put to forage for themselves, and they are much more likely to contract and spread rabies than are animals cared for by a family. Cats forced to go wild are seriously destructive of songbirds, quail, and other game birds. Both they and the stray dogs become a nuisance to families living on farms or in small communities."

GANDER'S LAST STAND

Wick Temple of the *Texarkana Gazette's* news staff, "interviewed" ducks and geese in Spring Lake park, which were threatened with annihilation by newly installed motor boats. He quoted Mrs. Michael J. McMallard as saying: "Sure, we've always been chased but always before we could take to the open water when the going got rough. Now, we just get away from those rock-throwing individuals, swim out into the water and nearly get run down by 'hot rod' motorboats."

FREE-LOADING POSSUM

Frank X. Tolbert, author of "City Page" column in the Dallas *Morning News*, relayed the story of a lone possum which calls for nightly handouts at the ranch home of the Horace Dudleys in Moscow, Polk County. Even scratches on the kitchen door screen if victuals are not ready. Gus T. McMammal, low-calorie, layman wildlife observer, suggests that the varmint world may soon become a tribe of domestic chow hounds, judging by the frightful field reports on the drought-created crisis.

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—North Zone opens 12 o'clock noon Sept. 1, closes sunset Oct. 17. South Zone opens 12 o'clock noon Oct. 12, closes Nov. 28 at sunset. Shooting hours 12 o'clock noon to sunset. Limits, 10 mourning doves per day, 10 in possession.

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—Nov. 2 to Dec. 31, both days inclusive. Shooting hours one-half hour before sunrise to sunset. Limit, 5 per day or in possession, including not more than 2 Canada geese or subspecies or 2 white-fronted geese or 1 of each.

Rails and Gallinules (except coots)—Sept. 1 to Nov. 9, both days inclusive. Shooting hours one-half hour before sunrise to sunset. Limit, 15 total of all kinds daily or in possession, except coots and soras; soras, 25 daily or in possession; coots, 10 daily or in possession.

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—General open season Nov. 16 through Dec. 31. Limits per season: 1 bear, 2 buck deer with pronged horns, 2 javelina, 3 turkey gobblers. Panhandle season open on deer and turkey Nov. 17 to Nov. 26, both days inclusive; season open all year on javelina; season closed on bear. Panhandle limits, 1 buck deer with pronged antlers, 2 turkey gobblers, per season; no limit on javelina. West of the Pecos, bear and buck deer season Dec. 8 to Dec. 13, both days inclusive, antlerless mule deer (hunting by special permit only) Dec. 14 to Dec. 19, both days inclusive; javelina season Nov. 1 to Dec. 31, both days inclusive; turkey season closed. West of the Pecos, limits for season: 1 black bear, 1 mule buck and 1 whitetail buck, or 2 whitetail bucks (or 1 antlerless mule by special permit and 1 whitetail buck deer), buck deer to have at least one pronged horn, 2 javelina. Note—javelina season open all year in many counties; no bag limit. See Game and Fish Law Digest.

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



The suspense of the point . . .



. . . broken by an explosive rise . . .

SHOOTING RESORTS

. . . additional sport for Texas hunters

It's new . . . this business
of raising and releasing birds
specifically for hunting . . .
and Texas hunters find
it provides excitement aplenty

By TOWNSEND MILLER, EDITOR

With San Antonio Express-News photos
by EAL SWIGGETT

THE "SHOOTING RESORT," where pen-raised pheasant, quail, and chukar are released for hunting, has come to Texas. Operating last year for the first time under a new law passed by the State Legislature, they are beginning to have an impact on Texas hunting. Their importance likely will increase even more in the future.

Already they have caused a lot of comment and discussion, pro and con, among Texas hunters. No one seems to be neutral. Most are either decidedly sarcastic in their ridicule of the idea or are high in praise of the enjoyment they've discovered hunting on the resorts.

The important question actually is "Just how much

genuine hunting and shooting sport can a hunter get from such a hunt?" Not willing to take anyone else's word for it, I hunted on a number of the resorts to get the answer for myself.

I tried to enter into the experiment with an open mind. However, I must admit I'm afraid I was somewhat prejudiced against the idea and that, frankly, I didn't expect to get much of a kick out of shooting at pen-raised birds.

Here is what happened:

I was hunting with two other hunters, a pair of good bird dogs, and the resort guides when I flushed my first pheasant. A dozen of the big beautiful birds had been released as singles scattered over some 250 acres early that morning before daylight. It was about 9 o'clock when we walked into the field.

One of the dogs pointed the first pheasant in deep grass near a small bush. My companions voted for me to be the "guinea pig" to take the first shot. None of us knew what to expect. I started walking up behind the dog, half expecting to have to kick the bird out with my foot in keeping with some of the rumors I'd heard about pen-raised birds.

The dog held a perfect deep-freeze point—yet I was still a good forty feet from the dog and fifty feet from the pheasant when the bird sky-rocketed out of the grass. The whirring blur angled off to my right at about 60 degrees, then just as I was set to fire, took a sharp left and zoomed skyward. I realigned, knocked some feathers out of the fast-disappearing bird, and watched him fly on and on until he finally settled to the ground over a quarter of a mile away.

That was typical of the other pheasants we flushed. All took to the air before we got within thirty feet of them. None that we missed flew less than 350 yards



... ends with the thrill of a good shot ...

before alighting. One cock flew over half a mile. Tame? That's wild enough for me. And my experiences hunting on other shooting resorts have been similar.

It would be only natural, however, that some resorts furnish better shooting than others. Type of cover has some effect. The pre-hunt handling of the birds is even more important. The better resorts have huge "conditioning" pens, where birds are kept several weeks to give them a chance to become "wild" and to develop wing power. Birds should be released at least several hours before the hunt.

Fourteen shooting resorts were licensed in Texas the first season last year. Some operate as private clubs, charging members annual dues which usually include a quota of birds for the season with the right to pay for the release of additional birds if desired. Others operate as public resorts, taking hunters on a day-hunt basis and charging per number of birds released or killed.

The average charge is \$5 to \$6 per pheasant or

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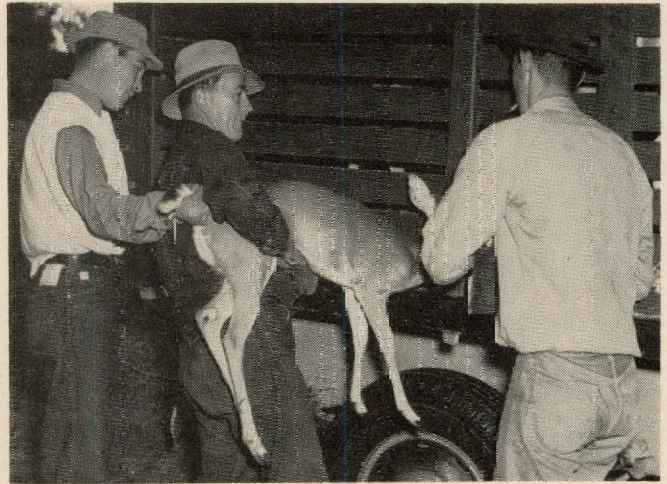
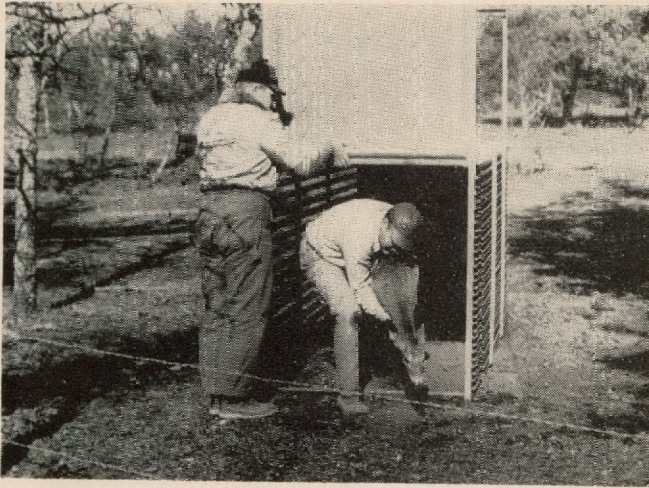
... and a big, tasty game bird.

Giant conditioning pens, below, give these pheasants a chance to acquire wildness and flying power before release. Texas shooting resorts offer pheasants, quail, and chukar partridges.



Birds most often are released at night. If released the way of the hunt, they are "twirled" to make them momentarily dizzy until the releaser can walk away. Otherwise, pheasants may fly as much as half mile away.





Deer and turkey will be live-trapped, left, from ranges overpopulated with game and transported to new areas, right.

Deer and Turkey Stock Available

**. . . to landowners upon payment
of trapping and transportation costs**

A plan is being inaugurated to make wild turkey and deer from overpopulated areas available to landowners upon payment of trapping and transportation costs. The game will be trapped and delivered to landowners to be released for restocking purposes.

Based on average trapping and transportation costs, turkeys will be delivered for \$12 each and deer for \$35 a head.

The new plan, authorized by a vote of the Game and Fish Commissioners, will make additional wild stock available to areas where game populations have been depleted by the long Texas drought or other causes. It will serve as a supplement to the Commission's regular deer and turkey restocking projects.

The new plan simplifies and streamlines restocking programs for those willing to pay operation costs. It will make game available to many landowners who fail to qualify under the regular restocking program, which requires exceptionally large areas, a closed season usually of five years, and strict habitat conditions.

Under the new supplemental plan, no closed season or habitat approval is required, nor are there

requirements for minimum size of release sites. However, the landowner must pay trapping and transportation costs.

Persons desiring deer or turkey under the new streamlined program should send orders and remittances to the Game and Fish Commission. The orders then will be turned over to the trapper for delivery. At the time of delivery, a representative of the Commission will meet with the landowner to check the order and assist with release of the game as required by law.

The game will be trapped from areas approved by Commission technicians as having excess populations. The delivered price to landowners is based on the actual cost of these services as experienced in similar experimental trapping operations conducted over a long period. It is somewhat lower than costs actually experienced, but it is believed that expenses can be cut this year when trapping is done on a greater scale under the new organizational plan.

No orders will be accepted for less than ten turkeys or ten deer. However, there is no maximum. Requests for sorting deer and turkey according to sex will be honored as nearly

as possible but cannot be guaranteed. According to past experience, turkeys will average about half toms and half hens, and deer will average about two and one-half does for each buck trapped.

The new plan should accomplish a three-fold purpose—(1) provide game now occupying overpopulated ranges a chance to survive in new areas, (2) make game available to hunters in areas which do not at present provide hunting, and (3) give landowners a chance to increase income from their land through the sale of hunting leases. In many areas of Texas, ranchers find that income from hunting leases exceeds income from mineral leases and cattle, encouraging them to protect and care for deer and turkey. Hunters in turn benefit by having more game and additional areas to hunt.

Persons ordering deer and turkey under the new plan should remember that state regulations require that payment for trapping and transportation costs must be made to the Commission in advance. Orders, with remittance, should be sent to the Wildlife Restoration Division, Game and Fish Commission, Austin 14, Texas.

A great fighting fish faces extinction in the Great Lakes region.

The Lake Trout

By JAMES W. MOFFETT

THE LAKE OR mackinaw trout (*Salvelinus namaycush*) is native to northern North America from Alaska to the Labrador Peninsula, south to northern New England, headwater lakes of the St. Lawrence and Hudson River system in New York, the Great Lakes drainage basin, lakes on the northern margin of the Mississippi River watershed in Wisconsin and Minnesota, headwaters of the Columbia and Fraser Rivers and Vancouver Island. It has been introduced into many United States lakes as a game fish.

The lake trout is distinguished from its nearest relative, the brook trout, by its strongly forked tail, its gray-spotted body, without bright colors, and the lack of light conspicuous edging on the lower fins. It grows to a large size; 30-pounders are not uncommon. Trout weighing more than 100 pounds have been reported, but fish

of this size are presently rare. As a juvenile, the lake trout eats plankton, terrestrial and aquatic insects and occasionally small fishes. As an adult in the Great Lakes, it feeds principally on deep-water ciscoes, mudlers, sticklebacks and smelt. Lake trout prefer deep, cold waters. Some races seldom approach shallow water except at fall spawning time when most move into bouldery shoals to scatter their eggs among the rocks. A few races spawn in streams.

The lake trout is not in danger of extinction except in the Great Lakes. Prior to 1937 this fish reached its maximum development in Lakes Huron, Michigan and Superior. Commercial fishermen in Canada and

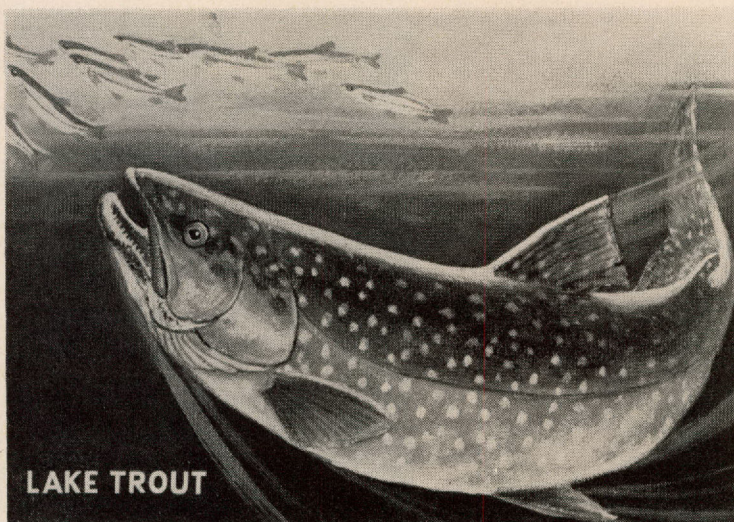
DR. JAMES W. MOFFETT is identified as one of the principal leaders of research projects to control sea lamprey depredations of lake trout within the Great Lakes. He is Chief of U. S. Fish and Wildlife Service's Great Lakes fishery investigations.

the United States annually caught an average of 15,375,000 pounds, worth about \$7½ million at present prices. A vigorous sports fishery, "deep-sea trolling," was growing rapidly. Beginning in 1939, commercial production began to decline and the sports fishery lost quantity, first in Lake Huron, then in Lake Michigan. Now, the decline has started in Lake Superior. By 1953, production in Lake Huron was down to 344,000

pounds and there was no production in United States waters. Lake Michigan produced 22 pounds in 1954. Lake Superior's production was down to about 85 per cent of normal in 1953. Indications are that production in 1954 was near 72 per cent of normal and 1955 catches have been very disappointing.

The major cause of this phenomenal loss of lake trout is the sea lamprey, an eel-like predator which subsists entirely on the blood

and body juices of fish. By means of its sucker-like mouth, armed with sharp teeth, the lamprey attaches itself to a victim, rasps a hole into its flesh, and feeds until its appetite is sated or the victim dies. For many years these lampreys, adapted to life in fresh water, have lived in Lake Ontario. But it is only recently that they have become established in the upper lakes by moving around Niagara Falls through the Welland ship canal. Their increase has been meteoric and disastrous. Studies in Lake Michigan show all too clearly that the lake trout is practically extinct. Only 8 were caught in more than 1,000 miles of gill net fished at many locations during the spring of 1955. In 1930-1932, this amount of gear would have taken more than 50,000 fish.



From Wildlife Conservation Stamp Series

● Continued on page 28

SUNRISE and SUNSET

Legal shooting hours are regulated by the sun.
These tables are good until 1960.

Sunrise and sunset tables, provided by Hoye Dunham, Austin meteorologist, have proved so popular for Texas hunters that they are being repeated again this fall.

Duck, goose and dove hunters seem to be the main ones to benefit, although, of course, the time tables apply to almost all species, and to the legal daylight hours. Game wardens also will be guided by this official compilation.

Nine Texas Weather Bureau Stations prepared the data and funneled it to the Game and Fish Commission through Meteorologist Dunham. And there is a great spread in sunrise and sunset times in the far-flung Texas areas.

For example, sunrise at El Paso on October 1 was precisely 6 a.m. The same day, sunrise at Amarillo, in the Panhandle, was 6:41. El Paso's time is one hour earlier since it is in the Mountain Standard Time zone, whereas Amarillo is in the Central zone.

—J. V.

All tables are Central Standard times except El Paso, which is Mountain Standard.

AMARILLO

DAY	OCTOBER		NOVEMBER		DECEMBER	
	RISE	SET	RISE	SET	RISE	SET
1.....	6:41	6:31	7:08	5:53	7:37	5:35
2.....	6:42	6:30	7:09	5:52	7:37	5:35
3.....	6:43	6:29	7:10	5:51	7:38	5:35
4.....	6:44	6:27	7:11	5:50	7:39	5:35
5.....	6:45	6:26	7:12	5:49	7:40	5:35
6.....	6:45	6:25	7:13	5:49	7:41	5:35
7.....	6:46	6:23	7:13	5:48	7:42	5:35
8.....	6:47	6:22	7:14	5:47	7:42	5:35
9.....	6:48	6:20	7:15	5:46	7:43	5:35
10.....	6:49	6:19	7:16	5:45	7:45	5:35
11.....	6:49	6:18	7:17	5:44	7:46	5:35
12.....	6:50	6:16	7:18	5:44	7:46	5:35
13.....	6:51	6:15	7:19	5:43	7:47	5:36
14.....	6:52	6:14	7:20	5:42	7:48	5:36
15.....	6:53	6:13	7:21	5:42	7:48	5:36
16.....	6:54	6:11	7:22	5:41	7:48	5:36
17.....	6:54	6:10	7:24	5:40	7:49	5:37
18.....	6:55	6:09	7:24	5:40	7:49	5:37
19.....	6:56	6:08	7:25	5:39	7:50	5:38
20.....	6:57	6:06	7:26	5:39	7:51	5:38
21.....	6:58	6:05	7:27	5:38	7:52	5:38
22.....	6:59	6:04	7:28	5:38	7:52	5:38
23.....	7:00	6:03	7:30	5:37	7:53	5:39
24.....	7:00	6:02	7:30	5:37	7:54	5:40
25.....	7:01	6:01	7:31	5:37	7:54	5:41
26.....	7:02	5:59	7:33	5:36	7:54	5:41
27.....	7:03	5:58	7:33	5:36	7:55	5:42
28.....	7:04	5:57	7:34	5:36	7:55	5:43
29.....	7:05	5:56	7:36	5:35	7:55	5:43
30.....	7:06	5:55	7:37	5:35	7:56	5:44
31.....	7:07	5:54			7:55	5:45

AUSTIN

DAY	OCTOBER		NOVEMBER		DECEMBER	
	RISE	SET	RISE	SET	RISE	SET
1.....	6:24	6:17	6:45	5:44	7:10	5:30
2.....	6:25	6:16	6:45	5:43	7:11	5:30
3.....	6:25	6:14	6:47	5:42	7:12	5:30
4.....	6:26	6:13	6:48	5:41	7:12	5:30
5.....	6:26	6:12	6:48	5:41	7:13	5:30
6.....	6:27	6:11	6:50	5:40	7:14	5:30
7.....	6:28	6:10	6:50	5:39	7:15	5:30
8.....	6:28	6:09	6:50	5:39	7:15	5:30
9.....	6:29	6:07	6:52	5:38	7:16	5:30
10.....	6:30	6:06	6:53	5:37	7:17	5:31
11.....	6:30	6:05	6:53	5:37	7:18	5:31
12.....	6:31	6:04	6:54	5:36	7:18	5:31
13.....	6:31	6:03	6:55	5:35	7:19	5:31
14.....	6:32	6:02	6:56	5:35	7:20	5:32
15.....	6:33	6:01	6:57	5:34	7:20	5:32
16.....	6:33	6:00	6:58	5:34	7:21	5:32
17.....	6:34	5:59	6:59	5:33	7:21	5:32
18.....	6:35	5:57	6:59	5:33	7:22	5:33
19.....	6:35	5:56	6:59	5:33	7:23	5:34
20.....	6:36	5:55	7:01	5:32	7:23	5:34
21.....	6:37	5:54	7:02	5:32	7:24	5:34
22.....	6:37	5:53	7:03	5:31	7:24	5:34
23.....	6:38	5:52	7:04	5:31	7:25	5:36
24.....	6:39	5:51	7:04	5:31	7:25	5:36
25.....	6:39	5:50	7:05	5:31	7:26	5:37
26.....	6:41	5:49	7:06	5:30	7:26	5:37
27.....	6:42	5:48	7:07	5:30	7:26	5:38
28.....	6:43	5:47	7:08	5:30	7:27	5:39
29.....	6:43	5:46	7:08	5:30	7:27	5:39
30.....	6:43	5:46	7:09	5:30	7:27	5:40
31.....	6:44	5:45			7:27	5:40

BEAUMONT

DAY	OCTOBER		NOVEMBER		DECEMBER	
	RISE	SET	RISE	SET	RISE	SET
1.....	6:09	6:02	6:30	5:29	6:54	5:16
2.....	6:10	6:01	6:30	5:28	6:55	5:16
3.....	6:10	5:59	6:31	5:28	6:56	5:16
4.....	6:11	5:58	6:32	5:27	6:56	5:16
5.....	6:11	5:57	6:33	5:26	6:57	5:16
6.....	6:12	5:56	6:34	5:26	6:58	5:16
7.....	6:13	5:55	6:34	5:25	6:59	5:16
8.....	6:13	5:54	6:35	5:24	6:59	5:16
9.....	6:14	5:52	6:36	5:24	7:00	5:16
10.....	6:15	5:51	6:37	5:23	7:01	5:17
11.....	6:15	5:50	6:38	5:22	7:02	5:17
12.....	6:16	5:49	6:38	5:22	7:02	5:17
13.....	6:16	5:48	6:39	5:21	7:03	5:17
14.....	6:17	5:47	6:40	5:21	7:04	5:18
15.....	6:18	5:46	6:41	5:20	7:04	5:18
16.....	6:18	5:45	6:42	5:20	7:05	5:18
17.....	6:19	5:44	6:43	5:19	7:06	5:19
18.....	6:20	5:42	6:43	5:19	7:06	5:19
19.....	6:20	5:41	6:44	5:18	7:07	5:20
20.....	6:21	5:40	6:45	5:18	7:07	5:20
21.....	6:22	5:39	6:46	5:18	7:08	5:20
22.....	6:22	5:38	6:47	5:17	7:08	5:20
23.....	6:23	5:37	6:48	5:17	7:09	5:22
24.....	6:24	5:36	6:48	5:17	7:09	5:22
25.....	6:24	5:35	6:49	5:17	7:10	5:23
26.....	6:25	5:35	6:50	5:16	7:10	5:23
27.....	6:26	5:34	6:51	5:16	7:10	5:24
28.....	6:27	5:33	6:52	5:16	7:11	5:25
29.....	6:27	5:32	6:52	5:16	7:11	5:25
30.....	6:28	5:31	6:53	5:16	7:11	5:26
31.....	6:29	5:30			7:12	5:27

BROWNSVILLE

DAY	OCTOBER		NOVEMBER		DECEMBER	
	RISE	SET	RISE	SET	RISE	SET
1	6:22	6:17	6:39	5:48	7:00	5:38
2	6:23	6:16	6:39	5:48	7:01	5:38
3	6:23	6:15	6:40	5:47	7:01	5:38
4	6:23	6:14	6:40	5:47	7:02	5:38
5	6:24	6:13	6:41	5:46	7:03	5:39
6	6:24	6:12	6:42	5:45	7:03	5:39
7	6:25	6:11	6:42	5:45	7:04	5:39
8	6:25	6:10	6:43	5:44	7:05	5:39
9	6:26	6:08	6:44	5:44	7:05	5:39
10	6:26	6:08	6:45	5:43	7:06	5:39
11	6:27	6:07	6:45	5:43	7:07	5:40
12	6:27	6:06	6:46	5:42	7:07	5:40
13	6:28	6:05	6:47	5:42	7:08	5:40
14	6:28	6:04	6:47	5:41	7:09	5:41
15	6:29	6:03	6:48	5:41	7:09	5:41
16	6:29	6:02	6:49	5:41	7:10	5:41
17	6:30	6:01	6:50	5:40	7:11	5:42
18	6:30	6:00	6:50	5:40	7:11	5:42
19	6:31	5:59	6:51	5:40	7:12	5:43
20	6:31	5:58	6:52	5:39	7:12	5:43
21	6:32	5:57	6:52	5:39	7:13	5:43
22	6:33	5:56	6:53	5:39	7:13	5:43
23	6:33	5:55	6:54	5:39	7:14	5:44
24	6:34	5:55	6:55	5:39	7:14	5:45
25	6:34	5:54	6:55	5:38	7:15	5:46
26	6:35	5:53	6:56	5:38	7:15	5:46
27	6:35	5:52	6:57	5:38	7:16	5:47
28	6:36	5:51	6:58	5:38	7:16	5:47
29	6:37	5:51	6:58	5:38	7:16	5:48
30	6:37	5:50	6:59	5:38	7:17	5:49
31	6:38	5:49			7:17	5:49

DALLAS

DAY	OCTOBER		NOVEMBER		DECEMBER	
	RISE	SET	RISE	SET	RISE	SET
1	6:21	6:12	6:44	5:36	7:12	5:20
2	6:21	6:11	6:46	5:35	7:12	5:20
3	6:23	6:10	6:47	5:34	7:13	5:20
4	6:23	6:08	6:48	5:33	7:14	5:20
5	6:23	6:07	6:48	5:33	7:15	5:20
6	6:25	6:05	6:49	5:32	7:15	5:20
7	6:26	6:04	6:51	5:31	7:16	5:21
8	6:26	6:03	6:51	5:30	7:17	5:21
9	6:26	6:02	6:51	5:30	7:18	5:21
10	6:28	6:00	6:53	5:29	7:19	5:21
11	6:28	5:59	6:54	5:28	7:19	5:21
12	6:29	5:58	6:55	5:27	7:20	5:21
13	6:29	5:57	6:56	5:27	7:21	5:22
14	6:31	5:55	6:57	5:26	7:21	5:22
15	6:31	5:54	6:58	5:26	7:22	5:22
16	6:32	5:53	6:58	5:25	7:23	5:23
17	6:33	5:52	6:58	5:25	7:23	5:23
18	6:33	5:51	7:00	5:24	7:23	5:23
19	6:34	5:50	7:01	5:24	7:24	5:24
20	6:35	5:48	7:02	5:23	7:25	5:24
21	6:36	5:47	7:03	5:23	7:25	5:24
22	6:37	5:46	7:04	5:22	7:25	5:24
23	6:37	5:45	7:05	5:22	7:27	5:26
24	6:38	5:44	7:05	5:22	7:27	5:26
25	6:39	5:43	7:06	5:22	7:27	5:27
26	6:40	5:42	7:07	5:21	7:27	5:27
27	6:40	5:41	7:08	5:21	7:28	5:28
28	6:41	5:40	7:09	5:21	7:28	5:29
29	6:42	5:39	7:10	5:21	7:28	5:29
30	6:43	5:38	7:11	5:21	7:29	5:30
31	6:44	5:37			7:29	5:31

DEL RIO

DAY	OCTOBER		NOVEMBER		DECEMBER	
	RISE	SET	RISE	SET	RISE	SET
1	06:37	18:30	06:57	17:58	07:21	17:45
2	06:38	18:29	06:58	17:57	07:22	17:45
3	06:38	18:28	06:58	17:57	07:23	17:45
4	06:39	18:27	06:59	17:56	07:23	17:45
5	06:39	18:25	07:00	17:55	07:24	17:45
6	06:40	18:24	07:00	17:55	07:25	17:45
7	06:40	18:23	07:01	17:54	07:26	17:45
8	06:41	18:22	07:02	17:53	07:26	17:45
9	06:41	18:21	07:03	17:53	07:27	17:46
10	06:42	18:20	07:04	17:52	07:28	17:46
11	06:43	18:19	07:05	17:51	07:28	17:46
12	06:43	18:18	07:05	17:51	07:29	17:46
13	06:44	18:17	07:06	17:50	07:30	17:47
14	06:44	18:15	07:07	17:50	07:30	17:47
15	06:45	18:14	07:08	17:49	07:31	17:47
16	06:46	18:13	07:08	17:49	07:32	17:48
17	06:46	18:12	07:10	17:48	07:32	17:48
18	06:47	18:11	07:11	17:48	07:32	17:48
19	06:48	18:10	07:11	17:47	07:33	17:49
20	06:48	18:09	07:12	17:47	07:34	17:49
21	06:49	18:08	07:13	17:47	07:34	17:49
22	06:49	18:07	07:14	17:46	07:34	17:49
23	06:50	18:06	07:15	17:46	07:35	17:51
24	06:51	18:05	07:15	17:46	07:35	17:51
25	06:52	18:04	07:16	17:46	07:36	17:52
26	06:52	18:04	07:17	17:45	07:37	17:53
27	06:53	18:03	07:18	17:45	07:37	17:53
28	06:54	18:02	07:19	17:45	07:37	17:54
29	06:54	18:01	07:19	17:45	07:37	17:54
30	06:55	18:00	07:20	17:45	07:38	17:55
31	06:56	17:59			07:38	17:56

EL PASO

DAY	OCTOBER		NOVEMBER		DECEMBER	
	RISE	SET	RISE	SET	RISE	SET
1	6:00	5:51	6:22	5:16	6:48	5:02
2	6:00	5:50	6:23	5:16	6:49	5:02
3	6:01	5:49	6:24	5:15	6:50	5:02
4	6:02	5:47	6:25	5:14	6:51	5:02
5	6:02	5:46	6:26	5:13	6:51	5:02
6	6:03	5:45	6:27	5:12	6:52	5:02
7	6:04	5:44	6:28	5:12	6:53	5:02
8	6:04	5:42	6:28	5:11	6:54	5:02
9	6:05	5:41	6:29	5:10	6:54	5:02
10	6:06	5:40	6:30	5:10	6:55	5:02
11	6:06	5:39	6:31	5:09	6:56	5:03
12	6:07	5:38	6:32	5:08	6:57	5:03
13	6:08	5:36	6:33	5:08	6:57	5:03
14	6:09	5:35	6:34	5:07	6:58	5:03
15	6:09	5:34	6:35	5:07	6:59	5:04
16	6:10	5:33	6:35	5:06	6:59	5:04
17	6:11	5:32	6:36	5:05	7:00	5:04
18	6:11	5:31	6:37	5:05	7:00	5:04
19	6:12	5:30	6:38	5:05	7:01	5:05
20	6:13	5:28	6:39	5:04	7:01	5:05
21	6:14	5:27	6:40	5:04	7:02	5:06
22	6:15	5:26	6:41	5:03	7:02	5:06
23	6:15	5:25	6:42	5:03	7:03	5:07
24	6:16	5:24	6:42	5:03	7:04	5:08
25	6:17	5:23	6:43	5:03	7:04	5:08
26	6:18	5:22	6:44	5:02	7:04	5:08
27	6:18	5:21	6:45	5:02	7:05	5:09
28	6:19	5:20	6:46	5:02	7:05	5:10
29	6:20	5:19	6:47	5:02	7:05	5:10
30	6:21	5:18	6:47	5:02	7:06	5:11
31	6:22	5:17			7:06	5:12

TEXARKANA

DAY	OCTOBER		NOVEMBER		DECEMBER	
	RISE	SET	RISE	SET	RISE	SET
1.....	6:10	6:01	6:34	5:25	7:02	5:08
2.....	6:11	6:00	6:35	5:24	7:03	5:08
3.....	6:11	5:58	6:36	5:23	7:03	5:08
4.....	6:12	5:57	6:36	5:22	7:04	5:08
5.....	6:13	5:56	6:38	5:21	7:05	5:08
6.....	6:13	5:54	6:39	5:20	7:06	5:08
7.....	6:14	5:53	6:40	5:19	7:07	5:08
8.....	6:15	5:52	6:40	5:19	7:07	5:08
9.....	6:16	5:51	6:42	5:18	7:08	5:08
10.....	6:16	5:49	6:43	5:17	7:09	5:09
11.....	6:17	5:48	6:44	5:16	7:10	5:09
12.....	6:18	5:47	6:44	5:16	7:10	5:09
13.....	6:19	5:46	6:46	5:15	7:11	5:09
14.....	6:19	5:44	6:46	5:14	7:12	5:10
15.....	6:20	5:43	6:47	5:14	7:12	5:10
16.....	6:21	5:42	6:48	5:13	7:13	5:10
17.....	6:22	5:41	6:49	5:13	7:14	5:11
18.....	6:22	5:40	6:50	5:12	7:14	5:11
19.....	6:23	5:39	6:51	5:12	7:15	5:11
20.....	6:24	5:37	6:52	5:11	7:15	5:12
21.....	6:25	5:36	6:53	5:11	7:16	5:12
22.....	6:26	5:35	6:54	5:10	7:16	5:12
23.....	6:26	5:34	6:55	5:10	7:17	5:13
24.....	6:27	5:33	6:56	5:10	7:17	7:14
25.....	6:28	5:32	6:56	5:09	7:18	5:14
26.....	6:29	5:31	6:57	5:09	7:18	5:15
27.....	6:30	5:30	6:58	5:09	7:19	5:16
28.....	6:31	5:29	6:59	5:09	7:19	5:16
29.....	6:31	5:28	7:00	5:08	7:19	5:17
30.....	6:32	5:27	7:01	5:08	7:20	5:18
31.....	6:33	5:26			7:20	5:18

WICHITA FALLS

DAY	OCTOBER		NOVEMBER		DECEMBER	
	RISE	SET	RISE	SET	RISE	SET
1.....	6:28	6:19	6:53	5:42	7:21	5:25
2.....	6:29	6:17	6:54	5:41	7:22	5:25
3.....	6:30	6:16	6:55	5:40	7:23	5:25
4.....	6:30	6:15	6:56	5:39	7:24	5:25
5.....	6:31	6:13	6:57	5:38	7:24	5:25
6.....	6:32	6:12	6:58	5:37	7:25	5:25
7.....	6:33	6:11	6:59	5:36	7:26	5:25
8.....	6:33	6:09	7:00	5:36	7:27	5:25
9.....	6:34	6:08	7:01	5:35	7:28	5:25
10.....	6:35	6:07	7:02	5:34	7:28	5:25
11.....	6:36	6:05	7:03	5:33	7:29	5:25
12.....	6:37	6:04	7:03	5:33	7:30	5:26
13.....	6:37	6:03	7:04	5:32	7:31	5:26
14.....	6:38	6:02	7:05	5:31	7:31	5:26
15.....	6:39	6:00	7:06	5:31	7:32	5:26
16.....	6:40	5:59	7:07	5:30	7:33	5:27
17.....	6:41	5:58	7:08	5:30	7:33	5:27
18.....	6:41	5:57	7:09	5:29	7:34	5:27
19.....	6:42	5:56	7:10	5:29	7:34	5:28
20.....	6:43	5:54	7:11	5:28	7:35	5:28
21.....	6:44	5:53	7:12	5:28	7:35	5:28
22.....	6:45	5:52	7:13	5:27	7:35	5:28
23.....	6:45	5:51	7:14	5:27	7:36	5:30
24.....	6:46	5:50	7:15	5:26	7:37	5:30
25.....	6:47	5:49	7:16	5:26	7:37	5:31
26.....	6:48	5:48	7:17	5:26	7:38	5:31
27.....	6:49	5:47	7:18	5:26	7:38	5:32
28.....	6:50	5:46	7:18	5:25	7:38	5:33
29.....	6:51	5:45	7:19	5:25	7:39	5:33
30.....	6:52	5:44	7:20	5:25	7:39	5:34
31.....	6:52	5:43			7:39	5:35

Proper Sight Adjustment Can Mean Hit or Miss

Jim Jones failed to get his buck last year. Missed him clean! And a standing still, broadside shot at that. No, he didn't get buck fever. Jim's too old a hand for that. Had plenty of time and held for a heart shot . . . but Jim's buck went scot free.

Jim Jones is usually not the kind of a fellow to overlook details. He'd checked his foot gear, ammunition, wearing apparel, compass, matches, emergency rations, etc. But this time he forgot the most important detail of all . . . he failed to check the sights on his rifle! Somehow, in the long layoff between seasons, the sights of Jim's rifle had been jarred out of alignment. He thought he was holding right when the Big Moment came, but the bullet went somewhere else.

There were a lot of Jim Joneses kicking around the country last year and according to Ted McCawley of Remington Arms Company, Inc., Jim will have plenty of company again this season.

"Rifle sights are not easily jarred out of alignment," says McCawley, "but it can happen in transportation or otherwise without being too obvious. And when it does happen, a whole hunting trip can be spoiled. So, whether your rifle is new or old, be sure to sight it in to suit your eyes or manner of holding before you leave on that big game trip this season. And then be very careful in transporting it to your 'happy hunting grounds.'

"The sights on all rifles are carefully adjusted before they leave the factory. If your eyes are exactly normal and you hold it in the proper manner, your rifle should shoot true. However, there is a considerable variation in the eyes of hunters and all shooters do not all 'hold' in just the same manner. Consequently, one man may get bull's-eye consistency while another, using the same rifle, may find his bullets going wide of their mark. The sights may then be adjusted to make the necessary shooting corrections.

"If the rear sight is fixed, adjust-

ment for sidewise errors may be made by moving the front sight. If the rifle is shooting to the right, move the front sight to the right or the rear sight to the left. Remember this rule: Always move the rear sight in the direction in which you desire the rifle to shoot. Move the front sight in the opposite direction. The front or rear sight can be moved in its notch by placing a short rod of brass or copper against it and tapping the rod with a hammer, while the barrel itself is supported against a hard block of wood.

"Set your rifle sights to hit where you aim at the average distance of most shots at deer or other game in your hunting territory. Carefully check the *exact* position of your sights as soon as you have 'sighted in' so that they may be returned to proper adjustment if accidentally jarred out of alignment.

"Test your rifle carefully, make the necessary sight adjustments by following this rule and the chances are you won't join the Jim Jones clan this season."

and exceed the carrying capacity of its range for a short time. But her web has been spun and is inescapable; all deer above the carrying capacity of the range are doomed. They must die. In this she is no respecter of age, for the first to die from malnutrition and slow starvation are the fawns who by even standing erect on their hind legs can no longer reach the remaining food. Old aged animals are also among the first to die simply because they lack the vigor and thriftiness of deer in their prime and cannot forage for short food as they once did.

Sometimes nature seemingly is shamed for her deceit, and in a spirit of mercy, reduces the herd by an outbreak of disease or parasitism that never could have gained an inroad in the herd had it not been weakened and starved from a short food supply. At other times, she may let fall the final blade of death (and mercy) by causing a period of inclement weather such as an ice storm or freezing rain. Healthy deer can easily withstand adversities of climate; deer that are weak and underfed cannot.

Reproductive success of overpopulated deer is reduced. Nature seems at last to recognize her mistake and accordingly slows down its addition of new members to the herd. Like a bottle that is filled to the brim with water, any new addition of water to the bottle would only spill over the brim and be lost. Nature accomplishes her purpose in this matter by lowering the reproductive rate in the already overcrowded population, and, more tragically, by a high mortality of fawns at or immediately after birth.

The direct cause of lowered reproduction by the herd is poor range conditions and resulting poor nutrition of the parents at the time of rut or breeding season, during the gestation period, and at the time of birth, approximately 210 days after conception. The result is a reduction of the incidence of conception (fewer pregnant does), abortion and resorption of embryos, and still-born fawns. Often the highest loss occurs, however, during the fawn's first week after birth. Does in poor con-

1956 Waterfowl Hunting Regulations Announced

The only changes made in Texas' 1956 waterfowl hunting regulations were those requested, reports Howard Dodgen, Executive Secretary of the Game and Fish Commission.

Zero hour on the opener, Friday, November 2, will be at one-half hour before sunrise, like all other shooting days, and the goose and duck seasons will begin simultaneously.

Traditionally, twelve o'clock noon was the starting time for the water-

dition with little nutritious food cannot supply enough milk, especially when they happen to have twins.

Even more important than the loss of a large part of the deer herd is the damage that is done to the range by the overcrowded deer. Excellent range is impoverished by the sheer weight of numbers feeding on it, and the range's carrying capacity for deer is reduced for many years to

Continued on next page

fowl season.

Last year when the duck season was extended to 75 days, the goose season remained at 60 days and the opener for the latter was delayed 15 days.

At its last meeting, the Game and Fish Commission asked the United States Fish and Wildlife Service to make the duck and goose openers conform "as a conservation measure and as a convenience to the hunters." It also suggested the earlier legal shooting hour for the first day for the same reason.

The new regulations provide no change in the sunset close for the daily shooting period and place bag limits, as in recent seasons. Limits are five ducks per day and 10 in possession, and five geese per day and five in possession. The goose limit shall not contain more than two Canada geese or its sub-species or two white-fronted geese or one of each.

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come. Unfortunately, some of the requirements of deer as the same as those for livestock. Goats, sheep, and cattle in that order compete with deer for some of the important range foods. Therefore, the rancher is in effect reducing the carrying capacity of a given range for deer when he stocks that range with domestic livestock. Moreover, the opposite also holds true. The carrying capacity for a given range for livestock is reduced when and as the deer herd increases.

Range recovery at best is very slow. Many plants of the highest nutritive value and palatability practically are exterminated, leaving those browse and forage species with lower nutritional and palatability ciphers. The remnant of the deer herd, even if given the same care and protection enjoyed by the original herd, once again will increase, but never will it reach the same high plateau of numbers it once

Game Needs Told At Teachers Meet

Wildlife Conservation got another boost in Texas when 50 Vocational Agriculture teachers met at the Gunter Hotel in San Antonio and reviewed the need for teaching high school boys how to produce more game on the land.

John Holcomb, Vocational Agriculture leader of the Texas Education Agency, told the group the production and management of wildlife on the land has come to be an integral part of the vocational agriculture program.

Gene Walker and Bob Ramsey, representing the Game and Fish Commission, gave reports on the status of deer and quail in the state.

held.

The buildup of a deer herd and the self-destruction of its habitat is a recurring cycle. Each succeeding increase and die-off always results in a smaller herd so that a downward stair-stepped chain of peak population levels develops through the herd's history.

Along with the decrease in number of animals in the herd comes an average decrease in the size of the individual deer. Bucks and does that weighed 180 and 130 pounds respectively in the original herd are progressively reduced in size until average live weights of about 100 and 80 pounds are reached. Less desirable deer foods of lower nutritional value and extreme competition for these foods on overpopulated ranges are again the agencies responsible for size decrease over

Oxygen Lack Causes Rough Fish Die-Off

Lack of oxygen from natural conditions has taken a heavy toll of rough fish in shallow inland waters along the Gulf in the Houston area, reported W. J. Cutbirth, Assistant Executive Secretary, Game and Fish Commission.

He said ninety per cent of the dead fish were menhaden, shad and such species.

Cutbirth said investigation showed that an unusually heavy growth of algae plus concentrations of ordinary toxic wastes caused the loss which had first been blamed to possible pollution of the bay waters from chemicals.

He said lack of oxygen also has damaged fish stocks in shallow inland lakes and tanks. Low water has been a contributing factor, he added.

long years.

Yes, man has been nature's helpmate in creating a large herd of large, healthy animals, but in doing so, man has also been an accessory to nature's plan of destroying her own creation. In all ways man has attempted to aid and never hinder the welfare of his deer. His only failing has been not to understand that wildlife is a renewable resource and that conservation of that resource means using it—wisely.

The old-timer sat ensconced in his favorite armchair on the long veranda that ran the full length on three sides of his large ranch home. The last few minutes of dusk was his favorite time of day, for at this hour, he watched his deer slowly trail down from the granite escarpment that dwarfed his home and out of the deep canyon that led to the stock trough at the east end of the horse trap. It was also his favorite time to reflect over past events and his ranching enterprise. The heat of the day had subsided and he could feel the quiet serenity that

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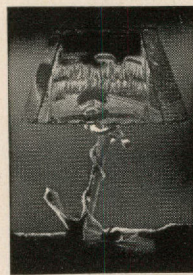


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always comes after a hard day's work.

Three years and three public hearings had passed since he had given his views to the group that night. He had not attended another. Though untroubled by any conscience for not participating in the three antlerless deer seasons, he felt no sense of personal victory in preserving his herd of deer, some of which at this very moment could be seen threading their way down the tortuous trail on the south slope of the escarpment. Yet the one meeting he had attended had alerted him for signs in his deer herd that might forecast a heavy deer loss. He, being a stockman, watched his range and his deer, and although there appeared to be no immediate danger, some reshuffling of his goats to other pastures had to be made for browse was short and deer were thick. As always he had found a few dead deer among the granite outcrops and in the shelter of live oak thickets, but these he supposed had died from stomach worms or blue-tongue. Anyway, these that had died were replaced each year by the fawn crop, even though in some years the fawn crop was noticeably lower.

Some of his lifelong friends had participated in the Game Department's doe killing program, and even old Ob, his oldest friend and neighbor, had tried to convince him about killing "skillet-heads."

Ob had explained it in this way. If a rancher never sold any of his calves, a time would certainly come when he'd have more stock than his grass could possibly feed, and his stock would stunt and starve out. Obed had reasoned that if it works for cattle, then it must work for

deer. The increase from a deer herd, both males and females, could be harvested by the hunters just as the calves of both sexes were penned and sold each year. And like a foundation herd of cattle, the deer herd could be kept at a stable level and could never damage the range. Old Ob had demonstrated this principle in a short three years. After reducing his deer down to a number that was compatible with existing range conditions, his deer had produced a sustained yield of both sexes. From the harvest of the antlerless deer, he had realized as much money as he had made from buck hunting in the past.

Darkness had fallen and the last of the deer, their thirst quenched, picked their way back to the hills and canyons. The old-timer left the comfort of his chair and entered the house where he announced to his wife, "Fix a good dinner tomorrow, Martha. I'm going to town early in the morning and bring the Biologist out to look at our deer. We may kill a few does next fall."

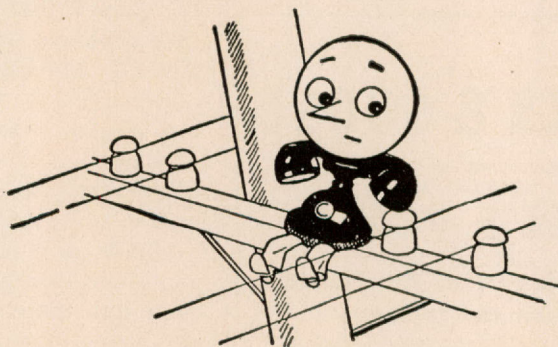
Blind Snakes

Continued from page 11
and it will attempt to burrow at any time it is disturbed.

There are several varieties of blind snakes, or worm snakes. One family of them occurs in the tropical regions and goes by the family name *Typhlops*. Members of this group have been introduced into Hawaii. A family of larger snakes remotely related to the same general classification of blind or worm snakes, *Boidae*, includes such great snakes as the Boas and Pythons. The group that was mentioned before, the *Lepotyphlopidae*, includes the Texas blind snake and also other subspecies which are found in the Southwest, such as the New Mexican blind snake, California or brown blind snake, desert blind snake, Klauber's blind snake, and Utah blind snake.

Although it would appear that these snakes might make good pets, in captivity they apparently refuse to eat and stay burrowed continually.

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Shooting Resorts

• Continued from page 17

chukar partridge released for the hunting party and \$2 to \$2.50 per quail. This often includes the use of the resort's dogs and services of a guide. Hunters usually are assured of at least one reasonable shot at each bird released.

Special seasons for released birds open earlier than the regular season on wild birds and close much later. The shooting resort pheasant and chukar season is from October 1 to April 1, and released quail may be hunted on resorts from November 1 through February 10.

Shooting resort operators must hold a special license, as distinguished from the "shooting preserve" license where landowners are permitted to charge for hunting

wild game, and they must conform to strict regulations. Persons hunting on shooting resorts, however, need only to hold a regular hunting license.

Hunting on shooting resorts probably will never be a "poor man's" sport, but many hunters are finding it less expensive than a journey to the midwest for pheasant or traveling hundreds of miles in search of quail that may never be found.

And hunters who have shot game on a well-managed shooting resort are fast dispelling the talk about "tame birds" and "easy shooting." As one resort operator said, "All I ask is that they try resort shooting—just once!"

Inks Lake

• Continued from page 13

placed in a lake by state or federal hatcheries they can not be expected to improve the quality of fishing.

All of this leads us to the conclusion that if the quality of the fish population is to be improved in Inks Lake and thereby improve the quality of sport fishing, it is going to be necessary to change the makeup of the fish population by some means other than by stocking, which once was considered the "cure all" for all

fisheries problems. Neither law enforcement nor stocking can make any difference in the size of the gizzard shad population or indirectly in the size of the game fish population.

Logically there is only one course open to us if we hope to change the fish population of Inks Lake. We must by some means reduce the numbers of gizzard shad in the lake. Notice that it was not said here that the gizzard shad population should be completely wiped out, only that it should be reduced.

Reduction in the numbers of gizzard shad in Inks Lake would result in making the game fish population more available to the sport fisherman's baited hook. It would make available more food for the younger game fish, thus promoting their survival and growth and resulting in an overall increase in the relative numbers of game fish in the lake.

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"Please change it some more, so my wife won't complain

That I do nothing but hunt during Christmas again."

We are in a tough spot to help the poor duck

And at the same time give the hunter some luck!

—Howard Dodgen

All of these results would naturally improve the quality of the fishing in this lake without completely removing gizzard shad from the diet of game fish.

A byproduct of the reduction of the gizzard shad population would be to force game fish to feed on other species. The next most abundant group of fish in the lake are the sunfishes. Most of these fish are so small that, even though they are very good to eat, fishermen refuse to fish for them.

If the game fish were forced to feed on some species other than the gizzard shad, they would naturally attack the next most abundant type of fish, the sunfish or "perch."

This again would result in a reduction of this group of fish, in the increase of food for small game fish fry, and a consequent increase in

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the survival rate of young game fish. Furthermore, since the sunfish are pretty much confined to the shoreline of the lake, it will be necessary for game fish to feed more along the shoreline and this again would aid the sport fisherman in catching game fish. Thus more of the larger game fish would be caught and more room to grow would be available to the smaller game fish.

All of the foregoing information has been known to fisheries workers for years. It has long been known that if a population is out of balance, which is the case in lake Inks, only two things can be done to improve fishing. First, and most logical is to change the balance by reducing the numbers of one species to benefit another or others. Second is to remove the entire fish population and restock with game fish and forage fish in the proper numbers.

Unfortunately, until recently it was impossible to manipulate the makeup of fish populations by reducing the numbers of a given species. Therefore, the only course open to fisheries workers was to remove all the fish in a lake and then restock it.

It was not until only a few short years ago that a technique was developed whereby at least one species could be drastically reduced in a fish population and thus benefit the other fish species in a lake.

It was found by a Texas fisheries biologist that rotenone could be

Gray Fox

• Continued from page 7

early in the morning, and was accomplished with well bred and well broken hounds of July and Walker strains.

The hounds left us and disappeared to the east. My uncle and I separated and moved into the thick cedar. After some time a strike was made about three-fourths of a mile to the east of my position. The trail was cold and I sat down to await developments.

The dogs continued to work the trail and turned in my direction. I was seated on a large rock listening

used under carefully controlled conditions to kill gizzard shad without seriously affecting the rest of the fish population. This discovery has been used successfully in many lakes in Texas and in other states, and fishing in these lakes has been substantially improved to the great joy of the sport fishermen.

With this advance in the science of fisheries management, it now has become possible to reclaim a lake the size of Inks Lake without removing all of the fish from the lake.

to the cold-trailing hounds when I noticed a movement under the cedars. The fox came trotting along, crossed a small opening and hopped to the top of a rock some two feet high. He sat down, gazed all around, cocked an ear to listen to the still distant hounds, scratched his ear with a hind foot, and generally displayed an air of complete indifference. Finally, he hopped off the rock and passed into the cedars at a slow trot.

Some fifteen minutes later the first of the hounds appeared on the trail. By now the scent was beginning to warm up and they were carrying the trail at a faster clip. The dogs passed across the opening and disappeared in the direction the fox had taken. Shortly a wild clamor arose and I knew the fox had been jumped. The race whirled in a quarter circle to the northeast and the hounds went out of hearing. Some thirty minutes later the dogs were heard, once more approaching from the east.

All this time I had remained seated at the spot from which I had first observed the fox. Shortly, the

• Continued on next page

• Continued on page 29



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Problems still exist however, and the most important is in convincing the fishing public that this type of fisheries management program is the logical thing to do to improve the fish population and the quality of sport fishing in a body of water such as Inks Lake. The responsibility of seeing that this type of work is done necessarily lies with the people who fish on or live near Inks Lake. They are the ones who will have to decide whether or not steps should be taken to make Inks Lake the fishing lake that it should and can be.

It is not the purpose of this writer to point out the advantages which could accrue from improved fishing on Inks Lake. However, it is obvious that improved fishing would materially aid the economy of the lake area, and from this point of view alone it seems logical that there is only a single course open to the people of the Inks Lake area.

Although the lake trout is still present in considerable numbers in Lake Superior, it appears only a matter of time until history repeats itself. Sea lampreys found it difficult to pass the navigation locks and dam at the outlet of the lake, but by 1946 this barrier was crossed. They are now well established in the lake and their numbers are increasing annually.

Control of the sea lamprey and restoration of the lake trout stocks are inseparable problems. More than ten years of study of practically every phase of the sea lamprey's life and habits and about five years of recent research on the lake trout have been invested in this effort. Some seven years of experimentation with lamprey control schemes have also contributed to the development of some good prospects for restoration.

Electrical weirs across the mouths of streams, into which the sea lamprey must go to spawn, stop migra-

tion and break the life cycle. Canada and the United States have installed 72 of these devices on Lake Superior streams. Weirs are on 19 Lake Michigan streams but many more must be built.

A long search for compounds specifically toxic to sea lamprey larvae in streams, and relatively harmless to other fishes, wildlife and man, has yielded several promising leads. Of the more than 5,000 compounds tried, 8 are being tested exhaustively before they are used. If the testing is favorable, applications of this control method can be carried out in 1956. An attack on the lamprey larvae (ammocoetes) is especially desirable because at least five generations are vulnerable at one time before they become parasitic and harmful to the trout.

The where, when, and how of planting lake trout for greatest survival is being learned before restoration is begun. Artificially propagated fish will be expensive, and knowledge properly applied will minimize losses. Such information becomes more valuable in view of the possibility that lake trout eggs



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may be difficult to obtain in the quantities required once the Lake Superior trout stocks are eliminated. Research has demonstrated the comforting fact that no competitors have usurped the environmental niche of the lake trout. Chances of restoration would face even greater odds if some other species had taken over the waters originally inhabited by them.

On October 11, 1955, with the exchange of instruments of ratification between the United States and Canada, a Great Lakes Fishery Treaty began to function. The commission created by this treaty has sea lamprey control as one of its major obligations. It will also coordinate fishery research so that united efforts can be brought to bear on problems of sustained fishery production.

Even with development of methods for accomplishing the job, the effort required to restore the lake trout is great. The stakes are high but the economics are sound. Lake trout are needed in the Great Lakes not only to ease the financial stresses of an old and widespread industry,

Water Safety Aid By Game Wardens Is Standing Policy

Recent action pledging cooperation of Texas game wardens in curbing water hazards will not constitute any "new or special gesture" but rather will involve routine contact work with fishermen.

It has always been the policy of the law enforcement division to be solicitous of fishermen's problems, whether it is advising them on where and how to catch fish or on how to operate their boats and motors.

Wardens are expected to counsel anglers on license requirements and bag limits. But the modern warden is expected to help out in many other ways. One of these certainly is in guiding less experienced persons in simple safety.

but ultimately to supply millions of man-days of pleasure each year to a rapidly growing population of sports-loving Americans.

Gray Fox

• Continued from page 27

hounds could be heard only two or three hundred yards to the east. The music was spine-tingling to a dog-hunter.

The fox broke into the opening once more, retracing his earlier steps. This time his tail appeared to be half as large around as a football and he was covering the ground in great leaps. The dogs were scarcely fifty yards behind.

The mad race continued for another 300 to 400 yards and the fox climbed a tree to survey his pursuers and to catch his breath. Did he retrace his earlier steps in an attempt to confuse his pursuers or was it a coincidence which brought him around the second time to cover his first circle?

A fox in western San Saba County continued to disappear on a small creek each time my friends and I chased him with hounds. When the

• Continued on page 30

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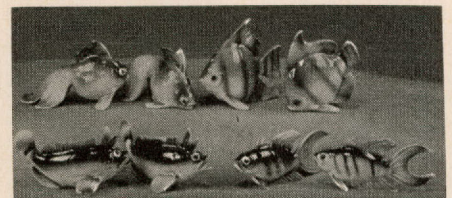


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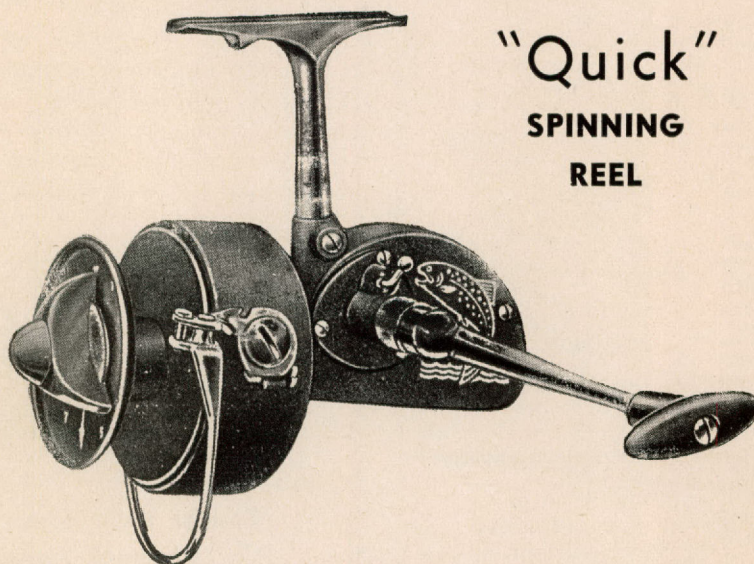
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Quick Action Needed To Save Wetlands

Executive Director Ernest Swift of the National Wildlife Federation has urged the U. S. Fish and Wildlife Service to develop a plan for the national wildlife refuges similar to the ten-year improvement program sponsored by the National Park Service and dubbed "Mission 66."

The Fish and Wildlife Service has estimated a minimum of 12½ million acres of waterfowl marsh will have to be taken into public ownership in order to guarantee future waterfowl populations. Some 5 million acres would be acquired by the states, the balance by the federal government. The federal goal of 7½ million acres has been less than half attained in the present

system of waterfowl refuges.

In a signed article appearing in the Federation's *Conservation News*, the executive director quotes Harold Titus, conservation editor of the magazine *Field and Stream*, to the effect that at the present rate of acquisition the goal of 12½ million acres will take 130 years instead of ten.

"There is unanimity of thinking that if action is not taken at once and at the latest within the next five to ten years," Swift wrote, "drainage projects will have wiped out any suitable waterfowl habitat that is now left in the United States."

A national wetlands inventory completed by the Fish and Wildlife Service last year disclosed less than 23 million acres of wetlands remain that can be classified as high-value or moderate habitat for waterfowl. These wetlands are rapidly being drained, filled in or otherwise destroyed.

"Mission Wetlands" should be a planned campaign of acquisition with a specified budget allocation over a given period of years, Swift declared. He recommended that all conservationists give the idea serious consideration.

Gray Fox _____

Continued from page 29

hounds came to this spot, they either false treed or lost the scent. We were hunting at night and were unable to understand why this particular fox pulled his disappearing act at the same place. Finally, in daylight, we discovered the fox climbed a tree over a long waterhole in the creek, raced along a branch and leaped to the other side of the water. His tracks were plainly visible in the mud.

In broad daylight in the middle of the day in 1953, I pulled over to the side of a country road in Mason County. A granite rock pile was situated some 300 yards off the road. In my pocket was one of the well known fox callers now on the market. After about a minute of calling a gray fox appeared coming toward me at a rapid rate. This fellow came to within thirty feet of my automobile. His fur was standing on end and his tail was fully expanded, denoting extreme excitement. The fox circled my car. Even after some five minutes of investigation on his part he was easily called back when he started to leave. Was he smart? You can draw your own conclusion.

Meanwhile, the gray fox continues to provide enjoyment, despair, and anger. His personality is as varied as his many interesting habits. Let us hope he remains as a member of the great family of Texas wildlife.

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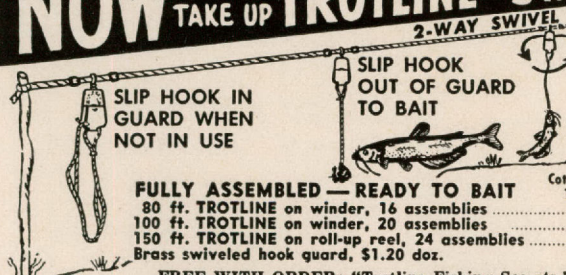
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Banded Bird Total Reaches 7 Million; Long Flights Cited

About 7,000,000 leg bands have been placed on birds by conservationists in the United States and Canada during the last half-century. More than 600 species of birds have been banded under the supervision of the Canadian Wildlife Service and the U. S. Fish and Wildlife Service, and all the records of this continuous effort are on file at the latter's

Meridian State Park

Continued from page 6

and buried in a previously prepared trench at the upper end of the lake to become fertilizer for new fish. The earlier test indications were borne out by the results of the kill, which resulted in 8,000 pounds of carp, 6,000 pounds of other rough fish and 3,000 pounds of game fish.

The kill was thorough and it appeared that no fish survived. The restocking was completed last fall and the lake ordered closed for fishing until Spring.

On May 1 this year it was again opened for fishing with amazing results out of fifty casts. Bass ranging from nine to fourteen inches in size furnished wonderful sport. Until the lake gains more water, fishing is being restricted to Wednesday, Saturdays and Sundays.

Lamb, who has watched over the fishing at Meridian with interest, reported in June: "These bass are small but I never have seen such active fish. They seem to want to take up flying when they get on the hook."

His remaining worry is about the water in the lake. As a last resort he suggested that Park Manager Gardner improve his conduct so that his prayers for rain might get more consideration.

The alternative is to drill a well and pump water into the lake to offset the evaporation and to gain in the amount of water in the lake. An estimated cost of \$6,000 has, so far, stood in the way of doing it.

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Patuxent Research Refuge in Laurel, Maryland, according to the Wildlife Management Institute.

As these marked birds are re-trapped or recovered, and the band numbers reported, experts are able to determine probable bird migration routes and in many instances how long birds live under natural conditions. Although the 600,000 reports of the banded birds that have been recovered or re-trapped reveal a large general pattern of movement, there have been several notable diversions.

One pintail duck banded in North Dakota was killed in South America. Another pintail was shot on a Pacific island three months after it had been banded in California 4,500 miles distant. A third pintail duck was bagged in England just 21 days after being trapped and banded in Labrador.

The champion traveler is the Arctic tern, whose annual round-trip migration route of 25,000 miles extends from the Arctic to the Antarctic. Several of these terns that were banded in North America have turned up in France, Scotland, and

northern and southern Africa.

Although large numbers of ducks and game birds are being banded by persons working in the wildlife management field, most of the banding is being done by volunteers in the United States and Canada. Only those persons who meet the high standards set by the American and Canadian wildlife agencies are selected as banders.

Birds taken by shooters, or highway kills, or the bird that perishes in the backyard shrubbery may be wearing one of the light aluminum leg bands. Each band is stamped with a number and instructions to notify the Fish and Wildlife Service, Washington 25, D. C. or the Game and Fish Commission, Austin 14, Texas. The band, the date of taking, and the name of the nearest town should be sent in.

Bands will be returned to those who request them.

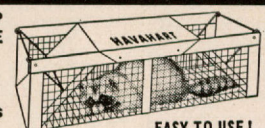
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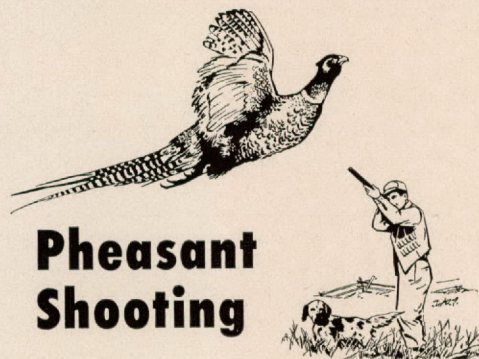
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Outdoor Books

TREASURY OF SNAKE LORE edited by Brandt Aymar. 400 pages. Published 1956 by Greenberg, Publisher, 201 East 57th Street, New York 22, N. Y. \$5.

Snakes have always been fascinating creatures. From the time of the Garden of Eden to the present day, story tellers and writers of all nations and ages have used snakes as examples of both good and evil. Snakes have been the basis for worship, myths, dances, fables, and poetry. Stories of personal adventures with snakes have provided excitement for many readers.

Imagine finding examples of the many different forms of snake lore in one book! This excellent anthology includes selections of prose, starting with the Biblical story of the Garden of Eden, and continues on through mythology, poetry, drama, personal adventure stories, essays, and an account of the Hopi Indian snake dance.

All of the selections are by such famous authors as A. Conan Doyle (Sherlock Holmes), Dante, Shakespeare, Irvin S. Cobb, and Marjorie Kinnan Rawlings (The Yearling).

Brandt Aymar (co-editor of The Deck Chair Reader) has compiled into a single book, the very best of "Snake Lore" and in doing so has provided a book that will fascinate, interest and entertain readers of all ages.—J.R.

LIVING OFF THE COUNTRY: How to Stay Alive in the Woods by Bradford Angier. 241 pages illustrated with black and white sketches and diagrams. Published 1956 by The Stackpole Company, Telegraph Press Building, Harrisburg, Pa. \$5.00.

As you drive through the country in a comfortable car, do you ever say to yourself, "I'm glad I'm not lost out

there!" and then wonder casually what you would do if you were? It is possible to stay alive when you are lost for more than just a few hours if you know and practice the principles of living off nature.

The availability of food and means of preparing it and the all-important ways to obtain water are included in Part One. The other three parts of the book are Warmth, in which methods of lighting fires, building shelter and choice of clothing are discussed; Orientation, the means of "staying found" when out alone; and Safety, how to avoid trouble or, when in trouble, how to take care of the situation with emergency aid and backwoods medicine. Suggestions for a survival kit, what to include and how to carry it, will be found extremely helpful to many campers.

This book would be a valuable addition to any camper's, hiker's or picnicker's pack. It might even be considered an emergency kit in itself.—J.R.

THE COMMUNITY OF LIVING THINGS, a series of five volumes. Each volume contains approximately 120 pages of text, faced individually with 120 full-page photos. Published 1956 under sponsorship of the National Audubon Society by the Creative Educational Society, Mankato, Minn. \$6.95 each volume or \$34.75 per set of five.

Titles and editor-authors of these books are:

"Field and Meadow" by Etta Schneider Ress.

"Fresh and Salt Water" by B. Bart-ram Cadbury.

"City Parks and Home Gardens" by Robert S. Lemmon.

"Forest and Woodland" by Stephen Collins.

"The Desert" by Alexander B. Klots and Elsie Klots.

Superb photographs inspire a most favorable first-glance impression of this series, beautifully bound and designed. However, they are much more than photography books with explanatory text.

Each full-page photograph is accompanied by a facing page of text, which tells interesting facts about the subject. Of particular note is the matter in which the text interestingly explains the relationship of each subject to its environment, grouped under the volume title, and in further detail its relationship with other subjects covered and with man.

Written in non-technical language for the average nature enthusiast, it offers an interesting approach to the ecology of living things.—T.M.

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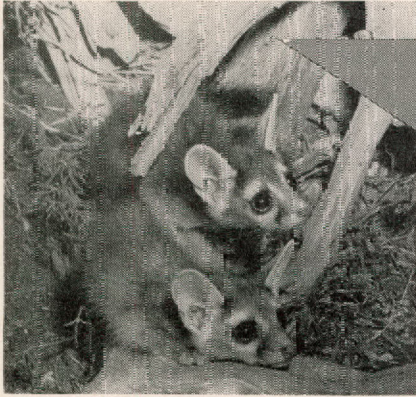
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Junior Sportsmen

Wildlife Looks To You

For Help

By

BOB MEYER

Supervisor Conservation Education

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.

Letter of the Month:

Editor:

I am writing to you in hopes you can help me in some way. I am a girl, fifteen, and I like the outdoors and wildlife very much. It seems to me there must be something I can do to help the community and state's wildlife.

I am asking your advice, because I do not know who to ask around here. The game warden lives 45 miles from here and, other than him, I do not know who to ask.

If you do not have any suggestions, would you just send me some literature on birds, fish, and all sorts of wildlife, please?

Joy Clark
706 South Baylor
Perryton, Texas

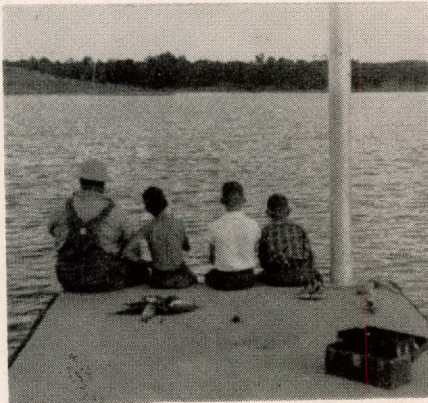
(Conservation of our wildlife along with soil, water and our other natural resources is a very important problem. It is a problem that cannot be solved overnight. It took millions of years to establish the beauty that we find in nature; but, it only takes a few years and a handful of careless people to destroy a large amount of this beauty.)

(It takes the wholehearted help of people like yourself, who are interested in conservation because of their love of nature, to solve this problem.)

(There are many things that you can do to help. First of all, you should study your local conditions. You can do this best by talking to the county agent, game warden, and other trained men who are familiar with the conditions in your county. When you discover what the basic needs are, you may want to find out how other states or other parts of Texas with the same group of circumstances solved their conservation problems.)

(The research material that you gath-

This Month's Who's Who:

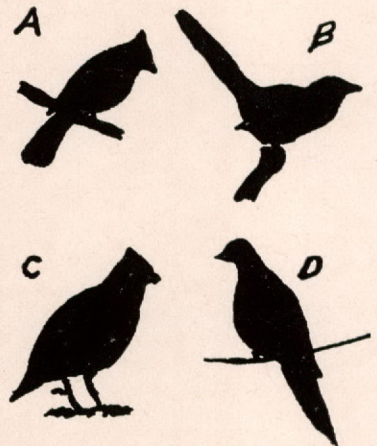


Pictured here are a group of 4-H campers with their fishing instructor, Mr. Turner. These boys are fishing for carp at their summer camp on the banks of Granite Shoals. This picture was picked to be this month's Who's Who because it exemplifies both the harvest and conservation aspects of fish management. Decreasing the population of the undesirable species such as carp can be a lot of fun and at the same time be of considerable value to the game fish population.

er in your study of the conservation needs of your county will be of great value to both you and the county. You may have opportunity to use your findings in your school work, or possibly in the county paper. The important part is that you have done your part to stimulate and motivate interest in conservation. You may become discouraged because you cannot measure your results the following day, month, or year. However, your efforts will not be in vain, because some day, the results will be seen. The thanks will go to people like yourself, who are living up to the conservation pledge. They are doing this because they want to keep America beautiful.—Bob Meyer, Supervisor of Conservation Education.)

WILDLIFE QUIZ:

Can YOU name the birds pictured below correctly?



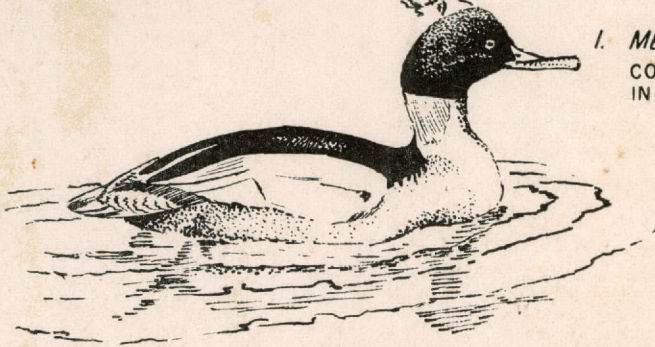
How many of the following questions can you answer?

- The roadrunner, or chaparral cock is a cuckoo.
- Birds are animals.
- Mourning doves are found in every state in the United States.
- The meadowlark is a member of the blackbird family.
- The sparrow hawk is a true falcon.
- It is unlawful to hunt doves with a .22.
- The mourning dove is a migratory game bird.
- All animals are mammals.
- Bobwhite quail are assets to the farmer because they eat weed seeds.
- The Texas State Bird is a meadowlark.

ANSWERS:

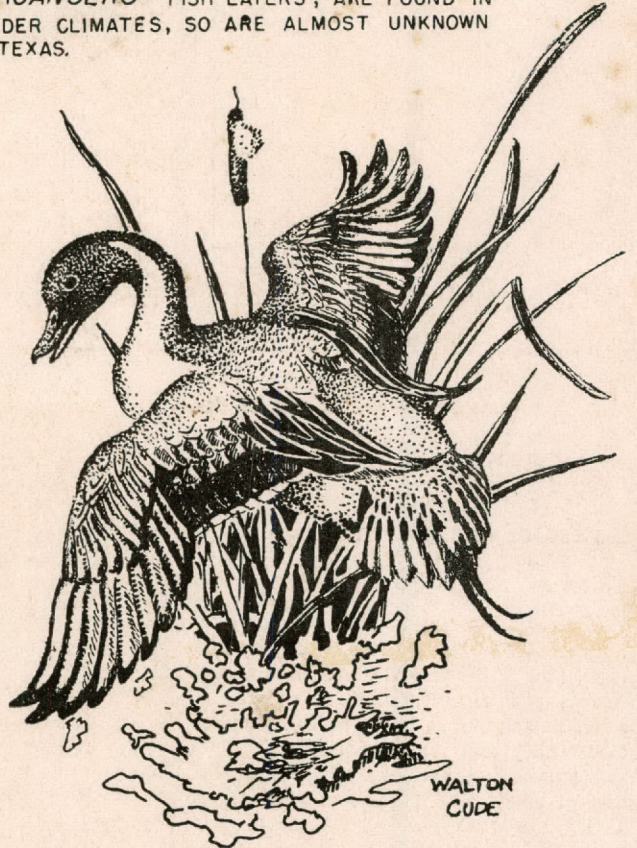
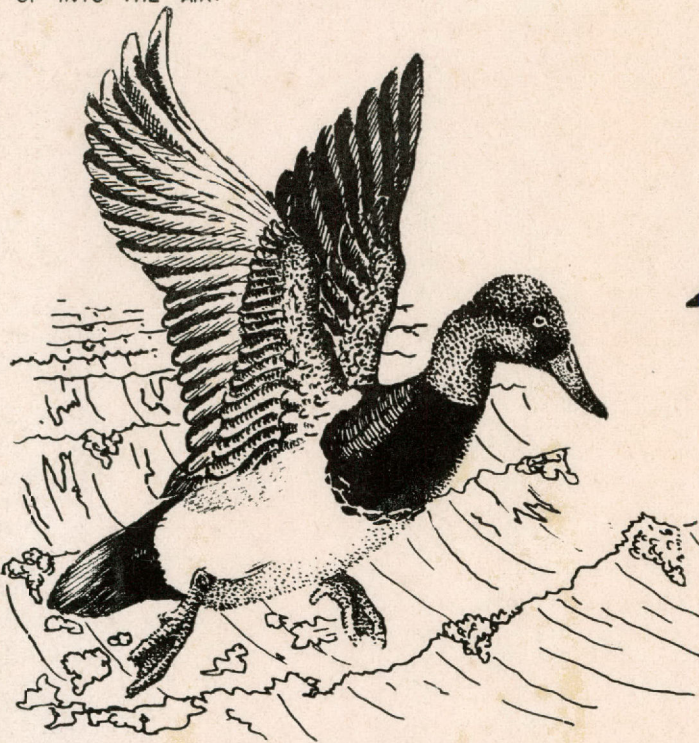
- | | | | |
|--------------|-----------------|-----------|-------------------|
| (A) Cardinal | (B) Mockingbird | (C) Quail | (D) Mourning dove |
| (1) T | (1) T | (1) T | (1) F |
| (2) T | (2) T | (2) T | (2) F |
| (3) T | (3) T | (3) T | (3) F |
| (4) T | (4) T | (4) T | (4) F |

AMERICAN DUCKS MAY BE DIVIDED INTO THESE THREE MAJOR GROUPS:



1. **MERGANERS**— FISH EATERS, ARE FOUND IN COLDER CLIMATES, SO ARE ALMOST UNKNOWN IN TEXAS.

2. **"DABLERS"**— SURFACE FEEDERS, PREFER FRESH WATER PONDS AND RIVERS. WHEN ALARMED THEY JUMP STRAIGHT UP INTO THE AIR.



WALTON CUDE

3. **"DIVERS"**— SEA DUCKS, NEST INLAND BUT OTHERWISE PREFER SALT WATER. ALTHOUGH FAST FLYERS, THEY ALWAYS PATTERN ALONG THE SURFACE WHEN ALARMED.

THE AMERICAN MERGANER REPRESENTS THIS GROUP, ABOVE. OTHER MEMBERS OF THE FAMILY ARE THE HOODED AND RED-BREADED MERGANERS.

THE PINTAIL, REPRESENTING THE "DABLERS," IS JOINED BY OTHER SHALLOW WATER FEEDERS SUCH AS THE MALLARDS, TEAL (SPECIES), SHOVELERS, WOOD DUCKS, BALDPATES, AND GADWALLS.

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