

Texas Game and Fish

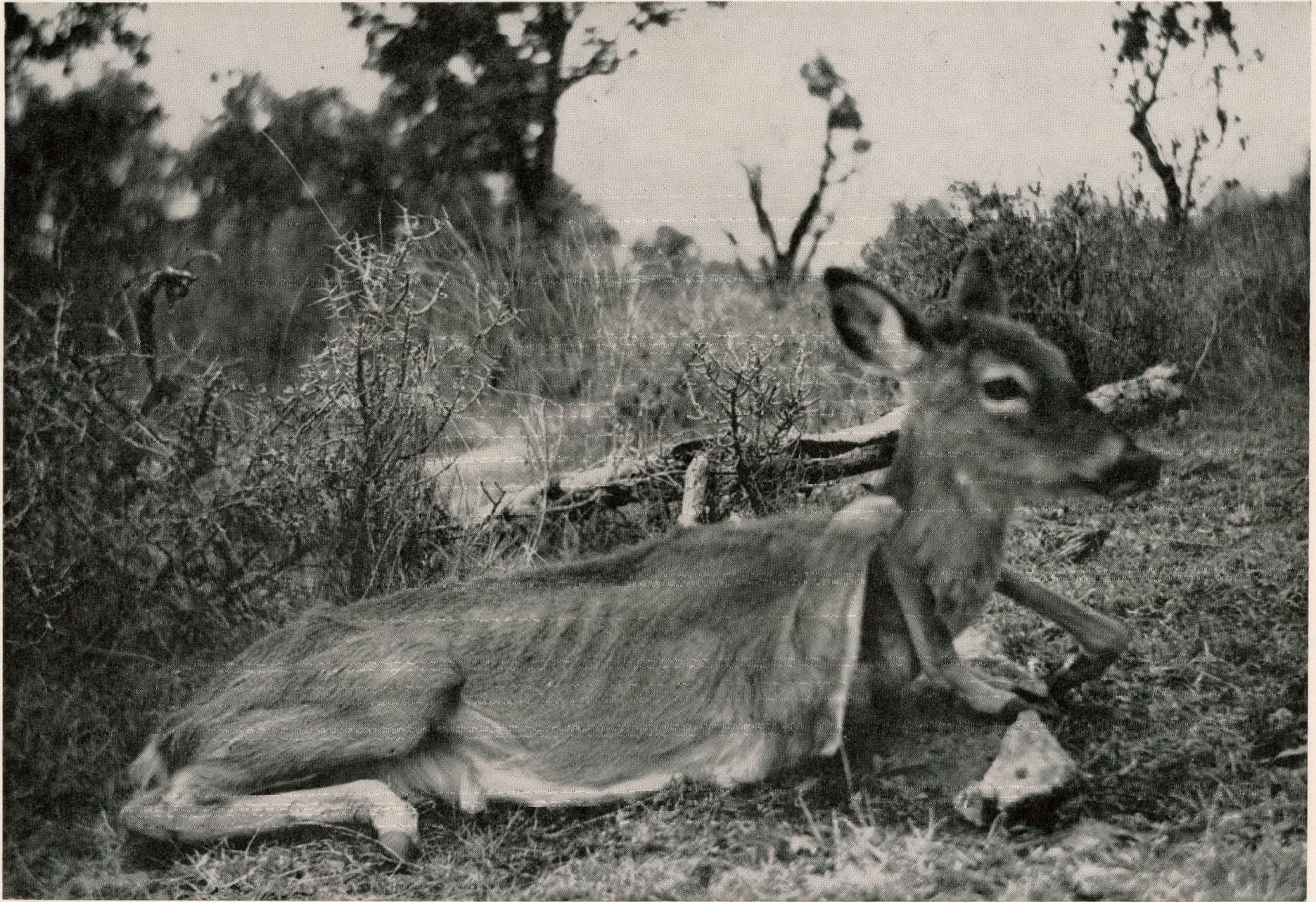
MAY

1956

20 CENTS



SHOFNER



This adult deer barely clings to life on a Texas range made unproductive by overpopulation. Attempts being made to rectify these conditions include legal hunting of doe deer in overpopulated areas. See story on page 12.

Texas Game and Fish



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A MONTHLY MAGAZINE DEVOTED TO THE PROTECTION AND CONSERVATION OF OUR NATIVE GAME AND FISH; AND TO THE IMPROVEMENT OF HUNTING AND FISHING IN TEXAS.

May, 1956

Vol. XIV, No. 5



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The Cover

The largemouth black bass ranks high in the game fish popularity poll in Texas and throughout the nation. Although commonly called a "bass," it actually is a member of the sunfish family, along with the crappies and "bream" and "perch." Jack Shofner's original painting for this month's cover depicts a largemouth in a Southeast Texas cypress lowland.



Game Fish Wasted

Editor:

The enclosed photo shows one of about thirty speckled trout seen dead and rotting in one gill net in the Tri-City area of upper Galveston Bay. This is a common sight in this area. Nets are set by "non-commercial" fishermen and left set. The owners run them to take the fish out only when it is convenient. All fish caught at other times are left to rot.

This superb fishing area has been ruined by scores of such nets which can be seen at all times, yet there seems to be nothing which can be done to stop this wasteful practice.

Jim Nelson
Nelson Sporting Goods
Baytown, Texas

(Unfortunately, there is no law regarding netting which requires a person to take the fish from it at regular intervals. And a person does not even need a license to set a gill net in salt water as long as he does not attempt to sell the fish caught.

(It would seem that the strongest weapon against such practices is public opinion brought about by publicity such as you have given this matter in your own newspaper column "Outdoors." And TEXAS GAME AND FISH is glad for the chance to join you.—Ed.)

Return of Whitewings

Editor:

I saw the first white-winged dove arrive here for the nesting season March 10 — somewhat earlier than usual. It is hoped that greater numbers of these birds will return to the Valley

for nesting as they once did, and this could well happen if the remaining tracts of native brush are set aside for them.

Nature in its original form supplied man with everything needed. However, man, the one most favored, has proven to be most abusive. The forests have been denuded and the rivers filled with surface soil washed from cultivated fields and overgrazed land where forests grew. Both surface and underground water is growing alarmingly scarce.

Bird and animal life suffers as a result.

Here in the Valley it is doubtful if such species as the red-billed pigeon or the chachalaca can ever be reinstated in the great numbers which once existed. Man has done away with the native trees and brush—the food and habitat—necessary. However, the whitewings might make a comeback if given aid.

The Commission should by all means control by purchase or lease the remaining tracts of heavy native brush still used by whitewings as nesting areas. Others may use the citrus trees for nesting as they did prior to the freeze of 1951, since more citrus trees gradually are being replanted each year.

This is a plea for the Commission to do everything possible to hold the remaining native brush for whitewing nesting.

Charles G. Jones
Game Warden Supervisor, Retired
P. O. Box 12
Weslaco, Texas

(For several years the Commission has been negotiating to obtain the scattered tracts of brush used by white-winged doves for nesting in the Valley. Despite critical financial limitations, these efforts are still being made. It is hoped that the few suitable tracts which remain can be obtained before all are gone.—Ed.)

Doe Populations

Editor:

In the past few years I have been reading about a lot of deer dying in sections over-populated due to the drouth, and my guess is that 90 per cent of them are does.

A friend told me he believed does seemed more numerous because the bucks stayed back in the brush until after dark and that the hunters shooting at them made them wild. Part of this statement is true. As a rule a buck will hang back and let the doe lead the way, whether or not you have been shooting at them.

However, last year the day before

the season opened, I watched an open field through my binoculars and observed the deer as they came in to feed. There were 42 deer on the field when I left at dark, and not one of them was a buck, unless it was a yearling, and only nine or ten of them were yearlings. This was the eve before the season opened and no one had been shooting at them.

The fact that there were so few yearlings would indicate that a lot of the deer were does too old to have young, or there weren't enough bucks left for breeding, or both.

I heartily endorse the provisions being made for hunting does to adjust this situation.

Fred Green
Box 24 Grayson St. Station
San Antonio, Texas

(See article on page 4.—Ed.)

Pheasant Confusion

Editor:

A number of years ago I became interested in ornamental pheasants. I now keep in the neighborhood of twelve different species, and I have tried to learn all I could about these beautiful birds.

I was surprised to learn that there are well over 150 species and subspecies of pheasants but not one of them is native to the Americas.

I also have learned that chickens, in a sense, are nothing but highly specialized forms of pheasants. This brings to mind the possibility of a hilarious scene of a game warden trying to enforce Texas' laws forbidding the killing of pheasants against a farmer's wife in the act of wringing a chicken's neck!

Robert W. Grant
Brookside
230 Pike Road
San Antonio 9, Texas

(An amusing thought. A relationship between pheasant and chicken exists but actually it is fairly distant.—Ed.)

First Issue Recalled

Editor:

I have received and read many copies of your magazine during the past thirteen years, but there is one issue I wish I had kept. It was the first copy you published in the spring of 1943.

James Sharp
Turnersville, Texas

(It is good to know that we have such a loyal reader. Your memory is almost correct, except that the first issue of TEXAS GAME AND FISH was published December, 1942, rather than in the Spring of 1943.—Ed.)

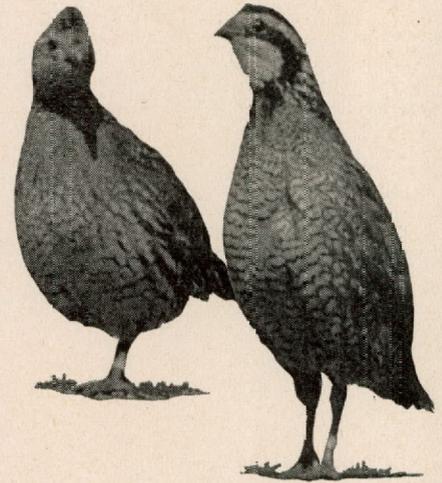
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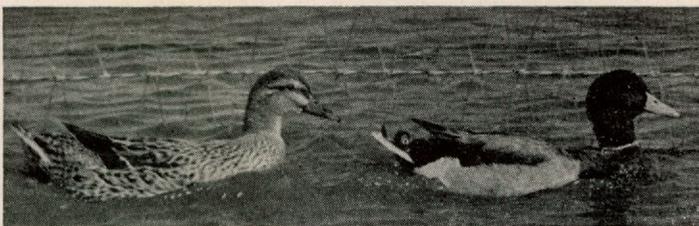
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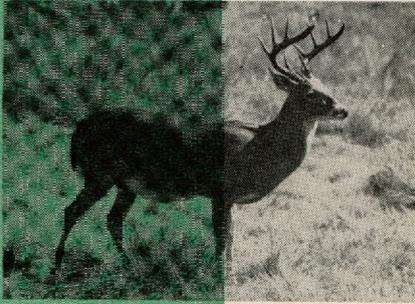
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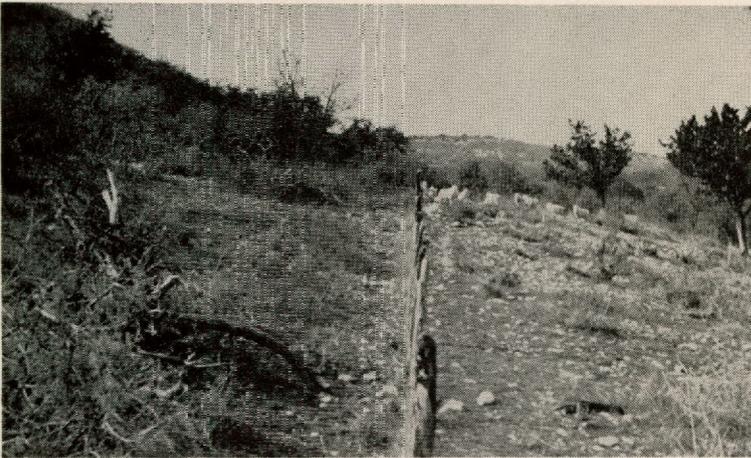


KILL MORE DOES--

HAVE MORE BUCKS

By ROBERT R. RAMSEY, Wildlife Biologist

This statistical summary of Texas' three antlerless deer seasons outlines their effect on over-populated deer herds. Vivid, living comparisons of actual hunted and unhunted areas are discussed, indicating that on over-populated ranges, fewer does CAN mean more bucks.



The extensively grazed pasture to the right of the above fence line compared to the pasture at left shows clearly how overgrazing, coupled with drouth, can lead to death of malnourished deer, below, when deer herds are under-hunted.



THE CLOSE of the 1955 hunting season saw the completion of the third consecutive antlerless deer harvest in Texas. With the backlog of accumulated data before us, it is time for us Texans to take stock of the situation as concerns our deer herds.

The legal taking of antlerless deer proved to be one of the most controversial issues in the annals of game management in this state, just as it has been in all of the other states which have been forced to open seasons on antlerless deer to protect deer herds from themselves.

In 1953, when the first legal antlerless deer season in Texas was held in a comparatively small area in northeastern Gillespie County and southeastern Mason County, a total of 946 antlerless deer were bagged by paying hunters. At the time the season opened on December 1, 1953, there were an estimated 24,388 deer in the 83,653-acre area covered by the hunt, or an average deer density of one deer to 3.43 acres. The deer killed disclosed that one antlerless deer was bagged out of each 26 deer estimated to be present, or one antlerless deer removed from each 88.43 acres.



When deer herds become too big, the choice is increased legal hunting or wasteful death from malnutrition.

Too few antlerless deer were harvested to prevent a severe die-off which occurred during the period May-September, 1954, when an estimated 15,000 deer died from malnutrition in a portion of the Central Mineral Region of Llano, Gillespie Counties, comprising 300,000 acres.

The 2,751 buck kill in 1953 averaged one buck to 138 acres in Gillespie County, and the 1,710 bucks killed averaged one buck to 157 acres in Mason County. Both counties were in the throes of a severe drought and deer were, generally, in poor physical condition.

In 1954, the southern half of Llano County was included in the two week antlerless deer hunt, along with the same area in Gillespie County included in the 1953 hunt, plus an additional strip along the northern border of Gillespie County as far west as Cherry Springs, and approximately the southern one-third of Mason County. During this second hunt, 8,820 antlerless deer hunting permits were issued to landowners, but due to the poor condition of most deer on the range, only 3,329 antlerless deer were harvested on the 509,766 acres comprising the area included in the hunt. The kill average was one antlerless deer to 153 acres. The poor physical condition of the deer prevented a full harvest, and for the second consecutive year, too few antlerless deer were harvested by hunters.

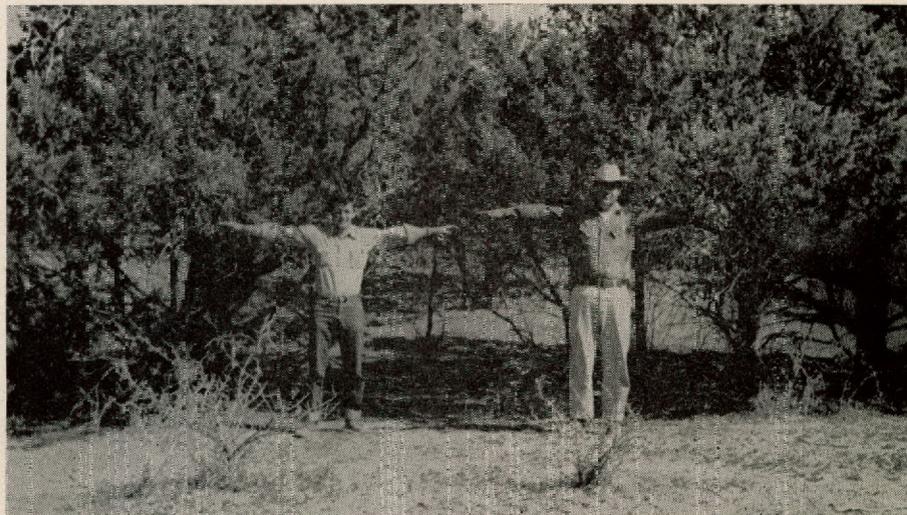
During the 1954 buck season, 1,761 bucks (one buck per 156 acres) were killed in Llano County, 1,056 bucks (one buck to 251 acres) in Mason County and 2,071 bucks (one buck to 177 acres) in Gillespie County (estimates based on shooting preserve records). The 1954 deer kill for the three counties, with a combined acreage of 1,878,680 acres was 8,217. This was only slightly more than half of the 15,000 deer estimated to have died from starvation during the preceding summer in the 300,000-acre portion of the Central Mineral Region of these counties alone.

Less severe die-offs occurred during the summer of 1954 in other regions of these, as well as adjoining counties. However, the deer populations were not as high outside the Central Mineral Region consequently the loss from starvation was markedly less in these areas.

During the ten-day 1955 season on antlerless deer, December 2 thru December 11, five counties in the Hill Country participated. The Game and Fish Commission approved limited antlerless deer hunts in restricted areas in Mason, Llano, Gillespie, Kerr and Medina Counties where biologists found overpopulations existed.

Results of the 1955 hunt showed a combined kill in the five counties of 2,376 antlerless deer. The kill by counties was as follows: Mason—174, Llano—1,272, Gillespie—233, Kerr—54 and Medina—638. The 1955 buck kill for the five counties has not been determined as yet, due to the laxity of shooting preserve operators in

• Continued on page 25



Goats, sheep, and deer have eaten every bit of vegetation within their reach on the range shown above. Note the arm-high "browse line" common to such areas.

Range and Forestry Science Courses at Texas A. and M.

By DR. VERNON A. YOUNG
Head of Department of Range and Forestry

A summary of training opportunities at A. and M.



Pine plantation ready for management practices. Soil Conservation Service photo.

Poor trees are marked for thinning to improve growth rate and stand quality. Soil Conservation Service photo.



During the year I have received letters from a number of young men graduating from high school as well as former graduates of recent years stating they were interested in a career in either range or forest management. In addition they ask such questions as what type of training is offered and the job opportunities in each. In order to inform these young men as well as others who might be interested in these important fields, I am pleased to give the following information that might be helpful.

WHAT IS RANGE MANAGEMENT?

Range Management is the profession which deals with care and improvement of native range lands. It may be defined as "The art and science of planning and directing range use so as to obtain the maximum livestock and wildlife production consistent with conservation of the range resources."

Production on the range is measured in terms of

Range trained men are often asked to explain to ranchers the types of brush control that would increase their forage production.





An excellent herd of ranch cattle that has been bred up under careful select on under good management practices. Desirable forage and good management will produce healthy cows that produce

excellent calves in early spring, whereas poorly conditioned cows are not productive and often are unprofitable.

meat, wool, mohair, hides and other livestock and wild-life products.

Conservation means proper care of vegetation, soil and water so the forage yield will be sustained from year to year. A range man must be prepared for outdoor work. He should have a desire to learn the principles of the plant and animal sciences and have a keen interest in the workings of Mother Nature.

Range resources are areas of land characterized by native vegetation used as forage by grazing animals.

IMPORTANCE OF RANGE MANAGEMENT

A tremendous land area is devoted to grazing not only in North America but throughout the world. More than one-half of the earth's surface is made up of range-lands, and about three-fourths of the land area west of the Mississippi is grazed in its native state.

Students are taught early in their training to recognize the different species of grasses and range condition classes that are desirable for various kinds of livestock and game. Left, students taking an exam-

Texas alone has approximately one hundred million acres of range lands.

A vast income is derived from range lands since the income from livestock and game is only slightly less than the total income from all cultivated crops.

Many range areas are seriously depleted throughout the world. Even in the United States ranges are yielding only about one-half their potential forage production. The National Government recently strongly emphasized the need of more and better conservation practices on many of the large native range areas of the United States.

It relates directly to soil and water conservation since much of our soil and water conservation problem originates on range lands. Flood control, irrigation and commercial water use depend largely on range

● Continued on page 28

ination in identification of grasses. Right, Senior Range Management majors receiving field instruction in range condition class work.



When old salts tell tales
of 'sea monsters'
they always include

The Devilfish

By ROBERT J. KEMP, JR., Assistant Director, Marine Division

Few fishes have the faculty of conveying fear and terror like the huge manta or devilfish. It is one of the largest living fishes. Specimens up to 30 feet across have been seen. The largest to be taken to date was 22 feet wide and weighed in excess of 3,000 pounds.

Try to picture, if you will, a giant ray a thousand times larger than the common stingaree so familiar to all salt water fishermen. It is at once identified by the cephalic fins which project forward like two arms. The pectoral fins extend outward like wings, and swimming is accomplished by a flapping motion of these "wings" which suggests flying rather than swimming. The color is dead black on the back parts and white underneath.

The range of the manta is fairly widespread in the tropical and subtropical belts of both hemispheres. It has been reported all along the Texas coast at various times, especially in the Port Isabel vicinity.

The scientific name for this fish is *Manta birostris*. The name *Manta* is a Spanish word meaning "blanket," and *birostris* (specific name) is derived from two words "two" and "snout"—a reference to the cephalic fins. It is a member of a group of rays which have abandoned life on the bottom to swim mostly at or near the surface.

Little is known of its life history. The young are born alive, probably single births. One unborn specimen was five feet across and weighed 28 pounds when removed from the adult.

Underside of a manta ray. Note the cephalic fins or "arms" which are used to force small fish into the huge mouth.



The cephalic fins, or "arms," are used to funnel schools of small fish toward the huge mouth, which may be three feet across in larger mantas. The manta makes a harsh, bear-like cough, while a slightly smaller relative, *Mobula*, makes a musical, bell-like sound.

The manta is capable of leaping to a height of five feet or more, and the sudden jump of a 15 to 20 foot specimen is an awe-inspiring sight. The noise made by its huge body returning to the water resembles the discharge of a cannon and may be heard for miles.

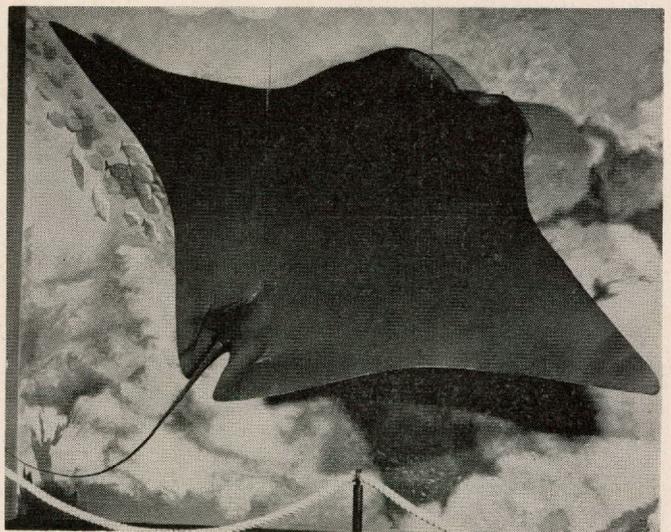
The sport of "fishing" for mantas by harpooning them from relatively small boats is not a recent development. There are records of people going after manta as early as 1850, and probably before that. The sport has never gained widespread popularity, however, possibly because it takes a certain adventuresome breed to be willing to risk one's neck trying to bring in a 3,000-pound monster.

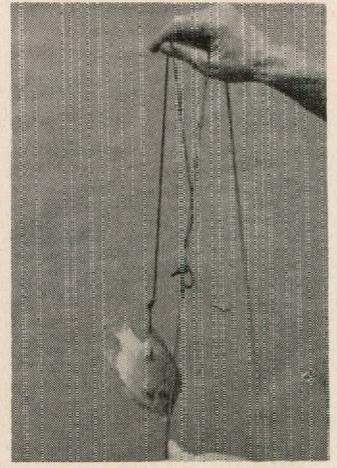
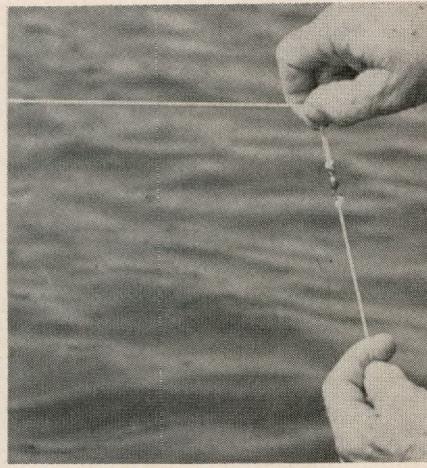
The danger doesn't lie in a direct attack, as the manta is not in the least aggressive. It is a simple thing to ease up close enough to bury a harpoon in its back. But when hurt, a manta will leap and thrash about in a frenzy of fear, and if he chances to head in your direction, he can easily smash a fair-sized launch into driftwood. Once he gets started he may tow the boat for

● Continued on page 30

Manta ray, topside. Its bat-like appearance has earned it the common name of "sea bat."

American Museum of Natural History photos





Trotline fishing involves more than throwing a line in the water. Left, a screen door spring is inserted in the line to absorb the shock of a big fish. Center, swivels on all leaders will prevent

fish from twisting themselves loose. Right, properly attached bait catches fish and foils bait-stealers.

Trotline Technique

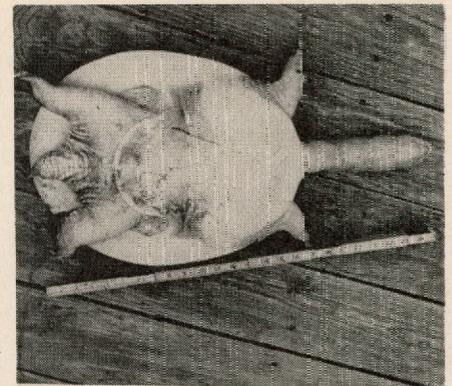
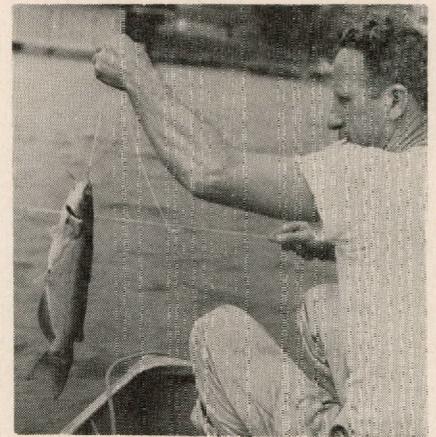
Staff photos by JAY VESSELS

SOME FOLKS spin their wheels on trotline fishing simply because they do not exercise care in putting in their line, baiting the hooks, and otherwise conducting their routine skillfully. But with the genuine trotline fishermen every move is a matter of precision.

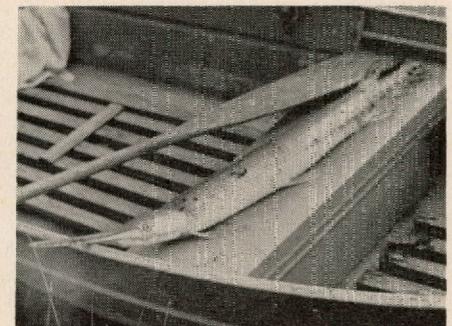
Such a zealot is Lamar (Peewee) Beard who does much of his fishing on Lake Austin where most of the accompanying photos were taken.

With Beard, it isn't a matter of baiting up some hooks and plunking them into the lake with a big rock. The line has to be suspended from the bottom, at least in some cases, by use of floats. A regular screen door spring is standard equipment. It is inserted into the line between the weight and the shore tie so that a large fish cannot get leverage and pull itself off the hook. Swivels are used on all leaders so that the fish cannot twist themselves loose. And bait is firmly attached to the hook, as note the impaled perch, to foil the hit and run rascals.

Of course, even all of this precaution does *not* guarantee the jackpot. But usually you get action; at least Beard did. First the three foot gar, followed by ten nice fat channel cat, good enough for anybody's skillet. Then the huge softshell turtle, weight twenty pounds, which provided a dish to delight any gourmet.—Jay Vessels.



The thrill of success comes with a whopper like the one at left from Lake Brownwood. But the catch may be varied. Proper trotline technique may produce dozens of fine "eatin' sized" cats, upper right, or the unexpected like the soft-shelled turtle, right center, or a long-nosed gar, lower right.



Temporary living in the outdoors can be made more pleasant — even fun — with proper

CAMPING TOOLS and EQUIPMENT



Figure 2

Here's how to select them and get



Figure 3

THE most indispensable tool for an outdoorsman, in fact for any man or boy anywhere, is the knife; a "business" size knife, sharp and keen. My wife's aunt, who taught high school Latin for 30 years, had the right idea. She asked every class, "Which boys have a penknife in their pocket?" The ones who had none did not rate very high with her. The idea was that if a boy did not have a knife and know how to use it he was not likely to grow up able to do many things for himself. And an outdoorsman has to do everything for himself, unless he everlastingly ties himself to the apron strings of a guide—and then he is not an outdoorsman.

You need a knife constantly for many purposes afield. For example, the camp cook will need one for slicing bread and meat, paring potatoes, and such. Any fair-sized knife will do for such chores; however, it is better to have a special one for kitchen work; an ordinary small butcher knife, because it gets rough treatment and it is a lot of labor to keep it sharp enough for other work. Have a sheath

for it, and keep it in the bundle with the knives, forks and spoons.

THE POCKETKNIFE

Afield, particularly in the bush, you will need a knife for whittling more than anything else. All boys should learn to whittle when they are young. The best type of knife is figure No. 1 shown in the illustration below—one blade for rough work and the other for finer work in closer quarters. The first blade with the rounded point is also excellent for general skinning; the lower for more delicate work around eyes and ears for small animals—the point is sharp enough to even lift a splinter out of your hand. Whatever other knife you have, better have one of these, and keep it in your pocket always. I have had a knife like this in my back pants pocket ever since I was knee high to a grasshopper.

SHEATH KNIVES

While the pocketknife will do everything needed for the camper or hunter, many of us,



Figure 4

A good pocket knife, right, will do almost everything a camper or hunter expects a knife to do. However, a sheath knife, left, makes a valuable supplement for special jobs. See text for additional information.

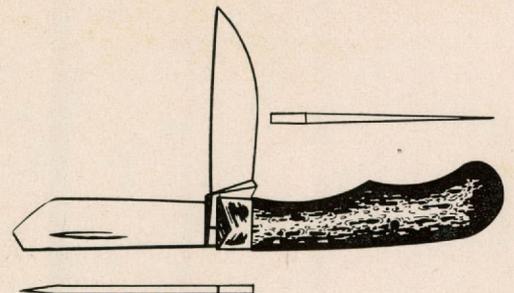


Figure 1



Drawings by
ROBERT JOHNSON

the most use from them.

particularly if we hunt big game, like to have and carry a sheath knife, and almost all interest in outdoor knives revolves around this type. There are some who think it is a sort of "Billy the Kid" weapon, and that one on the belt marks its owner as a tenderfoot. But there is no law against carrying it in the rucksack, and that is the best place for it. Trouble is that most sheath knives one sees, and that are advertised, are of the Billy the Kid or Bowie pattern; entirely too large, long, and thick bladed to be of any practical use. The sheath knife is primarily for the hunter's use, and should be designed chiefly for skinning and butchering animals, but should also be good for all purposes. Most old-timers prefer to keep it for hunting alone, and razor sharp. They usually prefer it with a blade not more than 4½ inches long, with a straight edge until it curves to the point, and with the point rounded for skinning, rather than a sharp spear point. A thin blade that tapers all the way from the back to the cutting edge will take a much keener edge, and you can work faster and easier with it than with a blade that is thick from back to middle and which tapers sharply to an edge like a cold chisel.

The illustration shows several good types, in my estimation. No. 2 is my own knife that I have always carried when hunting since 1916; it was made by hand from a butcher knife, and it has served every need well.

No. 3 is excellent in every way, and anyone wishing a knife of moderate cost would make no mistake in selecting this type. It is made by many cutlery firms.

No. 4 is a custom-built knife. I think it is the finest

Proper handling can make axe work easier. Drawing at top right shows proper way to cut limbs off a trunk. Center, cutting a log cross grain with an axe is difficult; the stroke should be slanted. Below, when severing a log, the "notch" should be as wide as the log's diameter.

knife I have ever seen, but rather costly. The size, the shape of the bone handle, and the blade are just about right according to my way of thinking. If I were getting a new knife this is the one I would choose.

Notice the shape of the point on this blade. It will make the initial slits up the belly and down the legs of an animal with the least danger of cutting into the flesh, which is a thing you want to avoid doing if possible. The sharp points on knives 2 and 3 are particular offenders in this respect. However, there is nothing to prevent your modifying the points on these, using a file and a whetstone.

These knives come with suitable leather sheaths to protect them, and you can carry them in your rucksack or your belt as you wish. If the latter, it would be a good idea to reinforce the sheath with copper wire stitching so as to be sure the point of the knife will not cut through the sheath and drive into your leg or hip should you fall on it.

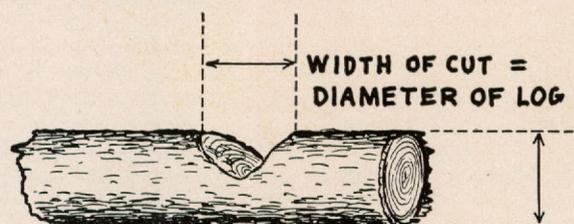
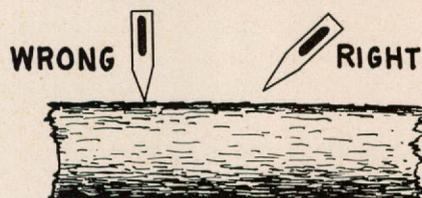
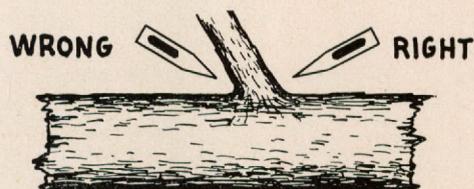
KNIFE STEEL

The first question anyone asks about a knife is, "Is it of good steel?" When I was a boy everyone swore by Sheffield steel knives made in England, although some thought that certain German knives had very good steel, particularly those made in Solingen. But times have changed and for many years the United States has led the world in the metallurgy of steel.

Anyone who has used and sharpened knives for some time will recognize good steel the moment he touches the blade to a whetstone. There is something indefinable in the way a good blade takes hold and slides on a whetstone, soon recognized when you have tried to sharpen a few good blades and some poor ones.

For a general purpose knife, and particularly for a

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Third of a Series About
Endangered Wildlife Species

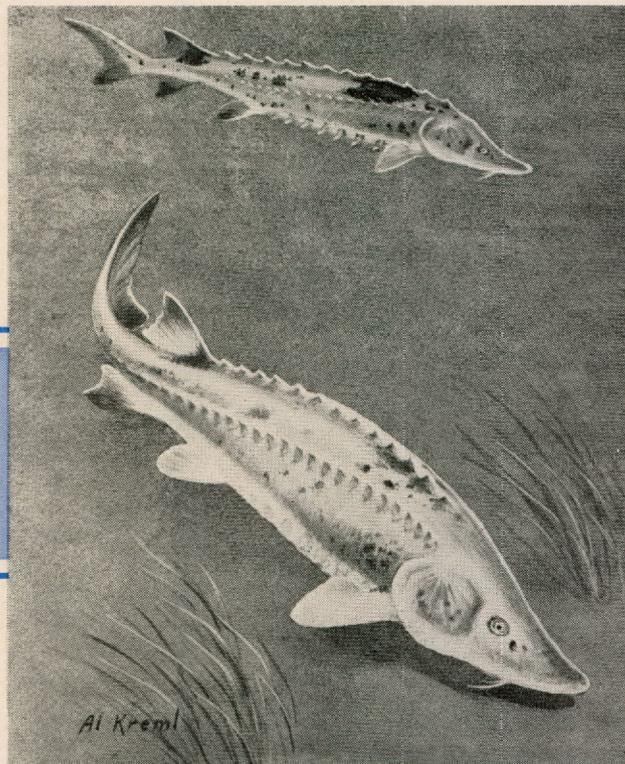
The Lake Sturgeon

By JOHN VAN OOSTEN

Seven species of sturgeon occur in North America: the white and green on the Pacific Coast; the Atlantic and shortnose on the Atlantic Coast; and the shovel-nose, lake and pallid in the inland rivers and lakes. All of these varieties have been reduced in numbers, but their existence is not endangered to the same degree in all waters. The United States annual catch on the Pacific Coast still averages 393,000 pounds. Along the Atlantic and Gulf Coasts, however, the yearly take is only about 94,000 pounds, and in the Mississippi River and its tributaries it was 72,000 pounds in 1950. In the Great Lakes the sturgeon has suffered the greatest depletion of any of the once-abundant varieties of the United States. This lake sturgeon has, therefore, been selected to represent one of the most endangered species of its group.

The Great Lakes sturgeon, like all other sturgeons, is a primitive fish. It has retained the cartilaginous skeleton of its ancestors. It is easily recognized by its elongated, cylindrical body covered partly by five longitudinal rows of heavy, bony shields (many disappear with age) and by the numerous, inconspicuous, spiny scales. The snout is conical and flattened on the top. Beneath it are four fleshy barbels that are used to locate food on the bottom. Behind them is a protrusible, thick-lipped mouth adapted for sucking up

This series of articles is from an attractive, illustrated booklet "Our Endangered Wildlife," published by the National Wildlife Federation in connection with National Wildlife Week for 1956, priced at 15 cents per copy. Separate chapters written by outstanding authorities deal with fourteen threatened species. The booklet may be ordered from the National Wildlife Federation, 232 Carroll St., N. W., Washington 12, D. C.



National Wildlife Federation photo

bottom materials from which mollusks, crayfish, insect larvae, worms and other food items are strained. The upper lobe of the tail, like that of a shark, is much longer than the lower. The young are tan or buff-colored with dark splotches on the sides. The adults are darkish above and paler below without spots.

The lake sturgeon is the giant of our inland freshwater fishes. It has been known to reach a length of 8 feet and a weight of 310 pounds. Most of those in the Great Lakes area measure less than 6 feet and weigh below 100 pounds. The species grows slowly at first, but ultimately individuals may reach a large size and an advanced age.

The oldest lake sturgeon on record reached the age of 152 years when it was caught in 1953 in Lake of the Woods. It measured 6 feet, 9 inches and weighed 215 pounds. It is astonishing to reflect that this individual was hatched in 1801 and managed to escape the fishermen and its enemies until 1953. In 1943, a fish which was in all probability even older than this, weighing 310 pounds and measuring 7 feet, 11 inches, was taken from Lake Michigan.

The lake sturgeon may reach sexual maturity when about 22 years old (males may attain it earlier). Spawning usually takes place in May and June, either in the larger rivers or in the shallow water of the lakes. A large female may produce 500,000 eggs or more in one season. They hatch in a week at a temperature of 65° Fahrenheit. When about one inch long the young begin to feed on minute crustacea, and at a length of about nine inches they become bottom-feeders.

Although once considered a nuisance in the commercial nets, the Great Lakes sturgeon is now the highest-

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EXPLORING THE OCEAN

with a magnifying glass

By PATRICIA PEW, Marine Biologist

The sea covers more than seventy per cent of the earth's surface. Besides having a larger surface area than the land, the sea has a greater volume which is inhabitable by living organisms. The average depth of the ocean is about 2.38 miles and the total volume of water is 331,000,000 cubic miles.*

Most of us are unaware of the infinite variety of organisms inhabiting the sea, our knowledge being limited to those animals which we see brought out of the

*Figures from "Sea Secrets," June 21, 1955, prepared by the University of Miami Marine Laboratory, acting as official fisheries research agency for the Florida State Board of Conservation.

1. Dinoflagellates, one-celled plants. (Incidentally, it is a member of this family which causes the "red tide.") 2. Two different larval forms of the common shrimp. 3. Larval crab. 4. Copepods, tiny relatives of the shrimps and crabs. 5. Marine worm. 6. Larval starfish. 7. Larval fish. 8. Foraminifer, a one-celled animal.

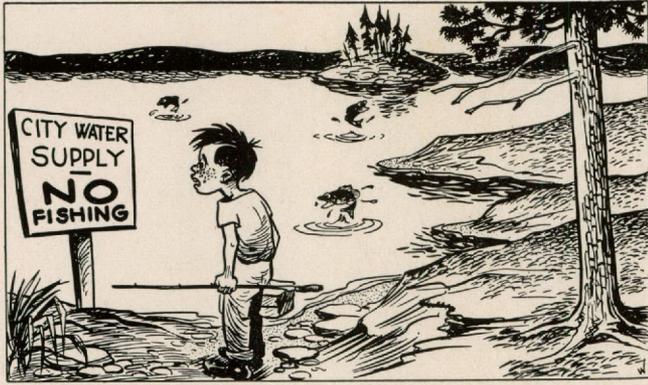
The disc-shaped objects (unnumbered) are diatoms, one-celled plants which make up the bulk of oceanic plant life, even though microscopic in size. There are many forms of diatoms, although only two others are shown here: the long cylindrical form made up of many small discs, and the chain of cubes with hair-like projections at each corner. (Drawing by Patricia Pew)

sea on hook and line, in shrimp trawls, or in commercial fishing nets; and these animals, by the time we get a good look at them, are usually dead, frozen, or perhaps even broiled and smeared with tartar sauce.

There are a few more-fortunate individuals who can dive into the sea and with the aid of Aqua-lungs explore the depths and observe the sea animals and plants in their natural habitat. This, of course, is the ideal place to observe them, for in their natural living state their colors are the most beautiful and their actions the most graceful.

There is another way to explore the sea, however,

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Drinking Water and Fishing

The drinking water reservoirs of many cities provide fishing fun for thousands of anglers. Fears of pollution often are unfounded.

By DR. R. W. ESCHMEYER, Sport Fishing Institute

Each year some reservoirs near San Diego, California, support about a hundred thousand man-days of fishing. Angling on these waters is a major form of recreation for the San Diego folks.

The people who fish on these reservoirs must obey certain sanitary regulations. There can be only so many people in a boat. Fishing is not permitted near the outlet. Fishermen must pay a small daily fee to use this water. The fee pays for enforcement of these and other sanitary regulations.

These reservoirs furnish the drinking water for the city. That's why certain sanitary regulations are enforced. The regulations don't interfere with the enjoyment of fishing. The fishing doesn't interfere with use of the water for drinking.

San Diego has permitted angling on its water supply reservoirs for many years. The fishing has had no ill effect. No disease carried by water can be traced to fishing on the reservoirs.

The state of New York passed an interesting law in 1905—fifty years ago. This law provided that fishing shall be permitted on any natural lake or reservoir used or built by the City of New York for water supply. An amendment in 1940 provides for special restrictions in event of war or in any other state of emergency.

New York City is building more and more reservoirs to furnish water for its big and growing population. These waters are open to fishing. We know of no evidence that fishing harms the water for drinking.

The City of Tulsa, Oklahoma, has had fishing on its water-supply reservoirs for many years. Tulsa anglers have always had good fishing waters near the city.

A few years ago, in Massachusetts, big Quabbin Reservoir was opened to fishing. This 25,000-acre body of water is a major water supply for the city of Boston. The opening of this lake to angling greatly increased the opportunities for fishing in Massachusetts.

There are many other waters which are used both for fishing and for drinking water.

Mud and pollution, which greatly increase the cost of purifying water for domestic use, also ruin the water for angling. Good fishing water is also good drinking water, with the necessary purification, of course.

If many of our water-supply reservoirs are fished, with no harmful effect, why do some communities still forbid fishing on their water supplies? The answer usually given is that fishing is outlawed for reasons of sanitation. The reason given is that the fishermen might spread disease to the drinking water.

There was a time when this explanation would have been an excellent one. Before we had modern purification systems, some epidemics were spread by germs carried in the water. Now, though, many towns even take water from polluted streams, and purify it. The sewage from one community mixes with water which becomes the drinking supply of the next community downstream.

Of course, we would prefer to have our drinking water come from clear, clean springs, or from wells. But, the big demand for water in a number of cities can be met, economically, only by using the nearby rivers as a source of supply, and by purifying the water through modern means to make it clean and safe for drinking.

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Photo courtesy Wilson Southwell

Quail Hatchery Program Initiated

By FRANK M. WOOD, Commissioner

The following speech, delivered by Game and Fish Commissioner Frank M. Wood at the recent dedication of the state quail hatchery, outlines the philosophy as well as the mechanics of the current quail habitat restoration program.

Experience has taught me that every time I get on my feet to make a speech I get scared and forget what I was going to say—so, today, to be sure that I leave out nothing I intended to tell you, I have written it down.

The ground upon which you stand belongs to the sportsmen of Texas. The plant erected upon it is yours, and has been built entirely with funds contributed by the sportsmen through the payment of their hunting license fees, and a little of it from the fines you paid for violating the game laws.

This plant is erected upon an eighty-two and one-half acre area. It was purchased by the Game and Fish Commission for this specific purpose. Some of the buildings you see were already on the property, the others have recently been constructed. The total cost of the plant, including the original land purchase, is close to two hundred thousand dollars. The plant was designed after Commission employees had carefully examined similar game farm installations in other states in order to get the best ideas available incorporated into our plant, and to make it as

economical and efficient to operate as possible.

We believe the design of the buildings and selection of equipment is such that this plant can be operated with approximately one-half the operating costs of similar plants in other states. If that be so, we will be able to save in operating costs, over a period of ten years, an amount equal to the original capital investment.

In the brief space of about five minutes I will only touch upon the highlights of the Game and Fish Commission's quail restoration program. There is an established and generally well understood fact, that the rise and fall of wild quail populations is due principally to the factors of weather and food and cover conditions. If we could turn back the calendar to an earlier day when the human population of this State was half of what it is now—to the time when pasture lands were lightly used by livestock—when farming was done with a span of mules—and the fences rows were wide and ragged, there would be little necessity to go into a concentrated and expensive effort to keep a shootable population

of quail on the land for all those who like to hunt them.

Times have changed—and with it there is the necessity for a special effort on behalf of the bobwhite. We believe that the existence of this plant, with its production of fifty-thousand quail this year, and with a potential annual capacity of one hundred-thousand birds, will be an incentive to encourage the landowner and the hunter to prepare a place for the bobwhite on the lands over which he has control. The hunter or

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Commissioner Wood reviews the history, present status, and problems of Texas quail.

The Game and Fish Commission's new quail hatchery near Tyler. Brood stock will be furnished on a cost basis for release on land

where investigation indicates proper quail habitat exists or has been restored. (Staff photos by Clyde Graham)



GUNS

and

SHOOTING

This Month: New Remington Rifle

By JOHN A. MASTERS

The past couple of years has seen some feverish activity in the gun business. Virtually every manufacturer has brought out something new. Some of the changes were superficial in the new guns; others are complete new guns from muzzle to butt plate.

For the past several months, I have been shooting various new guns with a view to learning firsthand just what the new stuff is capable of. To really give a gun a workout, a considerable amount of time is necessary to get a complete opinion of the merits and demerits of the piece. It is impossible to field test guns on game in many cases, since seasons are so short and the limits small. Consequently, one has to depend in large measure on results obtained on the range.

I am happy to be able to report on one new gun on the basis of both range and field tests. This is possible because this little gem is a year-

round performer. I refer to Remington's Model 722, built for their fine new 6mm cartridge, which they call the 244 Remington. I received my sample for testing some months ago, together with a batch of 75 and 90 grain bullet loads for the piece.

On the surface, there is nothing new about the rifle itself. It is a Model 722 Remington bolt action, barreled and chambered to take the new cartridge. Actually, the only change in the rifle is in the barrel dimension. The barrel is 26 inches long, and has the same weight and contour as that of the Model 721 in the 300 H & M Magnum. This makes the piece a bit muzzle heavy, but it also makes a nice weight rifle for long range varmint shooting.

The trigger, as with all Remington 721 and 722 rifles, is excellent. It is fully adjustable to suit the tastes of the individual shooter.

Barrel twist is one turn in 12 inches, which I expected would give better results with the lighter bullets; however, my sample liked the 90 grain factory loads best.

I fitted the rifle with one of Stith's master mounts, and the new Kollmorgen Bear Cub 6X scopes. Initial firing was done with factory ammo supplied by Remington. Using Remington 75 grain factory loads, I shot a string of five shot groups from a bench rest. The largest of these went into about 1½ inches, the smallest about ¾", with an average near an inch. This is phenomenal in a straight untouched factory rifle.

With the longer 90 grain bullet, the gun absolutely amazed me. No group fired went over 1 inch, and most were under that. Some were so small you wouldn't believe it anyway!

With handloads, I got some improvement, but nothing that would be considered significant. My best load turned out to be 43 grains of 4320 behind Joyce's Hornadays 87 grain spire point bullet; with this load, I shot several 5 shot groups that went into one ragged hole at 100 yards.

Now, one swallow doesn't make a summer, and one rifle doesn't prove anything positively, but there's no getting around the fact that this rifle is an exceptional performer. Here at last, in my opinion, is the gun for the one-gun man who has to use his rifle for everything. The 244 is a top drawer varmint case. Out to 350-440 yards it is plain poison on crows, jackrabbits and prairie dogs. I busted all of these

Shootin' Shorts

I have been using the new Redding powder measure quite a bit lately. I find it to be exceptionally good in throwing 4320, 4350, 3031, and 4064. A really happy coincidence is that the dial sets on approximately the charge desired for these four popular powders, *i.e.*, 40 on the dial is just about a 40 grain charge. I would like the measure better if it clamped rather than screwed to the table.

George Curry's Custom Gun Shop is just about through with yet another 250 Curry Magnum for me. This one is going to have a 22-inch

barrel, 1-12 twist, and a trimmed-down stock. With a Weaver Top Mount and a Kollmorgen Bearcub 6X, it should run about 7½-8 pounds.

Look for some new developments in really big stuff from Winchester soon, based on 300 H & H type brass, and about .45 caliber.

By now, you will have heard of Remington's new 44 Magnum pistol cartridge. World's most powerful hand-gun cartridge. So far, I haven't heard of a GUN for the dogged thing.—J.A.M.

with both factory and hand-loaded ammo, and the results left little to be desired. I heartily recommend the rifle for a combination varmint-deer rifle. While I have yet to whack a buck with mine, I have no doubt that with the long, mean 100-grain Sierra semi-point bullet ahead of 40 grains of 4320, I will have no difficulty whatever.

Basically, the 244 case is just the 257 Roberts case necked down to 6mm, with the shoulder sharpened up to about 26 degrees. The case is a good design. One word of caution: When forming the cases from 257 Roberts brass, be sure to check case length. All of mine thus formed have been a bit too long, resulting in greater than normal pressures.

Weight wise, my rifle with scope, mount, and sling went about 8¾ pounds. I do not consider that excessive, considering the multiple uses the rifle is apt to be put to.

The rifle is drilled and tapped for scope mount and likewise for receiver sights. The stock on mine is the high comb version, which makes it about right for a scope. As stated previously, the trigger is good. I did have a little difficulty with feed from the magazine, due, I think, to a magazine follower spring being a bit weak.

Watch out when hand-loading for over-all cartridge length. The 100 grain bullets have to be seated fairly deep to feed through the shorter 722 magazine.

Summed up, I consider the 244 a significant new cartridge, and I look for it to become immensely popular.

The other new Remington rifle I have been playing with is the new Model 740 Remington Woodmaster semi-automatic, chambered for the old reliable 30-06 cartridge. The 30-06 is too well known to need further discussion as a cartridge; however, the Model 740 certainly rates discussion.

Let me say in the beginning that I am not a lover of semi-auto guns as a class. I am a died-in-the-wool bolt action fan, so I went at testing the 740 with a jaundiced eye.

Accuracy wise, the rifle is completely adequate for the purpose it was designed for. With factory loads

and this can be done by anyone, since it takes little effort, time, or expense. This is to explore the sea with a magnifying glass. With a simple lens, as many or more different kinds of plants and animals can be found in a few drops of sea water than are usually seen by a skin diver in a whole day of diving, or than are brought up in a 65-foot trawl after several hours' drag. And they are just as interesting, important, and worth studying.

These microscopic forms are called plankton, and they are the basis of all nourishment in the ocean. The planktonic plants build their bodies from the non-living chemicals in the ocean and the ocean floor, and so form the link between the non-living (inorganic) and the living (organic) in the cycle of life in the sea. These tiny plants are eaten by the animal plankton and by larger animals, which in turn are eaten by still larger animals, and so on. (Since

and hand-loads, the gun averaged about 2½ inches at 100 yards, 5 shot groups, with a 2½ power Weaver scope having a post reticle that is near two minutes on the top. This is good hunting accuracy, and is, as a matter of fact, just about as good as one gets from a run-of-the-mill factory bolt action.

Several bullet weights were used in testing the piece, ranging from 110 grain to 220 grain. The gun operated reliably with all of these. I did not try reduced loads, since I do not foresee the gun being used with such loads. The only difficulty I encountered was with the feed from the magazine with some of the short fat bullets. If the heads of the cases were not jammed back solidly against the back of the clip, one every now and then would not feed up. Actually, this is not a significant thing, since all one has to do is load the clips carefully.

The 740 operates much like the storied Garand. A little gas is bled off and used to actuate a piston, which in turn operates the bolt. The front locking bolt is very similar to that used in the Remington 760 slide action rifle, and certainly is

animals cannot build their body tissues from inorganic materials they must eat organic materials, which of course would have to be either plants or other animals which eat plants.) The end of the cycle of life comes when an animal dies and its constituent chemicals are returned to the earth, the air, or the sea, as the case may be. These elements are eventually turned into living material again by plants, and the cycle begins again.

Illustrated here are a few of the organisms which, with the aid of a magnifying glass, might be found in a few drops of water from the Texas coast. They may seem weird and unappetizing compared to the sea organisms with which we are more familiar. But the fish, shrimp, oysters, and crabs which we prize for sport, food, and by-products could not exist without them. They are the beginnings of life in the sea.

strong enough for any load one will ever use.

It is necessary, at least with my sample, to resize cases full length when hand-loading. Since the 740 is not a hand-loader's gun particularly, I do not consider this significant.

For a good solid hunting rifle capable of delivering a fast second shot, the 740 is a good bet. Muzzle jump is not bad. I poured 5 shots into a deer-sized rock on the 100-yard firing point in a few seconds, with all being aimed shots.

The rifle has nice lines, and for a semi-auto, is a good weight. Recoil is not at all severe; I do not anticipate using a recoil pad on mine. I am looking forward to getting into the deer woods with the gun rigged just as it is with Bill Weaver's top mount and one of his 2½X scopes. It ought to be just the thing for those short brush shots in the Hill Country.

Most big game is taken within 100 yards. The 740 has a definite place with hunters who prefer a self-loading rifle, and I suspect it will be chosen by many. For the average hunter, I think it will prove to be a good choice.

Fish Reports Field Data

Texas Tracks

By JAY VESSELS

WORD TO THE WISE

United Press carried an Oregon, Missouri, report about three hunters firing eight times into a flock of ducks, then noting a game warden helping count the jackpot. It totaled thirty-seven ducks, just an even twenty-five over the daily limit. The courts made it official—and dug enthusiastically into the culprits' pockbooks.

FRIGHTFUL PENALTY

Three persons listed among the growing list of Texas hunting fatalities this season were victims of circumstances involving illegal hunting. Two concerned night hunting for deer and one concerned shooting from a public road, also forbidden by law.

NATURE IN THE RAW

Representative John Crosthwait of Dallas, sponsor of conservation proposals in the Texas Legislature, passed along a UP item under a Stockholm, Sweden, dateline, with the headline:

**ELK KILLS BEARS
IN GRIM BATTLE,
DIES OF WOUNDS**

Crosthwait, who likes to fish and hunt, probably was reminded of some of his own lawmaking hassle. Gus T. McMammal, layman wildlife enthusiast, suggested the Dallas statesman probably has been provoked to near violence by the futility of trying to salvage urgently needed legislation. Anyway, regardless of whether Crosthwait envisioned himself as a living prototype of the conqueror in this rugged tale, here's what happened, according to UP: "A giant elk killed two bears in a mighty combat in the wilderness, then proudly walked on a few miles to die of his own wounds in the snow."

GAME AND FISH BILLETS

Habitat for game and fish was specifically provided for through Lee County landowner programs under cooperative agreement with the Soil Conservation Service. At least seventy-five acres were specifically earmarked for wildlife. This comprised mainly fence rows, considered ideal for quail habitat, and old areas. Also the lands listed under SCS headings included two hundred twenty-three farm ponds newly stocked with bass, bream and channel catfish.

GOPHERS' GIGGED

The Marshall *News-Messenger* describes the rodent control routine of a local lad, Josh Callaway, who caught approximately 350 gophers from September to March by placing oversize mouse traps in their field runways.

WEED WISDOM

A major activity of Game and Fish Commission aquatic biologists concerns efforts to rid fishing grounds of surplus water plants. And great progress has already been made in such popular angling places as Cad-do Lake where water hyacinths had taken over large areas. But considerable research is yet to be done, according to Marion Toole, Chief Aquatic Biologist for the Commission. He said two types of plants have defied practically all weed killers. They are saw grass and alligator weeds.

Aquatic Biologist Charles Gray now is experimenting with a new substance that is showing promise as an eradicator of saw grass. But the tests are not yet complete and the Commission is awaiting further studies before indicating approval or disapproval of the treatment.

WHAT, NO JAVELINA?

Clyde Graham, Game and Fish Commission cameraman, took his wildlife motion picture show over to Huston-Tillotson college in Austin one evening a while back and was treated to a wildlife dinner comprising antelope, venison, squirrel, bear, rattlesnake, 'coon and turkey. He said Rip Collins insisted the varied diet was not responsible for his athletes' voracious victory appetite.

BASIC STUFF

A Texan wrote the Game and Fish Commission for the straight story on "tadpoles and little frogs." Marion Toole, Chief Aquatic Biologist, replied: "Every type of frog, including the common toad, must deposit eggs in the water. They then hatch out, forming tadpoles which live their required time under water but as they grow and reach adult frog stage, their gills are lost and lungs develop. This forces them to be air breathers just as are all other terrestrial animals."

NOW, HEAR THIS!

Bill Lloyd, Chief of the United Press' Austin Bureau, has some advice for motor boaters and fishermen. Bill should know about this particular field, too. When his young son fell out of their boat on Lake Travis, the senior Lloyd cut off his outboard, tossed a life preserver toward the lad, took off his shoes and jumped in, leaving his wife and daughter in the boat. Some twelve minutes later after Mrs. Lloyd had bravely joined the struggling pair, fishermen dragged the trio from the frigid water. A close call but closer, said Bill, a big husky fellow, because the boy wore jeans which became unbelievably heavy when water soaked.

Press Views Game Notes

CARP ARE FUN

Earl Golding, outdoor editor of the *Waco News-Tribune*, plugs carp angling by writing: "Taking carp on light tackle with specially prepared baits is a novel experience and an action-filled one. It also gets a job done, because the carp have a habit of moving in and taking up a lot of room which could better be used for growing game fish. . . . Fisherman have to use a small hook for old bugle mouth and fish it deep. The chief bait is what is generally called dough bait." . . . Some folks enthusiastically follow through from carp fishing to carp eating and many contend that smoked carp is very desirable food.

VOTE OF CONFIDENCE

Wes Mabrito's "Hook, Lyin & Sinker" column in the *San Antonio Evening News* quoted assorted authorities about the virtues of young people being taught about the out of doors, and concluded: "Leading jurists and criminologists tell us repeatedly that hunters and fishermen rarely commit serious law violations."

OUTRANKED AGAIN

Technical Sergeant John Prager of the Austin Air Reserve Center, found something with more stripes than he has—a coral snake. Prager was embracing the wilds along a river near Austin. Just before he reached for a tree root to pull himself up the bank, he heard a rustle. Poking with a stick, he dislodged a 28-inch coral snake which fell at his feet. Sergeant Prager thought the deadly reptile would please go away. But rather it stayed to fight, with its lethal head pointed high and swaying back and forth. Prager finally dispatched it with a club.

RARE EXPERIENCE

The career men who help safeguard the wildlife minions sometimes find their vigilance rewarded with an unusual observation. Such was the experience of Julian Howard, Manager of the Aransas National Wildlife Refuge, during the recent migration of the giant Whooping Cranes along the route to their far north nesting areas. Howard had been on the alert for months. Here's his description of the exciting scene: "They took off, flying before the strong southeast wind and drifted toward the northwest. It was not until they were well beyond their normal territory that the birds began to gain altitude. From the lookout tower, we followed their movements for fifteen minutes with a 30-power scope as they continued to gain altitude and drift in a northwesterly direction and finally were entirely lost from sight."

PROPER PERSPECTIVE

Phil Dibert, East Texas columnist for the *Tyler Morning Telegraph*, has given proper recognition to a coon hound that treed a catfish. Phil chronicled the incident smack on Page One. The dog belongs to Joe Guinn of Rusk, who explained to Phil that the pooch saved face after a negative coon hunt by cornering a 17-pound catfish behind a log along the creek bank.

USUALLY FATAL

Bob Ramsey, Wildlife Biologist for the Texas Game and Fish Commission, said wild deer freed from wire fences in which their legs have become entangled seldom recover. The mortality rate is surprisingly high among such animals and he suggested that exhaustion from efforts to escape presumably is the main cause.

ON THE BEAM

Connie Hagar's status as an international authority on birdlife has been established over the years and now her husband's tourist court is getting recognition. This was conclusively noted when a letter came from Charleston, S. C. to a guest addressed to "Bird Watching Motel, Rockport, Texas," and was promptly delivered!

SPECIAL TEXAS ANGLE

The new three-cent postage stamp showing a wild turkey in flight has special significance in Texas, because the Lone Star State is threatened with loss of its distinction as having more wild turkey than all other states combined. Population of the big game bird has been on the downgrade in Texas, mainly because of the habitat shrinkage from repeated drouth, while other states, particularly in the East, Southwest and middle west states, have been restoring original turkey haunts, with consequent increase in numbers.

POETIC BUT POTENT

From way off Harrisonburg, Va., comes a column in rhyme written by Bruce Slaven, Outdoor Editor of the *Daily News-Record*, that seems to fit the current Texas wildlife restoration pattern: "I'd keep my fence rows planted tall, where I expect to hunt next fall; And when I visit field and stream I'll dump no paper by the ream."

SAME DIFFERENCE, WOT?

An Austin angler responded to pleas for reporting catches of strange fish by carefully packing and freezing what he thought to be a walleyed pike. After considerable commotion in anticipating the discovery made in Lake Travis of the Highland Lakes chain, Marion Toole, Chief Aquatic Biologist of the Game and Fish Commission, disproved the walleyed angle. But the fact that the species was a bowfin (also known as grindle, mudfish or dogfish) was almost equally exciting. This kind of fresh water fish rarely occurs beyond the Great Lakes and the Mississippi Valley.

ANGLING

It seems the tired business man fisherman no longer will have to go barefoot so he can hold a fishing pole between his toes. Not according to *New Products Digest* of Austin, which reports a folding fishing pole holder as invented by Fred Jaden, Ontario, Oregon. The device, made tackle box size, fits cane poles as well as most standard casting rods.

Commission Discusses Quail, Lake Houston, Marine Problems

The Game and Fish Commission used dedication day for its new experimental State Quail Farm to authorize another exploratory move toward expanding Texas' upland game resources.

The Commission, holding its regular quarterly meeting in Tyler to formally open the quail farm as a key part of a vast statewide habitat restoration program, approved research to determine advisability of stocking an Old World bird called Coturnix quail.

The tests would be conducted in cooperation with other states, particularly Missouri, which has offered to provide the twenty-five pair of

the brood exotics which were authorized at a total cost of \$150.

Howard Dodgen, executive secretary of the Commission, explained that the new quail which migrate like a mourning dove, would not compete for food and cover with Texas' native game. He described Coturnix quail as very large, preferring prairie type habitat and as operating in singles and in pairs rather than in coveys.

The quail farm project is predicated on general habitat restoration since none of the pen-raised birds may be obtained until game wardens have formally approved cover and feed conditions.

Among other actions taken, the Commission ordered Lake Houston closed to all netting except minnow seines pending permanent regulation by the City of Houston.

It also deferred until October 1 the effective date of a new Gulf Coast regulation designed to conserve fine shell pending efforts to determine how the measure will work out in practical operation.

Captain Bill Parker of Houston, representing the shell industry, offered to advance the Commission

\$100,000 for emergency improvements to protect the new Rollover Pass across Bolivar Point east of Galveston against what he described as "storm danger from the Gulf." The Commission decided it lacked the authority to accept the offer.

The Commission discussed long-range proposals to restore oyster reefs in cooperation with the shell industry.

Executive Secretary Dodgen assured Charles Haas of Corpus Christi, president of the Laguna Madre Fishermen's Association, that negotiations are proceeding with the U. S. Erosion Control Board to protect coastal areas.

W. T. Hunt of Baytown, representing the Bayshore Rod, Reel and Gun Club, described commercial and private netting which he said has ruined sports fishing in Trinity Bay in the upper coastal area. The Commission decided it has no authority under the law to close the bay to netting and stressed the urgent need for a broad new basic conservation law covering tidewater fishing of all kinds, including regulations restricting bay limits and minimum sizes.

Club Cruises Provide Group Fun, Fishing

A series of club cruises proposed by members of the Anglers Club of San Antonio represents an idea which other clubs might be interested in adopting as part of their own activities.

Individual members furnish their own outboards and boats, according to the plan. Participants meet at a designated point for the fleet launching. The general route of each cruise is planned in advance, and members fish along the way. Common meeting places are scheduled for meals, which may be prepared by the individuals or shared by all. On overnight cruises, members bring their own camping gear.

The San Antonio club's first cruise is slated June 9-10 on Granite Shoals Lake north of Austin. The cruise will be leisurely, providing ample opportunity for fishing. A fishing contest will be run in connection with the event. A club barbecue and program of entertainment is planned at the overnight camp site, which is accessible by auto for club members not participating in the cruise.

Cruise chairman is Tom Carver, and Wilson Southwell is club president.

The San Antonio anglers plan other similar cruises throughout the summer.—T. M.

Quail Hatchery Program

• Continued from page 15

the landowner has not heretofore been encouraged to make food and cover improvements to lands on which they have not seen a covey of quail for a number of years, even though they may have known the same area to have been good quail country at one time. We know now, that suitable cover and proper breeding conditions can be improved upon by man with the use of the same tools which he has heretofore employed to destroy them. Under the program of making broodstock available, we hope to encourage habitat improvement and by such method we should have a much quicker favorable result from the effort.

We have been plagued all over the country for a number of years with surplus products of all kinds. There is now a national plan known as the Soil Bank Program, which will, if initiated, lay idle the lands that are

now used to overproduce farm products. If this program becomes a reality, it could have a tremendous effect upon the small game populations of Texas, and especially the bobwhite. Under such conditions the available supply for stocking purposes from the Game and Fish Commission quail hatchery would hasten the recovery of the maximum population of birds.

The quail distributed by the Department will *not* be free. They are to be paid for on a basis of cost of production, and consigned only to those who have a suitable place for them. To determine whether the land upon which they are to be planted is suitable, the field personnel of the Game and Fish Commission will inspect each area for which an application for birds is received, and they will be delivered or withheld according to whether the place

Waterfowl Flights Off to Slow Start

Waterfowl migration into the western Canada prairie region has been heavy in the southern portions, but has been delayed in the more northerly areas because of persistent frosts and slow run-off conditions. Migrations are in progress with many birds still to come. The only appreciable nesting activity has been reported in southern Alberta, according to a May report from Ducks Unlimited.

The report stresses a "slow start for waterfowl" and states that the first of May over-all picture is satisfactory despite some drouth danger in southwestern Saskatchewan and southern Alberta. The balance of the prairie region is experiencing excessive moisture conditions, delayed migration and a start of nesting.

A breakdown of run-off conditions reveals that both southern Alberta and southwestern Saskatchewan have had "little or no run-off." Heavy run-off has been experienced in central areas of Alberta and Saskatchewan and flood conditions exist in Manitoba. Extreme northern areas are still ice-bound across the prairie region.

Southern areas of Alberta report nesting operations by mallards, pintails and Canada geese. Nesting in the other provinces will begin in earnest when temperatures rise toward normal and other conditions become more favorable. Water conditions appear excellent, except in a comparatively few southerly areas.

is suitable for their survival. Consignments or shipments will be made directly to Commission representatives in the receiving area so as to guarantee that the birds are released on the properly approved area—and that they do not find their way *directly* into the frying pan.

Some professional wildlife workers have disagreed with the method of approach in the stocking of artificially propagated birds. I believe they do *not* contend that no good can come from it, but only that the same money and effort expended directly



After his second consecutive win in the pistol shoot of the annual game warden in-service school, Starkey V. Whitehorn, Borger, will keep this trophy. His score: 92 with a .38 special.

Wardens Attend Annual Refresher School

The annual in-service school for the 194 Texas game wardens was held at Bastrop State Park, April 22-23. The school is held each year in two sessions with half the wardens attending each session so that the State is never denied the services of wardens.

There are two principal objectives for the school: (1) to renew acquaintanceships and improve relationships among the wardens, and to meet any new wardens who may have been added to the staff, and (2) to attend lectures and discuss topics of statewide interest

upon habitat improvement would produce better results. It is heartening to know that those who disagree upon which road to take to reach the final destination do not disagree upon what that destination is.

Everybody is fully aware that our total quail population is low, and has been—especially during the recent drouth years. All are agreed that we want more quail—the highest population possible to be carried on the land which is still compatible with domestic land operations; therefore, any differences of opinion as to how to reach that goal become petty as compared to the unified front and determination to successfully bring back the bobwhite for the pleasure of the outdoorsmen of today and those of the future.

It is to be remembered that the land area of Texas, as big as it is, is getting no larger. At the same time the population of our State is increasing by leaps and bounds. We now have more than eight million people—or about twenty acres of

land per person within the State. To those of us responsible for the management of the wild life resources of this State, this can only mean that we must put forth an intensified effort, not only for the propagation and production of quail, but for all other valuable game species as well.

All of you hunters might as well make up your mind now, that from here on somebody must carefully manage the quail, squirrels, deer, or other things you like to hunt. Mother Nature has been upset by the encroachment of man, and therefore, must be aided in regaining her balance.

Every day that goes by, the outdoorsman becomes more conscious of these facts—and he is becoming more helpful in our conservation effort. But a great deal remains to be accomplished by way of awakening those of us who hunt and fish to the needs for continued improvement in that effort.

Let us do all we can to keep the bobwhite whistling in Texas.

Weather Snags Quail Habitat Program; Method of Obtaining Stock Outlined

Human-guided factors in the new Texas bobwhite quail restoration program are proceeding according to schedule but spring weather thus far has been a deterring factor. The general habitat program, whereby field men for the Commission have been serving as counselors, has created hundreds of new projects throughout the state.

Also, the new state quail farm at Tyler, which was authorized as an experiment to supplement natural sources for seed stock and to stimulate interest in habitat improvement, now is in operation with most of the eight hundred pair of bob-

whites laying eggs. Distribution of young birds is foreseen for early summer.

But the dusty, dry weather has retarded natural growth in many parts of the state. As a result, habitat expansion in many areas, where native stock is considered adequate or where pen-raised stock will be experimentally released, has suffered.

Timely rains will be necessary to get food and cover started for the 1956 bobwhite crop. It would be regarded as tragic, now that so many landowners have become interested in providing habitat for quail, to have the elements turn negative.

This threatened setback came on the heels of a recent Commission study reflecting a substantial quail comeback in some areas last fall, based on a one hundred per cent increase in the number of quail wings forwarded by hunters for research.

Landowners or outdoor groups, interested in trying the pen-raised approach, may now begin the application routine which is designed to make pen-raised stock available beginning around mid-June. They should write Commission headquarters in Austin. The application will be processed by the local game warden, who will determine whether habitat is adequate or whether native birds already populate the affected area to capacity.

Quail for qualifying persons will be released by game wardens. They will be tagged so that the restocking program can be evaluated. Price will be fifty cents each this year, but the sales hereafter will be on a cost-production basis. The young birds, released at the age of six weeks to two months, must be fed until they can learn to eat wild or native foods. Priority will be given to qualified sportsmen and conservation groups.

Production this year will be mainly of East Texas quail because available brood stock from other areas was limited.

The Commission dedicated the State Quail Farm near Tyler on April 20 in connection with its regular quarterly meeting.

Camping Tools

Continued from page 11

hunting knife, avoid all with stainless steel blades. They may be all right for fish and table knives, but they won't take a keen edge, and when they are dull it takes forever and a day to bring them to even half decent sharpness on a whetstone.

SHARPENING STONES

A knife, axe, or any edged tool should be kept almost razor sharp for best use. As knives come from the makers they do not usually have a keen edge, and they should be honed before use. It does not suffice to merely sharpen your knife before you start on a trip; it is dulled with use, and will require sharpening many times afield. Skinning an animal takes the edge off a knife very quickly, and in skinning a deer you will probably need to sharpen it three or four times.

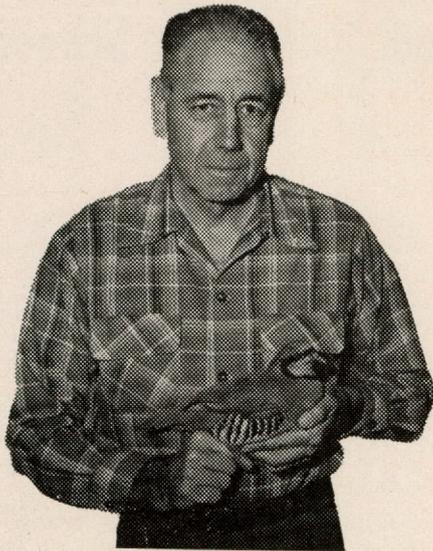
The carborundum stone, I think, is the best for outdoor use. It is coarse on one side for first quick work, and fine on the other for putting on the keen edge, and it can be used with water only. The finest whetstones are perhaps better for producing a very keen edge, but they are slow cutting and require oil.

The best carborundum stones for the field are the round ones, because they can be held in the hand and do not require a bench or wood base. In sharpening, hold the blade in the left hand, and the round stone in the right, and use the stone with a circular grinding motion. It's best to have two stones, one for your camp kit, and one in your rucksack so that one will be at hand whenever you have a skinning or butchering job.

AXES

The axe is also an almost indispensable tool for most woodsmen, but is a dangerous instrument in the hands of a tyro. It is not really needed in the average summer camp, or on summer bushwalks where the lighter, short handled hand axe will serve every purpose. It is rather the tool for heavy work, for getting in heavy wood for warm fires, for building large shelters, and for cutting out trees that may fall across roads, tracks or canoe streams.

For such work it should have a



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medium heavy head, about 2½ pounds. Heavier axes bite deeper and are faster, and that is why the timber getter uses them; but they require special skill that the sportsman seldom acquires. Lighter axes do not bite deep and require many more blades. Double-bladed axes are very dangerous tools in the hands of all but experienced men, and they cannot be used as a hammer for which you will use your axe a dozen times a day.

So get an ordinary single-blade axe with about a 2½-pound head, and a handle or helve about 26 to 28 inches long. If you adopt one length handle and use it exclusively, you will come to do better work, and it will be safer. It was in 1901 that I first had to do a lot of chopping; my axe had a 27-inch handle, and ever since I have used this length.

I have not used many axes, only three I think, but those have gone through a pile of logs. If you use an axe decently it almost never wears out, although you will have to replace its handle occasionally.

The edge on the axe you buy is probably sharp enough for the average two-weeks-a-year camper, but the good axeman will probably want to thin this edge for keener cutting. The best tool for this and for rough sharpening is a grindstone, but since you cannot carry one into the bush, a 10- or 12-inch flat file does a good job. To sharpen an axe start about an inch back from its edge, and carry out that straight and gradual taper to the edge itself, then finish up with the carborundum stone.

A whole volume could be written on the subject of axemanship. Our best axemen almost all learned as boys on the farm, but anyone with practice and care can learn well enough for all the usual camp chores. Don't try to chop at right angles to the grain of a log; the axe won't bite in that way. Use it at an angle of 45 degrees or more. Keep your eye on the exact spot you want the edge to strike, and practice until it does strike there. Don't try to use force; never strike a heavy blow; let the gravity fall of the axe do most of the work. The sketch shows the principal points of good chopping.

HAND AXES

The light one-pound axe with a 12-inch handle will do about all the work that is necessary in the summer camp. The average camper will use it much more effectively and with greater safety than he will a long-handled axe. The "Boy Scout" type, made by many companies, is an excellent model. Have a sheath made for it, but don't carry it on your belt, which is inconvenient and uncomfortable. Stow it in your pack.

SAWS

It is usually much easier and quicker to saw a fair-shaped or large log in two than to chop it. If you are using a wood-burning stove, a saw is worth its weight in gold for sawing the wood the right length to fit the fire box. Buck or Swedish saws are made so they can be taken apart and packed in very small space. See that they have teeth designed for cutting rough timber, not the ordinary crosscut and rip teeth of the carpenter's saws.

© Continued on next page

Bowed-Arc Bow

By PORT LITTLE

*I've never killed a deer,
And probably never will,
But if I do, I'm telling you
It's going to be a thrill.*

*No telescope sight for me
No 30.06 or so;
If I get a buck, it'll be with luck,
And a homemade bowed-arc bow.*

*Maybe the Indian in me,
Or the ghost of Robin Hood;
But I'll always go for a bowed-arc
bow
And arrows made of wood.*

*I tramp the woods with stealthy
tread,
I sit long hours and wait.
By light of dawn I see a fawn;
I stay, at night, till late.*

*Though the game I take is nothing,
The steak I eat is tame,
I'll have my fun; for, bow or gun,
The hunt is just the same.*

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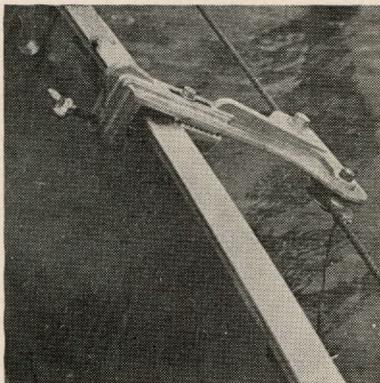
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Camping Tools

Continued from preceding page

REPAIR KITS

Some kind of repair kit should be included in every camp outfit, except perhaps that of a bushwalker who has to pare everything down to the last ounce. Don't attempt to carry a whole carpenter shop or machine shop with you, but include only those small articles that you think will be needed, and for which nothing else will serve.

Suggested contents are: A tool handle containing screwdrivers, gimlets and awls. A small flat-nose pliers with wire cutter. A file for sharpening your axe. A box of assorted nails, tacks, rivets and buttons. Spools of thin copper wire and shoe thread. Needles for the shoe thread and large glovers' needles for sewing leather and canvas. A tube of all-purpose cement.

Once in a hardware store I found a light metal pistol grip handle that would hold a special short hacksaw blade. I bought it and a dozen blades. It has gone along on every trip since, and has come in mighty handy a hundred times.

COOKING

Don't count too much on using wood fires. You likely will have to camp in many places where firewood is not obtainable or wood fires are prohibited. The two- or three-burner kerosene stove is the best solution and with it you need a can for the fuel it uses.

Kitchen and eating utensils can take up much more room unless you adopt a set, or buy nesting aluminum camp kettles in which cups and bowls will also nest, and fry-pans with folding handles which can be nested with the plates.

In this kind of camping you are sure to need a lot of water at your campsite, and the water supply may be some distance at public campgrounds. You can get collapsible canvas buckets, but consider two galvanized pails—they're cleaner and more convenient, they will nest inside each other and you can put your nest of camp pots inside them. A large pan for washing dishes and clothes, and a wash basin for the toilet are very desirable. Also, a small refrigerator chest will keep

meat and perishable vegetables as well as fresh butter about two days in warm weather.

Food may be packed in small waterproof bags and in cans, and these containers carried in small boxes about the size of the refrigerator chest. Or you can "invent" and build a kitchen cabinet which, in motoring, might fit in the baggage compartment of the car, with partitions for various articles and foods, and a door that lets down to double as a serving and kitchen table and a bread board.

An axe with a sheath for it, is desirable for driving tent pegs and clearing ground, and if you go "back of beyond" it may be very necessary for clearing trees and obstructions on the back roads and small water-courses. A small folding shovel will also pay for its taking. Naturally you will include a kit of tools for maintenance and repair of car or boat.

FURNITURE

With the transportation you have available there is no reason why you need sit on the ground or eat your meals from your lap. By all means take a folding table and canvas chairs. Let the latter have backs and arms so you can sit back and relax in them. In public campgrounds the turning on of car lights often disturbs other nearby campers, and you should include a kerosene pressure lantern with a case and extra mantels. It will provide excellent camp illumination. At least one small flashlight is also needed.

S'west Casting Tourney Scheduled June 16-17

The annual championship tournament of the Southwestern Amateur Casting Association, with member clubs in a number of Texas cities, will be held at Dallas June 16-17, as announced by D. W. Williams of the Dallas Anglers Club.

Site of the tournament casting competition will be Fair Park Lagoon with the Dallas Anglers Club acting as host. The Southwestern tournament each year is regarded as one of the nation's top regional affairs with official recognition of the National Association of Angling and Casting Clubs.

priced fresh-water fish on the market, bringing the fishermen about \$1.25 per pound. Current profits, however, are inconsequential because of the small annual production. The recent average yearly take of United States and Canadian fishermen from all of the Great Lakes amounted to only 40,920 pounds, of which the former produced 14,250 pounds and the latter 26,670 pounds. In earlier years (1879-1890) the combined yield averaged 6,368,300 pounds. Ever since the early nineties this total production gradually declined until the fishery virtually disappeared, the catch having been reduced some 99.4 per cent. This tremendous reduction took place in every one of the Great Lakes.

A telling factor in the decline of the Great Lakes sturgeon was the deliberate effort of the commercial fishermen to wipe out the species, not only because it had no market value in those very early years, but primarily because the monsters ripped and tore the nets every time they got into them. Later, when a market developed for caviar and smoked sturgeon, the fishermen constructed special gear to take greater quantities of these expensive fishes, both mature and unfortunately, immature individuals. Spawners and the young were not given proper protection until it was too late to be very effective. Even then, illegal fishing was so extensive that protective measures were of little avail. Early and very destructive over-fishing and man-made changes in the sturgeon's environment became important decimating factors. Among the latter pollution, dredging and damming of those rivers used for spawning were the most serious.

No one can say with assurance that the sturgeon populations of the Great Lakes can be brought back to normal, even if complete protection is provided by law. It is a well-known biological fact that when a population is reduced beyond a certain threshold it is virtually impossible to restore. The lake sturgeon seems to have reached this point, at least in some of the Great Lakes. In Lake Michigan, for example, the species was given complete protec-

tion beginning in 1929. In 1951, the State of Michigan again permitted the sale of this fish. What effect did the 21-year closure have on the stock? In the three years (1927-29) preceding the closed season, the average annual catch amounted to 2,282 pounds, a reduction of 99.9 per cent from the normal. In 1951-54, the average was still a mere 2,732 pounds. The year-round legal protection of the species for two decades had no apparent effect on current production.

This failure of the sturgeon to increase was not wholly unexpected. The near extirpation of the species prior to 1930, and the fact that it requires some 20 years, more or less, to attain adulthood, makes it obvious that the significant increase in population would require more than two decades, even if a big survival of the progeny was obtained every year. However, the normal survival of fishes in nature is very small, and the female sturgeon does not spawn every year.

The restoration of the Great Lakes sturgeon is a difficult if not a hopeless task. Drastic action is required if it is to be brought back. Year-round protection on both sides of the international boundary and heavy stocking of fish beyond the fry stage in suitable waters seems to be the only methods by which the Great Lakes sturgeon can be rescued from complete extermination. Sporadic fish-cultural efforts of the past have not been too successful, and the species has never been reared beyond the fry stage. Research would, therefore, be needed to overcome these obstacles.



Huge Trout Caught

This huge speckled trout, weighing 12 pounds and measuring 33 inches long, was caught by Mrs. Charles Murrell of La Porte. It was caught at night while fishing under the lights at Ike's Place on Arroyo Colorado, located in the lower Laguna Madre in deep South Texas. The fish has been entered in the *Field and Stream* fishing contest. Last year an 11½-pound trout caught in the Arroyo Colorado placed fourth in the Contest.

O. H. (Ike) Eichblatt, who submitted the picture, says that this is the largest trout he has seen in over thirty years of fishing on the Texas Coast and asks, "Who has seen a larger trout?"

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gone with the surface.

"One empty house, doors and windows missing, 2 rooms and a path. One silted-up pond. Four mineral-deficient cows. They are gentle, guaranteed to have rickets and no calves. Other articles too worthless to mention.

"Farm is guaranteed to produce headaches, overdrafts and forecloseures.

"Reason for selling—owner going to work for conservation farmer who has taken care of his soil."

die-off in 1953-54, and another in late summer, 1954, the 86.8 per cent fawn crop on the ranch in 1953 followed by a 76.9 per cent fawn crop in 1954, resulted in a pre-season population of one deer to 5.12 acres in 1954, and a sex ratio of one buck to 3.50 does. Most of the bucks, however, were either spikes, buck fawns with nubs, or adult bucks which failed to produce any visible antler growth. This was further substantiated when only seven legal bucks were bagged on the ranch during the 45-day season in 1954.

No antlerless deer were harvested on this ranch in 1954. During the fall and winter drouth conditions, combined with over-population, caused a die-off. A post-season check showed a deer density of one deer to 27 acres, and no identifiable bucks were seen.

The 1955 fawn crop was only 21.43 per cent, and the deer density going into the 1955 hunting season was one deer to 25 acres. Again, no bucks could be definitely identified on either of the two census checks made just prior to the 1955 hunting season.

Thus we have followed the course of a typical deer eruption, and we have watched a herd of 1,656 deer dwindle to less than 200 in two years. During this time less than 200 deer, allowing for cripples and deer shot by hunters and not found, were actually harvested by hunters. This is typical of a deer build-up and die-off, and is a thing most long-time resident landowners in the Texas Hill Country have seen many times. Hence their clamor for suitable laws which will allow hunters to come on their premises and harvest surplus deer before the threatened die-off occurs.

There are landowners who oppose the harvest of surplus deer, just as there are many hunters who oppose the principle of shooting a doe. However a vast majority of the landowners in the densely-populated deer regions of Texas have come to see the wisdom of checking deer populations before they destroy themselves, taking thousands of tons of irreplaceable forage with them.

Each year brings a scarcity, and, in many instances, the complete disappearance of many of the food

Kill More Does

Continued from page 5

turning in their shooting preserve record books. However, many landowners in Mason, Llano and Gillespie Counties report the best buck season in years from the standpoint of numbers, condition and antler growth.

Of the 2,376 antlerless deer bagged by hunters, 1,994 or 87.03 per cent were adult does, 141 or 6.15 per cent were doe fawns, and 156 or 6.81 per cent were buck fawns. One antlerless adult buck was killed in Llano County. Check station personnel failed to determine the sex of 84 antlerless deer, 40 of which failed to come through any of the five check stations maintained by Game Department personnel.

Starvation, in the absence of predation and disease, is Nature's way of removing surplus deer from an over-populated area. It is by far the most cruel and costly of all means.

When deer reach a density of one deer to five-to-seven acres in the Central Mineral Region, or one deer to ten acres over most of the remaining regions of the Texas Hill Country, the range may be considered to be stocked to its maximum carrying capacity under existing livestock grazing programs.

In 1953, 1954 and again in 1955, areas comprising thousands of acres in Mason, Medina, Blanco, Gillespie, Llano and Kerr Counties were found to be carrying populations of one deer to less than four acres. Other areas which had dangerously high deer concentrations in 1953 had very low deer populations at the beginning of the 1955 season.

A typical 2,700-acre ranch in one of these counties was found to have an estimated deer population in October, 1953, of one deer to 1.63 acres, or 1,656 deer. Due to carefully controlled buck hunting, the sex ratio was unusually good for such a large deer population—one buck to 3.45 does. The antlerless deer kill on the ranch that year was 49 adult does, 10 doe fawns and 10 buck fawns. The buck kill of approximately 40 made a total kill of 109 deer of both sexes.

Census checks made immediately following the close of the 1953 hunting season disclosed there was a remaining deer population of one deer to 2.90 acres on the ranch, but the sex ratio had changed to one buck to 6.50 does. In spite of a minor winter

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plants upon which a deer must feed to sustain life, reach maximum growth, and develop a good set of antlers. Each year the browse line on trees gets further out of reach of the younger deer.

During the critical periods of the year, especially from January 1 through March 15, fawns and yearlings wander aimlessly about their range, gazing pitifully upward at green liveoak leaves which even an adult deer must stand on its hind legs to reach. They fill their paunches with dried grass and leaves, woefully deficient at that time of year in protein and nutrients, then lie down for the night in the shelter of a boulder or thicket. A cold night, especially one during which a freezing rain or sleet storm occurs, puts many of these little fellows out of their misery. Should the spell of freezing weather last two or three days, as is frequently the case, most of the young deer and many of the aged deer will perish.

A rancher in western Kerr County tells of finding 27 fawns, yearlings and aged does lying dead in a liveoak thicket during a period in 1947 when the timber and ground was covered with a mantle of ice. These deer appeared, at first glance, to have been asleep, as they had their heads doubled back on their flanks. Veteran ranchers in the deer country have seen this happen before, but none want to see it again.

Bucks die in this same manner, but they usually move off to some secluded spot. Their single deaths are not as spectacular as the group demise of does and fawns.

A survey of hunters who participated in the 1955 antlerless deer hunt disclosed that 40.29 per cent of the successful hunters had never killed a deer before, as compared to 52.70 per cent in 1953, and 36.88 per cent in 1954.

Thus it may be shown that an antlerless deer hunt provides an opportunity for a greater number of Texans to bag a deer than has been the case during previous bucks-only seasons. It has also been proved that hunters will pay a reasonable fee for the privilege of harvesting surplus antlerless deer which would otherwise be a total loss to both landown-

Plans and Dates Announced For Coastal Fishing Tournaments

Dates and plans for Texas' major coastal fishing tournaments have been announced by tournament committees at Freeport, Port Aransas, and Port Isabel. The lineup is as follows:

JULY 4 THROUGH 8, FISHIN' FIESTA, FREEPORT. This popular tournament, which emphasizes bay and surf fishing and boasts the largest entry lists of any Texas coastal tourney, has been expanded to five full days. Sponsored by the Freeport Junior Chamber of Commerce, it is now in its ninth year. Registration fee is \$3 or \$4 for a family. Cyril Wilcox is 1956 tournament chairman, and Bob Whittle is handling publicity. For further information, write P. O. Box 1074, Freeport.

JULY 10 THROUGH 12, DEEP SEA ROUNDUP, PORT ARANSAS. Port Aransas will hold two tournaments again this year, with dates still to be announced for the Tarpon Rodeo to come later. The Roundup will feature all major game species, with a greater emphasis this year on bay and surf fish. A number of new take-home trophies have been added. A rules change will require that all tournament fish be brought into the dock. Entry fee will be \$10 for the offshore division and \$7.50 for the bay-surf division, both to include all entertainment. Johnny Martin Mathews is tournament chairman with Bruce Ponton handling publicity. For further information write the Deep Sea Roundup Committee, Port Aransas.

AUGUST 2 THROUGH 5, TEXAS INTERNATIONAL FISHING TOURNAMENT, PORT ISABEL. This year's 18th annual TIFT again will balance offshore and bay-surf divisions. An expected major rules change will eliminate total poundage of fish as a basis of competition in the bay-surf division and emphasize the largest fish. An expanded junior division for four-to-sixteen-year-olds will provide supervised fishing for the youngsters. Entry fees not yet announced. Phil Edie, Harlingen, is this year's president, with Bob Meade again tournament director and publicity manager. For further information write Box 2070, Harlingen.

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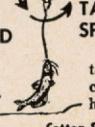
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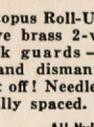
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management. Today water has become as important as the air we breathe.

Range land has many other uses than grazing and watershed values are only part of the picture. Range lands frequently are used also for wildlife sources, forest or timber production and for recreation purposes.

THE DEPARTMENT

The Department of Range and Forestry at Texas A. and M. College provides training in this new, important and rapidly growing field. Concerning itself with the management and use of native grazing lands and forests, the department conducts a well-balanced teacher-research-extension program throughout the state.

Facilities include many thousands of dollars' worth of laboratory, teaching and research equipment. In addition to these classroom and laboratory facilities, the department has more than a thousand acres of range and post oak forest land near the campus for teaching, research and demonstration purposes.

Degrees offered by the department include bachelor of science, master of science and doctor of philosophy.

THE COURSE OF STUDY

Study leading to a bachelor of science degree in range management emphasizes relationships between the plant, animal and soil sciences in the management and conservation of native grazing lands. It prepares the student for a career in the conservation of our grass, forest and wildlife resources. The teaching program em-

phasizes the fundamentals and problems associated with ranch and livestock management from the standpoint of conservation and proper land use. This program provides a well-rounded foundation in the plant and animal sciences necessary for careers in a great variety of public and private organizations.

Subject matter includes courses in:

Basic subjects—biology, chemistry, English, mathematics, history and economics.

Plant identification—the characteristics and values of range plants.

Range management—the principles and techniques of proper grazing methods, range improvements, water development and soil conservation.

Forestry—the basic principles of forest management.

Wildlife management—food and protection for wildlife as related to grazing livestock.

Agronomy—the fundamentals of soil, crop production and forage crops.

Animal husbandry—management and breeding of livestock for ranching or stock farming.

This course of study has been developed through coordination of several departments within the college. A. and M. College offers well-staffed and equipped departments in all principal fields of agriculture.

Field trips to many sections of the state are an interesting phase of the course. Problems and practices of a wide variety of ranching and woodland operations are observed while range management studies are developed in the field.

ADVANCED STUDY

Training in range management leading to the master of science and doctor of philosophy degrees is offered by the department. You, as a student entering the field of range management, may wish to direct your undergraduate training toward obtaining an advanced degree. Admission to the Graduate School is limited to applicants who have shown a high quality of work in their undergraduate studies. Time required to complete work for an advanced degree depends upon the

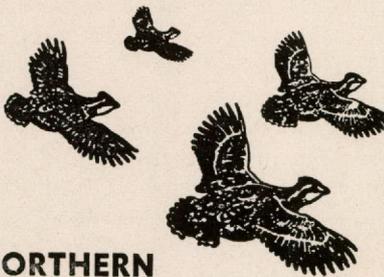
TEXAS GAR SETS NEW WORLD MARK

A 50-pound, 5-ounce long-nosed gar caught by Townsend Miller, Austin, editor of *Texas Game and Fish Magazine*, has been recognized as the world rod-and-reel record. The 6-foot, 1/2-inch fish was caught in the Trinity River near Crockett.

The catch gives Texans a monopoly on world records for the two gar species recognized by *Field and Stream Magazine*, whose figures are generally considered official for freshwater fish. Bill Valverde, Mission, holds the rod-and-reel record for the larger alligator gar species with a 279-pounder caught in the Rio Grande River in 1951.

Miller, a devoted gar fisherman and one of the nation's leading authorities on this fast-growing sport, snagged his new record fish in July, 1954, while fishing for alligator gar with Jeff Krenek, Crockett. The gar was caught still-fishing in 20 feet of water with a quarter-pound piece of fresh-water drum (gasper-gou) on a 7/0 hook. It took Miller about 15 minutes to land the prize on salt-water tackle.

On the same trip, Krenek and Miller each land alligator gar in excess of 125 pounds apiece. Miller, who has caught Texas alligator gar over seven feet in length and weighing in excess of 165 pounds on rod and reel, says his record long-nosed gar is the largest he has ever seen caught by any method.



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course of study taken for the student's undergraduate work.

EMPLOYMENT OPPORTUNITIES

Positions in the range field can be grouped into three major categories. They are Ranch Management, Commercial work and Government Employment. The program of study in Range and Forestry at Texas A. and M. is designed to prepare you for entry into any one of these fields. At present, demands for range specialists far exceed the total number of graduates each year.

Training in range management prepares you for successful operation of your own private ranching enterprise, should you choose such a vocation. Opportunities for employment as ranch managers are also increasing each year as more and more property holders realize the importance of proper training for good grassland management.

Commercial concerns such as banks, insurance companies, chemical companies and other firms which provide services or products to the ranching industry offer excellent opportunities for career employment.

Many positions are available each year in government and state agencies such as 1) Forest Service; 2) Soil Conservation Service; 3) Bureau of Land Management; 4) Indian Service; 5) National Park Service; 6) Agricultural Conservation programs; 7) State Agricultural agencies; 8) Agricultural Extension Service; 9) State Experiment Stations; and 10) College Teaching. During recent years there has been an increasing demand for qualified men to fill foreign assignments.

POSSIBLE EARNINGS

When a young man graduates with a B.S. degree the beginning salary will usually range between \$3,400 to \$3,500 per year which will normally be increased each year or period with time and efficiency. In government work \$16,000 is about the maximum; however, in private employment it may be even higher which will depend upon one's ability to handle a big ranch assignment.

FORESTRY MANAGEMENT

The Department of Range and

Forestry offers two years of training in Forestry. Students may take their freshmen and sophomore work nearer home and transfer to an accredited forestry school to complete the requirements for a B.S. degree in Forestry. The State of Texas will pay the out-of-state tuition to any accredited forestry school in the South for two additional years to obtain the degree. The State will also pay the fare for one round-trip each of the two years to the selected school.

Forestry offers a challenge to able-bodied young men who like outdoor work and pastimes. It offers the opportunity to triple the production on Texas' 10½ million acres of pine-hardwood forest lands which represent 7.5% of the South's extensive pine forests. It offers the opportunity to work with men of the soil as well as men of industry and commerce. The profession of forestry enables men to work with nature in its broadest aspects.

Forestry is closely related to Range Management. The principal difference being that the forester works with timberland while the range manager works primarily with grasslands. The two fields are closely integrated in most of our pine forests.

The forest manager's work is varied. He may establish new forests, harvest mature timber, cultivate and tend growing trees, protect them from fire, disease, and insects, or spend his time showing landowners the benefits associated with good forest and range management. He may find himself operating a saw-mill, buying timberland for some industry or working for industry in one or more of the activities mentioned above. His interest may turn towards the management of his own forest for timber and forage production. It is also possible that he may find teaching or research work more to his liking. Forestry is a broad field which provides opportunity for young men who find pleasure in

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Rough Fish Kill Set In Panhandle Lake

The largest selective kill of rough fish ever attempted in Texas was planned for Buffalo Lake in the Panhandle early in May. The Game and Fish Commission project was to be handled by Aquatic Biologist Leo Lewis of Wichita Falls, who pioneered the routine whereby non-game fish may be exterminated from lakes or streams without harming game fish.

The chemical rotenone was to be used, and the main target was to be shad. Buffalo Lake has been approved for renovation under joint sponsorship by the Commission and the Federal government which created the popular Randall county lake fifteen years ago when Sierra Blanca Creek was dammed.

working with nature.

A recent survey indicated that 36 per cent of the foresters in the United States were employed in private industry, 29 per cent in Federal agencies, 20 per cent in State agencies, 5 per cent in schools, 4 per cent were self-employed, and 5 per cent were variously employed.

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THIS DEFINITION NOT IN THE DICTIONARY

The new Funk and Wagnall's dictionary lists "litterbug" in its wordy array this year, which inspired the Arizona's Game and Fish Department to comment:

"We haven't seen the official definition yet, but for the benefit of those few who may not have heard it, we will issue our own. A litterbug is a common, two-legged animal which travels about the countryside, often at high speeds, and attempts to distribute paper cups, kleenex, beer cans and other quaint forms of decoration evenly and thoroughly on all bushes, trees, rocks, etc., whenever it travels. One highly developed form contaminates streams by using them as final resting places for garbage and other assorted debris.

"The litterbug is too large to be disposed of by flitgun or fly swatter, and as yet no effective form of control has been devised. A varmint rifle would probably be efficient, but various law enforcement agencies frown on this method.

"May we suggest that each of us see how soon the word can be made obsolete and dropped from the dictionaries?"

The Devilfish

miles, and more than one crew has been forced to cut the lines to keep from being pulled under when a manta sounded. There is a record of one manta being harpooned near Port Aransas around the turn of the

Wildlife Packets Discontinued

The Game and Fish Commission announces with regret that it will discontinue distribution of wildlife packets for pupils and teachers June 1.

The Commission will continue

free distribution of bulletins, pamphlets, law digests and other printed matter when requested. However, rising production costs have kept pace with increased demand for packets, and budgetary appropriations for this service are limited.

In the past seven years approximately 300,000 wildlife packets containing more than 4,000,000 pictures have been distributed.

A current bibliography of the conservation materials available from all sections of the country has been sent to all Texas school superintendents and is available from the Commission on request.

Texas Men Elected In Ducks Unlimited

Among the officers elected for Ducks Unlimited, national migratory waterfowl conservation organization, at the recent annual meeting of the Board of Trustees in Kansas City, Missouri, was John R. Suman, Houston, who was elected Vice President of the newly formed South Central Region. R. A. King, Wichita Falls, and John R. Suman were among the fifteen re-elected trustees whose terms of office expired this year.

The Board of Trustees of Ducks Unlimited appropriated \$500,000 to continue its part of the work of restoring and building duck breeding grounds in the Canadian prairie provinces in 1956. This appropriation is the largest ever allocated by Ducks Unlimited.

Nevada Game Range Fate Under Debate

The Air Force is proceeding with its previously announced plan to engulf the Desert Game Range in Nevada, according to the Wildlife Management Institute. Although the Air Force already has control of nearly one-third of the 2,204,000-acre Desert Game Range, an additional 1,291,200 acres are being demanded in one block and 111,160 acres in three others.

This withdrawal would cover the heart of the federal wildlife refuge. It would include the high country in the Sheep Mountains, most of the scattered water holes, and the principal lambing ground of the bighorn sheep. It also would take in practically all of the most valuable year-around range of the bighorn, the WMI said.

The WMI expresses the belief that Charles E. Wilson, Secretary of Defense, and Donald A. Quarles, Secretary of the Air Force, both officed in The Pentagon, Washington 25, D. C., will receive many strong protests to this newest attempt by a member of the Armed Services to move into another one of the national wildlife refuges.

• Continued from page 8

century which towed fourteen boats with ease.

Stories of mantas deliberately seizing anchors and pulling boats far to sea are common, but are untrue, of course. There is at least one authentic case, however, and probably others, of a motor fishing launch being carried to sea at a great rate of speed by a manta which became fouled on the anchor. The fish finally shook free when he surfaced.

The flesh of the manta is reported to be quite wholesome and is eaten by natives of various parts of the world. The liver provides a quantity of valuable oil, and the skin makes excellent sandpaper when dried.



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Hunting Privilege Traded for Work

Farmer Ed Komrosky of Valley City, North Dakota, has a shocking proposal for all hunters who wish to gun on his farm this fall, the Wildlife Management Institute reports.

As reported by the Associated Press, "Komrosky will permit any hunter to shoot on his property all season if the hunter first puts up 20 shocks of corn. Komrosky added he had plenty of ducks and about 20 acres to be shocked."

We haven't heard who was most shocked, the corn or the hunters.

Drinking Water and Fishing

• Continued from page 14

We no longer have a good reason for not allowing fishing, with certain sanitary regulations, on our water-supply lakes. The officials who oppose fishing on these waters simply don't want to be bothered with fishermen. There are plenty of examples to show that their objections to fishing on these waters are not valid.

We need good drinking water. It's important to our health. We need healthful recreation, too. The waters which supply one of these needs can supply the other as well.

As our population grows, we can no longer consider single use of our resources. If we can safely fish the water, and drink it too (after purification), this water will serve several purposes instead of only one.

Where fishing is permitted, and where there is close cooperation between the water supply folks and the anglers, the latter can be extremely helpful in using their influence to combat pollution and siltation. Both of these add decidedly to the cost of water purification.

If your city water supply reservoir is closed to fishing, it's because a few folks don't want to be bothered, and aren't interested in your recreation.

The old saying that "you can't have your cake and eat it too" may still be valid. But, today, you can enjoy your water—and drink it too.

Things You May Not Know

The beaver is the largest North American rodent and one of the most valuable furbearers.

The smallest known fish in the world is the Pandaka pygmaea. These are about the size of an ant and are almost transparent, the large eyes being the only feature clearly visible.

A camel can drink 25 gallons of water in half an hour.

Fishermen Not Exempt From Forest Fire Effect

John Martin, editor of *Southern Outdoors Magazine*, reminds fishermen that even they do not escape the after-effects of forest fires.

Martin said that anglers are asleep at their reels if they expect their "luck" to remain status quo after a forest fire in the vicinity of their favorite fishin' holes.

"Unfortunately," Martin said, "the South, including Texas, is distinguished by forest fires more than any other section in the nation."

Martin explained, "One thing holds the soil when it rains, that's vegetation. When forests are destroyed by fire the topsoil begins a one-way trip to your favorite fishing stream with the first rain. It's then only a matter of time until mud and silt begin smothering under-water vegetation and clogging lakes and streams. During spawning season, this silt covers the eggs, destroying them and your chance of catching a whopper in years to come."

The Lewis woodpecker of the far West doesn't dig into wood for its food. It catches insects on the ground or in the air, or bores into fruit for them.

The male Kodiak bear weighs around 1,500 pounds while the Polar bear's weight runs around 1,100 pounds.

The mole lemming has such long powerful front teeth that he uses these to dig with instead of his claws.

The wingless insect known as the walking stick looks so much like a twig that it is all but invisible against a tree.

The origin of the word "salamander" goes back to the Greek word "salamandra." The ancients believed that the scaleless lizard-like animals had the power to endure fire without harm.

The compound eyes of the Dragonfly nearly encompasses its head. Each large eye is composed of 20,000 individual units! The tiny jewel-like structure in the center of the head is one of the Dragonfly's simple eyes.

The belief that cows charge with their eyes open while bulls close theirs is false.

The praying mantis is said to be the only insect that can turn its head.

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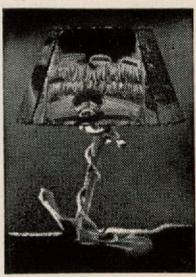


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Outdoor Books

HOW TO FISH FROM TOP TO BOTTOM by Sid Gordon. 384 pages generously illustrated with photographs and drawings. Published 1955 by The Stackpole Company, Telegraph Press Building, Harrisburg, Pa. \$5.00.

The art of fishing involves much more than just throwing a lure into the water. An "all around angler" will analyze the water he is going to fish the same as a hunter analyzes the country he is hunting. A knowledge of plants, insects, water layers and oxygen content of the water are all important factors in catching fish. Lakes and rivers present different types of fishing problems. Sid Gordon, with fifty years of fishing experience, presents these things in an entertaining and readable manner.—J. R.

THE SPORTSMAN'S GUIDE TO THE CARIBBEAN by Patrick Ellam. 130 pages well illustrated with numerous black and white photos and seven color plates. Published 1956 by A. S. Barnes and Co., 232 Madison Ave., New York 16, N. Y. \$2.75.

This is not a travel book in the usual sense. In the first place, it concentrates exclusively on sports, primarily of out-

door, participating nature. Secondly, the emphasis is on factual data such as who to see where about what and how much it will cost.

The author, after extensive personal investigation, lists top Caribbean spots for 37 sports, including a strong emphasis on hunting, fishing, and boating. Names of accommodations, guides, and instructors are given along with prices and other pertinent data.

Included in a useful appendix are fishing time tables by months and a map of air routes.

LIVING MAMMALS OF THE WORLD by Ivan T. Sanderson. 303 pages profusely illustrated with 330 photographs, 190 in full color. Published 1955 by Hanover House, Garden City, New York. \$9.95.

Some of the best animal photographs ever gathered into one volume are to be found in the 330 photos, 190 of them in excellent true-to-life color, which are contained in this interesting book. The book itself is a handsome volume done on high quality paper with fine printing and a most attractive binding.

This book represents a superb collection of photos of rare and exotic animals of the world and is highly recommended as such. However, numerous

errors have been spotted in the text by various authorities and the difficulty of screening the valid from invalid make it practically worthless as a source of information on mammals.—J. R.

THE FISHERMAN'S HANDBOOK (third edition) compiled by the staff of THE FISHERMAN Magazine. 512 pages generously illustrated with drawings, charts, and photos. Published 1956 by The Fisherman Press, Oxford, Ohio. \$1.50.

This useful handbook has improved with each annual edition. This third one of the series contains a whopping 512 pages filled with an amazing variety of valuable straight-to-the-point fishing information.

It would be difficult to name a subject however remotely connected with fishing which this book does not cover. For example, there are sections listing top fishing spots geographically with available accommodations, telling about weather and tides, giving addresses of tackle manufacturers and listing trade names, outlining fishery management techniques, and presenting data on dozens of other pertinent subjects.

This book, presented in encyclopedic format and thoroughly indexed, rates as a real bargain.—T. M.

Gar May Have Value In Fish Management

The gar has long been considered a fish we could get along without. It is a predator, and although the flesh is edible, it rates low on the desirable scale. Because it can be caught only by using specialized fishing gear and methods, it provides sport for very few fishermen, and many groups and individuals have sought ways of exterminating the species.

Now, however, the Tennessee Game and Fish Commission, in a test to see if this predator might be of some value, has deliberately stocked adult gars in two West Tennessee ponds on an experimental basis.

Biologist Eugene Cobb believes the gar might have value as a control factor in fisheries management. Sunfish and gizzard shad often prove so prolific that many impoundments become overcrowded with stunted fish. If gars can hold these numbers in check, Cobb figures their advantage might be greater than their nuisance.

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Poison Ivy

What it is . . . what it does . . . how to recognize it

By J. CASEY

Every year countless numbers of people are victims of poison ivy. In practically every instance, this suffering could have been avoided had the person been able to identify on sight the treacherous plant.

Poison ivy may take the form of either vine or shrub, but in each form the leaf arrangement, *always in three*, is the same, as are the greenish-white tiny flowers, followed by waxy white berries. Many people mistake poison ivy for the pretty Virginia creeper, which has five leaves to each stem, or the thick-leaf cow itch vine.

Occasionally, there is found some person who is not allergic to the poison of this plant, but most are not so fortunate. The itchy welts, blisters and general aggravation resulting from poison ivy are usually very difficult to cure, and it is much easier to prevent than to cure. Therefore, everyone should learn to recognize and avoid poison ivy.

Persons who are susceptible can get the poison by brushing against plants, handling tools or animals that have been in contact with the plants, or by permitting smoke from burning plants to touch their skin. When flowering the poison may even be blown upon passersby. Regardless of the great amount of publicity which has been given poison ivy, many people do not have proper respect for this Public Enemy No. 1 of the plant world.

When exposed to the oils of this plant, the worst effects of the poisoning can be prevented by immediately washing with soap and water. Consult a doctor if serious symptoms develop.



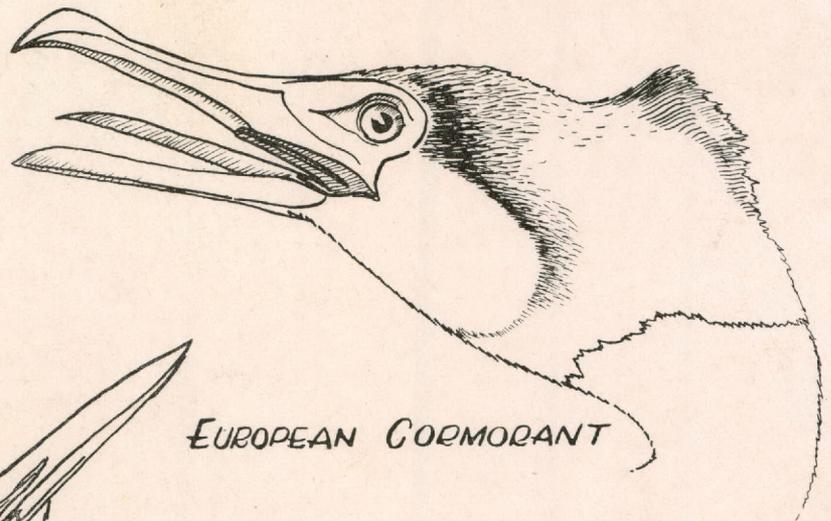
Poison Ivy (*Rhus cotinoides*) is distinguished by its three leaflets to each main leaf. Two of these are at right angles to the center leaflet. The leaves may be light to medium dark green, turning red, yellow and orange in the autumn. Leaves, berries, stems and even the roots of poison ivy are coated with an irritant, a non-volatile oil. There are recorded instances where children have died from eating white waxy berries of poison ivy. However, its greatest danger is to the touch.

Best protection against this nuisance is your own ability to identify it.

Utility

Forsakes

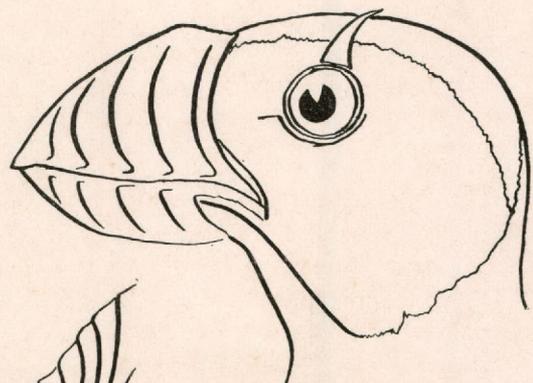
Beauty



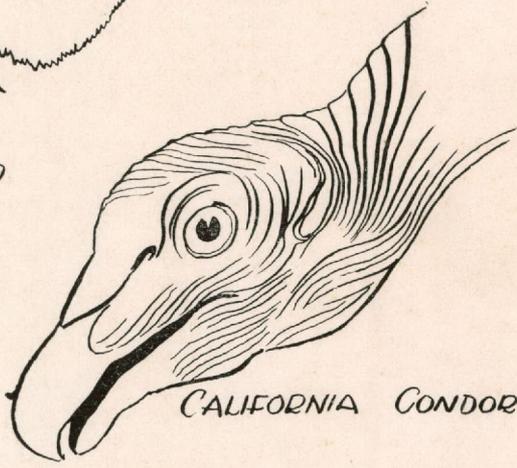
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