

Texas Game and Fish

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MOURNING DOVE – WHITE-WINGED DOVE

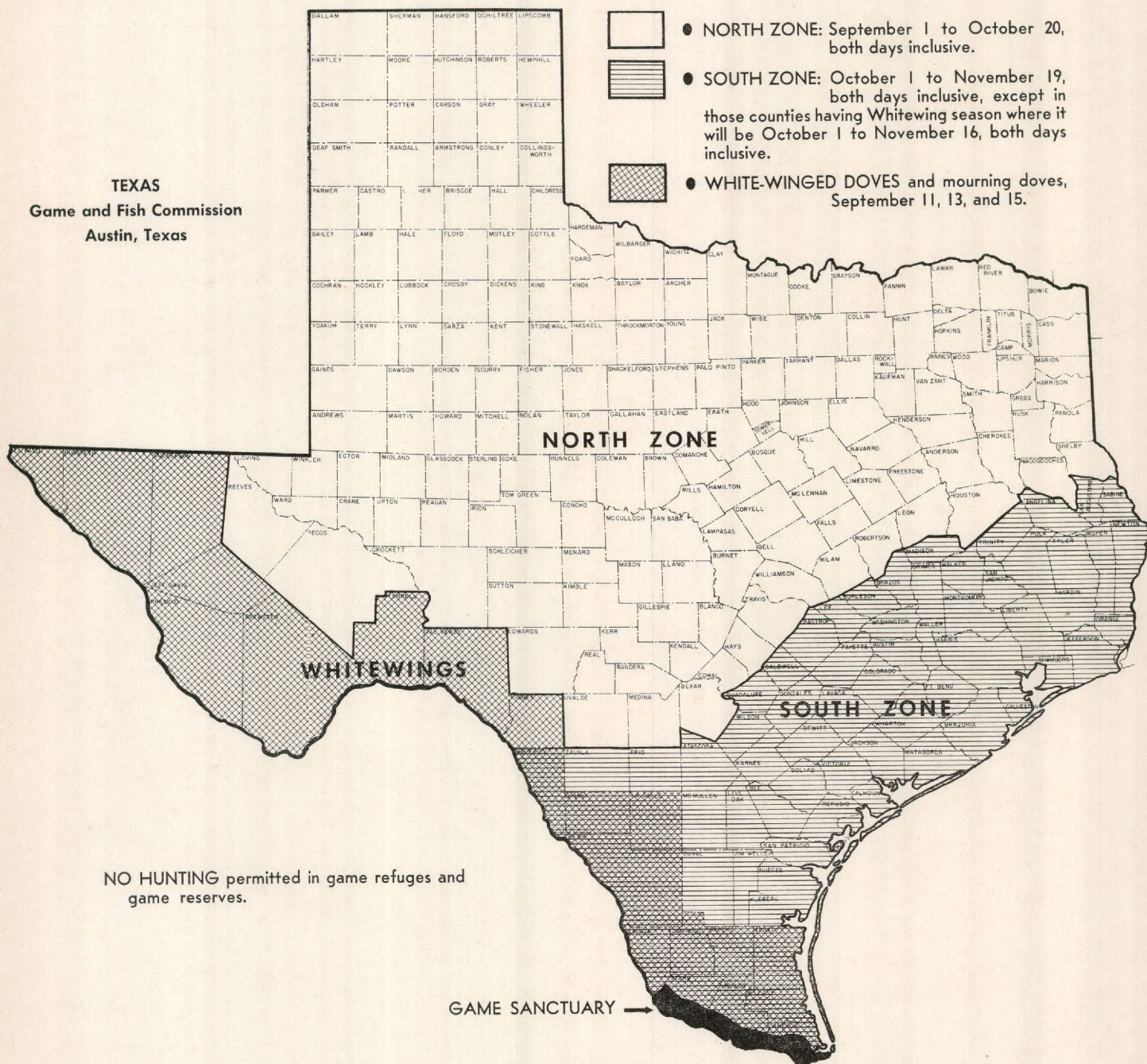
Open Seasons 1959

MOURNING DOVES: Daily bag limit—10. Possession limit—not to exceed 20.

WHITE-WINGED DOVES: Daily bag limit—10. Possession limit—10.

NOTE: When both mourning doves and white-winged doves are possessed—Possession limit—20, in the aggregate, and not more than 10 may be white-winged doves.

TEXAS
Game and Fish Commission
Austin, Texas



NO HUNTING permitted in game refuges and game reserves.

SPECIAL NOTE: Unlawful to take white-winged doves or chachalacas South of U.S. Highway 83, formerly State Highway 4, in southern tip of Texas, marked on map as "Game Sanctuary."

SHOTGUNS: Must be plugged permanently to three-shell capacity, may not be larger than 10 gauge. Hunting doves with rifles prohibited.

SHOOTING HOURS: Mourning doves, 12 noon to sunset—except in areas having whitewing season, where the shooting hours will be from 2 p.m. to sunset on September 11, 13, & 15, only. White-winged doves, in season, 2 p.m. to sunset.

Texas Game and Fish

THE OFFICIAL MAGAZINE OF THE GAME AND FISH COMMISSION DEDICATED TO THE PROTECTION AND CONSERVATION OF OUR NATURAL RESOURCES; AND TO THE IMPROVEMENT OF HUNTING AND FISHING IN TEXAS.

September, 1959

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The Cover



In the Lower Rio Grande Valley each spring the popular white-winged doves return to nest. At their heels come the wildlife biologists to take census and to band them for future research. (See related stories pages 4 and 7.) Whitewings battle depleted cover and increased predation, but so far have rallied successfully. Cover painting by Clay McCaughey.

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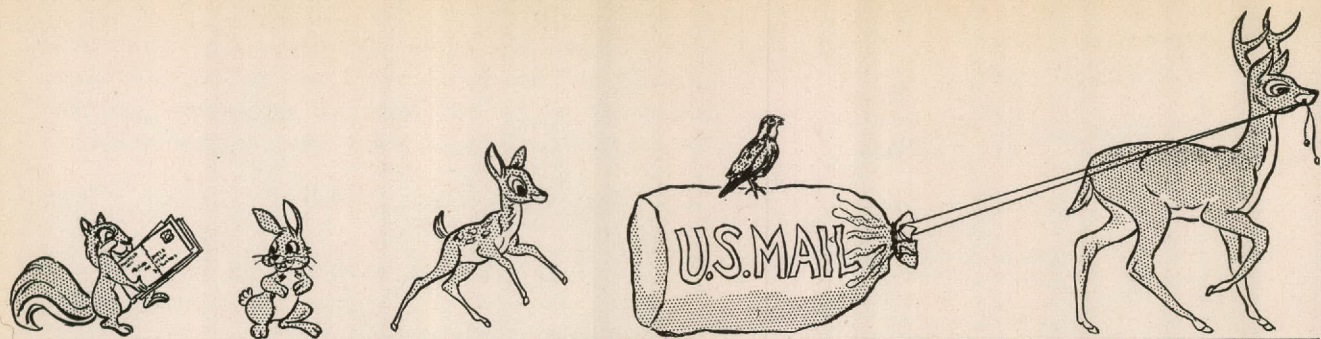
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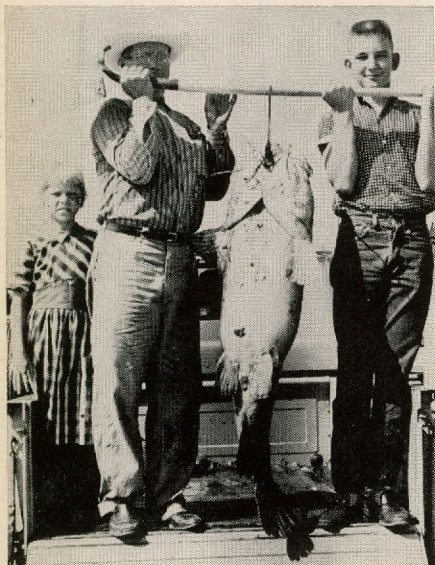
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Pole Bender



Editor:

This 80-pound Opelousas catfish was taken from Timber Slough on the Neches River near here by John L. McGallion, left. His 9-year-old daughter, Sybil, far left, was in the boat when he landed the fish. At the right end of the bent shovel handle is Randy Read, son of Bee co-publisher R. L. Read.

McGallion is an old pro at taking big Neches River catfish. Year before last he brought by one of 30 pounds and another 48½ pounds. A 4-0 eagle claw hook held this one. We see a lot of big catfish around here every year, but this one is something of a record.

Jerry Zuber
SILSBEE BEE

Hunters' Complaint

Editor:

I want to throw in a little gripe as to how the ranchmen are holding up the average deer hunter. Some charge \$10 per day to go on their land and \$10 per kill, and I don't think it is right. They can charge whatever they want to to walk over their land. But this game belongs to everybody and the State issues a license for hunting and two deer which belong to the State.

And two other things. One is, how people have to pay for cold storage from a reasonable \$2 per buck up to 5 and 6 dollars.

The other is that the money men outbid the average hunter so he cannot hunt any more. There are 10 of us hunt together every year and we pay \$60 for the first seven days. I think this is fair to us and a fair price to the ranchman. We hunt in Llano County, and have hunted there 12 years. Now he is talking of going higher. Our crowd is made up mostly of small farmers or low salary men. And all of us got our limit in 3½ days. (Got nine 8-pointers, four 7-pointers, four 4-pointers, and one 3-pointer. All nice heads and in extra good condition.)

To close this I wish the Game Department would put the brake on this sky rocketing, hijacking racket being put on the average sportsman.

Frank McLarran
Cameron

(It is a paradox that the game belongs to the people, but the landowner must provide the food and shelter; while the Game Department can protect the game, the landowner still has the privilege of saying who can hunt there. Many states have a great deal more public land than we have in Texas and, as a result, they have a lot of free public hunting. That, however, is disappearing. I agree that prices have continued to advance, but we also must take into consideration that the prices paid by landowners for everything they get go up accordingly. A lot of these landowners have to feed their deer throughout the winter, and the price of feed isn't what it used to be.

The thing we are hopeful that may be developed in time is a closer cooperation between landowners and outdoorsmen, whereby reasonable charges will be maintained. Frankly, we are coming to that type of hunting altogether. It may not be too much longer before we won't be able to shoot birds or rabbits without paying for the privilege. Perhaps when we do that, we will have better hunting all around, because game will be considered as a crop to be harvested and the landowner will do a great deal more to develop a good crop of wildlife.—Ed.)

Fast Fishing



Editor:

Thought you might be interested in our catch, taken from a 14-foot boat, off of Freeport July 14. Twelve kings were landed on a 15-pound test line out of 19 strikes. The largest weighed 15¼ pounds. Total catch was made in 2½ hours.

L. E. Powell
Houston

May Bouquet

Editor:

Reference is made to the May issue of TEXAS GAME AND FISH which carried an article entitled "Treasures in the Timber" by Mr. Frank W. Rasor, Forest Supervisor of the Texas National Forests.

We referred the magazine to our Regional Forester in Atlanta, Georgia, who was greatly impressed with the magazine's format and the subject matter covered.

John W. Cooper
Forest Supervisor

Young Nature Lovers

Editor:

For many years I was active as a scout master and I know the value of work with youngsters in the field of conservation. You are doing a grand job in Texas, and I know that in many areas we are raising a generation of youngsters who appreciate the blessings of Texas nature.

F. Percy Goddard
Tyler

Nucleus of the Law

WE ARE ENTERING A NEW HUNTING SEASON with a maze of new laws passed by the 56th Legislature and its special sessions.

Most of them are good laws, expected to assist in the overall job of wildlife restoration and increase the available supply of game for the increasing number of hunters. Some of the new laws bring about changes in methods and operations that mainly affect the department. Other measures affect regulations and enforcement in many counties of the State, and on all species of wildlife.

Perhaps one of the most important pieces of legislation brought about the addition of a score of other counties under regulatory authority. There are now 104 full counties and part of another one where seasons and bag limits can be set by the Commission, based on sound findings of the experienced and trained men working in the field.

Under the law before regulations can be adopted by the Commission public hearings first must be held in each of the counties involved. Game Commission employees must present their findings and the people then have the opportunity to express themselves.

From these meetings come the recommendations for the regulations which the Commission must pass upon.

This year there will be a bow and arrow pre-season hunt in many counties. Many others were excluded. Some of these counties are under the general laws, some under regulatory authority.

There is a new law affecting boating safety, with enforcement provisions in the hands of peace officers and in which game wardens will have no authority.

Still another measure removes the responsibility of game wardens making trespassing arrests. Fence climbing is one of the most serious offenses against our game supply today. Persons who poach have no regard for season or bag limits, and they kill off a great deal of game that belongs to the people.

In all there were 71 laws passed affecting the work of the Game Commission. These laws are now being digested and put into shape for publication. A digest of them will be ready at the earliest possible moment for distribution to those who hunt and fish.

Every effort will be made by the Commission and its personnel to administer these laws to the best of our ability and in the interest of the wildlife program of Texas.

This will be easier and more successful with the fullest cooperation of every individual who goes afield.

You can make it much easier by a few simple things:

Be sure to buy your new hunting and fishing licenses before you go out with a gun or rod and reel.

Don't climb a fence onto property where you do not have permission to hunt or fish.

Observe the bag limit and do not catch or kill more than you should.

Be a good sportsman, respecting the rights of others. Cooperate with your game warden, and if you are in doubt about anything talk with him about it.

While the above items have been written into the law and are enforceable, they are just plain common sense.

All of us know the rules of good sportsmanship, whether we know all the laws or not.

Let's be good sportsmen!

HOWARD D. DODGEN
Executive Secretary
Game and Fish Commission



Upon a crudely built twig nest, the white-winged dove snuggles and protects her helpless nestlings.

Rally the Whitewing

by PIERCE UZZELL
wildlife biologist

photos by BOB WALDROP

THE YEAR WAS 1959, DATE MARCH 16, TIME 6 a.m., site the Longoria Tract, a portion of the chain of Las Palomas Wildlife Management Areas.

Two wildlife biologists, charged with keeping tab on the well-being of the whitewing in Texas, were ready to record possible first arrivals of the migrant doves to their Lower Rio Grande Valley breeding grounds. As it turned out, they heard no isolated songs of white-wings that morning; they did, however, one week later.

Cause of the intense interest this spring could be traced from a series of events which began with the year of 1957 when a three-day white-winged dove hunting season—12 o'clock noon until sundown—was held after a bleak three-year period of no hunting in Texas.

A brief history of the whitewing as a huntable species in Texas is offered for better understanding of

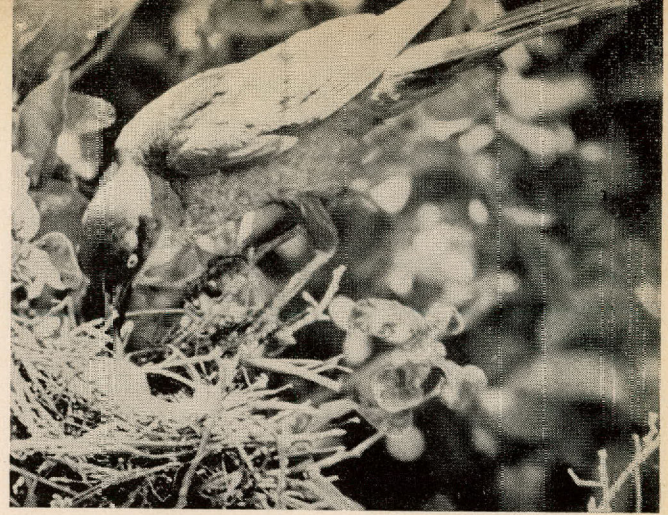
this special interest on the part of men doing the routine annual job of determining the white-winged dove population.

The size of the spring whitewing breeding population in the Lower Rio Grande Valley is the tip-off as to whether a hunting season should be considered and subsequently recommended to the Texas Game and Fish Commission at their annual July meeting, when most game seasons are set. The species had been on the decline from the late twenties primarily because of loss of nesting habitat to encroaching farms and orchards. This clearing of cover was accelerated during and after World War II, as was the decrease of the white-winged dove breeding population. However, beginning in 1948, a switch from native brush nesting habitat to citrus groves was begun by the Valley birds. In 1950, the breeding population rose to 1,039,000 birds with 80% nesting in citrus

groves (see graph on page 5).

The peak spring population of 1950 was viewed with jubilation by biologists and sportsmen alike. The previous hunting season had seen a bag of 218,365 birds taken in three evenings, a total of about 6½ hours of shooting. It seemed that the future of the white-winged dove as a game bird capable of affording restricted open season while withstanding heavy hunting pressure was assured. This was further substantiated, or so it appeared, during the September three-day season of 1950 when an estimated 203,440 white-wings were bagged during a near-record number of hunter days (28,721) for such an abbreviated season. Despite the heavy kill, considerably more birds remained to migrate southward in October than had been present during the June breeding season census. The prospect for the coming year, 1951, was rosy, and such an observation was well

**The white-winged dove
battles against predation,
decreasing cover, and hard winters.**



The brush boat-tailed grackle carries out one of many infamous robberies of an ill-concealed whitewing egg.

grounded by plain mathematics.

Then a severe ice storm moved the full length of Texas, through the Valley and deep into northeastern Mexico in late December of 1950. The appearance of the semitropical vegetation after nearly a week of below freezing temperature was one of devastation. An estimated 85% of the citrus was killed or badly damaged. Even the evergreen and hardy Texas ebones temporarily lost their leaves from effects of the prolonged arctic blast. The biologists' first evaluation of effect on whitewings was only that they had lost their newly adopted citrus nesting habitat. The conclusion was that the surviving citrus and native brush cover would absorb the breeding colonies, with any overflow moving northward to cover of lower quality.

Unexpectedly, however, the spring census of 1951 indicated only 110,000 breeding birds in the Valley, an 89% reduction from the population of the preceding year when the outlook for the species had seemed so bright. This depressing figure was paralleled in Mexico where movement and population studies had been conducted in wide expanses of native chaparral. It became apparent that loss of cover had not been the sole cause of such a decrease in the Texas colonies. Another factor had entered the picture. It was known that an estimated 1,775,000 birds (which included that year's production) had moved south into Mexico and Central America in 1950, but only an estimated 110,000 had returned in 1951. There was no apparent disease in the population nor obvious parasitic infestation to ac-

count for such a reduction in their ranks as our census indicated. Nor was there an overflow northward to less desirable cover except in one case, that being in the south city limits of Hebbroville where several thousand birds appeared for the first time and subsequently nested. This was the first and only time they utilized that site.

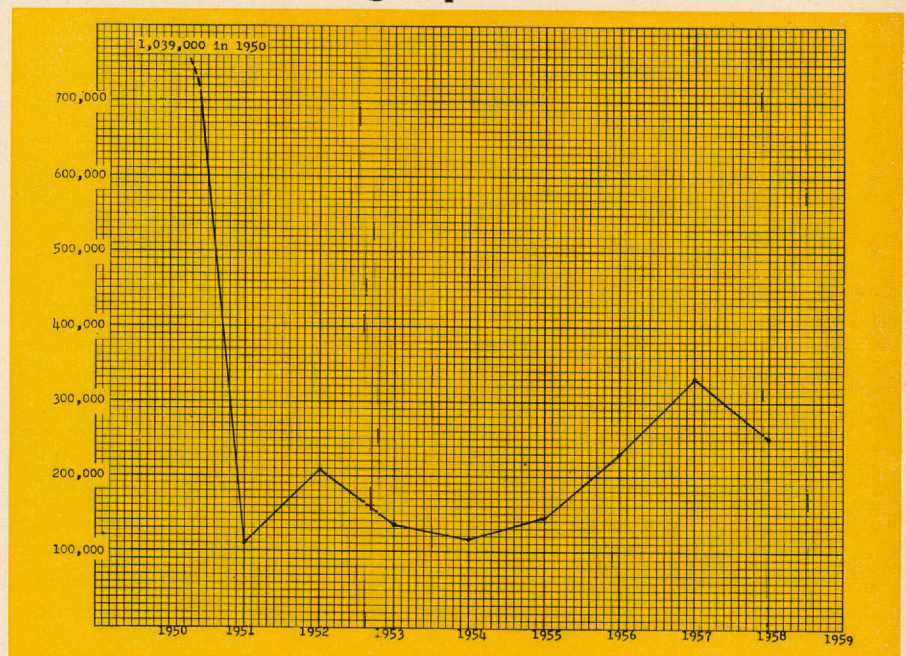
After the 1951 debacle and despite low annual production, the whitewings were subjected to three-evening hunts for three years. The season was closed in 1954 and kept closed for three years to restore the population to a figure that could conceivably withstand hunting pressure and natural decimating factors. The population figure did not show response to the reprieve until the

third year. In the fourth year, 1957, there was an obvious spurt in production and in total number. Following the freeze of 1950-51, citrus groves had been replanted and old ones pruned. As a result, by 1957 groves were again coming into prominence as nesting cover. All appeared serene; the season was reopened with a fall population estimated to be around 668,000. A total of 172,874 whitewings was bagged, a reasonable kill in view of the number that could be expected to return the following spring, taking into consideration natural losses in the winter interim. This, then, was the situation in 1957.

The 1958 June survey, however, in Texas and in Mexico showed a

• Continued on next page

Whitewing Ups and Downs



decided drop in breeding birds; 25% in Texas, and 35 to 45% in various portions of northeastern Mexico. This unexpected development was alarming, but studies of previous records, past production, and past kill curves were considered. An anticipated kill of about 90,000 birds (as projected from referenced kill curves), and a consideration of various circumstances which were likely to come to pass indicated that a two-evening shoot was possible without damaging our brood stock nucleus. Such a season was approved for 1958. During the two evenings of the hunt, a total of 83,145 white-winged dove was bagged, and another 21,400 were admittedly lost because of wounding and failure by hunters to recover them. This, of course, was in excess of the anticipated kill.

With the unexplained 1958 population drop and the hunter kill records of 1957 and 1958, one can well understand the biologists' interest as concerned the white-winged doves that particular morning on the Longoria tract, and on through the June census. A tardy spring seemed to act as a buffer against an early return to the Texas nesting grounds. But, once the chilly spring weather warmed, the whitewing build-up was rapid. From June 11 through June 20, biologists were busy making estimates of the breeding population based on call-counts. Call-counts are done on a systematic basis with native brush and citrus orchards being individually sampled from marginal roads which cover the Valley countryside. By June 23 the census figures had

been checked and double checked, and the two biologists reported the Lower Rio Grande Valley white-winged dove breeding population had increased by 38% over that of the same period for 1958; this, in the face of a satisfactory hunt during the year of depressed population.

With the report of a 38% increase in the breeding birds, it was deemed advisable to recommend a return to the three-evening season again. Such was done at the July 24 meeting of the Texas Game and Fish Commission when the dates of September 11, 13, and 15 were proposed, shooting hours 2 p.m. until sundown, bag limit 10 whitewings and possession of 10. The outlook at this time is for an excellent shoot providing adverse weather and early harvest of feed does not move the whitewings southward.

In summation, it may be pointed out that the future of the white-winged dove as a game bird in Texas is subject to several known variables, and one or more which are not known. Those with which we are most familiar are loss of nesting habitat by clearing of native brush or freeze damage to citrus groves; depredations by grackles, green jays, snakes, rats, and other predators of minor consequence; and by excessive gun pressure. The latter we can control; the others we can influence to a limited degree. The "unknowns" which caused an 85% population decrease in 1951, and a 25% decrease in 1958, are critical. This unexplained loss is known to occur somewhere south of Texas. During some years, as in 1951 following the

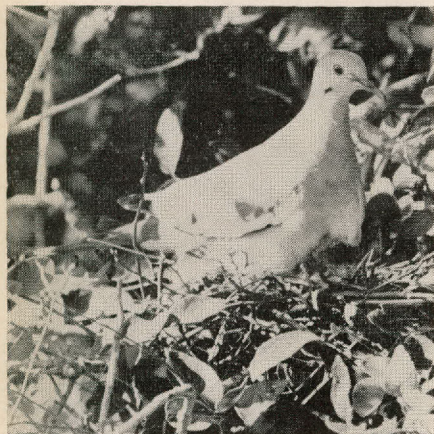


Dense brush of the Lower Rio Grande Valley is preferred habitat for the nesting whitewings.

close of the hunting season in 1950, far fewer birds return to nest in Texas than went south into Mexico.

The biologist can easily determine whether or not the number of breeders which return to the nesting ground are more, less, or the same as the year before. Past experience has shown that when an adequate number of breeders are present and production is normal, a hunt can usually be safely recommended. It is the possibility of the recurrence of the unexplained losses during the winter in Mexico and Central America which has created special interest in the past for the biologists who make the spring census.

At present, the Mexican government has indicated an increased interest in the white-winged dove as a game bird. As time goes on, there is the possibility for cooperative research in southern Mexico and Central America to discover the reasons for the unexplained losses which evidently take place on occasion on the wintering grounds. In the meantime, biologists of the Game Commission will continue to keep a close watch on breeding populations and production of young whitewings on South Texas nesting areas. The results of their investigations will be used to recommend proper hunting regulations designed to insure an adequate breeding population for the years to come. **



The male whitewing helps the female tend the nest and care for the young.



Nestlings thrust their beaks into the mouth of the mother for a meal of pigeon milk.

Bracelet with a Record

by CALVIN VERNOR
wildlife biologist

HISTORICAL NESTING GROUND FOR THE WHITE-WINGED DOVE is the Lower Rio Grande Valley of Texas, counties of Hidalgo, Cameron, Willacy, and Starr. Today the Valley contains 95% of the Texas nesting season population.

In the Lower Valley and north-eastern Mexico, the Game and Fish Commission has conducted a banding program for the past several years. From band returns various data are compiled, such as life history, fall movement in Texas and Mexico, number of birds taken from each colony during harvest, and where winters are spent. By banding a percentage of each colony, band returns tell the approximate number of whitewing from that colony present during hunting season.

Relatively few band returns from the dispersed and town nesting birds of upper South Texas indicate they furnish little shooting to Valley counties. However, a jungle-like cover 250 air miles south of Brownsville, Texas, in the state of Tamaulipas, Mexico, furnishes birds for the Valley harvest as do small colonies on the Rio Concho near San Fernando, Mexico, 85 miles south of Brownsville.

Native nesting habitat preferred by white-winged doves is a dense cover, sometimes difficult to walk or even crawl through. Such nesting habitat which remains in the Valley is superior to any other Texas nesting cover that biologists have come into contact with. Several small areas contain as many as 500 adult whitewings per acre.

The total number of nesting whitewing has varied each year with-

in the last 10 years from 1 million to 100,000 whitewing. The reasons for variation are available food, available nesting habitat, previous season's hunting pressure, and unaccountable losses such as food shortage, which apparently occur during the over-winter period in extreme southern Mexico and Central America.

The summer arrival of whitewing begins in mid-April, and practically all whitewing of the Valley are present by June 1. This is usually when the banding of doves begins. Immediately after the arrival of whitewing, a three-month nesting season takes place and lasts until mid-August.

In June, 1959, six college students and two biologists conducted a banding program in the state of

Tamaulipas, Mexico. The crew first stopped at a nesting colony situated east and south of Brownsville. The crew used jointed cane poles with mirrors attached to check nests for young, and carried a three-legged ladder to reach high nests. As a rule the nests ranged from two to 10 feet high. The age of birds banded was from five to 14 days old, as white-wing begin flying at 15 and 16 days old.

Adult whitewing were present; however, no nestlings were found, probably due to arid conditions and to destruction of a large portion of the nesting cover, cleared since the 1958 season. The crew then proceeded south approximately 250 airline miles to a larger nesting colony. This area has received some rainfall, but the general condition of the land was dry. Along the lowlands, though, the cover was green and many young were found. From this colony 2,200 nestlings were banded.

The crew then moved 60 miles northwest and banded an additional 300 nestlings in an irrigated citrus section. When this colony was banded the crew returned to the Lower Rio Grande Valley and continued the banding there with the hope that at least another 2,500 could be given identification bracelets. In all, the whitewing breeding census showed a 25% increase over last year. **



Before banding operations are begun in Mexico, author Calvin Vernor, seated at right, explains the correct technique to six student assistants.

Nighthawk Narrative

by J. H. RAGSDALE

Illustrated by WALTON CUDE

HE SHOULDN'T HAVE WINKED HER EYE. Of course, no harm came from it, but if she wanted to go undetected—and there was every evidence that this was the case—she should have immobilized those eyelids!

We were driving through the old Camp Bowie reservation southwest of Brownwood, Texas, one afternoon late in May. The sun was going down and the nighthawks (we have always called them “bullbats”) were commencing to work. They are great ones, as you know, for darting through the air early mornings and late afternoons in quest of a crawful of insects.

A female left several others in flight and came to rest on a rocky stretch not far from the highway. We were curious as to what brought her down; so we backtracked and slowed the car down “to a walk.” She was hard to locate and if it hadn't been for that blink, we'd have gone away without spotting her. It was a case of perfect camouflage.

She had come down to her nest, if a rocky spot no smoother than 10,000 other such places all around her could rightly be called a nest. And there she perched almost under a clump of mountain grass that seemed to make detection doubly difficult.

Knowing that she blended into the hillside, she didn't seem to worry as we approached from the car. And we got as close as 7 or 8 feet before she took to the air. She was covering two eggs, themselves just the right color to go unfound except by the closest observer who might have been looking for something he knew for certain was there.

The party of intruders were buzzed in proper fashion by both the male and female bird. The male, while his mate was on the nest, usually flattened himself out on a nearby tree limb, apparently to keep

watch. Both he and his mate who had just left the nest gave us the full buzzing treatment that first afternoon. And when we went back every few days thereafter, one or the other (and sometimes both) would repeat the ominous reception.

In some manner, either by design or accidentally, the eggs moved away from the clump of grass as the hatching period progressed. The hen, of course, followed the eggs and did a good job of keeping them covered.

On a later occasion when our grandchildren sat within an arm's reach as she perched atop her eggs, we became convinced that she had decided we weren't such a bad lot after all. But the youngsters pointed out some broken shells protruding from under her body, and this made us decide that she sat there like a Spartan while her second baby emerged from the egg.

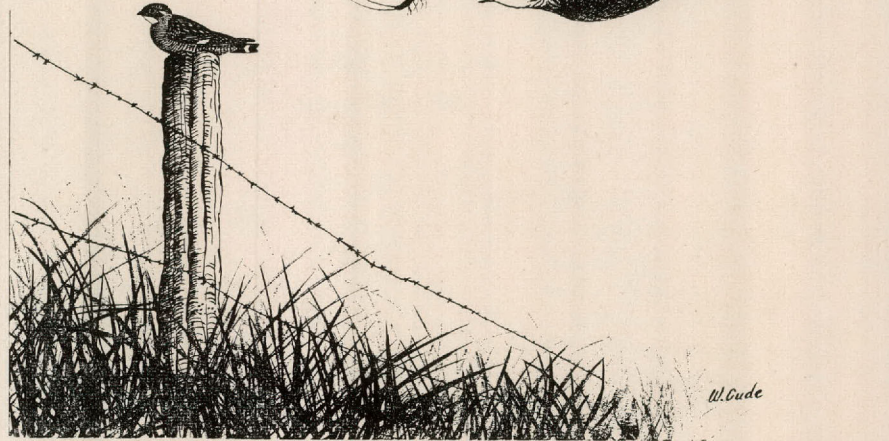
A day or two later when we went out the little hawks, fuzzy and themselves further proof that nobody camouflages as successfully as does Mother Nature, got up and ran off a little distance. We walked over and picked them up, putting them back in their “nest.” I even reached down and covered them for several minutes by cupping my hands. The female seemed to be keeping close watch because as soon as I withdrew

a bit she dropped down to the homestead. She was a great cover-upper, and would use her legs, beak and wings in getting the youngsters under her protective body.

We think she deliberately moved them shortly after that experience because they were nowhere to be found when we next called.

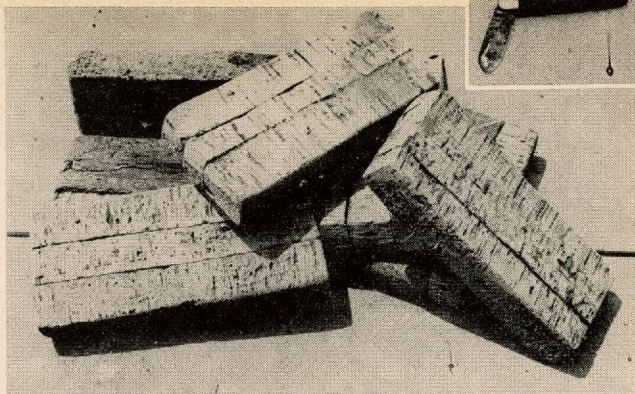
We've watched nighthawks or bullbats all of our lives and we regard them as great friends. Books tell us that they eat insects and particularly mosquitoes by the hundreds. One report we've seen is that a single craw once was found to contain some 500 mosquitoes plus a passel (2,175) of flying ants.

We can report an experience that backs up this “book larnin'.” Some years ago I accompanied a group of Boy Scouts on an overnight hike to Clear Creek, 17 miles southwest of Brownwood. We picked out a camping spot which was quite lovely until the sun went down. Then we were advised in a most forcible manner that a jillion mosquitoes also thought highly of the location. We were even figuring on moving out when a flock of bullbats showed up. What they did to the mosquito population caused us all to swear allegiance forever after to the swift-flying, quick darting, somber but friendly *Chordeiles minor*. **



ARTISTIC SALVAGE

A. C. BECKER, JR.
Galveston Daily News



Begin with blocks of balsa or cork, whittle with a few simple tools, add a touch of paint, and you have an inexpensive, realistic decoy.

DON'T THROW AWAY those old balsa or cork block filled life jackets.

Break out a few simple tools, some paint, and in your spare time you can turn out duck decoys that will add realism to your rig.

The blocks out of a jacket's large pockets are 11 inches long, 5 wide and 2 inches thick. That's just the right size for greenwing or bluewing teal blocks or deep-riding bluebills. For mallards, pintails, redheads and baldpates glue one block on top of another for body depth.

Rough shape the blocks into bodies with a jigsaw and then sand smooth. The sanding goes fast and easy if your electric drill has a sanding disk.

The small pockets of the jackets have blocks half the length of the large ones. Use these blocks for heads—two heads from a single block. Use the hardest balsa blocks you can find for the heads. Bills break off easily if you use real soft blocks.

Again rough shape the heads with a jigsaw. Round and curve with a wood rasp and rat-tail file. Then use a knife with gouge, pick, and chisel attachments for the detail work around the eyes and bills. Those extra details are important when the ducks are spooky.

Hardwood dowels and waterproof glue are used to attach the heads to the bodies. And don't have all the heads looking in the same direction. Mount them in different directions and at different angles. Only when alarmed will all the ducks in a flock look in the same direction. A rig with an "alarmed" look defeats its purpose.

Now the paint job. Paint the entire decoy with a flat white to seal it. Then proceed with the basic colors for the species you're making. Be sure to use flat colors that won't reflect light or shine.

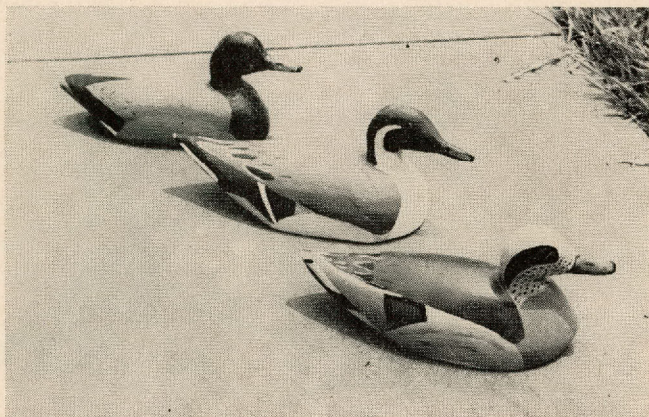
As for the correct colors and patterns for the various species, check into some of the back issues of TEXAS GAME AND FISH. The magazine

has carried some excellent color plates on the ducks that frequent Texas.

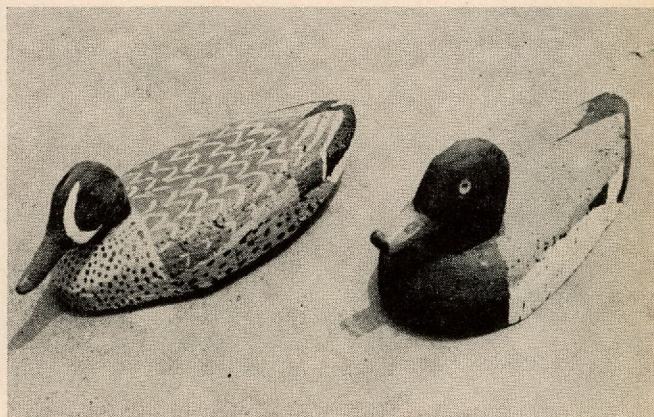
Use the balsa bodies for the colorful drakes. The drab brown of the cork bodies is ideal for the hens. Other than the speculum and a few feathering details on the tail, little painting is needed for the hens of any of the species. In fact you don't even need a sealer coat of paint on the cork bodies.

The balsa and cork decoys float high. Since they are light and have broad, flat bottoms, no keels are needed to keep them riding upright—even in rough water. All you need on the bottom is a screw-eye to attach the anchor line.

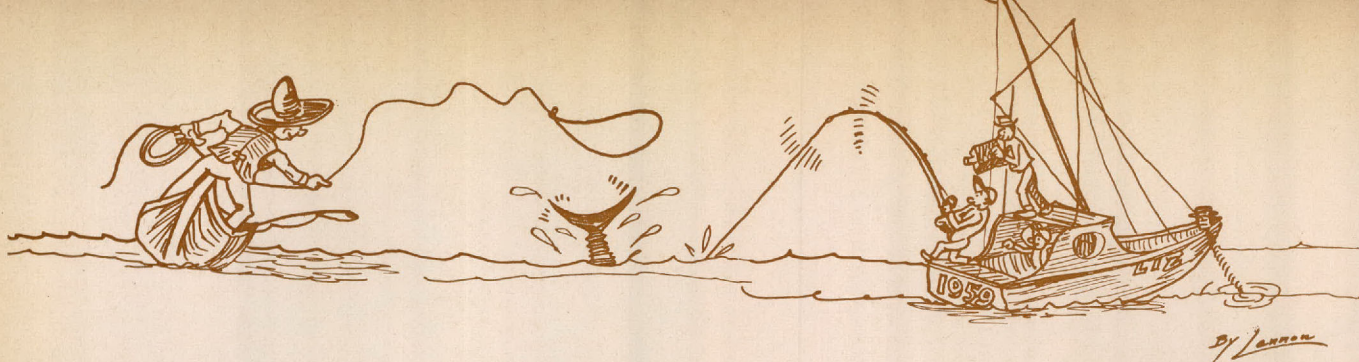
Actually in my hunting the bulk of my rig is made up of commercial mallards and pintails. But I use the homemade blocks in baldpate, bluewing, and greenwing teal designs for realism. That added realism pays off when something extra is needed to pull gun-shy birds into range. **



Balsa wood can best be used for the beautifully colored drakes.



Cork with very little touching up is adequate for drab hens.



Port Isabel International Meet

FROM THE MOMENT TOURNAMENT PRESIDENT Charlie Berry signaled the start of the 21st Texas International Fishing Tournament, the waters off Port Isabel churned with activity. The fishermen didn't quit until the last minute, and Al Harper unloaded his grand prize sailfish just as the clock struck 5 o'clock Saturday evening.

Shortly after 7 a.m. on the first day when the entire fleet of tournament boats raced through the jet-tied pass, fishermen found beautiful blue water just off shore. The Gulf was a rolling mirror.

Six sails were brought in the first day, two more the second day, and four the last day. Six tarpon were taken during the three-day fishing spree as well as scores of smaller fish, including a wahoo, a moharra, an amber jack, kings, ling, barracuda, bonita, trout, and reds.

Harper, of Alice, became the new Grand Champion fisherman when he boated two sails the final day on

light line to run up more points than any other contestant.

Ed Kilgore, also of Alice, received the Charles Polhemus Sailfish Trophy for the largest (57 pounds) sail caught in the tournament.

Mary Holmes, Corpus Christi, topped all other women contestants to win first prize in the sailfish division with her 54½-pound bill.

Gus Getner, Pharr, repeated his last year's feat by catching two silver kings the final day, one a giant 132-pounder, to reign for another year as king of the tarpon fishermen.

G. C. Vineyard, Donna, brought the first tarpon to gaff early Friday morning just off the south jetties to earn the prize for the first tarpon of the tournament.

E. A. Lewis, Harlingen, took the Champion Bay Fisherman's crown from Jody Goolsby, last year's champ. His 9-pound redfish earned first place in that division as well.

Lois Burns, Harlingen, is the new women's champion bay fisherman.

She also caught the largest snook (pike) of the tournament. Mrs. Fred Bartholomew, La Junta, Colorado, caught the largest trout in the women's division.

Russell Blair, Bandera, caught the largest red taken on spinning tackle while Ben Arvin, Harlingen, caught the largest trout on similar light tackle.

Other first placers were: Joe Garrett, Harlingen, ling; Jerome Anderson, Des Moines, Iowa, king mackerel; Dr. R. W. Frush, Harlingen, bonita; Robert Groulx, Nigeria, South Africa, blackfin tuna; L. R. Goetsch, drum; Archie Causey, Port Isabel, wahoo and amber jack; Lawrence Young, Corpus Christi, barracuda; Mrs. Norman Williams, dolphin; and Roy Swann, Corpus Christi Caller-Times, won the Press Mug award offered for the first time this year.

Bill Taggart, McAllen, outfished all other juniors in the boys division while Connie Youker of Har-



At dawn, tournament competitors began to fish. Since the water was clear and very smooth, many small boats ventured far into the Gulf.



Al Harper, right, landed these sails the final day for the Champion title. Mack Burnham was chosen top boatman.



A dark squall cloud threatened as the tournament began and the boats raced for the open Gulf. However, the squall missed the area.

by CURTIS CARPENTER
photos by author

lingen took top honors in the girls' division. Both barely won over dozens of other junior sportsmen, all of whom received cups for their fine display of sportsmanship.

The tournament was full of surprises. Many fishermen were beginning to believe that tarpon, a fish that Port Isabel has long been noted for, would not be caught during the tournament. However, Vineyard and Getner had different ideas. Early Friday morning Vineyard hooked a tarpon just off the end of the north jetty. He raised his red flag and the fight was on. The tarpon leaped only one time before it sounded. For nearly an hour, Vineyard fought his silver king, from the south jetty to the north jetty, back to the middle of the pass, once more to the south jetty, then around the end of

the south jetty, finally bringing him to gaff about 100 yards south of the south jetty. During this time, Doug English, Corpus Christi, raced about in his boat guiding all traffic around the scene of action.

The final day was one to remember for Getner who was behind until he cruised up the intracoastal canal in the early morn and boated an 88-pound tarpon. He returned to the area in the afternoon with Roy Swann and whipped another tarpon, this one weighing 132 pounds. Swann landed a 130-pound silver king on the same trip. Jack Bartholomew, who guided for Getner, had a 100% record for his party with three tarpon gaffed out of three strikes that day, making his tournament record four landed out of seven strikes.

For Howard Brown, a young Port Isabel contestant, it had been hard work. He earned the \$2 entrance fee by fishing, then selling his catch. He hauled in catfish after catfish all three days of the tournament. The final day, he caught the largest tarpon in the junior division, an 11-

pounder, and received a rod and reel for his efforts and determination. He wore a million-dollar smile just after receiving his prize.

Steve and Peter Noell, and their guide, Pat Malone, had a big time during the tournament. After two days of poor luck, they finally tied up under the causeway leading from Port Isabel to Padre Island and landed a boatload of fish, one a tarpon weighing just over 8 pounds.

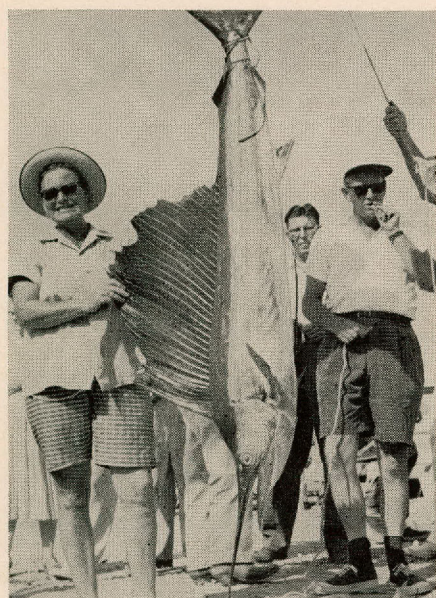
It was a big occasion for Mrs. Earl Hunter who, after 25 years of fishing the Gulf, finally landed her first sailfish.

Highest rated boatman-guide of the event was Carl Burnham, Alice. Jack Bartholomew, was chosen runner-up. Burnham was on the steering end of the boat which carried Harper.

Over 300 contestants took part in the tournament this year. Several thousand spectators gathered at the White Sands Marina to watch the returning fishermen unload their catches and at the firemen's hall the final day to see the awards and winners and the catches on display. **



Below, G. C. Vineyard and boatman haul whipped tarpon aboard following hour-long battle. At left he poses with prizes and catch. The glistening silver king broke the surface just once. Then, in desperation, it fought for the bottom, but failed.



Mary Holmes proudly displays her 54 1/2-pound champion. At right is Bob Meade, tournament manager.



All junior sportsmen won prizes or cups. Charlie Berry, in center of group, was this year's TIFT president. The Port Isabel tournament was a real encouragement for the youngsters.

Seeking the Reefs

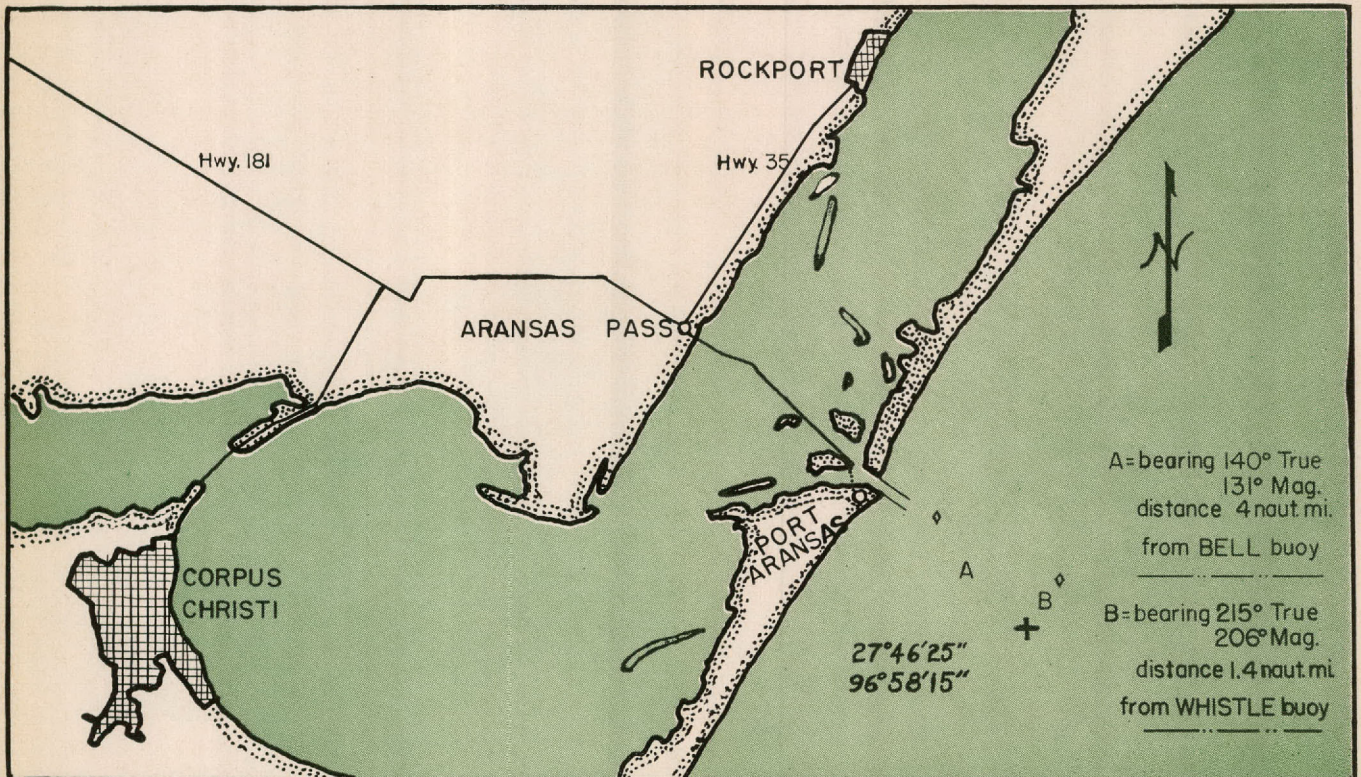
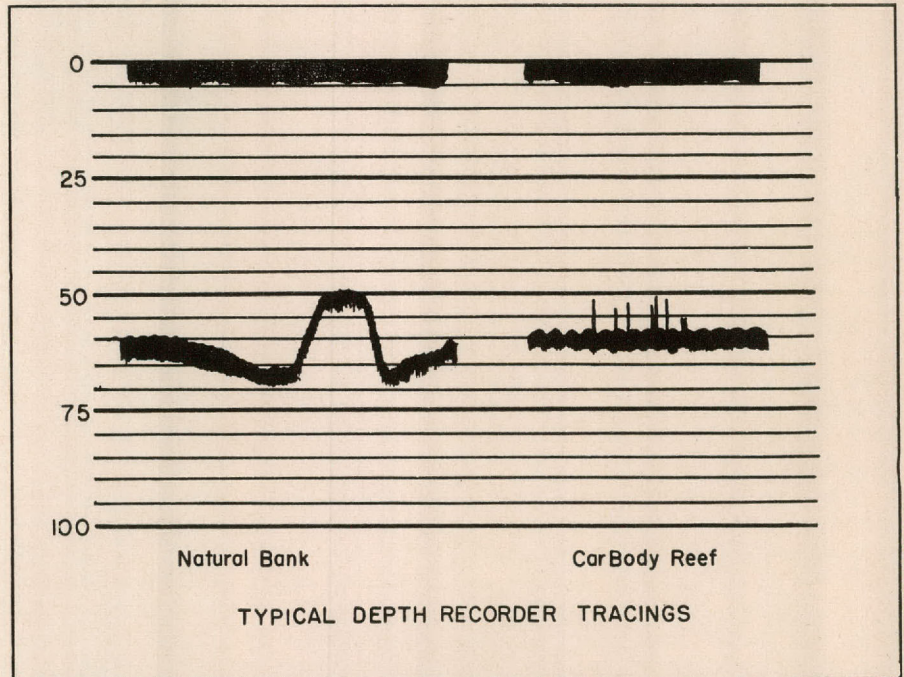
... choice salt water fishing areas

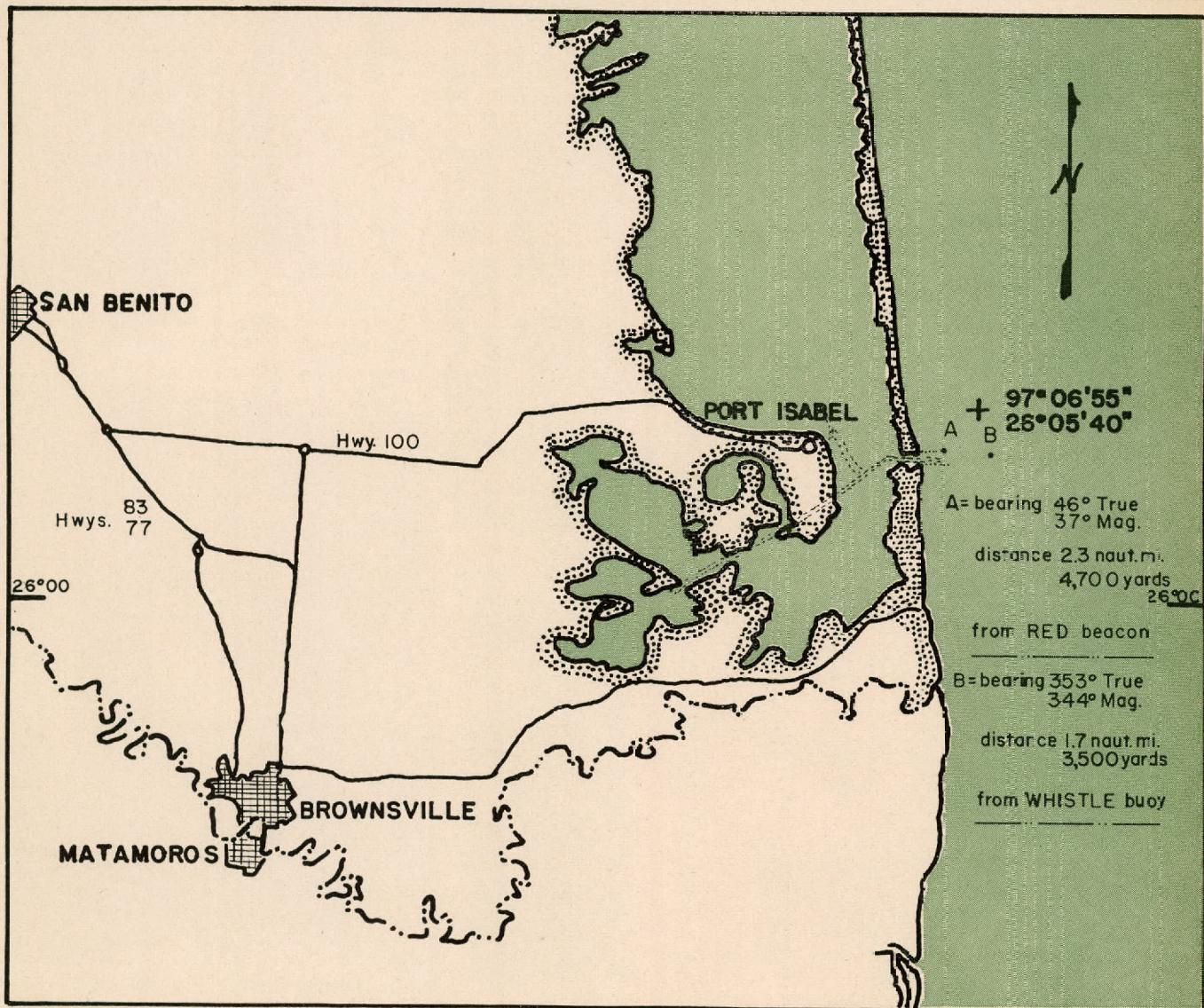
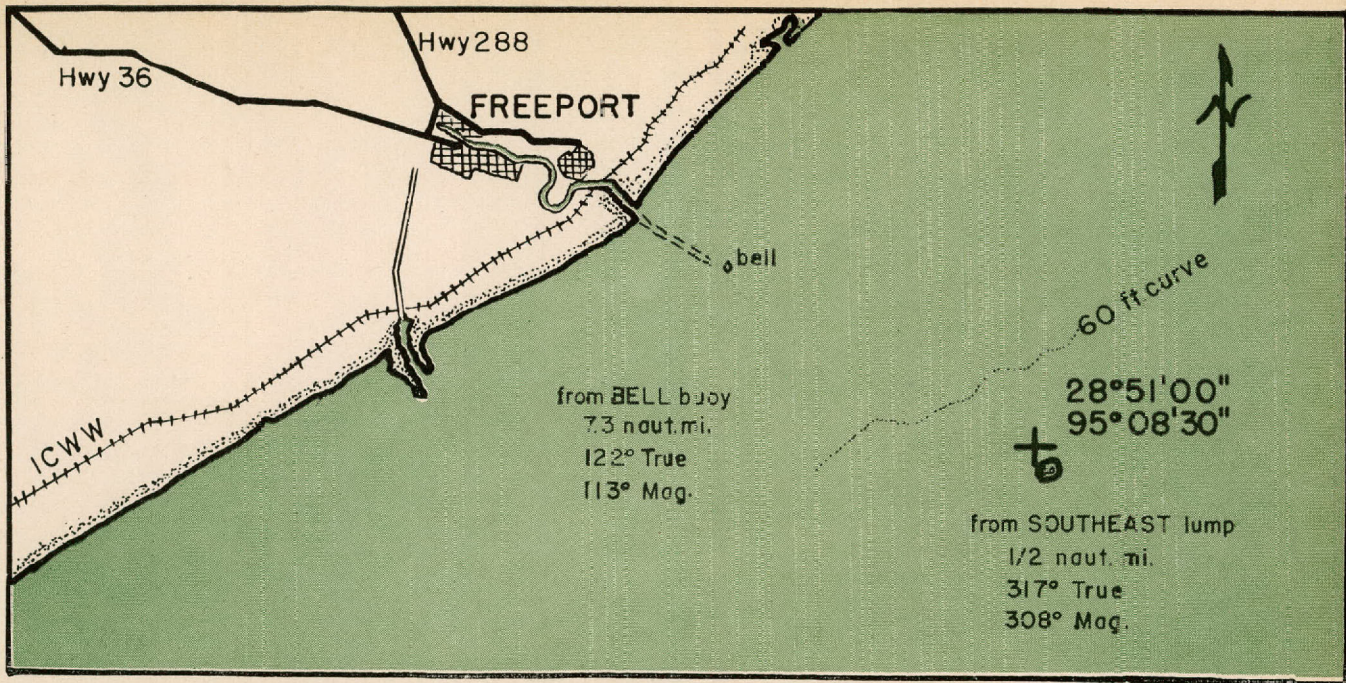
Illustrated by HOWARD LEE
director, coastal division

SUNKEN ARTIFICIAL FISHING REEFS up and down the Texas Coast are yielding ling and king mackerel and red snapper. These reefs, made up of 600 car bodies each, were set out by the Game and Fish Commission to improve offshore fishing.

First inhabitants of the old car bodies are barnacles, larval crabs and shrimp, protozoans, and copepods. Small food fish and larger crustaceans venture there to eat these small marine animals. When the big game fish move in to take advantage of the scores of small fish, sportsmen can follow through.

The accompanying maps give detailed directions to offshore fishing reefs. Game Commission buoys mark many of them. **





Port Aransas Riches

... Great catches
abound at the tournament

by L. A. WILKE

The 1959 Port Aransas Deepsea Roundup held in mid-July had many surprises for fishermen. Although 119 sails had been caught the weekend before the Tournament opened, only half a dozen were taken during the Tournament and women took first place in most of the big fish events. Top billing went to Mrs. Dan Bremen of Victoria for her 456-pound blue marlin, believed to be the largest ever caught in the Western Gulf.

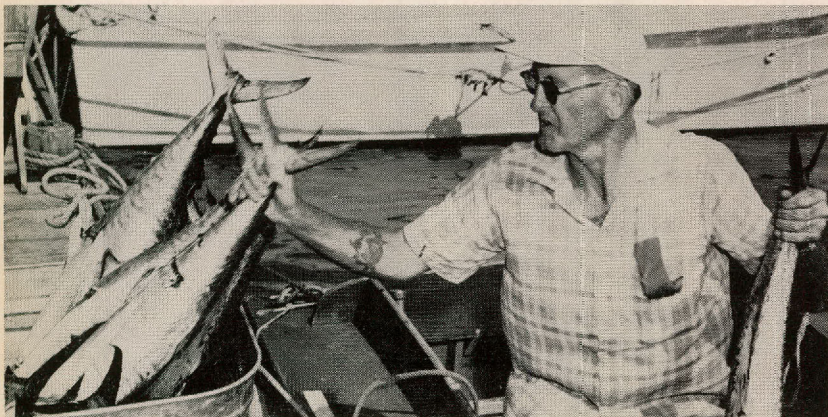
Mrs. Paul Millsapp of Houston won the Sailfish Tournament over 196 entries, with 75 boats participating.



Sandy Nelson shows winning ling.



Mrs. C. A. Hulse and Mrs. C. C. Shotts, San Antonio, display winning sail and terpon.



Dr. Arthur Calder, San Antonio, loads his prize catch of kings in a tub.

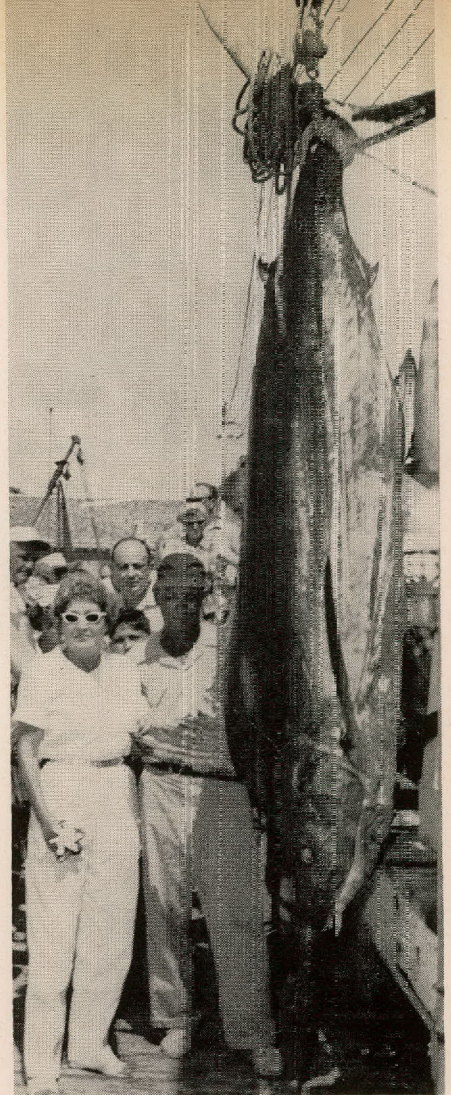
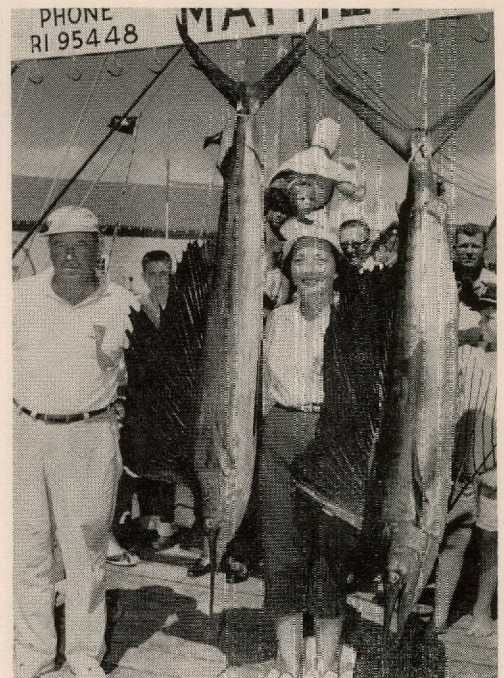


Photo by Robert C. Phillips

Mrs. Dan Bremen of Victoria brought in a record breaking 456-pound blue marlin.



Mr. and Mrs. Paul Millsaps of Houston competed with their sails: 7 feet, 1 inch; 7 feet, 1 1/2 inch.

Fingerling Recruits

... at Game Commission hatcheries

WILLIAM H. BROWN

assistant director
inland fisheries

TEXAS NOT ONLY STOCKS FISH IN PUBLIC WATERS but also it is one of the few states that stock fish on a large scale, free of any charge, in private waters. Some state conservation agencies stock only public waters while others will stock private waters for a nominal charge, usually the actual cost of raising and delivering the fish.

Between 10 and 13½ million black bass are reared and stocked each year in Texas fishing waters by the hatcheries. This is a large and important undertaking of the Game and Fish Commission in helping to provide the best fishing possible. A better understanding and appreciation of the program may be received by examining some of the biological principles of fish stocking as well as the operations and procedures of our State fish hatcheries.

Stocking fish, especially largemouth black bass, accomplishes its ultimate good in new lakes and ponds and in other waters which have been rehabilitated by draining, chemically killing all of the fish present, or by selectively reducing the numbers of undesirable fish present. Experience continues to show that the stocking of a lake year after year certainly is not the answer to producing and maintaining good fishing. This practice is actually a pathetic waste of fish that could have been utilized elsewhere. Once a new body of water is properly stocked, the natural reproduction of fish is more than enough to maintain a healthy fish population and good fishing for years to come.

The ever-present excuse "overfishing" has no justification in facts. In almost all waters, the number of fish dying each year from natural causes greatly outnumber those removed by anglers. The answer to poor fishing may nearly always be found in the lake itself. In most cases, a large population of unwanted



Fingerling bass from 2 to 4 inches long are stocked during the fall. Notice the rim outline of the hand in back of the net to compare size.

fish has developed which causes undue competition for the desirable fish. Thus, in general, it may be said that if chemical, physical, and biological conditions of a lake are not conducive to a good game fish population, the lake must be rehabilitated in some manner before restocking will have any benefit.

No law in Texas prohibits the stocking of private waters. In many instances such stockings are extremely beneficial to the fishing economy of the State since a large number of Texas fishermen do most of their fishing in private waters. Thus such stockings have some justification in providing additional good fishing for a rapidly expanding fishing public. Also, small lakes and ponds are relatively inexpensive and easy to manage for good fishing in contrast to large reservoirs.

Large lakes and reservoirs are stocked with bass fry when they start impounding water. Restocking of older lakes and streams of the State is based on need. Fishery biologists of the Game and Fish Commission are constantly making fishery surveys on public waters in order to make sound management recommendations. Lake rehabilitation work being carried out by the Inland Fisheries Division, such as chemical treatments of lakes for total fish kills and for selective control of certain undesirable fish species, in most cases is followed by restocking of hatchery-reared fish. This type of lake management work has resulted in hatchery fish being used for their maximum benefit in older lakes.

• Continued on page 24

Seclude

by GRA
State Depart



Gloomy Bracken Cave, Central Texas, harbors a seething mass of bats.

IN THE EARLY FALL OF 1951, a 43-year-old woman saw what appeared to be a dead bat on the steps of the Big Spring post office. As she stooped over to investigate, the startled "dead" bat bit her on the left forearm.

Twenty-five days later, despite treatment in two hospitals, the woman was dead. The pathologist's report on the autopsy read: "Encephalomyelitis with demonstrable Negri bodies in central motor neurons compatible with rabies."

This case, so far as can be determined, marked the first time in medical history that a bat native to the United States had been linked with rabies. The woman's doctor said his findings "strongly suggest that the bat bite was the source of the rabies infection."

In June of 1953, some 18 months after the woman's death in Big Spring, scientific eyebrows from coast to coast were raised in sudden interest when the Florida State

Board of Health announced the discovery of rabies virus in an insect-eating yellow bat. A solitary tree-inhabiting variety, the bat was killed in the act of attacking a 7-year-old Tampa boy.

In rapid succession thereafter, laboratory workers in Florida found characteristic inclusion bodies (called Negri bodies after Adelchi Negri, an Italian physician who first discovered them in 1903) in the brains of six other bats, all native to the southeastern United States. Several weeks later the virus was discovered in an unidentified bat which made an unprovoked attack on a Pennsylvania woman.

Thus it is that bats have assumed a grim and eerie prominence in the total rabies picture in Texas and elsewhere—a prominence that was unsuspected a brief eight years ago.

Some 2,000 species of bats are widely distributed throughout the world, with largest concentrations located in the tropics of both east-

ern and western hemispheres. Sizes range from the tiny pipistelle—common in the United States—with its wing spread of 4 inches, to the giant flying foxes of Australia and the Pacific islands which measure some 4 feet from wing tip to wing tip.

In the limestone regions of Central Texas there lives a bat species known to mammologists as *Tadarida brasiliensis*. Their incredible numbers give Texas undisputed claim to the title of "bat capital of the nation." So unbelievably dense are they in some caves that even professional mammologists and spelunkers are amazed.

This small mammal with its dark gray coat of downy fur is commonly called the "Mexican free-tailed" bat since its tail is not wholly enclosed in a membrane as is the usual case, but extends free for an inch or so, emphasizing bats' resemblance to mice. (The Germans recognize this in their word for bats: "fledermause.")

Blood-lapping bats have been known in the western hemisphere since the days of Columbus, and their connection with rabies has been known for a half-century or so. An epizootic of rabies which began in 1908 and lasted until 1920 wiped out whole herds of livestock in southern Brazil. Before it was over it had spread into Argentina, Uruguay, and Paraguay. Dogs were thought to be spreading the disease and canine populations were ruthlessly slaughtered. But the disease continued to spread. Finally, after the epizootic had subsided, investi-

ng rabies
as long been pondered.

Threat

BURTON
nt of Health

gators proved conclusively that vampire bats were the culprits.

Vampires now range over much of Mexico, and could conceivably penetrate the Big Bend region of Texas during warm weather. Studies of their habits have shown that the limiting factor in their northward migration is cold temperature.

Pointing up the obvious vulnerability of the great Southwest to encroachments of vampires are the words of Dr. Aurelio Malaga-Alba, a Mexico City veterinary specialist, as they appeared in the *Texas Health Bulletin* published by the Texas State Department of Health:

"Vampire bats have been collected and identified in the Sierra Madre Occidental as far north as parallel 28°, some 19 miles northeast of El Fuerte, Sinaloa, and on the Sierra Madre Oriental 18 miles northeast of Ciudad Victoria. Both species of vampires—*Desmodus rotundus* and *Diphylla ecaudata*—were found."

Further evidence: The skeletal remains of a vampire identified as *Desmodus rotundus*—the common vampire and the real troublemaker—were found in a cinnabar mine some 19 miles north of Alpine, Texas.

But the vampire bat problem as it is understood today is not the big worry in and of itself. It is the vampire's possible relationship to insect and fruit-eating bats—perhaps during migrations of the latter into vampire haunts south of the border—that is causing uncomfortable twinges of doubt and uncertainty. Texas' insect-eating bat population

runs into the uncountable millions, most of them living close together in massive colonies. When a single one somehow gets infected with rabies, the disease could easily explode throughout the whole colony and subsequently into other colonies and other species.

Several states have undertaken study projects aimed at establishing the public health significance of bat rabies. One of these is being conducted by the Texas State Department of Health under leadership of Dr. J. V. Irons, director of laboratories. To date a total of 2,443 bats have been examined in 821 pools of brains and/or salivary glands. Seventy-two positive isolations of virus have been made.

Come along with the entomologists on a field trip to Bracken Cave, typical of the dozens of Central Texas caverns. After leaving the Austin-San Antonio highway, the route jolts over three or four miles of rough ranchland dotted with rock and scrub oak and cedar. Occasional deer nibble at stubbles of grass, stare briefly as the pick-up approaches and then bolt for a protective screen of brush. Here and there a wild turkey rises to wing.

If the wind is right, a subtly pun-

gent odor announces the proximity of the cave. Then suddenly there it is, yawning up from the rock and cactus strewn bottom of an ancient sinkhole.

With pick-up parked on the rim of the sinkhole, you tread a precarious path to the gaping black mouth of the cave. A sound like rushing water excites your wonder, growing louder and louder with each step until at the entrance it is a constant, almost musical roar. You distinguish it as the air stream rushing over the membranous wings of a million bats activated by your approach. Now and then a thin, metallic shriek rends the fetid air as a bat puts out its "radar" signal to warn of impending obstacles in its line of flight.

They circle endlessly, never trespassing beyond the cavern's narrow throat, but confining their flight to the malodorous bowl of its interior. The air, heavy with ammonia emanating from tons and tons of guano, is stifling yet strangely inoffensive.

A blanket of powdery guano, produced by untold decades of bat habitation, forms an 18-inch cover over every square inch of cave floor surface. It billows to shoulder height with each step. Dermestid beetles

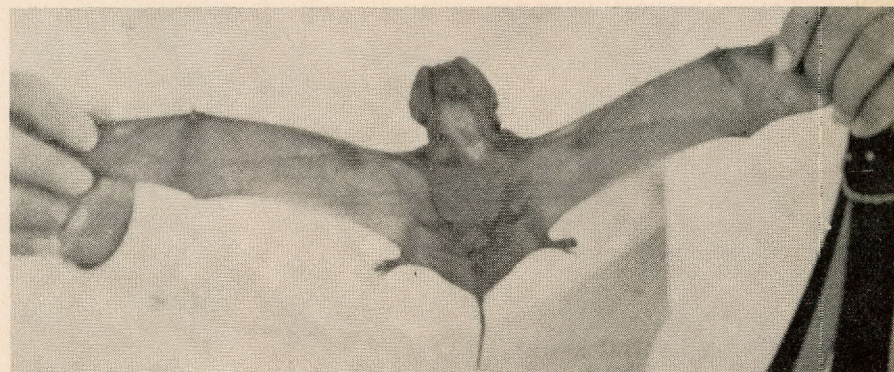
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Most common vampire, *Desmodus rotundus*



Hairy-legged vampire, *Diphylla ecaudata*



Mexican free-tail bat



Swift arrow hits home as a gar swims to the surface.

Bowfishermen test
an ancient Indian skill
on rough fresh water fish.

CHALLENGE FOR ARCHERS

by GEORGE KELLAM
Fort Worth Star-Telegram

THE AMAZING POPULARITY COMEBACK of a centuries-old weapon—the bow and arrow—among sportsmen has many facets. One of the most recent is bow fishing.

Members of the Panther City Archery Club of Fort Worth, like many other archers, in the hunting seasons go after bear, elk and deer in various sections of the United States.

In the off-season, they developed a sport to keep in practice—bow fishing.

Their targets are carp and gar in the rivers and lakes in the Fort Worth-Dallas area. All shooting is limited to rough fishes, naturally.

Rex Snelling, Curtis Le Doux and his 11-year-old son, Lance, and Bob Tallon, all members of the club, demonstrated their bow fishing technique recently on the West Fork of the Trinity River in the edge of downtown Fort Worth.

Gar was the target, and 32 of the State's peskiest rough fish species lay on the bank after five hours of shooting.

The bowmen go after carp in the spring when the suckers can be found spawning in shallow waters of the lakes and rivers. In the summer it's gar. When the needle-nosers roll on the surface, the bowman has a split second in which to aim and fire. That's why the archers prefer gar shooting above all other types—it develops reflexes for bigger game.

As a rule, good gar shooting can be found below any lake dam in the State. The largest gar Snelling has ever shot in the Trinity River weighed 14 pounds.

The archers use laminated glass bows primarily. A spool to hold the line is attached to the front of the bow, and can be made from a tuna fish can or a round block of wood or can be purchased at most sporting goods stores for a few dollars.

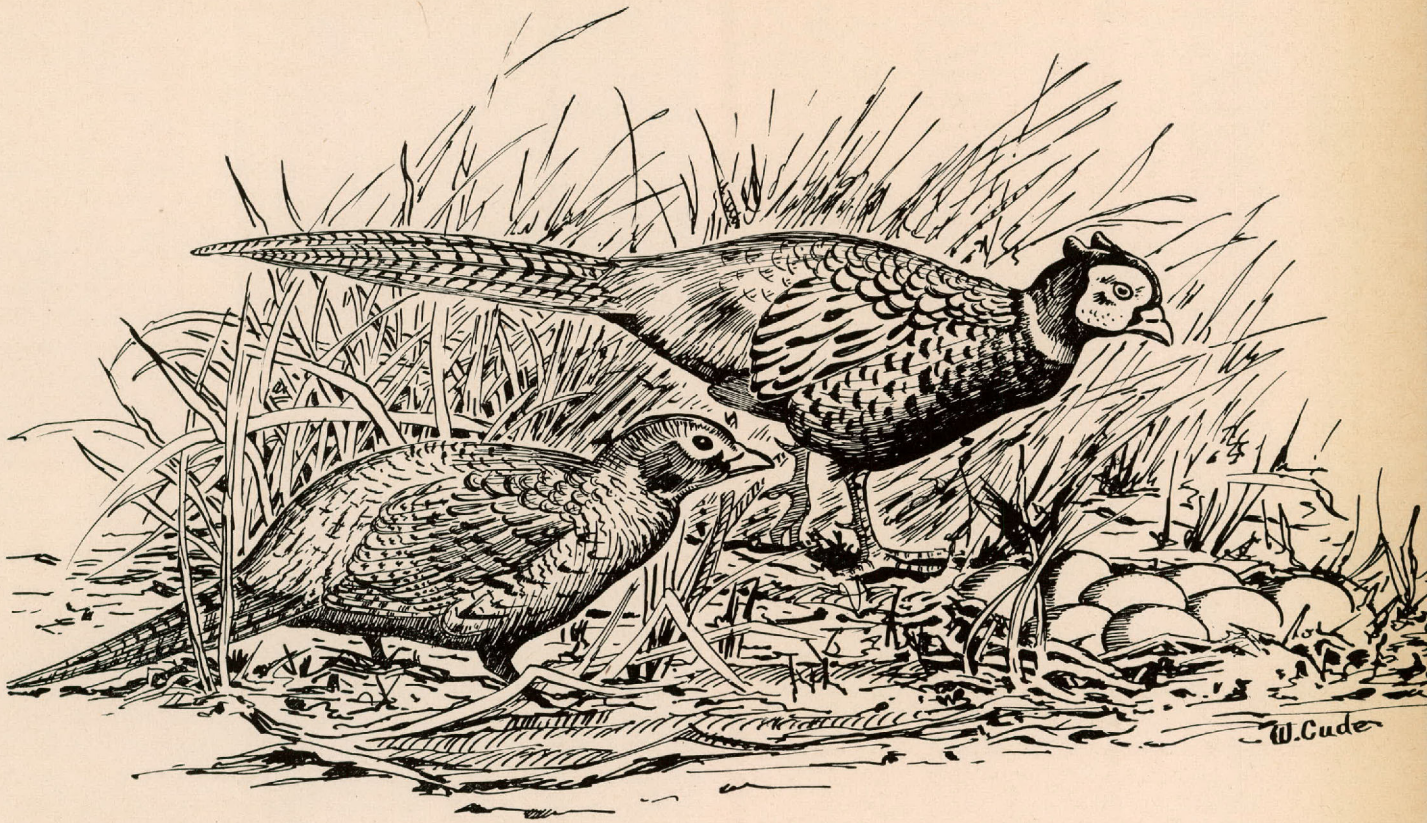
They use 108-pound test blue catfish line and solid glass arrows with barbed tips to keep the shaft from pulling out of the fish on the retrieve.

Heavy line must be used because otherwise the scales of a gar will sometimes cut the line on penetration. The line is tied to the arrow through a hole drilled in the rear of the featherless shaft. The retrieve is made hand-over-hand, since a winding device is impractical.

Bow fishing is a fairly inexpensive sport. The bows range from \$15 to \$70 in price, depending on their quality and power. A leather gauntlet to protect the forearm from the snap of the bow-string is a necessity and costs about \$3 or \$4. The glass arrows sell for \$2 up.

Bow fishing for carp and gar isn't the only contribution the archers make toward conservation. Other targets include jack rabbits, skunks, fox, and other predatory animals.**

Ring-necked Pheasant



The exotic ringneck pheasant, first foreign born bird to be successfully introduced in the United States, has added a vivid and sporting game bird to the north central section of the country. Introductions of purer strains failed, and the hardy survivor was the hybrid of Chinese, Mongolian, and English ringneck pheasants. In Texas, it is raised only on private hunting resorts and seems unadaptable to the south.

The ringneck breeds from April to June, inclusive. Dried weeds and vegetable debris make up the nest in a slight depression in the ground near open fields and fence-rows. The eight to 16 olive-buff eggs are incubated in 23 days. Strong factors in the high survival of the pheasants are that the male mates with one to three hens, and if the first clutch is destroyed the female pheasant may re-lay a second or even third time.



Colorful in its red wattles, green head, white collar, varicolored body and sweeping tail, the male ringneck presents a striking picture in the field. In contrast, the female is mottled drab brown and looks awkward and chunky. They grow about 3 feet long and weigh from 2 to 3½ pounds. Their wings are not large enough to fly well except for short distances. They feed on corn, grain, and seeds primarily, but their diet also includes insects, berries, shoots, worms, wild plants, fruits, and various small animals.

Illustrated
by WALTON CUDE

Vagabonds of the Sea

JELLYFISH FAUNA OF THE TEXAS COAST is one of unusual variety and interest. Several outstanding examples are common to nearly everyone who spends any time on the water or at the beach.

Probably the most well known and the most colorful is the Portuguese Man-of-War, great numbers of which are thrown up on the beach and pop under the wheels of cars. It is certainly an animal for swimmers to avoid, for contact with the trailing tentacles will cause serious burns and rashes on the skin. Even after the jellyfish has been exposed to hours of sun and wind on the beach, it can still inflict terrible stings and cause painful swellings if it is touched.

Actually, the Portuguese Man-of-War (*Physalia*) is an animal made up of many animals. The floating part of the jellyfish is the gas-filled float, a transparent bag of pale iridescent blue tinged with pink. The float responds to touching with slow

by SANDRA POUNDS

twisting movements. Hanging beneath the float, and supported by it, is a mass of long trailing tentacles. These tentacles are composed of hundreds of small animals called zooids. The zooids are collected into divisions called colonies, each colony having a special function, such as feeding, fishing, stinging, and reproduction. The stinging tentacles are composed of thousands of tiny nematocysts, cells which have a long coiled thread with a trigger mechanism. When the tentacle comes in contact with some swimming creature, the thread shoots out and extrudes a poisonous fluid, paralyzing its victim. Then the tentacles draw the stupified captive up to the mouth of the jellyfish. Peculiarly, there is a small fish, the Man-of-War fish (*Nomeus gronovii*) which often acts as a traveling companion to the jellyfish, swimming freely about in

the tentacles which automatically capture other fish.

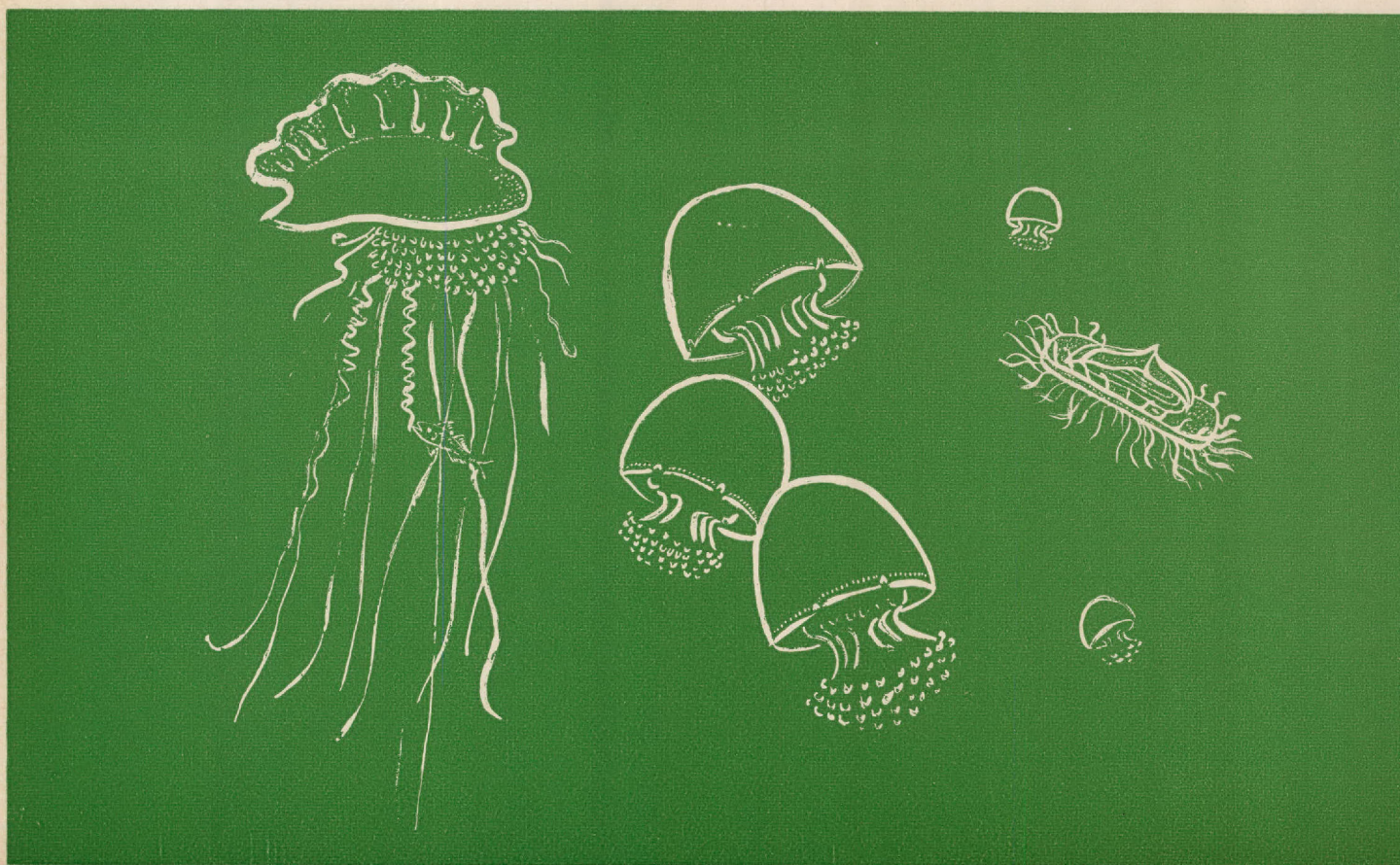
In contrast to the delicate Portuguese Man-of-War, the heavy, gristle-like body of the cabbagehead jellyfish (*Stomolophus meleagris*) bobs clumsily along in the motion of the currents. This is a dome shaped, all-white creature with no stinging cells. Unlike the Man-of-War, this jellyfish is a common visitor in great droves up into the bays. Toward the end of summer, the cabbagehead can be seen in huge swarms around passes and in lower bays. Sometimes a shrimp net will pick up thousands of them at one time.

The cabbagehead resembles a mushroom, with its thick bell often 7 inches or more across. Its sensory organs are located around the edge of the dome-like umbrella, and its functioning organs are in the stem portion of the animal. This jellyfish has a highly developed muscular system, which contracts the umbrella

Portuguese Man-of-War

Cabbagehead

Vellela



rhythmically with great strength and speed.

Another one of our most common bay jellyfish is the beautiful *Dactylometra*. Its umbrella may reach 8 inches in diameter with a whitish color darkening to a rosy pink around the edge. Many whitish tentacles stream down into the water for a considerable distance from the umbrella. This jellyfish has stinging cells, but it inflicts less painful stings to swimmers coming in contact with it than the *Physalia*.

Two small species, often confused with other invertebrate life rather than jellyfish, are the *Porpita* and the *Vellela*. Both these jellyfish are surface floaters and have flat, disc-like bodies.

The *Porpita* is a flat circular animal about one inch in diameter, with radiating series of short tentacles. It is a bright clear blue, shading into an iridescent purple and green toward the center. The *Porpita* is a most impressive creature when it is seen in swarms, flecking the surface of the water for great distances with sparkling hues of blue-green and purple.

Similar to the *Porpita*, the *Vellela* is also small and flat, but instead of circular, it is rectangular in shape,

and may reach four inches in length. A bright blue-green color, the float has a keel-shaped sail which runs diagonally across the top of the float. The float is encircled by a row of blue tentacles. Like the *Porpita*, it is seen in swarms as it is carried by the Gulf Stream and distributed by the currents.

The white Moon Jellyfish (*Aurelia aurita*) is more commonly seen in the Gulf waters by jetty and pier fishermen, as the large white creature drifts in the surf, smoothly undulating its round, fringed umbrella just beneath the surface. The umbrella of the adult is nearly 10 inches across and is surrounded by numerous short tentacles. This jellyfish has a four-petaled flower-like design in the umbrella. It is often thrown upon the beach in great numbers after storms.

The ctenophores, or comb jellies as they are popularly called, are not true jellyfish, but are often referred to as jellyfish because of their gelatinous transparent bodies. However, true jellyfish are radially symmetrical, while the comb jellies are bi-radial. Also, the comb jellies do not have nematocysts, stinging cells.

The most distinguishing characteristic of the ctenophore is the pos-

session of eight rows of comb-plates, which pass from the mouth, the length of the animal, to the aboral sense organ. Each row consists of a moveable transparent plate with toothlike hairs projecting from its outer edge. The purpose of these plates is to propel the animal, as the hairs beat the water in rapid succession. A brilliant prism of colors passes continuously through each row as the beating hairs break up and reflect the light rays. At night the ctenophores present an awesome sight as the rows glow luminous blue-white when the animal is disturbed.

The ctenophore is the plague of the fisherman who shrimps for his own bait, for the comb jellies appear regularly in the bays in dense abundance, and can weight a shrimp net down so heavily it will become ineffective. What's more, they must be separated quickly from the shrimp before the shrimp are smothered by the soft bodies.

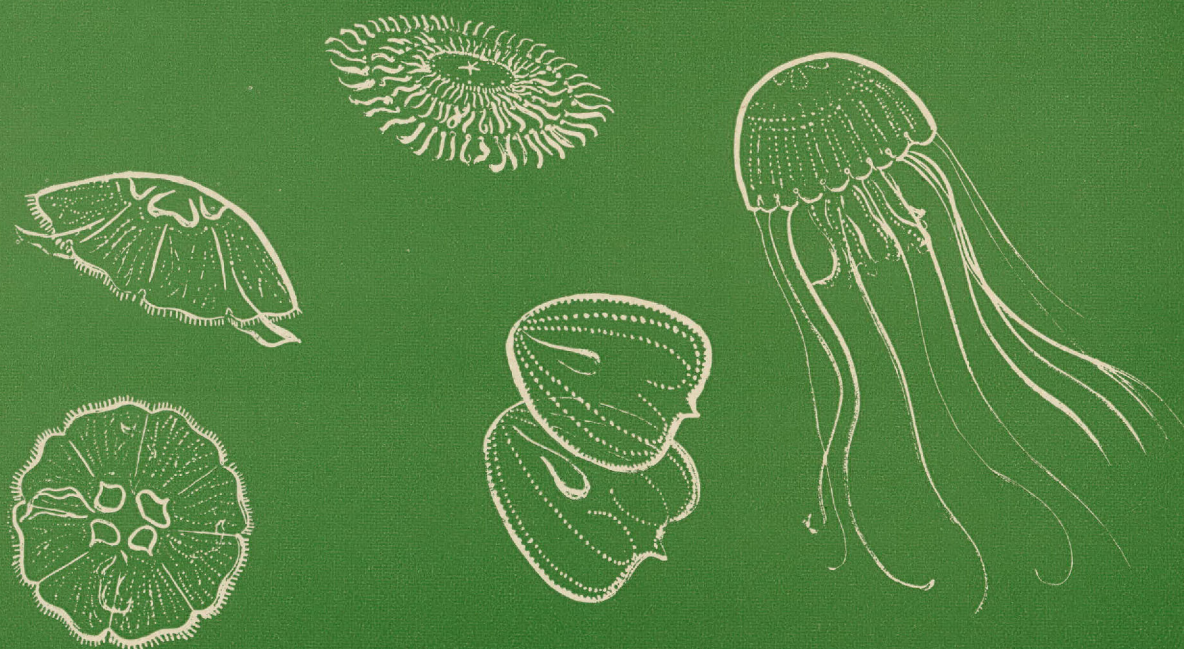
As yet, jellyfish have no particular economic importance, though this field of study has just been recently opened up. Nonetheless, we must admit that without them our waters would most assuredly be lacking in a rare kind of beauty. **

Moon jelly

Porpita

Comb jellies

Dactylometra



Sportsman's Guide

TEXANS WILL HAVE A 60-DAY DUCK and 75-day goose season this year, according to an announcement from the U. S. Fish and Wildlife Service. The dates have been set up as follows:

Ducks: November 13 to January 1, inclusive. The season will open Friday noon. Other shooting hours will be from sunrise until sunset daily. Bag limit: four daily and eight in possession. On **Canvasbacks, Redheads** and **Rudy ducks**, only one of either may be killed daily.

Geese: October 26 to January 8, inclusive. The limit will be five daily and 10 in possession. On large geese you may kill two **Canadas**, or one **Canada** and one **Speckle Belly** only. Shooting will start at noon on the first day, and thereafter from sunrise to sunset.

Complete regulations will be carried in the October issue of **TEXAS GAME AND FISH**.

Chachalaca, Quail—December 1 through January 16 except in the Trans-Pecos area where it will be December 1 through 31. Bag limits: Chachalaca, 5 per day, 10 per week, or in possession; Quail, 12 per day and not more than 36 per week or in possession except in Bexar, Comal, Bandera, Crockett, Edwards, Llano, Mason, Medina, Sutton, Bell, Coryell, McLennan, Milam, Archer, Bosque, Clay, Denton, Erath, Hill, Hood, Jack, Johnson, Montague, Palo Pinto, Parker, Somervell, Stephens, Wise, Young, El Paso, Reeves, Jeff Davis, Pecos, Val Verde (west), Hudspeth, Presidio, Culberson, Terrell, and Brewster Counties where there is a 24 bird-per-season limit. See Game and Fish Laws digest for special quail seasons in Borden, Camp, Cochran, Collin, Delta, Dickens, Franklin, Guadalupe, Hopkins, Hunt, Kaufman, Kenedy, Kleberg, La Salle, Live Oak, McMullen, Rains, Scurry, Upshur, Van Zandt, and Wood Counties. Hours: one-half hour before sunrise to sunset.

Pheasant—No open season except in counties with special laws.

Turkey—No open season in Red River, Titus, Fannin, Bowie, El Paso, Reeves, Jeff Davis, Val Verde (west), Hudspeth, Pecos, Presidio, Culberson, Terrell, Brewster, and Washington Counties. November 16 through December 31 in Freestone, Falls, Limestone, Williamson, Bexar, Comal, Bandera, Crockett, Edwards, Llano, Mason, Medina, Sutton, Brown, Nolan, and Taylor Counties. November 16 through 25 in counties in the Panhandle area, No-

vember 16 through December 5 in Possum Kingdom area, and November 16 through 30 in Bell, Coryell, McLennan, Milam, and Washington Counties. Bag limits: 1 gobbler per season in Brown, Nolan, Taylor Counties, Possum Kingdom area counties, and Trinity-Brazos counties. 2 gobblers per season in Bexar and Comal Counties, Edwards Plateau area counties, and Panhandle counties.

Prairie Chicken—No open season in any counties.

Game Animals

Elk, Wild Sheep—No open season on wild sheep. No closed season on elk in Red River, Titus, Fannin, and Bowie Counties. December 1 through 8 in Culberson and Hudspeth Counties in areas designated by Commission under special permit. Bag limit: one elk.

Buffalo—Special permit only.

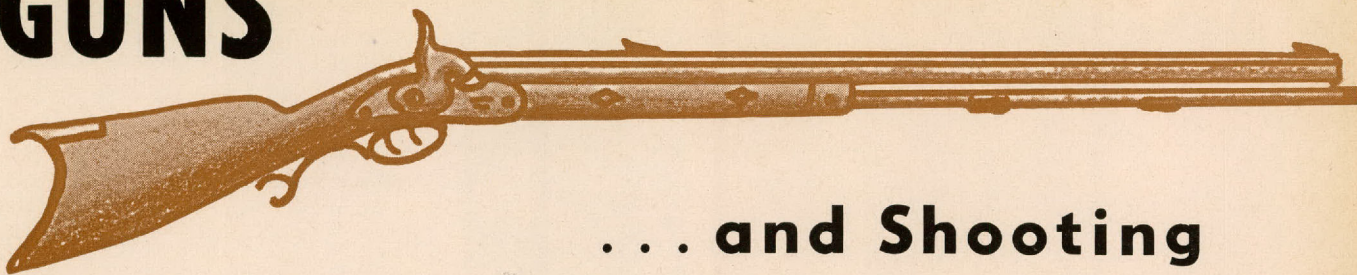
Bear—November 16 through December 31. Limit 1 per season except in the Trans-Pecos area where there is no open season.

Javelina—November 1 through December 31 in the Trans-Pecos hunting area. Bag limit: 2 collared peccary. No closed season in the Edward Plateau area, Red River, Titus, Fannin, Bowie, and Comal Counties. November 16 through December 31 in Bexar County with 2 javelina limit. No open season in counties in the Trinity-Brazos area, Possum Kingdom area counties, Panhandle area counties, and in Brown, Nolan and Taylor Counties.

Deer—General Law—November 16 through December 31. Bag limit: two buck per season. Hours: one-half hour before sunrise to one-half hour after sunset. **Special Laws:** The following list of counties have special seasons and/or bag limits. (All buck deer must have pronged antlers. Permits are necessary for shooting antlerless or doe deer where seasons are specified.) **Jasper, Newton, Tyler** (except Precinct 4) November 15 through December 15. **Nolan**—November 16 through 30, bag limit, 1 buck. **Hill, Johnson, Washington, McLennan**—season closed. **Bosque**—regular season for buck, November 16-31 for antlerless deer. Bag limit is 2 deer of either sex per season. **Bell, Archer, Clay, Coryell, Denton, Erath, Hood, Jack, Milam, Montague, Palo Pinto, Parker, Somervell, Stephens, Wise, Young**—November 16 through December 5 for buck and for antlerless. Bag limit is one buck and one antlerless or two antlerless deer. **Fan-**

nin—November 16-20, with one buck the bag limit. **Red River, Titus, Bowie**—November 16 through 24 with a bag limit of one buck or, in special areas with permits, one antlerless and/or doe deer. **Bexar, Comal, Dimmit, Zavala**—November 16 through December 31. Bag limit is 2 buck or, in special areas with permits only, 2 antlerless and/or doe deer or aggregate of 2 per season. **Brown**—November 16 through December 31. Bag limit is 1 buck. **Delta, Franklin, Hopkins**—November 21-25. **Eastland**—November 16 through 30. **Gregg, Harrison, Rusk, Shelby**—November 15 through 25. **Kenedy** (Precinct 1)—November 15 through December 1. **Lamar**—Precinct 4 closed, rest of county November 16 through 20. **La Salle, McMullen**—November 1 through December 15. **Marion**—November 16 through 20. **Maverick, Val Verde** east of Pecos River—November 16 through December 15. **Panola**—November 15-25. **Sabine**—November 17 through December 31. **Upshur, Wood**—November 21 through 25. **Throckmorton**—November 16 through December 4. **Morris, Shackelford**—November 16 through December 31. **Area Laws: Panhandle**—November 16 through 25. Bag limit: One buck per season and in possession. **Trans-Pecos**—December 1 through 8. Bag limit is one buck and one antlerless and/or doe deer by permit in designated areas and no more than one mule deer in the aggregate. **Edwards Plateau**—November 16 through December 31. Bag limit: 2 buck or antlerless and/or doe deer but no more than two deer in the aggregate. **South Central Texas**—November 16 through December 31. Bag limit is 2 buck deer or antlerless and/or doe deer with no more than two deer in the aggregate in any one season. **Trinity-Brazos**—November 16 through December 5 except in Falls, Freestone, Limestone, and Williamson Counties which have from November 16 through December 31, with no open season in McLennan or Washington Counties. Open season on antlerless deer is November 26 through December 5 except in Falls, Freestone, and Limestone Counties which have a November 16 through December 31 season. Bag limit is 1 buck and 1 antlerless deer except in Falls, Freestone, and Limestone where the limit is 2 deer of either sex and in Williamson where only 2 buck deer are the limit. **Possum Kingdom**—November 16 through December 5 except in Bosque County which has a November 16 through December 31 season. Bag limit is one buck and one antlerless deer, or two antlerless deer, except in Bosque where two deer of either sex may be taken. **Wildlife Management Areas:** The seasons and limits for hunting on Wildlife Management Areas will be announced in the October issue of **TEXAS GAME AND FISH**. **

GUNS



... and Shooting

by JOHN H. MASTERS

This Month: Patter about Scatterguns

IF MIGHT HAVE STARTED with the widespread use of semi-automatic weapons during the war—somehow, the idea of massive firepower has gotten into the sportsman's thinking. Conversations often revolve around how fast one can get off several shots in rapid succession, and it seems that the idea of directing the shot has become secondary. This, I submit, is a sad state of affairs.

My first shotgun, and one I still shoot, was an Iver Johnson single-shot, break-action that kicked like the proverbial Missouri mule. Dad gave it to me when I was 12, and he didn't bother to explain that the stock might not fit—if he knew it. He did buy low brass ammo as a concession to my youth.

After shooting the murderous piece until I was 19, I acquired a Stevens double-barreled 20 gauge. Now there was a real birdgetter. Even now, I am not so sure it isn't the deadliest thing on my rack for dove and quail. In the years that have followed, I have run the gamut of all sorts of fancy pumps and semi-autos until at last I have satisfied myself on what is best for me. Perhaps my experience will be of some value to others.

To begin with, I do not regard the .410 as a satisfactory hunting gauge (or caliber, which it really is). A really good shot can get by with it; a beginner is only going to get discouraged at his frequent misses. The 28 or the 20 gauge is a far better choice, and will not, as many believe, kick a lot more. In my opinion, and this is backed up by watch-

ing a lot of people including my own son, anyone who is ready to shoot a shotgun is ready for something bigger than a .410.

I likewise decry the mad search for power that leads the average shooter to select high brass "express" loads or short magnums for dove and quail. Except for the days when the dove flights are coming in high, there is no real reason to punish yourself with super-power loads. Low brass, in 7½- or 8-shot size, will get the job done, and you will enjoy running a couple of boxes of hulls through old Betsy a lot more if she doesn't thump your shoulder and split your eardrums.

No matter what Uncle Herkimer thinks, a 32-inch barrel doesn't shoot a whole lot harder. Neither does a full-choke barrel. There's no earthly reason for a shotgun barrel over 28 inches any more, and with modern ammunition, except in long-range pass shooting, modified boring is tight enough. And in the same vein, a pump doesn't shoot harder than a semi-auto; neither does a single-barrel or a double.

Which is better—the disintegrating top wad or the pie crimp? Neither, really. Some semi-autos perform more dependably with the disintegrating top wad, but only because the pie crimp blows out longer overall. Best thing is to pattern your gun on paper, and see which one gives you the best results.

Do cattle and sheep sometimes try to eat spent shotgun hulls? I don't know, but a pioneer rancher friend of mine insists they do, sometimes

with disastrous results. Anyhow, the place will look better if you pick up your empties, or burn them safely. And it won't hurt anything to dig a hole for the feathers as you pick your kill. Just good housekeeping, fellows.

How about choke devices? In my opinion, they are a very good investment. Although I prefer the tube-and-cage type there is plenty of evidence that the collet-and-collar type are just as good. Take your pick. Either will give you a variety of borings.

How about bump pads? Sissy? Just as sissy as wearing a pair of shoes in a goathead patch. Nobody enjoys being punished, and a good soft pad really helps. Use it once and you'll always want one.

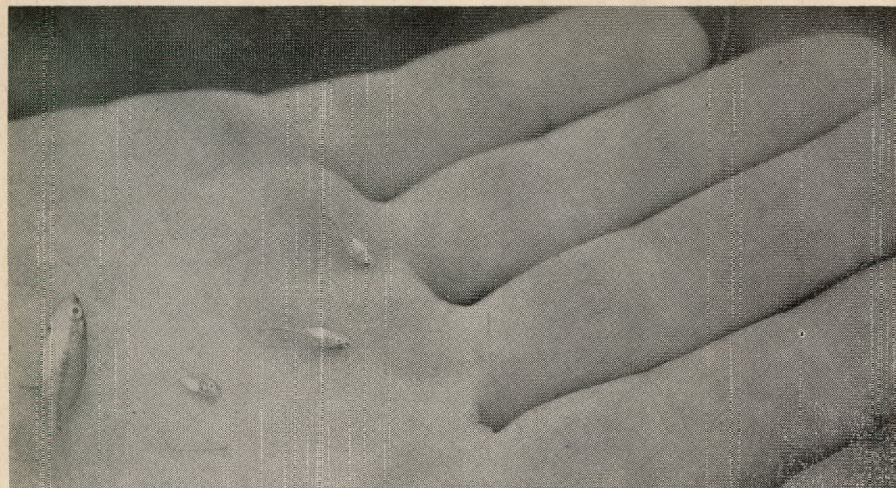
Watch for snakes in the North Zone while dove hunting. It's still warm enough for them in September.

Keep in mind that for surprising distances, shotgun pellets can wreak havoc on cattle, sheep, your wife, or your hunting buddies. They make ranchers hard to get along with, and often cause one to have to pick his own birds.

You don't have to gun the last bird in a covey any more than you have to shoot over the limit. Save some for seed. There will be other days.

Already there's a hint of Indian summer. The sunflower plants are loaded—goat weeds likewise. Grain crops look good. Lots of birds, they tell me.

See you in the huntin' patch. **



Small fry from 1/2 to 1 inch long are put in hatcheries in spring.

The major spawning period of the largemouth black bass in our hatcheries varies from as early as January in the Lower Rio Grande Valley to as late as April and May in North Texas. The hatcheries stock small bass fry which are about 1/2 to 1 inch in length during these spring months in new and rehabilitated lakes over 10 surface acres in size. Fingerling bass are delivered for smaller lakes and ponds from about September until December. These fingerling bass which are about 2 to 4 inches in length are stocked at the rate of 100 per surface acre and are better able to survive and escape their enemies in waters that already have fish present. This is actually the only advantage of fingerling bass over bass fry for stocking purposes. Experimental farm pond work done by the author has shown that bass fry stocked in new ponds and lakes during the spring

months had a survival rate of from 64 to 85% with an average of 71% after 15 months. Fingerling bass stocked in the fall of the year under the same conditions had a lower survival rate of 65%. Still another advantage of bass fry in new waters is their extremely fast growth rate. Bass fry are stocked in hatchery rearing ponds at the rate of 10,000 and more per acre during the spring months. When these ponds are drained in the fall of the year, the average bass survival is about 50% or less and the size is from about 2 to 4 inches in length.

Hatcheries must raise large numbers of fish under crowded conditions. These same fry stocked in new fishing waters at the regular fry stocking rate of 200 per acre are always at least 7 inches in length by the fall months and often they reach 1 to 1 1/2 pounds in size. Fingerling bass, from 2 to 4 inches long, stocked during the fall at 100 per acre in state fishing waters are brothers of these larger fish. The reasons for such a phenomenon are rather simple, being merely a matter of available space and food. The bass fry are stocked at a natural size when the production of food for small bass is extremely high. They continue to grow and utilize larger food as the food cycle of the water changes. The fingerling bass, on the other hand, are stocked at an "unnatural" size for the time of year and much of the available food at this time is either too small or too large to be utilized to any great extent for fish

growth. Hence, the fingerling bass usually do not grow very much until the next spring and summer.

For the past few years, several hatcheries have been experimenting with an innovation in bass culture. Bass fry are stocked at the rate of 10,000 or more per acre in hatchery rearing ponds. These ponds are then drained and the fish delivered after about 3 to 5 weeks. Normally, the advanced fry are about 3/4 to 1 1/2 inches in length when the pond is drained. They are harvested before they begin to feed heavily on each other and are stocked in fishing waters while the small food production is high. These bass are very hardy, and they handle and deliver very well.

This method of bass culture has greatly increased the output of the hatcheries, since the longer bass remain in rearing ponds under crowded conditions, the fewer are recovered upon draining the ponds. This procedure, in some instances, calls for handling, delivering and stocking young bass during rather warm weather, but with improved methods and equipment for handling and delivering, this is becoming less of a problem.

The subject of stocking hatchery-reared fish has been a highly controversial one in the past few years. Some states have gone so far as to close down all of their hatcheries while other nearby states were building new hatcheries at an accelerated rate. It is the consensus of those responsible for the operations of the Divisions of Hatcheries and Inland Fisheries of the Texas Game and Fish Commission that fish hatcheries and fish stocking have a definite place and fill an important need in wise fish conservation and management. When fish hatchery production and fish stocking is based on sound biological principles and continued research, the angler stands to reap a rich harvest of sport fish that would have been otherwise unattainable. **

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Faulty Knots May Be Causing Your Sudden Line Failure

Factors which cause some fishing knots to fail at the first tug, while others survive heavy strikes equal to the full rated line strength, have been identified by Du Pont.

The Du Pont findings, based on a wide range of premium lines including nylon, showed that knots affected all monofilament about the same. Lines with an initial advantage in strength when unknotted tended to retain this same margin over other lines when tied.

The greatest reason for sudden line failure was traced to selection of the wrong knot or improper tying.

For example, the wind or overhead knot cuts line strength in half. On the other extreme, use of the blood knot or improved clinch knot could give as much as 100% of full rated line strength.

The greatest improvement to knot strength came from the use of extra turns around the standing part of the line. A minimum of five turns is recommended for the blood and clinch knots. Extra turns help distribute the stress. As turns are de-

creased, knot strength drops off sharply. A four-turn blood knot drops the strength of 10-pound monofilament down to 8.5 pounds. Three turns drop this to 7.5 pounds, and two turns to 6 pounds, or a loss of 40%.

Even when high-strength knots are selected, variations in performance result if the knot is improperly tied. If not pulled up tight, failure tends to occur within the knot itself. Slippage, leading to an unequal distribution of stress, is the main reason for this. This tendency increases in knots when friction is against alien materials. The tendency to slip or to untie is minimized in knots in which the friction is largely on the turns of the material itself. If pulled tight, extra turns of the blood knot tend to gain extra grip by actually squeezing the standing part of the line at the core of the knot.

As a result of the tests, Du Pont recommends the use of the improved clinch knot for joining line to lures and hooks; the improved blood knot for joining two lines together; and the improved end loop knot for forming a loop at the end of a line.

The study was based on an electronic tensile tester supplemented by high-speed motion pictures of knots during failure. Additional studies of the problems are still under way.

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It Happened This Way...

A GAME WARDEN WAS PATROLLING his assigned area when he happened onto a man and several boys hunting in a field. He pulled over to the edge of the road and waited for the hunters to return to their car.

As they walked up, the warden asked, "Know you were hunting those birds out of season?"

The man replied guiltily that he did. He also admitted that it wasn't his property and that he knew the area was posted. The boys stood back afraid to speak.

As the warden began taking down names and addresses, the man pleaded with him not to file charges. "If my boss gets wind of this, he'll probably break me or even fire me. Besides, that, I'm the scout master of these boys. I'm also a respected member of my church. If you turn me in, what'll I say to the parents of these boys and what'll my fellow church members think?"

"I can understand your position," answered the warden, "but I'm afraid I'm still going to have to run you in. You see, I'm in a very similar position. I have a fine job, too, with the State, and I'm a respectable member of a fine church. Now, you wouldn't want me to lose my job or the respect of my fellow church members, would you?" With that, the warden wrote out the ticket. **

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and their larvae make the sheet of guano a seething, living thing. Numerous bat skeletons stand as proof that beetle appetite for fallen bat flesh matches bat appetite for insects of the outer world.

The cave is a single chamber about 1,000 feet long, lying generally about 120 feet below ground level. A small mountain of tumble-down rock stands in the center of the cavity. Daylight penetrates about a

third of the cavern's length. Beyond that point there is nothing but blackness, and it is here that bats are found in greatest numbers.

They are everywhere. They cling to every inch of wall space, fill every tiny wrinkle in the rocky face of the wall, swirl and dart through the ammonia-laden air.

You know it isn't prudent to raise your face upward but you do, and the bright-eyed flyers flock through the beam of the flashlight like great moths seeking the flame of a candle.

You are not reluctant to leave the void of blackness. The dermestid beetles are biting more frequently now, and the ammonia is bringing tears. You depart the gloomy depths by carefully backtracking your previous trail through the ocean of

guano. Past the tumble-down mountain you can see shafts of daylight from the entrance slanting down to give the guano an appearance of newly fallen snow. A living curtain of bats pass endlessly back and forth across your line of vision between the shadows of your position and the purity of light outside. Trudging the last 150 feet up the treacherous slope there is no denying the pleasant prospect of your return to the world of light.

Whether vampire bats are insignificant or important links in the chain of rabies infection among insect-eating native bats is still under study. Regardless, it is virtually certain at this moment that the disease exists among native bats in a "carrier state"—that is, they harbor the virus without displaying clinical symptoms.

As for the threat this situation poses for humanity, instances of unprovoked rabid bat attacks have been extremely rare. In the vast majority of exposures humans were at fault in that they handled obviously sick bats.

Therein lies the answer, at least for the time being, to the threat: Leave bats alone—especially sick ones. It is sheer common sense. **

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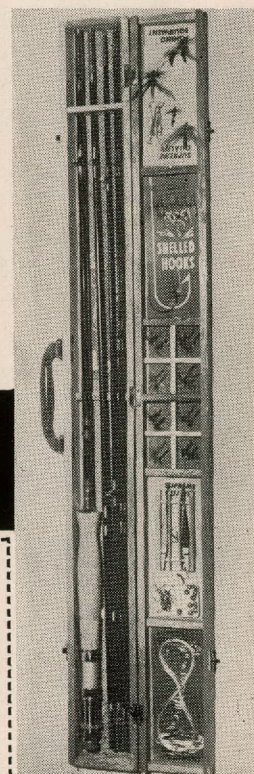
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There's More Than One Kind of Fisherman

What type fisherman are you? There are many different types. Here are a few:

Crows Save Ranchers From Rats and Mice

The crow has come to the rescue of farmers and ranchers just as the gulls came to the rescue of Utah farmers many years ago when grasshoppers were about to destroy their crops completely. (A monument to the gulls was thereafter erected in Salt Lake City.)

Recently a farmer-rancher of Young County complained about the infestation of rats and mice, and how they had stripped fields and pastures of vegetation. When asked if efforts had been made to poison them, he replied that he had done so with but little success. Then to my surprise he related that crows came in large numbers and did a good job in catching and eating the rats and mice. (Does this sound like "the balance of nature" we often hear mentioned?) He is now willing for the crows to have some of his pecans and corn in payment for their service as predators (hawks and owls apparently were not on the job in such force).

—Ralph A. Bickler

First off, there's the angler who fishes for fun. He probably reaps the greatest benefit from the sport. This type goes to relax and enjoy the great outdoors. If he comes home empty-handed, he's not too disappointed. Fishing is his means of escape from the monotonous rut of everyday living and the pressure of work. And when he comes home with a full stringer, he gets a terrific kick out of it.

Next, let's consider the competitive fisherman. He goes "loaded for bear" and he'll work himself into a lather trying to outfish his partner. If the guy in the other end of the boat catches the first fish, this character will quicken his pace in an effort to catch up and overtake his companion. He considers fishing a contest. Skunking his partner feeds his ego and he's out to win. True, some men do best under pressure, but pity the poor guy who draws this type of fishing buddy.

Another interesting character is the "equipment specialist." He has a fortune tied up in every gadget known to man. Just name it—our boy can fish many different ways such as: live bait, spin cast, bait cast, fly, or trotline. In fact, he goes prepared for anything. Usually he owns every piece of camping equipment and could equip a safari if necessary. He's a handy man to know though, since he knows the

whole story on each piece of fishing and camping gear. You can depend on him to answer most any question concerning outdoor equipment—and you can rely on the accuracy of his answers.

Then, there's the fisherman who loves to fish but is always having mechanical troubles with his gear. He's completely lost when his reel fouls up or his outboard motor konks out and won't start. This type should fish with a good mechanic if possible. If he can't manage this, he should carry a spare reel at all times.

Fishermen can be catalogued. In what group do you belong?

—o—

Oddities

Of the three thousand kinds of lizards that are to be found in the world, only two are known to have poisonous glands. Both are residents of the North American continent, but not Texas.

☆

The starling is known as the demon-bird in India and coolies are employed to drive it away, for the starling dearly loves rice, the Indian's staple food.

☆

In migrating, the males of the red-wing blackbird travel together. The females follow a few weeks later.



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TWO-MAN**

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This two-man, completely portable DUCK BLIND is guaranteed safe, warm, and dry! Weighing only 18 lbs., it can easily be moved and carried in one hand. Constructed of heavy-duty canvas over rust-proof metal framing, PORTA-BLIND utilizes a detachable turret-type closing swivel hood. Clear-vision window sewn into hood appears when hood closed completely. Canvas is Dead Grass color!

Orders are being shipped immediately from stock. If check or money order accompanies order, shipment will be prepaid. Used on rivers, lakes, fields. Hunt duck, geese, crow, deer and turkey. Order yours now!

PORTA-BLIND CO.

BOX 1758-B

WICHITA, KANS.

Organization Sponsors Landowner-Sportsman Program

The nation's hunters—more than 12 million strong—will have another chance to prove themselves worthy of their sport this fall as a landowner-sportsman relations program goes into effect in many parts of the country. The program, called

Hunt America Time, is sponsored by The Izaak Walton League of America, nationwide conservation organization, and by the National Sporting Goods Association for the third consecutive year during September and October.

and firearms carelessly, and flaunt the letter and spirit of game laws. Logic tells us that hunters will lose the privilege of hunting on most private lands unless the 'slobs' can be curbed. And that's what Hunt America Time is for."

African-Night Crawlers
Bait size breeders
 100—\$2.00
 500—\$7.50
 1000—\$10.00
 CASH WITH ORDER ONLY
 Post paid live delivery and count guaranteed.
ANSON BAIT CO.
 ANSON, TEXAS

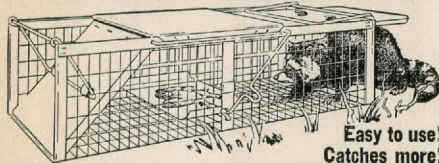
"Hunt America Time is both a season and a program," said President George F. Jackson, "A season when millions of us traditionally enjoy the privilege of hunting, and a program designed to save the privilege for new generations of hunters. "Experts tell us that 80% of all hunting trips are made on private land. Landowners tell us that a persistent percentage of hunters trespass, trample crops, handle both fire

"The program is simple. That's why it works," Jackson said. "Hunters read and sign a pledge to decent conduct afield, promising to be law abiding, to respect the rights and property, and to be careful with fire and firearms. Each signer is given a badge to wear and a folder explaining how a real hunter acts afield.

"A second prime objective is to break the tradition that it is sportsmanlike to shield slobs from the law and thereby encourage the abuses which threaten to rob us and our children of a precious outdoor heritage.

Well in advance of pledge signing dates, local landowners are offered free "Hunting by Permission Only" and "Safety Zone—No Hunting Near Buildings" signs, giving the landowner control over use of his property as well as improved protection through the pledge program.

CATCH THEM ALIVE AND UNHURT!



Amazing HAVAHART trap captures raiding rats, rabbits, squirrels, skunks, weasels, etc. Takes mink, coons without injury. Straying pets, poultry released unharmed. Open ends give animal confidence. Fully guaranteed. No jaws or springs to break. Rustproof. Sizes for all needs. Send for booklet on trapping secrets illustrated by Carl Burger. HAVAHART, 1495 Water St., Ossining, N. Y. Please send me FREE new 40-page booklet and price list. Name _____ Address _____

Long term lease for sale on picturesque Ozark mountain water mill, operated by one million gallon per hour spring. Trout stream, cabin, store, truck, boats, etc. River frontage. Near large lakes & airport. Deer hunting. Large meal & tourist business. Ideal for sportsmen club.

FRED W. LEACH
 SYCAMORE, MISSOURI

Are You Changing Your Address?

Then please fill out the following form and send to TEXAS GAME AND FISH, Walton Bldg., Austin, Texas, so that you will continue to receive your copies of the magazine. The magazine is sent second-class mail and cannot be forwarded by the post office or remailed from this office. Allow six weeks for processing.

Name _____

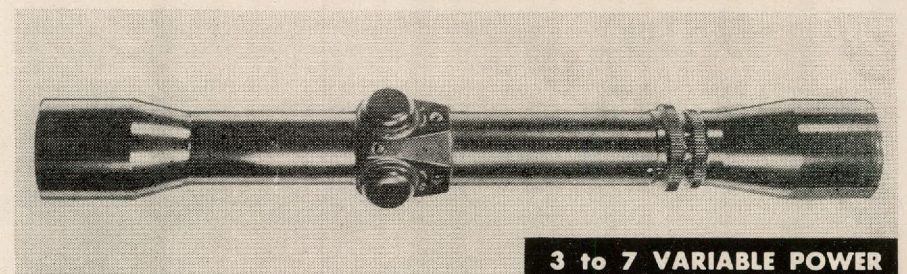
Old Address _____

City _____, State _____

Please look on the mailing label of your magazine, find the number which appears on the right hand side, and copy it here: _____

New Address _____

City _____, State _____



3 to 7 VARIABLE POWER RIFLE SCOPE
 For the VERSATILE HUNTER

Ret. \$79.50

Less: (Direct Discount) **\$39.50**
Pay Only \$39.95

ALSO AVAILABLE 4 x to 9 x Variable Rifle Scope \$49.95
 4 x Rifle Scope \$29.95
 Send for free brochure.

GENERAL IMPORT AND BROKERAGE COMPANY
 Department C
 5431 River Oaks Blvd., Fort Worth, Texas

NAME _____
 ADDRESS _____

Enclosed is Money Order Check for \$..... plus 50 cents for postage and insurance. Please rush _____ x Rifle Scope to me.

THIS SCOPE SIMPLY CANNOT BE MATCHED IN PERFORMANCE OR PRICE

- Click Adjustments
- Famous cross hair reticle
- Parallax corrected, hard coated lenses. Sharp optics at all powers
- Length 11 3/4" overall
- Eyepiece adjustment
- Weight 12 oz.
- Tube diameter 1"
- Eye relief 2 3/4". Eyepiece diameter 1 3/8". Objective lens diameter 1 3/8"
- Protective eyepiece covers (leather) included
- Field of view at 100 yds: 3.OX-42 ft.; 4.OX-33 ft.; 5.OX-27 ft. 6.OX-24 ft.; 7.OX-18 ft.

GUARANTEE: If not completely satisfied, return for full refund within 30 days.



AMARILLO

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

Legal shooting hours are regulated by the sun. These sunrise and sunset tables were compiled from data from nine Texas Weather Bureau stations by Hoye Dunham of Austin.

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

AUSTIN

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

BEAUMONT

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

BROWNSVILLE

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

DALLAS

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

DEL RIO

International Time

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

EL PASO

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

TEXARKANA

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

WICHITA FALLS

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

Outboard Boating Club Manual Adds New Sections

The Outboard Boating Club of America has prepared its 1960 STANDARDS MANUAL, the third annual guide to recommended engineering practices for the fast-growing outboard industry.

The illustrated 64-page manual stresses performance standards rather than material, design and construction standards. Executive Director Guy W. Hughes said, "We don't attempt to tell builders how they should design or build a product.

What we are trying to do is help in the 'mating' of individual components, establish norms for safer products and solve problems basic to the entire industry.

"The manual represents work of leading engineering talent of the outboard industry united to improve our products and further safeguard the boating public. It contains practices found proved and dependable, and it is intended to stimulate, rather than restrain, the experimentation

and progressive research on which boating has thrived."

The manual has been made available to every firm in the outboard field and plans are underway to reprint it in several trade magazines, Hughes added. He cautioned dealers that the current 1959 manual should still be utilized in installation and matching of equipment until manufacturers' 1960 models enter the market.

New this year are sections dealing with state and federal boat numbering laws, running lights, battery clamp connections and other topics.



Outstanding differences in tail and horn formation of the whitetail, left, and mule deer are illustrated by Walton Cude.

June Whelped Pointer Puppies

1-male and 2-females, sire Nat. Ch. The Arkansas Ranger ex Harville's Lady. 2-males and 2-females, sire Nat. Ch. Wayriell Allegheny Sport, ex Paladin Becky. Both dams top shooting dogs, \$100.00 each. Some trained dogs, advise your needs.

T. L. HARVILLE

Rio Theatre

Alice, Texas

Outdoor Books

A FLORA OF THE MARSHES OF CALIFORNIA by Herbert L. Mason. 878 pages. Generously illustrated with black and white line drawings. Published 1957 by University of California Press, Berkeley 4, California. \$10.

When waterfowl invaded the cultivated crops in California, game management experts along with farmers and sportsmen took a long look at natural marsh plants of the state. Many of the plants had disappeared with the draining of wetlands. The remaining wild foods were too few to adequately support the waterfowl population, pointing out the need for a better study of the marsh plants required.

To create a comprehensive reference volume of marsh plants in California for the use of botanists, Herbert Mason concentrated on plant communities in relationship to habitat and range, disregarding climatic influences and other variables in order to cover more plants with fewer distractions. Many unrecorded plants were discovered and described.

Distinguishing characteristics of the plants along with glossary, index, and key to the flora families round out the guide for botanists.

FLORA OF THE MARSHES OF CALIFORNIA can prove helpful to everyone interested in applying botany to waterfowl game management.

—Janey Bell

SUICIDE SPECIALS by Donald B. Webster, Jr. 192 pages. Black and white photographs. 2 appendices, a bibliography and an index. Published 1958 by The Stackpole Company, Telegraph Press Building, Harrisburg, Pennsylvania, \$4.95.

Any man over 50 years old can remember the Suicide Special pistols of boyhood days. We rarely see one now because they passed out of the picture fairly quickly as the days of the Civil War grew more distant. However, Donald B. Webster, Jr., has done a great deal of research work on the so-called Suicide Special and has come up with a book by that name.

Although TV Westerns would have you believe that all the gun toting of the early day transformation of the West was by big men with low hanging hip guns, the little pocket weapon played a very important part. These guns or pistols basically were small and many of them were single action with a hammer and exposed trigger. They were produced by many compa-

nies between 1865 and 1900. Although some were made by Colt and Smith and Wesson, many of them were produced by some of the old line companies like Harrington and Richardson, Hopkins and Allen, and Iver Johnston. These names are still well-known in the arms field. Most of the guns were in 22 and 32 calibres, but many of them were made in 38s and 41s.

The Suicide Special is not to be confused with the so-called belly gun. The belly gun came along many years later, and was part of the equipment of the so-called gunman. These Suicide Specials were comparatively cheap in price, with some of the mail order house revolvers selling for as low as 60¢ each. Good brake action models with double action and trigger groups sold at from \$3 to \$5 each in the pocket models.

Mr. Webster's research has come up with a complete listing of all the Suicide Specials made, with a number of engravings with full descriptions on the various models. The Suicide Specials today are all collectors' items or museum pieces, and a few of them have exceptionally high value. Anyone interested in gun collecting will like this book.

—L. A. Wilke

SALT-WATER FISHES FOR THE HOME AQUARIUM by Helen Simkatis. 254 pages. Black and white photographs. Published in 1958 by J. B. Lippincott Company, East Washington Square, Philadelphia, Pennsylvania. \$6.

To capture beautifully colored fish and marine animals from salt water tropics is a temptation few aquarists could resist, if chances were good for success.

Interest in the dazzling salt water creatures was increased immeasurably by literature and skindiving exploits in recent years. Dealers, however intrigued, were skeptical of the practicality of stocking salt water specimens, especially where no fresh salt water was available.

Technical problems of keeping these lovely creatures alive and healthy for a long period of time were partially solved by invention of preparations to create salt water from fresh; use of plastic bags for transportation of fish, and extensive experiments to see how the creatures reacted in captivity.

Fascinating details are included on how to obtain your fish, feed them, care for them; and which aquarium prospects are most colorful, hardy, and compatible with each other. Capsuled descriptions of each aquarium candidate coupled with photographs makes the book quite readable and SALT WATER FISHES FOR THE HOME AQUARIUM an intriguing possibility.

—Janey Bell

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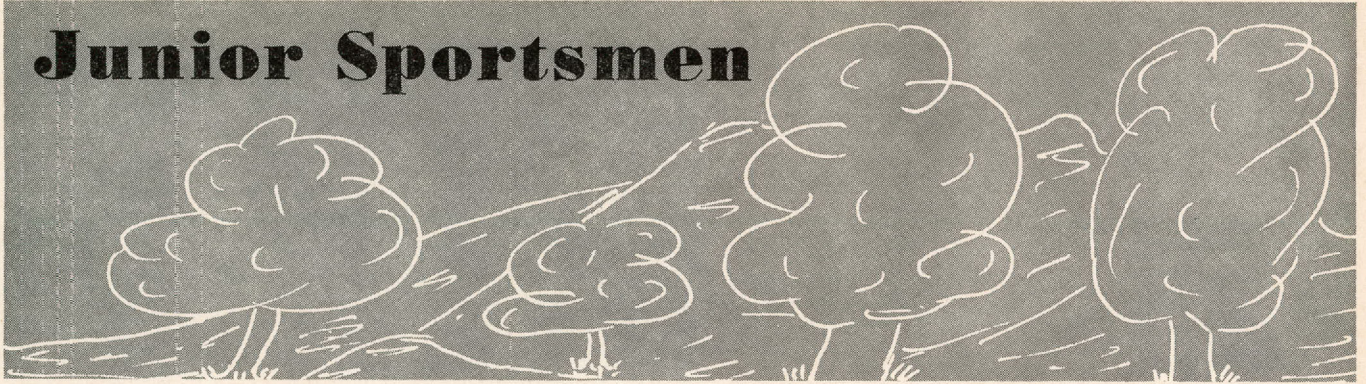
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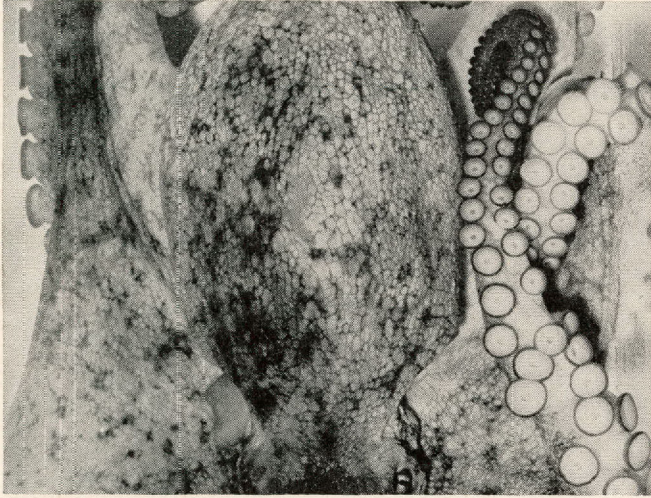
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Junior Sportsmen



What am I?



The octopus is another one of the strange animals of the sea. Named octopus because of its eight tentacles, or legs as they are sometimes called, this genus of Cephalopoda of the order Octopoda, has a large head armed with a strong beak similar to that of a parrot. Each tentacle is fitted with two rows of suckers which are used to hold prey. The weird creature is usually small, timid, and inoffensive. To elude its enemies, it releases a jet of dark ink. Some species are used as food.



Panfish like this can be caught in most areas of Texas. This rocket-age junior sportsman and his brother were fishing in their uncle's farm pond with a homemade plug and their father's fancy fishing rig when they landed this fine bass. Later, they caught quite a string of sunfish on grasshoppers.

Beware!

Stinging insects are everywhere. Perhaps the least described of all is a fuzzy little caterpillar, usually light brown or dusty gray in color, called the asp or puss caterpillar. Hidden just beneath their silky fuzz are many hollow hairs protruding from poison glands. These hairs need only to touch a person's skin to inject their poison and cause a very painful sting. At one stage the asps shed their skins, which are lifted by the wind and blown about. Should these skins strike a person, the hairs still could prick the skin and cause an irritation.

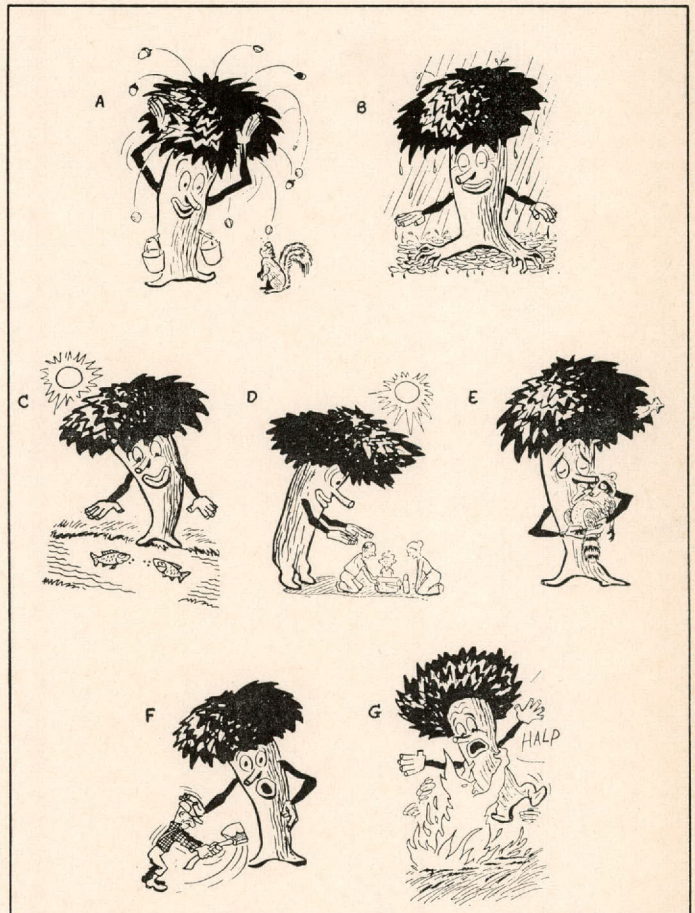
Here's a Test on Trees:

Trees sometimes are not shown the respect they rightly deserve. It would take quite a long list to include all their values and contributions to the life and beauty of our world.

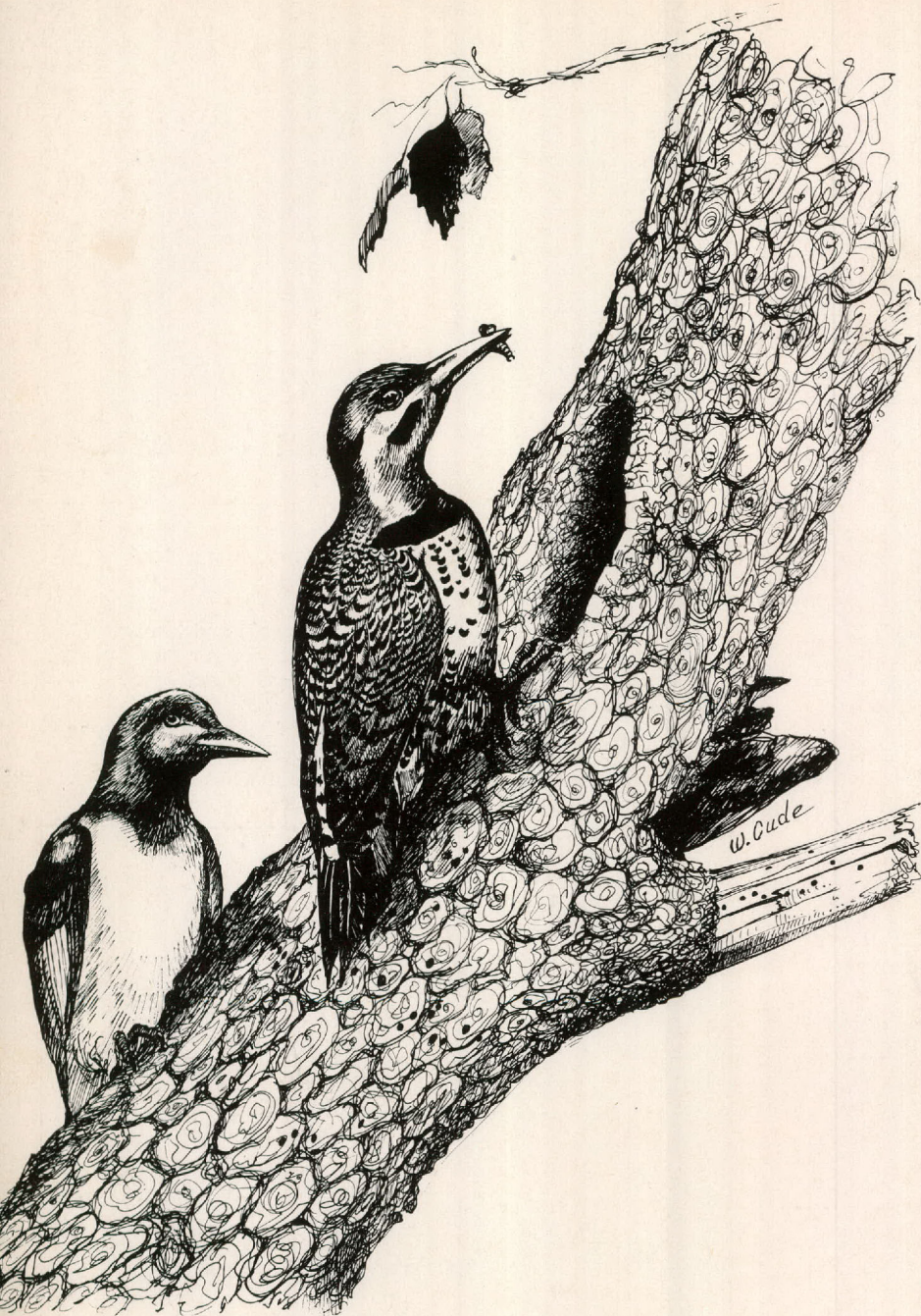
Nevertheless, such an adventure into the world of trees may prove very interesting. Take a sheet of paper and write down the uses of trees: In what ways are they beneficial to the human and wildlife populations, the soil, and the water?

Use the drawings below to give you a clue or two. What is being demonstrated in each drawing? Check your answers with the answers at the bottom.

Now, you have reminded yourself of the values of our beautiful trees. Don't forget them. When someone gets careless, the last two drawings point out what can happen. What does happen? Check your answers.



(A) Furnish food for game and man. (B) Prevent soil from washing away and help store water underground. (C) Help keep streams clean and cool and add to their beauty. (D) Provide shade for recreation. (E) Give homes and protection to much of our wildlife. (F) Trees can be destroyed when cut and chopped thoughtlessly or, (G) Forests are wiped out when fires are left burning.



UNIQUE AMONG WOODPECKERS in both color and actions are the yellow-shafted flicker and the red-headed woodpecker, winter residents of Texas.

The yellow-shafted flicker (*Colaptes auratus*), high in tree, shows yellow wing and tail linings and a red crescent on back of head; black primaries with yellow inner surface of wing and shafts of feathers; tail black above, yellow tipped with black below; black crescent across breast, rest of under parts white. The flicker is a forceful bird, deserting the feeding habits of most peckers and taking often to the ground. Shy around observers, the flicker usually takes flight at close approach. Its long tongue has few barbs but has sticky salivary secretion to hold insects. The flicker searches for ants about decayed logs and stumps; eats weed seeds, grain, berries, and insects on the ground.

The only woodpecker in Texas with all-scarlet head, the red-headed woodpecker (*Melanerpes erythrocephalus*) has two other distinctive field marks: blue black upper parts and white rump and wing patch. One of the best known woodpeckers in the country for its color and noise, it lives close to human habitation. Few birds seem better able to adapt themselves to their surroundings; it changes its fare and habits with the season. Its migration habits depend to a large extent on abundance of food. Like the flicker, it feeds on the ground more than other woodpeckers.

Both the flicker and woodpecker are tree climbing birds with stiff, spiny tails which act as props in their upward progress. Flight is a wave-like up and down motion produced by several quick wing beats and a pause. The two noisy birds share the habit of drumming on roofs and gutters of houses. They breed and winter along the Gulf Coast to Central and South Texas.

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